# HYOSUNG ADVANCED MATERIALS

Dear stakeholders,

Thank you for your continued interest and support for Hyosung Advanced Materials Corporation.

Hyosung Advanced Materials Corporation began as an industrial yarn business unit of Dongyang Nylon and Dongyang Polyester, the founding companies of Hyosung Group. Since then, we have continued our growth to become a leading global material manufacturer offering some of the world's finest products based on proprietary technologies and continuous innovation. In June 2018, Hyosung Advanced Materials Corporation was spun off as an independent operating company from Hyosung Group concentrating on transparent management activities based on our industrial expertise.

Upon the spin off from Hyosung Group, we have reinforced our efforts to fulfill our social and environmental responsibilities as well as create economic value that meets the needs and expectations of various stakeholders. We formed a dedicated organization for proactive response and further strengthened our sustainability management operating system. Upon constant monitoring, the results of our sustainability management are transparently disclosed in our Sustainability Report and corporate website. In order to faithfully fulfill our responsibilities of disclosure, the scope of our report is being gradually expanded from domestic to all overseas business sites.

As a member of UNGC, we support UNGC's Ten Principles, UN SDGs, and its activities. In particular, we are striving to actively engage in UNGC activities while strengthening corporate sustainability through management activities linked to UN SDGs.

Hyosung Advanced Materials Corporation will strive to grow as a company that provides differentiated high value products and customized services. Furthermore, we will faithfully fulfill our role through social value creation and responsible management that is communicated with all stakeholders.

Thank you

CEO Jungmo Hwang

# 2018 Sustainability Report

# ABOUT THIS REPORT

Hyosung published its first Sustainability Report in 2012 in order to actively communicate with stakeholders. The 2018 Hyosung Sustainability Report is the third sustainability report Hyosung has published. Through this report, we would like to share and transparently disclose the company's sustainable management activities and achievements across the economic, social and environmental sectors.

# ADDITIONAL INFORMATION —

This report has been created in the form of an interactive PDF which includes hyperlink features to direct readers to the relevant page both within and outside the report.

Contents

Move to the page of Contents

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**Glossary for Major Terms** PG: Performance Group PU: Performance Unit

#### Reporting Principles

The 2018 Hyosung Sustainability Report was prepared in accordance with the core options of the GRI Standards of the Global Reporting Initiative (GRI). In addition, external sustainability initiatives and indicators have been considered and further reflected so that we meet varied interests and criteria of different stakeholders.

# **Reporting Period and Scope**

The reporting period for this report is from January 1, 2018 to December 31, 2018. When it comes to provision of trend data, time range has been set to include last three years from 2016. In case of qualitative activities and achievement, the report may include data up until May 2019. All financial data is based on the criteria of K–IFRS (Korean International Financial Reporting Standards). Hyosung was divided into the operating holding company, Hyosung Corporation, which is in charge of group-wide investment plans and management of subsidiaries' stakes, and four companies - Hyosung TNC Corp., Hyosung Heavy Industries Corp., Hyosung Advanced Materials Corp. and Hyosung Chemical Corp., whose business area covers textile · trading, heavy industries · construction, industrial materials and chemicals, respectively. Reporting period of financial information for each company ranges from the date of the division to December 31, 2018. Accordingly, the scope of this report includes domestic and overseas business sites in Hyosung Corporation and its four operating companies. For matters required attention to the scope of the report, a separate explanation is provided to avoid confusing readers. For your convenience, we use the abbreviations of company names. In addition, 'Hyosung', which is not used as 'Hyosung Corporation', includes Hyosung Corporation, Hyosung TNC, Hyosung Heavy Industries, Hyosung Advanced Materials, and Hyosung Chemicals.

#### Verification

In order to ensure the credibility and fairness of this report, Networks-Y has verified this report in accordance with the AA1000(2008) principles (inclusiveness, importance, responsiveness) as well as with the verification procedures based on ISAE 3000 data and process reliability principles. The related results of the verification can be found on page 72 of the report.

# Inquires - Hyosung CSR Team

If you have any questions or requests to regard of this report, please contact us at the following numbers and email address. 119 Mapodaero, Mapo-gu, 04144, Seoul, Republic of Korea Tel. 82-2-707-7065 Fax. 82-2-707-7776 Email. csr@hyosung.com

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CEO Message — Company Overview — Operating Companies Overview — Sustainability Management Overview

# **CEO** Message



# Throughout the strengthened sustainability management system, we will grow into a "100-year old company, growing together with customers."

Despite the difficult business condition inside and out, Hyosung has managed to constantly bring change and growth thanks to continued support from the stakeholders and dedication of our employees. Especially, we have strived to ensure full satisfaction of customers not only by listening and responding to the needs and voice of customer (VOC) but also by establishing a process to acquire, analyze and respond to VOCC (Voice of Customer's Customer) and VOCO (Voice of Competitor). In 2019, particularly, Hyosung is focusing on establishing a robust relationship with customers as long-term growth partners and is operating the business, giving priority to VOC and customer value, with an aim of fulfilling '100-year Company Hyosung, Growing Together with Customers'.

In June 2018, Hyosung officially launched a holding company structure with a split into Hyosung Corporation, the holding company, and four operating companies, Hyosung TNC Corporation, Hyosung Heavy Industries Corporation, Hyosung Advanced Materials Corporation, and Hyosung Chemical Corporation. This transition to the holding company structure will help our new subsidiary companies to strengthen their competitiveness in the global market by accelerating future technology development in their own domains as well as by proactively challenging to rising industries. Moreover, we will focus on transparent management based on the expertise of Hyosung Corporation and its newly spun-off operating companies. At the same time, we will maximize our corporate value and shareholder value by acquiring market-leading global competence.

In addition to these external achievements and changes, the 2018 Hyosung Sustainability Report contains overall performance and goals related to sustainability, including green products, R&D, shared growth management with partner companies and sharing-based management for local communities. Hyosung will continue to strengthen our sustainable management system to communicate with the stakeholders, create social values and share the outcomes. We promise that we continue to grow in harmony with stakeholders, as we move forward. We look forward to your continued interest and support.

Thank you.

October, 2019 CEO & Chairman Hyun-Joon Cho

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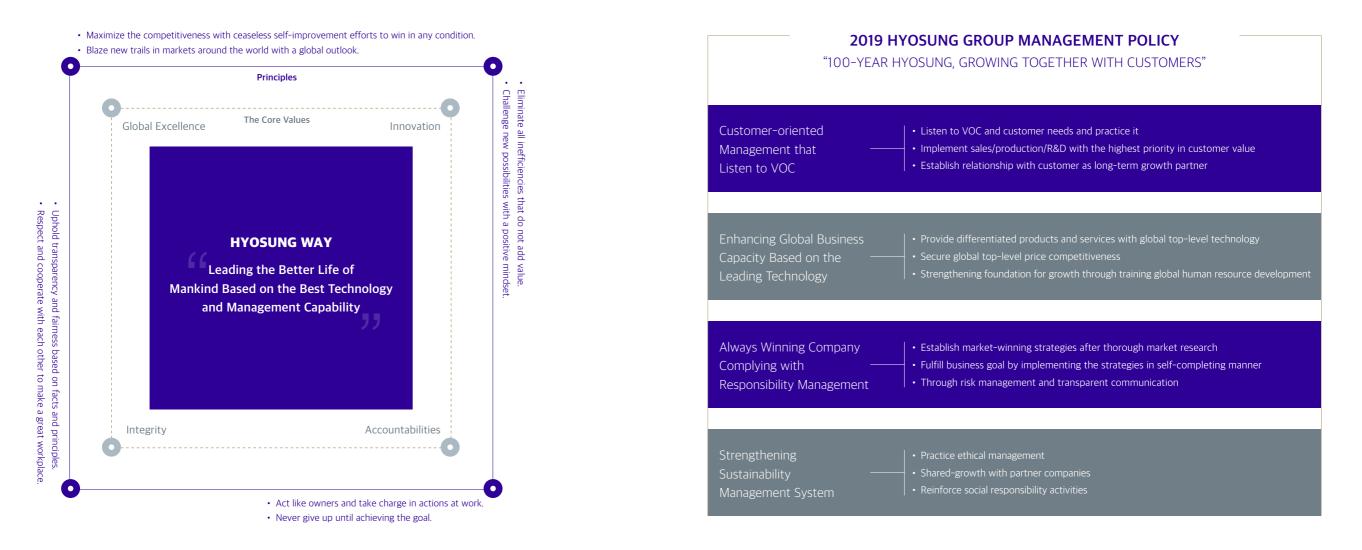
# **Company Overview**

# A New Change Begins

In June 2018, Hyosung has completed its conversion into a holding company structure after reorganizing its departments into the operating companies of Hyosung TNC, Hyosung Heavy Industries, Hyosung Advanced Materials and Hyosung Chemical, as well as the holding company, Hyosung Corporation. In this way, we aim to gain more expertise for sustainable growth in each business sector by ensuring that each company focuses its capabilities on its own business area with independence and specialization. Through this new change of company structure, Hyosung also strives to maximize its management transparency and shareholders' value.

# **HYOSUNG WAY**

'Hyosung Way' is a value system to turn dreams into reality by bringing together the will and capabilities of all Hyosung members throughout the world. Through the practice of 'Hyosung Way', Hyosung aims to become a leading global company and contribute to improving life quality of customers.



# HYOSUNG SUSTAINABILITY REPORT 2018 OVERVIEW — FOCUS ISSUES & BUSINESS CASES — SUSTAINABILITY MANAGEMENT — GOVERNANCE — APPEND

CEO Message — Company Overview — Operating Companies Overview — Sustainability Management Overview

# **Global Network**



# **COMPANY PROFILE**

Hyosung Corporation
3.Nov.66
Hyun-Joon Cho, Kyoo-Young Kim
119 Mapodaero, Mapo-gu, Seoul, Republic of Korea
Textile, industrial materials, chemical, heavy industry, construction, trade, IT, etc.
29 countries incl. Korea, China and Vietnam
KRW 11,414.8 billion
KRW 447.7 billion
8,118 persons

\* The information provided in 'Major business countries', 'Total revenue', 'Operating profit' is based on the result including Hyosung Corporation and four operating companies as of end of December 2018. (Consolidated)

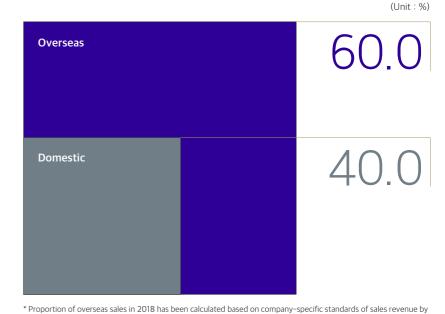
# DOMESTIC BUSINESS SITES



# **OVERSEAS BUSINESS SITES**



# PROPORTION OF OVERSEAS SALES IN 2018



\* Proportion of overseas sales in 2018 has been calculated based on company-specific standards of sales revenue by Hyosung TNC, Hyosung Heavy Industries, Hyosung Advanced Materials and Hyosung Chemical.

CEO Message — Company Overview — Operating Companies Overview — Sustainability Management Overview

# **Operating Companies Overview**



Hyosung TNC Corporation

The textile business of Hyosung TNC is leading chemical fiber industry in the world by supplying fiber, textiles and dyed products including spandex, nylon, and polyester with its excellent product quality, technology as well as customer service. Furthermore, the trading business, based on a network of more than 50 overseas branches around the world, is offering high-end marketing services in a variety of fields including distribution and logistics, mainly focusing on the business areas of steel and chemicals.

Based on the rich business experience accumulated, Hyosung TNC is continuing to grow at the center of global trading by introducing new products and exploring new markets.

Maximizing customer value with innovative textile technology and

a global trade

network.

Hyosung leads

# Hyosung Heavy Industries Corporation

Hyosung Heavy Industries possesses the world's best technology in heavy electric equipment, the core of industrial energy. In addition to electric equipment such as transformers and circuit breakers, rotating equipment such as motors and gears also receives high recognition in the industry, and the company is developing the core technologies necessary to establish power network in the future such as energy storage system (ESS), STAT-COM and smart grids. Furthermore, the company is actively participating in various construction projects based on its rich business experience and high trust it has gained from the industry.



green growth by future power grid and eco-friendly

construction.

# Hyosung Advanced Materials Corporation

HYOSUNG SUSTAINABILITY REPORT 2018

Hyosung Advanced Materials produces high-performance industrial yarn, textiles and metallic materials used in a variety of industries such as automobile, civil engineering, construction, agriculture and military industries. Hyosung Advanced Materials has grown as a solution provider that improves customer value through commercialization in the global market through constant product development and commercialization of new materials, maintaining the world's largest market share in the products such as tire cords, seatbelt yarn and airbag fabrics.

OVERVIEW

CEO Message — Company Overview — Operating Companies Overview — Sustainability Management Overview

We assure customer safety and satisfaction through optimized cutting-edge materials.

# Hyosung Chemical Corporation

Hyosung Chemical produces a variety of chemical products including TPA, which are widely exported to Asia, Europe and the Middle East, polypropylenes (PP) products including R200P, which have the world's largest market share, as well as various other chemical products such as films and advanced industrial specialty gases. In particular, Polyketone, a high-molecular new material that Hyosung successfully commercialized for the first time in the world, is considered as the key material to lead the global components industry due to its outstanding physical properties and high competitiveness.





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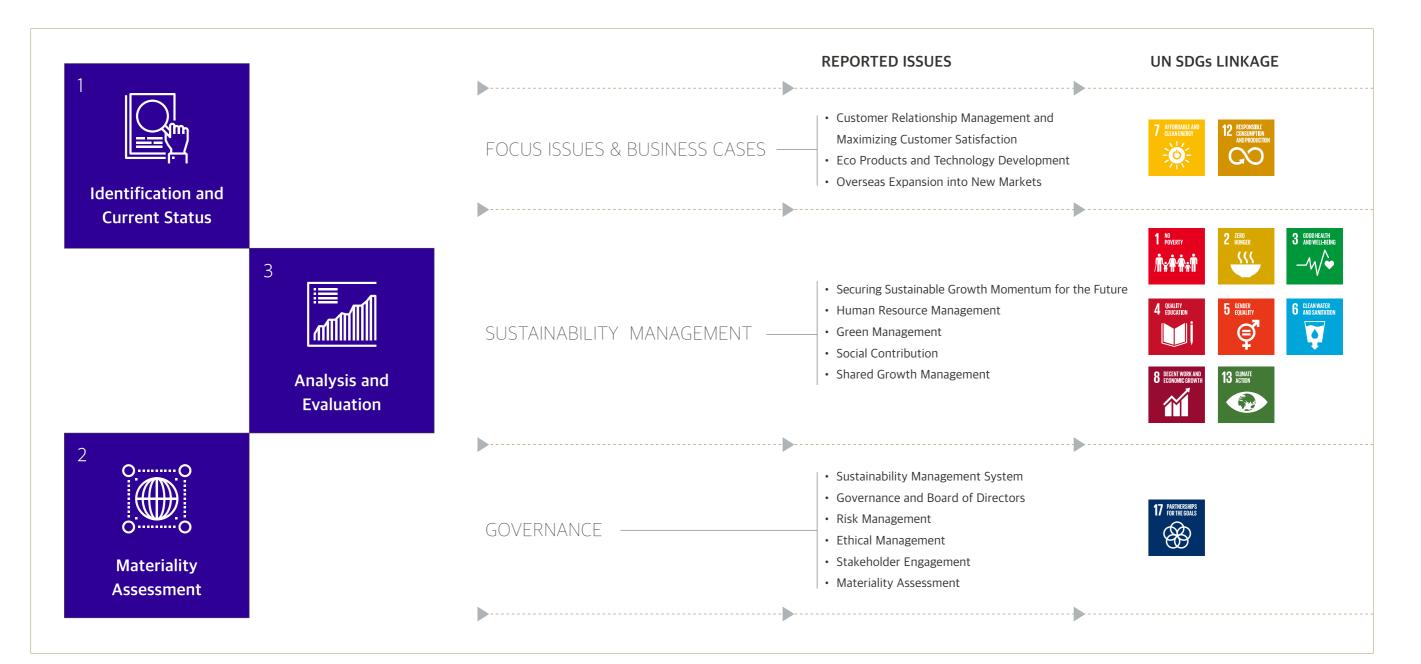
CEO Message — Company Overview — Operating Companies Overview — Sustainability Management Overview

MANAGEMENT — GOVERNANCE

NDIX

# **Sustainability Management Overview**

Following the demand and expectation from various stakeholders, Hyosung is trying to evolve into a sustainable company fulfilling economic, social and environmental responsibilities. Therefore, we have established sustainability management system and created new values based on various opinions of stakeholders and global sustainability initiatives. We also disclose our activities and achievements in our sustainability reports focusing on major issues related to economic, social and environmental aspects of sustainability. Through 'Focus Issues & Business Cases' in this report, we share our business performance and the relevant best practices. The 'Sustainability Management' and 'Governance' parts in this report include current status and achievements of our sustainability management in general.



# Focus Issues & Business Cases

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# HYOSUNG

# Customer Relationship Management and Maximizing Customer Satisfaction

## ISSUE BACKGROUND

Customers purchase products and services again if their needs and expectation are satisfied, and this leads into increased customer trust and brand value of the company. Companies, in this sense, should make efforts to provide high-quality products and services to customers by identifying fast-changing customer needs in advance and reinforcing communication with them.

OUR APPROACH

We strive to maximize customer satisfaction by producing outstanding products and managing quality control in accordance with customers' needs identified from VOC (Voice of Customer). Moreover, we focus even further on VOCC (Voice of Customer's Customer) to deliver our values through customer-centered products and technology development.

# **Customer-oriented Management**

# Establishing C-cube(VOC) System

Pursuing customer-oriented management, Hyosung is devoted to maximizing its corporate value and customer satisfaction by identifying true customer needs from various channels such as VOC (Voice of Customer), VOCC (Voice of Customer's Customer) and even VOCO (Voice of Competitor). Aligned with this, we have established a system to facilitate a process for C3 (VOC) activities which enables us to gather, analyze and further respond to voice of customers across all the business sectors such as sales, marketing, quality management and R&D. We are cultivating the environment where all members of the company can listen to our customers and try to work for their satisfaction.

# Major Benefits from C-cube System



# C-cube Activity Process

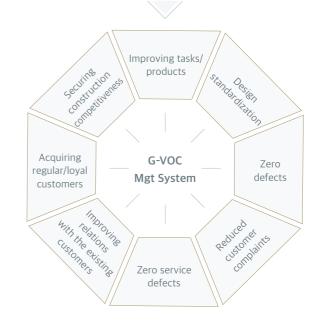


# G-VOC(Global Voice Of Customer) Management System

Hyosung Heavy Industries is practicing customer-oriented quality management through establishing and operating G-VOC (Global Voice of Customer) and the portal system. G-VOC is a global-level customer management system aimed for effective integration and management of customers' VOC data. It prevents recurring issues or problems by registering and sharing customers' feedback (VOC information) received at customer-handling departments to the corporate system. This not only enables us to transparently monitor status of our customer response in real time, but also creates a data-driven environment where big data can be used to reflect customers' needs more accurately.

# Operating Purpose and System Structure of G-VOC

- Integrated management of customer VOC information
- Integrated management and company-wide sharing of customers' VOC information received and collected at customer-handling departments
- Realization of customer-oriented quality management
- Real-time customer response management
- Establishment of global top-level business capacity
- Enhanced capacity of customer-tailored service using big data analysis



USTAINABILITY MANAGEMENT — GOVERNANCE

Tire & Industrial Reinforcements PU of Hyosung Advanced Materials is implementing specialized VOC (Voice of Customer) activities in order to provide optimized service to customers. We collect customer needs through a variety of channels including written feedback using specialized VOC questionnaire as well as technology exchange meetings during regular customer visits which take place at least 1-2 times a year. We endeavor to gather varied opinions to improve our delivery, technology, quality, CSR, and many other customer value propositions. In particular, we aim to identify customer needs and provide optimal solutions through various interfaces such as R&D, production technologies and purchasing, and continue to keep up with activities to understand trends for products and market through internal seminars and market researches in cooperation with tire specialist.

Identify customer needs through various channels	<ul> <li>VOC listening at various business points (distribution, production, quality management, purchase)</li> <li>Implementation of locally optimized strategies through global sales offices in the US, Japan, EU and China</li> <li>Identifying strategic direction in long-term as well as needs in short-term through regular visits to major clients at least twice a year</li> </ul>
Collect information for product development and quality improvement	<ul> <li>Technology and equipment to keep up with up-to-date product trends in the tire market</li> <li>Improve awareness in tire products and production process through tire experts</li> <li>Joint R&amp;D projects of high-performance tires with customers through high functional reinforcements development</li> </ul>
Accommodate product feedback	<ul> <li>Request product feedback to major overseas and domestic customers</li> <li>Establish development plans and quality system modifications based on improvements-to-be made derived from various sectors : delivery, technology, quality, etc.</li> </ul>

# BUSINESS CASE -Customer-tailored Exhibition Hall, 'Hyosung Square'

The Hyosung Square, an exhibition hall launched in June 2018 at Changwon Plant of Hyosung Heavy Industries, was designed to provide customer-tailored information with up-to-date technologies, contributing to building a corporate image as a global company. In order to effectively deliver the information about the company and products, high-resolution wide LED video, high-tech screens and sensors have been utilized. Moreover, touch screen display and LED screen technologies have been applied so that visitors can actively interact with the information by themselves. We also provide tailor-made introduction video based on five customer categories including 'Combined Cycle Power Plant' and 'Crude Oil Supply Facilities'. We would like to prepare more diverse contents to reach out to the global customers and promote Hyosung Heavy Industries.





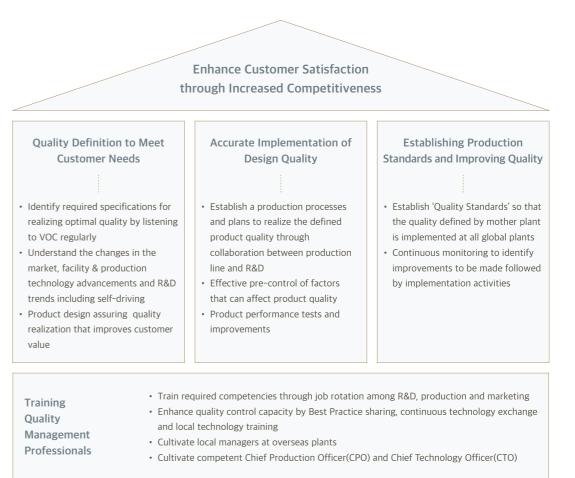
Hyosung Square in Changwon plant at Hyosung Heavy Industries Corporation

# Customer Satisfaction by Quality Management

# Quality Management System

Each operating company of Hyosung operates its own quality management system tailored to its business area, products and customers. We conduct strict management of product quality to secure product reliability and customer satisfaction by acquiring internal and external certifications for product quality assurance.

# ■ Quality Management System of Hyosung Advanced Materials Corporation



Establishing Dedicated Teams for Quality Management under CTO/CPO

Operate 'Global Integrated Technology Team' and 'Quality Assurance Team' under CPO and CTO who are in charge of product quality and production technology for all global plants
Establish a close collaboration system between R&D and 'Technical Marketing Team', which collects VOC Customer Relationship Management and Maximizing Customer Satisfaction — Eco Products and Technology Development — Overseas Expansion into New Markets

# Improving Production Process and Optimizing Facility Operation

By introducing the quality management system to its production lines, Hyosung has been thoroughly reviewing and continuing to improve the manufacturing process. In this way, we can achieve product conformity and production efficiency, meeting the demands of customers and the market. Hyosung assures successful implementation and maintenance of the quality management system, utilizing human and material resources effectively. We are also focusing on VOC as the highest priority to ensure that our quality improves customer satisfaction. Furthermore, Hyosung successfully prevents accidents and secures stable product quality in production process by optimizing its facility operation as well as inspecting and replacing outdated facilities on a regular basis. We reinforce company-wide quality management capacity by means of quality control data review and cross-departmental meetings to share quality-related issues. In addition, we immediately respond to clients' needs related to quality issues through regular contacts with them.

# Securing Product Safety in the Entire Product Lifecycle

Hyosung ensures product safety in the entire lifecycle of a product ranging from clients' order to after-sales management. We assure customers' safety and gain their trust through our own verification system.

# **OEKO-TEX® STANDARD 100**

Hyosung TNC performs independent safety testing at all stages of processing from raw materials to the final products through the OEKO-TEX® STANDARD 100 certification system. OEKO-TEX® certification is issued by International Association for Research and Testing in the Field of Textile and Leather Ecology, which assures products safety with its testing method across 100 stages of simulation tests, considering all situations where harmful substances can contact the skin.



Simulation test of contact to skin according to OEKO-TEX® STANDARD 100

Raw materials



# Global Quality Standard System

Hyosung Advanced Materials operates a global quality standard system to ensure the same level of quality, required by customers, at all global production lines. We manage quality standards of each process stage at each manufacturing site, establish guidelines from raw material input to final product shipment and share them with overseas production entities through regular monthly meetings and technical exchange meetings. To ensure identical quality product production equally benefiting from the best available technology across all global sites, regular monitoring and continuous feedback take place under the supervision of CTO and CPO.

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guidelines,Trainunder CTO/• ReguCPO supervisionglobaincluding rawtechnmaterials usage,by Cfacility operation,• Technand technologyof loaapplication totechnensure equal• Locaproduct qualitytrainat all global sites• Key of	Ilar visits to al plant and nical guidance TO nical training cal production nicians I manager	based on ards and easure tations for cation bechnical easure tations for cation echnical echn

Chief Technology Officer, Chief Production Officer, R&D, Technical Marketing, Global Technical Team, etc.

## Performing Quality Improvement Activities

Constantly performing various quality improvement activities, Hyosung has been improving production lines after reflecting customer needs and minimizing fundamental quality defects. Through this process, we fundamentally improve the quality gap and gather VOC to contribute to quality improvement. In addition, we monitor the production environment as well as facility operation status of overseas and domestic business sites in order to integrate production technology across the entire business units so that the quality gap rising among different business units can be minimized. Moreover, we continually improve production process through regular audit conducted to overseas business sites.

