

Hanwha Systems
Sustainability Report 2021



Hanwha Systems Sustainability Report 2021

ABOUT THIS REPORT

Report Overview Hanwha Systems is committed to transparent communication with its various stakeholders. To this end, it publishes its first sustainability report on the economic, social, and environmental values, as well as performance delivered through its business activities in 2021. Hanwha Systems plans to use this report to share its sustainability management activities, performance, and future plans with stakeholders annually.

Reporting Standards This report has been prepared in accordance with the core options of the Global Reporting Initiative (GRI) standards, which provide guidelines for sustainability reporting. It also reflects the indices of the Sustainable Development Goals (SDGs), the Task Force on Climate-Related Financial Disclosures (TCFD), and the Sustainability Accounting Standards Board (SASB). The financial information in the report was prepared based on the Korean International Finance Reporting Standards (K-IFRS).

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|--|------------------|
| •GRI Standards guidelines were applied. | > GRI Standards |
| •Financial data were based on K-IFRS. | > SASB Checklist |
| •The Environment, Social, and Governance (ESG) performance was reported. | > TCFD Checklist |
| •This report will be published in Korean and English on an annual basis. | > ESG Data |

Reporting Period This report illustrates Hanwha Systems' economic, social, and environmental activities and achievements from January 1, 2020 to December 31, 2020, except for some results including data up to the first half of 2021. As for quantitative performance, this report contains data from the past three years (January 2018 – December 2020) to present year-by-year trends.

Reporting Cycle Annually (Initial publication in 2021)

Reporting Scope This report was prepared based on combined data from the headquarters of Hanwha Systems and all business sites at home and abroad. Financial information was prepared on a consolidated basis in accordance with the K-IFRS. As for data that require additional attention in terms of reporting scope and boundary, separate annotations were added for the convenience of readers.

Report Verification To secure objectivity and transparency that our stakeholders can trust, this report has undergone third-party verification by the Korea Management Register in accordance with the international assurance standards ISAE3000 and AA1000AS Type II.

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Hanwha Systems pursues the goal of becoming a "global defense electronics company and ICT smart solution provider." As Korea's no. 1 defense electronics company with cutting-edge technology and knowledge in weapon systems that encompass land, sea, air, space, and cyber domains, Hanwha Systems is creating the future of smart defense in Korea. In addition, we offer IT total solutions in various industries such as manufacturing, finance, service, and education, thereby promoting business innovation and sustainable growth for our clients.



CEO Message

Hanwha Systems is creating a smart future with its technologies of hyperconnectivity, super-intelligence, and hyper-convergence.

I am Seong-cheol Eoh, CEO of Hanwha Systems.

Hanwha Systems is Korea's representative defense electronics company. We achieve sustainable growth based on the trust of our stakeholders in spite of enormous uncertainty in this rapidly changing business environment.

Hanwha Systems merged with Hanwha S&C (currently Hanwha Systems ICT Division), an ICT company, and was launched as Korea's only defense electronics and ICT company in 2018. Along with a successful listing on the stock market in the following year, we have realized the values of our stakeholders and carried out various ESG activities with careful consideration of our increased social responsibilities and roles. Hanwha Systems believes that the first "Sustainability Report" published this year will serve as an opportunity to share our financial growth and ESG management achievements and plans with our stakeholders.

The COVID-19 pandemic that has badly hit the world since 2019 brought about significant changes in the corporate business environment and raised social interest in environmental issues more than ever. Accordingly, Hanwha Systems established the "ESG Committee" within the Board of Directors (BOD) to review the company's sustainability management strategies and policies while managing and supervising related performance and issues. In addition, it has established an ESG-dedicated organization and a consultative body for each department to systematically conduct nonfinancial activities.

Hanwha Systems continuously expands its business areas in the civilian market based on its core technological capabilities in the defense industry. In particular, we concentrate on internalizing and commercializing future new technologies such as big data, AI, Techfin, and financial solutions. The company is also taking the initiative in creating a sustainable, safe, and eco-friendly future society

through new aviation and space projects, such as Urban Air Mobility (UAM) and Low Earth Orbit (LEO) satellite communications services.

Hanwha Systems was recently selected as a "Caring Company (a company promoting win-win partnership)" by the Ministry of SMEs and Startups and contributes to the nation's smart self-defense by being a material/parts/equipment powerhouse through active technological cooperation with SMEs. We continue to discover and nurture promising SMEs in the fields of the Fourth Industrial Revolution that are expected to innovate the future based on their advanced defense and ICT technologies.

We promise to further sharpen our technological edge to lead the future and generate sustainable future values. To fulfill growing corporate social responsibilities and roles in the post-pandemic era, Hanwha Systems continues to listen to the advice of stakeholders based on its management philosophy of "Going Further Together."

Thank you.

Seong-cheol Eoh
CEO of Hanwha Systems



About Us

Company Overview

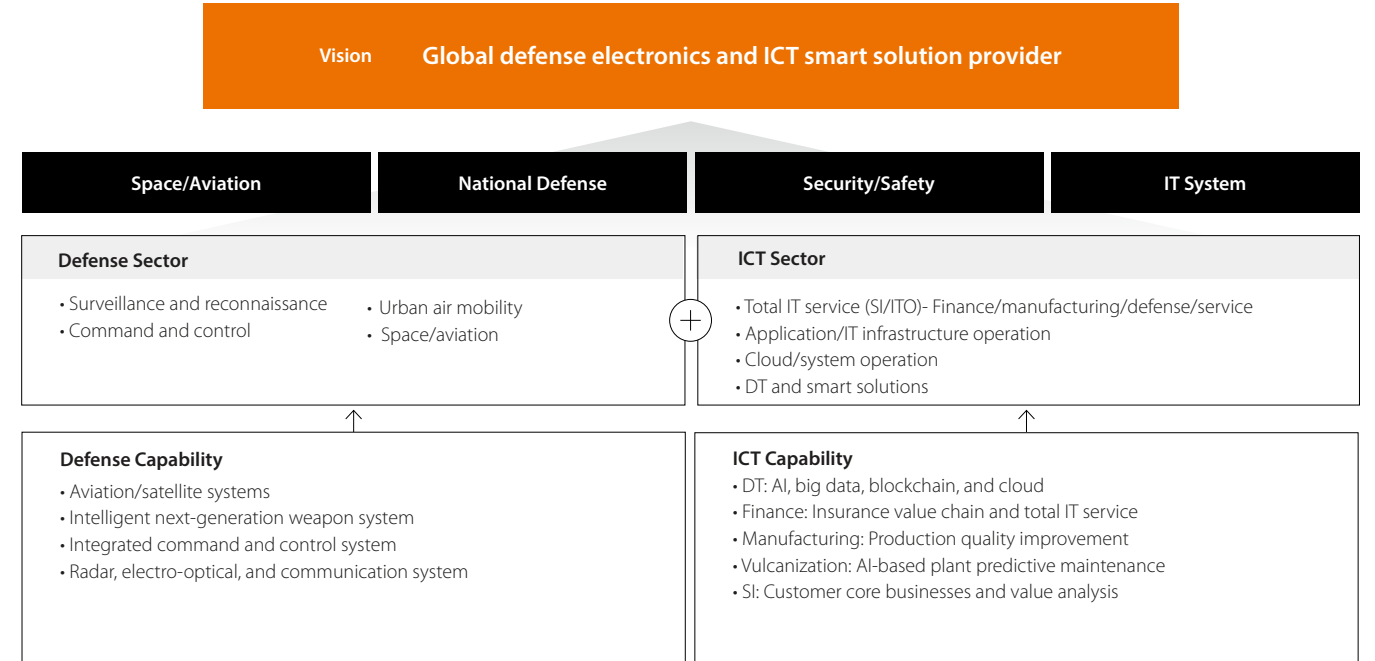
Hanwha Systems provides differentiated smart technologies in defense electronics and ICT fields. The company has consolidated its unrivaled position in the defense industry by securing advanced defense technology and system integration capabilities through a merger with an IT company in August 2018. Furthermore, we are leading in digital innovation in all areas of the industry through our latest IT services in the Fourth Industrial Revolution era, such as artificial intelligence (AI), big data, blockchain, and cloud, thus maximizing customer values.

Vision and Strategy

As a defense company that fulfills important missions in national security, Hanwha Systems continuously expands its business areas under the vision of becoming a "global defense electronics and ICT smart solution provider." In addition, by combining advanced defense technology and ICT technology capabilities developed through defense electronics and ICT businesses, we provide customized solutions in various business areas such as urban air mobility (UAM) and low Earth orbit (LEO) satellite communications, Techfin, and future smart ICT, helping our customers build the foundation for sustainable growth.

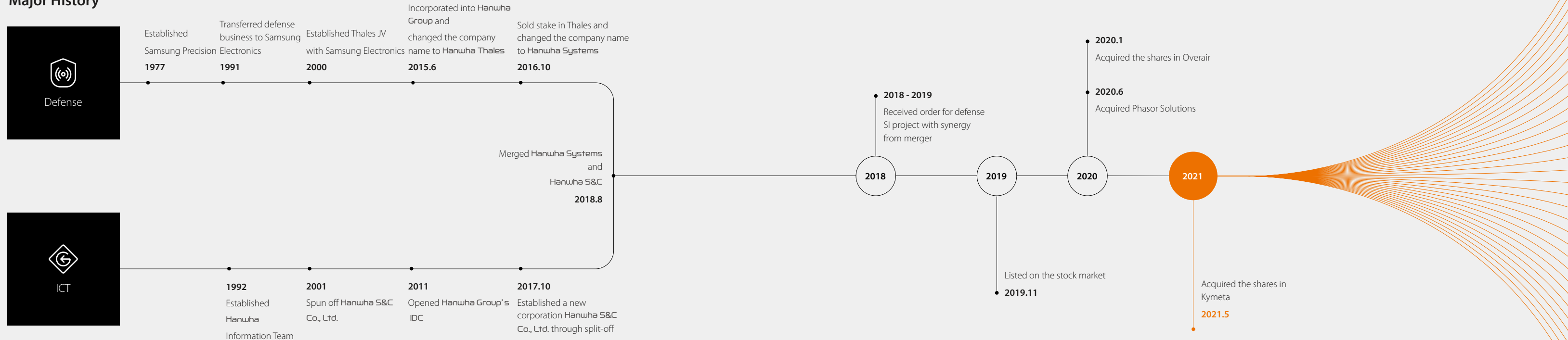
기업현황

Company name	Hanwha Systems	No. of employees	3,692 persons (as of December 2020)
CEO	Seong-cheol Eoh	Sales	KRW 1.64 trillion (2020)
Date of establishment	January 11, 2000	Operating profit	KRW 92.9 billion (2020)
Category of business	Defense and IT services	Credit rating	Korean Ratings: AA- (2020) Korea Investors Service: AA- (2020)
Headquarters	244, 1-gongdan-ro, Gumi-si, Gyeongsangbuk-do		



* SI: System Integration (establishment of IT system); ITO: IT Outsourcing (IT maintenance)

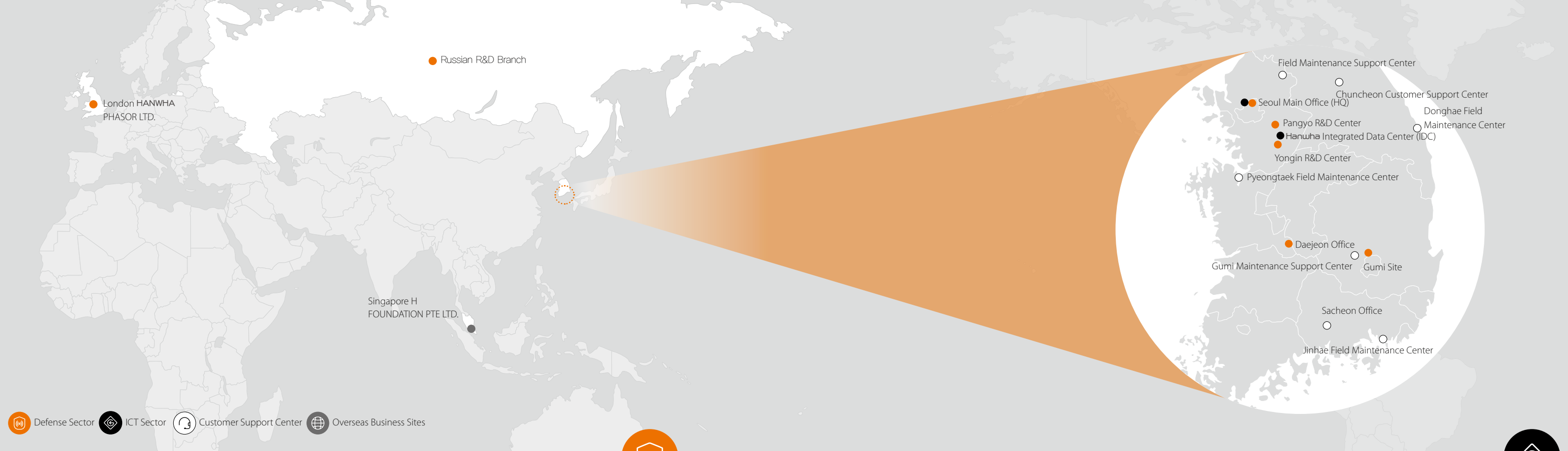
Major History



Business Portfolio

Domestic and Overseas Business Sites

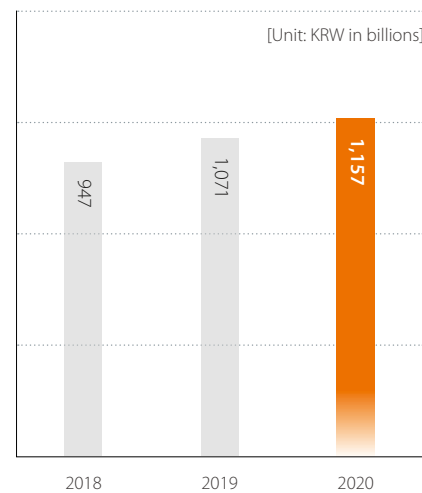
Hanwha Systems operates 7 business sites in the defense sector, 3 in the ICT sector, and 7 customer support centers for the defense sector as of the end of 2020.



Business Introduction

As the only defense and IT service convergence company in Korea, Hanwha Systems provides products and services optimized for the environment of each customer. In addition, we expand solution-based new businesses, including defense businesses and SI/ITO-centered IT businesses, to achieve sustainable growth and keep pace with the rapidly changing business environment for the future.

Sales - Defense Sector



Surveillance and Reconnaissance

- Radar system
- Ground system
- Electro-optics (EOTS and EO/IR)

Urban Air Mobility

- Development of vertical takeoff and landing aircraft
- Building infrastructure (e.g., traffic management system for UAM, takeoff and landing facility in the city center, etc.)
- Aviation services, insurance, and maintenance

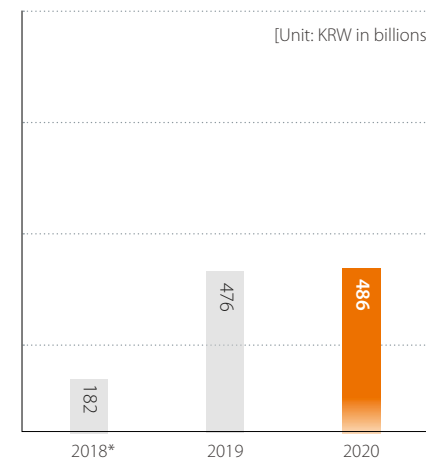
Command and Control

- Tactical/satellite communications system
- Command and control system
- Naval combat system and unmanned marine systems
- Cyber/smart defense (defense AI)

Space/Aviation

- Ultrasmall military satellites and satellite payloads
- Low Earth orbit (LEO) satellite communications and antennas
- Defense TR
- Avionics equipment (KF-21 and LAH)

Sales - ICT Sector



Total IT Service (SI/ITO)

- Finance/manufacturing/defense/service system integration and maintenance
- Enterprise resource planning (ERP)
- Supply chain management (SCM)
- Product lifecycle management (PLM)
- Process innovation and informatization strategies

Cloud/System Operation

- Cloud server operation services
- Cloud backup and security services
- Cloud storage services
- Cloud network services
- Server/DB/WAS/SAP

Application and IT Infrastructure

- Operation of various applications
- ERP operation
- Shared services such as groupware/HR
- Network management and air traffic management services
- Mobile infrastructure services
- Global network services

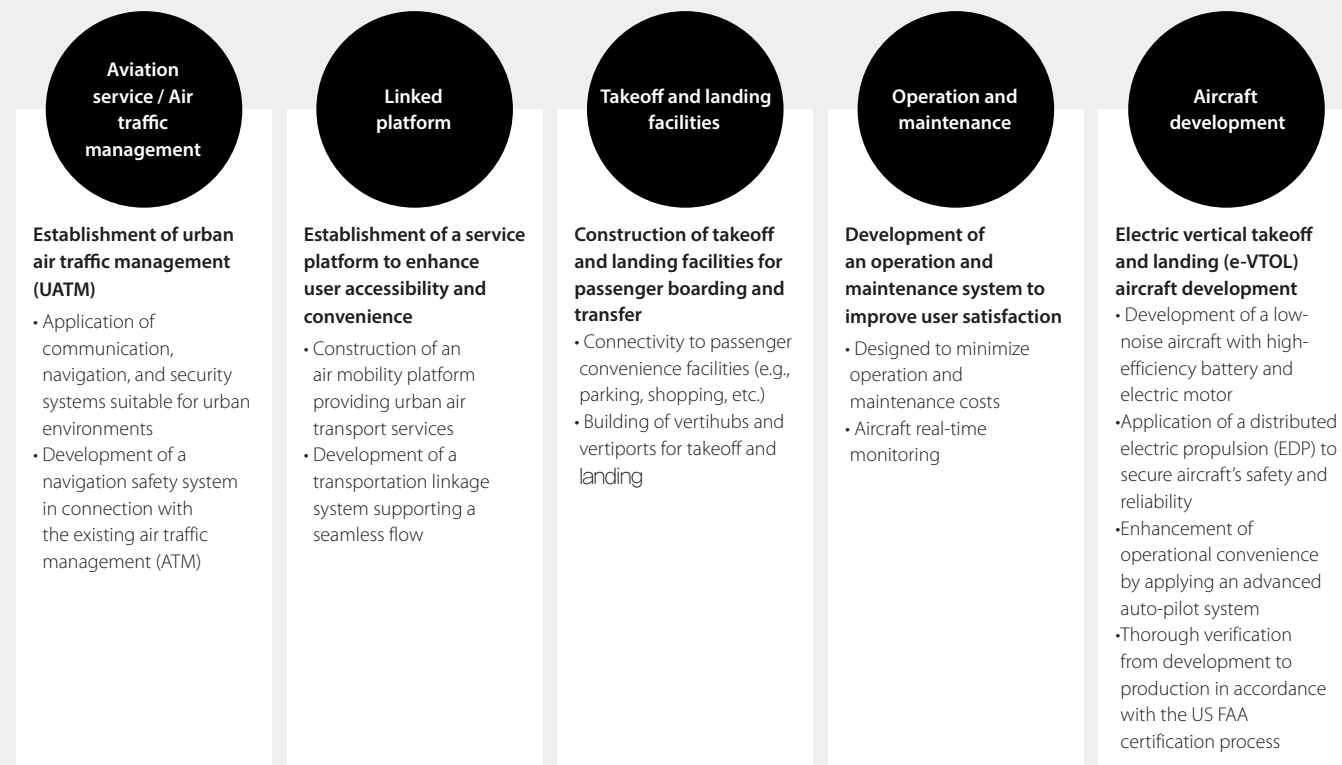
DT and Smart Solutions

- Artificial intelligence (AI): HAIQVTM
- Blockchain: H-ChainTM
- Cloud: HONE CloudTM
- Smart factory
- Next-generation insurance core solution: WINE
- Smart office total services
- Contact-free environment solution

* Because of the merger, Hanwha S&C's financial statements are reflected beginning August 1, 2018. +++

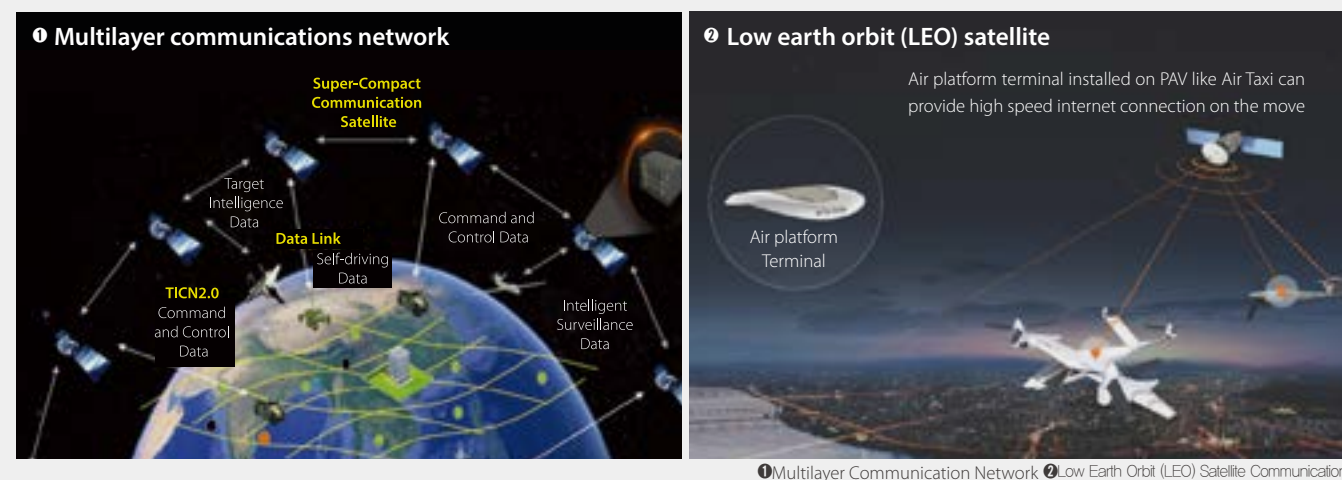
New Business 1 - Urban Air Mobility (UAM)

As a global total solution provider in the urban air mobility market, Hanwha Systems provides the safest and most convenient mobility services to our customers. We aim to lead the future mobility market by converging advanced avionics and ICT technologies.



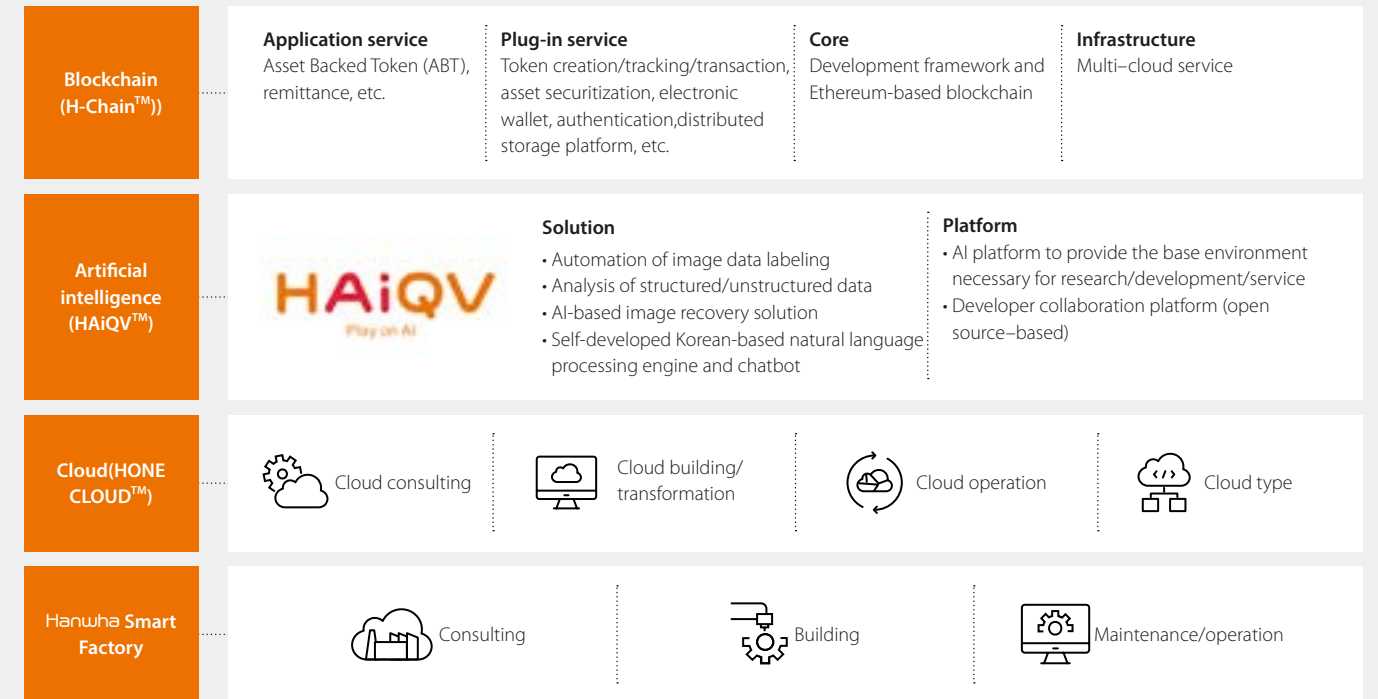
New Business 2 – Multilayer Communication Network / Low Earth Orbit (LEO) Satellite Communications

Hanwha Systems is building a multilayered, hyperconnected environment that connects all the communications and surveillance/reconnaissance satellites on the ground, in the air, and in outer space. Furthermore, it is evolving into a global satellite communications operator in the aerospace industry by expanding low Earth orbit (LEO) satellite communications and antenna businesses.



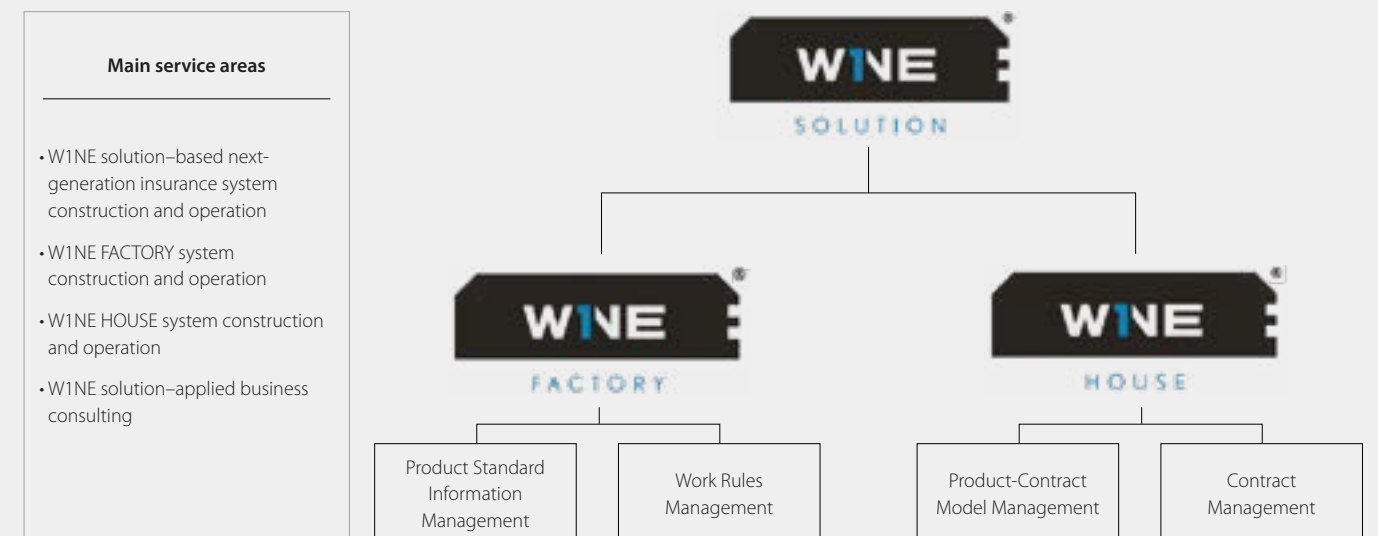
New Business 3 – Digital Transformation

There are growing expectations for new IT services using next-generation technologies in various industries. Accordingly, Hanwha Systems actively fosters new digital technologies such as blockchain, artificial intelligence (AI), cloud, and smart factory, thereby creating new customer values.



New Business 4 – Next-generation Insurance Core Solution

Hanwha Systems offers the optimal IT solution "W1NE" to help insurance companies promptly respond to customer demand and to changes in the systems by the Financial Services Commission. By introducing stable working systems, such as incorporating new DT technologies and adopting flexible infrastructure environments, W1NE continuously discovers innovative products.



Our Approach to Sustainability

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Hanwha Systems positions “ESG” as its core value beyond shareholder value. In 2021, it established the ESG committee under the BOD and organized an ESG consultative body to conduct ESG-oriented management activities.

To create a better future, the company has also expanded its business to several areas, such as urban air mobility (UAM) and carbon emission management system (Mangrove solution), based on its core technologies. Hanwha Systems continues to pursue sustainable growth for the company and its stakeholders and keeps on creating differentiated values based on a robust ESG management system.