# 7-Step Quality Control (QC) Inspection for Construction Project

The Construction PU of Hyosung Heavy Industries carries out quality inspection to a project in seven steps from drawing review to confirmation before tenant review. With the participation of all relevant departments, we check the plan and progress status of each step and derive improvements to reduce defects that may lead to customer dissatisfaction. In this way, we strive to reduce unnecessary costs and maximize customer satisfaction by preemptively responding to customer complaints.



Customer Relationship Management and Maximizing Customer Satisfaction — Eco Products and Technology Development — Overseas Expansion into New Markets

# Securing Quality Certifications and Quality Assurance

# Securing Quality Certifications

Hyosung Advanced Materials has defined and is operating a key process for quality based upon its own quality management system. In order to respond to customer needs for quality improvements and to earn reliability for our production lines, we continously update our quality manual, process standards and each production unit standards.

# Quality Certifications at each PUs in Hyosung Advanced Materials

#### **Tire & Industrial Reinforcements PU**

- Automotive Quality Management Certification (IATF 16949)
- Quality & Environmental Management System Certification (ISO 9001/14001)
- VDA (Verband der Automobilindustrie) Process Audit (VDA 6.3)

#### Technical Yarn PU

- Automotive Quality Management Certification (IATF 16949)
- Ouality & Environmental Management System Certification (ISO 9001/14001)

#### Interior PU

#### KS Certification

- Automotive Quality Management Certification (IATF 16949)
- Quality & Environmental Management System Certification (ISO 9001/14001)
- Green Label Plus Certification by the Carpet & Rug Institute (US)

#### Aramid Business Division

- NIJ(National Institute of Justice, US Department of Justice) Standards
- Automotive Quality Management Certification (IATF 16949)
- Quality & Environmental Management System Certification (ISO 9001/14001)

#### **Carbon Business Division**

- Automotive Quality Management Certification (IATF 16949)
- Quality & Environmental Management System certification (ISO 9001/14001)

#### Quality Assurance Policy

Based on its strict quality assurance policy which applies to all stages from product planning to sales, Hyosung Heavy Industries is reinforcing its product reliability and maximizing customer satisfaction.

Writing Quality Assurance Manual	 Complying with specifications, drawing and other standards and fulfilling responsibility of quality assurance for products
Production Process (order, development, shipment, etc.)	 Pre-elimination of defect-causing factors in terms of quality assurance
Audit Activities for Quality Assurance	 Checking conformity of quality activities to quality systems, specifications and contract requirements followed by implementing preventive measures and correction.





**Encouraging Customers Participation** 

# Joint Participation at Global Trade Fairs with Client Companies

Hyosung operates a joint exhibition booth with client companies every year in international and domestic trade fairs, through which we help our customers expand their sales channels and identify their customers' needs and trends. Moreover, we are consolidating our global leading position by promoting excellence of our products to potential customers. We also continue to support our clients' business activities by participating trade fairs with Korean SMEs (small and medium enterprises), which usually have relatively limited opportunities for international-scale exhibition. Hyosung TNC, in particular, participated with its clients at the 2018 Preview in Daegu (PID), Vietnam Saigon Textile, Asia Nonwovens Exhibition and Conference (ANEX) in Japan. It attended Intertextile Shanghai together with 21 international client companies and performed various activities to grow together with its clients and secure market leadership.

Hyosung Advanced Materials participates in Techtextil, the biggest industrial textile trade fair in the world which takes place bi-annually in Frankfurt, Germany, discovering new customers and clients as well as understanding market competitors. During the exhibition period, we invite customers to promote our business and hold various events such as 'Hyosung Night' to enhance our brand image through close communication with customers.



Attending Intertextile Shanghai Apparel Fabrics



Hyosung Night at Techtextil

# **BUSINESS CASE** - Building Customer Intimacy for Global Clients

Hyosung TNC has been running 'creora<sup>®</sup> workshops', a tailor-made consultation event, in which it directly visits clients in their office and provides them with client-tailored market trend information as well as proposes developing new fabrics made of its yarn materials such as spandex, nylon and polyester. We visit not only clients in the domestic market, but also international clients overseas across Asia, Europe, and Americato provide face-to-face consultation service, making them more competitive in their sector and further consolidating the partnership with them. By strengthening the global competitiveness of our customers, we are solidifying our position as a global leading company which keeps growing together with customers. Furthermore, we will continue to facilitate shared-growth management by improving brand loyalty and strengthening the relationship with clients.



creora<sup>®</sup> Workshop

# Eco Products and Technology Development

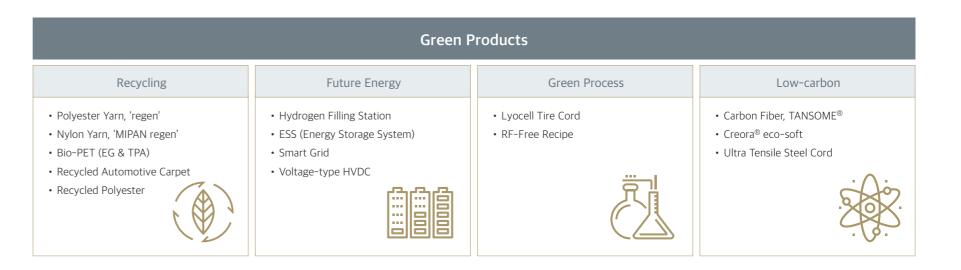
### **ISSUE BACKGROUND**

Environmental responsibility obligated to companies has gradually expanded to the extent that a firm has to not only consider the environmental impacts of its manufacturing process, but also the impacts from the use of its products. Accordingly, corporate activities to fulfill their environmental responsibility have emerged ever more important, such as developing green products and technologies, and minimizing environmental impacts, taking into account the entire product lifecycle from the planning stage to production, use and end-of-life treatment.

#### **OUR APPROACH**

As a global company operating in the industrial sectors where high environmental impacts are expected such as textiles, chemical, industrial materials and heavy industries, Hyosung is striving to minimize its environmental impact through various activities in the entire business process. In this sense, Hyosung focuses its efforts on eco products considering entire product lifecycle and R&D projects for the next-generation energy sources such as ESS and hydrogen energy. We will continue to fulfill our social responsibility to preserve environment and support sustainability for the future.

# Hyosung's Eco Products



# **Recycled Eco Products**

#### 'Regen' - Recycled polyester yarn made of waste PET bottles

Hyosung TNC's 'regen' is Korea's first eco-friendly polyester yarn which was made of substances extracted from waste PET bottles. Made of 100% recycled material, regen dramatically reduces landfill wastes and CO2 emissions. In recognition of its outstanding environmental performance, regen has acquired the world's first GRS (Global Recycle Standard) certification in the sector of polyester recycle textile from Control Union, a global certification organization based in the Netherlands.

#### 'MIPAN Regen' - Recycled nylon yarn

'MIPAN regen' is a nylon yarn recycled from waste petrochemical materials. Hyosung TNC takes the lead in efficient use of resources as well as energy saving by reducing the use of petrochemical materials through this product. Although being recycled from pre-consumer wastes, MIPAN regen maintains the same quality as normal nylons. Unlike conventional partially-recycled nylons, MIPAN regen is made of 100% process wastes, and is widely recognized for its excellence in environmental performance.



## 'Recycled Floormat' - Reducing process wastes

Global automobile manufacturers are proactively developing and introducing automotive parts recycled from waste plastics. Hyosung Advanced Materials started to develop automotive carpet and mat using-BCF (Bulk Continuous Filament) based on the needs from development teams in the client companies. We are working on developing the product which meets the customers' requirements by utilizing not only polyester recycled chips and waste nylon from waste fish nets and waste yarn, but also process wastes from both our production lines and our supplier companies for recycled chips.

# 'Bio-PET' - Made from plant-extracted materials

Due to the rise of New Mobility, in which driving time and distance are expected to increase considerably due to enhanced driving convenience through self-driving and car-sharing, car parts manufacturers are striving to develop new products to decrease their environmental impacts. On the top of lighter weight or improved fuel economy, which have long been pursued already as product development requirements, customer needs in "environmentally friendly" and "recycling" materials are rapidly growing especially in the European market. Therefore, Hyosung Advanced Materials is developing Industrial Bio-PET, which is produced from Bio EG and Bio TPA extracted from plant-based raw materials in order to tackle environment pollution and resource depletion caused by using conventional petrochemical-based PET.



# 'Eco-Friendly Dip Recipe' - Improving fatigue resistance of tires

'Chemical Dip' is a chemical-compound fluid associated with the final manufacturing process of tire cords. The chemical dip also improves adhesion of tire cords to rubber within the tire, thus allowing the tires to achieve best driving performance, while lasting longer through enhanced resistance. Hyosung Advanced Materials has developed to reduce waste tires by prolonging tire life with increased fatigue resistance as well as to reduce harmful substances without using resorcinol and formalin in manufacturing process.

# Lyocell Tire Cord - Eco product made from wood-extracted materials

Conventional rayon tire cords, which are mainly used as tire reinforcement materials for high-speed driving tires, generate hazardous chemical substances in their manufacturing process due to the use of sulfuric acid. 'Lyocell Tire Cord', developed by Hyosung Advanced Materials as an alternative to rayon tire cord, however, does not release toxic substances such as carbon disulfide or hydrogen sulfide, since it is made of cellulose extracted from wood. In this way, we can prevent air and water pollution caused by release and treatment of hazardous chemicals.





Customer Relationship Management and Maximizing Customer Satisfaction — Eco Products and Technology Development — Overseas Expansion into New Markets

# Eco Products for Low-carbon Future

**TANSOME® - Carbon fiber, the key to improve fuel economy of automobiles** Having only one-fourth the density but 10 times the strength of steel, TANSOME® is the first high-performance carbon fiber developed in South Korea through independent technology of Hyosung Advanced Materials. Featuring its ultra-lightness and high-intensity, TANSOME® is used as a key material for improving fuel efficiency of automobiles through vehicle weight reduction, ultimately contributing to reducing carbon emissions. In addition, with its excellence in stability and functionality, TANSOME® is used in a variety of products, especially in high-pressure compressed natural gas containers, facilitating natural gas and its market, which is regarded as a green energy source.

# creora® eco-soft - Low-heat settable spandex

Hyosung TNC's creora<sup>®</sup> eco-soft, whose soft-touch fabric can be produced at approximately 15-20°C lower temperature than conventional spandex, enables textile manufacturers to reduce emissions as well as to save costs through less energy consumption. For instance, from production of 10,000 T-shirts (which weighs 250g/yd) with the use of 4% creora<sup>®</sup> eco-soft textile, total 120kg of CO<sub>2</sub> is expected to be reduced within the manufacturing process.

# High Intensity Steel Cord - Improving fuel economy of automobiles

Steel cord is used as steel reinforcement material in tires for cars, buses and trucks, and can reduce the use of the steel cord by improving intensity of product. It helps to reduce tires' weight and improve fuel economy by lowering rolling resistance of tires, thereby mitigating CO<sub>2</sub> emissions. As a producer of the high-strength steel cord which accounts for 45% of global supply, Hyosung Advanced Materials is contributing to emission reduction through increased fuel economy of vehicles. Following the on-going environmental awareness and trends, we expect demands for ultra tensile (410 Kg/mm<sup>2</sup> based on 0.20mm) steel cords to further to increase in the future.



low heat settable spandex for softer hand and exceptional whiteness





Customer Relationship Management and Maximizing Customer Satisfaction — Eco Products and Technology Development — Overseas Expansion into New Markets

# **Eco Products for Future Energy**



# ESS (Energy Storage System)

ESS is a device which enables excess energy to be stored when power demand is low to use it afterwards. In this way, ESS increases reliability of power supply and generates additional values through flexible power management system. Hyosung Heavy Industries, as a leading company of ESS in Korea, provides suitable devices in a variety of purposes such as integrating renewable energy sources, frequency regulation, peak cut and installing independent microgrid. Our ESS product consists of highly-efficient/-reliable ES PCS, PMS for various applications and high-performance batteries with optimal capacity. We offer a total package of solutions for ESS system including customized consulting service, system establishment and post-management.

# Voltage Type HVDC (Ultra High Voltage DC Transmission)

HVDC is a transmission technology which converts high-voltage AC power from a power plant into highly-efficient DC power. Due to its low power loss, it has advantages in large capacity and far distance transmission, for which it is emerging as the core technology of the next-generation power network. HVDC is expected to contribute largely to national technological competence since its technology

can be linked with STATCOM technology with its similarity with STATCOM, which will help facilitating renewable energy and cross-nation power linkage. Hyosung Heavy Industries succeeded in developing 20MW voltage-type HVDC in 2018 and has established a testbed in Jeju island and is currently developing 200MW scale voltage-type HVDC.

# Hydrogen Filling Station for Next-generation Hydrogen Vehicles

In 2008, Hyosung Heavy Industries succeeded to develop a hydrogen vehicle charging system for the first time in Korea. Since the first delivery to Hyundai Motor's Namyang Research Center, we have been building and operating hydrogen stations in more than 20 places including Ulsan, Korea Highway Corporation and Hyundai Mobis. In aligned with the government's roadmap in 2015 to facilitate hydrogen vehicles and charging infrastructure, the company is constantly striving to secure global technology competence in fuel charging system of hydrogen vehicles, the next generation pollution-free vehicles. From 2019, empirical studies and R&D projects have been carried out to develop technologies to make use of hydrogen produced from biogas for fusion type hydrogen filling station.

# Smart Grid, STATCOM (STATic synchronous COMpensator)

In 2010, Hyosung Heavy Industries supplied two units of STATCOM to KEPCO substation sites in Jeju Island for the first time in Korea. STATCOM is a device that prevents power loss during transmission and distribution thereby enabling more stable power transport and compensating the variability of renewable energy. Hyosung Heavy Industries is the first and only company in Korea to have commercialized STATCOM technology and the third company in the world to develop MMC (Modular Multi-level Convertor) STATCOM after Siemens and RXPE. Featuring its voltage stability and optimized transmission efficiency, STATCOM has been ordered from domestic substations, the India Electric Power Authority, and Panama Transmission Agency, and we are working on expanding the market to Asia and America. Hyosung Heavy Industries also operates an energy monitoring service in Jeju Smart Grid Test-bed, the first pilot testing bed to implement smart grids in Korea.

—— SUSTAINABILITY MANAGEMENT —— GO

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Customer Relationship Management and Maximizing Customer Satisfaction – Eco Products and Technology Development – Overseas Expansion into New Markets

# Overseas Expansion into New Markets

#### **ISSUE BACKGROUND**

Due to the global economic slowdown and rising trade tensions, uncertainty risks are increasing surrounding business environment of companies. Even in this situation, our main companies are strengthening their presence in overseas market, actively investing on facilities and securing strategic locations in order to expand into emerging markets. As a result, global business capacity and strategy for overseas expansion to new markets are highly required to maintain a competitive edge in the global market.

## **OUR APPROACH**

As a global company exporting products to more than 70 countries worldwide, Hyosung is expanding its business territories in global markets, focusing on strategic locations such as Vietnam, India and China. We concentrate production of our core products such as spandex, tire cords in Vietnam for the Asian and European markets, while targeting local market in India through constant facility installation and expansion. We plan to strengthen our position as a global leading company with an outstanding adaptability to overseas local environment based on world-class technology and product quality.

# **Continuous Overseas Expansion**

Hyosung's global competence lies in its outstanding technology and localized strategic global network, which allows timely and stable production of high-quality products in accordance with customer needs. Hyosung has been focusing on establishing a global production base since earlier and reflecting customer tastes and lifestyles to its products. We have established a dominant presence in Vietnam, India and China, where great potential for future growth is expected, through sophisticated localization strategy and proactive investment on facilities and infrastructure. In 2018, particularly, Hyosung focused on establishing a strategic production base for core products targeting global markets by investing and setting up new manufacturing entities and factories in Vietnam and India.

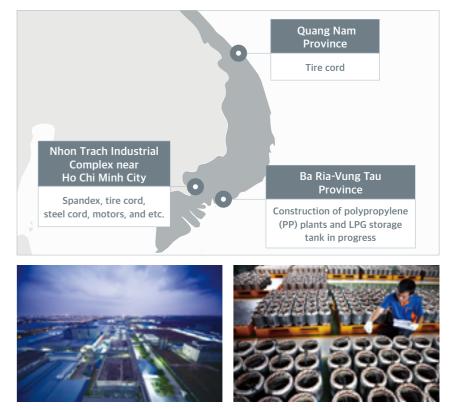


# Vietnam

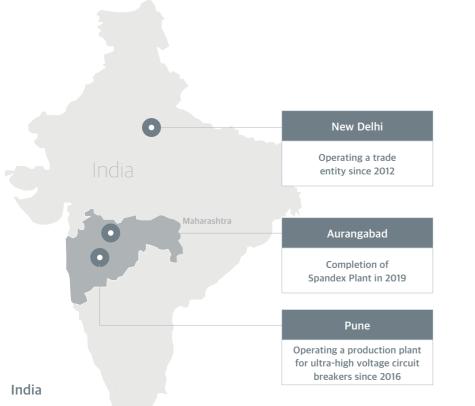
Hyosung is carrying out various business activities in northern and southern parts of Vietnam, with plans to further expand its business to chemical and heavy industry sectors in addition to the current operations of the world's best spandex and tire cords. Vietnam will continue to be our production base for the entire global market.

- From the beginning of its foundation, Hyosung Advanced Materials targeted Vietnam as its main production base and has managed to optimize it with ceaseless effort. Fully equipped with state-of-the-art facilities from the continued investments, Hyosung Vietnam and Hyosung Quang Nam will grow into strategic production complex hubs for the global market.
- Considering Vietnam's domestic situation where infrastructure construction is highly needed such as port and urban development, Hyosung Heavy Industries is proactively expanding its infra business in Vietnam based on its long-accumulated technology and knowledge in transmission and construction.

## Hyosung's Business Status in Vietnam



Customer Relationship Management and Maximizing Customer Satisfaction – Eco Products and Technology Development – Overseas Expansion into New Markets



India is one of the world's largest textile markets and its consumer market size is expected to keep growing.

Since its business launch in New Delhi in 2007, Hyosung has been operating a trading entity from 2012, and generating more than USD 300 million of annual revenue through constant business expansion such as establishing a manufacturing plant for ultra-high voltage circuit breakers in Pune region in 2016.

In addition, we are founding a base to target India's domestic market for the future, carrying out a construction project to build a 396,694m<sup>-</sup>-sized spandex manufacturing plant in Maharashtra state, which is to be completed in 2019. Following the market demand and business prospects, we plan to continue our investment in India and hope to grow into a company beloved by Indians by contributing to boosting and developing their economy.

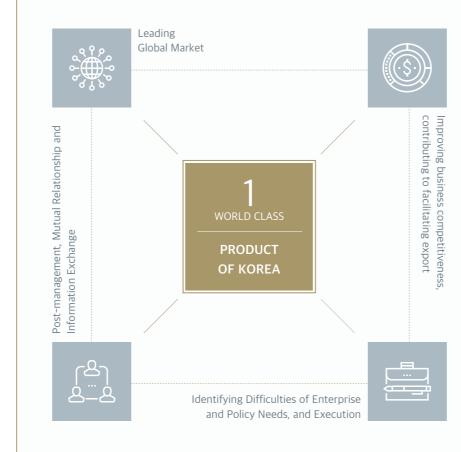


# **BUSINESS CASE** - Strengthening Global Competitiveness through Innovational Technologies

The Ministry of Trade, Industry and Energy of Korea annually selects the world's leading products with global competitiveness among domestic products through 'World Class Product of Korea'. The title of World Class Product is only given to the selected Korean products that are either among the top five in their industry worldwide or holding at least 5% of global market share with certain size of their overseas business (overseas business twice bigger than that of domestic business or generating at least USD 50 million of sales). In 2018, Hyosung earned 'World Class Product of Korea' titles for a total of nine products from four business companies (incl. Hyosung TNC, Hyosung Heavy Industries, Hyosung Advanced Materials and Hyosung Chemical). The 2018 selected products have been recognized as the world's first-rate products for time period, from minimum 6 years and to maximum 17 years, and have pioneered a solid global market leadership through differentiated technology competence, despite numerous latecomers. We will continue to make efforts to lead innovation in the global market with our world-renowned technical capacity.



2018 World Class Product of Korea Certification Ceremony





Customer Relationship Management and Maximizing Customer Satisfaction – Eco Products and Technology Development – Overseas Expansion into New Markets

# Major Outcomes of Overseas Expansion

Hyosung TNC - Participating in ISPO, the World's Biggest Trade Fair for Outdoor & Sports

Hyosung TNC has participated in ISPO Munich, the world's largest sports and outdoor trade fair and introduced 'MIPAN regen aqua-x' and 'regen cotna' which have been developed to keep up with the growing customer demands of eco-friendly textiles in the global market. These two yarn materials which have been produced by collaboration of three PUs in Hyosung TNC from product development to exhibition planning, have attracted great interests during the fair trade. We aim to expand our market share through diverse global marketing activities not only focusing on spandex but also on nylon polyester and develop differentiated products based on customer needs.

**Hyosung Heavy Industries - Hosting Technical Seminars in Peru and Chile** Peru and Chile are members of the Trans-Pacific Partnership (TPP) and are considered as prospective export bases due to their geographical advantages close to the US market and their pro-business environment. In March 2019, Hyosung Heavy Industries held technical seminars in both countries, which are strategically important area for expansion to Latin America, and discussed latest technology issues on four products – ultra-high pressure transformer, circuit breaker, STATCOM, and ESS - to the total of 35 agencies including governmental agencies, power offices, EPC and engineering companies. Through this seminar, as a provider of total-package solution services, Hyosung Heavy Industries introduced various product profiles including ESS and STATCOM and presented its excellent technical skills to the participants. We will continue to hold regular seminars to reinforce our brand image of 'Technology-leading Company, Hyosung' and secure more business opportunities.

# Hyosung Advanced Materials - Continuous Participation in Major Global Exhibitions for Industrial Materials

Hyosung Advanced Materials attended Eurosatory, an international defense and security industry trade fair, which was held in France in June 2018. With growing interest in bulletproof materials due to deteriorating security condition worldwide and increased level of terror threats, ALKEX<sup>®</sup>, a high-tech Aramid product which is supplied to US police and overseas troops, received a lot of attention in

the exhibition. In addition to bulletproof materials, Hyosung Advanced Materials will continue to actively promote its product brands and share technology development trends with customers by continuously participating in major international exhibitions of relevant industry, such as JEC World, Techtextil, Milipol, and TireTechnology Expo.

# Hyosung Chemical - Attending Chinaplas 2019, One of World's Three Biggest Plastics Exhibitions

Chinaplas is the largest plastics and rubber trade fair in Asia which attracts massive attention of international buyers in the chemical industry sector. Hyosung Chemical has attended the Chinaplas 2019, disclosing new PP (Polypropylene) products before market launch. It also promoted 'Topilene R200P', the largest market share in the world. We would like to pay attention to customer needs and increase market share of high-value products throughout actively participating in various international fairs.



# Sustainability Management

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# HYOSUNG

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SUSTAINABILITY MANAGEMENT — GOVERNANCE –

Securing Sustainable Growth Momentum for the Future — Human Resource Management — Green Management — Social Contribution — Shared Growth Management

# Securing Sustainable Growth Momentum for the Future

# **ISSUE BACKGROUND**

In order to maintain an industry-leading position and generate stable profits in a rapidly changing competitive environment, it is essential to discover and secure new growth engines through continuous R&D activities. In addition, it is required as one of the mandates of a company to lead the market, not only to achieve short-term results, but also to prepare for the future and secure new growth engines tailored to the needs of customers and markets.

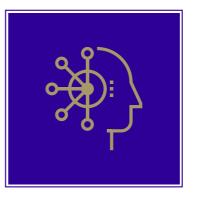
# OUR APPROACH

Hyosung develops new products that meet customers' needs and flexibly responds to rapid changes of market condition, based on its systematic research organization and market-leading technology competence. Furthermore, we are committed to proactively challenge and expand into new areas which is expected to rise as thriving industry to secure momentum for sustainable future growth.

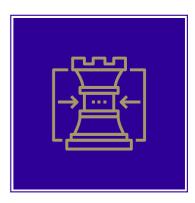
# **UN SDGs LINKAGE**



# **OBJECTIVES IN 2019**



Maximizing Research Outcomes through Selection and Concentration



Competitiveness Creation through Developing Core Technology

# ACHIEVEMENTS IN 2018



Awarded the IR52 Jang Young-sil Award

Developing CD PET Continuous Polymerization Technology



Number of Patent Applications (\*accumulated number of domestic applications until the end of 2018)

#### HYOSUNG SUSTAINABILITY REPORT 2018 OVERVIEW — FOCUS ISSUES & B

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Securing Sustainable Growth Momentum for the Future — Human Resource Management — Green Management — Social Contribution — Shared Growth Management

# **R&D** Organization and Outcomes

# **R&D** Committee

The R&D Committee is held twice per year with the attendance of CEOs and COOs of operating companies as well as PG and PU executives and team leaders. In the R&D Committee, R&D status of major products is discussed and VOC opinions are immediately reflected. In this way, we make sure that the direction of R&D is fully aligned and diverse company-wide opinions from different departments are applied to R&D process accordingly.

# **R&D** Organization

Hyosung's R&D organization consists of 4 institutes including Hyosung R&DB Labs (R&D for Hyosung TNC, Hyosung Advanced Materials, Hyosung Chemicals), Hyosung Power and Industrial Systems R&D Center (R&D for Hyosung TNC, Heavy Industries), Steel Wire Technical Center (R&D for Hyosung Advanced Materials), and Technology R&D Center (R&D for Hyosung TNS). We are dedicated to develop differentiated technologies which enable world-class products in various fields such as spandex, tire cord, carbon fiber, STATCOM, and ESS.

# Hyosung R&DB Labs

Founded as Korea's first R&D Center affiliated with a corporation in 1971, Hyosung R&DB Labs has its main research scope covering textiles, industrial materials and chemical materials. Hyosung R&DB Labs has established the Vision 2025 to become a "Technology leader creating future with first-class technologies" and has been providing a basis for future growth with five major new product groups. With its organizational structure based on five research groups focusing on 10 core technologies, Hyosung aims to incubate fundamental technologies and accumulate the relevant skills through systematic organizational operation. Furthermore, we constantly innovate our research paradigm through logical and theoretical mechanisms to maximize research efficiency, and we strive to recruit and train excellent researchers through establishing VIU-generating R&D culture.

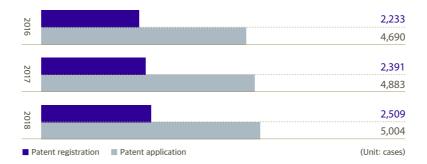
### Internal Technology Exchange Meetings

In order to increase our R&D competence and efficiency, we are actively promoting technology exchange among relevant departments. We regularly operate base technology task force teams to acquire core base technologies and internalize research capacity, and effectively tackle research challenges by facilitating technology convergence corporate culture through Brainstorming Breakthrough Meetings and Tech. Cross Meetings.

# Hyosung R&D Organization



# Number of Patent Applications (accumulated number)



# Five Major Research Groups of Hyosung R&DB Labs

Textile Research	Spinning, drawing and synthesis technology
Polymerization Research	Polymerization/synthesis and catalyst/ process technology
Electronic Materials Research	Electronic materials
Film Research	Film manufacturing and coating technology
Functional Materials Research	Carbon fiber and composite materials, Membranes with environmental materials

# BUSINESS CASE -

# Hyosung Production Technology Center, aiming at technology convergence through sharing and cooperation

In July 2019, the Production Technology Center has been established to serve as a dedicated organization for advancing production technology at Hyosung. The Center aims at strengthening technical competence as well as fostering experts in core technologies by allowing Hyosung R&DB Labs and main production plants to collaborate. By reviewing production-related facilities, implementing process simulation and preparing for countermeasures for further changes, the center can enhance efficiency and minimize errors which may occur from the direct-application method. We plan to increase our competitiveness by recruiting more experts for further expansion in the future.



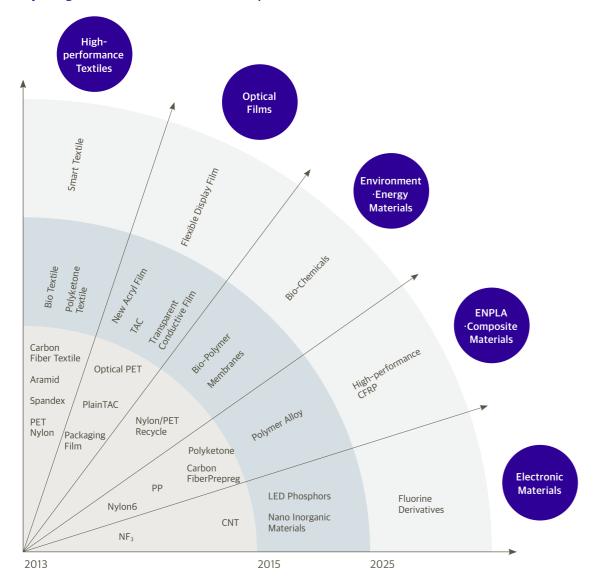


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SUSTAINABILITY MANAGEMENT —— GOVERNANCE ——

Securing Sustainable Growth Momentum for the Future – Human Resource Management – Green Management – Social Contribution – Shared Growth Management

#### Hyosung R&DB Labs Vision 2025 Roadmap





# Major R&D Outcomes in Hyosung R&DB Labs

## NET Certification for Manufacturing, Dispersing and Coating Technology for Phosphors Used for Brightness Enhancement Film

Hyosung R&DB Labs was certified by the NET (New Excellent Technology) certificate in May 2018 with its new technology of 'Manufacturing, Dispersing and Coating Technology for Phosphors Used for Brightness Enhancement Film'. This brightness enhancement film was developed to overcome limitations of ultra-high resolution display such as full UHD TV. It ensures high brightness through flexible control of phosphor concentration and improved light conversion efficiency by means of the sophisticated coating technology to disperse fluorescents densely in a form of a thin film. We will continue to make efforts in technology acquisition and commercialization in order to secure competitiveness in the global market.

#### Developing the World's First High-functional Innovative Spandex

Spandex Research Team 2 of Hyosung R&DB Labs, won the "Korea Engineers Award" for developing the world's first high-functional innovative spandex, in a recognition of his contribution to Korean industry and innovative technology. The center has gained technical competitiveness by developing high performance spandex which maintains elasticity even after high-temperature dyeing process as well as eco-friendly spandex which allows heat setting at a lower temperature compared to conventional products. Hyosung R&DB Labs will continue to maintain its competitive edge in technologies and product quality through more efficient research activities with clear market goals, smooth collaboration as well as customer needs identification.

# IR52 Jang Young-sil Award for CD PET Continuous Polymerization Process

The IR52 Jang Young-sil Award is given to Korean research organizations to reward unique and competitive products with advanced technology. Hyosung has received IR52 Jang Young-sil Award for developing 'PRISMA', a high-positive ion dyeing (CD) polyester (PET) fiber by applying 'CD PET Continuous Polymerization Process' which was developed by the researchers of Hyosung R&DB Labs for the first time in the world. The continuous process technology enables the company to effectively tackle the problems like limited production capacity, high production cost and time as well as quality variation which often rise from conventional process.

# **Steel Wire Technical Center**

The Steel Wire Technical Center has been focusing its R&D competence on developing product and production technologies of tire reinforcement materials since 1986. Currently, it is striving to develop green products to reduce toxic substances generated from tires. In order to reflect customer request immediately and support production process and customer approval, we have set up technical centers in major overseas production sites in China and Vietnam, actively responding to global customer needs and enhancing our base technology and core competence. With high-end research facilities and human resource, we endeavor to acquire the world's best technology and base technology for the promising future.

# Technology R&D Center

As Korea's largest R&D center for financial automation device which was established in 1983, the Hyosung Technology R&D Center boasts independent hardware and software technologies for creating automated devices, terminals, and core modules. The center has successfully developed a technology to identify different banknotes and acquired standard certifications required by EMV, EPP, CEN, and UL in the international market, thereby contributing to advancement of financial IT technology. HYOSUNG SUSTAINABILITY REPORT 2018

SUSTAINABILITY MANAGEMENT

Securing Sustainable Growth Momentum for the Future — Human Resource Management — Green Management — Social Contribution — Shared Growth Management

# **BUSINESS CASE** -

# Installing the World's Largest Scale STATCOM

Hyosung Power and Industrial Systems R&D Center, as the only institution possessing STATCOM commercialization technology in Korea, facilitates smart grid technologies in the domestic market. Hyosung Heavy Industries installed the world-largest STATCOM with 400 Mvar-scale in October 2018 at substations located in Shinyeongju and Shinchungju. With their successful achievements, the center and Hyosung Heavy Industries are expected to lead the next-generation power technology. The STATCOM installed this time, particularly, has applied MMC (Modular Multi-level Converter) technology developed by the center in order to realize high capacity and low power loss of STATCOM.

1. STATCOM (STATic synchronous COMpensator): Static reactive power compensation device 2. MMC (Modular Multi-level Converter): A device which converts power close to the waveform of normal AC voltage.



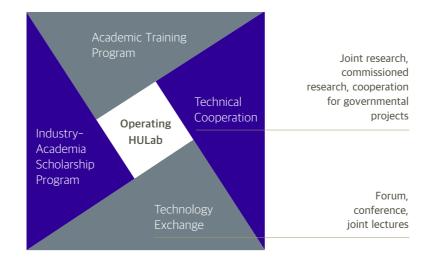
Ceremony of the completion of STATCOM

#### Power & Industrial Systems R&D Center

The Power and Industrial Systems R&D Center is developing innovative products such as new transmission, ESS and DC grid, and securing advanced technologies in the sectors of power electronics, system analysis and control, materials, heat flow, vibration noise and reliability. We are conducting DR (Design Review) process to proceed the R&D projects successfully, and operating a working group to establish mid- and longterm R&D strategies for main products of heavy industries PG. Moreover, in order to enhance expertise of the researchers, the center provides its own training programs based on GTE (Global Technology Expert) system and actively carries out external technology collaboration.

## HULab (Hyosung University Lab)

Hyosung has established HULab (Hyosung University Lab) as a partnership platform to cooperate with research institutes of the universities. Joint research projects and commissioned projects are carried out with a focus on core research areas, and governmental projects are jointly planned and proceeded under the cooperation. In addition, we run industry-university support programs and secure outstanding human resource by providing the talented participants fast-track job opportunities in Hyosung Heavy Industries right after their graduation. In this way, we have established a solid partnership model between Hyosung and universities, from which both parties mutually benefit and grow with each other.



### Enhancing Expertise of R&D Personnel

In order to strengthen expertise of our R&D personnel, technical exchange and joint research are implemented with domestic and overseas research institutes and leading universities. We also train and educate our

researchers to gain global competitiveness by running our own education system such as Global Technology Expert (GTE).

## **DR (Design Review) Process**

DR Process refers to a project-monitoring and decision-making system which runs across the entire process of a research project from planning to commercializing and helps evaluate and determine status (e.g. change, stop, continue) of each project stage. In this way, we can manage risks derived from research outcomes and prevent potential problems and issues. Hyosung Power and Industrial Systems R&D Center is applying system engineering to project process to enhance productivity of the R&D projects and employing verification & validation process to increase customer satisfaction as well as product reliability.

#### Working Group

Hyosung Heavy Industries analyzes trends related to market, product, technology and competitors for each main product of PGs and then establishes short-term and mid-term business strategies with a participation of related departments including planning, sales, product development and research. Based on these strategies, we derive management plans and R&D tasks for the upcoming year.

# Major R&D Outcomes in Power & Industrial Systems R&D Center

# DC/DC Converter for Regenerative Braking of Railway Vehicles

Power & Industrial Systems R&D Center developed an interleaved, high-efficiency DC / DC converter that can be applied to ESS for railway vehicle regenerative braking. Successfully passed the March demonstration test. Lithium-ion battery ESS has the advantage of low installation cost compared to the supercapacitor ESS that is currently applied to the railroad field, but it was adopted and applied to Japan's Hitachi technology because domestic technology was not secured. The company has secured technology through product development and empirical testing to enable the localization of ESS for railway vehicle regenerative braking using lithium-ion batteries in Korea, and expects the related market to expand in the future. In addition, the newly developed DC / DC converter for railway vehicle regenerative braking will be applied to DC Coupled system in DC Microgrid.

#### HYOSUNG SUSTAINABILITY REPORT 2018

OVERVIEW —— FOCUS ISSUES & BUSINES

Securing Sustainable Growth Momentum for the Future – Human Resource Management – Green Management – Social Contribution – Shared Growth Management

# Human Resource Management

# **ISSUE BACKGROUND**

In a rapidly changing business environment, capacity development is considered essential to assure competitiveness and sustainability of the company. This calls for company-wide commitment and efforts to attract talented human resource and develop effective training programs. In addition, the leading corporate culture for employees' welfare and human rights is also becoming ever more important as demands for corporate social responsibility increase.

# **OUR APPROACH**

Based on the belief that the accumulation of individual competence equals Hyosung's competitiveness, Hyosung is improving our training system to improve employees' competence and skills and is implementing it according to five main principles (sharing management philosophy; fostering leaders; strengthening expertise and global capacity; improving corporate culture). In addition, we actively operate flexible work systems and family-friendly management in line with employees' life quality improvement and changes in labor environment.

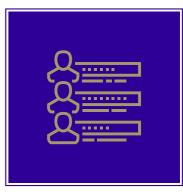
# **UN SDGs LINKAGE**



# **OBJECTIVES IN 2019**

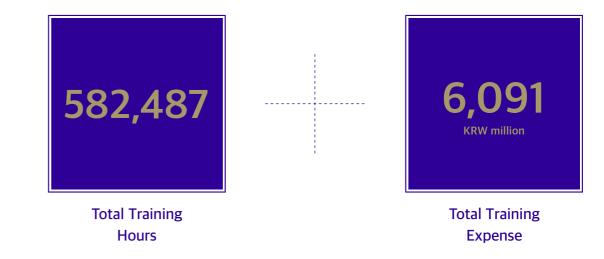


Education System Establishment for Each Operating Company



Innovate Corporate Culture by Reforming Position System

# ACHIEVEMENTS IN 2018



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# Recruiting Excellent Employees and Building Capacity of Employees

# **Recruiting Excellent Employees**

# Hyosung's Qualified Employees

Hyosung employees are global leaders equipped with our core values of excellence, innovation, accountability and integrity to realize our mission of "leading a better life for mankind based on best technology and management capabilities".

#### **Employees Recruitment**

HYOSUNG SUSTAINABILITY REPORT 2018

In order to attract 'global leaders' who can realize Hyosung's values, we are running various recruiting channels including regular recruitment, occasional recruitment and campus recruitment. In addition, we are transparently sharing the information related to working contract and recruiting process through a separate recruitment website in the company. All applicants have equal opportunities in the recruitment process and are not subject to discrimination by their gender, religion or academic background. As part of our efforts to enhance transparency and diversity in the process, we got rid of sections for applicants' photos and family status, and dropped application restrictions based on age, academic and language proficiency scores. All the details regarding working condition and contracts are specified in our employment policy, which assures employees' rights in the company.

# **Onboarding Program for New Employees**

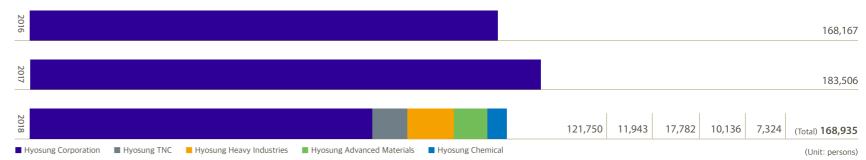
We manage an onboarding program for our new employees so that they may easily adapt to the company. The program mainly consists of two parts including group introductory training to learn corporate management policies and job placement training to enhance their job understanding. After the training, a year-long mentoring program is carried out, followed by 1:1 feedback sessions with team leaders to gather opinions of onboarding employees. For experienced employees who are newly recruited, we provide introductory education to inform our corporate management policies as well as mentoring and HR consultation to guide their smooth adaptation.

# Capacity Building of Employees

#### **Training System and Directions**

Hyosung is implementing an institutionalized training system for employees for their capacity building, focusing on five education objectives such as spreading management philosophy, fostering leaders, strengthening professional expertise, building global capacity and improving corporate culture.

# Number of Training Participants (aggregated per year)

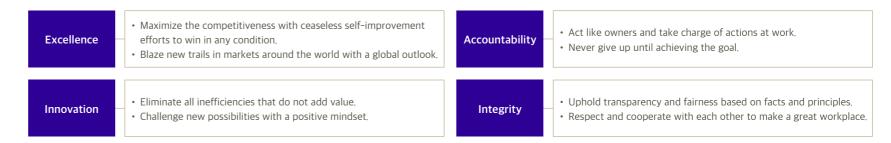


Securing Sustainable Growth Momentum for the Future — Human Resource Management — Green Management — Social Contribution — Shared Growth Management

\*In the case of 2018 data, the number of employees who participated in training before the division of the company was counted as Hyosung Corporation. The data of the four operating companies is the result of collecting and calculating the data from June 1, 2018 until December 2018.

# Hyosung's Four Core Values

SUSTAINABILITY MANAGEMENT



Category	Spreading Management	Fostering	Strengthening Professional	Building Global	Improving Corporate
	Philosophy	Leaders	Expertise	Capacity	Culture
Goal	Integrating the company	Fostering leaders who	Fostering global-level	Building	Facilitating
	and employees based on	can effectively train and	specialists	market-leading capacity	communication and
	management philosophy	evaluate the subordinates	in their field	in the world	collaboration
Training Programs	<ul> <li>Responsible management training</li> <li>Newly recruited (new/experienced)</li> <li>Newly promoted</li> <li>Reading management</li> <li>Newly newly promoted</li> <li>Reading management</li> <li>Existing/new leaders</li> <li>Team leader</li> <li>e-MBA</li> </ul>	<ul> <li>Onboarding sales executives</li> <li>Executive candidates</li> <li>Existing/new team leaders</li> <li>Team leader candidates</li> </ul>	<ul> <li>Fostering specialists (sales/production/R&amp;D)</li> <li>Professional vocational training (sales/production/R&amp;D/management)</li> <li>Common vocational training (planning/ problem-solving/communication)</li> <li>Service training</li> <li>Online training</li> </ul>	<ul> <li>Multi-culture training / regional training</li> <li>Expats training</li> <li>Academic training system</li> </ul>	<ul> <li>Team-building (HOT)</li> <li>Employee opinion survey</li> <li>GWP Agents</li> </ul>

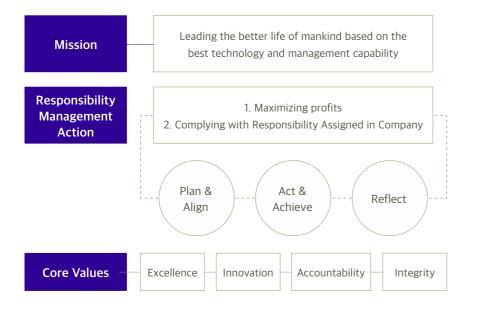
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# Training Programs by Each Training Objective

# Training for Practice of Responsible Management

In order to practice and achieve the responsible management, which is a method of working in Hyosung, we are guiding detailed actions along with best practices to all employees so that they can fully understand and apply them to practice in their working environment.



## **Onboarding Training for New Employees**

New employees receive 3-week onboarding education starting in January every year. New employees learn the importance of corporate vision aligned with each individual employee's vision, and the company supports them to achieve their goals and plans within the next one year.



# Management Philosophy Training

We are implementing various training programs such as responsible management, training for the newly recruited and newly promoted as well as reading management so that all employees are clearly aware of corporate management philosophy and policy and further apply lessons learned to their tasks.

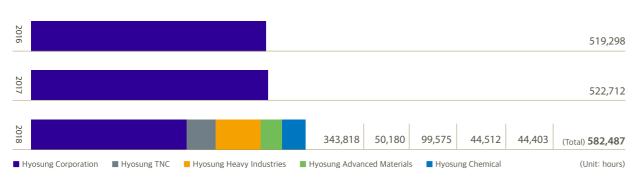
Category	Description	
Responsible management training	Facilitating employees to be informed and practice responsible management, Hyosung's operating method.	
Newly recruited (new/experienced)	Sharing corporate philosophy and values to the newly recruited in order to help them quickly adapt to the company.	
Newly promoted	Encouraging the newly promoted employees to change in ac- cordance with the newly assigned position by educating them with new roles and responsible management practices.	
Reading management	Recommending the books which contain the business practices emphasized by the management executives	

## **Fostering Leaders**

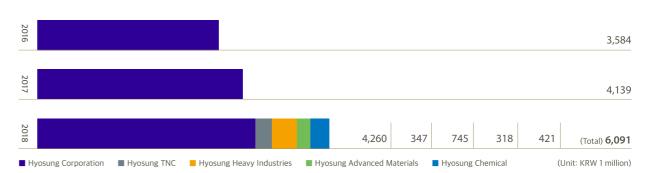
Our leadership training aims to foster management members in the company. Based on its own leadership pipeline, Hyosung provides a systematic roadmap starting from the position of Deputy General Manager/ Department Manager to Management Executives.

Category	Description		
Newly appointed executives	<ul> <li>Making newly appointed executives aware of their responsibilities and roles to set a foundation of a global leading company</li> <li>Providing monthly study session to learn roles of executives, business perspective and philosophy in order to support their capacity development as a goal-achieving leader</li> </ul>		
Onboarding sales executives	<ul> <li>Educating onboarding sales executives to understand business objectives, core values, business status and general policy of the company to help their onboarding and increase their satisfaction in the company.</li> </ul>		
Executive candidates	<ul> <li>Training capacity required to executive candidates such as business strategy, accounting, marketing, production management</li> </ul>		
Existing/new team leaders	<ul> <li>Informing responsibilities and roles of team leaders and training them to apply performance and organizational management to their job properly to make performance</li> </ul>		
Team leader candidates	<ul> <li>Fostering qualified leaders by training deputy general managers and</li> <li>general managers as team leader candidates with strategic thinking, project management, and people management skills</li> </ul>		
e-MBA	<ul> <li>Providing online education to deputy general managers and general managers to enhance their basic management capabilities</li> </ul>		
Insight forum	<ul> <li>Special lessons for management executives and team leaders to introduce up-to-date business information and insights</li> </ul>		

Total Training Hours (aggregated per year)\*



# Total Training Expense\*



\* Data of four operating companies are hours and amount expense between June 1 to December 31 2018. \* Data between Jan. 1 ~ May 31, 2018 have been accumulated as Hyosung Corporation.

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# **Global Capacity Training**

# Special Lectures about Foreign Cultures/Regions

In an effort to enhance our expertise and global business capacity in overseas regions, we offer region-specific special lectures to the employees and prospective employees who are working in these areas to help them understand the culture and characteristics of host countries. The training contains various subjects such as historical and cultural backgrounds, current economic trends and issues, business and communication characteristics and business manners for five regions including Europe, Southeast Asia, North America, China and the Middle East.

### **Expatriate Training**

For those who are to be dispatched to our overseas offices, we are educating them on their roles and responsibilities and providing adaptation guidance so that they are prepared with essential capacities as an expatriate working abroad. 'Strategic foreign language education' is provided by external language schools prior to their dispatch to host countries in order to improve their communication skills. And after returning to Korea, we update them with any changes in corporate system and culture so that they can quickly adapt to domestic working environment.

# Academic Training Program

In order to strengthen expertise of our employees, we annually select successful candidates for traineeship and financially support their academic education in external professional institutes including domestic and international universities. They are mostly sent to R&D or MBA programs, and we support them through regular checkups and continuous encouragement so that they can complete their studies within expected time while working in parallel. We also manage and support the employees who return to work after the training in order to help them effectively perform their expertise learned at work .

### Vocational Training

We provide vocational training to our employees so that they can perform global-level expertise in their field. We enhance their professional skills which are required to complete actual tasks at work, by expert training, PU-specific training as well as self-directed learning.

Category	Description			
Fostering specialists (sales, production, R&D)	Providing systematic vocational training to the selected specialists in sales, production and R&D sectors			
Professional vocational training (sales, production, R&D, admin)	Sector-specific vocational training tailored to the level of each trainee in sales, production, R&D, and administration			
Common vocational training (planning, problem-solving, communication)	Training company-wide job competencies required in common to all employees including communi- cation, problem-solving and planning skills			
PU-specific training (sales)	Strengthening sales capacity to better deal with current business issues of each PU			
Service training	Training for customer satisfaction management to B2C departments (Wellington CC, SevitSome)			
Online training	Supporting self-directed learning of all employees in job-related and language skills			
PU education / assignments	Supporting self-directed learning for knowledge and skills required for implementing on-site tasks.			
Hands-on practice	Sharing business practices and know-hows of specialists (trade, legal, patent) in the company			

# **Corporate Culture**

# **Corporate Culture Improvement Activities**

# HOT (Hyosung One Team) Team Building Program

HOT (Hyosung One Team) is our corporate culture program which was designed to build synergy-making teams based on active communication and cooperation. The training takes place by voluntary application of a team leader, and is comprised of three stages, such as 'open-mindedness', 'communication and reflection', and 're-take'. Not only is there a positive change in communication within a team, but also in commitment and dedication from each team to put new resolutions into practice.

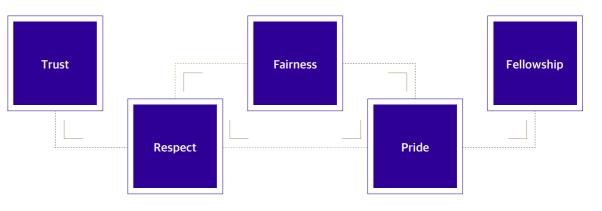
#### GWP (Great Workplace) Agents

Assigned to personnel in the position of general manager or deputy general manager, a GWP agent is in charge of facilitating corporate culture in workplaces through various GWP activities such as supporting social clubs, hosting company culture workshops and proceeding smiling campaigns. In the beginning of a year, the Agent Meeting is held in which they discuss objectives and improvements related to their activities and establish annual action plans for corporate culture for each business unit. The action plans are designed in an aim to overcome limitations and maximize strengths addressed from employee opinion survey. And the performance of the GWP activities is evaluated every year by implementing employee opinion survey at the end of the year.

# **Employee Opinion Survey**

Throughout the employee opinion survey, the level of trust among different PUs, business units and teams is diagnosed by collecting employees' opinions. Subject items of the diagnosis include five areas – trust, respect, fairness, pride and fellowship with colleagues–, and the survey is conducted to understand current status of GWP per each PU and business site as well as any improvement for the future. All executives and employees of Hyosung Group in domestic sites participate in the survey, and the result is delivered by each unit. In order to ensure reliability of the results, the survey is carried out by an external agency, and the results are disclosed under the decision of GWP agents of each business unit.

#### Five Major Subjects of Employee Opinion Survey



# Family-friendly Management

Hyosung endeavors to build family-friendly culture in the company where employees and their families also participate and communicate with us, thereby aspiring to be a happiness-pursuing company. To that end, we carry out various programs for employees and their families including maternity protection policy. In recognition of these activities, Hyosung received Family-friendly Management Certification in 2015, and Hyosung Advanced Materials and Heavy Industries both obtained it after the group division in 2018.

#### 'Family Day and 'Family Care Day'

Hyosung operates family-friendly management in the hope that happiness of employees' family directly contributes to competitiveness of the company. The 'Family Day' is one of the representative programs for family-friendly management in Hyosung, which directly engages family members of our employees and makes them happy moments through various activities including company visits and trips. We also run the event called 'Family Care Day' in which we arrange a surprise visit to family members and deliver snacks and foods along with a video message of our employees.