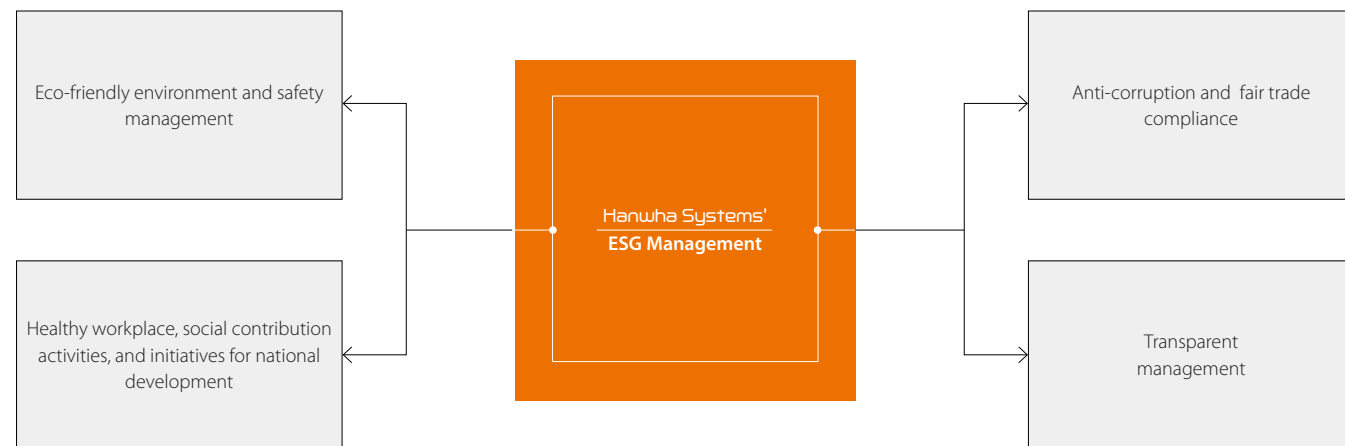
ESG Management System

Hanwha Systems' ESG Management

The Environmental, Social, and Governance (ESG) criteria have been used as a standard for evaluating the nonfinancial performance of companies across the world. In recent years, as ESG issues increase, along with their complexity, impact, and social interest, expectations for corporate ESG management are also intensifying.

Through ESG management, Hanwha Systems aims to enrich human life and contribute to national development together with our internal and external stakeholders—shareholders, investors, partners, business partners, employees, and customers—who use our products and services. Therefore, Hanwha Systems has created the ESG committee to ensure compliance with guidelines and regulations on environment and safety when manufacturing products. We practice ESG management through sound and socially responsible activities, as well as transparent and fair governance practices.

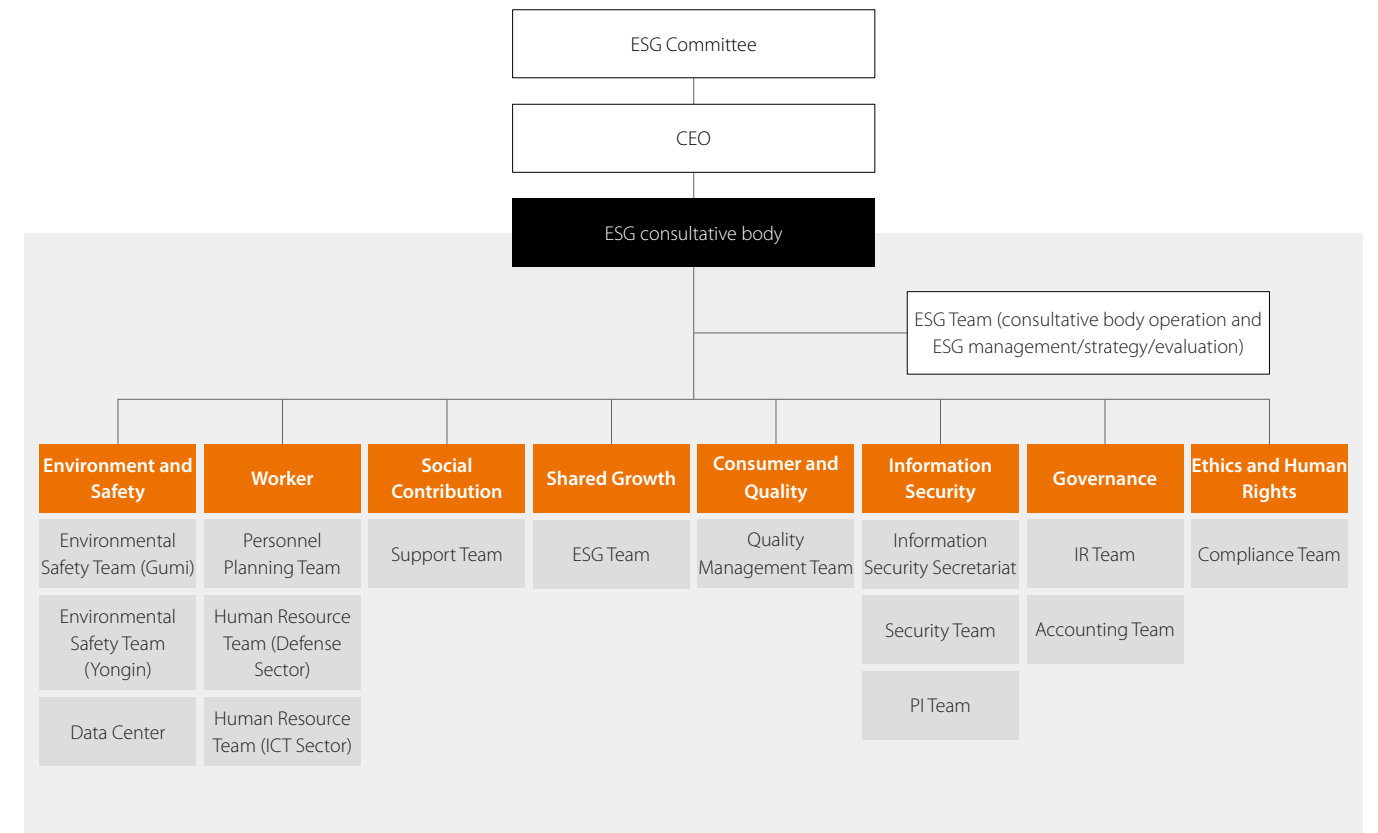
For sustainable development and management, our ESG management puts importance on nonfinancial factors that can affect financial value. In addition, we pay attention to issues such as corporate social responsibility, sustainability, and creation of shared values, allowing us to contribute to the growth and development of people, society, and the nation.



ESG Management Organizational System

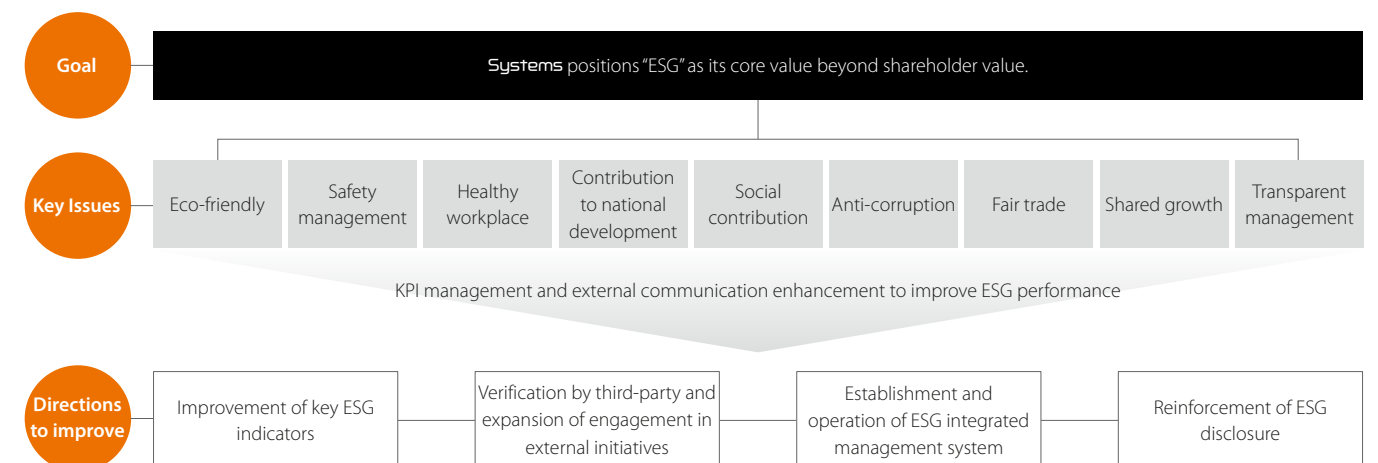
Hanwha Systems has overhauled its ESG management organizational system to pursue a more systematic and strategic ESG management based on its compliance management and various social responsibility activities. In July 2020, the company launched the ESG improvement task force, and in June 2021, it established the ESG committee under the BOD. Fifteen departments related to ESG have formed an ESG consultative body to discuss the sustainability of the company and the development of society.

Organizational Chart of ESG Committees and Consultative Body

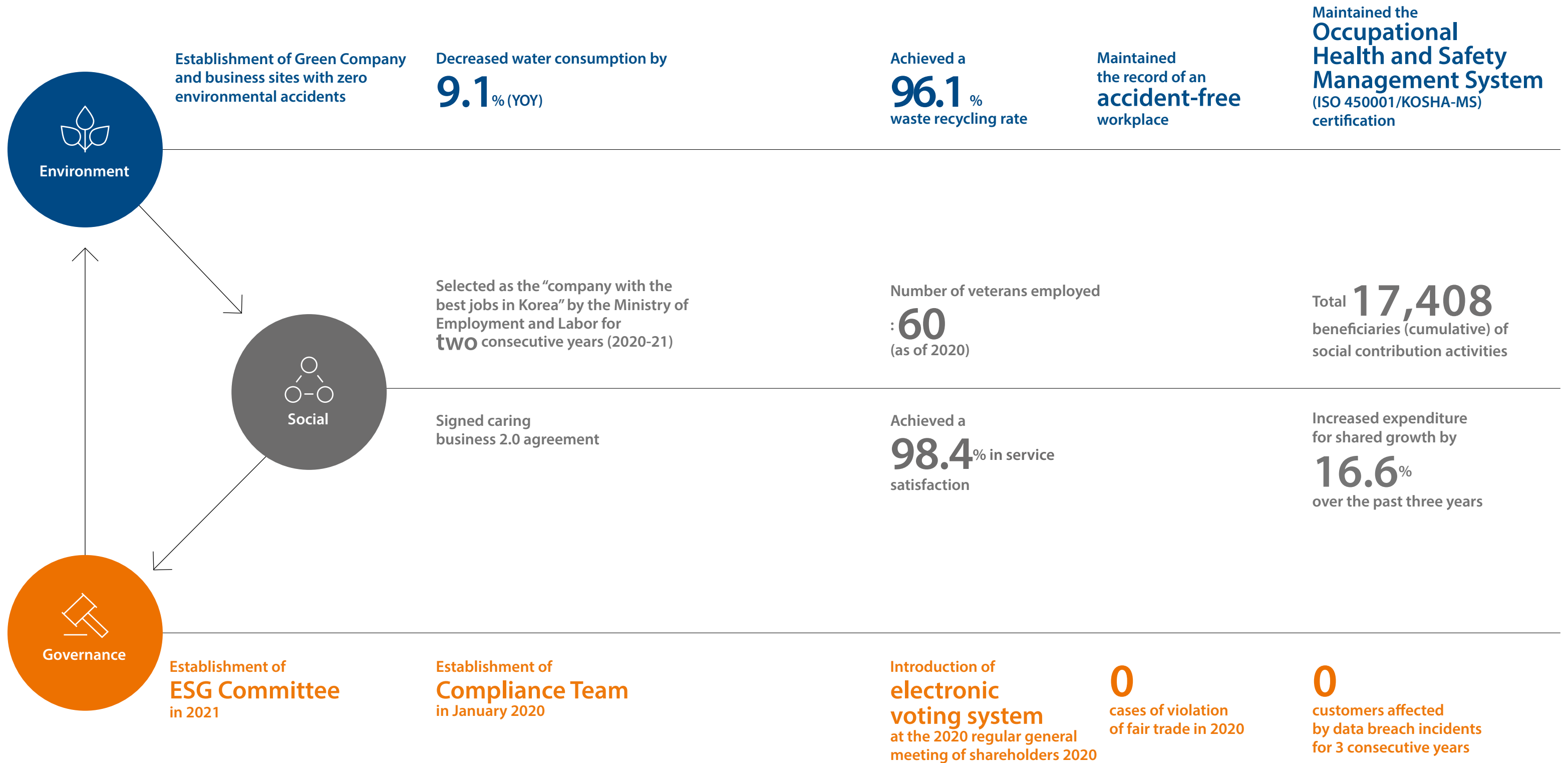


ESG Management Goals by Stage and Directions for Improvement

Hanwha Systems will conduct continuous and comprehensive ESG activities in accordance with domestic ESG regulations and global ESG best practices. Through third-party verification and engagement in external initiatives, we will secure objectivity from the various perspectives of our stakeholders. We will establish and operate an ESG integrated management system for systematic activities, information collection and analysis, and ESG risk management. In addition, the company will transparently share its ESG management status with all of our stakeholders through meticulous and timely public disclosure.



2020-2021 ESG Key Figures

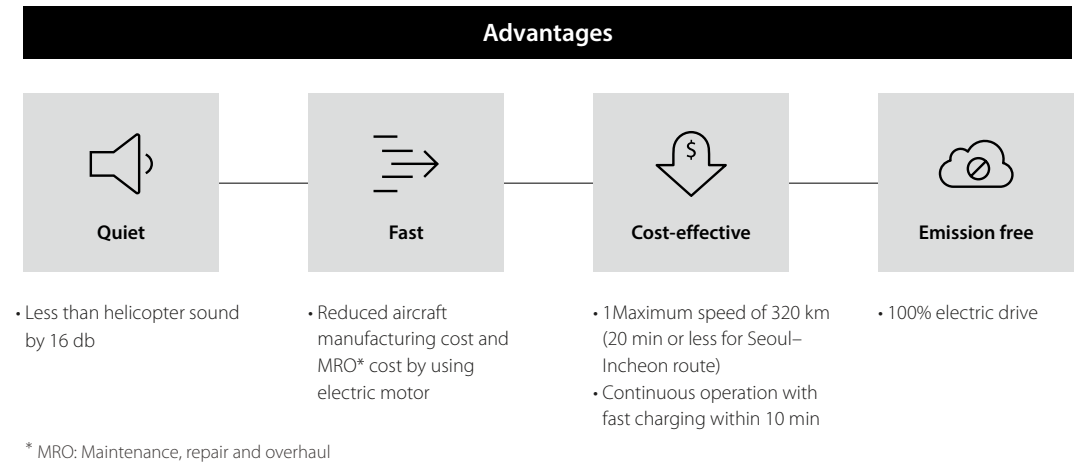
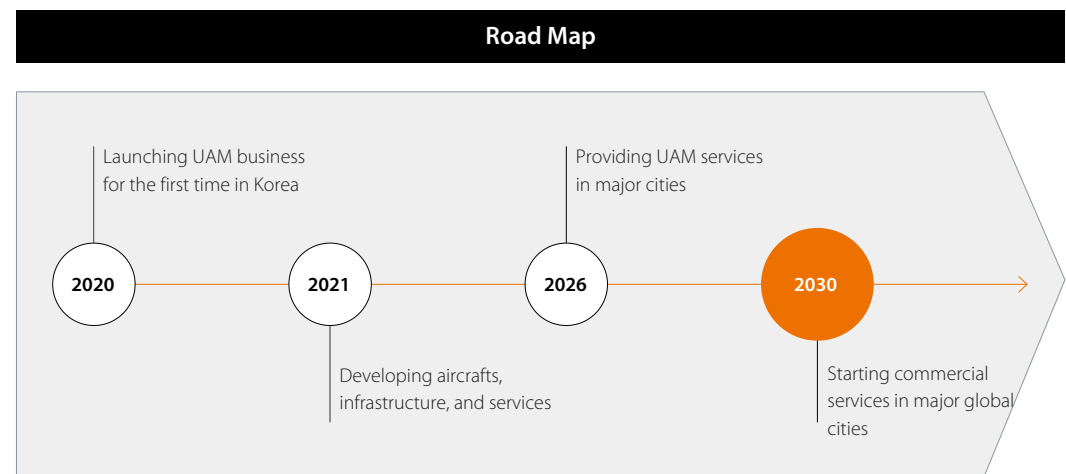


Story 1

Realization of eco-friendly urban air mobility, the next-generation transportation system that will change our lives

Urban air mobility (UAM) is a three-dimensional urban air transportation system that connects ground and air transports. It is the next-generation transportation system that can transport passengers and cargo from the city center by air. With the advancement of battery and motor technologies, as well as the advent of advanced technologies such as collision avoidance and autopilot, the personal aerial vehicle (PAV) is expected to bring a profound change to our way of life as a new means of transportation in the future. In particular, UAM generates low noise and no emissions without requiring a runway, making it an attractive eco-friendly urban transportation means. It is expected to grow explosively at an average annual growth of 30% or more in the future.

In January 2020, Hanwha Systems spent USD 25 million to acquire a 30% stake in Overair, a US PAV development company, and is now developing a 5-seater aircraft named Butterfly. We plan to finish the development of the aircraft by 2024 and start pilot operation on the Seoul-Gimpo route in Korea by 2025. On June 4, 2020, we declared the vision of becoming a 'Global UAM Solution Provider' encompassing aircraft, infrastructure, and aviation services at the launching ceremony of UAM Team Korea by the Ministry of Land, Infrastructure and Transport. Hanwha Systems will continue to develop new businesses in aircraft, services, and infrastructure under the following mottos: 'safe and efficient aircraft,' 'future mobility integration service,' and 'standard infrastructure with the government.'



Technology		
	Aircraft/component	MRO
Infrastructure		
	Takeoff and landing facilities	Control/navigation safety
Service		
	Aviation service	Ground transportation linking platform

Story 2

Low Earth orbit satellite communications for a better life for humankind

The low Earth orbit (LEO) satellite communications service, also called “Space Internet,” refers to the Internet that connects the world through an enormous number of small communication satellites in low Earth orbit (200–1,000 km). Based on advanced communication, sensor, and ICT capabilities, Hanwha Systems is developing the “LEO satellite,” a core technology for realizing the Space Internet, and a “communication antenna” that connects the satellite to the ground station networks. In addition, Hanwha Systems has invested in OneWeb, a world-renowned “Space Internet” company, and is developing an integrated solution that guarantees a broadband “multilayer, hyperconnected network” between all platforms on land, sea, air, space, and cyber using communication satellites and their antennas, as well as small SAR satellite technology. Morgan Stanley predicts that the space Internet market will grow up to KRW 670 trillion (or USD 582 billion) within 20 years. In particular, satellite communication antennas will be installed on airplanes, ships, trains, vehicles, etc. to enable stable high-speed communications on-the-move (COTM) anywhere in the world, including areas where Internet access can be difficult (e.g., at sea, in remote areas, in the air, etc.) and in countries that do not have the means to build an Internet network. By utilizing LEO satellite communications, Hanwha Systems aims to bridge the information gap because of economic and geographic differences and help more people live a better life.

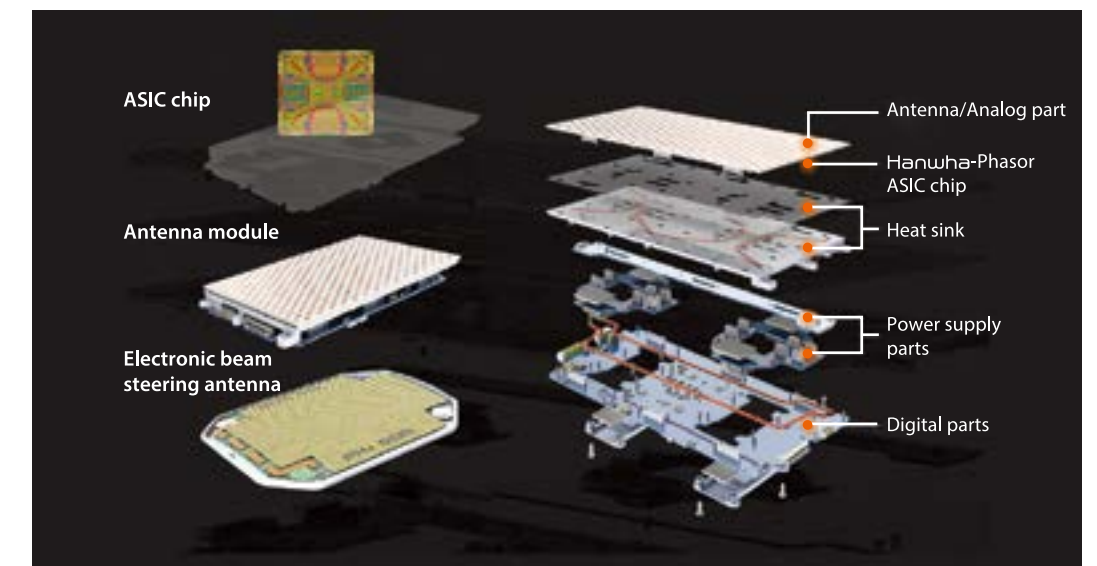


Advantages

<p>High-speed & Reliable</p>	<p>Cost-Effective</p>	<p>Flat & Light</p>	<p>Modular</p>
<ul style="list-style-type: none"> High-speed Internet access anywhere in the world 	<ul style="list-style-type: none"> No hassle of network installation Reduced maintenance/extension costs 	<ul style="list-style-type: none"> Decreased size, weight, and power consumption 	<ul style="list-style-type: none"> Modular and extensible structure that allows mounting of various platforms according to customer requirements

In June 2020, Hanwha Systems acquired the assets of Phasor Solutions Ltd., a British satellite communications company, to accelerate the development of an Electronically Steerable Antenna (ESA) system for transmitting and receiving signals with satellite communication antennas. In December 2020, it invested in 'KyMeta Corp.,' a US satellite communication antenna provider, and secured the distribution rights for KyMeta’s satellite antenna in Asia, including Korea. The satellite communication antenna of KyMeta enables satellite communications in remote areas or at sea as it is installed on vehicles, buses, trains, ships, etc. With its high utility in disasters, calamities, and disputed areas, the antenna has generated high demand, mainly from the military and government, and it is expected to create a great synergy with Hanwha Systems’ defense and ICT businesses.

From 2021 onward, Hanwha Systems plans to pioneer domestic and overseas markets through strategic partnerships and jointly develop a next-generation electronic satellite communication antenna. Based on the industry’s best defense communication and radar technology, we will continue to develop advanced satellite communication antennas to strengthen the capabilities of aerospace systems in the space Internet era and further contribute to creating a better society for humankind.



Key Technologies

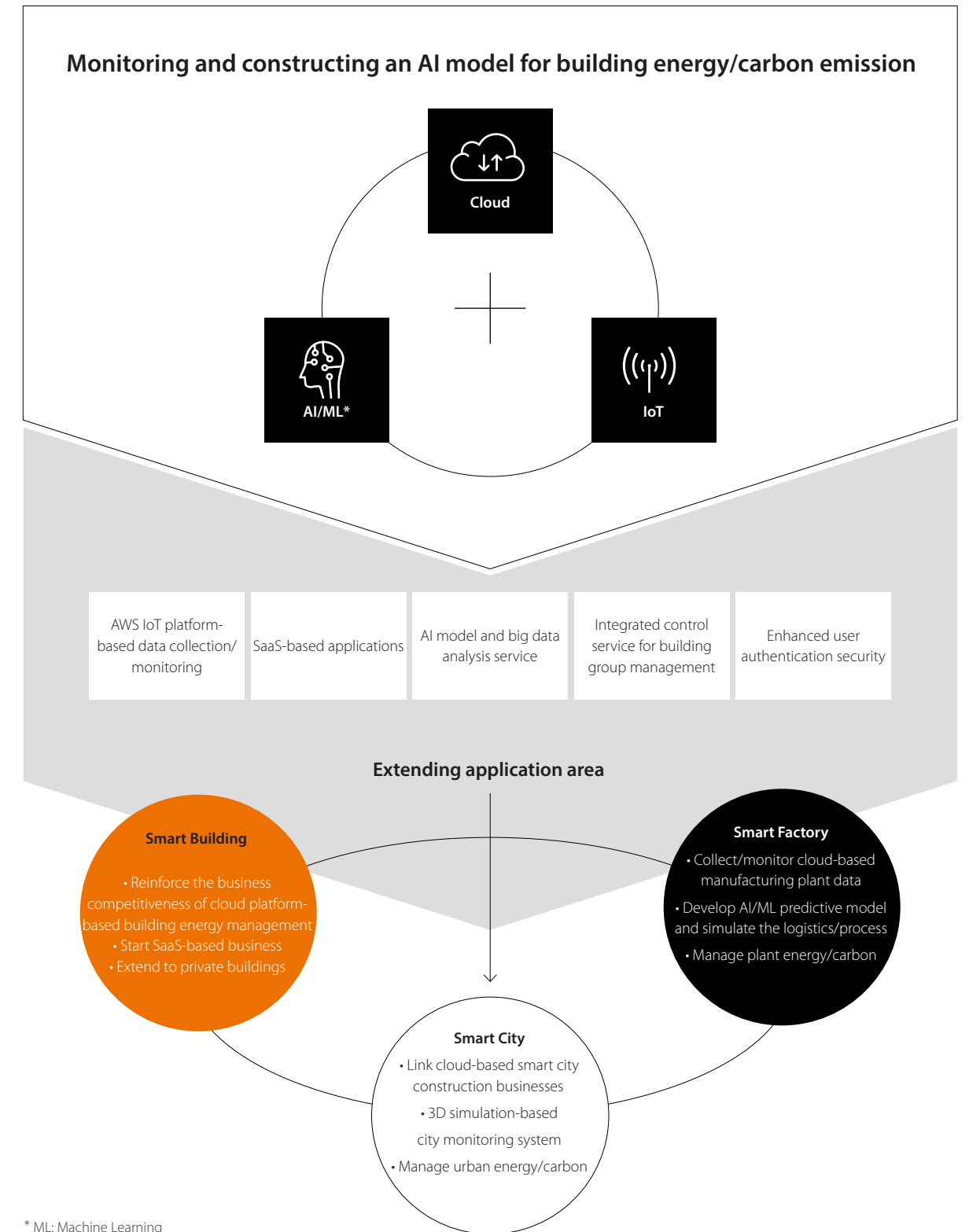
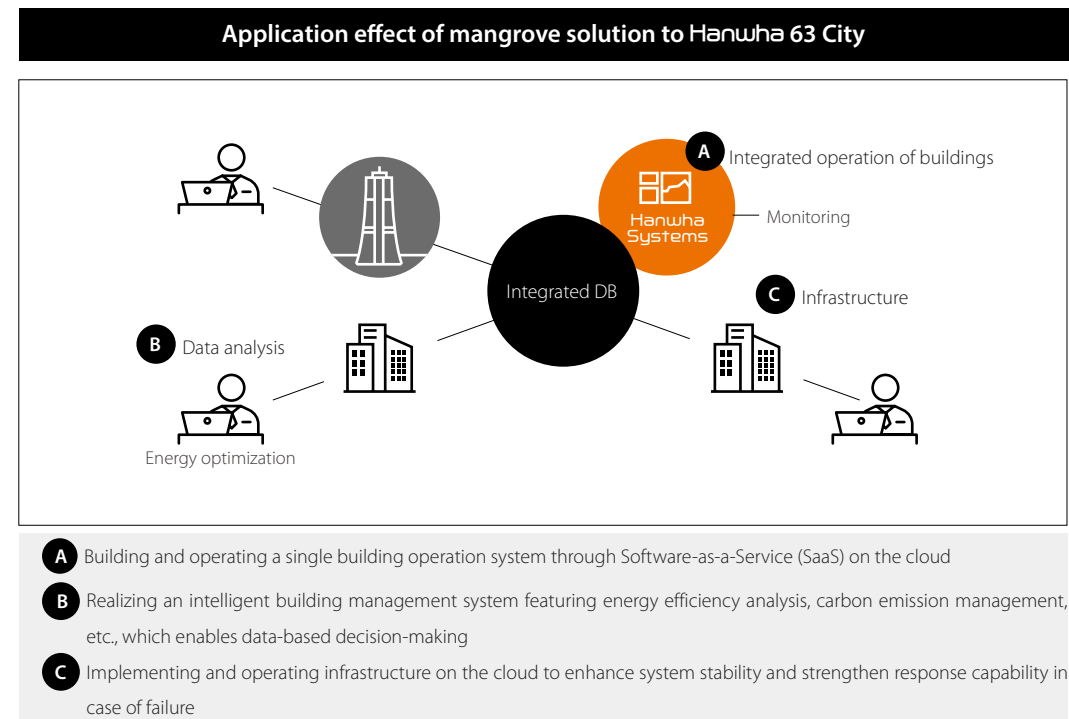
<p>Capabilities to develop and design ASIC chip</p>	<p>Flat-type active electronically scanned array antenna for fast beam steering</p>	<p>Modular/extensible structure that can be mounted on various platforms</p>
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Story 3

Application of carbon emission management system (Mangrove solution) for effective response to climate change

Hanwha Systems has applied the Mangrove solution to Hanwha 63 City. This solution is a carbon emission management system that predicts carbon emissions through IoT platform-based data collection and monitoring and suggests ways to optimize operations. Hanwha Systems gathers data from nationwide buildings managed by Hanwha 63 City into an integrated database (DB) for real-time monitoring and analyzes the collected data to use as a decision-making tool for energy optimization and carbon emission reduction.

In the future, Hanwha Systems will derive optimal operating conditions to increase energy efficiency by learning facility operation data and weather data based on the AI model, and then add a recommendation function that can minimize power consumption and carbon emissions. Through the continuous advancement of the Mangrove solution, we will expand our application areas to smart buildings, smart cities, and smart factories.