# Maternity Protection Policy

Hyosung manages a variety of maternity protection policies for pregnant employees. In addition to the 90 to 120 days of maternity leave that can be used before and after childbirth, the company also provides reduced working hours by 2 hours per day within 12 weeks after pregnancy or after 36 weeks of pregnancy. In addition, the company guarantees maternity leave and supports medical expenses in case of miscarriage or accident. After giving birth, either maternity leave can be used within one year or reduced working hour system can be applied for working only 15 to 30 hours per week. In addition, employees can use nursing room in the company and breastfeeding time is guaranteed for 30 minutes or more, twice a day in the office. In addition, a special ID card is provided to pregnant employees so that fellow employees can be more aware and considerate. We are also providing maternity leave for spouses and family care leave in case of sickness of their children or family members. Overwork of pregnant women is not permitted at night or during holidays.

### Hyosung Daycare Centers

In order to relieve childcare burden of working moms and dads and to further support work-life balance, we are running in-house daycare centers in Mapo, Changwon and Ulsan offices. We ensure best childcare environment in the centers by regularly conducting inspection on toxic substances as well as providing reliable childcare and education by professional teachers from external companies.

# Work-life Balance

#### Flexible Working Arrangements

Hyosung complies with legal working hours (52 hours per week) and supports flexible working arrangements to increase employees' productivity. There are optional working hours system and flexible working hours system, and overtime pay is given for extra working hours. In this way, employees can manage their time flexibly and efficiently depending on their workloads.

#### Refresh Day Policy and Designated Holiday System

Through the 'Refresh Day Policy', Hyosung encourages employees who may find it difficult to use up their paid holidays due to the factory operation schedule to use a total of five annual paid holidays in a row. In addition, we operate the designated holiday system, through which employees are given days-off, usually in connection to one-day-national holiday or traditional holiday increasing the number of days off, so that they can get fully recharged and return with fresh energy to concentrate to work.













Hyosung Daycare Center



Briefing Session on the Change of Working Hours System

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# **Corporate Communication**

# Proud Hyosung-er Award

The Proud Hyosung-er Award is awarded every quarter or year to the executives or employees who have achieved outstanding performance contributing to company's growth and development. Winners are selected in the sectors of marketing, technology, research and management support, and monetary incentives and promotion-related advantages are given as a reward.

#### **Conversation with Top Management**

The CEO of Hyosung holds a monthly meeting to directly explain and share the company's major achievements, issues and policies to executives and team leaders. During the meeting, a Q&A session is prepared where top management members and employees can communicate candidly, thereby strengthening company-wide communication and management transparency.

#### Internal Bulletin Boards, Blogs and Other External Communication Channels

Hyosung is operating communication boards such as 'Tong Tong Bulletin Board' and 'Wa-gle Wa-gle' in its company intranet so that all employees widely share business information and news and exchange their opinions. In particular, Tong Tong Bulletin Board serves as a communication platform across entire business units, with communicators from each unit putting posts along with photos to promote business activities. In addition, by operating Hyosung blog, 'MY FRIEND HYOSUNG', we deliver various news within and outside the company. The contents of the blog include major corporate news, social responsibility activities and stories of employees. In addition, we also created YouTube and NAVER TV channels for internal and external communication. In recognition of our active company-wide communication, we received the 'Best Organizational Communication Blog Award' from Korea Business Communications Association.

#### Mentoring Program

Hyosung provides a mentoring program to new employees after they complete group introductory training, PG and PU intro-training in order to match them with a senior employee in 1:1 manner. This 6 months-long program aims to develop new members of our Hyosung family into the company's core human resource by improving their understanding of corporate management philosophy, business areas and job responsibilities, while helping them quickly adapt to the organization. After the mentoring program, outcomes of the participants are evaluated by external experts and heads of planning and management team of each PG and PU. We select the best mentees based on the evaluation, and they are awarded during training completion ceremony.

#### Communicator

In order to facilitate cross-departmental communication in PGs and PUs, we are appointing 'Communicators' within each business site. At least one employee should be selected as a communicator in each site. Once appointed as a communicator, he or she is responsible for communicating and informing issues of their business site to others after getting proper training related to organizational communication.

# **Employee Relations**

Besides Hyosung Labor Union, we operate Hyosung Polyester Labor Union, Hyomin Labor Union, TNC Gumi Labor Union, Hyosung Chemical Labor Union, and Hyosung Changwon Branch of Metal Worker's Union. According to collective agreement, it is mandated to notify any significant management-related issues to the labor unions as soon as possible. At the same time, each business unit transparently discloses management status of the company to its employees through regular briefing sessions or round-table meetings for each management-level. Meanwhile, we operate the Labor-Management Committee at the headquarter as well as at each business site and hold a quarterly meeting to discuss welfare, grievances, health and safety of employees. The received complaints are handled throughout the entire company, and improvement status is constantly monitored.

#### HR Counseling Center

The HR counseling center, operated by HR executives, is a communication channel to collect and directly deliver employees' work-related grievances to the executives including various issues such as sexual harassment, embezzlement, bullying in the workplace and personnel corruption. HR executives directly interview with employees and give them feedback under strict confidentiality. As a result, we manage to lower the turnover rate of our employees by providing them with consulting solutions as well as job change options.

### **External Communication Channel**





2018 Proud Hyosung-er Award



Awarded 'Best Organizational Communication Blog Award' in 2018 Korea Business Communications Awards

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# Green Management

# **ISSUE BACKGROUND**

A company's environmental responsibility and role are highly emphasized today as the social interest continues to grow along with stricter environmental regulations around the world. Moreover, it is getting more important to work on accident prevention and safety management, which largely affect the lives of employees as well as business continuity. In response, leading companies establish environmental management strategies in a long-term perspective and continuously invest and improve facilities as well as implement countermeasures to maintain safe working condition.

# OUR APPROACH

Hyosung implements group-wide green management based on Green Management Vison 2030. To this end, we carry out detailed missions which include leading the response to climate change; creating a foundation for green management; promoting green company image; focusing on environmental projects; facilitating green purchases and eco-friendly growth engine. In addition, we are trying to improve safety awareness and culture so that all staffs including suppliers work in a safe environment.

# **UN SDGs LINKAGE**



# **OBJECTIVES IN 2019**



Establish Green Management System at Each Operating Company

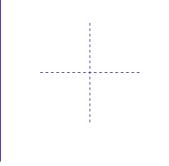


Facilitate Safety Culture by Building Common Understanding of Safety through Workshops

# ACHIEVEMENTS IN 2018



Reducing GHG Emission





On-site Safety Inspection to Overseas Business Sites in China and Vietnam

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# **Green Management Strategies**

# Hyosung Green Management VISION 2030

Goal	Emissions reduction by 20.5% compared to BAU-level in 2030						
Mission	Establishing a foundation for green management	Promoting green projects	Facilitating green purchasing	Leading climate change response	Building green corporate image	Creating a green growth engine	
Action Plans	<ul> <li>Establishing a dedicated organization in each operating company</li> <li>Securing professional personnel</li> <li>Introducing energy management system</li> <li>Defining R&amp;Rs for relevant personnel in each operating company and training</li> <li>Introducing carbon asset management system (HSCAMS)</li> </ul>	<ul> <li>Hazardous substances and wastes management</li> <li>Ecosystem protection</li> <li>Participating in environment clean-up activities</li> <li>Air and water pollutants management</li> <li>Waste management and waste reduction activities</li> <li>One company one river/park/mountain activity at each plant</li> </ul>	<ul> <li>Supporting green management of suppliers</li> <li>Implementing green purchasing agreements</li> <li>Resource saving</li> <li>Supporting green management (e.g. Energy Companion Project)</li> <li>Water saving activities</li> <li>Waste reduction of products</li> </ul>	<ul> <li>Facilitating emission reduction activities</li> <li>Management of GHG emissions and reduction</li> <li>Government policy response and compliance</li> <li>Emission Trading Scheme response</li> <li>Clean Development Mechanism projects</li> <li>Introducing energy-saving facilities</li> </ul>	<ul> <li>Green technology and green company certifications</li> <li>Facilitating environmental information disclosure</li> <li>Adopting LCA (life-cycle assessment)</li> <li>Participating in Carbon Disclosure Project</li> <li>Implementing Environmental Information Disclosure System</li> </ul>	<ul> <li>Supporting hydrogen economy</li> <li>Implementing projects related to recycled low-carbon materials</li> <li>Leading renewable energy projects</li> <li>Strengthening market presence in carbon fiber</li> <li>Proactive investment to recycled materials</li> </ul>	



# Green Management Vision 2030

Based on the Green Management Vision 2030, Hyosung has set a goal of reducing emissions by 20.5% by 2030 relative to BAU based on its annual emissions trend from 2013 to 2018. To that end, we have established missions and detailed action plans such as setting a foundation for green management, focusing on environmental projects, facilitating green purchases, and leading climate change response. In addition, we disclose our green management activities and performance through publishing business reports and sustainability reports as well as environmental information disclosure system. Our performance and activities related to climate change response have been evaluated externally by taking part in the Carbon Disclosure Project (CDP) since 2012.

# Green Management Operating System

In order to realize Green Management Vision 2030, Hyosung organized Green Management Team to effectively manage related tasks and performance. In addition, green management personnel are assigned to each business area to oversee green management tasks in general including GHG emissions, carbon credit projects, compliance with chemical substance regulations and external communications. In addition, all our business sites have designated a team dedicated to environment and safety. It carries out various activities concerning workplace energy use management, environmental impact reduction and occupational health and safety.

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# Response to Climate Change

# **Emission Reduction Performance Monitoring**

Hyosung has increased its profits and competence by saving energy costs while reducing GHG emissions. Hyosung effectively manages emission target and performance of each business site after restructuring and upgrading emissions management program in all Hyosung group companies in 2019. We aim to proactively respond to carbon market by identifying emission trends based on monthly data.

### **GHGs Emission Intensity**



# **Emission Reduction Performance**

Each business unit in Hyosung has established goals and action plans to reduce GHG emissions every year. Based on these plans, we invest in high-efficiency facilities, improve manufacturing process, replace fuels and encourage energy saving of the employees. In 2019, Hyosung is specifically making efforts to reduce energy use by sharing best practices of each business unit.

# Enhanced Efficiency in Energy Use

Hyosung is actively engaged in energy saving and maximizing energy efficiency through investments in highly efficient facility installation and effective data management system.

## Introducing Productivity Improvement (Energy-saving) System

We have established a HIS (Hyosung Information System) solutions-incorporated system to identify the best operating method by compiling and analyzing all data at our business sites in real time, so that we can improve our productivity and reduce energy consumption. In 2016, we introduced the system in our Ulsan plant

on a trial basis and plan to gradually expand the application to entire business sites including major overseas operations.

# Introducing High-efficiency Inverters

In order to reduce power usage and improve working environment with lower noise and vibration, Hyosung has introduced high-efficiency inverters and applied manual inverter operation. We reduce emissions by introducing inverters which are customized according to characteristics of each business site, considering facilities such as pumps, precipitators, and air compressors.

# Improving Process and Operation Efficiency

Hyosung reduces the amount of energy used in the manufacturing process by energy efficient process operation and reusing waste heat and steam generated from the process. In addition, we are making efforts to effectively manage unnecessary processes and find alternative fuels to reduce GHG emissions.

# Improving facility operation efficiency

Hyosung Ulsan Plant minimizes steam heat-discharge losses by improving operation efficiency of major production lines and reduces power costs by replacing aging facilities with high-efficiency ones. Also, Daejeon Plant 3 flexibly operates temperature and humidity system inside the plant to save power, while reducing operating time of dryer by shortening manufacturing time of products. Anyang Plant has attached an outlet timer to heating and cooling devices such as fan coil unit (FCU) and AC, which automatically turns off the power when getting off of work, minimizing unnecessary energy consumption.

#### Recycling waste heat and steam

Hyosung reuses waste heat generated from its own manufacturing process as well as from external companies and sells steam from our business sites, achieving energy saving and economic benefits at the same time. The production plants in Yongyeon, Changwon, Gumi, Daegu and Oksan utilize waste heat recovery in their process through steam pipelines. In particular, Yongyeon Plant supplies and sells high-pressure waste heat steam which is generated by household waste incineration to other plants and external stakeholders. Besides, we strive to reduce energy consumption by recovering waste heat generated from our manufacturing processes and reuse it within the process and/or for boilers across all business units.

## **Fuel Conversion and Fuel Efficiency**

Hyosung managed to reduce its GHG emissions as well as fuel costs by converting high-oxidant fuels such as bunker C oil for boilers into LNG and byproduct gas from manufacturing process which generate less amount of emissions. The production plants in Ulsan and Gumi use methane gas generated from wastewater treatment process to supply thermal oil heater (LNG) thus saving up LNG used in the heater. The Jeonju plant uses idle compressed air from nitrogen generator as low-pressure air for the process, reducing usage time of low-pressure air compressors and operating power. In particular, Ulsan plant and Yongyeon plant have installed photovoltaic panels in their business sites and parking lots for hot water and internal heating.



Photovoltaic Panels in Yongyeon Plant



Steam pipelines for recycling external waste heat

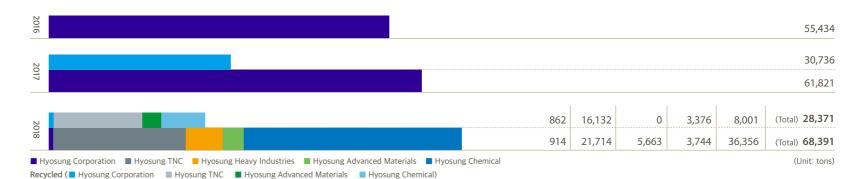
# Minimizing Environmental Impact

#### Waste

#### Waste Management

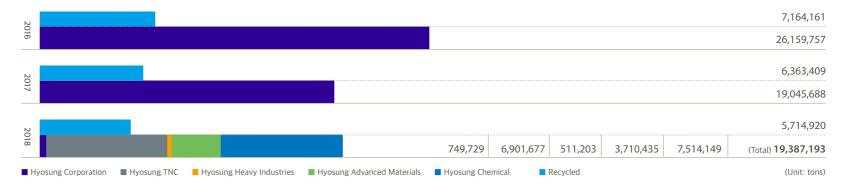
In order to reduce the amount of waste generated from manufacturing process and minimize environmental impact, Hyosung continues to facilitate recycling and improve the process by taking into account characteristics and substances of wastes. Hyosung Advanced Materials reused 90% of its waste in 2018. We have defined and revised waste treatment methods at each business site according to the waste type, aligned with systematic waste management. We also carry out a series of recycling training programs and regular inspections to our employees and business partners in order to properly manage wastes complying with relevant laws.



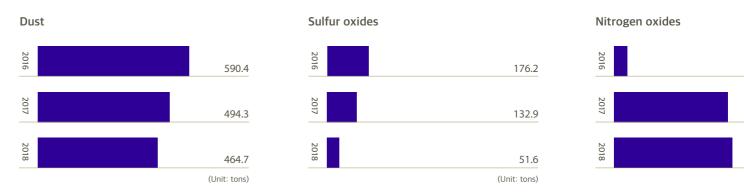


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#### Amount of water consumption and wastewater discharged



#### Amount of air pollutants emitted



\* The amount of air pollutants emitted by each operating company can be found on the Appendix.

### Water Resource

#### Water and Wastewater Management

All Hyosung plants systematically control amount of water pollutants discharged by conducting water quality tests in regular basis and establishing company-wide standards stricter than legal criteria. Through renovating, replacing and optimizing water pollution prevention facilities, we treat our wastewater and remove high-concentrated pollutants, leaving only low-concentration wastewater to be discharged. In addition, we monitor the wastewater discharge and in the event of high-concentration wastewater inflow, an emergency response system in conjunction with production teams takes action. Moreover, we monitor and manage the amount of water usage per business sites, and encourage usage of recycled water for various applications such as washing and fire hydrants.

#### **Air Pollutants**

#### Air Pollution and Odor Management

Our standards for of air pollutants emission are stricter than the legal criteria stipulated by the Ministry of Environment. Hyosung strives to minimize the emission from production process by installing air pollution prevention facilities in each process line as well as operating emission system to reduce air pollutants and odor-inducing substances. In addition, on-site training programs are regularly provided to the relevant employees so that they can effectively manage air pollutants with enhanced knowledge and skills. By making voluntary agreements with local governments to improve air quality in the communities, we strive reduce toxic air pollutants such as particle matter and benzene.

52.6

454.4

467.6

(Unit: tons)

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### Workplace Safety







PPDH Firefighting Technology Competition

Healthy Workplace Navi Certification Ceremony

#### Safety and Health Management System

We aim to build a safe and pleasant working environment for all employees, not only limited to our own but also of our partners, by establishing a safety and health management system to prevent serious disasters and work place accidents in advance. In case of the business sites of high risk for safety accidents, we establish a health and safety management system based on the health safety manuals and operate various programs to improve employees' health conditions. Hyosung's business sites have obtained and maintained various certifications such as KOSHA 18001 and OHSAS 18001, to manage health and safety in workplaces in a systematic manner.

#### Safety Inspection Consultative Body

In order to prevent workplace accidents and improve capabilities for workplace safety management, Hyosung establishes a regular safety inspection system by forming a company-wide consultative body for safety inspection which consists of the team leaders of environmental safety teams at each business site. The company conducts regular safety inspections in 17 domestic and 22 overseas business sites, three times per year to derive further improvements. Main safety subjects are classified and managed according to their importance and urgency. In addition, we aim to improve our workplace safety management capabilities by sharing the best practices and conducting case studies across our business sites.

#### Industrial Safety and Health Committee

Through the Industrial Safety and Health Committee and the Labor-Management Council, which represent all employees in corresponding business site in accordance with the Industrial Safety and Health Act, each business site in Hyosung continues to improve working environment through regularly discussing overall safety and health issues in the company, including problems and countermeasures. In addition, Hyosung has been investing in instituting various facilities for workplace safety and implementing safety awareness program through regular labor-management joint inspections, not only to our own employees but also to our business partners.

#### Occupational Safety and Accident Prevention Activities

Hyosung creates safe workplaces through safety awareness building activities and safety and health campaigns. Numerous efforts such as training programs, promotion of safety culture and regular inspections are in place to raise awareness and encourage voluntary participation in improving workplace safety, in order to prevent serious accidents and disasters.

#### Our Efforts to Cultivate Safety Culture

Hyosung gathers and analyzes accident cases from other companies and shares the result with all employees. We also strive to build robust safety awareness of employees by publishing safety guidelines after analyzing risk factors for each business site and by implementing joint safety and health campaigns with the relevant supervisors and organizations. We also continue to strengthen EHS awareness by regularly sharing health and safety issues through corporate newsletters and executive meetings, as well as creating and providing visitors with pamphlets containing safety and health compliance and evacuation tips in case of an emergency. Hyosung also conducts emergency evacuation drills with the relevant organizations, including fire emergency evacuation, first aid, lifesaving, and firefighting drills.

#### Healthy Workplace Navi Certification

In recognition of its efforts to operate healthy and safe business sites for employees, Hyosung TNC has been certified as Healthy Workplace Navi by Gumi City since 2012 and obtained re-certification in December 2018 through continuous activities for safety and health in our workplace. The Navi certification system is a safety certification project for manufacturing business sites operating in Gumi, which was initiated in 2011.

#### Executives-led Company-wide Safety and Health Inspection

Hyosung conducts company-wide workplace safety and health inspections under the supervision of PU Presidents and Plant Managers, in order to preemptively cope with workplace accidents that may occur in the production lines. Plant Managers and Team Leaders also carry out safety inspections for key assets within plants, and assess potential health risks of employees in extreme weather conditions such as heat waves. We also encourage employees to practice environmental safety, build awareness for fire protection, and participate in health care activities in order to prevent workplace accidents, major and minor.

#### Hands-on Safety Simulation Program

Every quarter, Hyosung Heavy Industries Corporation conducts various handson safety simulation programs, which are involved with falling accidents, safety helmets and confined space, in Korea Occupational Safety & Health Agency (KO-SHA). All employees of Hyosung, including the newly recruited, are required to complete hands-on training programs. Experiencing possible real-world incidents during the training, the participants can be more alert and careful about safety risk factors, therefore, preemptively capturing and mitigating safety risks, as well as improve their ability for emergency response. — SUSTAINABILITY MANAGEMENT —— GO

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**Health Promotion Programs** 

#### **Improving Health Care Facilities**

For better health management and easier access to medical services for our employees, we operate various health care facilities such as health care center, exercise therapy room, and medical treatment facilities in the workplace at all times. The facilities are newly established and expanded in each business site to provide better environment for employees. In addition, Ulsan plant was selected as an excellent workplace for health promotion by the Ministry of Labor and Safety and Health Corporation.



Selected as an excellent workplace for worker health promoti-



Exercise therapy training at Ulsan factory

#### Managing smoking habits, obesity and stress of employees

We provide medical checkups and arrange health and stress counselling for all employees by regularly inviting medical specialists to the company. For those who are diagnosed with disease, we provide them with special medical care. Moreover, we encourage our employees to voluntarily participate in various health programs for quitting smoking and obesity prevention, making continuous efforts to ensure a healthy life of our employees.

#### **Musculoskeletal Disorders Prevention Program**

We are carrying out activities to prevent musculoskeletal disorders of field workers by identifying both subject workers and tasks prone to the disorders after implementing Investigation of Musculoskeletal Disorders Risk Factors. In cooperation with external organization, we provide physical therapies to the subject employees who are selected through survey results and in-depth counseling with an occupational health specialist.

### Hazardous Chemical Substances Management

#### Enhancing Hazardous Chemicals Management System

#### Hazardous Chemical Substances Management System

Hyosung manages all chemical substances used in the workplace through an ERP-based computer system. All purchased materials are investigated to confirm whether they contain chemical substances through the system, and purchases are blocked if they contain chemicals without approval by the chemical manager at each business site. Purchase of materials is only approved when the materials completely comply with the regulations after confirming that they are subject to chemical regulations by using material information provided from suppliers and our own SERC DB (SAP EHS Regulatory Content Database). Through this process, we prevent regulatory risks derived from the relevant laws.

#### **Chemical Substances Management System**

In order to prepare for emergencies such as leakage and explosion of chemical substances, we have established an accident response system by setting up networks with related departments and organizations and conducting regular emergency response training for employees. In addition, we have established Comprehensive Measures for Chemical Substance Management based on which dedicated teams are organized along with their responsibilities and roles defined. The business sites treating chemical substances are prepared with the thorough chemical spill response system in which potential travel path of the spill is tracked in advance, a step-by-step prevention plan is established and blocking facilities are installed in the final travel route. We also manage daily usage and inventory of hazardous chemical substances and conduct weekly on-site inspections by creating a checklist of risk factors related to hazardous chemicals. Our suppliers handling chemicals are required to report their contracts to environmental agencies in accordance with legal procedures.

#### Impact assessment and minimization of External impact

The business sites treating specific hazardous chemicals over certain amount manage their use of chemicals in accordance with risk management plans as well as off-site risk assessment. We assess the impact not only on-site but also off-site including businesses, residents and ecosystems nearby in the event of a spill, and the assessment is conducted whenever there is a change in the amount of chemicals treated and treating facilities. In addition, we have established a risk management plan and are making efforts to minimize the damage to local communities by notifying residents nearby and the relevant organizations of the hazards of substances as well as evacuation drills in case of an accident.

#### **Emergency Scenario Response Training**

Hyosung establishes emergency scenarios for leakage of harmful chemicals such as ammonia and methanol and trains all employees every year based on that. With an immediate response scenario lasting about 10 minutes, we save the lives of our employees in the event of an accident and raise awareness of safety accidents.



— SUSTAINABILITY MANAGEMENT —

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# Social Contribution

# **ISSUE BACKGROUND**

The concept of corporate social responsibility is evolving into a form of corporate business activities combining their business areas and capabilities from a concept of only providing economic assistance to areas in need. At the same time, corporate social responsibility and companies' commitment have become key factors for sustainable development.

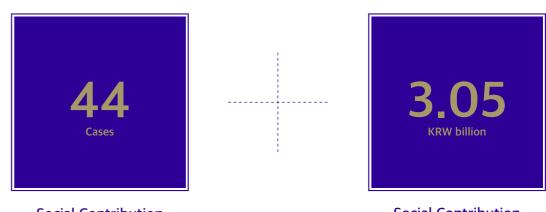
# OUR APPROACH

In order to help and benefit more people in need, we plan to gradually widen the range of beneficiaries from our social contribution activities and focus on those who are excluded from welfare services. In addition, we will strengthen long-term and practical support rather than temporary support and continue to discover more social programs linked to business strategies so that we fulfill our social responsibility by sharing our growth with the society.

# UN SDGS LINKAGE

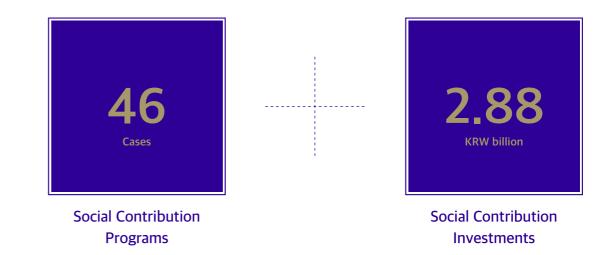


# **OBJECTIVES IN 2019**



Social Contribution Programs Social Contribution Investments

# ACHIEVEMENTS IN 2018



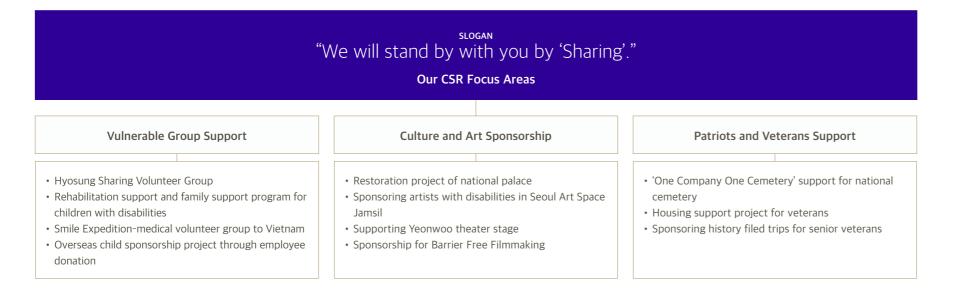
#### HYOSUNG SUSTAINABILITY REPORT 2018 OVERVIEW — FOCUS ISSUES & BUSINESS CASES — SUSTAINABILITY MANAGEMENT — GOVERNANCE — APP

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## Social Responsibility Management System

#### Focus Areas of Social Responsibility

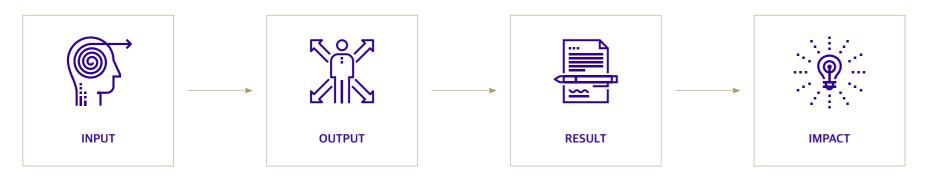
Hyosung conducts its social contribution activities under three main CSR objectives of 'Supporting Vulnerable Groups', 'Culture and Art Sponsorship' and 'Supporting Patriots and Veterans'. Each business site is conducting various social responsibility activities tailored to its local region based on our focus areas of corporate social responsibility.