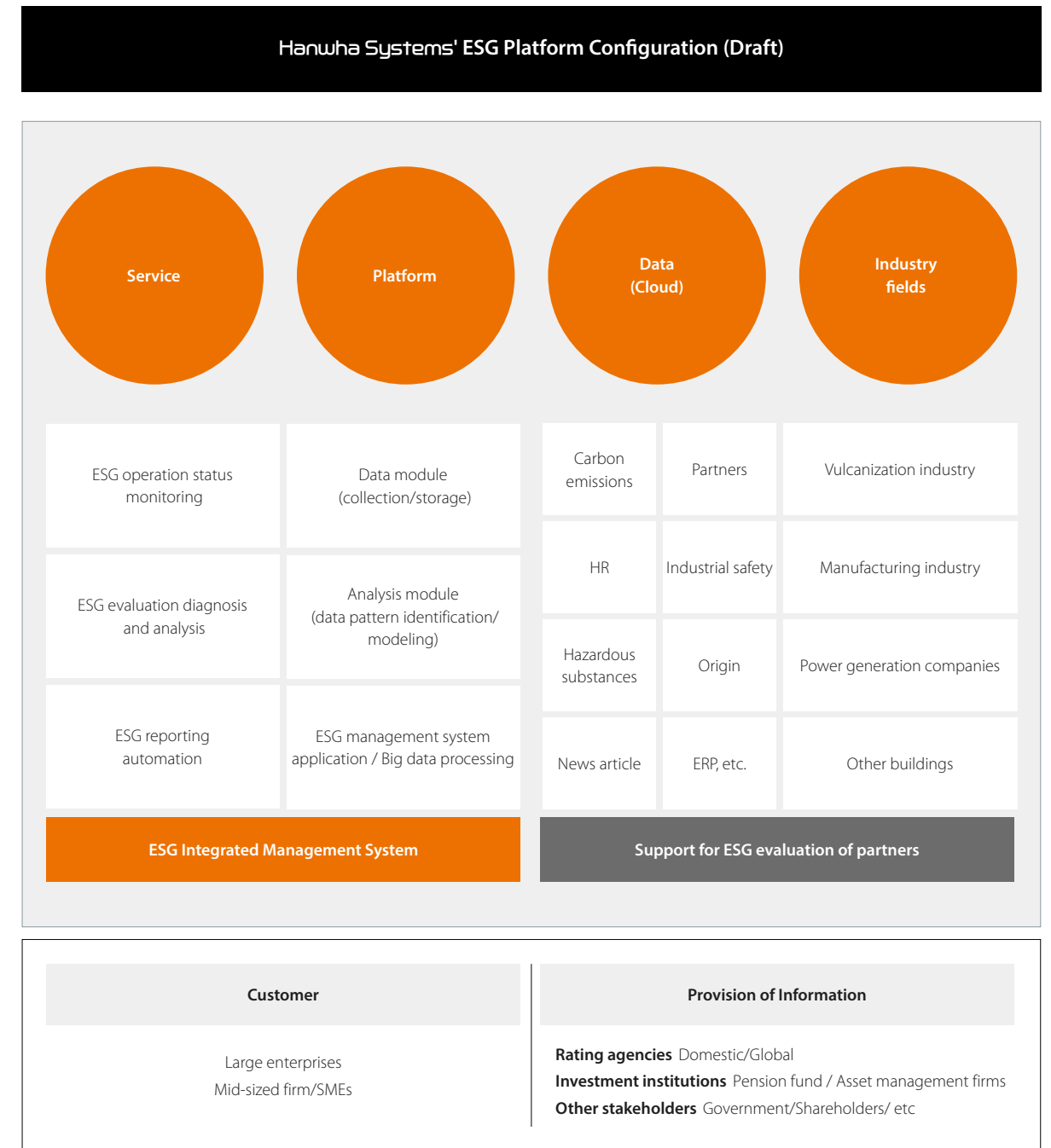


Story 4

Introduction of ESG platform based on AI module

For efficient ESG management, Hanwha Systems will preemptively build an ESG platform based on internal and external ESG data collection and analysis modules (AI) and expand it to all group affiliates. This platform is expected to provide data on ESG information management, ESG risk management, and ESG evaluation and disclosure support services. Furthermore, it will function as an ESG management collaboration tool for partners.

ESG Information Management	ESG Risk Management	Evaluation and Disclosure Support
<ul style="list-style-type: none"> Secure ESG evaluation indicator pool Collect/analyze internal and external data Standardize qualitative/quantitative data Build a management framework Configure dashboard by ESG indicator 	<ul style="list-style-type: none"> Feature ESG diagnosis/analysis function Diagnose ESG risk Generate alert according to the ESG KPI-based level Link ESG management strategies (task derivation) Support ESG evaluation for partners 	<ul style="list-style-type: none"> Implement ESG self-evaluation logic and publish materials for external disclosure Prepare and publish customized reports on ESG diagnosis results for stakeholders







Story 5

Intelligent thermal imaging camera "Quantum Red"



Hanwha Systems has improved the measurement reliability of thermal imaging cameras for detecting human body heat while also reducing costs through Quantum Red™, contributing to an effective response to the COVID-19 pandemic. Quantum Red is an all-in-one thermal imaging camera built to help contain COVID-19. Its installation and operation have satisfied the US FDA's recommendations. Hanwha Systems also conducted a win-win cooperation project for SMEs with technical difficulties, providing them with cutting-edge core modules to help them commercialize thermal imaging cameras and achieve sustainable growth.

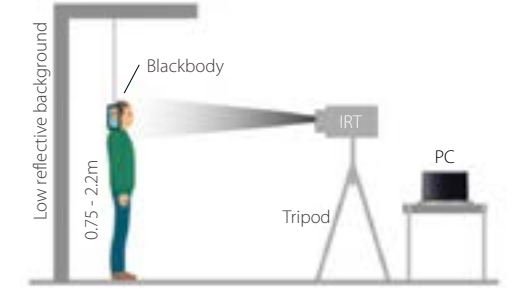
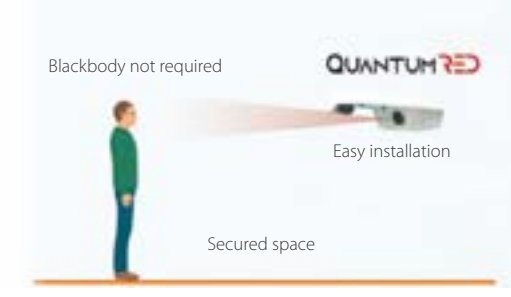
Quantum Red applications

	
Firefighting/Safety	Medical/Disinfection
	
Security/Surveillance	Self-Driving Vehicles /Night Vision

Hanwha Systems' Quantum Red supports a variety of video formats and enables high-quality image output, allowing a wide range of applications. Based on its excellent technology, this product is expected to be used in various fields such as fire safety, leisure, security, and day/night surveillance. Equipped with an infrared image signal processor, Quantum Red can clearly identify objects and can be used for night vision on vehicles. Its night vision sensor is a core auxiliary sensor to secure the safety of future self-driving vehicles. Hanwha Systems will continue to create a safer and more convenient society through Quantum Red.

Accuracy	Expandability	Efficiency
Precise temperature measurement and clear picture	Wide range of use because of its compatibility with various video formats	Ultracompact and ultralight, low power consumption, and easy installation

Implementation of US FDA recommendations through the application of Quantum Red

FDA Recommendations	Quantum Red
Installation of thermal imaging camera and blackbody for body temperature measurement	All-in-One thermal imaging camera: ultracompact with ultrasmall TRSM
	
High cost, space requirements, and difficult installation	Low cost, no spatial constraints, and easy and convenient installation

Story 6

Establishment of a pandemic response system based on digital contact-free solutions

With the coronavirus pandemic sweeping the globe, Hanwha Systems has introduced flexible working arrangements and provides various support to secure the health and work efficiency of its employees.

Smart work based on contact-free and digital technology

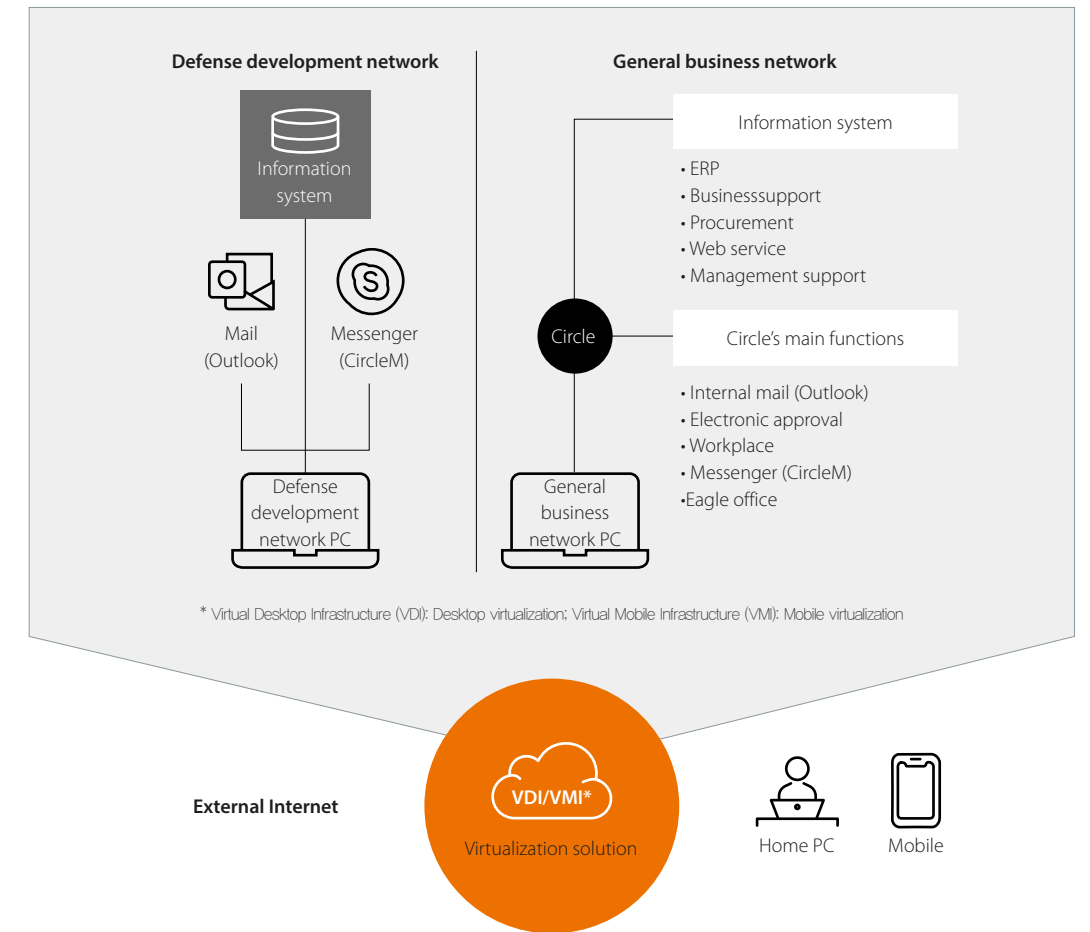
The COVID-19 pandemic has led to new ways of working such as working from home and contact-free meetings. Hanwha Systems is implementing "Smart Work" to respond to these changes, protect the health of its employees, and achieve work efficiency. "Smart Work" is a flexible work method in which people perform work using ICT devices without the temporal and spatial constraints.

Types	Choice of a workplace between a base office or at home	Workplace by theme	Flexible working arrangements
Description	<ul style="list-style-type: none"> Establishment of 5 base offices in the metropolitan area Choice of a workplace among the main office, base offices, or at home for at least three days a week 	<ul style="list-style-type: none"> Six-themed workspaces* at each base office Equipped with smart name tag and basic monitor 	<ul style="list-style-type: none"> Flexible working hours even for remote work
Effect	<ul style="list-style-type: none"> Avoidance of business and service disruptions Reduced commuting time, prevention of crowding, and reduced risk of infection during commuting 	<ul style="list-style-type: none"> Secured suitable spaces for business purposes Discovered creative ideas and improved work efficiency 	<ul style="list-style-type: none"> Secured working hours suitable for each individual Improved work concentration and work-life balance

* Six themed workspaces: Work Zone, Focus Zone, Agile Zone, Communication Zone, Support Zone, Open Lounge

Building infrastructure for working from home

Hanwha Systems has improved its IT infrastructure to facilitate remote, contact-free work and protect corporate information. We are working hard to fundamentally change the ways our employees work by reestablishing networks, building virtualized environments to suit each job category and task, reconfiguring groupware and PC, etc.



Activities for the prevention of employee infection

Hanwha Systems operates a company-wide control tower and response center to systematically respond to COVID-19 and quickly handle emergencies through the code of conduct for employees. Other measures include mandatory mask-wearing at the workplace, expansion of contact-free meetings, minimization of customer visits and business trips, and prohibition of group events and off-line training sessions. The company also compensates COVID-19 testing and self-quarantine costs after business trips, and encourages the use of family care leave as part of efforts to create a working atmosphere in which employees can work at ease.










UN SDGs



	SDGs goals	Targets	Hanwha Systems' major activities	
Environmental	12 To ensure sustainable consumption and production patterns	12.5 To significantly reduce waste through prevention, reduction, recycling, and reuse 12.8 To ensure that all people have adequate information and awareness of sustainable development, as well as lifestyles in harmony with nature by 2030	<ul style="list-style-type: none"> Operates a waste charge system and applies Extended Producer Responsibility Conducts training on waste separation and regular inspection Operates the global environmental school "Five Brothers of the Planet" 	
	15 To conserve terrestrial ecosystems	15.4 To protect ecosystems, including biodiversity, by 2030	<ul style="list-style-type: none"> Captures fishes that disturb the local ecosystem every year Conducts the clean-up of Nakdong River, Geumgokcheon Stream, and Gyeongancheon Stream every quarter 	
Social	2 To end hunger and promote food security, nutrition improvement, and sustainable agriculture	2.2 To ensure access to safe, nutritious, and sufficient food for the poor and the vulnerable (including infants) all year round	<ul style="list-style-type: none"> Baked "Bread of Love" with citizens 	
	3 To ensure a healthy life and promote well-being for people of all ages	3.3 To end infectious diseases such as AIDS, tuberculosis, malaria, and other neglected tropical diseases (NTD), and prevent hepatitis, water-borne diseases, and other contagious diseases by 2030 3.4 To reduce premature mortality from noncommunicable diseases by one-third by 2030 through prevention and treatment and promote mental health and well-being 3.8 To build health service systems that ensure protection from financial risk, provide access to quality health services, and supply affordable quality essential medicines and vaccines for all	<ul style="list-style-type: none"> Supported COVID-19 screening center and negative pressure isolation ward at the Armed Forces Capital Hospital Provided COVID-19 emergency funds to Gumi City Established COVID-19 response system with contact-free and digital technology Conducted mental health programs and healing gardening activities to promote communication between employees and to relieve stress Supported employees' voluntary blood donation activities Provided basic firefighting facilities to the local community 	
	4 To ensure inclusive and equitable quality education and promote lifelong learning opportunities for all	4.4 To significantly increase the number of youths and adults with the technical or vocational skills necessary for employment, decent work, and entrepreneurship by 2030 4.5 To bridge the gender gap in educational opportunity and ensure equal access to all levels of education and vocational training for the vulnerable, including people with disabilities, indigenous people, and children in vulnerable settings 4.7 To ensure that all learners can acquire the knowledge and skills necessary for promoting sustainable development through education	<ul style="list-style-type: none"> Mentored military servicemen on career path Supported the establishment of a library and donated books for military servicemen Operated "School of Hope" to bridge the educational gap for children from the underprivileged class Offered IT training sessions for children from low-income families (offering Dream) Supported arts and physical training sessions for children from single-parent families and families in crisis through the Playmate mentor-mentee program Conducts regular ethical management training sessions consisting of prevention of sexual harassment and prohibition of discrimination against the disabled 	
	5 To achieve gender equality and empower all women and girls	5.4 To provide free care, and recognize and value housework	<ul style="list-style-type: none"> Provides maternity leave and parental leave Provides paternity leave and special leave for long-serving employees 	
	8 To promote consistent, inclusive, and sustainable economic growth, safe and productive employment, and decent job creation for all	8.3 To promote policies that support production activities, decent job creation, entrepreneurship, creativity, and innovation, and to help the formulation and growth of micro-enterprises and SMEs through access to financial services	<ul style="list-style-type: none"> Expanded the win-win fund and provided partners with training sessions for capacity-building Operates consultation channels for partners (e.g., Partners' Day, exchange meetings, meetings, etc.) on a regular basis 	
	9 To build resilient infrastructure, promote inclusive and sustainable industrialization, and foster innovation	9.C To improve accessibility to information and communication technologies, and to provide universal and affordable access to the Internet for least-developed countries	<ul style="list-style-type: none"> Currently developing a multilayer communications network and low Earth orbit (LEO) satellite communications 	
	10 To reduce inequality within and between countries	10.2 To strengthen and promote social, economic, and political inclusion for all	<ul style="list-style-type: none"> Increased the employment of the socially vulnerable (e.g., people with disabilities, veterans, etc.) Guarantees activities by the Workers' Committee 	
	16 To promote peaceful and inclusive societies for sustainable development at all levels; to provide access to justice for all; and to build effective, accountable, and inclusive institutions	16.6 To develop effective, accountable, and transparent institutions at all levels	<ul style="list-style-type: none"> Complies with the Four Guidelines on the Fair Trade and uses of the Standard Subcontracting Contract Signed an ethical management pledge and nurtures CP management experts 	
	Governance	17 To promote global partnerships for sustainable development	17.17 To encourage and facilitate effective public-public, public-private, and civil-civil partnerships	<ul style="list-style-type: none"> Delivered school supplies to children from the low-income class around the world in cooperation with the Korea International Cooperation Agency (KOICA)

Communication with Stakeholders

Hanwha Systems defines customers, employees, the local community, shareholders and investors, business partners, and the government as its major stakeholders. To actively reflect the valuable opinions of stakeholders into all management activities, we operate using various communication channels suitable for each characteristic and build a strong cooperative relationship through continuous communication.

	Customer	Employees	Local community	Shareholders/investors	Partner	Government
Main concern	Hanwha Systems continuously communicates with its customers to provide top quality products as well as the best services and solutions; to enhance customer satisfaction through follow-ups; and to protect valuable customer information.	Hanwha Systems operates communication channels to foster a culture of respect for human rights based on diversity, inclusion, and equal opportunity, and to support the continuous growth of its employees.	Hanwha Systems contributes to the revitalization of the local economy, as well as environmental protection. The company actively engages in social contribution activities for the underprivileged, including military servicemen and veterans.	Hanwha Systems enhances the value of shareholders and investors by broadly sharing economic performance, ESG issues, risk management, and management information.	Hanwha Systems closely communicates with its business partners to create a win-win ecosystem, and to grow together based on fair trade.	Hanwha Systems complies with fair trade laws and regulations, and creates economic value with the principles of transparent tax payment and corporate information disclosure.
Major communication channels	<ul style="list-style-type: none"> • Customer center and call center • Sustainability report • Service satisfaction survey • Hanwha Systems' newsletter • Hanwha Systems' website 	<ul style="list-style-type: none"> • Regular labor-management meetings • Business status briefing • Mentoring for new hires, onboarding program • Workers' Committee (Labor-Management Council/Occupational Safety and Health Committee) • "Technical Blog" on the internal bulletin board • IT Academy • Employee learning organization in the ICT sector • Leadership letter 	<ul style="list-style-type: none"> • Local community growth supporting channel • Regular meetings with Korean Red Cross • Mentoring for military servicemen on career path • "School of Hope" and Playmate mentor-mentee 	<ul style="list-style-type: none"> • Business reports • Governance reports • Sustainability reports • General meeting of shareholders • Regular/occasional management disclosure • Investment briefings • IR meetings • Hanwha Systems' website 	<ul style="list-style-type: none"> • Win-win cooperation academy • Meetings for purchasing/quality/technology • Partners' Day • General meeting of Partners' Council (twice a year) • Meeting for defense costs (twice a year) • Win-win VOC 	<ul style="list-style-type: none"> • Participation in conferences and associations • Policy meetings • Electronic disclosure • Participation in government joint projects and agreements
Images	 		 		 	

Materiality Assessment

Hanwha Systems conducted a materiality assessment to identify issues related to sustainability management across all business-related activities and to meet stakeholder expectations. The company first formed an issue pool through domestic and foreign media, industry benchmarking, global sustainability management standards, and initiative analysis. It then derived major issues with stakeholders' interests and assessed activities that largely impact the business. By publishing this report, Hanwha Systems discloses important issues, related activities, performance, and future plans in 2020 to our stakeholders.

Materiality Assessment Process

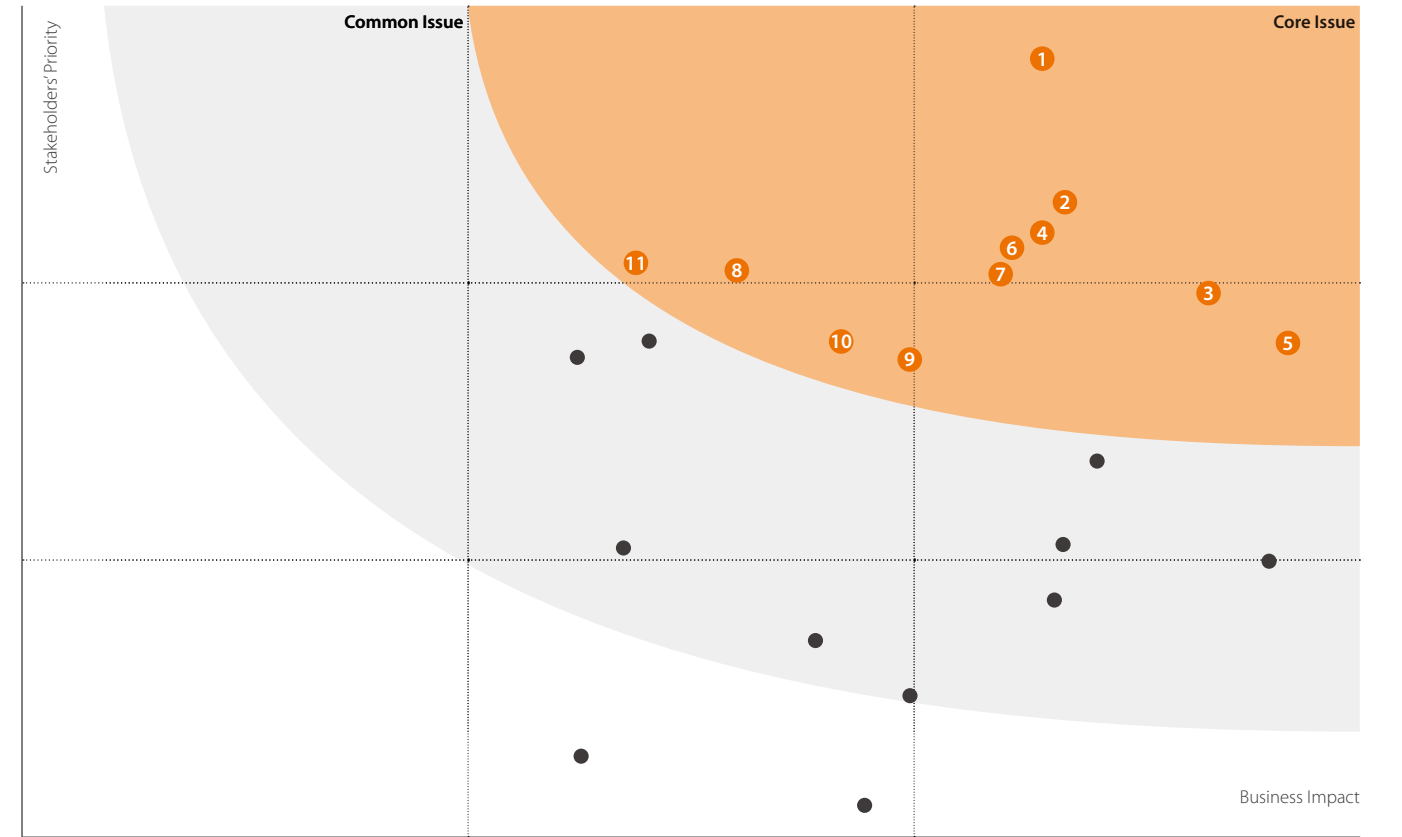
Step 1 Issue Pool formation	To create an issue pool, Hanwha Systems summarized the key points required by sustainability management trends and international standards. A total of 33 sustainability management issues were derived from the fields of economy, environment, society, and governance surrounding Hanwha Systems.
Step 2 External environment analysis	<ul style="list-style-type: none"> International standard analysis: The reporting requirements of relevant international standards such as ISO 26000, SASB, TCFD, UN SDGs, WEF SCM, and the GRI Standards were thoroughly reviewed. Media analysis: From January 2020 to June 2021, 716 articles on Hanwha Systems' sustainability management were classified into positive, negative, or neutral issues in the fields of economy, environment, society and governance. Major issues were listed. Industry report analysis: Topics critically managed in the same industry in terms of sustainability were analyzed through competitors' sustainability reports.
Step 3 Internal environment analysis	<ul style="list-style-type: none"> Collecting opinions by department: Opinions on the sustainability management topics were collected from people in charge of key departments. Employee perception survey: The impact of related topics on business was evaluated through an employee perception survey on Hanwha Systems' sustainability management.
Step 4 Priority and material issue selection	The materiality assessment matrix was composed according to the stakeholders' priority and business impact; 11 material issues that should be included in the reports were selected.

※ The materiality assessment was completed in August 2021

Materiality Assessment Results

Material Issues	Detailed Ranking			Key Affected Stakeholders					
	Overall ranking	Stakeholders' Priority	Business impact	Customer	Shareholders/ investors	Local community	Employees	Partners	Government agencies
1 Stable business performance	1	1	9		●		●	●	
2 Technological innovation and R&D enhancement	2	2	5	●	●				●
3 New businesses/growth	3	8	3		●		●	●	
4 Sustainability management strategy system	4	3	8		●		●	●	
5 Unfair trade and corruption prevention	5	10	1	●	●	●	●	●	●
6 Transparency in the operation and composition of the BOD	6	4	10		●		●		
7 Employee competency development	7	5	11	●	●		●		
8 Waste recycling	8	7	17			●			●
9 Energy efficient operations	9	12	13		●				●
10 Social contribution activities	10	9	15			●			●
11 Response to climate change	11	6	19		●	●			●

Materiality Assessment Matrix



2020 Key Activities and Achievements	2021 Goals	Index	GRI Standards
Enhanced corporate competitiveness through the acquisition of shares in competitive companies, etc.	To internalize sustainability management	10-11	203 Indirect economic impacts
KRW 280.3 billion of R&D investment in 2020 (equivalent to 17.18% of sales)	To operate start-up discovery and development program	14-15, 21	201 Economic performance
Declared vision at the launching ceremony of UAM Team Korea, and acquired Phasor Solutions Ltd.	To keep promoting UAM business	22-23	201 Economic performance
Established the ESG Committee and management system, and newly established the ESG Team (2021)	To develop ESG integrated management system	18-19	102 Governance
Achieved zero cases of violation of fair trade in 2020 and newly established the Compliance Team (2020)	To expand internal compliance and ethics inspection	87-88	419 Socioeconomic Compliance
Introduced electronic voting system at the ordinary general meeting of shareholders in 2020	To increase the diversity of the BOD	80-83	102 Governance
Selected as the "company with the best jobs in Korea" by the Ministry of Employment and Labor for two consecutive years (2020-2021)	To improve IT training for employees	61-62	404 Training and education
Decreased water consumption by 8.1% (YOY) and achieved a 96.1% waste recycling rate	To expand environmental improvement activities	46-47	306 Waste
Adopted carbon emission management system, and introduced video conference and video interview	To build IoT monitoring system	48-51	302 Energy
Donated about KRW 500 million in 2020, and 1,245 employees participated in social contribution activities	To expand contact-free social contribution activities	66-70	413 Local communities
Reduced Scope 1+2 emissions by 510tCO2eq (YOY)	To establish a company-wide environmental safety organization	48-53	305 Emissions

Environmental

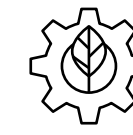
Environmental Safety Management | Environmental Impact Management
Climate Change Response | Safety and Health Management

Along with the recent COVID-19 pandemic, corporate social responsibility for climate change has emerged as a hot topic. Hanwha Systems actively responds to climate change by establishing and operating a systematic environmental safety management system and managing each environmental element. We strive to become a global leader in environmental safety, with the safety and health preservation of the employees as our top priority.

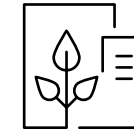
Environmental Safety Management Key Performance



Accident-free management



Reinforcement of environmental safety law management



Establishment of Green Company and business sites with zero environmental accidents

Environmental Impact Management Key Performance



Zero environmental accidents



Activities for nature conservation (e.g., World Water Day, Earth Day, elimination of alien fish species, etc.)



Decreased water consumption by **8.1%** (YOY)



Achieved a **96.1%** waste recycling rate

Climate Change Response Key Performance



Achieved the target of reducing greenhouse gas emissions by **5%** compared to BAU



Expanded eco-friendly businesses



Introduced video conferencing and video interview



Replaced with high-efficiency LED

Safety and Health Management Key Performance



Maintained the record of an accident-free workplace



Maintained the Occupational Health and Safety Management System (ISO 45001/KOSHAMS) certification



Introduced a smart work system based on contact-free and digital technology



Regular safety and health education for workers/supervisors/new hires

Environmental Safety Management

Hanwha Systems has laid the foundation for environmental safety management optimized for each business site and has built an autonomous and systematic environment safety management system. In addition, it actively manages greenhouse gas emissions, energy consumption, and waste emissions, fulfilling its social responsibilities as an eco-friendly company.

Key Performance



Next Step

In 2021, Hanwha Systems plans to build an IoT monitoring system to enhance the management of environmental safety, along with external factors such as temperature and weather. It will also conduct a workplace energy saving campaign to motivate employees to voluntarily participate in environmental management and create a safer workplace through the establishment of a mobile fire notification system.

Environmental Safety Management System Environmental Safety Policy Direction

Hanwha Systems has established a system and a plan for environmental safety operation focusing on the group's core values. To effectively implement this, it also operates the Environmental Safety Committee on a quarterly basis. The committee reviews and confirms major issues related to accident prevention and environmental safety and performs related activities. In addition, the BOD determines an environmental safety management plan, which is annually established by the CEO and relevant executives.

Hanwha Group's ECO-YHES Policy and Guidelines

To achieve continuous corporate development and social responsibility in accordance with the group's ECO-YHES policy and guidelines, Hanwha Systems recognizes the environment, safety, and health as intrinsic values of corporate management and gives its best efforts as follows:

ECO-YHES Logo

ECO is the succession and development of Hanwha's environmental conservation movement ECO-2000 that began in 1991. HES stands for Health, Environment, and Safety. Together with the positive word, YES, ECO-YHES is expressed in the form of forest, a symbol of the environment. This logo represents the unique value of Hanwha Group's corporate management to fulfill its social responsibility and its commitment to continuous development.

Hanwha Group's ECO-YHES Policy and Guidelines

- Hanwha Systems does its best to provide safe and environmental-friendly products and services, as well as meet the expectations and needs of the customers with its products and services.
- Hanwha Systems secures safety and health at all stages from product development, manufacturing, sales, and service provision to prevent casualties and property damage to the local community and workers.
- Hanwha Systems implements pollution prevention and improvement activities at all stages of corporate management by establishing and operating an environmental management system to preserve the environment and foster a pleasant working environment.



Risk Management Process

Hanwha Systems systematically manages potential environmental risks and operates a manual of activities to prevent such accidents. The environmental safety management system is operated according to the Plan-Do-Check-Action (PDCA) cycle, and a third-party verification (i.e., certification system) is carried out to confirm the suitability of its operation.

Environmental Safety Vision and Strategy

Hanwha Systems has established three major strategies based on its environmental safety mission. By implementing these strategies, we pursue sustainable development and perform our environmental and social responsibilities as a company.

Risk Management Process



Environmental Safety Policy

1. Compliance with environmental safety laws

Hanwha Systems complies with domestic and foreign laws and regulations related to safety, health, environment, and green management, as well as with the standards of the group, the company, and the stakeholders. Furthermore, it establishes and implements stricter internal standards.

2. Development of eco-friendly products

With the goal of customer satisfaction and sustainable development, Hanwha Systems puts its best efforts in eco-friendly R&D activities throughout the entire R&D process.

3. Creation of a safe and healthy working environment

By creating a safe and healthy working environment, Hanwha Systems improves the health and life quality of its employees and prevents casualties and property damage in advance.

4. Pollution prevention and efficient energy use

Hanwha Systems actively engages in pollution prevention and environmental conservation activities to fulfill its social responsibilities to the local community while efficiently using and reducing energy throughout its R&D activities.

Environmental Safety Activity and Performance

Classification	Key Achievements in 2020	Major Plans for 2021
Safety and Health	<ul style="list-style-type: none"> Checked electrical safety at the business sites COVID-19 response and control 	<ul style="list-style-type: none"> To build a mobile fire notification system To establish an IoT monitoring system (temperature, weather, etc.)
Environment	<ul style="list-style-type: none"> Maintained air pollution prevention facilities Evaluated the materials and the structure of packaging 	<ul style="list-style-type: none"> To maintain air pollution prevention facilities To conduct a workplace energy saving campaign

Reinforcement of accident prevention and emergency response capability

To strengthen environmental safety capabilities, Hanwha Systems regularly provides environmental, safety and health, and firefighting training sessions for all employees and delivers specialized education to each person in charge. Furthermore, it conducts emergency drills to systematically and efficiently respond to various emergency situations, such as fire and natural disasters.

Increasing employees' safety awareness

Every year, Hanwha Systems quantitatively evaluates the safety awareness level of its employees to identify and improve weaknesses. In addition, it builds a high standard of safety culture by managing awareness levels and environmental safety behaviors and actively identifies and addresses leadership issues regarding safety. To this end, the company always strives to resolve problems in internal and external communication and in required training sessions and improves what is needed.

Prevention of industrial accidents

To understand the status of safety management operation in business sites and foster an accident-free workplace, Hanwha Systems implements various practices such as strengthening safety inspections, expanding hands-on safety training sessions, observing safety rules before and after work, and complying with important safety rules. In particular, the Gumi site has been designated as an accident-free workplace since 2012, and has achieved six times more than the average number of working days without accidents.

Environmental safety certifications

Hanwha Systems develops and implements a management plan in consideration of the environment, safety and health, and energy in overall management. It has acquired and maintains international certifications such as the Environmental Management System (ISO 14001), the Occupational Health and Safety Management System (ISO 45001), and the Energy Management System (ISO 50001). In addition, the company verifies whether the relevant management system is being operated properly through annual external audits. In 2020, Hanwha Systems was designated as a green company in recognition of its commitment to green management and its achievements in the Gumi site.



Environmental management system (ISO 14001) Energy management system (ISO 50001) Certificate for designation as a green company (2020)



*BAU(Business As Usual) **GHG(Greenhouse Gas)

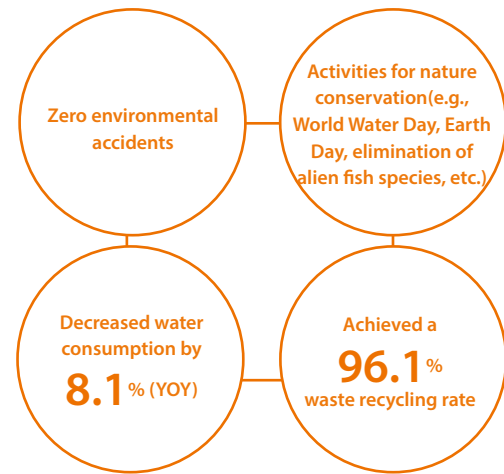


1 Public-private joint fire drills 2 Risk Assessment TF Team launching ceremony 3 Commemorating the achievement of four times without accidents (nearly achieving six times)

Environmental Impact Management

Based on its understanding of the growing concerns on corporate social responsibility for the environment and in response to climate change, Hanwha Systems conducts activities to monitor and improve various environmental factors to meet the expectations of its stakeholders. It also carries out various employee participation activities to preserve the local ecosystem and the environment.

Key Performance



Next Step

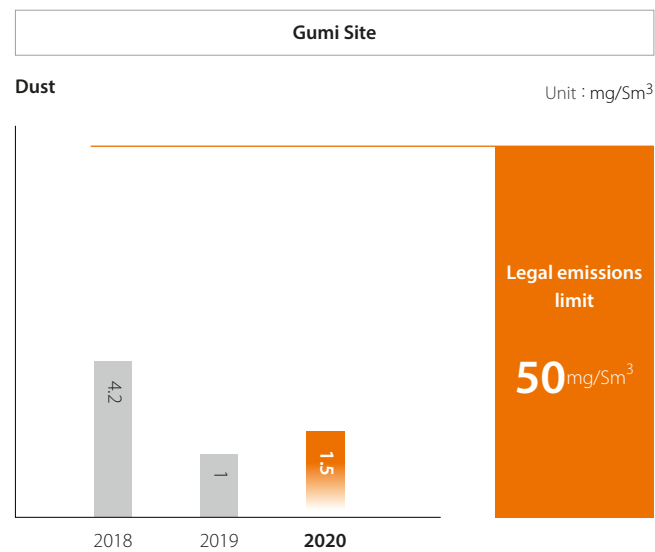
In 2021, Hanwha Systems plans to refine its activities to systematize the management of the environmental sector. Furthermore, it will identify environmental risks and opportunities that the company faces, such as waste, air, and water, and will draw up an improvement plan.

Strengthening Management for Environmental Impact

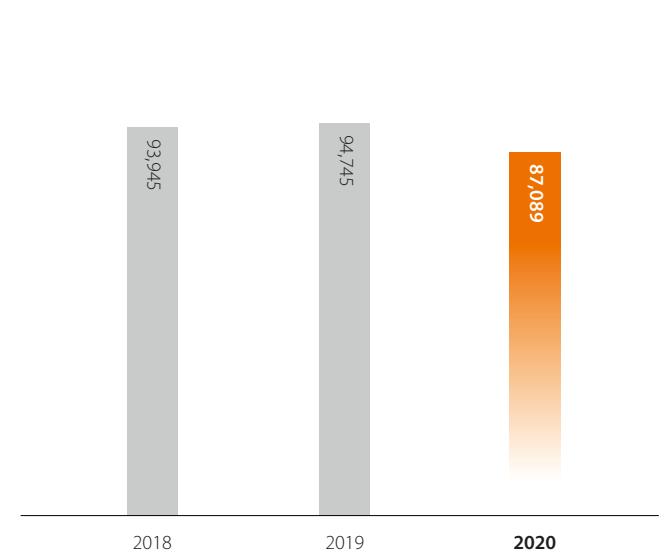
Air Management

Hanwha Systems provides regular training for field workers to enhance their understanding of air pollutant management and develop their practical skills. It effectively prevents air pollution through its internal standards that are stricter than the legal emissions limit prescribed by the Ministry of Environment and through continuous monitoring and management.

Comparison of air pollutant emissions and legal limit



Water consumption (including Gumi, Yongin, and IDC sites)



Waste Management

Hanwha Systems' Environmental Safety Team continuously reports on performance in accordance with the Waste Charge System, the Waste Disposal Charge System, and the Extended Producer Responsibility (EPR) and minimizes the risk of legal violation at the sites by disseminating waste-related laws in plain terms for easy understanding. It also endeavors to manage waste by clearly stipulating disposal methods according to the type of waste at each business site and by providing training on waste separation as well as regular inspection. To reduce waste generated in the course of production and minimize environmental impact, it has improved the treatment process in consideration of the properties and components of waste.

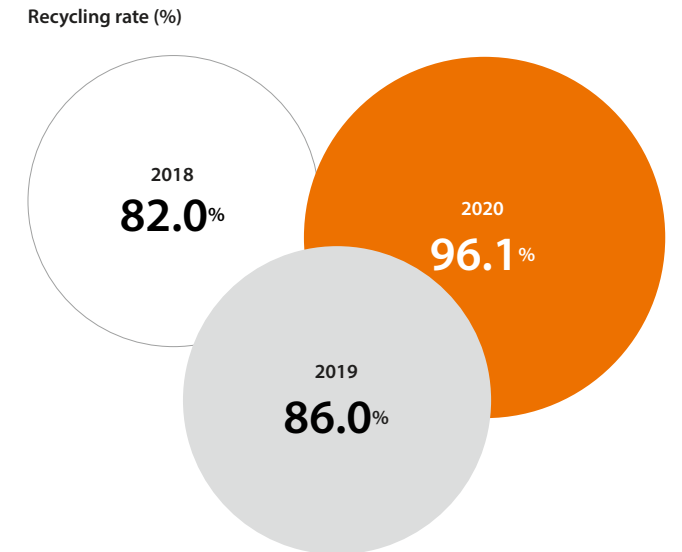
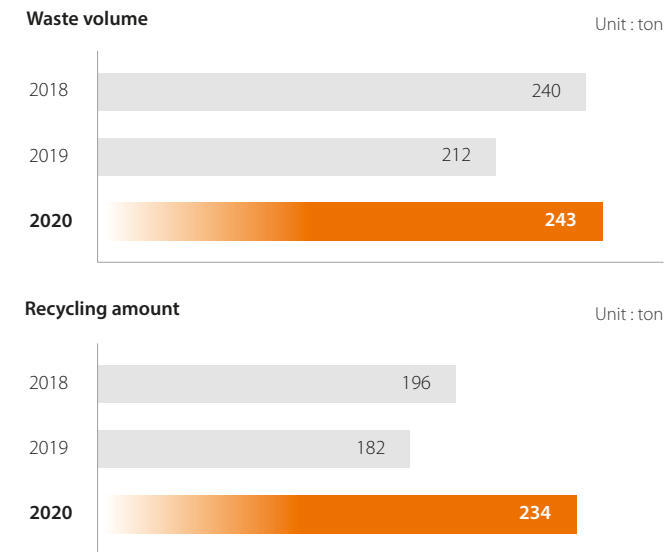
Meanwhile, Hanwha Systems has reduced production wastes by classifying them into waste to be disposed, to be recycled, or to be reused. It quantifies raw and subsidiary materials and energy that are used in the entire life cycle of products, as well as their discharges, using the "Tool for Type III Labelling and LCA" software from the Korea Environmental Industry & Technology Institute, and evaluates their potential impact on the environment to develop solutions.

Water Management

Hanwha Systems continuously monitors and manages water consumption to prevent excessive water use. It has reduced water consumption through a water-saving campaign, as well as eco-friendly restrooms with water-saving toilets and water-saving electronically sensitive faucets. As a result, water consumption in 2020 was reduced by 8.1% as compared to the previous year.

Classification	Unit	2018	2019	2020
Water consumption (Municipal water)	ton	93,945	94,745	87,089

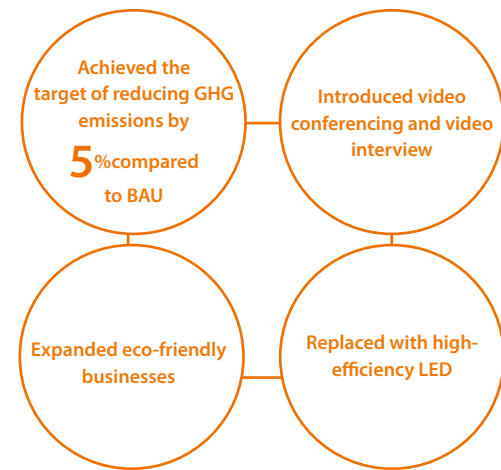
Waste discharge and recycling rates (including Gumi, Yongin, and IDC sites)



Climate Change Response

Hanwha Systems implements green management in recognition of global climate change and in accordance with the government's greenhouse gas reduction policy. By setting the three strategic directions of green management and the core direction of "ZERO Emission," it continues to lead activities to reduce greenhouse gas emissions and build and operate eco-friendly business sites.

Key Performance



Next Step

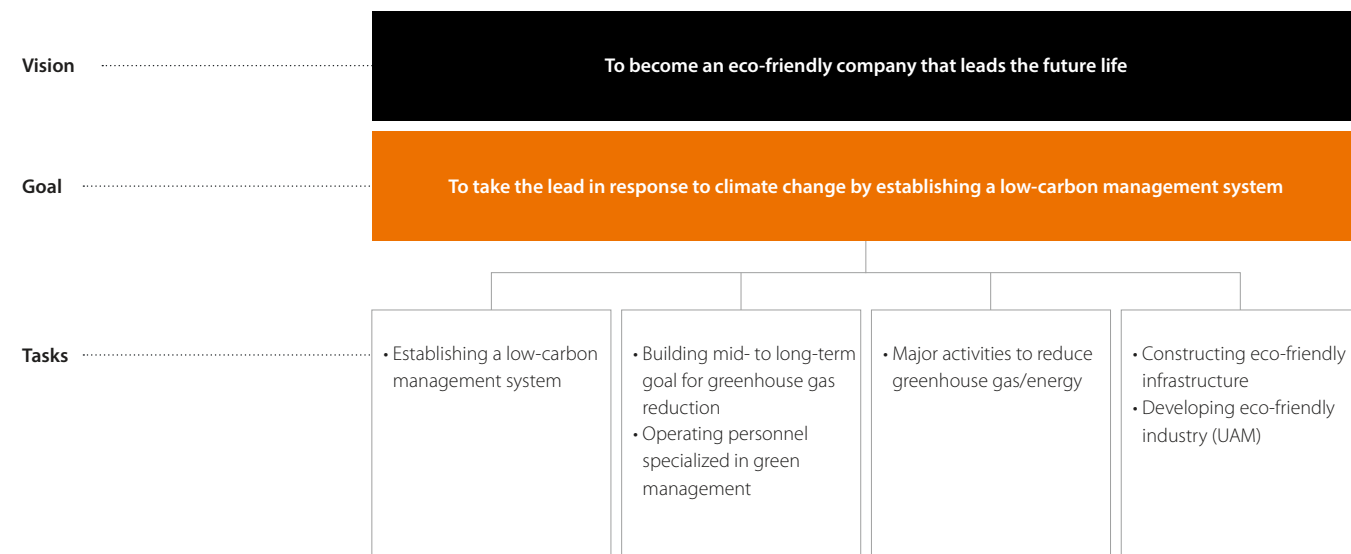
Regarding the relocation of the Gumi site, Hanwha Systems considers designing the new business site as a state-of-the-art eco-friendly building. It will introduce new and renewable energy facilities, energy storage systems (ESS), water reuse facilities, and power efficiency facilities at the new business site. In addition, it plans to organize a company-wide environmental safety organization to manage each business site in an integrated manner and to effectively practice green management.

Climate change response strategy

Setting strategy and reduction goal

Hanwha Systems has set "Zero Emission, Zero Waste, Zero Impact" as its main direction under the goal of "becoming an eco-friendly company that leads the future life." It will set a greenhouse gas emissions target every year and reduce emissions by 5% compared to the BAU.

Long-term vision and goals for climate change



Greenhouse gas management

Hanwha Systems has built a greenhouse gas DB system to continuously monitor greenhouse gas and energy consumption generated at the business sites. It draws up an energy rationalization plan every year as part of efforts to reduce greenhouse gas emissions. Furthermore, it identifies various climate/environment-related issues and establishes a response plan. Based on them, it performs improvement activities. In particular, for the Gumi site, which obtained the Energy Management System (ISO 50001) certificate, Hanwha Systems has conducted an energy impact assessment to select and reduce the energy used in the site. In addition, it continuously checks energy-related laws every year to ensure that people in charge are aware of the changes.

Climate change risk management

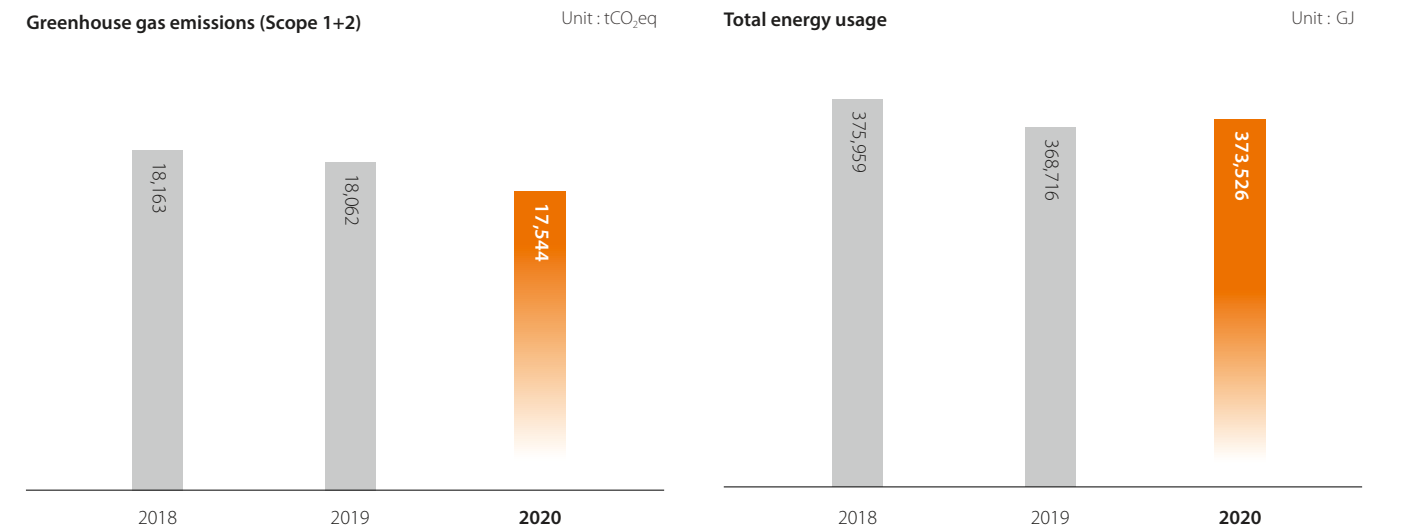
Hanwha Systems figures out climate change-related risks and opportunities that may affect each business site. It checks and inspects the preparedness and response guidelines for physical risks such as typhoons and torrential rains at each business site and other sites in which its employees have been dispatched. In addition, it prohibits or restricts the import and use of restricted substances into business sites in accordance with international agreements (12 agreements including the Vienna Convention, the Basel Convention, and the United Nations Framework Convention on Climate Change) through the evaluation of chemical substances in advance.

Climate change response performance

Greenhouse gas emissions and energy consumption reduction

Hanwha Systems has carried on improvement activities to reduce energy use and greenhouse gas emissions. The company reduced greenhouse gas emissions by approximately 3% in 2020 compared to 2019. In the future, it will more aggressively address climate change, focusing on the establishment of a new eco-friendly business site for the relocation of the Gumi site, and the introduction of new and renewable energy facilities, energy storage systems (ESS), water reuse facilities, and power efficiency facilities at the site.

Greenhouse gas emissions and energy consumption



※ Including Gumi, Yongin, IDC business sites

Climate change response activities

Launch of eco-friendly urban air mobility (UAM) business

By participating in the nurturing of the carbon-based industrial ecosystem, Hanwha Systems is working hard to foster an eco-friendly urban air mobility (UAM) industrial environment.

Application of carbon emission management system (Mangrove solution)

Hanwha System supports customers' efficient carbon emissions monitoring and reduction activities using its self-developed IoT platform-based carbon emissions management system.

Introducing video conferencing and video interview

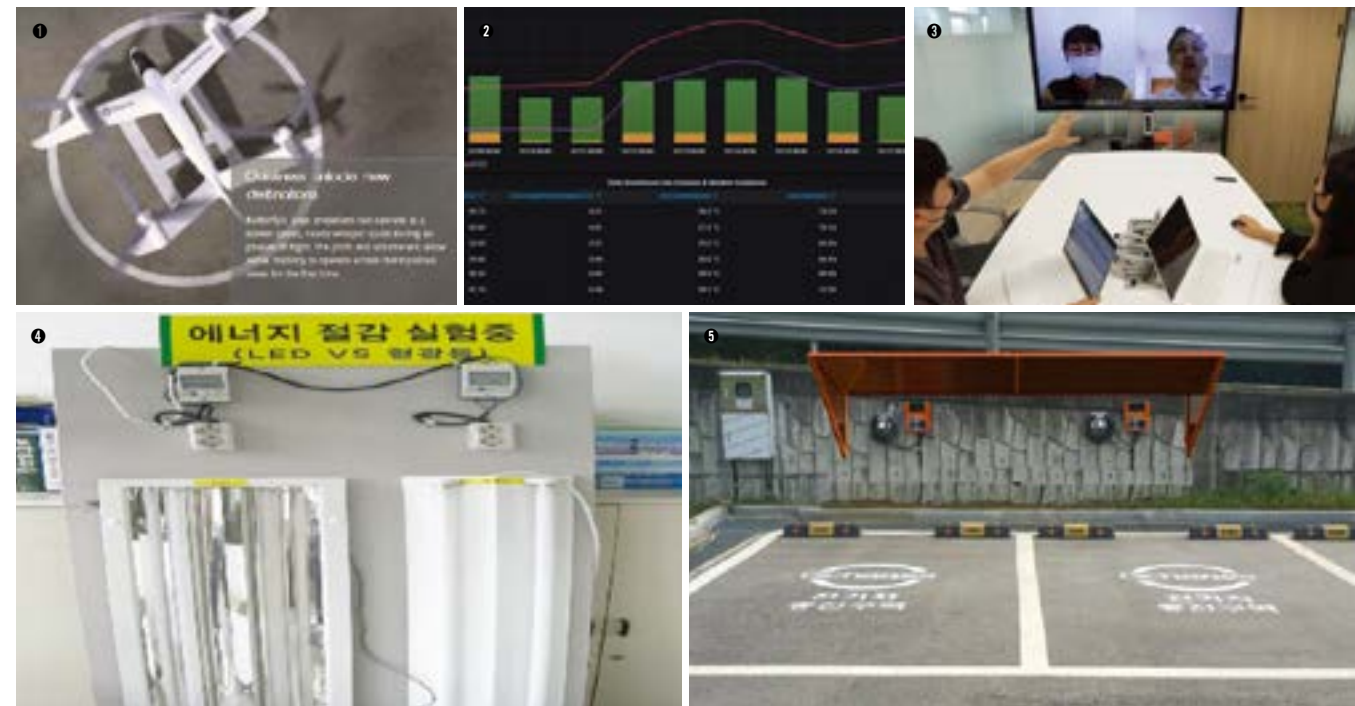
Hanwha Systems installed video conferencing equipment in 56 meeting rooms throughout the company, allowing employees to participate in meetings from their desks using the internal messenger. In addition, it actively adopts video interviews for hiring processes, reducing unnecessary travel and energy use.

High-efficiency LED replacement

Since 2015, about 9,650 lights in the Gumi site and 560 lights in the Yongin site have been replaced with LEDs. In addition, the company realized energy-saving by removing 1,251 fluorescent lamps based on the precise analysis of the illuminance of the offices and sites.

Installation of electric vehicle charging stations

Hanwha Systems' Yongin R&D Center has actively engaged in the electric vehicle charger establishment project led by the Ministry of Environment. It has installed and operated two electric vehicle charging facilities since 2017. Through this, the center provides convenience to its employees in using electric vehicles and has reduced air pollutants and greenhouse gas emissions that are generated by internal combustion engine vehicles.



① Future urban air transport ② Carbon emissions dashboard ③ Expanding video conferences ④ Experiments to save energy ⑤ Electric vehicle charging station

Environment and ecosystem preservation activities

Ecosystem preservation

To protect native fish and maintain a healthy aquatic ecosystem, Hanwha Systems captures fish that disturb the local ecosystem every year. This activity has been carried out since 2013 and is contributing to the preservation of the local ecosystem. Moreover, an event to eradicate sicyos angulatus, a representative ecological disturbance plant on the bank of the Nakdong River, was additionally held this year.

Environmental cleanup campaign by business site

Hanwha Systems' employees at each business site voluntarily engage in nature cleanup activities. Through this, the company is fulfilling its responsibilities as a member of the local community. In particular, the Gumi site conducted a quarterly cleanup activity along the Nakdong River. The site held events such as "throwing an EM earthen ball" to commemorate World Water Day (March 22) and "turn off lights" on Earth Day (April 22).

Operating the global environmental school "Five brothers of the Planet"

The company is operating an "Environmental School" to increase



① Elimination of alien fish species ② Cleanup around business sites ③ Operation of environmental school

the students' awareness of various issues on the global environment and help them equip with qualifications and etiquette as global citizens through various hands-on activities and practices. Every year, it provides education to more than 100 students to enhance their understanding, sympathy, experiences, practices, and promises on soil, sun, climate environment, water quality environment, and ecosystem, thus increasing their awareness of the importance of the environment.

Hanwha Data Center (IDC)

Hanwha Systems provides data center services that guarantee network stability to diverse customers. It procures some electricity from renewable energy using solar power generation.

- Location: 101 Digital Valley, Suji-gu, Yongin-si, Gyeonggi-do
- Opening: 2011
- Total area: 14,897 m² (Server room: 3,517 m²)
- Size: Six-story building with two floors below the ground
- Total output of transformer: 12,000 KVA

Special Section
TCFD information disclosure

1 Governance: Climate change risk management system

In 2021, Hanwha Systems established the ESG Committee, including one inside director and two independent directors, to deliberate on important issues related to climate change and the environment. The committee reviews all matters related to climate change response, such as policy goals and activities to establish a low-carbon management system, as well as investments to build eco-friendly infrastructure.

An ESG consultative body has been established under the ESG Committee, and an organization dedicated to the environment is operated by the Environment Safety Team at the Gumi/Yongin business sites and the IDC. Under the company-wide ESG management direction, Hanwha Systems seeks to discover climate change response issues and specific tasks for each sector/business site through the above organizations.



2 Business strategy: Response to climate change risks

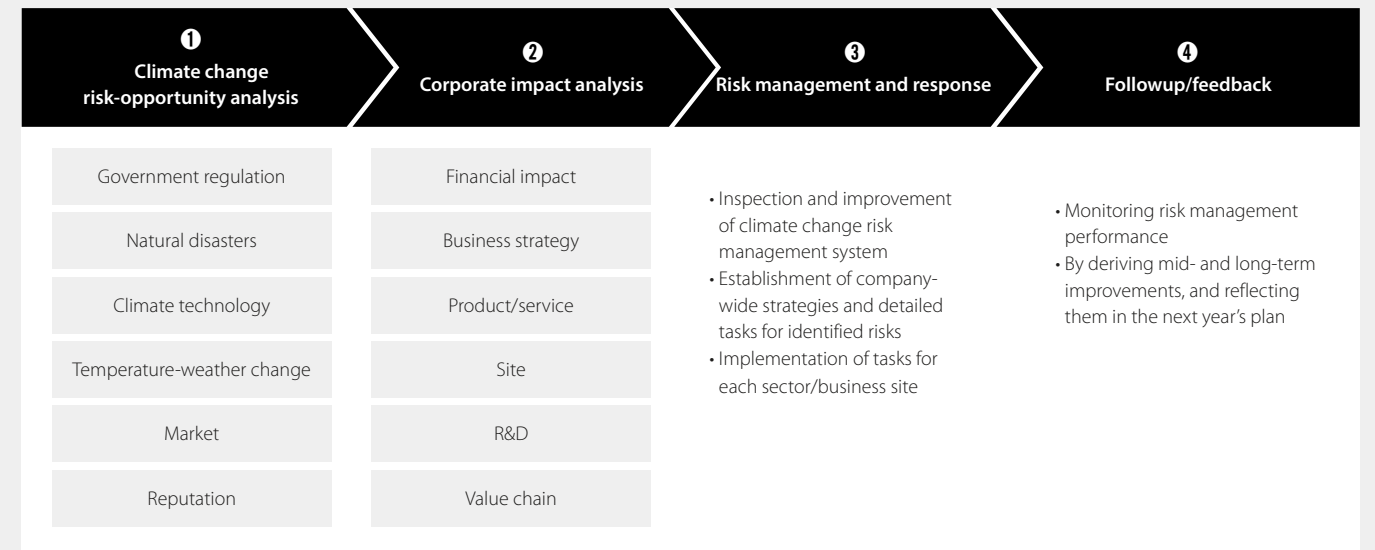
Hanwha Systems classifies risks and opportunities related to climate change into physical risks and transition risks and prepares optimized countermeasures for each issue in consideration of future climate change scenarios such as RCP 2.6 and 8.5. Through this, it strives to stably manage climate change risks and deliver sustainable management performance.