#### Social Responsibility Performance Measurement

Hyosung focuses on the social contribution activities which meet needs of the society such as sharing philosophy and UN SDGs and measures its performance in the activities, maximizing the effectiveness. We are measuring the performance of social responsibility programs which have been selected through a consultation with a specialist. And we are working on elaborating our CSR activities and strengthening their positive impacts by sharing the result of performance measurement with stake-holders to address further improvements in the future.

#### Social Responsibility Performance Measurement Process



5,704 Number of employee participants in 2018 22,816 Total participating hours of employees in 2018 Average participating hours per employee in 2018

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## Supporting Vulnerable Groups

#### Medical Rehabilitation Support Programs for Youth with Disabilities and their Family

Since 2013, we have been supporting the rehabilitation of disabled children in a collaboration with the Purme Foundation, a non-profit organization that helps independence and rehabilitation of people with disabilities. In addition to financing rehabilitation expenses for disabled children who are not timely treated with adequate medical care due to economic reasons, we also support family trips to build robust family relationship. In particular, we focus on challenges faced to their siblings and support their psychological therapy and education expenses. From 2019, we are running the project with the enlarged scope.

#### **Overseas Child Sponsorship**

Hyosung's employees support children living in underprivileged areas by providing monthly sponsorship as well as supporting development projects in the areas. In addition, Hyosung Vietnam also provides a clean and safe education environment for the children and help children from minority ethnic group learn Vietnamese language by building a library. The fund raised through voluntary donation from our employees is used for the health and education of Vietnamese children, and the company's grant amount is used for development projects for the areas where children live, for classroom expansion, drinking water quality, and awareness activities for parents and teachers.





Signing Ceremony of Sponsorship for Children in Vulnerable Regions Family Trip for Children with Disabilities



### BUSINESS CASE - Global Medical Volunteer Group, 'Smile Expedition'

In 2011, we created the 'Smile Expedition' with the intent to "Let's find a smile for the sick Vietnamese." by providing free medical services to people with disabilities and the poor in Dong Nai province, Vietnam. In Vietnam, there are number of citizens who are isolated from medical benefits due to poverty and lack of medical facilities. Hyosung, therefore, organized the 'Smile Expedition', a medical volunteer group and collaborate with the 'Food for the Hungry International', an international relief organization, to provide diverse medical services free of charge including dentistry, gynecology, internal disease treatment, orthopedic surgery and acupuncture.

In case of a severe disease considered incurable by the local medical system, we invite those patients to Korea for follow-up treatments. At the same time, we also deliver medical health education programs for the residents, covering pregnancy, childbirth, and toothbrushing. In addition, regular health checkups are provided for elementary school kids to monitor their health condition and ensure them better health condition.

By 2018, about 12,000 people have recovered their health and smiles through Hyosung Smile Expedition. In 2019, we will expand health education and disease prevention for teachers and parents in order to build health awareness of the residents effectively.

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#### Our Medical Service Supports and Achievements

- 1. Providing health checkups and medical diagnosis to residents in Dong Nai province
- 2. Health education for pregnancy, childbirth and proper toothbrushing
- 3. Conducting health checkups every year in Tien Phuoc elementary school
- 4. Providing follow-up medical treatment in Korea if necessary





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## Culture and Art Sponsorship

#### Support for Palace Restoration Project

Cooperating with the Arumjigi Foundation, we implemented a project to restore lights and interior space of pavilions (Heejeongdang and Daejojeon) in Changdeokgung Palace. Through the first and second projects, we restored the interior lighting and chandeliers of the pavilion, enabling visitors to enjoy sightseeing inside. The pavilions are currently open to the public through special openings, and we plan to complete the restoration of the pavilions through the third project.

#### Cultural Heritage Conservation Activities in Changdeokgung Palace

Since 2006, employees of Hyosung have regularly participated in the cultural heritage protection activities of Changdeokgung Palace. In 2018, we organized an event in Chang-deokgung Palace with employees and their family members in which we all cleaned a pavilion, Juhabru, in the palace together while strengthening the employee bond as well as contributing to cultural heritage conservation.

#### Sponsorship for Artists with Disabilities in Seoul Art Space Jamsil

We have supported the visual artists of Seoul Art Space Jamsil, the only art residency studio for disabled artists in Korea which is run by Seoul Foundation for Arts and Culture, by funding their artwork and exhibition costs. In addition, we have provided education program for culture and arts to employees to strengthen bond and communication among colleagues. In 2018, Hyosung hosted an art exhibition called 'Flowing Flow' with the resident artists of the studio, attracting total 488 visitors.

#### Sponsorship for Theater Company and Producers

Since 2015, we have been donating to Yeonwoo theater company, contributing to the revitalizing creative theater plays in Korea. The funds are used for activities to produce creative plays such as finding and casting new actors and playwriting.

#### Sponsorship for the Orchestra of Youth with Disabilities

We continue to support the Onnuri Love Chamber, a youth orchestra group with physical and intellectual disabilities. The donation is used for purchasing musical instruments and granting scholarships, as well as for preparing a stage for them to perform in public, such as the Sevitseom outdoor stage in Han River Park. We also arranged a special music class where they could get direct lesson from orchestra members of the 'Silk Road Ensemble' led by world-renowned cellist Yo-Yo Ma.



Sponsorship for Seoul Artspace Jamsil



Sponsorship for Theater Company and Producers



Yo-Yo Ma Teaching Class

#### **Major Achievements**

#### Certification of Exemplary Institution Supporting Culture and Arts

Since 2015, Hyosung has been selected as an excellent institution supporting culture and arts by the Ministry of Culture, Sports and Tourism of Korea. This certification system has been designed to certify organizations and companies which have set a good example for sponsorship activities in the related fields under the Act on Revitalization of Support for Culture and Arts. Hyosung continues to support for culture and arts by funding Yeonwoo theater company, sponsoring musical education for children with disabilities and funding the musical show which is aimed to prevent youth violence.

#### Appointment of Cultural Heritage Guardian Company

In October 2018, Hyosung was appointed as a Cultural Heritage Guardian Company through activities such as preservation and maintenance work of national palaces and sponsorship for restoration of traditional interior space. Cultural Heritage Guardian Company is a company that is committed to protecting our national cultural heritage by voluntarily working on their preservation and restoration. Since 2017, we have been working with the Cultural Heritage Administration to help preserve and restore Korea's cultural heritage. We have been carrying out a project to restore lights in several pavilions (Daejojeon and Heejeongdang) at Changdeokgung Palace, and visiting the palace four times every year since 2006 to participate in volunteer works with employees.



Certification of Exemplary Institution Supporting Culture and Arts



Nomination of Cultural Heritage Guardian Company

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### Supporting Patriots and Veterans

#### Housing Support Project for Veterans

We are trying to improve living environment of veterans of the Korean War and the Vietnam War who are experiencing financial difficulties, by providing repair work for their outdated houses. We have been continuing the support for 7 years since we first raised a funding in 2012.

#### Donation of Book Cafe in the Army

As part of our social contribution activities for supporting patriots and veterans, we have established a book cafe within the ROK I Corps of Korean Army, supporting their project, 'Facilitating reading military culture'. A total of seven container-type cafes have been sponsored until 2018. Located at the front-line base in the army, the book cafes can accommodate 1,000 books and 14 guests inside the container.

#### History Field Trips for Senior Veterans

In cooperation with the Southern Seoul Office of Patriots and Veterans Affairs, we supported the elderly veterans to explore historical sites, providing them with opportunities to go out with their family which is usually difficult otherwise. In 2017, we invited total 100 participants throughout four times of event, and the number of the participants increased to 190 in 2018.

### Creating Job Opportunities

#### Support for Employment Promotion Program for Women from Vulnerable Group

In lined with the government's initiative of 'job creation', we are supporting job programs which are highly effective for employment of middle-aged women. In 2018, a total of 41 women participated in vocational training including training of school cooks and children nursing jobs, and 30 of them were employed afterwards. Since 2013, we have had a total of 286 graduates through this project, 217 of whom have actually been employed until now.

#### Support for the Social Enterprise, 'Goodwill Store'\*

We established Hyosung Goodwill Store which is operating under consignment. Goodwill Store is a social enterprise that sells items donated by businesses and individuals at low prices and contributes the subsequent profits to job creation and vocational training for people with disabilities. It also contributes to economic independence of disadvantaged and vulnerable people in the society by hiring them to operate the store. After first branch of Goodwill Store opened in Eunpyeong-gu, Seoul, in November 2013, the second branch was opened in Sevitseom. We will continue item donation and volunteer work with our employees.

\*Goodwill Store: It was started in the US as a social enterprise business model and currently operates more than 2,400 stores in 13 countries, including Canada, providing over 100,000 jobs. Hyosung established 'Hyosung Goodwill Store' in collaboration with the Together Foundation.

#### Sponsorship for Eden Welfare Foundation

Since 2014, as part of commitment to job creating for people with disabilities, we have supported the Eden Social Welfare Foundation, a social company working on employment for the disabled. We donated unused or malfunctioning computers for their up-cycling project and financed the cost of replacing the machine producing bin bags, for their facility improvement. We have provided a total of 6,972 units of computer equipment until 2018 and are planning to fund and donate the computers in 2019.





'One Company One Cemetery' Cleanup Volunteer Work

Completion Ceremony of Housings for Veterans





Support for Employment Promotion Program

Supporting the Social Enterprise, 'Goodwill Store'

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### **Employee Volunteer Programs**

The employees of Hyosung are carrying out volunteer activities, sharing warmth with their neighbors. We would like to deliver our sincerity through long-lasting relationship with the neighbors rather than temporary approach.

#### Hyosung Sharing Volunteer Group

We organize the Hyosung Sharing Volunteer Group to proceed regular CSR activities. The Sharing Volunteer Group, operated in the company-wide level, consists of a group leader and different teams. Any employee can join the group at any time. We are motivating the employees to voluntarily engage with CSR by supporting paid time-off for volunteer work and rewarding outstanding volunteers.

#### Incentives for Participants of Sharing Volunteer Group

We have selected outstanding volunteers based on their performance in the Sharing Volunteer Group and dispatched them abroad to conduct volunteer works. Four of them have volunteered to a project to build a kindergarten in Dong Nai province where Hyosung's overseas business site is located. In addition, we are also supporting the employees to participate in volunteer activities using their working hours through volunteer time off system.

#### Main Activities in 2018

We have established a long-term and close relationship with Janggun-bong daycare center which takes care of both disabled and non-disabled children. We arrange various experience activities with them visiting a waterpark, aquarium, mud field and cherry blossom park. In addition, we also volunteer to make them joyful memories on a special day like Christmas.

#### **New Employees Volunteer Program**

As a part of onboarding training for the newly recruited employees, new employees participate in CSR activities with major executive members and managers. They learn corporate social responsibility and practice accountability, one of Hyosung's core values, and as soon as they join the company.

#### Promoted Employees Volunteer Program

Hyosung provides the promoted employees with SVP (Shared Value Program) education programs in which the employees participate in social responsibility activities for the local communities with various events such as 'Wall Painting of Love'. In this way, we support their new start in a different position by allowing them to remind their commitment as a member of Hyosung and to practice CSR by themselves.



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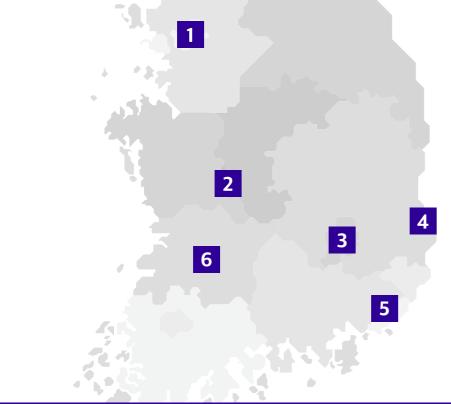
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### Sharing Activities in Our Business Sites

Hyosung brings economic development and social values to the local communities where its business is operating by actively carrying out localized social responsibility activities.

#### Sharing Activities in Our Business Sites



#### Major Achievements

In recognition of its leading role in social contribution to rural communities through rural-urban exchange programs, the Changwon Plant of Hyosung has obtained recertification of 'Rural Social Contribution Certification' in the third certification ceremony hosted by the Ministry of Agriculture, Food and Rural Affairs. The certification program was designed to support companies and organizations which have proceeded urban-rural exchange activities (volunteer activities, rural tourism, direct purchasing of farm-grown products) for more than three years and to promote 'One Company One Village Movement' into nation-wide social responsibility activity. The Changwon Plant has made partnership agreement with Shinchang Village in Gunbuk in September 2007, and is maintaining close relationship with the village by helping farming and harvesting works in the village, supporting field trips for the elderly residents, village facilities maintenance work as well as donating necessary resources.

#### 1. Anyang

#### • Azalea Festival in the Anyang Plant

The 39th Azalea Festival was held in 2018. Every spring, Anyang Plant opens its flower garden to the public so that they can enjoy the beautiful view of blooming azalea. During this festival, medical check-ups and charity flea markets are organized in order to facilitate shared growth with the local community.

#### • 'One Company, One River' Environmental Cleanup

We regularly clean up neighboring rivers in the region by picking up trash and dirt around the river, contributing to clean environment of local community.

#### 3. Gumi, Daegu

#### • 'One Company, One Cemetery' Cleanup Activities

The employees in Gumi Plant of Hyosung TNC visited Yeongcheon National Cemetery to honor the veterans at Memorial Tower and clean and repair 800 graves of veterans.

#### • Gumi Senior Trip

Happy Senior Trip is a CSR activity proceeded jointly by Hyosung Gumi Plant and Gumi Welfare Center for low-income seniors in the region in order to relieve their stress and reduce social isolation. In 2018, we organized a trip to Gyeongju and visited cultural and historical attractions, accompanying 62 Gumi-based senior citizens aged 65 or older with low income.

#### 5. Changwon

#### • 'Junior Engineering Class' in Dogye · Daesan Elementary School

As part of our social contribution, we are providing science class to elementary school students. A professional research staff at Changwon Plant, as a teacher, explained the principles of Hyosung's flagship products and guided a modelling exercise in the class. Since its launch in 2004, 'Junior Engineering Class' has attracted about 3,000 students so far.

#### • Hyosung Mini Library in Gagopa · Gamgye Elementary School

Since 2010, we have donated books to small-sized elementary schools in Changwon region which lack books and bookshelves. Since 2014, we have selected two schools in collaboration with the Changwon Office of Education and donated books and bookshelves worth of KRW 20 million. In 2019, the same amount will be donated to cultivate a reading culture in Changwon.

#### 2. Oksan, Sejong, Daejeon (Chungcheong Province)

#### Volunteer Activities in Local Orphanages

We regularly visit orphanages located in the regions our business sites are based in order to improve living condition of the children and support their education. In particular, the Oksan Plant continues to proceed its volunteer activities in Chungbuk Hyneung orphanage for the convenience of children.

#### National Cemetery Cleanup

The employees working in Chungcheong region visit the National Cemetery in Daejeon on Memorial Day every year and remind their sacrifice and effort to protect the country through cleanup volunteer works in the cemetery.

#### 4. Ulsan, Yongyeon, Gyeongju

#### Industry-Academia Collaboration Scholarship Ceremony

We are providing scholarship to the selected students from Ulsan University who have excellent academic performance even under economic difficulties so that they can concentrate on studying with the stable financial support.

#### 'One Company, One Village' Farming Volunteer

We visited Ulsan Joong-go-san village to help their farming work during the farming season, the busiest time of the year for many farmers. Ulsan Plant is supporting their rice planting and harvesting as well as throwing a party for the elderly residents in Joong-go-san village, a sister village of Ulsan Plant since 2005.

#### 6. Jeonju

#### Volunteer Activities in 'Hosung Orphanage'

Jeonju Plant organizes regular visits to Hosung orphanage in the region to proceed 'Sharing Volunteer Activities'. In 2018, employees have donated to host a ski camp for the children from the organization so that they can develop sense of community and belonging as well as social skills.

#### Heating facility installation using TANSOME<sup>®</sup>

We make annual donations to the Jeonbuk Social Welfare Community Fund, which in 2018 was used to support the construction of heating facilities for a nursery in the region. In particular, this project added more meaning by the donation of TANSOME® by Hyosung Advanced Materials and heat cables by our customer. Securing Sustainable Growth Momentum for the Future - Human Resource Management - Green Management - Social Contribution - Shared Growth Management



Changwon

Ulsan, Yongyeon, Gyeongju

Jeonju

Gumi, Daegu



Oksan, Sejong, Daejeon

Securing Sustainable Growth Momentum for the Future — Human Resource Management — Green Management — Social Contribution — Shared Growth Management

# Shared Growth Management

# **ISSUE BACKGROUND**

We are now living in an era where the value of 'together' is ever more emphasized in the relationship between companies and their business partners. As value chain of a company becomes increasingly complex, suppliers are recognized as the co-growing companions rather than a mere stakeholder. In this regard, we need to support sustainable development of the suppliers and enhance their competitiveness so that we can secure stable supply chain and strengthen our business competitiveness.

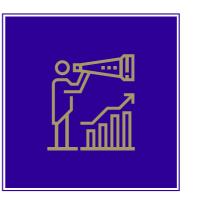
# **OUR APPROACH**

Hyosung strives to build close relationship with its suppliers based on the perception that enhancing their competitiveness is our future. The Shared Growth Promotion Team, an internal organization dedicated to promoting shared growth, is providing relevant training programs, operating various support systems and working with SMEs to find new business opportunities. We also continue to collect diverse opinions from the suppliers through interactive communication, consolidating the trust relationship with the suppliers.

# **UN SDGs LINKAGE**



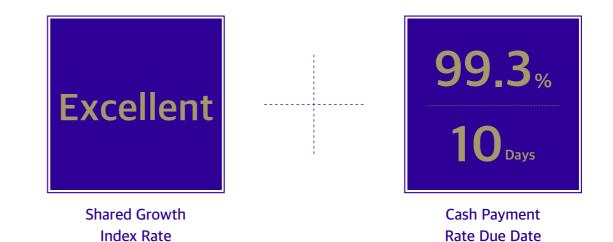
# **OBJECTIVES IN 2019**



Enhanced Support for Suppliers' Productivity Improvement 100%

Cash Payment Rate to Suppliers

# ACHIEVEMENTS IN 2018



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Shared Growth Implementation System

Based on co-destiny relationship, Hyosung and its suppliers and partners are sharing the common goal of "sustainable global leaders" and cooperating to realize it for the future. Hyosung has established a shared growth system based on belief that the competitiveness of suppliers directly contributes to our growth. In this way, we will continue to facilitate mutual communication as well as build close partnership with the suppliers.

#### Our Directions of Shared Growth Implementation



#### Organizational System of Supplier Management

Hyosung operates Shared Growth Promotion Team, which is a dedicated to shared growth, and has established relevant departments reflecting business and purchasing characteristics in each operating company in order to manage suppliers and procurement. We cooperate with suppliers to manage our purchases and operate Purchase Team in each business site. In this way, we facilitate shared growth with the suppliers by active response and communication. In addition, we have been strengthening technological competence of cooperating companies through technology exchange and joint research projects in collaboration with Hyosung R&DB Labs and Power & Industrial Systems R&D Center.

Share Growth Team	Operation of shared growth programs and supplier support programs
Purchasing Department for Each Operating Company	Management of purchasing and supplier contracts
Technological Cooperation and Research Department	Technological cooperation and joint research with suppliers

## Shared Growth Programs

Hyosung is operating various programs and policies to facilitate shared growth. Not only does Hyosung lead the partner companies' growth through paying in cash and supporting their participation in international exhibition and overseas training,, but it also focuses on compensating their performance by introducing an award system for outstanding suppliers. In addition to support programs for the business partners such as benefit sharing system and financial support, Hyosung awards 'Special Prize for Proud Hyosung-er Award' to outstanding suppliers every year since 2013. The award is given to the suppliers who have contributed to manufacturing technology, innovation and cost reduction of our products through technology enhancement and innovation. Moreover, we try to enhance our business partners' competitiveness and solidify the partnership with them by giving overseas training opportunities to the qualified partners so that they can enhance their competitiveness by experiencing business sites of the renowned companies in the world.

Financial Support	<ul> <li>Payment in cash to suppliers under shared growth agreement</li> <li>Financial support for joint overseas expansion</li> <li>Network loan</li> <li>Shared growth funding</li> </ul>
Management Support	<ul> <li>'Business Doctor'</li> <li>Support for overseas training</li> <li>Support for training of suppliers</li> <li>Support for training venues</li> </ul>
Productivity Improvement	<ul> <li>Consulting for productivity improvement</li> <li>On-site plant visit program</li> <li>Support for ICT-QC (smart plant)</li> <li>Energy Companion Project</li> </ul>
Business Expansion	<ul> <li>Support for international trade fair</li> <li>Joint participation in overseas projects</li> <li>Support for overseas expansion channel</li> </ul>
Technology Support · Performance Exchange	<ul> <li>Joint R&amp;D and patent application</li> <li>Tech-ESCROW</li> <li>Contribution of Hyosung's R&amp;D capacity for joint research</li> </ul>
Secondary Suppliers	<ul> <li>Shared growth agreement between first and secondary suppliers</li> <li>Shared growth payment system</li> <li>Industry innovation movement</li> <li>Cash payment monitoring</li> </ul>

#### HYOSUNG SUSTAINABILITY REPORT 2018

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### Risk Management and Enhancing Sustainability of Suppliers

#### Fair Supplier Selection Process

Hyosung has introduced fair and transparent criteria for selecting suppliers. We clearly announce the application criteria and recommendation requirements in our shared growth website. Any interested company can freely apply for registration as a supplier through Hyosung e-Procurement System.



#### Supplier Registration Evaluation

In order to manage supply chain risks, Hyosung conducts registration screening for all new suppliers before they get approval to participate in bidding process. Hyosung Heavy Industries Corporation evaluates the companies for supplier registration based on three aspects such as management, production and quality with the detailed evaluation items including business management, human rights, environment, safety and health, risk (financial, CSR). We rigorously stick to the supply chain risk assessment and those that do not meet the required criteria are excluded from the company list.

#### Main Evaluation Subjects of Supplier Registration

Category	Evaluation Items	
Business management	Employees' average years of service, turnover rate and CSR fulfilment	
Human Rights	Cases of unfair treatment such as gender discrimination and child abuse, and working hours of employees	
Environment	Prevention facilities for environmental pollution, waste management and treatment methods	
Safety & Health	Frequency of safety accidents and status of safety training	
Training & Organization	Regular employees training, operation of research institute and design organization	
Working Environment	Tidiness in plants, notification of safety rules, working garments and safety gears	

#### Supplier Monitoring and Production Support

Hyosung conducts on-site review and real-time monitoring to outstanding suppliers selected by Hyosung in order to review their compliance to Hyosung's CSR standards. When proceeding contracts, Hyosung requires suppliers to consent with our monitoring activities in areas of safety and labor, and those failing to meet the criteria are excluded from the list of outstanding suppliers. Any case of workplace accident during the length of contract is reflected to evaluation of the corresponding supplier, and the suppliers' labor relations with their subcontractors, such as payments and cash payment rates are closely monitored by Hyosung. In addition, Hyosung Heavy Industries monitors wage payment status of the suppliers. Hyosung Advanced Materials is managing 'procurement, environment, safety quality' of all processing suppliers. Hyosung support the suppliers, selected through a fair process, to continuously improve and tackle the problems raised through regular monitoring in accordance with IATF 16949, ISO 14001 standards. As a mutually beneficial partner, we cooperate with the processing suppliers and support their sustainable production, by managing the risks together as well as increasing their competitiveness in price and quality.

#### Suppliers Risk Management Areas (Hyosung Advanced Materials)

#### **On-site Review for New Suppliers**

When new suppliers are found, they undergo on-site review to confirm whether the site is suitable for supply. During the review, Hyosung Chemical uses a rating system to evaluate the overall condition and suitability as a supplier after checking quality along with safety environment including on-site workers, facility management and sourcing of raw materials. When a supplier is rated as non-conforming, the contract with the supplier is suspended accordingly.

#### Supplier Evaluation System

Construction PG of Hyosung Heavy Industries conducts evaluation every year for companies which participated in the field construction for longer than a month in the corresponding year. Main evaluation subjects include safety and quality as well as construction and general management status.

Hyosung Advanced Materials has established a plan for reevaluation of all processing suppliers once a year and evaluates their labor strikes, wage balances, and environment in addition to quality and delivery dates. Incentives are given to the suppliers based on the result.



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Securing Sustainable Growth Momentum for the Future — Human Resource Management — Green Management — Social Contribution — Shared Growth Management

### Strengthening Supplier Communication

Since 2011, Hyosung has signed agreements with its business partners and made various efforts to achieve shared growth based on 'relationship' and 'communication'. Through regular communication channels, such as Business Partners Meeting, we interactively communicate and share information with the suppliers. Hyosung's suppliers can make suggestions to us through online and offline channels and also voice their grievances through hot-line and a feedback channel on the website (Sinmungo) in the event of unfair demands or violation of regulations. Hyosung will continue to make various efforts to achieve shared growth by establishing trusted relationship with suppliers and providing them with opportunities for continued engagement.