Classification	Identified risk	Potential financial impact	Response status	Term	
Physical risk	Natural disasters such as typhoons and floods	Damage to facilities because of climate change	Human and material loss resulting from damage to buildings and equipment failures by typhoons, torrential rains, and abnormal high temperatures	<ul style="list-style-type: none"> Emergency response training for each situation in preparation for disasters/calamities Periodic safety inspection 	Short
	Rise in average temperature and sea level	Increased use of cooling systems because of global warming	Rising costs because of the increased load on the cooling system at the IDC	<ul style="list-style-type: none"> Establishment of real-time weather monitoring system 	Mid- to long
Conversion risk	Strengthening environmental policies and regulations	Market risk on carbon emissions, such as a carbon border tax	Increased investment costs because of the introduction of carbon reduction facilities, etc.	<ul style="list-style-type: none"> ISO 50001 certification Enhancement of IoT-based monitoring 	Short/ Mid- to long
		Demand for renewable energy transition and GHG emissions reduction	Transition costs generated by increased use of low-carbon energy sources	<ul style="list-style-type: none"> Considering the expansion of the use of renewable energy 	Mid- to long
	Replacement by low-carbon technology	Decrease in the value of existing assets because of increased demand for low-carbon technology	Increase in R&D costs because of low-carbon technology development	<ul style="list-style-type: none"> Preemptive expansion of eco-friendly businesses such as UAM 	Short/ Mid- to long
	Demand of Consumers	Growing demand for global green initiative	Loss because of investment restrictions and declining customers	<ul style="list-style-type: none"> Information disclosure based on the TCFD framework 	Short



3 Risk management: Risk management process

Hanwha Systems' ESG Committee and ESG consultative body lead the way in analyzing climate change risks and opportunities and measuring their corporate impacts. Based on the analysis, Hanwha Systems establishes and implements strategies and tasks for each sector for effective climate change risk management and continues to improve problems through feedback.



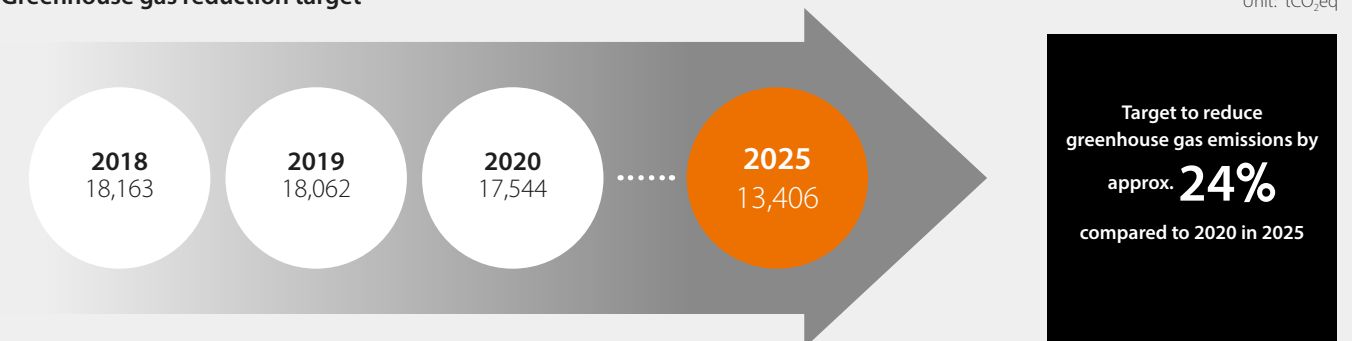
4 Indicators and reduction targets: Greenhouse gas emissions and management status

Hanwha Systems continuously manages greenhouse gas emissions through the dedicated organization of each business site. In addition, the company establishes a plan to reduce greenhouse gas emissions every year and prevent unnecessary energy use through reduction activities such as replacing LED lights and installing electric vehicle charging stations. In addition, it has established and implemented a target to reduce greenhouse gas emissions by 5% compared to BAU for each year.

In the future, it will continue to make efforts to reduce greenhouse gas emissions by establishing a new eco-friendly business site for the relocation of the Gumi site and actively introducing new and renewable energy facilities, energy storage systems (ESS), water reuse facilities, and power efficiency facilities at the site.

Greenhouse gas reduction target

Unit: tCO₂eq



Safety and Health Management

Hanwha Systems has established and operated a company-wide environmental safety management system with the safety and health of its employees as the top priority. In addition, it has built a digital technology-based response infrastructure to prevent infection of the employees and maintain their work efficiency amid the COVID-19 pandemic.

Key Performance



Next Step

In 2021, Hanwha Systems plans to create a safe working environment by removing inherent risk factors in advance, runs the Occupational Safety and Health Committee every quarter to maximize work efficiency, and upgrades related training sessions.

Employee safety and health Policy

Environmental safety management system

Hanwha Systems has formed a risk task force to implement a safe workplace and operate a "three-strike-out" system for compliance with safety rules. In addition, the Gumi and Yongin plants raise the safety awareness of employees by establishing and disseminating environmental safety policies including detailed action plans. In 2017, Hanwha Systems' Yongin R&D Center acquired the safety and health management system (KOSHA-MS) for the first time in the industry as a domestic defense electronics research institute. Moreover, it has renewed and maintained ISO 45001, an expanded version of the existing OHSAS 18001 certification, since its acquisition in 2020.

Safety/health improvement activities

Safety improvement at the business sites

To identify and manage risks in the process, Hanwha Systems marks the risk level of each facility/location on a lay-out and places special personnel to conduct regular, occasional, and special inspections at the locations with a risk level. In addition, it carries out preventive activities such as accident simulation and search for hidden dangers and conducts safety training for employees every year.

Autonomous safety and health management activities by department

All departments and the Environmental Safety Team work together to select a theme for safety and health inspection that is suitable for the characteristics of each department, and identify and improve risk factors through self-inspection. In addition, with the introduction of the LINE responsibility system, each department immediately gets rewarded according to the degree of the establishment and implementation of safety and health plans. Moreover, the LINE evaluation results are reflected in the performance evaluation.

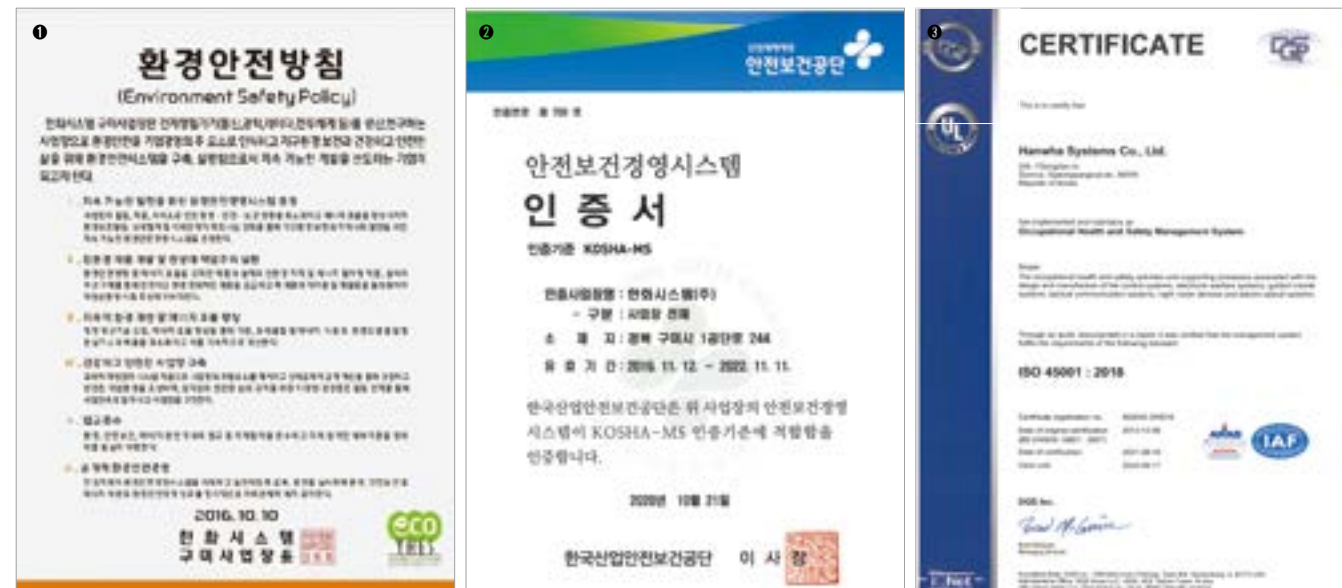
Accident prevention management activities

Hanwha Systems conducts activities to predict potential accidents for each business site in advance and minimize damage caused by an accident.

Classification	Description
Risk assessment	Discovering risk factors for each business site
Work permit procedure	Safety review on construction work
Self-inspection on safety	Self-inspection on safety in cooperation with the Korea Industrial Safety Association
Safety Inspection during the thaw/winter	Inspection by a seasonal theme
Management special inspection	Inspection of business sites led by the management

Fire/evacuation simulation risk assessment

Hanwha Systems strives to discover the fire risk of worn-out buildings and bottlenecks during fire evacuation using a fire simulation model CFAST (NIST, USA) and evacuation simulation model EXODUS (University of Greenwich, UK). According to the results, it seeks solutions and eases the problems.



1 Environmental safety policy at the Gumi site 2 Safety and health management system(KOSHA-MS) 3 Safety and health management system(ISO 45001)



1 Supervisor training 2 Business site safety inspection

Establishment of a fire alarm monitoring system for mobile

To comply with the Framework Act on Firefighting Services, the fire alarm is linked to the fire detector so that the alarm automatically sounds when a fire is detected. A fire notification app platform has also been developed. The app sends fire detector operation information to managers and field workers, and it enables the workers to share the location of the fire. Therefore, workers can respond quickly and feel relieved.

Establishment of real-time weather monitoring system (mobile)

In compliance with the "safety guidelines for outdoor work according to the weather conditions" by the Ministry of Employment and Labor, Hanwha Systems has installed a weather monitoring system at the business sites and monitors weather conditions in real-time. Before the installation of the equipment, it was difficult to follow the guidelines such as suspension or prohibition of working as the weather condition (wind chill temperature, strong wind, heavy rain, precipitation, etc.) was hard to predict at the business sites. Now it is possible that each business site can check the weather condition using the mobile app. In addition, the company considers the external temperature in operating air conditioning systems for each site as part of efforts to reduce greenhouse gases.

Safety culture spreading movement (ECO-YHES Will)

Hanwha System operates various programs to create a safe culture for its employees. Through the programs, the company attracts the participation of all employees and provides compensation to raise employees' interest in safety and health. In the future, it will continue to develop various related programs to raise the safety awareness of employees.

Win-win cooperation with partners for safety and health

Activities to improve the safety and health of business partners

Hanwha Systems participates in the win-win cooperation program of the Korea Occupational Safety and Health Agency for the safety of the employees of its partners as well as its own. It conducts activities such as joint safety and health inspections, sharing of the latest issues, and supplying safety gears. It also holds a regular monthly safety meeting to increase the awareness of safety culture among business partners and improve discovered problems. In addition, it thoroughly manages the safety and health of contractors through a consultative body for contractors' safety and health.

ECO-YHES Will Achievements



Increasing awareness of safety through the participation of all employees

1. Established compensation system
2. Conducted contest to find hidden dangers
3. Spread safety culture and raised awareness



Sharing knowledge and conducting campaigns

1. Acquired knowledge in environmental safety
2. Increased interest in environmental safety (by 80%)



① Win-win cooperation group for safety and health ② Regular meeting on safety and health for contractors

Health management activities

Strengthening employee health management

Hanwha Systems operates a variety of programs to improve the health of the employees of its own and its partners. To promote better health for all employees, including those of partners, it provides musculoskeletal, and cerebrovascular and cardiovascular

Program	Description
Let's walk	Musculoskeletal, and cerebrovascular and cardiovascular diseases prevention program • Creation of a separate forum for people with abnormalities • Motivating to exercise utilizing walking app, and providing education on musculoskeletal disease prevention by professional instructors, etc.
Complex mind	Mental health and occupational stress prevention program • Job stress survey, campaign, expert consultation
Mobile health care	Health improvement for those with health risk factors • Enhanced management of health risk factors, health management
Self-help group for diabetes and hypertensive patients	Health improvement programs for diabetic -and hypertensive patients • Prevention of cerebrovascular and cardiovascular diseases by strengthening self-management capabilities for each disease
Stop drinking/smoking campaign	Stop drinking and smoking campaign • Understanding the problems of smoking, throwing cigarettes & lighters in the pocket • Registration at the smoking cessation clinic and consultation

Regular health checkup and health management center

Hanwha Systems conducts regular health checkups for all employees. According to the results of the checkups, it carries out follow-up management for those with abnormalities, and in particular, it makes an effort to reduce the job stress of employees. Also, it operates a separate health management center to continuously monitor and manage the health status of employees, and thus to create a healthy workplace.

Working environment management for each business site

To create a pleasant working environment and to prevent occupational diseases, Hanwha Systems performs working environment measurement. Work environment measurement is carried out in accordance with occupational safety and health-related laws and internal regulations, and the results are disclosed on the internal bulletin board after obtaining an approval from the Occupational Safety and Health Committee. Based on the results, the company takes appropriate measures such as improving facilities and installing safety facilities to protect the health of its employees.



① Smoking cessation campaign ② Complex mind (Mental health campaign) ③ Mobile health care

Social

Employees | Social Contribution
Quality Management | Shared Growth

Hanuha Systems strives to create sustainable social values according to growing corporate social responsibilities and roles. Meanwhile, it also leads various activities for protecting human rights; promoting diverse, flexible, and efficient organizational culture; supporting win-win growth; and expanding social contribution to meet the expectations of various stakeholders, including the local community, customers, employees, partners, shareholders, and investors.

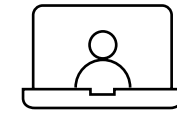
Employees Key Performance



Selected as the "company with the best jobs in Korea" by the Ministry of Employment and Labor for two consecutive years (2020-2021)



Number of veterans employed:
60(as of 2020)



Expanded contact-free communication among employees

Social Contribution Key Performance



About KRW **500** million of donations in 2020



Total **17,408** beneficiaries (cumulative) of social contribution activities



Total **23,583** hours (cumulative) of participation in social contribution activities

Quality Management Key Performance



Obtained the CMMI v1.3 level 4 certification in the ICT Defense sector (January 2020)



Obtained the CMMI v2.0 level 5 certification in the Defense sector (October, 2020)



Achieved a **98.4%** in service satisfaction



Completed quality management training for **725** people

Shared Growth Key Performance



Maintained a total of KRW 21 billion in the win-win fund for the past three years



Increased expenditure for shared growth by **16.57%** over the past three years

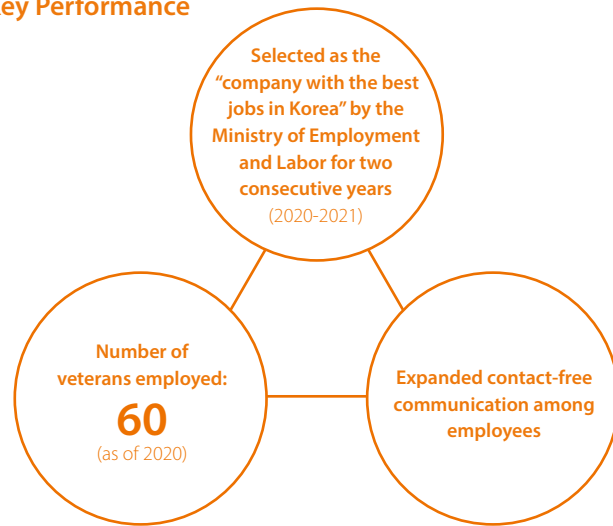


Advance payment for national holidays

Employees

Hanwha Systems secures excellent talents through a fair and transparent recruitment policy and improves the competitiveness of its employees through systematical capability-building programs. It also creates an employee-friendly working environment and operates various benefit programs to support its employees to work happily.

Key Performance



Next Step


Hanwha Systems will increase training programs to enhance employee competency in IT core technologies, which are becoming increasingly important. In 2022, it will maintain its position as the company with the best jobs and increase employee satisfaction through continuous improvement of the working environment. To this end, Hanwha Systems will ceaselessly communicate with its employees and build a better corporate environment.

Fair employment


Recruitment policy and talent

Hanwha Systems operates a fair and transparent hiring process for new or experienced candidates to provide an equal opportunity to anyone who wishes to work and secure excellent talents in various fields. Application is made through Hanwha Group's official recruitment site "Hanwhain (<https://www.hanwhain.com>)," and the entire hiring process is conducted contact-free for the safety and efficiency because of the COVID-19 pandemic.


Talent



Challenge



Dedication



Integrity

• Talents who pursue excellence through change and innovation rather than being content with the established framework

• Talents who value relationships with the company, customers, and colleagues, and put their best to achieve great goals

• Talents who behave uprightly and fairly with self-respect and according to the principles

Internship program for securing excellent talents

Hanwha Systems provides a short-term internship program for (prospective) graduates. It provides applicants with the opportunity to work at the actual business sites, through which it selects talents who have high growth potential and are suitable for the organization. The company instills a sound corporate and organizational view through the internship system, helping prospective employees adapt to the organization in advance.

Competitive hiring process

STEP 1	Acceptance of application	Anytime
STEP 2	1st interview	Interview for job suitability
STEP 3	2nd interview	Interview by executives
STEP 4	Offer negotiation	Experienced candidates only
STEP 5	Physical examination	
STEP 6	Joining	

Employment of the socially disadvantaged

Hanwha Systems has been actively supporting the employment of the socially vulnerable to fulfill its corporate social responsibility and help them grow into healthy members of society. Since 2018, it has directly hired people with disabilities as health keepers and provided massage services to employees with high work fatigue. Furthermore, by actively hiring national veterans, it strives to improve the living stability and well-being of the veterans and their families.

Employment status of national veterans

(Unit: person)

Classification	2018	2019	2020
No. of veterans employed	55	62	60

Human resource development

Human resource development program

Hanwha Systems supports its employees to grow into creative and active talents through various human resource development programs. It self-develops high-quality educational content and conducts training sessions in effective ways, including online training. Moreover, it provides plenty of educational opportunities to nurture global talents and leaders, and supports per capita training expenses exceeding the industry average.

Human resource development programs for employees

Selection and training of future leaders	<ul style="list-style-type: none"> Selecting next-generation leaders to nurture young and excellent leaders and support the improvement of leadership competency and job expertise Providing customized training programs such as domestic and foreign degree programs, industry-specific training, mentoring, and shadowing
Global talent program	<ul style="list-style-type: none"> Conducting on-the-job training and education by dispatching outstanding employees to overseas subsidiaries and branches to strengthen their global competency as the next global leaders Dispatching to an overseas office (USA, Germany, China, Japan, etc.) after three months of intensive pre-training
Academic training program	<ul style="list-style-type: none"> Support for obtaining the domestic master's and doctor's degrees to secure strategic future technology for the company and excellent talents Employees are allowed to pursue a degree while working and demonstrate their abilities after earning
Job competency enhancement program	<ul style="list-style-type: none"> Systematic training programs to improve the job competency of employees and nurture job experts Self-directed MOIM program that spreads knowledge through internal instructors, skill-up mentoring program, and in-house customized online content
Reinforcing leaders' coaching capabilities	<ul style="list-style-type: none"> Hiring external professional coaches (specialized companies) to offer leadership reinforcement programs (off-line/online training) for leaders (team leaders, part leaders) Follow-up training is conducted after about 7 mandatory trainings for each group
IT Academy	<ul style="list-style-type: none"> Providing training to develop employees' competencies in IT technologies (AI/Big Data/Cloud) About 1,000 employees completed the common mandatory training (AI Transformation, Cloud service basics) in the first half of 2021
Study groups	<ul style="list-style-type: none"> To support fun, rewarding, and sustainable self-directed learning of employees in the ICT sector, it organizes and operates study groups. As of 2021, 18 study groups are being supported.

Evaluation and reward program

When an employee joins the company, the salary is decided in consideration of one's position and age, and the performance incentive and wage increase are determined through the performance evaluation. Hanwha Systems operates a reward program based on a five-grade (S/A/B+/B/C) evaluation and applies a pay rate for each grade regardless of gender or position. Differential compensation is provided for each employee according to the results of a fair and objective evaluation to encourage employees to improve their work efficiency. In addition, the transparency of the results is secured through the process to appeal the evaluation results.

Evaluation process by business sector

Defense sector(Twice a year)

- Performance evaluation: Checking the achievement of the annual goal (goal setting → goal agreement → midterm review → evaluation → feedback)
- Competency evaluation: Assessing employees' potential competencies and encouraging self-motivated competency development, etc.

ICT sector(Three times a year)

- Interim performance evaluation: Checking interim achievements regarding the annual goals of employees and discussing with the head of the organization (feedback) on related matters and schedules
- Personal competency assessment: Conducting competency assessment for employees to measure their practice and competency required as a Hanwha employee (October)
- Year-end performance evaluation: Conducting year-end performance evaluation to measure the achievement of the annual goal (December)

Work-life balance

Employee benefits

Hanwha System has been continuously improving the working environment and providing benefits and conveniences by theme, such as living support, health care, and leisure activities to motivate

Employee benefits

- | | |
|---------------------------|--|
| Happy Work place | <ul style="list-style-type: none"> • Providing meals (Breakfast/Lunch/Dinner) and operating in-house café • Support for housing through housing loans, etc. in case of relocation • "Filling-in" leave for self-development • Regular sabbatical leave |
| Healthy Work place | <ul style="list-style-type: none"> • Health checkup and medical expenses support • Support for a comprehensive medical examination for employees over a certain age • Mental health care program • In-house massage service |

- | | |
|--|--|
| Balance between work and family | <ul style="list-style-type: none"> • Working hours reduction and leave for pregnancy and childbirth • Maternity leave and parental leave • Paternity leave and special leave for long-serving employees • Support for admission and tuition for employees with children (middle/high school and university) • Providing money and leave for employees' own or their immediate family' events • Supporting supplies and manpower for critical family events • Annual refresh points (welfare points) |
|--|--|

- | | |
|-------------------------------------|---|
| Flexible working Environment | <ul style="list-style-type: none"> • Self-choice of working hours for each week (selective working hours program) • Working from home program that enables childcare • Working hours adjustment every two weeks or three months (flexible working hours program) |
|-------------------------------------|---|

Selected as the company with the best jobs

In recognition of taking the lead in creating quality jobs and improving working environment, Hanwha Systems was selected as the "company with the best jobs in Korea" by the Ministry of Employment and Labor for two consecutive years (2020–2021). It has obtained recognition for its efforts to foster an employee-friendly workplace such as employment performance, practice of work-life balance, win-win labor-management relationship, and reduction of working hours. Hanwha System promises to constantly grow as a company contributing to the local community.



Selected as the best company in 2020

Retiree support program

Hanwha Systems operates a career transition program and a life planning program to help retirees start a new life. Through change management, lifetime review, and self-diagnosis, retirees understand their career path and draw up a career plan. In addition, it provides customized career transition support, such as job-seeking, starting a business, conducting social contribution activities, continuous career development, or farming/fishing according to the life direction of each retiree. Besides, it operates various programs for employees to share their family events (immediate lineal and spouse's parents) after retirement, such as notification of family events, and sending flower wreaths.

Win-win labor-management relationship Operation of the Workers' Committee/Labor-Management Council

Hanwha Systems organizes the Workers' Committee, the representative body composed of more than half of the employees, and guarantees its right to organize and bargain collectively based on the labor-management agreement. In addition, the company runs the Labor-Management Council with a term of three years to encourage exchanging and sharing opinions between labor and management, to create a win-win culture, and to improve the working environment. The Labor-Management Council holds a council meeting every quarter in accordance with the Act on the Promotion of Employee Participation and Cooperation and arranges a meeting whenever there is a pending issue. It also carries out various tasks such as improving the HR system, handling employee grievances, family invitation events, and vacation events/campaigns.

Ratio of employees who are the members of the Workers' Committee (defense sector)

UNIT : %

Classification	2018	2019	2020
Ratio of employees who are the members of the Workers' Committee	79.9	76.6	75.4

Communication channel for employees

Contact-free communication activities	<ul style="list-style-type: none"> • Introduction of new employees, sharing of major corporate news and receipt of letters between employees using the large screen (kiosk)
Channel for reporting or consulting on workplace bullying/sexual harassment	<ul style="list-style-type: none"> • Other than the dedicated organization, people capable of consultation are selected for each business site • Efforts to ensure human rights and create a healthy working environment
Activities to strengthen emotional communication	<ul style="list-style-type: none"> • Regular meeting with the management (company-wide or by business division) • New hire mentoring and on-boarding programs • Group activities such as healing gardening (for communication between employees and stress relief)
Activities to strengthen business communication	<ul style="list-style-type: none"> • Operation of "tech blog" using internal bulletin board • Online (PC/mobile) collaboration through work-sharing system • Studying groups and learning opportunities for each business division (technology-focused collaboration activities)

Strengthening employee communication

With the prolonged COVID-19 pandemic, Hanwha Systems is expanding contact-free communication and strengthening work and emotional communication for mutual growth with employees. In addition, it operates online/off-line reporting channels for issues such as sexual harassment and bullying, and operates a grievance handling system for incidents and accidents (transfer of a case to the HR Team → reporting to the CEO → convening the Deliberation Committee → deciding whether to refer to the Punishment Committee). Moreover, in-house counselors at each site (11 in total as of the first half of 2021) consult with employees. An online whistleblower is also in operation. As such, Hanwha Systems strives to ensure human rights and create a healthy working environment by handling employees' grievances in a reasonable way.

Human rights management

Human rights policy

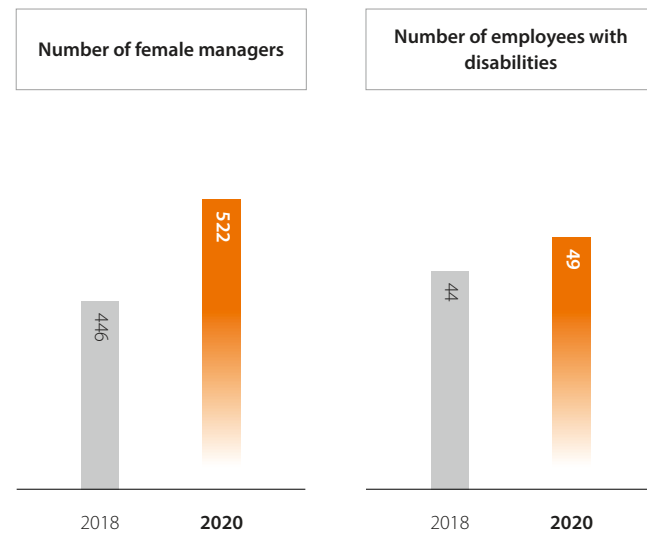
To protect the human rights of employees, Hanwha Systems has established and applied policies such as observance of wage policies and working hours, prohibition of discrimination, and prevention of bullying and sexual harassment at the workplace. In addition, it pays employees more than the minimum wage and ensures that the weekly working hours do not exceed 52 hr using PC-OFF* and electronic payment systems. For overtime hours, it provides compensation leaves or additional allowances, ensuring fair compensation for overtime.

Hanwha Systems prohibits unlawful discrimination based on gender, race, nationality, religion, age, disability, or origin, as clearly stipulated in its human rights policy. It strictly bans discrimination in the entire hiring process, and human resource management, including wages, promotions, compensation and training opportunities. In addition, the company has regulations to prevent workplace bullying and sexual harassment as well as to take action against such incidents. In the event of a violation, it immediately identifies the case, and if necessary, it penalizes the perpetrators. By doing this, it actively prevents employees from suffering without good reason.

* Introduction of the PC control system to limit overtime work of 52 hr per week

Enhance diversity of employee

Unit: person



Employee diversity

Female employees at Hanwha Systems increased from 446 in 2018 to 522 in 2020, and the ratio of female managers, from 26.0% to 26.8%. Employees with disabilities increased from 44 in 2018 to 49 in 2020.

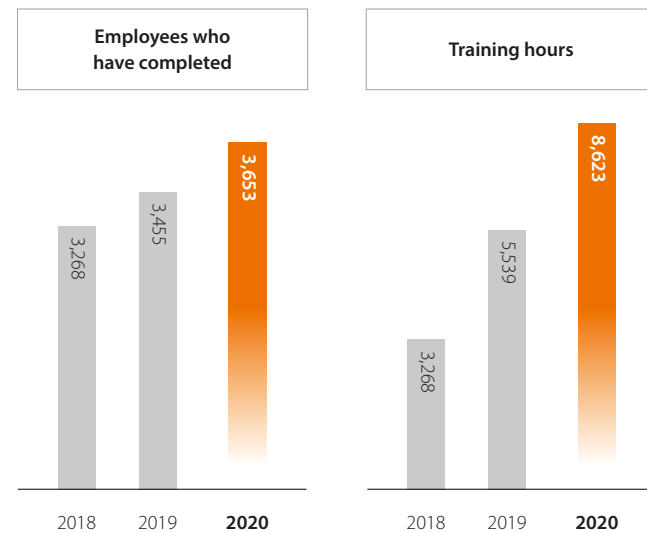
Human rights protection activities and training for employees

Hanwha Systems regularly conducts mutual respect campaigns to prevent human rights violations among employees and foster an organizational culture that respects each other. In addition, by operating various communication channels, it puts its effort to listen to the grievances of the employees and solve problems related to human rights protection.

Meanwhile, it provides education to all employees every year to prevent workplace harassment, verbal abuse, and assault, as well as improve the awareness of people with disabilities, thus raising employees' awareness of human rights and practicing respect for human rights. It regularly sends out leadership letters to managers and executives to increase the awareness of workplace harassment. Moreover, the company continuously reminds the importance of human rights by sharing messages regarding respect for employees' human rights on a quarterly basis.

Employees who have completed human rights education and training hours

Unit: person



Improvement of organizational culture

Organizational culture development policy

Hanwha Systems developed and has followed a systematic organizational culture development policy to promote the growth and happiness of its members.

Organizational culture improvement activities

Hanwha Systems plans and runs various organizational culture programs with the goal of becoming a company, where the company values talented people and embraces failure, and everyone respects each other.

Employee satisfaction survey

Hanwha Systems conducts an evaluation on employee engagement, corporate direction and core values, work atmosphere, and systems through an organizational culture diagnosis at the group level on an annual basis. Based on the analysis results, it continues monitoring related matters and implements improvement programs.

Employees who have completed human rights education and training hours

Unit: score

Classification	2018	2019	2020
Employee engagement	44.7	50.9	
Direction (change/innovation, inclusion/convergence, etc.)	49.7	56.3	N/A
Soft factor (consciousness, atmosphere, relationship, communication, etc.)	64.6	71.3	

Promoting internal communication

- Reinforcing interaction and communication between the members of a department through an annual "team building program"
- Providing opportunities for direct communication between management and employees through semi-annual business status briefings
- Collecting innovative opinions of young and creative talents through BlueBoard for juniors and reflecting them into the organizational culture improvement activities
- Increasing the efficiency of working culture such as improvement of internal system/process and meeting culture

Fostering a smart working culture

- Innovatively upgrading the existing face-to-face working environment and ways by introducing "Smart Work," thereby enhancing work productivity, securing work flexibility because of the increased space efficiency, and improving work satisfaction of employees
- Introducing a new HR system and virtual desktop infrastructure (VDI) that allows remote work, including working from home, at least three days per week, and providing a remote work manual and online etiquette guidance

Establishing a collaborative, trusting organizational culture

- Operating internal online anonymous communication bulletin board where anyone can freely share opinions and discuss (encouraging to build a culture of trust)
- Promoting collaboration by using "Daily Meeting Challenge" to share work progress and issues among colleagues

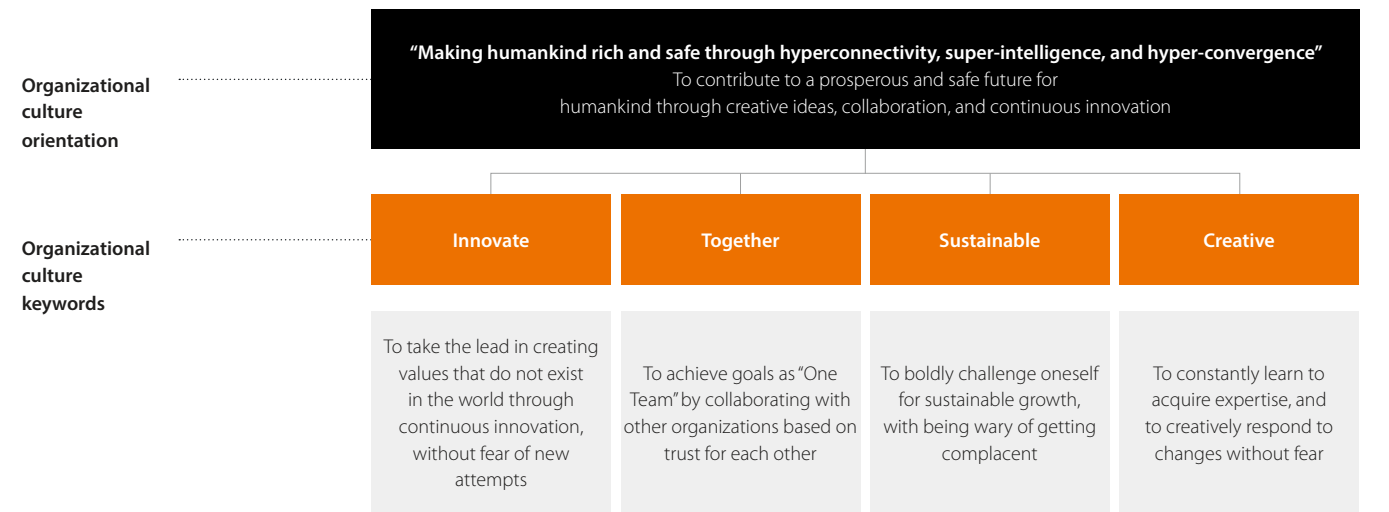
Achieving good work-life balance

- Improving work satisfaction through various policies for work-life balance such as selective working hours program, sabbatical leave (one month), and paternity leave
- Conducting various organizational culture improvement campaigns such as the "work-life balance campaign" and "mutual respect campaign"

Creating a family-friendly culture

- Constantly operating family-friendly programs such as "culture day," where employees can enjoy cultural life with their families, "invitational event by business site," where families get together, and "family invitations to the defense exhibition"

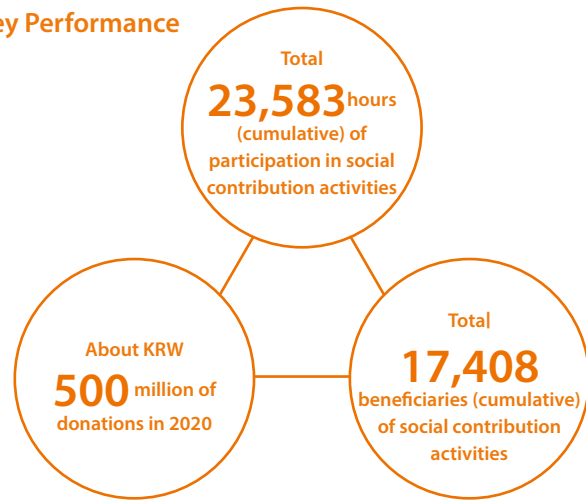
Directions of organizational culture policy



Social Contribution

For a sustainable future society, Hanwha Systems is fulfilling its corporate social responsibilities by creating social values through mutual growth with the local community. In addition, it has established a social contribution system based on its core social contribution values, and is actively communicating with the local community through various online and off-line channels.

Key Performance



Next Step

Through creative thinking and endless challenges, Hanwha Systems will discover various types of social contribution activities and strengthen relationships with its partner organizations to build a unique social contribution brand of Hanwha Systems.

Social contribution strategy

Social contribution vision

Hanwha Systems' social contribution system consists of three activity areas: together with customers, together with the local community, and together with future talents for sustainable "coexistence and shared growth" based on the group's management philosophy of "going further together." Through this, it will realize corporate social responsibility and walk further together toward a happy future for customers, the local community, and future talents.

Social contribution strategy



Social contribution system

Social Contribution Steering Committee Hanwha Systems has established the Social Contribution Steering Committee for a fair and objective decision-making on social contribution to ensure transparency in fundraising and execution, and continue to carry out social contribution activities in an effective manner.

Employee incentive program To encourage voluntary participation by employees, it plans programs based on the social contribution preference survey and selects excellent employees who have devotedly volunteered every year to encourage active participation.

Employees' "love fund" and matching grant With the "love fund" program based on the employees' voluntary participation, Hanwha Systems operates a matching grant program offering the same amount as the donated by the employees to financially support more businesses.

Online channel It has operated a communication channel for the local community on its website to further support the local community.

Social contribution fund

UNIT : KRW in billions

Classification	2018	2019	2020
Total donation amount	3.17	5.05	4.96
Contribution	0.26	0.27	0.43
Project expenses	1.92	3.92	3.02
In-kind contribution	9.85	0.87	1.51
Fund participation rate	92.5	97.0	94.0

Status of social contribution activities

UNIT : KRW in billions

Classification	2018	2019	2020	2021 goals
Engaged employees	3,127	3,410	1,245	3,319
Cumulative participation hours	10,091	21,619	23,583	36,139
Cumulative beneficiaries	5,639	12,605	17,408	22,744
Program operation	70	67	15	85
Social Contribution Steering Committee	-	Quarterly	Quarterly	Quarterly
Local community regular consultation channel	-	When necessary	Quarterly /Semi-annual	Quarterly /Semi-annual

Community consultation channel

With the basic principle of coexistence with the local community, Hanwha Systems operates consultation channels to exchange with the local community on a regular basis. As a member of the local community, it will more actively collect opinions and strengthen communication to solve problems in the local community, thereby becoming a core member of the local community.



①Community online consultation channel ②Regular council for community growth (Seoul Veterans Office) ③Off-line regular consultation channel(Regular council channel for the Korean Red Cross)

Major programs

Together with customers

As a company with businesses in the defense and IT industries, Hanwha Systems runs social contribution programs for its main customer, the military servicemen, and its future customers, youths, to remind them of the meaning of patriotism and support the enhancement of their IT competency.

Veteran family support To help veterans and their families maintain their dignity, it carries out various support activities, such as home improvement projects, picnic with veterans of national merit, companion service, and side dish provision.

Planting for the National Cemetery As a leader in the defense industry, it is a program that takes care of the graves of the heroes of the country who were buried in the National Cemetery to remember their precious sacrifices and the spirit of patriotism.

Donating books for military servicemen It sponsored the establishment of a library to create a barracks culture to read books and has since donated 500 new books every year. Through these activities, it provides military servicemen with a place to physically and mentally relax, and an opportunity to acquire knowledge.

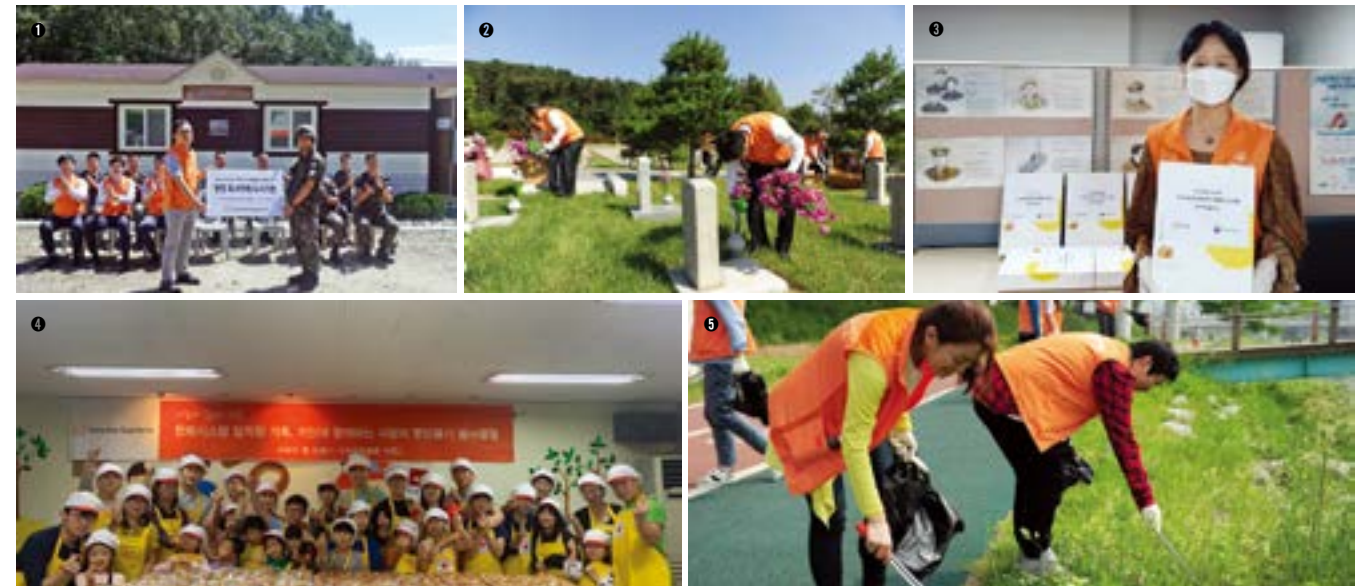
Together with community

To fulfill its role as a responsible company, it continues its efforts for sustainable shared growth between the local community and the company by supporting the vulnerable in the local community and by operating programs to protect the environment.

Baking bread of love with citizens Hanwha Systems' employees and their families participated in the "bread of love" event and delivered the bread to the underprivileged who are not eligible for welfare. To engage more local residents in support of the underprivileged, it is recruiting citizen participants through the online channel.

Community environmental protection Hanwha Systems conducts eco-friendly campaigns at the group level to create a sustainable environment and carries on various eco-friendly projects with stakeholders of the region, where each business site is located.

Business site	Description
Seoul	<ul style="list-style-type: none"> Family-involving plogging activity Tumbler use campaign at the in-house café
Pangyo	<ul style="list-style-type: none"> Geumgokcheon Stream environmental cleanup
Yongin	<ul style="list-style-type: none"> Gyeongancheon Stream environmental cleanup
Gumi	<ul style="list-style-type: none"> Nakdong River environmental cleanup Event for elimination of alien fish species



1 Donating books for military servicemen 2 Planting for the National Cemetery 3 Veterans' family support 4 Baking "bread of love" 5 River cleanup activity

Blood donation of love This program aims to support a stable blood supply for the local community through voluntary blood donation by Hanwha Systems' employees.

Together with future talents

Beyond just charitable contributions to future talents, Hanwha Systems operates various programs to nurture children and youths as part of the investment for the development and happiness of the community, thereby contributing to the cultivation of responsible citizens for the future society.

Mentoring for military servicemen on career path This is an employee-participatory talent-sharing program that is designed to help military servicemen in their careers after discharge. The program includes expert lectures, mock interviews, how to prepare a self-introduction letter, etc.

School of hope for UAM coding class This is a program that provides training programs in various ways including off-line and online to narrow the educational gap for underprivileged children. Available all year round, the program consists of training sessions and activities for drone production using software, helping future talents develop their creativity and have an open mind.

Offering "Dream" To resolve inequalities in educational and talent

development opportunities, Hanwha Systems provides children from low-income families with opportunities to acquire ITQ certificates such as Excel, PowerPoint, and Hangul. The program is designed to help the children grow into a healthy citizen who can contribute to society by enhancing their capabilities.

Playmate mentor-mentee It is a talent-nurturing program that helps children from low-income families, including single-parent families and families in crisis, to grow into healthy members of society. This program promotes their self-esteem and learning motivation through various arts and sports activities.

Global social contributions

Hanwha Systems, as a global company, is realizing the common goal of humankind toward a better future with various social contribution activities.

Love for country activity with World friends As part of social contribution to create values for all humankind, this is a program that employees directly produce and deliver necessary school supplies to children from low-income families around the world in connection with KOICA's global activities.



1 School of hope for UAM coding class 2 Mentoring for military servicemen on career path 3, 4, 5 Love for country activity with World friends

Activities and achievements

Major awards

- 2019** • Silver medal from the Korean Red Cross
- 2018** • Grand Prize from the Ministry of Patriots & Veterans Affairs
• Chairman's Award from the Green Umbrella Child Fund Korea
- 2017** • Mayor's Award for social workers from Gumi City
• Gold medal from the Korean Red Cross

History and major activities

- 2020** • Providing home firefighting equipment for the local community and sign of an MOU with the Gumi Fire Station
• Provided COVID-19 emergency fund to Gumi City
• Supported COVID-19 screening center and negative pressure isolation ward at Armed Forces Capital Hospital
• Operated regular community consultation channel for the Seoul Veterans Office
• Operated Regular community consultation channel for the Korean Red Cross Eunpyeong-gu Center
- 2019** • Introduced a bread-sharing program with local citizens
• Supported the global environmental school project by the Korea Environment Corporation and Good Neighbors
- 2018** • Expanded side dish support project for veterans of national merit
- 2017** • Signed an MOU with the Yongin children's center by Good Neighbors
• Signed an MOU with the Dochon social welfare center
• Signed an MOU with the Daegu Veterans Office for a home improvement project for senior veterans
• Signed an MOU with the Ministry of National Defense for mentoring for military servicemen on career path
• Signed an MOU with the Korean Red Cross for the blood donation support
- 2016** • Signed an MOU with the Ministry of National Defense for providing a book café and studying rooms
• Signed an MOU with the Armed Forces Capital Hospital for operation support
• Signed an MOU with the Seoul Veterans Office for a side dish support project for veterans of national merit
• Signed an MOU with the Korean Red Cross for the bread-sharing program



① Online mentoring for military servicemen on career path ② Veteran family side dish support activity ③ Year-end sharing event
④ Operation support of the Armed Forces Capital Hospital ⑤ Blood donation of love

Quality Management

Next Step

In 2021, it will improve customer satisfaction through more systematic failure management. In addition, it plans to strengthen quality management training for its employees and thoroughly analyze and improve the quality risks of products and services, led by the Quality Improvement Committee.

Hanwha Systems is strengthening quality management to build the trust and satisfaction of all stakeholders. By doing this, the company creates the best quality and the best service, impresses customers, and leads change and innovation.

Enhanced quality and stability

Quality management policy and management system

Hanwha Systems has established quality strategies, policies, and management standards to realize the highest quality products, and is striving to secure the world's best quality competitiveness. In addition, to maintain the quality assurance system throughout the total life cycle (TLC) of products and services, it establishes and operates a cooperative system for each relevant department. The Risk Management Committee, which is mainly led by the Quality Management Team, reviews company-wide risks prior to ordering, and tracks and manages risk after ordering. Through the committee, Hanwha Systems identifies, tracks, controls, and responds to potential risks in project progress, as well as efficiently finds countermeasures and solutions.

Key Performance



Quality management vision and strategy



Customer Satisfaction

Drawing customer satisfaction by listening to customers and providing the best quality and prompt and accurate service

Change & Innovation

Building competitive advantage and creating the future market by constantly learning and challenging changes

Perfect Quality

Realizing excellent quality with the pride one's self and the company

Observance of the Basics

With quality as the top priority, leading the effort to work properly from the beginning according to the regulations and processes

Quality analysis and improvement activities

Hanwha Systems strives to secure product reliability through quality analysis and activities for improvement. It operates the Quality Improvement Committee to discover the various requirements of customers and the market, and a Problem Improvement Task Force to apply improvement measures and verify their effectiveness. In addition, it immediately reflects quality-related feedback, and registers and analyzes quality issues in all stages of the product life cycle by linking failure cases to the system.

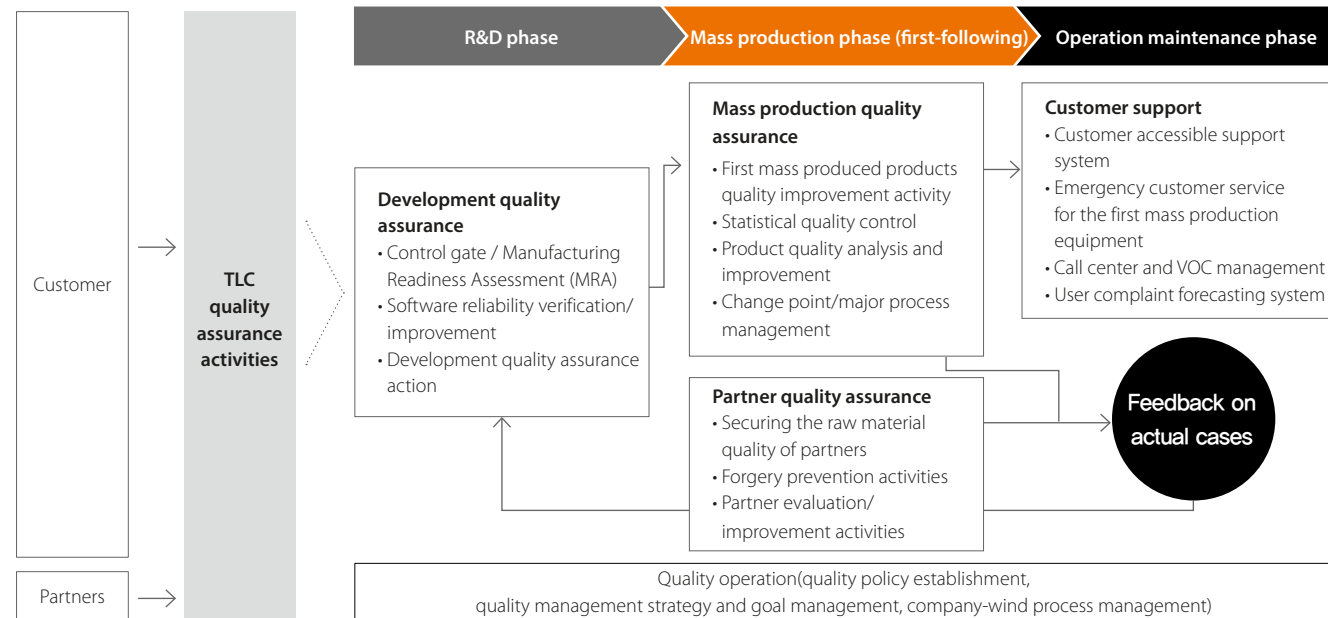
In particular, the ICT business sector has a separate project management organization (PMO) that manages project risks in

advance through internal diagnosis, supervision, testing, etc. The sector regularly operates its own risk management consultative body to explore improvements in terms of project risks and prevent potential risks in business execution. All employees recognize the importance of project completion as the main body of quality management, while the company provides regular annual training to strengthen the quality management competency of each individual.

Training for improving the quality awareness of employees (2020)

Course	Schedule	Employees who have completed
Inspection hands-on training	January, May	3
Electrical and electronic assembly training (new)	January	5
Statistical quality control (basic)	July	13
Process training (manager)	November	14
Circle level-up training	July	14
Electrical and electronic assembly training (repairing)	June, September	91
Quality management training	December	725
International Certified Quality Engineer certification preparation	May, December	7

TLC quality management system



Failure rate management

Hanwha Systems prevents service/system failures in advance through constant monitoring, and implements improvement activities to minimize damage to stakeholders.

Classification	Number of cases	Number of occurrence/times
Performance issues	Number of failures for at least 10 min and less than 30 min	10 cases, total 178 min
Service interruption	Number of failures for at least 30 min	6 cases, total 515 min
Customer downtime	Duration of each failure and the number of software or IT service licenses affected	16 cases, total 693 min

Quality-related certification status

Hanwha Systems is continuously obtaining and maintaining relevant certifications to establish and operate a quality management system of global level.

ICT sector quality-related certifications

Classification	Year	Certification
2020	Integration model of competence and maturity (CMMI) Level 4	
2016	Cloud service information security (ISO 27017)	
2006	IT service management (ISO 20000)	
2002	Information security management system (ISO 27001)	
2001	Quality management system (ISO 9001)	



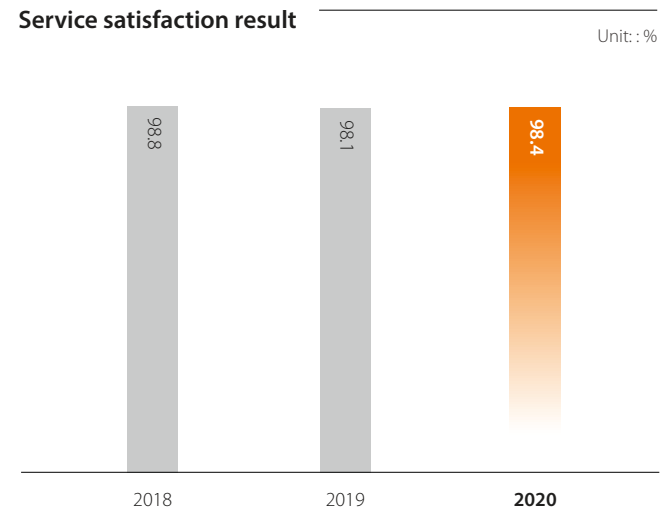
Quality-related certifications in the defense sector



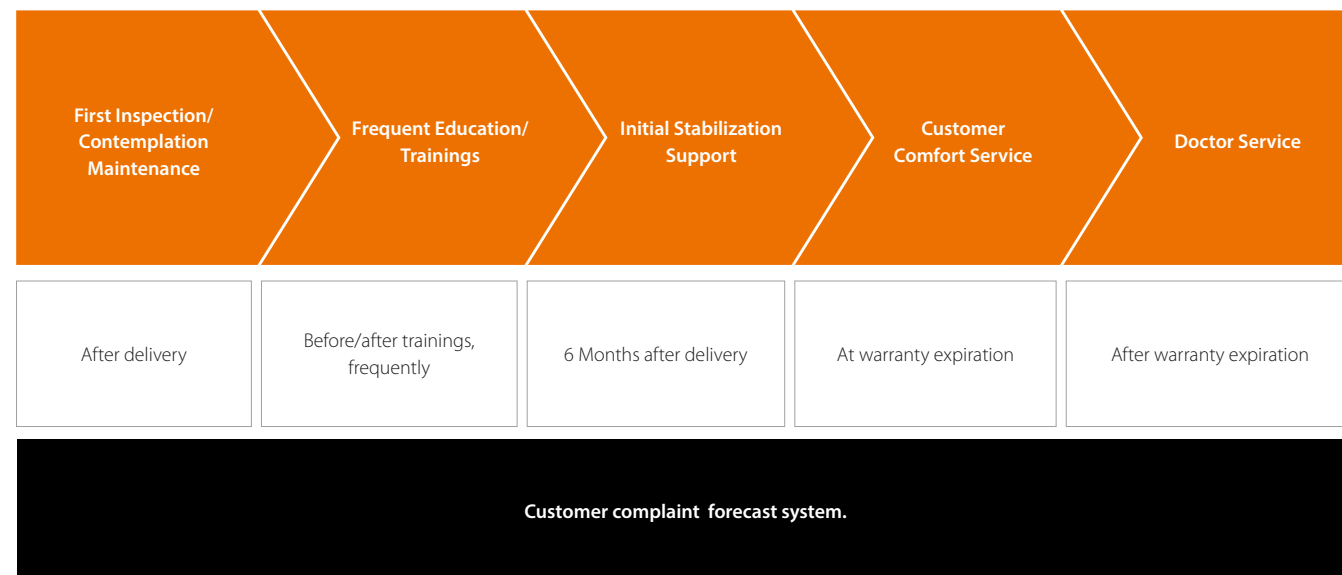
Customer satisfaction

Customer satisfaction management strategy

To improve product operability and satisfy customers, Hanwha Systems conducts activities for proactively managing customer complaint in consideration of product placement and operation cycle. After delivery, it helps the early stabilization of the first batch products through technical support for new equipment and training for unit operators. Moreover, a customer relief service is provided at the point of the warranty expiry (military-company joint inspection, operation/maintenance skill transfer). "A doctor service" (frequent visits and VOC listening through the call center) is offered after the warranty expires.



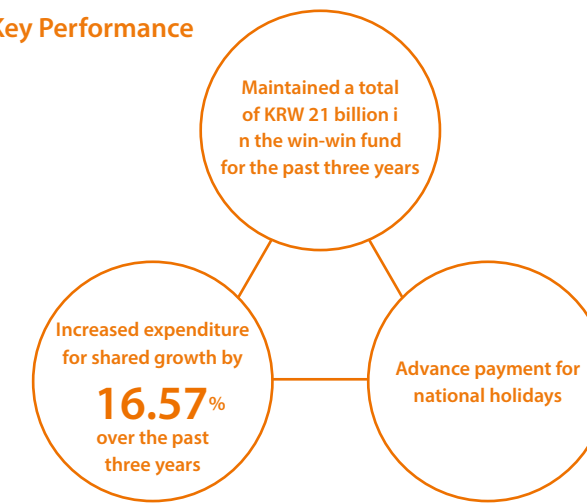
Customer complaint proactive management process



Shared Growth

Hanwha Systems grows together with its partners and creates new future values. It provides unsparing support to enhance its partners' future capabilities and implements effective win-win business while willingly accepting various opinions such as their grievances, improvement suggestion, and dispute settlement.

Key Performance



Next Step

To expand shared growth activities in 2021, it plans to increase the win-win fund by KRW 10 billion (a fund of KRW 31 billion in total), extend the redemption term of the fund, and establish a new support program for partners in financial difficulties because of disasters. In addition, it will expand shared growth activities in line with the subcontract fair trade agreement and the government's shared growth policy.

Win-win management

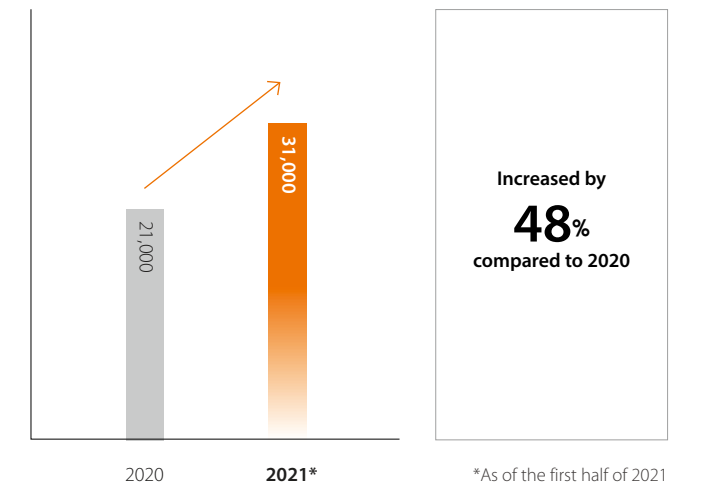
Win-win policy

Hanwha Systems actively develops policies necessary for shared growth and continuously provides training on the fairness of trust/consignment to ensure that employees have a high level of win-win capability. It is paving the way for win-win growth by discovering business areas and establishing a cooperative system with its partners. With integrated win-win cooperation channels, it discovers excellent partners and carries on convergence technology research with its partners. To play a central role in discovering new business areas and building a co-brand (marketing) for win-win business, the company uses its best efforts to improve the quality and productivity of the partners, including activities for site environment improvement.