#### **Supplier Communication Channels**

Category	Description
Shared Growth Meeting with Suppliers	Hyosung hosts Shared Growth Meeting with Suppliers every year by inviting the representatives of the suppliers. During the meeting, we share the annual performance and discuss business forecast and expected market conditions for the next year.
Hot-line	We receive opinions and reports of supplier-related violations through our dedicated counselling hot-line and email channel. It is also used as an interactive communication channel to handle inquiries and suggestions related to Hyosung's shared growth programs.
Sinmungo	We collect reports on employee' malpractice and misconduct against suppliers with strict confidentiality on the information by means of a reporting channel, Sinmungo, within Hyosung e-Pro- curement portal site.
Dispute Mediation Committee	In the event of a dispute, the Dispute Mediation Committee is held to promptly prepare and implement the mediation plans. The results of the review are reported directly to the management level to prevent recurrence in advance.

### **BUSINESS CASE 1** - Shared Growth Meeting with Suppliers

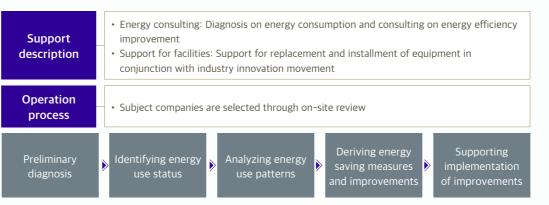
In order establish win-win partnership through shared growth, Hyosung Heavy Industries has been hosting Shared Growth Meeting with Suppliers twice every year since 2008. By arranging a communication platform for suppliers and employees of Hyosung to freely and comfortably exchange opinions with each other, we effectively share our business aims to the suppliers as well as facilitate shared growth together by reflecting their opinions and suggestions. Furthermore, we also provide networking opportunities among our suppliers so that they build constructive relationship to create synergy through cooperation.



### BUSINESS CASE 2 - Energy Companion Project for the Suppliers

Hyosung actively participates in Energy Companion Project, a shared growth energy project run by the Korea Energy Corporation to promote shared growth with its business partners and to strengthen the capabilities of SMEs. This project supports the suppliers' energy efficiency improvement and emission reduction through implementing energy consumption diagnosis to the suppliers with high energy use and deriving improvement measures for their energy efficiency. In September 2018, Hyosung invited the suppliers participating in the Energy Companion Project to join field trips to Changwon Plant and shared the knowledge and technologies utilized in the plant such as energy management technology and facility efficiency improvement measures. In addition, based on the results derived from the project, we have supported to replace outdated facilities such as lighting equipment and motors into high-efficiency facilities, in conjunction with industry innovation movement in the company.

#### **Energy Companion Project**



<sup>\*</sup>Industry Innovation Movement: A project supporting suppliers with replacement of old equipment, installing new facilities, and establishing smart factories as well as providing relevant consulting in order to improve their productivity.

Performance Review Meeting for Industry Innovation Movemen



Before & After Installing High-efficiency Lighting Devices for Suppliers

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# HYOSUNG

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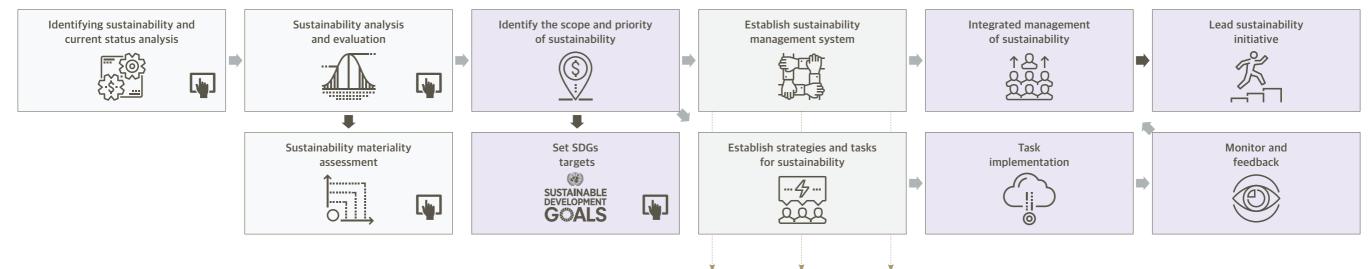
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# Sustainability Management System

#### Improving Sustainability Management System

Hyosung has recognized the importance of economic, environmental and social risks which can arise from its business operation, and plans to undergo a project to improve its sustainability management system which is planned for 3 years from 2019 to 2022. Five companies including Hyosung Corporation and its four operating companies will participate in this project with approximately 50 departments, 70 task force teams and external sustainability specialists.

In 2019, about 100 assignments have been derived after analyzing all elements affecting Hyosung including media, mega-trends, legal and regulatory changes, global sustainability initiatives, clients' needs for sustainability activities and performance. These selected tasks have been categorized into short-, mid-, and long-term after considering their urgency, importance and feasibility, and are implemented by all companies.



			¥			
			Sustainability Management Areas			
<ul> <li>Establish reporting and governing system for CSR in holding company/operating companies</li> <li>Transparent disclosure of governance info.</li> </ul>		<ul> <li>Enhance occupational safety and health management syst</li> <li>CEO-driven safety management</li> </ul>		Innovation and Customer Value	<ul><li> Operate customer feedback system</li><li> Strengthen information protection</li></ul>	
<ul> <li>Advance ethics-anti-corruption policies</li> <li>Improve ethics-anti-corruption reporting and monitoring system</li> </ul>		HR Management	<ul> <li>Company-wide sustainability training and developing training contents</li> <li>Facilitate corporate culture</li> </ul>	Supply Chain Management	<ul> <li>Establish CSR evaluation and management system for supply chain</li> <li>Expand support for our suppliers' CSR</li> </ul>	
<ul> <li>Integrated management of environmental information in global business sites</li> <li>Establish climate change risk management system</li> </ul>		Labor and Human Rights	<ul> <li>Analyze and monitoring impacts of human rights</li> <li>Enhance employee diversity</li> <li>Promote work-life balance</li> </ul>	Community	<ul> <li>Reform social contribution strategies and objectives</li> <li>Assess social performance of CSR activities</li> </ul>	
Sustainability Management Roadmap			Phase 2: Mid-term (2020~2021) Enhance CSR Management System and Integrate Global Management System		Phase 3: Long-term (2022~)     Stabilize CSR Performance Management Establish a CSR management system for suppliers	

ERVIEW —— FOCUS ISSUES & BUSINE

Hyosung Corporation makes sure the Board to have transparent and independent decision-making authority and operates the governance system which enables efficient business management based on checks and balances. As the highest decision-making body in Hyosung Corporation, the Board of Directors reviews and decides on matters prescribed by law or corporate articles of association, delegated matters by the general meeting of shareholders, or high-priority matters related to basic company policy and business operation. It is also aimed to improve interests of the stakeholders including shareholders. (For other operating companies, 54 page)

#### **Board of Directors (BOD)**

As of the end of December 2018, the Board of Directors consists of total 10 directors including three standing directors and seven outside directors. It is comprised of nine male members and one female member, and any limitation on gender, religion and academic background is banned. In addition, candidates of board directors, who are to be appointed in the general meeting of shareholders, are selected through a fair process in the BOD (for standing directors) and the Outside Director Candidate Nominating Committee (for outside directors).

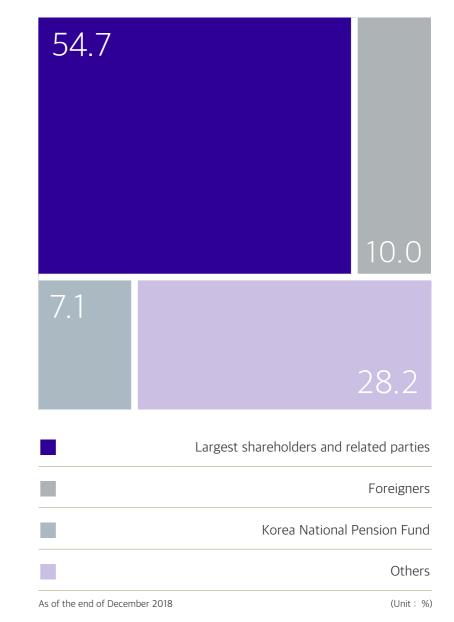
Title	Name	Gender	Role	Appointed Date	Expiry Date	Specialty
Standing Director	Hyun-Joon Cho	Male	CEO, Member of the Outside Director Candidate Nominating Committee, Member of the Management Committee	1998.3.17	2020.3.22	Corporate management
	Kyoo-Young Kim	Male	CEO, Member of the Transparent Management Committee, Member of the Management Committee	2017.3.17	2021.3.14	Corporate management
	H.S.(Hyun-Sang) Cho	Male	Member of the Management Committee	2014.3.21	2020.3.22	Corporate management
Outside	Byung-Doo Sohn	Male	-	2013.3.22	2021.3.21	Economy, education
Director	Myung-Ja Kim	Female	Member of the Audit Committee, Chairman of the Outside Director Candidate Nominating Committee	2017.9.22	2021.3.14	Environment, technology
	Young-Lae Son	Male	Chairman of the Audit Committee, Member of the Outside Director Candidate Nominating Committee	2017.9.22	2021.3.14	Accounting, finance
	Sang-Myeung Chung	Male	Chairman of the Transparent Management Committee	2017.9.22	2021.3.14	Law (lawyer)
	Tae-Ho Park	Male	Chairman of the Board of Directors	2003.2.28	2021.3.21	Commerce, trade
	O-Gon Kwon	Male	Member of the Audit Committee, Member of the Transparent Management Committee	2017.9.22	2021.3.14	Law (lawyer)
	Joong-Kyung Choi	Male	Member of the Transparent Management Committee	2014.3.21	2020.3.22	Accounting, audit

\* In the general meeting of shareholders held in March 15, 2019, Byung-Doo Sohn, Myung-Ja Kim, Young-Lae Son, Sang-Myeung Chung, Tae-Ho Park, O-Gon Kwon have been consecutively appointed as outside directors, as well as Kyoo-Young Kim as standing director (CEO). This has been applied to the expiry date above.

#### **Board Specialty**

In the fast-changing business environment where strategic decision-making of the Board is constantly required, the specialty and expertise is considered as a prerequisite for a board member. The standing directors are in charge of general management of business in Hyosung Corporation and participate in the Board as managing directors to fulfill responsible management in the company. Outside directors, as specialists in finance, legal and public sector, participate in the Board with different perspectives, thereby monitor the business and give advice in more objective point of view.

#### Shareholders Status



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#### **Board Independence and Transparency**

In order to secure fully-functioning checks of the Board to the executive management, Hyosung Corporation comprises the majority of the BOD with outside directors, separates roles of CEO and Chairman of the BOD and appoints an outside director as Chairman. The agenda are reviewed and decisions are made in accordance with the articles of association and the Board regulations, and the voting rights of any director who has a special interest or conflict of interests regarding a certain agenda is limited pursuant to the BOD regulations. Meanwhile, in order to avoid conflict of interests among directors, the Transparent Management Committee is operated to review and put limitations on the matters related to 'Transactions between Directors and Company' as specified in the Commercial Act (Article 398).

#### **Board Operation**

Subcommittee Name

(Total 3 members)

Management

Committee

Transparent

Management

(Total 4 members)

Audit Committee

(Total 3 members)

Outside Director Candidate

Nominating Committee (Total 3 members)

Committee

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Regular meetings and temporary meetings are held according to the Article 6 of the Board regulations. Regular meeting is held once in each quarter by principle, while temporary meetings are convened occasionally when necessary. In 2018, a total of 10 meetings were held, and 34 agenda were covered for report and decision-making including compliance support activities, transactions between directors and company as well as major business status.

Standing Director, Hyun-Joon Cho (Chairman)

Outside Director, Sang-Myeung Chung (Chairman)

Standing Director, Kyoo-Young Kim

Standing Director, Kyoo-Young Kim

Outside Director, Joong-Kyung Choi

Standing Director, Hyun-Joon Cho

Outside Director, Young-Lae Son

Outside Director, Myung-ja Kim (Chairman)

Outside Director, Young-Lae Son (Chairman)

Outside Director, O-Gon Kwon

Standing Director, H.S.(Hyun-Sang) Cho

#### Board Subcommittees Status

Doord	Cubco	mmittees
Duaru	JUDCO	minitees

1. Matters concerning the decision and change of the basic policy of corporate management

5. Matters concerning the enactment, revision and abolition of important company regulations

1. Establishing, inspecting and supplementing the principles of appointing outside directors

2. Recommendation of candidates for directors to be appointed by the shareholders' meeting

3. Other matters concerning audit tasks specified in the articles of association or internal regulations

2. Matters concerning the standards and operation procedures of internal transactions management

2. Items on new projects and investment of less than KRW 100 billion

4. Matters concerning the acquisition and disposal of important assets

3. Matters concerning approval and preliminary review of internal transactions

3. Managing and validating the candidates for directors on a regular basis

1. Audit on the work of directors and management executives

There are Management Committee, Transparent Management Committee, Outside Director Candidate Nominating Committee and Audit Committee under the Board of Directors. Each committee is independent with its specialty and monitors the management of the BOD based on checks and balances.

#### **Board Evaluation and Compensation**

6. Matters concerning the installation or closure of branches, plants, sales offices, business establishments local entities, and etc.

(Unit: KRW million)

Each year, directors are evaluated based on their specialty in corporate business and technology as well as performance of the Board activities, and the following result is discussed in the BOD. Compensation for the Board is paid fairly and transparently based on the evaluation result with an approval of the general shareholders' meeting. The remuneration of the Board is provided within the remuneration limit approved at the general meeting of shareholders. Total amount of remuneration approved by the general meeting in 2018 was KRW 15 billion. The retirement allowance of the BOD shall be paid in accordance with the provisions on retirement allowance for executives which was approved by the general meeting of shareholders.

	Outside Director, O-Gon Kwon*	3. Other ma
* Mr. Sang-Myeung Chung has been newly appointed in re-	egular general meeting of shareholders held on March after resignation of Mr. O-G	on Kwon.

Outside Director, Myung-ja Kim

Members

#### BOD Operation Status in 2018

#### Status of Compensation Amount for Directors and Auditors in 2018

Function

10	98%
Number of BOD	Average attendance
meetings held	rate of directors

			(OTHE KRW THINIOT)
Title	Persons	Total compensation amount	Average compensation per director
Standing directors	3	6,589	2,196
Outside directors	4	217	54
Directors from the Audit Committee	3	163	54

3. Matters concerning issuing bonds

4. Preliminary review of key decisions

2. Appointing external auditors

1. Matters concerning policy of internal transactions



The governance of the four operating companies and the current status

## HYOSUNG TNC

HYOSUNG ADVANCED MATERIALS

#### HYOSUNG HEAVY INDUSTRIES

**Operating Status in 2018** 

83 times

11 times

Once

6 times

HYOSUNG CHEMICAL

SES —— SUSTAINABILITY MANAGE

#### Integrated Risk Management System

Hyosung defines and manages potential uncertainties in the market as well as internal and external risks and opportunities within its risk management system. Depending on the nature of the risks, they are classified mainly as financial or non-financial risks. Risks are predicted and reviewed on a regular basis through a company-wide risk management system which has been established based on cooperation between head offices and entire business sites in the world. In addition, we make sure all employees to be clearly aware of the relevant matters so that they can apply them to their business decisions.

#### **Risk Management Process**

Risk Identification and Prevention	<ul><li> Identifying and classifying main risks</li><li> Operating risk prevention system</li></ul>	We derive key risks based on their impact and likelihood after analyzing internal and external corporate environment so that we can respond to them in preemptive manner and prevent them systematically.
Risk Response	<ul><li>Risk monitoring by the relevant department</li><li>Analyzing risk status and preparing response plans</li></ul>	We have established a unified system in which a risk manager in each department monitors and reports the matters related to risks, enabling quick decision-making and immediate response in the event of a risk.
Diagnosis and Recurrence Prevention	<ul> <li>Diagnosing risk impacts</li> <li>Establishing improvement plans and preventive measures</li> </ul>	We minimize the impact of risks already occurring by responding to them according to response scenarios by risk type along with risk management policies and establish plans to prevent recurrence of similar cases by analyzing causes of the related risks.

#### Major Risk Management Status - Business Continuity Risk

#### **Risk Management Areas**

#### Financial Risk Management

Hyosung aims to minimize market risks and credit risks associated with financial factors such as liquidity, stock prices and exchange rate fluctuation. Finance Team and Trade Finance Team are in charge of measuring financial risks as well as implementing performance analysis and hedging. In addition, financial risks are managed in accordance with the policies approved by the Management Committee of the Board. The Management Committee reviews and approves documented policies related to overall risk management and specific areas of financial risk such as foreign exchange, interest and credit risks.

#### Non-financial Risk Management

Non-financial risks derived through the risk identification process are managed and addressed by each relevant department. Each department conducts assessment, monitoring and evaluation of risks and operates a feedback system to prevent recurrence. At the same time, we continuously provide training related to potential risks in sales and production processes to the relevant departments to prevent the risks.

Risk Type	Definition	Risk Management Status					
Supply Chain	Risk of delays in product delivery due to raw materials supply chain failure and interrupted production continuity	<ul> <li>Hyosung conducts regular evaluation and quality inspection of raw materials suppliers based on international quality and environmental standards. Producing industrial yarns and textiles which are directly connected to user safety. Hyosung Advanced Materials(HAM) regularly visits all raw materials suppliers for the entire manufacturing process evaluating them based on international standards such as IATF 16949 and ISO 14001. HAM also manages raw materials supply risk by establishing an emergency response system including emergency organization and response guidelines by the scenario of supply chain failure.</li> <li>With the purpose to prevent risk of delays in product delivery due to interrupted production continuity, we strengthen partnership with our customers and secure enough stocks. Hyosung Advanced Materials defines various emergency situations (i.e. labor strikes, machine failure, etc.) to which individual countermeasures have been set-up in preparation to quickly respond to such events.</li> </ul>					
Disaster and Safety	Risk of disasters (e.g. earthquake, fire) and safety accidents at the workplace	<ul> <li>Through the plants' Environment &amp; Safety(E&amp;S) Team, Hyosung conducts regular joint training with public organizations and covers accident scenarios involving fires, explosion and gas leaks, so that we can quickly respond to potential disasters.</li> <li>In addition, the E&amp;S team of each plant conducts regular safety patrol checks to remove risk factors and improves work methods for safety.</li> <li>Hyosung Advanced Materials established an emergency response organization for disasters and safety accidents. Through manuals including response and recovery measures for each accident scenario, we are able to timely respond to the various risk. We also provide annual training to all workers including our suppliers sharing accident case studies and the handling of hazardous substances to prevent safety accidents.</li> </ul>					
Environment	Risk of legal sanctions or penalties due to inappropriate response to environmental regulations such as GHG and hazardous substances	<ul> <li>Hyosung is managing risks professionally by operating a dedicated organization for risk management.</li> <li>The amount of GHGs emitted from all domestic plants is monitored and analyzed in real-time basis through GHGs Emission System from which improvements are derived and delivered to the plants for emission inspection.</li> <li>We reduce environmental risk through official reporting. Hazardous wastes are safely disposed and reported to the National Waste Disposal System.</li> <li>We keep track of hazardous chemicals consumption and report to the Ministry of Environment in accordance to Environmental Information Disclosure System.</li> </ul>					

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#### Major Risk Management Status- Management Risk

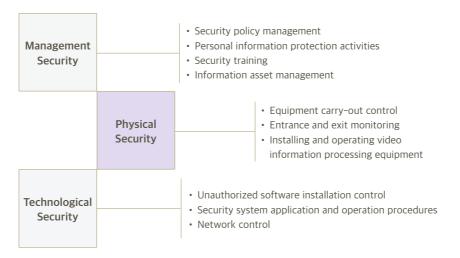
Risk Type	Definition	Risk Management Status
Security	Risk of cyber terrorism or information loss from internal data leakage	<ul> <li>Hyosung has established a security policy and operating standards for each operating company with a security inspection organization to check its compliance. The security inspection organization is comprised of specialists including information protection management, IT system, and technical support including the CISO(Chief Information &amp; Security Officer) who inspect information security and provide related guidance.</li> <li>Hyosung has recently established a centralized document system where documents can be created, corrected, stored and retrieved in an integrated way, and is gradually introducing it to all business sites in 2019. Through review of security logs and introducing security solutions, we are devoted to prevent leakage of sensitive corporate data and protect information, minimizing information security risks.</li> <li>In order to build employees awareness on IT security, 'The 10 Principles of Information Security' and 'Corporate Security Guidelines' are educated once a month through training letters and occasional off-line training sessions.</li> </ul>
Legal and Ethical	Risk of lawsuits or contracts which adversely affect the business Ethical risks which may arise in business such as unfair trade practices or corruption cases	<ul> <li>We establish regulations for contract review, train employees on compliance issues and encourage them to use standard contract forms.</li> <li>We minimize potential risks in processing contracts by providing practical training of acceptances and guarantees in foreign currency, foreign exchange practices, trade contract condition, domestic and international contract management and patents.</li> <li>Contract processing status and lawsuit cases are regularly monitored and shared within the company to raise awareness of legal risks.</li> <li>We provide training related to the Improper Solicitation and Graft Act, Subcontracting Act, and Fair Trade Act, and practical cases of ethical management to prevent risks associated with unfair trade practices and corruptions. Hyosung Advanced Materials is in the course of expanding the trainee pool, and will provided training to all employees from 2020.</li> </ul>
Reputation	Risk of damaged corporate image from misinformation or negative communication	<ul> <li>We continue to carry out training to prevent corporate image damage which is caused by media response, misinformation and negative communication to the newly employed and promoted employees.</li> <li>We try to avoid the situations with high reputational risk in advance by setting up behavioral principles and processes for PR personnel in each operating company. The relevant business practices are addressed to the PR personnel through training as well in order to enhance their understanding of reputational risks.</li> </ul>
Management General	Operational risk caused by personnel or system errors	<ul> <li>By using ERP (Enterprise Resource Planning) system, entire business processes including production, logistics, finance, accounting, sales, purchases, and inventory are integrated and managed efficiently.</li> <li>We thoroughly keep track of our customer requests through DB system in sales department. Hyosung Advanced Materials, in particular, has employed categorization and rating system for VOCs and established a distinct system to automatically deliver VOCs to the personnel at the relevant departments such as sales, R&amp;D, procurement, and production. In this way, we manage to successfully resolve customers' complaints and dissatisfaction by delivering the problems to the relevant departments, thereby solving them in the most timely and accurate way.</li> </ul>

#### Fire Drill for Emergency Response



Public-private joint fire drills in preparation for a fire accident

#### Security Risk Management Areas



#### Legal and Ethical Risk Management Activities



Education of subcontract law and fair-trade act.

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# Ethical Management





Ethical Management Training

#### Ethical Management System

Hyosung has adopted the 'Code of Ethics' to suggest principles of practicing ethical management to employees as well as to operate the company transparently. We also provide 'Guidelines to the Code of Ethics' which introduces specific ways and guidelines to fulfill ethical management. At the same time, we try to prevent corruption cases and raise ethical awareness of all employees by Compliance Standards and providing adequate training.

#### **Ethical Management Training**

A company-wide ethics training is implemented in order to help employees better aware of ethics management and internalize the acquired knowledge. The departments or relevant personnel with high ethical and legal compliance risk are required to undertake ethics training as mandatory education. All employees in Hyosung receive training to enhance understanding of ethical management and learn responsible management and related current issues such as the Improper Solicitation and Graft Act and Trade Secret Protection Act. We have incorporated ethics training in training program for each job level of employees for entry-level employees, promoted employees and executives. A separate set of ethics training which is rather job-oriented is provided to the teams including purchasing, contracting and planning management as well as shared growth. In particular, Hyosung Advanced Materials is gradually expanding the scope of ethical management and is scheduled to expand to all employees starting from 2020.

#### **Ethical Management Awareness Building**

All employees and executives in Hyosung write 'Pledge to Practice Ethical Management' and 'Pledge to Comply with Improper Solicitation and Graft Act'. In addition, we are making efforts to spread promotional materials for ethics awareness to employees to help them internalize ethical management. We also disclose our code of ethics in our official website as well as in Supplier e-Procurement website and encourages supplier with ethical management through the suppliers code of conduct. We require suppliers to submit a written pledge to practice ethical management so that we can facilitate ethical management further to suppliers by sharing our practices with them.

#### Stakeholder Whistleblowing Channel

#### Internal Whistleblowing Channel

The HR counselling center in Hyosung serves as a reporting channel of unethical activities of employees at work and provides consultation for ethics standards and related grievances. It is directly operated by HR executives and receives varied grievances at work as well as reports of unethical cases such as sexual harassment, embezzlement, and personnel corruption. The information received in the HR counselling center is kept confidential and the audit team hands over the information when a follow-up investigation for the unethical behavior is needed. Furthermore, a mailbox in a post office in Mapo, Seoul, has been arranged to receive anonymous reports for those who are concerned about identity exposure.

#### **External Whistleblowing Channel**

We are operating a Hot-Line system to handle various reports and inquiries from the suppliers. Our suppliers can report cases of unethical behaviors from business trades such as bribery and soliciting, cases of unfair subcontracting trades as well as grievances and suggestions for improvement. The Hot-Line is accessible through 'Hyosung Shared Growth' site, and other external stakeholders can also report through this channel. In addition, Hyosung Advanced Materials has established an 'Reporting Center' that allows anyone including suppliers, customers and other business partners, to report problems to the audit team through an anonymous 'reporting' function on the corporate website.

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#### **Internal Audit**

Hyosung conducts an audit on all aspects of management, from on-site management to job diagnosis for production management. We have established and operated internal audit regulations since 1984. We also conduct audits in the technology and quality sectors to build customer trust in our products and achieve their satisfaction. In addition, we guarantee the independence of audit activities so that audit activities will not be subject to outside interference during audit, and we perform proper protection activities such as ensuring anonymity so that auditors and informants will not be subjected to unfair treatment and disadvantages.

#### Internal Audit Operating System

We conduct regular audits according to internal audit regulations and special audits if certain issues arise. The material cases detected from the audit results are dealt with different measures such as caution, punishment and reimbursement depending on seriousness of the cases.