Amount of win-win fund

Unit: KRW in millions

Classification	2018	2019	2020	2021
Hanwha Systems	7,000	7,000	7,000	11,000
Financial institutions	14,000	14,000	14,000	20,000
Total amount raised	21,000	21,000	21,000	31,000
Expenditure	9,716	10,290	11,995	16,494



*As of the first half of 2021

Win-win support and achievements

Hanwha Systems has been expanding support for partners' capability enhancement and sustainable growth. It helps partners develop human competency by expanding financial support and providing training programs for their employees. In addition, the company strives to lead the market together with partners by offering various win-win support programs to them, such as holding purchasing, quality, and technology exchange meetings, and providing regular training for business infrastructure expansion and compliance awareness improvement.

Financial support

To ensure the partners' liquidity, Hanwha Systems has increased the cash settlement, shortened the payment cycle, and provided financial support. In addition, it has created and supported a win-win fund to strengthen the competitiveness of partners in technology and R&D.

Training support

Through the win-win cooperation academy, Hanwha Systems runs a variety of training programs, such as defense drawings (AutoCAD) expert course, business skills, and technology protection, as well as training sessions on quality requirements (including counterfeit parts management, statistical quality management, manufacturing process improvement guidance, etc.) Currently, Hanwha Systems is converting the existing off-line-based training sessions to online-based in response to COVID-19.

Training programs for partners Unit: No. of partners (No. of programs)

Training	2018	2019	2020
Quality requirements training	341 (11)	601 (32)	87 (8)
Defense drawings (AutoCAD) expert course	73 (2)	51 (2)	78 (2)
Others (business skills, technology protection, etc.)	0 (0)	0 (0)	16 (1)
Total	414 (13)	652 (34)	181 (11)

Expansion of mutual cooperation and exchanges

Hanwha Systems actively utilizes communication channels for each field, such as purchasing/quality/technology exchange meetings, and it realizes the value of sharing with partners.

Provision of benefits for partners

Hanwha Systems strives to increase the satisfaction of employees of its partners by providing support for the installation of the "Tomorrow Filling Deduction" and welfare points for the "Shared Growth Mall" (in the second half of 2021) to promote their long-term service.

Program	Description
Support for the installment of the "Tomorrow Filling Deduction"	Partially support for partners' share for their 20 employees (approx.) every year
Shared Growth Mall	Giving welfare points (10,000 points) to about 1,000 people
Holiday gifts	Seasonal fruits and traditional market gift certificates
Disaster-related assistance	Supplies for disinfection such as masks

Regular consultation channel for partners

Unit: No. of partners (No. of sessions)

Classification	Description	2018	2019	2020
Partners' Day	Sharing mid- to long-term vision and awarding excellent companies and employees	79 (1)	80 (1)	- (-)
Partners' Council general and exchange meeting	A council strategic partners of Hanwha Systems for joint orders and business execution	32 (3)	32 (6)	- (-)
Exchange meeting for quality	Sharing the latest industry trends, guidance on advanced techniques and improvement, and listening to suggestions	119 (2)	175 (4)	246 (2)
Meeting for defense costs	Sharing defense costs revision/issues, preventing inflating costs, and listening to suggestions	118 (2)	31 (1)	60 (2)



Training programs for partners

Signed caring business 2.0 agreement

In May 2021, Hanwha Systems signed a caring business agreement with the Ministry of SMEs and Startups, and the Enterprises and Agricultural and Fishery Cooperation Foundation to activate ESG management with partners and to discover SMEs with future technologies. The agreement includes a voluntary win-win cooperation and sharing the company's strengths and skills with non-partners rather than only its partners.

Hanwha Systems plans to discover and nurture partners and SMEs with cutting-edge technologies in new business fields, such as smart defense, aerospace, AI, and blockchain, through caring business 2.0.



Fair trade with partners

Fair trade principles and internal regulations

Based on the four fair trade guidelines, Hanwha Systems takes the lead for fair trade in compliance with the subcontracting law to prevent unfair business practices for its partners in the trade process. It operates an internal deliberation for subcontracting led by the ESG Team and distributes relevant internal business guidelines to purchasers and continuously monitors the compliance on a monthly basis. In addition, it prevents unfair trade practices such as verbal orders and unilateral cancelation of orders through electronic contracts on the purchasing system.

Four fair trade guidelines

<p>Value-up through fair selection of partners and efficient operation</p> <p>Regulations that provide fair trade opportunities, such as preparing and disclosing transparent partner selection criteria and procedures</p>	<p>Issuance and preservation of documents</p> <p>Preparation and issuance of standard forms for various documents, and regulations related to data preservation</p>
<p>Contract conclusion and matters</p> <p>With clear contact method and selection criteria that anyone can trust, by which it defines deadline and relation matters when signing</p>	<p>Subcontracting Establishment and operation of internal deliberation committee</p> <p>Regulations related to deliberation on legality when signing a contract for more than a certain amount</p>

Use of standard subcontracts Preparing subcontracts presented by the Fair Trade Commission and complying with relevant laws

Company-wide training on the fairness of trust/consignment Regular training by external instructors and training on the "subcontracting law" for all employees

Ethical management pledge Signing an ethical management pledge to establish a fair and transparent transaction order and a sound corporate culture

Cultivation of CP management experts Fostering CP management experts who can manage compliance management, ethical management, and sustainable management in an integrated way

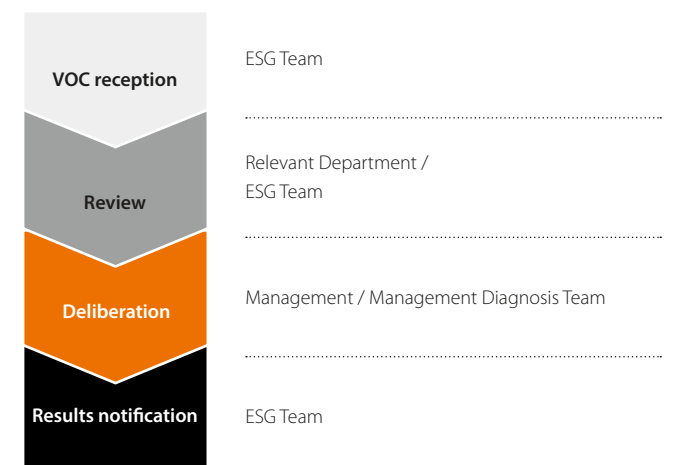
Training on fair trade

It prevents violating fair trade laws through regular training on related laws such as the "Fair Trade Act" and the "Subcontracting Act" for all employees at least once a year. In addition, it improves its training programs every year by analyzing related feedback and training questions/suggestions through the check of compliance with fair trade laws.

Partner VOC (win-win VOC)

Hanwha Systems values and listens to various opinions such as grievances, improvement suggestions, and dispute settlement from business partners.

Win-win VOC Process



Governance

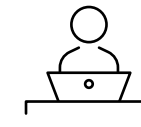
Governance | Ethics and Compliance Management
Information Security | Risk Management

Hanwha Systems creates a healthy and fair organizational culture by reflecting sound ethical expectations and values demanded by our society in corporate decision-making and by clarifying legal responsibilities. In addition, we strive to earn the continued trust of our customers as well as the respect of our society and will realize corporate management that meets global standards.

Governance KEY PERFORMANCE



Establishment of ESG Committee in 2021



100%
outside directors attendance rate



Introduction of electronic voting system at the 2020 regular general meeting of shareholders 2020

Ethics and Compliance Management KEY PERFORMANCE



Establishment of Compliance Team in January 2020



Advancement of a system on compliance control activities in 2021



0 cases of fines and non-monetary sanctions for violation of laws and regulations in the past 3 years



0 cases of violation of fair trade in 2020

Information Security KEY PERFORMANCE



0 cases of information security violations related to customer personal information for 3 consecutive years

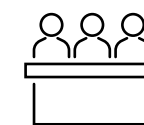


0 customers affected by data breach incidents for 3 consecutive years

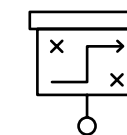


0 won of total fines and penalties for information security/cyber security breaches for 3 consecutive years

Risk Management KEY PERFORMANCE



Establishment of a corporate risk management system in 2021 and founding of Management Committee (expected)



Identification of potential risks and establishment of response strategies

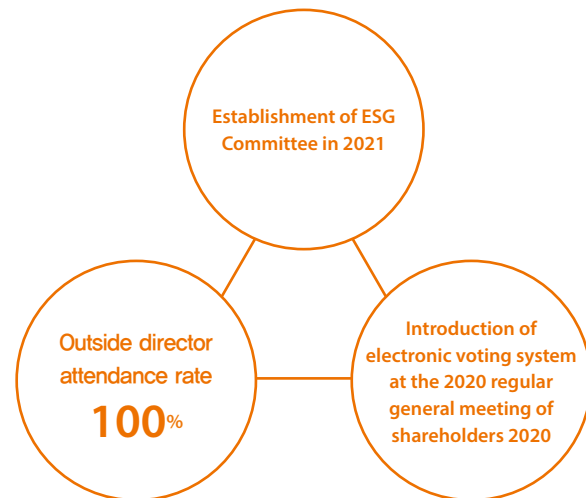


Systemization of tax risk policies

Governance

In this fast-changing business environment, attention is focused on long-term growth and value creation. To this end, it is essential to establish a firm and transparent corporate governance and management system. Hanwha Systems enhances corporate value based on the balanced composition of our board of directors, swift responses including the establishment of the ESG Committee, and transparent information disclosure to our shareholders and investors.

Key Performance



Next Step

In 2021, we plan to review measures to enhance the diversity of our board of directors. In addition, we will continue to carry out activities to strengthen the trust of our shareholders and investors, such as operating an electronic voting system and disclosing corporate information.

Board Composition & Roles

Board Composition & Status

Hanwha Systems composes and operates a board of directors under relevant laws and the Articles of Incorporation. As of early September 2021, the board consists of a total of 7 members including 4 outside directors. This satisfies Article 542-8 of the Commercial Act, which requires the board to include at least three outside directors and comprise the majority of the total number of directors. Under Article 32 of the Articles of Incorporation and Article 5 of the Board of Directors Operational Regulations, Hanwha Systems appointed CEO Seong-cheol Eoh as the chairman of the board of directors through the resolution of the board.

Operation of the Board

Regular board meetings are held in the last month of each quarter (March, June, September, and December), extraordinary board meetings are held from time to time as needed, and the board is convened by the chairman of the board. In 2020, the board of directors held a total of 11 meetings. The board deliberated a total of 38 items (37 approved, 1 rejected).

Hanwha Systems strives to secure diversity in the composition of the board of directors so that the board does not share a specific common background or represent specific interests. In its actual operation, the board appointed experts with different backgrounds and expertise, including finance, legal, defense, and information and communication technology (ICT), as outside directors. In particular, a person with experience in financial institutions/government/security-related institutions was appointed as a member of the Audit Committee, whereby they are actively carrying out activities in line with the purpose of the committee.

Category	Unit	2018	2019	2020
Board meetings held		13	14	11
Board agendas	Case	33	48	38
Outside Director attendance rate		100	99.2	100

(as of December 2020)

Board Composition

(as of September 1, 2021)

Name	Position	Term	Background
Seong-cheol Eoh	CEO (Executive Director) ESG Committee member	2020.3.23 - 2022.3.31	<ul style="list-style-type: none"> Current CEO of Hanwha Systems Current Head of Defense Division, Hanwha Systems Former Head of Business Division, Hanwha Aerospace Economics, Korea University
Youn Chul Kim	Outside Director Recommendation Committee member (Executive Director)	2019.9.23 - 2023.3.31	<ul style="list-style-type: none"> Former CEO of Hanwha Systems Former CEO of Hanwha Corporation Former CEO of Hanwha Techwin Mechanical Engineering, Yonsei University
Kyung Han Kim	Head of ICT Division (Executive Director) Outside Director Recommendation Committee member	2018.8.1 - 2022.3.31	<ul style="list-style-type: none"> Current Head of ICT Division, Hanwha Systems Former CEO of Hanwha S&C Former CEO of SIT Korea University (MBA) Economics, Sogang University
Hyo Bok Bang	Chairman of Outside Director Recommendation Committee Compensation Committee member Internal Transaction Committee member	2019.6.12 - 2023.3.31	<ul style="list-style-type: none"> Current Secretary General of The Korea Retired Corporals and Admirals Association Former Director of Korea Institute for Defense Analysis (KIDA) Former President of Korea National Defense University Korea Military Academy
Seong Soo Hong	Chairman of Compensation Committee Audit Committee member Outside Director Recommendation Committee member	2019.6.12 - 2023.3.31	<ul style="list-style-type: none"> Current Professor at the Department of Electrical and Computer Engineering, Seoul National University Former Vice President at the Graduate School of Convergence Science and Technology, Seoul National University Ph.D. in Computer Science, Maryland University M.S. in Computer Science, Seoul National University
Joo Jae Lim	Chairman of ESG Committee Chairman of Audit Committee Internal Transaction Committee member Outside Director Recommendation Committee member	2019.6.12 - 2023.3.31	<ul style="list-style-type: none"> Current Advisor at Kim & Chang Law Firm Former President of Korea Housing Finance Corporation Former Deputy Director, Financial Supervisory Service Former Chairman of Global Finance Forum Master of Real Estate Studies, Konkuk University Business, Yonsei University
Sung Chill Hong	Chairman of the Internal Transaction Committee Audit Committee member Compensation Committee member ESG Committee member	2019.6.12 - 2023.3.31	<ul style="list-style-type: none"> Current Partner Attorney at Law Firm CLASS Former Vice Chairman of Anti-Corruption & Civil Rights Commission Chairman of the Central Administrative Appeals Commission Ph.D. in Law, Sungkyunkwan University

Committees within the Board

Hanwha Systems operates the Audit Committee, Outside Director Recommendation Committee, Internal Transaction Committee, Compensation Committee, and ESG Committee within the board of directors to facilitate the efficient and professional statement of opinions by the board. We appointed the chairman of each committee as outside directors and ensured independence and transparency by comprising the majority of the committees with outside directors.

Board Education

We implement education necessary to understand the laws and regulations related to Internal Control Over Financial Reporting for the CEO, Internal Accounting manager, Audit Committee, and executives and employees who prepare and disclose accounting information. The implementation status of education for the Audit Committee is as follows.

Education Date	2021,4,22	2020,7,24	2020,7,7
Education Institution	KICPA	Samjong KPMG	KLCA
Audit Committee Attendees	Joo Jae Lim, Sung Chill Hong	Sung Soo Hong	Joo Jae Lim, Sung Chill Hong
Main Contents	ESG-related reporting & the role of Audit (Committee)	Discussion on the audit role reinforced after the enforcement of the External Audit Act	Discussion on practical issues for new audit members

Evaluation & Rewards

We comprehensively evaluate the directors of our board in light of their past careers and activities, including whether they have expertise in their respective fields, perform their duties with fairness and objectivity, and fulfill their roles faithfully and responsibly. Remuneration for directors is paid according to the company's executive remuneration regulations within the limit of remuneration for directors determined at the general meeting of shareholders. Specific payment standards for remuneration paid are disclosed in detail in the 'Executive Remuneration' section of the Business Report.

Category	Unit	Registered Director ¹⁾	Outside Director ²⁾	Audit Committee members	Total
No. of people	people	3	1	3	7
Total Remuneration	KRW million	1,156	67	200	1,423
Average remuneration per person		385	67	67	203

※ as of December 2020
 1)Registered Director (excluding Outside Directors, Audit Committee members)
 2)Outside Director (excluding Audit Committee members)

Committees Within Board of Directors

(as of June 2021)

Committees	Audit Committee	Outside Director Recommendation Committee	Internal Transaction Committee	Compensation Committee	ESG Committee
Composition	Outside directors (3 directors): Joo Jae Lim, Seong Soo Hong, Sung Chill Hong	Inside director (2 director): Youn Chul Kim, Kyung Han Kim Outside directors (3 directors): Hyo Bok Bang, Joo Jae Lim, Seong Soo Hong	Outside directors (3 directors): Joo Jae Lim, Hyo Bok Bang, Sung Chill Hong	Outside directors (3 directors): Hyo Bok Bang, Seong Soo Hong, Sung Chill Hong	Inside director (1 director): Seong-cheol Eoh Outside directors (2 directors): Joo Jae Lim, Sung Chill Hong
Purpose of Committee Establishment and Roles	<ul style="list-style-type: none"> Composition of Audit Committee in accordance with relevant laws and the Articles of Incorporation Strengthening management transparency and independence, executing internal audit and management monitoring 	<ul style="list-style-type: none"> Recommending outsider director candidate (More than half of the members are outside directors) Securing fairness for limiting voting rights on the agenda for which the member is recommended 	<ul style="list-style-type: none"> Reinforcing control over internal transactions and supervising of unfair acts Examination and approval of large-scale internal transactions stipulated in Article 11-2 of the Monopoly Regulation and Fair Trade Act and Article 17-8 of the Enforcement Decree of the same Act 	<ul style="list-style-type: none"> Reviewing drafts on remuneration limits and compensation system for registered directors, to be submitted to the general meeting of shareholders 	<ul style="list-style-type: none"> Established on June 22, 2021 (More than half of the members are outside directors) Deliberation of relevant matters for ESG policies and activities

Shareholders & Investors

Share & Shareholder Status

Currently, the total number of shares that can be issued according to Hanwha Systems' Articles of Incorporation is 200,000,000 shares (par value: 5,000 won), all issued shares are ordinary shares, and equal voting rights are granted according to the number of shares. 110,230,389 shares were issued and listed on November 13, 2019, and there are 110,121,845 outstanding shares, excluding 108,544 treasury shares. A board of directors' meeting was held on December 23, 2020, to acquire treasury stock and a total of 1,926,128 shares were held by January 25, 2021. On March 29, 2021, 8,163,265 shares were issued according to the resolution for capital increase with consideration. Currently, a total of 188,919,389 shares have been issued (outstanding shares excluding treasury shares: 186,993,261 shares).

Protection of Shareholder Rights

In accordance with the Articles of Incorporation, Hanwha Systems holds regular general meeting of shareholders within three months following the end of each business year and holds extraordinary general meeting of shareholders as necessary. All matters related to the general meeting of shareholders, including the date, location, and agenda of the meeting, are announced by the convening of the general meeting of shareholders up to 4 weeks prior to the meeting so that shareholders can exercise their voting rights

after sufficiently reviewing the agenda. In addition, we promote the effective exercise of voting rights by shareholders through providing accurate financial statements settled for consolidated subsidiaries.

We introduced an electronic voting system at the 2020 Regular General Meeting of Shareholders (March 23, 2020). In addition, we implemented an electronic proxy system for all shareholders so that shareholders may easily exercise their voting rights at the 2021 Regular General Meeting of Shareholders (March 23, 2021). We recommended the exercise of voting rights by proxy through this system, and we plan to continue to actively promote the system for the active exercising of shareholders' voting rights.

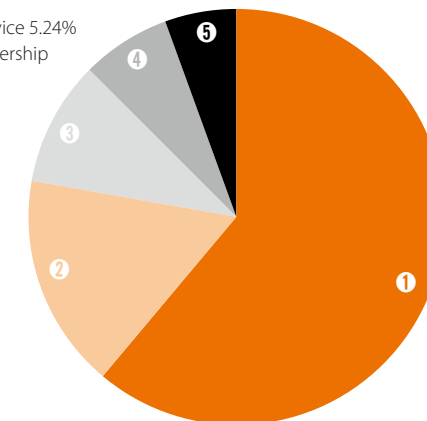
Furthermore, when holding the general meeting of shareholders, we joined in the efforts to spread the dates of general meetings by using the 'Program for Voluntary Dispersion of General Meeting of Shareholders' and avoiding holding the meeting on heavily scheduled days as much as possible. For smooth communication with our shareholders and enhancement of shareholder value, we announce quarterly performance results every quarter and post related explanatory materials and recorded files on our company website (<http://www.hanwhasystems.com>). Also, we disclose the phone number and e-mail address of the IR Department on the website so that all shareholders can receive corporate information in a timely and fair manner.

Major Shareholders

as of end of December 2020

Ownership

- ① Hanwha Aerospace 48.99%
 - ② H Solution 13.41%
 - ③ Helios S&C 7.78%
 - ④ National Pension Service 5.24%
 - ⑤ Employee Stock Ownership Association 4.60%
- Total 80.02%**



21st Regular General Meeting of Shareholders (March 23, 2021) and electronic voting



Distribution of financial performance

Unit: KRW million



* The main source of revenue for the ICT Division is IT services. Product purchases within the project aren't separately included.

Ethics & Compliance Management

Hanwha Systems operates various policies and systems to fulfill the ethical and legal responsibilities expected of us by society and to internalize ethics and compliance management. Through this, we aim to minimize related risks and maintain the trust of the market and our customers.

Key Performance



Next Step

In 2021, we plan to expand the number of internal compliance and ethics checks operated. In addition, we plan to improve the compliance education course to meet the needs and requirements of each trainee and enhance on-site compliance activities led by the person in charge of compliance.

Ethical Management System

Purpose & Concept of Ethical Management

Hanwha Systems reflects the sound ethical expectations and values demanded by our society in corporate decision-making. In addition, by clarifying legal responsibilities, we pursue a fair and just organizational culture that is in line with social norms and meanings. Through this, we strive to earn the trust of our customers and respect from society, redefine our challenges and values for sustainable growth, and realize corporate management that meets global standards.

Direction of Ethical Management Promotion

Goals	<ul style="list-style-type: none"> Grow as a company that is more trusted by customers and respected by society by taking the lead in sound corporate ethics and fair organizational culture Practice ethical management in line with global standards by redefining and practicing values that fit the characteristics of our company 		
Concepts	<p>Basic Definition</p> <ul style="list-style-type: none"> Corporate values that provide ethical judgment standards and voluntarily realization functions to employees and promotes it to be practiced by all parties, directly and indirectly, related to Hanwha Systems 	<p>Pursuing Values</p> <ul style="list-style-type: none"> Shared growth and distribution among our stakeholders, including customers, shareholders, employees, business partners, and local communities 	<p>Subject</p> <ul style="list-style-type: none"> All domestic and foreign employees of Hanwha Systems and employees of all domestic and foreign partnering companies and institutions that do business with Hanwha Systems

Code of Ethics

We established the Code of Ethics to fulfill our original role and social responsibilities in all our business activities. We posted the Ethical Management Standards on our website and disclosed the Code of Ethics, Standards for Judgement of Corruption, and Employee Guidelines (ethical management section) on the company intranet for all employees to uphold as a standard for proper value judgment and behavior.

Practice of Ethical Management

Raising Ethical Awareness of Employees

Hanwha Systems discloses the Code of Ethics on the Ethical Management page of its website in order to raise the level of awareness among employees about ethical management practices. In addition, we disseminate cases of regulation violations such as embezzlement of company expenses and assets, misappropriation of money and assets, bribery, fraudulent practices, harm to business partners, hospitable treatment, information leakage, and sexual harassment by posting the Standards for Judgement of Corruption and employee guidelines. Each year, employees regularly receive ethical management training, including prevention of corruption and sexual harassment and prohibition of discrimination against persons with disabilities.

Ethics & Compliance Pledge

Each year, all our executives and employees submit an Ethics & Legal Compliance Pledge, promising to familiarize themselves with ethics and compliance regulations and to abide by policies and systems. Contents of the pledge include abiding by the Code of Ethics and Employee Guidelines and not engaging in unjust or unfair acts, such as giving or receiving money or hospitable treatment, which are prohibited by relevant laws and regulations.

Ethical Management Monitoring • Whistle Blowing System

To enable direct reporting of violations of the Code of Ethics and other misconducts, we operate a 'Report' tab (e-mail, fax, telephone) on the Ethical Management page of our website. At the same time, violations can be freely reported from both inside and outside the company through the 'Cyber Report' page on our company intranet. When a report is received, the department in charge conducts procedures on personal relationships, analysis, and interviews. Results of the investigation are reported to the CEO, verbally or in writing, and disciplinary actions proceed upon confirmation of allegations of corruption. The proceeded result is notified by phone or e-mail, the identity of the whistleblower, report details, and confidential matters thoroughly protected, and relevant information is shared during anti-corruption education sessions to prevent recurrence of such incidents.

Full Code of Ethics (main content)



Internal Ethics • Corruption • Compliance Check

Hanwha Systems conducted a total of 15 internal compliance and ethical checks in 2020. Of those were 12 regular subcontract inspections, 2 compliance voluntary inspections, and 1 themed inspection. In 2021, we plan to increase this number to promote even more thorough internal monitoring.

Compliance Management System

Compliance Management System

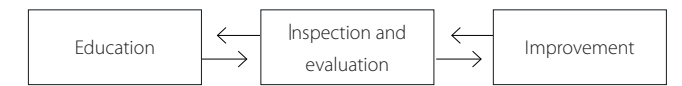
Hanwha Systems recognizes that compliance management is the best way to protect employees and is an essential requirement for the sustainable growth of the company. We provide compliance support and control activities, such as education, inspection, and advice at all times to ensure that employees thoroughly comply with relevant laws and regulations when performing their respective duties. Under the stipulations of the Commercial Act, we appointed a compliance officer through the board of directors and, in January 2020, newly established the Compliance Team, an organization in charge of compliance management, within the Legal Office under the direct control of the CEO to practice compliance management. We operate a legal compliance council system for each department composed of compliance officers to practice on-site compliance management, and the results are reported to the board of directors.

Compliance Risk Management

Hanwha Systems is in charge of various legal/compliance risks in the Legal Team and Compliance Team in the Legal Department.

The legal team manages possible risks by providing advice and legal responses to domestic and overseas contracts and legal issues. The Compliance Team conducts various activities such as education, inspection, and improvement to prevent risks in ethics/compliance/anti-corruption that may occur during business operation.

Prevention of Legal Risks through a Virtuous Cycle of Compliance



Practice of Compliance Management

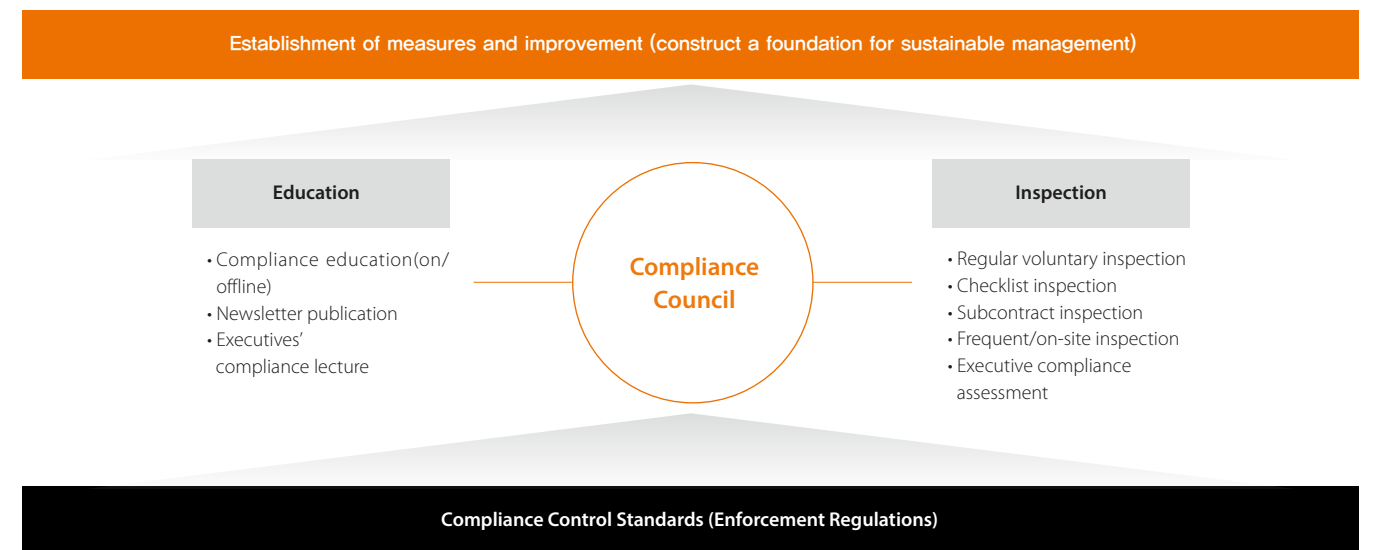
Compliance Program (CP)

The Compliance Program is an ethical management practice program for employees to voluntarily comply with related laws and to protect corporate ethics. It is a preventive, regular, and integrated system and activity that minimizes or prevents various risk factors that threaten our corporate activities. Through this program, Hanwha Systems effectively protects the company, its employees, shareholders, and customers from related risks.

Promotion Goals

- Prevent violations of related laws and minimize damages (prevention of corporate damage, protection of employees)
- Ensure voluntary compliance management and build a sustainable management environment trusted by customers
- Create integrated value to contribute to a sustainable society

Compliance Management Promotion System



Enhancement of Employee Compliance Awareness

We provide regular compliance education for all employees at least once a year. We operate a variety of compliance education courses, including introductory training for new/experienced employees, training for compliance officers, and on-site education sessions tailored to the needs of each department (introduced in 2021), and are expanding and upgrading the courses. Going forward, we plan to continue to improve the compliance education process, for instance, by reinforcing the customized education for each department, and to strengthen on-site compliance activities led by the person in charge of compliance.


Target Personnel	Education Course	Completion Rate	Total Completed
All executives & employees	Executive & Employee Compliance Education	93%	3,774 employees
Selected executives & employees	Introductory Course for New Hires	100%	
	Education for Personnel in Charge of Compliance	100%	

Publication of Compliance Newsletter

Each week, we publish the 'Compliance Newsletter' consisting of legislations and amendments, compliance trends and incidents, and legal education, and send it to our executives by e-mail. At the same time, we post the newsletter on the company bulletin for all our employees to prevent legal risks and raise employee awareness of compliance.