#### Follow-up Monitoring after Audit

The audit results are reported to the CEO, and those who are notified of the results are required to make immediate improvements to the indicated matters. At the same time, the audit team regularly reviews the issues to prevent recurrence.

#### **Promoting Fair Business Practices**

In order to establish a fair business trade culture together with suppliers, we have incorporated four fair trade guidelines, which are recommended by the Korea Fair Trade Commission, in our corporate regulations. In addition, we have released guidelines for preventing retaliatory behaviors to suppliers, thus establishing a firm foundation for fair partnership and build-ing transparent business relationship.

#### Four Fair Trade Guidelines



#### **Retaliation Prevention Policy**

Hyosung Heavy Industries implements a retaliation prevention policy which prohibits the company to reject or stop the trade or significantly limit the quantity or content of products or services of the suppliers in trade due to the reasons stipulated in the policy. The employees perceived with the relevant misconduct are summoned to disciplinary procedure accordingly.

#### Remedies for Violation of Non-Retaliation Guidelines

- Report to related agencies that the company has violated fair trade regulations
- Request for coordination with the company in the Dispute Mediation Committee
- Raise questions related to contents in the contract
- Raise questions and issues related to fair trade through hot-line operated by the company

#### Fair business compliance program

Hyosung introduced Compliance Program (CP) to establish a fair business trade culture with transparent and legitimate procedures. In addition, the Transparent Management Committee under the BOD reviews and determines on the issues related to unfair internal transactions and status of CP implementation.

#### Training for Fair Business Trade

We regularly provide case study training of the Subcontracting Act and breach of contract to the departments considered to have high risk related to unfair business trade with suppliers such as purchasing team, outsourcing management team and shared growth team. We also implement training about fair trade to the sales departments, covering the Fair Trade Act and the Supplier-Dealer Trade Act, and provided information on legitimate process and standards in the sales environment.

#### Follow-up Review after Business Trade

Since 2016, Hyosung has been conducting a follow-up review on suppliers after ending the contract to monitor any cases of illegal activities or unfair trade practices during the business trade. In the event of an illegal act, we correct it immediately and further reflect it on business trades in the future. Accordingly, we continue to facilitate fair trade culture through ceaseless monitoring and management.

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# Stakeholder Engagement

#### Main Stakeholder Groups and Communication

Hyosung defines stakeholders as those who have a major influence on business activities, and has identified its five stakeholder groups as customers, employees, partners, shareholders/investors, and local communities. We listen to our stakeholders' opinions and operate various communication channels to reflect them in our management activities. In this way, we build a close relationship with the stakeholders based on trust and satisfaction and create an environment for sustainable at the same time.

Stakeholder Group	Stakeholder Response	Communication Channels	Main Issues
Customers	We understand customers' needs and requirements through various channels and maximize their satisfaction by conducting customer satisfaction surveys on a regular basis.	<ul> <li>Company website</li> <li>Global exhibition</li> <li>Customer satisfaction survey</li> <li>Public disclosure of management</li> </ul>	<ul> <li>Customer relationship management and maximizing customer satisfaction</li> <li>Enhancing competitiveness of products through R&amp;D</li> <li>Improving reputation and brand power of the company</li> </ul>
CO C C C C C C C C C C C C C C C C C C	We endeavor to create a flexible corporate culture and a great workplace. We enhance the competence of our employees through various training programs.	<ul> <li>Wa-gle Wa-gle, Tong Tong Bulletin Board</li> <li>Junior board</li> <li>Corporate intranet</li> <li>Communicator system</li> </ul>	<ul> <li>Recruiting outstanding employees and providing equal opportunities</li> <li>Increasing employee satisfaction</li> <li>Creating great environment to work</li> </ul>
Suppliers	We operate shared growth programs for our suppliers' sustainability and business growth, provide fair opportunities with transparency.	<ul> <li>Meeting with suppliers</li> <li>Business plan &amp; Achievement sharing</li> <li>Hot-line</li> <li>Supplier portal</li> </ul>	<ul> <li>Active support for shared growth</li> <li>Strengthening supplier sustainability</li> <li>Promoting fair business practices with suppliers</li> </ul>
Shareholders/ Investors	To enhance the value of shareholder and company, we promote transparent and efficient management activities while striving to attain sustainable growth.	<ul> <li>Corporate IR activities</li> <li>BOD and shareholders' meeting</li> <li>Business report</li> <li>Sustainability Report</li> </ul>	<ul> <li>Securing new growth engine for sustainable future</li> <li>Securing financial soundness and profitability</li> <li>Ensuring sound governance</li> </ul>
Local Communities	We fulfill corporate social responsibility by constantly developing social contribution programs linked to our business strategies through steady communication with the local communities.	<ul> <li>Environment cleanup volunteer</li> <li>Public opening event in manufacturing plant</li> <li>CSR activities</li> </ul>	<ul> <li>Engaging in co-prosperity and development of local communities</li> <li>Strategic CSR activities</li> <li>Promoting employees' participation in CSR activities</li> </ul>

------ SUSTAINABILITY MANAGEMENT

GOVERNANCE ----- APPENDI

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# Materiality Assessment

Throughout a process of conducting materiality assessment which comprehensively considers business impact and stakeholder interest, we are identifying key issues with the highest relevance to Hyosung among various issues. In accordance with the guidelines to select reporting topics by GRI(Global Reporting Initiative) standards, key issues have been determined after widely considering economic, social and environmental issues from media and global initiatives as well as business-related issues.

#### **Materiality Assessment Process**

#### 1. Identifying sustainability issues

We have created a pool of 42 different issues based on economic, social and environmental impact of our business as well as degree of stakeholder interest. We have analyzed international standards including GRI Standards, UN SDGs, ISO 26000, EcoVadis reviewed internal data and conducted media research during this issue selection process.

#### 2. Prioritizing issues through materiality assessment

For the process of prioritizing material issues, major CSR topics required by global standards and other peer companies' reporting subjects have been considered, and materiality of each issue item has been measured in the aspects of business impact and stakeholder interest.

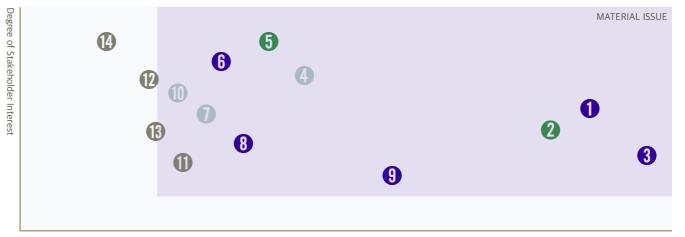
Materiality Assessment									
Peer Group Issues	Internal Data Review	Media Research	International Standards Analysis						
Analyzing the issues of total 12 companies from the same or relevant industries	Internal stakeholders interview and main business strategy review and analysis	Covering total 5,561 articles to analyze economic, social and environmental issues	GRI Standards EcoVadis ISO 26000 UN SDGs						

#### 3. Determining material issues to report

After selecting 10 priority issues from materiality assessment, main topics to report have been determined accordingly. Based on this, the report has been planned and organized with the relevant details.

Internal circle including key business strategy and status of the company and industry issues

Key Report Issues External circle including international standards and media sources Material Issues from Materiality Assessment



Economic Social Environmental Potential issue

**Business** Impact

<b>T</b> i -	lanua -		Reportir	ng Boundaries
Торіс	Issues	GRI Aspect	Internal	External
Economic	Customer relationship management and maximizing customer satisfaction	Other Business Issue	•	Customers
Environmental	Green Products and Technology Development	Energy	•	Customers
Economic	Overseas expansion into new market	Market Presence	•	Customers, Suppliers
Social	Engaging local communities for shared growth and development	Local Communities	•	Local Communities
Environmental	Climate change response	Energy, Emissions	•	-
Economic	Ethical management and anti-corruption activities	Ethics and Integrity	•	-
Social	Recruiting outstanding employees and ensuring fair opportunities	Employment	•	-
Economic	Securing product responsibility and safety	Customer Health and Safety	•	Customers
Economic	Improving reputation and brand power	Market Presence	•	-
Social	Implementing strategic CSR activities	Local Communities	•	Local Communities
Social	Enhancing occupational health and safety	Occupational Health and Safety	•	-
Social	Respecting human rights and non-discrimination	Human Rights Assessment	•	-
Social	Strengthening supplier sustainability	Procurement Practices	•	Suppliers
Social	CSR activities reflecting characteristics of companies and local business sites	Local communities	•	Local Communities

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# HYOSUNG

HYOSUNG SUSTAINABILITY REPORT 2018 OVERVIEW — FOCUS ISSUES & BUSINESS CASES — SUSTAINABILITY MANAGEMENT — GOVERNANCE — APPENDIX

# ESG PERFORMANCE - Economic Performance

**Financial Statements** (Consolidated)

Category		Hyosung Corporation		Hyosung TNC	Hyosung Heavy Industries	Hyosung Advanced Materials	Hyosung Chemical	
	2016	2017	2018	2018	2018	2018	2018	
i . Current assets	4,048,447	4,630,981	1,379,400	1,428,058	1,492,635	1,030,998	438,323	
Cash and cash equivalents	431,707	501,133	341,208	84,735	40,977	84,773	79,258	
Trade and other current receivables	1,736,072	2,013,676	464,296	772,215	772,662	442,526	184,669	
Inventories	1,524,770	1,679,932	498,426	517,314	332,744	466,559	125,295	
Other current assets	355,898	436,241	75,471	53,795	346,251	37,140	49,101	
ii . Non-current assets	10,072,355	9,903,997	5,028,505	1,710,786	1,939,877	1,503,700	1,214,926	
Long-term trade and other non-current receivables	305,046	313,040	54,216	8,975	484,725	3,956	4,710	
Tangible assets	5,845,022	5,663,176	947,976	1,439,547	1,077,627	1,196,736	1,117,555	
Investments in properties	628,823	550,217	145,644	125,520	143,815	151,964	-	
Intangible assets	420,070	318,130	162,328	75,915	12,727	107,704	74,145	
Investments for affiliates and related companies	115,373	117,238	1,242,027		-	-	6,692	
Other non-current assets	2,758,021	2,942,197	2,476,315	60,829	220,983	43,340	11,825	
Total assets	14,120,801	14,534,979	6,407,905	3,138,844	3,432,512	2,534,698	1,653,249	
i . Current liabilities	6,883,077	7,601,179	2,247,871	1,994,630	1,999,317	1,474,716	685,979	
Trade and other current payables	1,786,516	2,073,792	471,129	643,245	814,935	369,241	275,675	
Borrowings	4,380,424	4,916,997	1,571,441	1,324,975	746,739	1,088,357	399,746	
Other current liabilities	716,136	610,391	205,301	26,410	437,644	17,117	10,558	
ii . Non-current liabilities	3,396,508	3,070,518	1,457,887	657,313	528,483	593,966	600,022	
Long-term trade and other non-current payables	376,166	400,492	220,786	26,439	125,457	7,716	12,055	
Long-term borrowings	2,662,171	2,345,089	942,926	573,687	314,057	553,076	582,940	
Other non-current liabilities	358,171	324,936	294,174	57,188	88,969	33,174	5,027	
Total liabilities	10,279,585	10,671,697	3,705,758	2,651,943	2,527,800	2,068,682	1,286,001	
[Capital stock]	175,587	175,587	105,355	21,638	955,355	22,400	15,951	
[Retained earnings]	2,971,857	3,143,153	6,353,427	18,973	-3,639	-26,584	18,284	
[Other components of equity]	471,765	334,776	-4,016,139	363,056	-47,200	389,990	333,013	
[Non-controlling interest]	222,007	209,765	259,504	83,234	194	80,210	-	
Total capital	3,841,216	3,863,282	2,702,147	486,901	904,711	466,016	367,248	

For four business companies including Hyosung Advanced Materials, Hyosung Chemical, Hyosung Heavy Industries, and Hyosung TNC, financial information from June 2018 when the business spin-off took place, up until December 2018.

HYOSUNG SUSTAINABILITY REPORT 2018 OVERVIEW — FOCUS ISSUES & BUSINESS CASES — SUSTAINABILITY MANAGEMENT — GOVERNANCE — APPENDIX

ESG Performance — Third Party Verification Statement — GRI Standards Index — Human Rights Policy — UN SDGs Impact Identification

Unit: KRW 1 million

<b>Consolidated Statements of</b>
Comprehensive Income

Category	Hyosung Corporation			Hyosung TNC	Hyosung Heavy Industries	Hyosung Advanced Materials	Hyosung Chemical	
-	2016	2017	2018	2018	2018	2018	2018	
Sales	7,974,341	8,509,950	2,991,006	3,359,086	2,180,485	1,767,487	1,116,772	
Cost of sales	6,614,455	7,362,130	2,552,511	3,103,320	1,941,278	1,584,713	1,002,169	
Gross profit	1,359,887	1,147,820	438,496	255,766	239,206	182,774	114,603	
SG&A	635,359	636,745	277,358	123,368	160,102	101,363	36,042	
R&D expenses	91,335	95,650	17,654	7,345	29,109	17,269	13,566	
Operating income	633,193	415,425	143,483	125,052	49,996	64,143	64,995	
Other gains	247,523	235,239	23,835	16,903	31,563	13,902	2,963	
Other loss	106,101	299,792	25,704	14,947	35,430	24,843	4,469	
Finance income	292,162	306,454	50,250	54,538	37,239	21,419	20,904	
Finance expenses	412,324	307,613	83,193	133,078	79,654	80,063	50,024	
Profit before tax	625,240	285,263	567,234	48,468	3,714	-5,442	27,418	
Income tax expense	86,868	-30,804	103,167	16,969	1,805	18,303	7,023	
Net profit	538,372	316,067	3,425,977	31,498	1,909	-23,745	20,395	
Other comprehensive gain (loss)	4,837	-13,429	-83,591	-18,851	-16,946	2,478	2,891	
Total comprehensive profit	543,209	302,638	3,342,385	12,648	-15,037	-21,267	23,286	

**Employees Status** 

# ESG PERFORMANCE - Social Performance

Unit: persons, %

Category	Subcategory		Hyosung Corporation		Hyosung TNC	Hyosung Heavy Industries	Hyosung Advanced Materials	Hyosung Chemical	HYOSUNG VIETNAM	HYOSUNG DONG NAI
		2016	2017	2018	2018	2018	2018	2018	2018	201
Total employees		7,971	8,144	634	1,657	3,487	1,142	1,198	5,447	1,82
Gender	Male	7,208	7,313	525	1,389	3,241	1,044	1,090	4,294	1,34
	Female	763	831	109	268	246	98	108	1,153	48
Employment type	Permanent (male)	7,011	7,120	502	1,281	3,188	1,042	1,069	4,272	1,33
	Permanent (female)	700	768	103	226	242	91	107	1,107	4
	Subtotal	7,711	7,888	605	1,507	3,430	1,133	1,176	5,379	1,81
	Temporary (male)	197	193	23	108	53	2	21	22	
	Temporary (female)	63	63	6	42	4	7	1	46	1
	Subtotal	260	256	29	150	57	9	22	68	1
Region	Domestic	7,657	7,789	586	1,518	3,461	1,012	1,158	5,447	1,82
	Overseas	314	355	48	139	26	130	40	-	
Job category	Office work	5,048	5,085	560	877	2,525	560	564	707	25
(based on permanent employment)		2,923	2,803	74	630	905	573	634	4,672	1,55
Fostering female human resource	Female employees ratio	9.60%	10.20%	17.20%	16.20%	7.05%	8.60%	9.00%	21.2%	26.5
	Number of female at manager-level of higher	119	143	50	26	61	13	13	38	
	Female managers ratio (Number of female managers divided by number of total managers)	4.70%	5.20%	13.00%	6.30%	4.28%	4.20%	5.20%	27.5%	29.2
Diversity	Disabled	126	126	6	16	59	22	15	-	
	Veterans	128	37	2	18	77	22	20	-	
	Foreigners	24	28	6	4	13	1	1	72	
	Subtotal	278	191	14	38	149	45	36	72	
Creating job opportunities	Male	292	483	311	85	30	42	27	1,955	8
(the newly employed)	Female	54	121	76	27	13	4	10	362	2
	Subtotal	346	604	387	112	43	46	37	2,317	1,0

Unit: persons, %

65

Employees Status in	Category	HYOS	UNG VIETNAM		HYOSUNG DONG NAI			
Vietnam Business Site		2016	2017	2018	2016	2017	2018	
	Local employees	5,295	5,238	5,447	1,091	1,495	1,829	
	Total managers (head of department, supervisor or higher)	56	70	65	24	26	21	
	Local managers (head of department, supervisor or higher)	41	35	39	8	7	5	
	Rate of local managers	73.20%	50.00%	60.00%	33.30%	26.90%	23.80%	

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Unit: persons, %

Unit: persons, %

Status of turnover	Category	Subcategory	Hyosung Corporation		Hyosung TNC	Hyosung Heavy Industries	Hyosung Advanced Materials	Hyosung Chemical	
			2016	2017	2018	2018	2018	2018	2018
	Employees who left (only counting the permanent employees who voluntarily quit)	Male	315	327	187	52	53	42	35
		Female	72	72	44	38	8	7	10
		Subtotal	387	399	231	90	61	49	45
	Turnover rate		5.02%	5.06%	38.18%	5.97%	1.78%	4.32%	3.83%

Parental and Childcare Leave	Category Male (parental leave) Female (parental leave) Male (childcare leave) Female	Subcategory	(	Hyosung Corporation		Hyosung TNC	Hyosung Heavy Industries	Hyosung Advanced Materials	Hyosung Chemical	HYOS	SUNG VIETN	IAM	HYOS	UNG DONG	NAI
			2016	2017	2018	2018	2018	2018	2018	2016	2017	2018	2016	2017	2018
		Employees under parental leave	112	92	66	0	0	0	0	314	381	376	33	84	96
	(parental leave)	Returning rate from parental leave	100.00%	100.00%	100.00%	-	-	-		100.00%	99.50%	99.20%	100.00%	100.00%	100.00%
		Employees under parental leave	72	75	23	5	15	2	10	178	138	142	19	42	35
	(parental leave)	Returning rate from parental leave	100.00%	100.00%	100.00%	100.00%	93.00%	100.00%	100.00%	91.00%	84.80%	81.00%	78.90%	90.50%	82.90%
		Employees under childcare leave	17	17	24	0	51	2	3	78	122	159	6	12	40
	(childcare leave)	Returning rate from childcare leave	77.78%	94.10%	100.00%	-		-	-	98.70%	98.40%	100.00%	100.00%	100.00%	100.00%
		Rate of working more than 12 months after return	85.71%	81.30%	82.40%	-		-	-	71.80%	69.70%	82.40%	83.30%	75.00%	77.50%
		Employees under childcare leave	64	54	24	6	29	2	8	92	104	192	10	18	62
	(childcare leave)	Returning rate from childcare leave	98.41%	98.40%	98.10%	-	-	-	-	98.90%	98.10%	97.90%	100.00%	100.00%	98.40%
		Rate of working more than 12 months after returning	67.74%	76.20%	79.20%	-	-	-		73.90%	68.30%	77.10%	70.00%	83.30%	61.30%

\* Due to the calculation limitation caused by the company spin-off in June 2018, 'Returning rate' and 'Rate of working more than 12 months after return' from four operating companies will be calculated and added in the 2019 Sustainability Report onward.

														Unit: persons, %
Regular Performance	Category		Hyosung orporation		Hyosung TNC	Hyosung Heavy Industries	Hyosung Advanced Materials	Hyosung Chemical	HYC	SUNG VIETNAM		HYOS	UNG DONG NAI	
Evaluation		2016	2017	2018	2018	2018	2018	2018	2016	2017	2018	2016	2017	2018
Status	Number of employees subject to performance evaluation	7,694	7,804	600	1,505	3,430	1,129	1,114	5,075	4,980	5,167	1,166	1,397	1,659
	Performance evaluation rate	96.40%	95.68%	93.17%	90.80%	98.40%	98.86%	96.20%	93.60%	92.70%	94.50%	90.70%	88.80%	90.00%

5,151

94.57%

949

86.98%

2018

1,829

1,641

89.72%

							ESG F	Performance — Thi	rd Party Verification Stater	nent — GRI Stan	idards Index —	Human Rights Polic	y — UN SDGs Impa
													Uni
Labor Union Membership	Category	Hyosu	ng Corporation		Hyosung TNC	Hyosung Heavy Industries	Hyosung Advanced Materials	Hyosung Chemical	HYOSU	JNG VIETNAM		HYOSU	ING DONG NAI
Status		2016	2017	2018	2018	2018	2018	2018	2016	2017	2018	2016	2017
	Employees covered by collective agreements	2,778	2,878	74	629	847	567	341	5,295	5,238	5,447	1,091	1,495

42.80%

48 269

64.90%

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1,739

62.60%

1,705

59.20%

Number of union workers

Rate of union workers

Unit: KRW, persons, Vietnamese currency: VND

1,348

90.17%

Retirement Pension	Category	H	yosung Corporation	I	Hyosung TNC	Hyosung Heavy Industries	Hyosung Advanced Materials	Hyosung Chemical	HY	OSUNG VIETNA	AM	HY	DSUNG DONG N	AI
		2016	2017	2018	2018	2018	2018	2018	2016	2017	2018	2016	2017	2018
	Total operating fund for retirement pension (DB+DC)	326,987,650,448	361,384,240,392	74,164,638,815	65,338,014,734	193,957,288,746	50,630,841,320	43,741,386,306	6,717,953,350	7,040,535,227	7,765,118,315	1,401,340,340	1,895,941,026	2,425,077,865
	Operating fund of DB pension	323,845,481,309	357,677,695,810	73,745,871,028	64,415,473,019	171,785,575,200	49,978,653,307	43,199,871,634	6,717,953,350	7,029,868,077	7,731,512,065	1,401,340,340	1,895,941,026	2,414,350,615
	Operating fund of DC pension	3,142,169,139	3,706,544,582	418,767,787	922,541,715	22,171,713,546	652,188,013	541,514,672	-	10,667,150	33,606,250	-	-	10,727,250
	Total number Total of members	7,981	8,029	670	1,653	3,297	1,155	1,198	5,053	4,954	5,245	1,033	1,375	1,705
	Number of DB pension members (Persons)	7,300	7,247	602	1,365	2,894	947	1,033	5,053	4,952	5,229	1,033	1,375	1,698
	Number of DC pension members (Persons)	681	782	68	288	403	208	165	-	2	16			7

787

92.92%

494

87.10%

337

98.80%

4,981

94.07%

4,905

93.64%

Unit: KRW, %, Vietnamese currency: VND

Basic Salary and Compensation	Category	Subcategory	Hyos	ung Corporati	on	Hyosung TNC	Hyosung Heavy Industries	Hyosung Advanced Materials	Hyosung Chemical		HYOSUN	IG VIETNAM		НҮС	SUNG DONG NAI	
			2016	2017	2018	2018	2018	2018	2018	2	016	2017	2018	2016	2017	2018
	Basic salary for entry-level		3,086,000	3,117,000	3,117,780	3,117,780	3,117,780	3,117,780	3,117,780	4,480	000	4,780,000	5,080,000	4,480,000	4,780,000	5,080,000
	Rate of entry-level salary to	Male	228	215	184.6	185	185	185	185		128	137	145	128	137	145
	local minimum wage by law (%)	Female	228	215	184.6	185	185	185	185		128	137	145	128	137	145
	Average basic salary		4,404,060	4,481,499	4,644,980	4,776,982	4,529,576	4,389,305	4,322,679	4,663	750	4,963,750	5,415,250	4,663,750	4,963,750	5,415,250

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ESG Performance — Third Party Verification Statement — GRI Standards Index — Human Rights Policy — UN SDGs Impact Identification

Unit: persons, KRW	1 thousand, hours,	Vietnamese	currency: VND
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Employees Training &	Category	Subcategory	Hyos	ung Corporati	on	Hyosung TNC	Hyosung Heavy Industries	Hyosung Advanced Materials	Hyosung Chemical	HY	OSUNG VIETNA	M	HYC	SUNG DONG N	AI
Education			2016	2017	2018	2018	2018	2018	2018	2016	2017	2018	2016	2017	2018
	Number of training participants	Accumulated number of training participants during the year	168,167	183,506	121,750	11,943	17,782	10,136	7,324	7,903	7,424	16,898	1,043	2,166	6,943
	Total training expenses	Total training expenses including costs paid to external institutions and other administrative costs	3,583,521	4,139,236	4,259,986	346,577	745,407	318,076	421,497	3,249,916,806	3,079,647,318	5,571,236,888	7,993,696,000	695,104,682	703,410,112
	Total training hours	Required training by law and training registered in Hyosung Training System	519,298	522,712	343,818	50,180	99,575	44,512	44,403	112,524	114,748	230,808	40,618	43,488	98,296
	Average training hou (Total training hours/	irs per person / total number of employees)	65.15	64.18	43.31	30.28	28.62	38.98	37.06	14.24	15.46	42.37	38.94	20.08	53.74
	Average training exp (Total training expen	enses per person ses / total number of employees)	450	508	537	359	367	477	603	411,226	414,823	403,947	7,664,138	320,916	130,117

\* Regarding four operating companies, data has been collected and calculated based on the time period from June 1, 2018 (start of company spin-off) to December 2018. For training between Jan. and May, data is accumulated as Hyosung In case of average training expenses per person, it is converted into 12-months basis.

\* Hyosung Vietnam, Dong Nai corporate education system has changed, and the gap is largely different from the previous year, because statutory compulsory education time is included in the education completion time in 2018.

Vietnamese currency: VND

CSR Investment	Category	Unit		Hyosung*		Н	YOSUNG VIETNAM		HYOSU	JNG DONG NAI	
			2016	2017	2018	2016	2017	2018	2016	2017	2018
	CSR Investment	KRW million	3,332	2,364	2,887	1,096,057,000	1,957,412,872	1,378,674,000	-	-	50,350,000
	CSR Programs	Programs	44	37	46	11	7	9	11	7	9
	Employees participating in CSR programs	Persons	7,412	5,773	5,704	4,704	4,585	4,843	789	1,143	1,471
	Total CSR participating hours of employees	Hours	29,648	23,092	22,816	15,400	10,584	14,840	1,232	784	1,008
	CSR participating hours per employee	Hours/person	4	4	4	3	2	3	2	1	1

\* Hyosung Corporation and its four operating companies

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Occupational Accident Rate	Category	Unit	Hyosur	ng Corporatio	n	Hyosung TNC	Hyosung Heavy Industries	Hyosung Advanced Materials	Hyosung Chemical	HYOSU	JNG VIETN	AM	HYOSU	ING DONG I	NAI
			2016	2017	2018	2018	2018	2018	2018	2016	2017	2018	2016	2017	2018
	Total number of occupational accidents : Accidental disaster + Occupational disease	Persons	17	29	0	1	18	18	6	13	26	28	9	8	4
	Occupational accident rate : Total number of occupational accidents / Total number of employees x 100	%	0.21	0.36	-	0.06	0.52	1.58	0.50	0.26	0.50	0.52	0.81	0.53	0.22
	Number of work-related fatalities	Persons	0	0	0	0	0	0	0	-	-	-	-	-	-
	Work-related fatality rate per ten thousand employees : Number of work-related fatalities / Total number of employees x 10,000	‱	-	-	-	-	-	-	-	-	-	-	-	-	-

Vietnamese currency: VND 1 thousand

Suppliers	Category	Unit	Hyosung TNC	Hyosung Heavy Industries	Hyosung Advanced Materials	Hyosung Chemical	ŀ	IYOSUNG VIETNAM		н	YOSUNG DONG NAI	
			2018	2018	2018	2018	2016	2017	2018	2016	2017	2018
	Number of suppliers	Companies	2,679	4,070	24	140	654	643	672	424	493	551
	Purchasing price to suppliers	KRW million	1,244,608	1,739,349	900,515	757,172	11,944,773	14,962,309	18,177,658	2,433,347	8,727,832	15,389,793

HYOSUNG SUSTAINABILITY REPORT 2018 OVERVIEW — FOCUS ISSUES & BUSINESS CASES — SUSTAINABILITY MANAGEMENT — GOVERNANCE — APPENDIX

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Unit: TJ

ESG Performance — Third Party Verification Statement — GRI Standards Index — Human Rights Policy — UN SDGs Impact Identification

# ESG PERFORMANCE - Environmental Performance

Energy Consumption	Category	Subcategory	Hyos	sung Corporatio	n	Hyosung TNC	Hyosung Heavy Industries	Hyosung Advanced Materials	Hyosung Chemical	НҮС	SUNG VIETNA	M	HYOS	SUNG DONG NA	.1
			2016	2017	2018	2018	2018	2018	2018	2016	2017	2018	2016	2017	2018
	Direct energy	Diesel	37	37.87	1.18	15.06	13.21	1.59	7.53	-	-	-	-	-	-
	consumption	Kerosene	0.1	0.64	-	0.37	0.03	0.03	0.03	-	-	-	-	-	-
		LNG	2,519.30	2,095.49	206.17	920.75	131.76	313.2	357.46	1,507.77	1,467.17	1,553.33	360.86	336.08	541.22
		Gasoline	14.4	12.66	2.74	3.47	4.09	2.72	2.93	-	-	-	-	-	-
		Propane	4.7	813.68	0.84	749.98	7.43	289.77	38.75	-	-	-	-	-	-
		B-C oil	769.1	337.08	_	151.92	-	-	7.27	-	58,000.00	132,000.00	-	-	-
		Off-gas	4,380.40	4,816.94	_	5,136.44	-	-	-	-	-	-	-	-	-
		LPG	2.7	4.77	0.89	1.43	0.9	0.89	0.89	13.14	16.31	19.11	2.01	5.07	6.17
		Biogas	18.5	21.52	-	-	-	-	-	-	-	-	-	-	-
		Subtotal	7,746.2	8,140.65	211.81	6,979.34	157.42	608.19	414.84	1,520.91	59,483.48	133,572.44	362.87	341.15	547.39
	Indirect energy	Electricity	21,512.30	22,903.97	491.66	6,097.48	986.54	3,829.88	11,245.25	3,354.74	3,406.35	3,548.69	266.03	794.69	1,181.14
	consumption	Steam	893.6	1,140.15	10.96	1,093.91	-	-	-	418.21	507.22	618.79	337.61	1,023.07	1,019.42
		Process waste heat	227.4	-	-	-	-	-	-	-	-	-	-	-	-
_		Waste incinerated heat	1,176.90	1,043.23	-	506.66	67.94	-	527.46	-	-	-	-	-	-
		Subtotal	23,810.20	25,087.35	502.62	7,698.06	1,054.49	3,829.88	11,772.72	3,772.95	3,913.57	4,167.48	603.65	1,817.76	2,200.57
	Total energy consumption	Total	31,556.40	33,228.00	714.43	14,677.49	1,211.90	4,438.07	12,187.56	5,293.86	63,397.05	137,739.92	966.52	2,158.91	2,747.96
	Energy intensity	Basic unit (TJ / KRW 100 million)	0.55	0.39	0.024	0.437	0.056	0.251	1.091	-	-			_	-

Unit: tCO₂eq

GHG (Greenhouse Gas)	Category	Subcategory	_	Hyosung Corporation		Hyosung TNC	Hyosung Heavy Industries	Hyosung Advanced Materials	Hyosung Chemical
Emissions			2016	2017	2018	2018	2018	2018	2018
EIIIISSIOIIS	Direct GHG emissions	Fixed combustion	184,606.40	408,187.00	10,454.29	251,777.08	32,723.42	98,335.67	7,323.19
	(Scope 1)	Mobile combustion	3,525.10	3,911.00	166.03	605.00	858.18	718.99	1,314.67
		Process emissions	219,572.50	27,330.00	-	25,770.20	-	-	1,246.89
		Waste disposal	3,201.10	1,498.00	-	356.00	-	2,253.99	18.89
		Subtotal	410,905.10	440,926.00	10,620.32	278,508.28	38,390.72	101,308.65	9,903.64
	Indirect GHG emissions	Electricity	1,043,515.20	1,112,394.32	23,716.77	546,546.30	185,953.91	295,474.43	48,124.33
	(Scope 2)	Steam	8,439.80	15,860.76	393.18	-	2,687.75	9,516.61	-
		Subtotal	1,051,955.00	1,128,255.08	25,109.94	546,546.30	188,641.66	304,991.04	48,124.33
	GHG emissions intensity	Basic unit (tCO <sub>2</sub> eq / KRW million)	0.256	0.184	0.012	0.246	0.104	0.230	0.052

. . . .

1,189,954.00 1,223,247.00 1,797,867.00 238,457.00 409,944.00 481,625.00

Unit:	tons

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OSUNG SUSTAINABILITY REPORT 2018	OVERVIEW — FOCU	S ISSUES & BUSIN	ESS CASES —	— SUSTAINA	BILITY MANA	GEMENT —	— GOVERNA	ANCE ——	APPENDIX						69
								ESG Performance	<ul> <li>Third Party Ve</li> </ul>	rification Statement	— GRI Standar	ds Index — Hur	man Rights Policy	y — UN SDGs I	mpact Identificatio
															Unit: tons
Water Consumption and Wastewater Discharge	Category	Subcategory	Hyd	osung Corporatio	on	Hyosung TNC	Hyosung Heavy Industries	Hyosung Advanced Materials	Hyosung Chemical	HYO	OSUNG VIETN	AM	НҮС	SUNG DONG N	IAI
			2016	2017	2018	2018	2018	2018	2018	2016	2017	2018	2016	2017	2018
	Water	Waterworks	710,898	218,924	99,009	78,696	-	11,375	86,758	3,217,933.00	3,143,970.83	3,808,158.40	320,864.00	1,068,473.00	1,270,204.65
	consumption by source of water	Groundwater	79,248	101,409	-	-	8,165		103,624			-	-		-
		Industrial water	25,241,861	18,725,355	650,720	6,822,981	503,038	3,699,060	7,323,767				-		-
		River water	127,750	-	-	-	-		-				-		-
	Total water cons	umption	26,159,757.00	19,045,687.50	749,729.00	6,901,677.44	511,202.50	3,710,435.00	7,514,149.06	3,217,933.00	3,143,970.83	3,808,158.40	320,864.00	1,068,473.00	1,270,204.65
	Amount of recyc	led water	7,164,161	6,363,409	143,158	3,941,960		1,287,800	342,002			-	-		-

Water recycling rate (%)

Total wastewater discharge

27.40%

33.40%

- 4,531,289.45

19.10%

160,113.00 2,056,629.00

57.10%

0.00%

10,868.40

34.70%

140,255.33 2,105,665.98

4.60%

Unit: tons

Category	Subcategory	Нуоз	sung Corporatio	on	Hyosung TNC	Hyosung Heavy Industries	Hyosung Advanced Materials	Hyosung Chemical	-					IAI
		2016	2017	2018	2018	2018	2018	2018	2016	2017	2018	2016	2017	2018
Industrial waste	Recycled	-	27,287.00	742.6	14,120.70	-	2,890.50	7,687.20	15,943.90	18,199.60	22,054.30	1,178.70	2,944.00	2,860.40
(general)	Incineration	3,096.00	3,117.10	-	2,232.10	-	318.6	334.8	192.8	1,156.10	1,341.90	46.7	45.3	502.9
	Landfill	4,106.10	4,064.00	52.5	2,385.00	-	27.1	3,171.60	708.8	700.8	734.3	129.1	129.9	254.4
	Cargo discharge	-		-	-	-	-	-	-				_	-
	Waste consignment	41,861.40	17,654.10			4,896.00	8.3	14,452.70						-
	Subtotal	49,063.50	52,122.20	795.2	18,737.80	4,896.00	3,244.40	25,646.30	16,845.50	20,056.50	24,130.50	1,354.50	3,119.20	3,617.70
Industrial waste	Recycled	-	3,449.40	119.3	2,011.50	-	485.7	313.3	15,218.00	15,234.00	16,377.00	35	78	73
(designated)	Incineration	1,073.00	1,228.70	_	956.1	-	11	179.2	10,756.00	10,557.00	11,444.00	251	1,659.00	1,925.00
	Landfill	2.9	20.6	_	8.2		-	14.4	-					-
	Cargo discharge	5,294.10	5,000.40	_	_	767.2	2.5	10,203.10	-					-
	Subtotal	6,370.00	9,699.10	119.3	2,975.80	767.2	499.2	10,709.90	25,974.00	25,791.00	27,821.00	286	1,737.00	1,998.00
Total waste	Total	55,433.50	61,821.20	914.4	21,713.60	5,663.20	3,743.60	36,356.30	42,819.50	45,847.50	51,951.50	1,640.50	4,856.20	5,615.70
Amount of recycled waste	Total	0	30,736.40	861.9	16,132.20	0	3,376.30	8,000.50	31,161.90	33,433.60	38,431.30	1,213.70	3,022.00	2,933.40
Waste recycling rate (%)		0.00%	49.70%	94.30%	74.30%	0.00%	90.20%	22.00%	72.78%	72.92%	73.98%	73.98%	62.23%	52.24%

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ESG Performance — Third Party Verification Statement — GRI Standards Index — Human Rights Policy — UN SDGs Impact Identification

Unit: tons

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Air Pollutant Emissions	Category	Hyosur	ng Corporation		Hyosung TNC	Hyosung Heavy Industries	Hyosung Advanced Materials	Hyosung Chemical	HYOS	UNG VIETNAM	I	HYOSU	NG DONG NA	AI
		2016	2017	2018	2018	2018	2018	2018	2016	2017	2018	2016	2017	2018
	Nitrogen oxides (NOx)	590.4	494.3	8.2	71.2	-	65.2	320.1	147.43	87.65	71	-	7.31	34
	Sulfur oxides (SOx)	176.2	132.9	-	5.4	-	2.1	44.1	77.93	54.14	50	-	1	19
	Particulate matter (PM)	52.6	454.4	-	8.2	11.6	20.4	427.4	109.39	97.91	64	-	2.56	34

Unit: KRW 1 million, VND 1 million

Environmental Protection Investments	Category	Hyosu	ng Corporation		Hyosung TNC	Hyosung Heavy Industries	Hyosung Advanced Materials	Hyosung Chemical	HYOS	UNG VIETNAN	И	HYOSU	NG DONG N/	AI
		2016	2017	2018	2018	2018	2018	2018	2016	2017	2018	2016	2017	2018
	Waste and emission treatment costs, Environmental restoration costs	5,687	4,843	181	1,980	477	294	3,143	3,765	4,384	4,072	74	463	425
	Prevention and environmental management costs	6,774	4,608	105	340	2,321	250	2,664	43	51	97	44	56	49
	Total	12,461	9,451	287	2,320	2,798	544	5,807	3,808	4,435	4,169	118	519	474

APPENDIX

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# ESG PERFORMANCE - Certification Status and Association Memberships

#### **Certification Status**

<b>C</b> 11	DU		Certification			
Site	PU	Environmental Management	Quality	Health & Safety		
	NPY	ISO 14001	ISO 9001			
	Tire cord	ISO 14001	ISO 9001			
Ulsan	Tech. Yarn	ISO 14001	IATF 16949			
UISAN	Aramid	ISO 14001	ISO 9001 IATF 16949	KOSHA 18001		
	Interior					
	PP/DH	ISO 14001	100.0001			
Yongyeon1	Neochem	ISO 14001	ISO 9001	KOSHA 18001		
<b>2</b>	ТРА	ISO 14001	ISO 9001			
Yongyeon2	POK	Certified Green Company	IATF 16949	KOSHA 18001		
	Film	ISO 14001				
Yongyeon3		ISO 14001	ISO 9001			
	Neochem	ISO 14001		ISO45001		
	Spandex	ISO 14001	ISO/TS 29001	KOSHA 18001 NAVI		
Gumi	NPY	ISO 14001 Global Recycled Standard(GRS)	ISO 9001			
	Film	ISO 14001		KOSHA 18001		
Gyeongju	S/C	ISO 14001	ISO 9001 IATF 16949			
Anyang	Interior	-	IATF 16949	OHSAS 18001		
Changwon	P&I	ISO 14001	ISO 9001	KOSHA 18001 ISO 45001		
Sejong	P&I	ISO 14001	ISO 9001			
Daegu1	Dyeing	Oeko-Tex®				
Daejeon1	Interior	ISO 14001	ISO 9001			
Daejeon3	Film		ISO 9001			
Jeonju	Carbon Fiber	ISO 14001	ISO 9001 IATF 16949			
Oksan	Opt. Film	ISO 14001	ISO 9001			

#### Association Memberships

ICMC Signatory

Category	Association Memberships	Category	Association Memberships				
Hyosung*	Seoul Chamber of Commerce and Industry	Hyosung	Construction Association of Korea				
	Seoul Bar Association	Heavy Industries	Korea Mech. Const. Contractors Association				
	The Federation of Korean Industries	Industries	H2KOREA				
	American Chamber of Commerce in Korea		Korea Electrical Contractors Association				
	Korea Exchange		Korea Specialty Contractors Association				
	Korea Enterprises Federation		Korea Information and Communications Contractor				
	Korea Economic Research Institute		Association				
	Korea Management Association		Korea Federation of Construction Contractors				
	Korea Mecenat Association		Korea Construction Engineers Association				
	Korea International Trade Association		Korea Association of Machinery Industry				
	Korean-American Association		Korea Remodeling Association				
	Korea-Japan Economic Association		Korea Fire Facility Association				
	Korea Listed Companies Association		Korea Hydro Association				
	ARUMJIGI		Korea Smart Grid Association				
	Asia Society		Korea Electrical Manufactures Association				
Hyosung	World Economic Forum		Korea Electrical Manufactures Association - Electric				
Corporation	BLOOM COMPANY		Motor Council Korea Housing Association				
	Federation of Korea Human Resource Development		Korea Association for Natural Gas Vehicles				
	Representatives						
	Institute of Internal Auditors		International Contractors Association of Korea				
	Korea Personnel Improvement Association		Korea Hydrogen Industry Association				
	Korean Standards Association	Hyosung Advanced	Korea Chemical Fivers Association				
	Korea-U.S. Economic Councill. Inc	Materials					
	Korea Association for Chief Financial Officers	Hyosung	Korea Semiconductor Industry Association				
	Korea Investor Relations Service	Chemical	Korea Industrial Special Gas Association				
	HRD Forum		Korea Petrochemical Industry Association				
	WEF YGL(Young Global Leader)		Korea Packaging Engineers Association				
	YPO		Korean Institute of Chemical Engineers - CEO Club				
Hyosung	Korea Chamber of Commerce and Industry		Korea Display Industry Association				
TNC	Korea Listed Companies Association - CFO Forum		Korean Packaging Association				
	Korea Textile Trade Association		LG Twins Club				
	Korea Outdoor & Sport Industry Association	* Hyosung Corpo	vration and its four operating companies are all members of the				
	Korea Chemical Fivers Association	associations.					

#### HYOSUNG SUSTAINABILITY REPORT 2018

#### OVERVIEW — FOCUS ISSUES & BU

5 — SUSTAINABILITY MANAGEMENT

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# THIRD PARTY VERIFICATION STATEMENT

#### Foreword

Hyosung Corporation and its four operating companies – Hyosung TNC Corp., Hyosung Heavy Industries Corp., Hyosung Advanced Materials Corp., and Hyosung Chemical Corp., ("Hyosung") commissioned networks-Y to undertake independent assurance of the Sustainability Report 2018(the "Report"). The directors of Hyosung have sole responsibility for the preparation of the Report. The responsibility of us in performing the assurance work is to the management of Hyosung in accordance with the terms of reference. Our assurance engagements are based on the assumption that the data and information provided by the client to us as part of our review have been provided in good faith.

#### Scope and Standard

Hyosung describes its efforts and achievements of the corporate social responsibility activities in the Report. We conducted our engagement in accordance with ISAE 3000<sup>1)</sup> and AA1000AS(2008)<sup>2)</sup>. The term "moderate assurance" used in AA1000AS(2008) is designed to be consistent with "limited assurance" as articulated in ISAE 3000. Our assurance is a Type II assurance engagement as defined in the AA1000AS(2008). We evaluated the adherence to Principles of Inclusivity, Materiality and Responsiveness, and the reliability of the selected GRI Standards indices as below, where professional judgment of the team was exercised as materiality criteria.

We checked whether the Report has been prepared in accordance with the 'Core Option' of GRI Standards which covers the followings.

- GRI Standards Reporting Principles
- Universal Standards
- Topic Specific Standards
- Management approach of Topic Specific Standards
- Indirect Economic Impacts : 203-1, 203-2
- Energy : 302-1, 302-3, 302-3, 302-4, 302-5
- Emissions : 305-1, 305-2, 305-4, 305-5, 305-7
- Employment : 401-1, 401-3
- Occupational Health and Safety : 403-1, 403-2, 403-3, 403-4, 403-5, 403-6, 403-9, 403-10
- Training and Education : 404-1, 404-2, 404-3
- Local Communities : 413-1, 413-2
- Supplier Social Assessment : 414-2

#### Limitations

This Report excludes data sand information of joint corporate, contractor etc. which is outside of the organization, i.e. Hyosung, among report boundaries. Limited depth of evidence gathering including inquiry and analytical procedures and limited sampling at lower levels in the organization were applied. The baseline data for environmental and social performance are not verified, while the aggregated data at the corporate level are used for the verification. We expressly disclaim any liability or co-responsibility for any decision a person or an entity may make based on this Assurance Statement.

#### Approach

In order to verify the contents of the Report within an agreed scope of assurance in accordance with the assurance standard, we have carried out an assurance engagement as follows:

- Reviewed overall report
- Reviewed materiality test process and methodology
- Reviewed stakeholder engagement activities
- Interviewed people in charge of preparing the Report
- Reviewed strategies and internal systems for sustainability management performance and activities

#### Conclusion

Based on the results we have obtained from material reviews and interviews, we had several discussions with Hyosung on the revision of the Report. We reviewed the Report's final version in order to confirm that our recommendations for improvement and our revisions have been reflected. When reviewing the results of the assurance, we could not find any inappropriate contents in the Report to the compliance with the principles stipulated below. Nothing has come to our attention that causes us to believe that the data included in the verification scope are not presented appropriately.

• Inclusivity : Participation of Stakeholders

Hyosung is developing and maintaining stakeholder communication channels in various forms and levels in order to make a commitment to be responsible for the stakeholders. we could not find any critical stakeholder Hyosung left out during this procedure.

- Materiality : Determining and Reporting of Material Issues
   Hyosung is determining the materiality of issues found out through stakeholder communication channels through its own materiality evaluation process, and we could not find any critical issues left out in this process.
- Responsiveness : Organization's Response to Material Issues We could not find any evidence that Hyosung's counter measures to critical stakeholder issues were inappropriately recorded in the Report.

We could not find any evidence the Report was not prepared in accordance with the 'Core Option' of GRI standards.

#### Recommendation for Improvement

We hope the Report is actively used as a communication tool with stakeholders and recommend the following for continuous improvements.

- Hyosung uses various communication channels in the process of identifying its issues while actively undertaking its response activities. It is essential to manage its stakeholders' interests and expectations more efficiently by further developing these systems.
- To make sure that stakeholders truly understand Hyosung's internal activities for sustainable management, it is necessary to disclose more information about its future plans and goals. To do this, Hyosung needs to build an official process for collecting and managing data as part of its on-going performance management system. If performance is reviewed continuously under this process, Hyosung will be able to present its future plans and goals in its next reports.

#### Independence

With the exception of providing third party assurance services, we are not involved in any other Hyosung's business operations that are aimed at making profit in order to avoid any conflicts of interest and to maintain independence.

October, 2019 networks Y CEO **Lee, Sungsang** 









\* 1) International Standard on Assurance Engagements 3000, "Assurance Engagements other than Audits or Reviews of Historical Financial Information" issued by International Auditing and Assurance Standards Board

\* 2) AA1000 Assurance Standard (2008), issued by AccountAbility

#### IYOSUNG SUSTAINABILITY REPORT 2018

ERVIEW —— FOCUS ISSUES & BUSINES

------ SUSTAINABILITY MANAGEMENT

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\* The updated GRI standards (2018) have been applied

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SUSTAINABILITY MANAGEMENT

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# HUMAN RIGHTS POLICY

#### Hyosung's Human Rights Policy

All stakeholders including Hyosung employees, customers, and local communities have the right to dignity and happiness that cannot be transferred as human beings. We promise to grow together with all stakeholders through Hyosung Way, a value system of Hyosung that leads the better life of mankind based on the best technology and management capability.

Hyosung supports the UNGC principles, the OECD Guidelines for Multinational Enterprises, and the labor standards laid down by the ILO, as well as the Universal Declaration of Human Rights adopted at the UN General Assembly. In addition, we promise to comply with the standards of labor rights and working conditions of all the countries in which we operate, as well as in Korea where our head office is located. This commitment is equally applicable to all stakeholders, including employees of Hyosung, customers, local communities, and employees of partner companies.

#### Human Rights Principles

Non-discrimination	One is entitled to have the right and freedom in all fields of political, economic, social and cultural life without unfair discrimination based on race, nationality, gender, language, religion, ethnicity, disability, political opinion, social background, academic background and age.
Equal Opportunities and Compensation	Fair compensation is given according to individual ability and performance under fair working condition, and opportunities for self-development are provided.
Freedom of Assembly and Association	Employees have the right to enjoy freedom of association for assembly without threat of retaliation or intimidation.
Safe Working Environment	Employees have the right to work in a healthy and safe manner in a pleasant working environment.
Personal Privacy Protection	No one else can interfere with an employee's personal information and privacy related to his/her family, housing and communication.
Compliance with Working Conditions	We guarantee working hours determined by the country where our business is operating and comply with the regulations of regular paid leave.
Forced or Child Labor Banned	We observe the minimum age for employment set by the country where our business is operating, and employees are not arrested mentally or physically or forced to work against their free will, such as slavery or human trafficking.
Fair Business Practices	Recognizing a supplier company as a partner in an equal position, Hyosung does not abuse its superior position and further contributes to improving human rights of supplier companies.
Commitment for Local Community Development	Hyosung recognizes its responsibility for the development of the local community and actively invests in the community development.
Information Transparency	We provide the required information to shareholders and investors in a timely manner and maintain accuracy of accounting data to ensure transparency
Customer Information	The customer's information is recognized as valuable asset, which is required only to a minimal extent. We take technical and physical measures to protect the customer information.

# UN SDGs IMPACT IDENTIFICATION

#### UN SDGs (UN Sustainable Development Goals)

UN SDGs (Sustainable Development Goals) are the follow-up goals after the MDGs (Millenium Development Goals) that the UN and the international society as a whole are committed to achieving from 2016 to 2030. The SDGs include 17 goals and 169 targets for sustainable development in all countries around the world, including poverty and inequality, climate change response, economic growth, and decent jobs.



#### UN SDGs 17 Goals

1. End poverty in all its forms everywhere 2. End hunger, achieve food security and improved nutrition and promote sustainable agriculture 3. Ensure healthy lives and promote well-being for all at all ages 4. Ensure inclusive and quality education for all and promote lifelong learning 5. Achieve gender equality and empower all women and girls 6. Ensure access to water and sanitation for all 7. Ensure access to affordable, reliable, sustainable and modern energy for all 8. Promote inclusive and sustainable economic growth, employment and decent work for all 9. Build resilient infrastructure, promote sustainable industrialization and foster innovation 10. Reduce inequality within and among countries 11. Make cities inclusive, safe, resilient and sustainable 12. Ensure sustainable consumption and production patterns 13. Take urgent action to combat climate change and its impacts 14. Conserve and sustainably use the oceans, seas and marine resources 15. Sustainably manage forests, combat desertification, halt and reverse land degradation, halt biodiversity loss 16. Promote just, peaceful and inclusive societies 17. Revitalize the global partnership for sustainable development

#### Hyosung's SDGs Impact Assessment

Hyosung is assessing SDGs-related impact of its business activities for sustainable development of the international community. Based on the impact identified, we will set priorities and detailed goals for achieving UN SDGs and internalize sustainability in our business management so that we can strengthening sustainability value of the company.



# HYOSUNG