2020 Compliance Training

Management target



Compliance list for management target

- Fair trade
- Safety • Health • Environment
- People • Organizational culture
- Anti-corruption
- Intellectual property
- Personal information security
- Military secret protection
- Trade secret protection
- Supply Chains

Compliance Control Activities


Hanwha Systems provides frequent legal advice regarding anti-corruption. We use a checklist prepared for each law, including anti-corruption, to conduct a regular voluntary inspection on all departments twice a year (once each half year) to self-inspect the risk of violation of the relevant law, and analyze and reflect the results to improve our business processes. Through these compliance control activities, we preemptively prevent the risk of legal violations and conduct business with transparency.

Fines and non-monetary sanctions imposed for violation of laws and regulations


Category		2018	2019	2020
Violation of Laws & Regulations	Total fines	0	0	0
	Number of lawsuits	4	5	2
	Number of non-monetary sanctions	2	1	0
Violation of Fair Trade	Total number of corruption and bribery cases	0	0	0
	Number of Fair Trade violations	1	1	0

Unit: case


CP promotion structure



• Preventive management
Preventive management for prevention of compliance risks (spread mindset through compliance education)



• Inspection/monitoring
Conduct regular inspections and monitoring on compliance risks to be managed

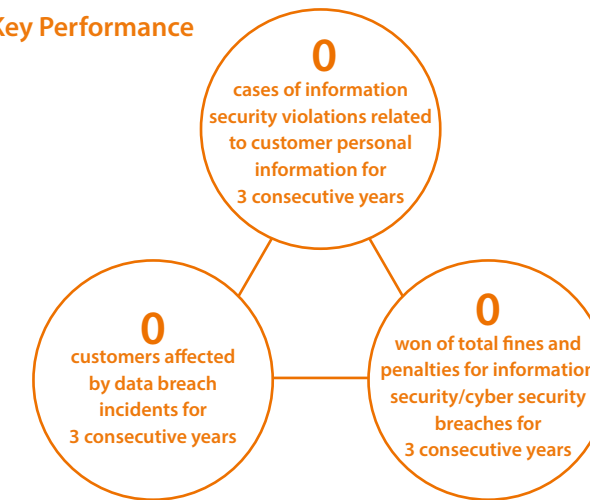


• Follow-up management
Problems of compliance management & improvements
Management of the implementation of requirements

Information Security

Information security is a core factor that determines the success or failure of a company in the 4th Industrial Revolution era. As a Defense/ICT company, Hanwha Systems thoroughly protects and manages corporate information and strengthens the data security management system and organization to prevent external leakage of information acquired during work.

Key Performance



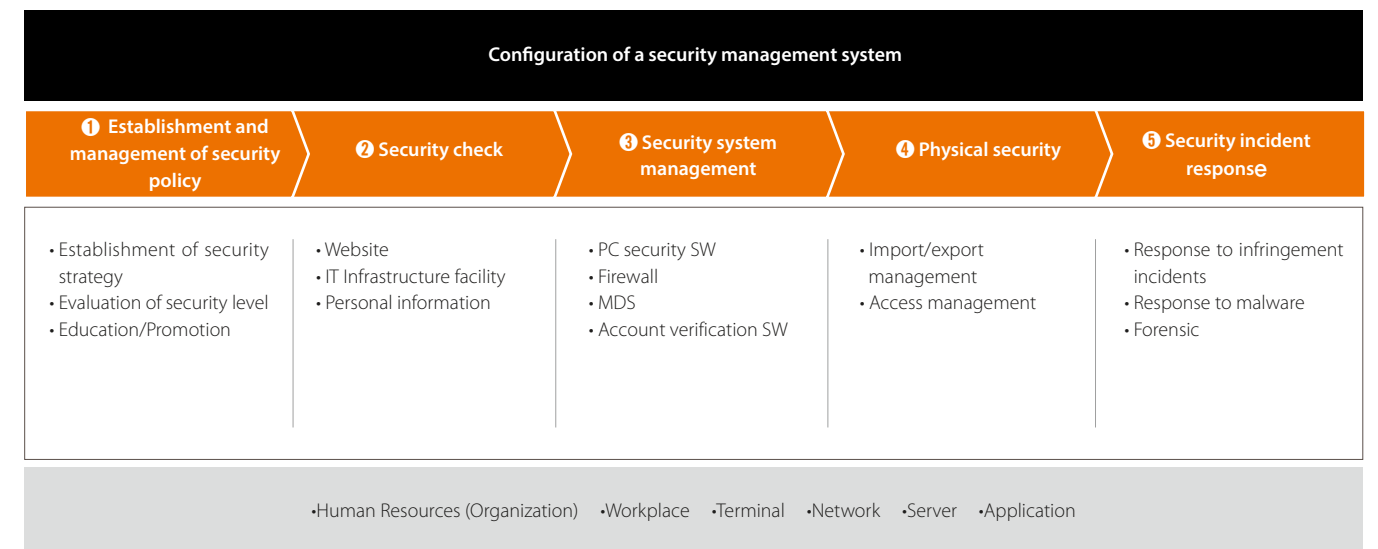
Next Step

To protect the valuable information of our company and customers more safely and effectively, we aim to secure the organizational structure led by the Chief Information Security Officer (CISO) and Chief Privacy Officer (CPO). In addition, we will actively respond to potential information security risks by continuously implementing activities to enhance employees' information security awareness.

Information Security Management System Information Security Policies & Certifications

Hanwha Systems operates an information security management system to efficiently manage and protect major information and assets. By utilizing this system, we aim to comply with domestic and foreign laws on data security, including the Information & Communications Network Act and Personal Information Protection Act, and effectively prevent and respond to security incidents. We acquired the initial Information Security Management(ISO 27001) in 2005 and have acquired and are managing the Information Security Management System(ISMS) since 2013, designation as a major information and communication infrastructure since 2015, and Cloud Security Certification (ISO 27017) since 2016.

Information security management process





Information Security & Security Incident Response Activities

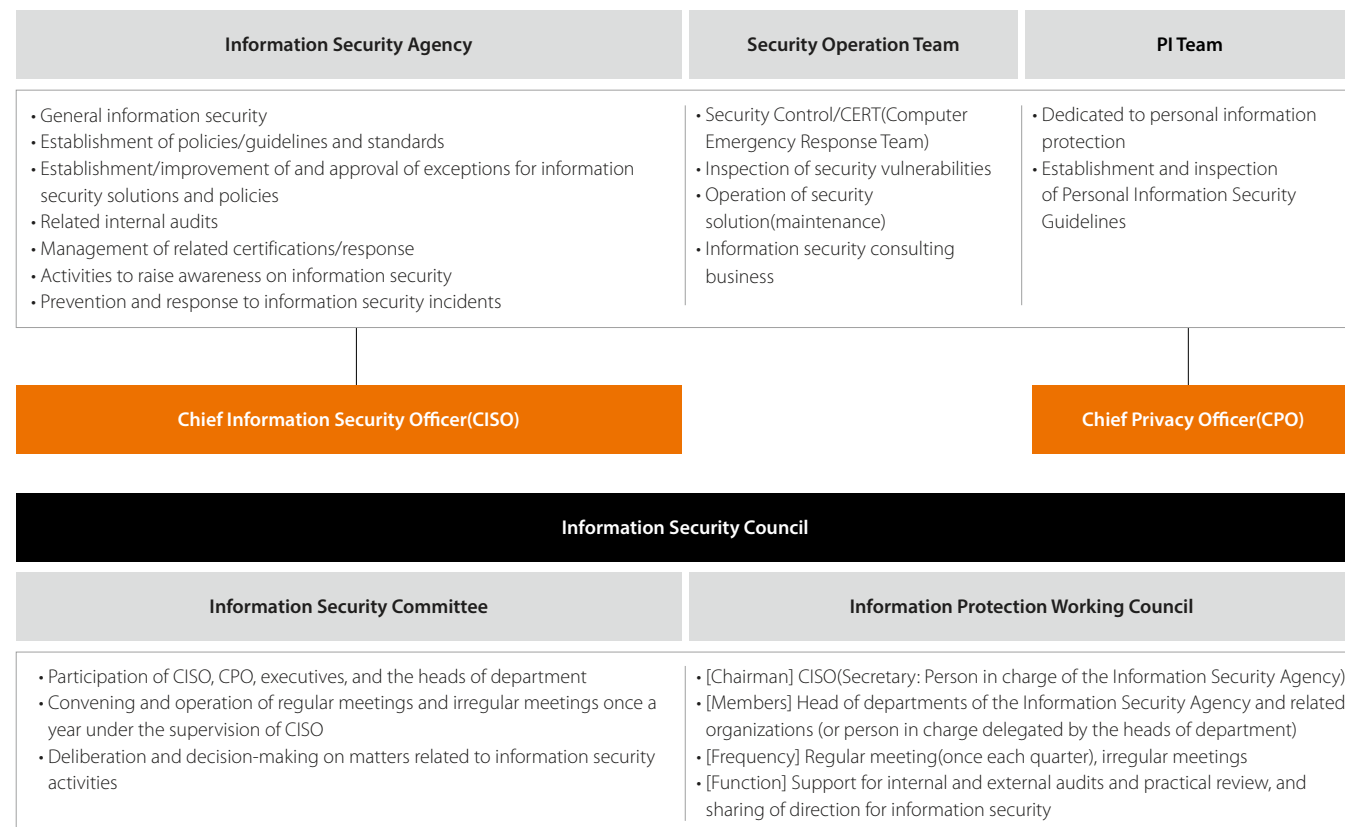
Enhancement of Information Security

Each year, Hanwha Systems conducts an annual evaluation of information security levels in 5 management areas and 24 control areas to prevent security incidents. In addition, we conduct annual inspections to monitor compliance with our personal information security regulations and management activities. The Chief Privacy Officer reviews the inspection result report, establishes an action plan, and manages the action details. Hanwha Systems has thoroughly prepared for related issues by creating an organization dedicated to personal information infringement incidents and by making clear the division of responsibilities. Furthermore, we manage personal information safely under relevant laws by collecting only the minimum information required by law, storing it with encryption, and destroying personal information when its purpose is achieved. We check the processing status of personal

Information Security Organization

Hanwha Systems actively responds to information security issues by appointing the Chief Information Security Officer(CISO) and Chief Privacy Officer(CPO). In addition, we organized an Information Security Council under which an Information Security Committee and the working-level council are operated to establish a constant response system that can solve problems immediately even in the face of unexpected crises.

Information Security Organization System



information regularly and manage and supervise so that personal information is not leaked, altered, or damaged.

Internal Information Leakage Prevention System

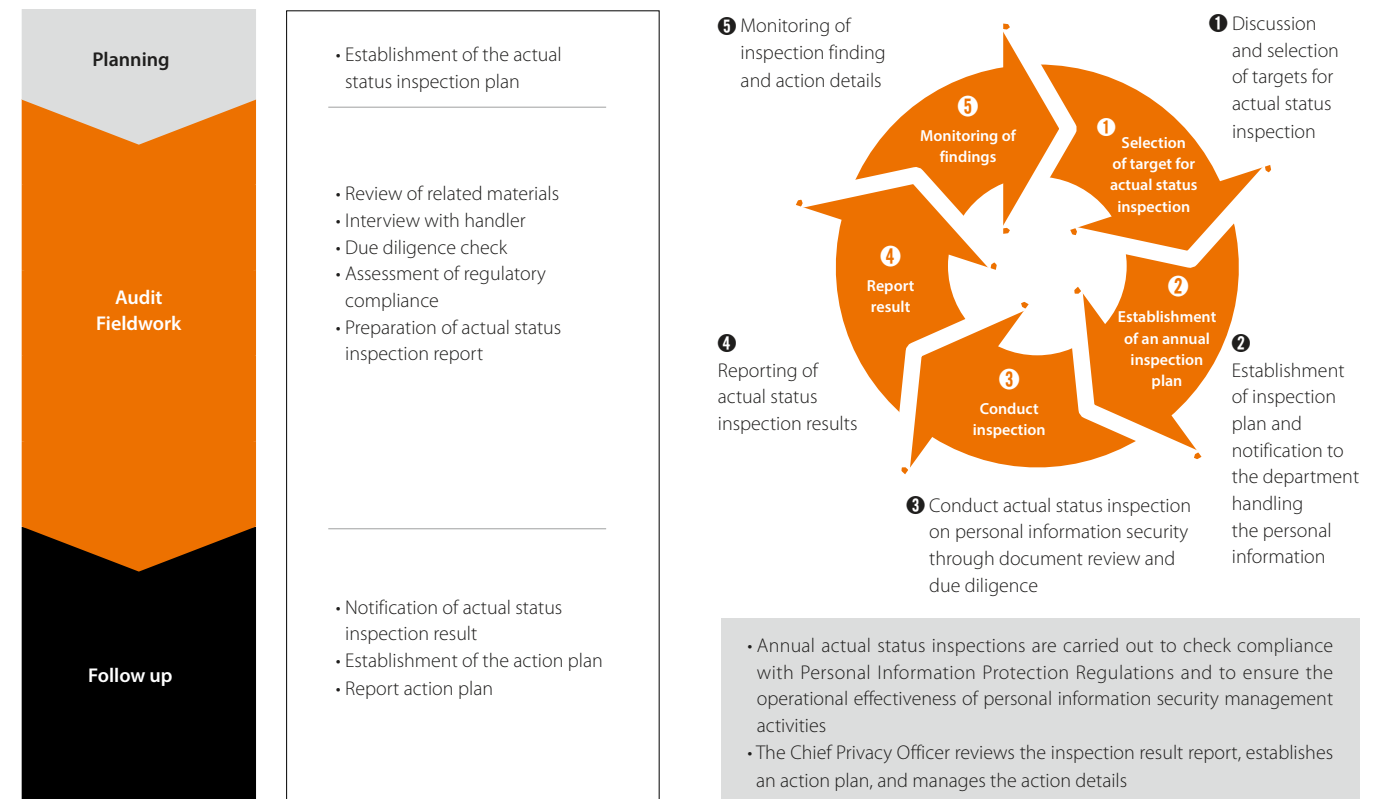
In order to prevent security incidents such as leakage of internal information due to malicious intent, we established and operate PC security, document encryption, separation of internal/external networks, and intelligent threat response systems. We also implemented an access control solution as well as two-factor authentication for accessing servers or databases to control unauthorized access or access by unauthorized personnel to terminals. Our Data Center is equipped with an X-ray scanner and a metal detector to control check-ins and check-outs of portable storage medium and computerized devices. PCs are mandatorily formatted upon check-out in order to prevent information leakage and security incidents

Security activities to secure the highest level of security in the industry

Operation and management of information security management system	<ul style="list-style-type: none"> Evaluation of information security levels Regular inspection of IT infrastructure Response training for intrusion incidents and malware Security check of supplier employees
Domestic and foreign certifications on information security system	<ul style="list-style-type: none"> Information Security Management System(ISMS) ISO 27001, ISO 27017 Important Information Communication Base Facility
Response activities to new security threats/control of physical security threats	<ul style="list-style-type: none"> Irregular IT infrastructure vulnerability inspection and removal activities Identification/removal of vulnerabilities of CVE* for enhanced response to zero-day attacks Management of import/export of information assets, constant monitoring of Data Center facilities

* CVE: Publicly known S/W security vulnerabilities

Personal information security management process



Information Protection Education for Employees

In order to protect the personal information of our employees and raise awareness, we conduct online/offline education sessions for new hires and personnel in charge. In addition, we conduct various events to raise our employees' awareness of information security, such as security pledge requirements, personal information protection, and information security education sessions, and information security quizzes.

Personal Information & Information Security Education Programs for Employees

- Information security education for new hires
- Professional training sessions to strengthen information security capabilities for IT infrastructure operators and developers
- On-site security inspection and training
- Regular education on personal information and information security for all executives and employees

Information Security Education & Management of External/ Subcontractor Employees

Hanwha Systems provides information security education and continuously conducts autonomous inspections on related matters to prevent information security incidents by external personnel and supplier employees. In particular, the Integrated Data Center (IDC) prohibited the check-in and use of external PCs and has increased the number of available shared PCs to prevent security incidents. Furthermore, IDC strives to prevent security threats from external personnel in advance, such as by promoting the introduction of VDI for external personnel.

Configuration of an information security management system (PDCA model)



Risk Management

Hanwha Systems established a corporate risk management system to effectively respond to the rapidly changing corporate environment and minimize uncertainty. In addition, we plan to strengthen our risk management by establishing a Risk Management Committee (within 2021). Furthermore, we will identify potential risks that may affect our business mid-to long-term in addition to short-term financial and non-financial risks and will further develop our management level by responding to these risks.

Key Performance



Next Step

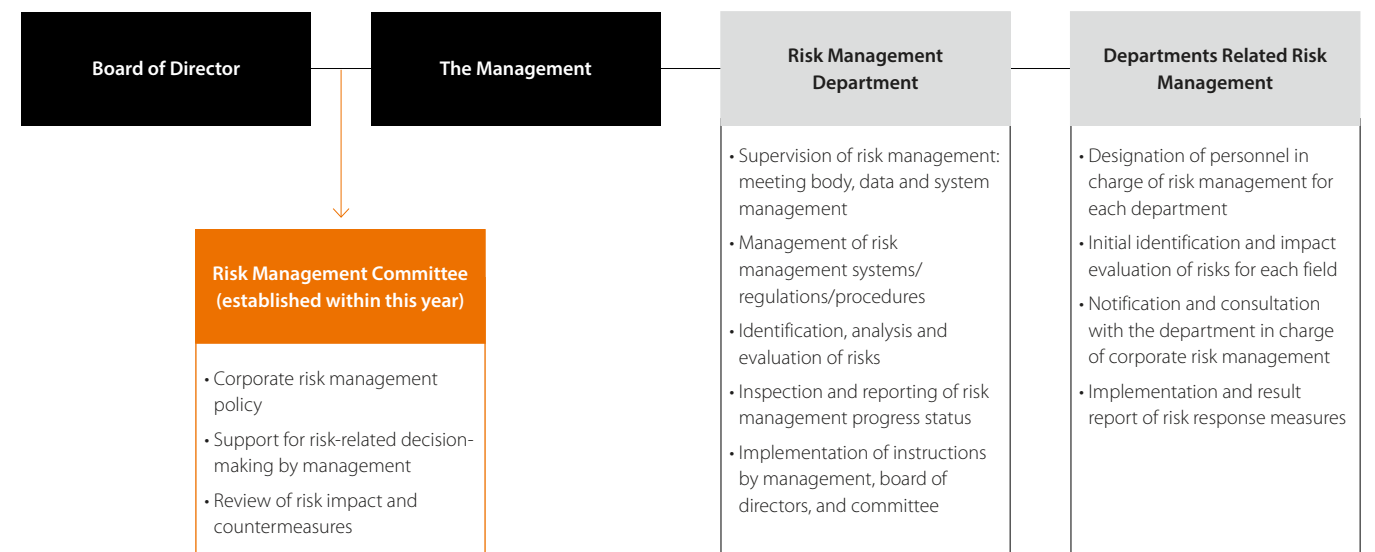
We will strengthen our corporate risk management system and organization and continue to enhance risk management by each type. We will also strive towards stable business operation by identifying risks that may arise in the process of carrying out new businesses in advance.

Corporate Risk Governance
Corporate Risk Management System

In line with the enhancement of our corporate ESG management, Hanwha Systems re-established the basic principles and procedures for financial and non-financial risk management and improved the management organization and reporting system. We also integrated and managed risks by type at the corporate level to manage potential losses that may occur in relation to our business activities.

By setting and managing risk levels in line with business goals and strategies, but also within the scope where our original business activities, such as sales, are not diminished due to excessive control, we are able to meet the expectations of our stakeholders for stable business operation and maintain sustainable growth. In 2021, we plan to enact a corporate risk management regulation to materialize the basic principles and procedures for advanced risk management.

Risk Management Organizational System



Risk Management Organization

Hanwha Systems seeks to identify and manage risk factors in a timely manner by establishing a Risk Management System, consisting of a Risk Management Committee and departments in charge, under the management. The Risk Management Committee (to be established within this year) is the overall responsible body for corporate risk management which inspects and reviews risk-related activities by each field and supports management's decision-making. The Committee is composed of major executives and heads of management organizations and performs its role through regular quarterly meetings as well as irregular meetings, if necessary. The Risk Management Department oversees the management of risks identified at the corporate level while departments related risk management are responsible for initial risk identification and implementation of countermeasures.

Risk Management Process

The Risk Management Process consists of 4 stages- risk identification, analysis, response, and monitoring. Priority levels are set, and management is performed effectively according to the characteristics of each risk.

Financial Risk Management

We prepare for the unpredictability of the capital market by systematically classifying financial risks that may arise from business activities and establishing customized response strategies.

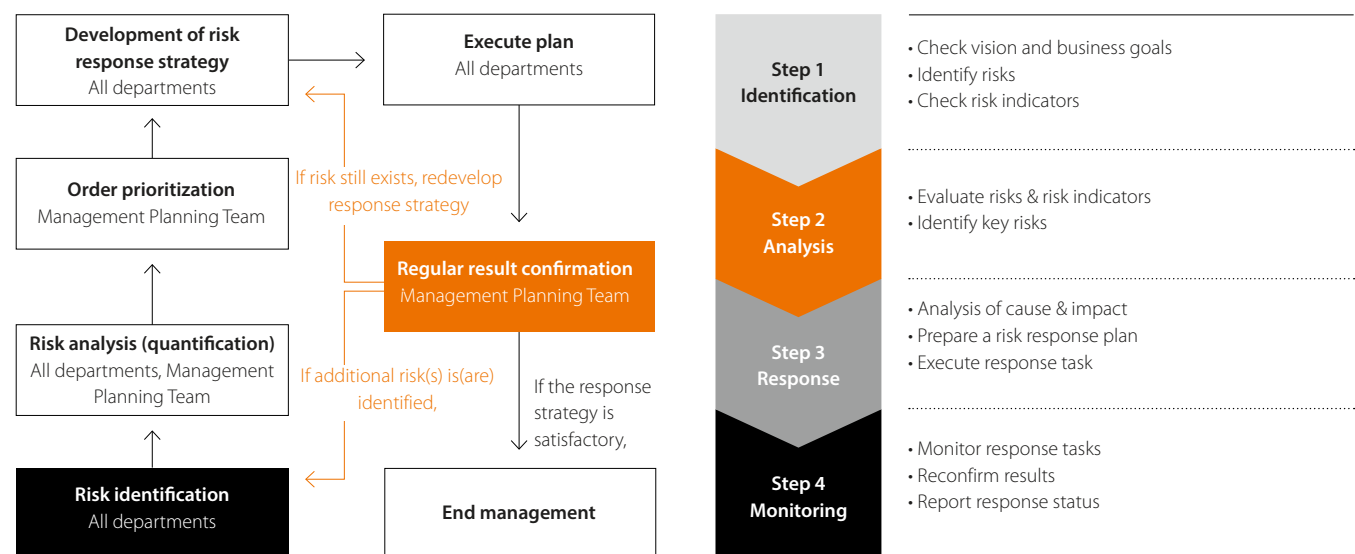
Tax Risk Management System

In order to fulfill our responsibilities to our customers, country, and local community, we abide by the tax laws and faithfully fulfill our tax reporting and payment obligations. Based on a thorough understanding of each country's tax policy, our tax department evaluates tax risks from various angles and implements in accordance with the tax laws of the respective countries. In addition, the department reviews possible tax risks by each country in advance and remediates the identified issues. In order to prevent tax risks caused by changing tax policies, we continuously monitor domestic and foreign tax laws as well as tax trends of each country and reflect it in our tax policy. We faithfully fulfill our duties as a taxpayer by thoroughly complying with regulations on the prevention of tax avoidance and tax evasion and maintain a relationship of transparency with the tax authorities of each country.

Potential Risk Management

Hanwha Systems identifies and manages risk factors that are expected to have a significant impact on management due to changes in the global business environment. We are making effort to establish preemptive countermeasures and transform potential risks into opportunities.

Risk Management Process



Non-financial Risk Management

Risk type	Details	Response strategy
Business risk	Possible risks that may occur during business execution, such as delayed delivery and non-fulfillment of requirements in all businesses with signed contracts/agreements	<ul style="list-style-type: none"> Supervision of quality management system and failure rate through the total life cycle Advanced customer management strategy by customer opinions
Legal risk	Risk of loss to the company due to violation of related laws or obligations, litigations, or institutional changes	<ul style="list-style-type: none"> Field-oriented risk management through the Compliance Council Pre-confirmation of legal risks and minimization of damages through the operation of a Compliance Program
Operational risk	Risks inherent to all business activities due to problems in security, human resources, and environmental safety that may occur due to improper or incorrect internal procedures, intentionally, or through negligence	<ul style="list-style-type: none"> Reinforcement of administrative, technical, and physical information security Operation of a management system for issues related to major business operations, including the environment and employees

Financial Risk Management

Risk type	Details	Response strategy
Exchange rate risks	Risk of fluctuations in the value of foreign currency denominated transactions, foreign currency denominations, and financial statements items due to unexpected exchange rate fluctuations	<ul style="list-style-type: none"> Consideration of whether measures are in place for the risk of exchange rate fluctuations (select hedging) Periodic evaluation, management, and reporting of exposure risks of bonds and debts denominated in foreign currency (e.g. executed by the Exchange Management Committee each quarter)
Interest rate risk	Risk of the company's net asset value decreasing when interest rates change due to a mismatch in the maturity and interest rate structure of assets and liabilities	<ul style="list-style-type: none"> Minimization of net interest and uncertainties arising from interest rate fluctuations (management of borrowings/savings and deposits/savings for each financial institution)
Credit risk	Risk of loss due to counterparty default or credit rating downgrade	<ul style="list-style-type: none"> Periodic financial credit evaluation and setting of the credit limit considering customer/counterparty's financial condition, etc. Transactions with high-credit financial institutions
Liquidity risk	Risk of loss by the company due to a mismatch between fund management and procurement period, unexpected insolvency, high interest rate procurement, and unfavorable sale of assets	<ul style="list-style-type: none"> Maintaining appropriate liquidity and conducting risk management through regular forecasting and adjustment of money balance
Capital Risk	Risks that arise due to price fluctuations of securities, real estate, or other tangible fixed assets, such as vehicles or machinery	<ul style="list-style-type: none"> Maintaining a sound capital structure and managing capital risks through periodic reporting and forecasting of the debt ratio
Market risk	Risk of decline in the value of business and assets due to market fluctuations, such as government policy, market/political environment, and company reputation	<ul style="list-style-type: none"> Regular market trend research in defense and civilian markets Efficient response to changes in the external environment, such as government policy

Key Potential Risk Management

Risks	Information security	Transformation of technology and industrial structure
Details	<ul style="list-style-type: none"> Risks that may arise in the process of collecting, leakage, and utilizing personal information of customers and employees Threats to the company's major information assets and operational stability due to causes including cyber-attacks and system breakdown 	<ul style="list-style-type: none"> Risks that may arise due to failure to preemptively respond to industrial restructuring following digital transformation
Potential business impact	<ul style="list-style-type: none"> If information security isn't thoroughly secured, reputational risks and legal sanctions may arise due to leakage of customer information A stable security system is required in case of external hacking and unexpected situations 	<ul style="list-style-type: none"> Core R&D talent must be secured to respond to the future defense industry Restrictions apply on entry into new markets if technology and systems are not in place (opportunity for new business expands when relevant capabilities are secured)
Response efforts	<ul style="list-style-type: none"> Regular information protection education and inspection for employees Enhancement of capabilities of security personnel Advancement of the corporate cybersecurity and information protection management system (constant response) Maintaining external certifications such as ISO 27001, ISO 27017, ISMS certification 	<ul style="list-style-type: none"> Expansion of business capabilities based on new digital technologies, such as AI and cloud Discovery of new businesses using ICT capabilities and defense business technology Diversification of business fields such as finance, manufacturing, and service

ESG FACTBOOK

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Financial Statements

Consolidated Financial Position		Unit: KRW		
	2018	2019	2020	
Assets				
Current assets	1,070,178,401,185	1,524,614,486,812	1,683,884,267,079	
Cash and cash equivalents	204,171,938,433	564,017,008,354	539,872,668,521	
Trade and other receivables	204,793,967,045	174,453,035,196	157,733,032,498	
Other financial assets	12,151,156,726	52,057,363,673	12,824,727,521	
Other current assets	271,455,718,818	452,687,025,822	609,565,949,187	
Inventories	377,605,620,163	281,400,053,767	363,887,889,352	
Non-current assets	831,359,660,173	884,630,052,883	1,011,185,856,342	
Trade and other receivables	12,446,862,466	11,744,094,867	4,653,042,698	
Financial asset at fair value through profit or loss	11,706,025,020	14,661,641,460	22,162,281,962	
Financial asset at fair value through other comprehensive income	1,002,915,000	197,847,065	0	
Other financial assets	11,805,270,816	12,669,926,621	16,022,257,083	
Investments in associates	0	0	24,133,078,143	
Property, plant and equipment	219,223,061,205	216,595,363,247	217,504,642,898	
Right-of-use assets	0	39,711,402,642	86,545,525,117	
Intangible assets	515,615,993,960	531,676,909,400	550,426,210,059	
Other non-current assets	6,397,710,470	2,349,033,662	2,526,706,808	
Deferred tax assets	53,161,821,236	55,023,833,919	87,212,111,574	
Total assets	1,901,538,061,358	2,409,244,539,695	2,695,070,123,421	
Liabilities				
Current liabilities	872,581,020,302	1,170,276,823,296	1,359,777,605,909	
Trade and other payables	137,926,561,515	163,950,449,641	110,388,865,718	
Borrowings and debentures	72,107,090,237	70,000,000,000	39,998,224,530	
Other financial liabilities	24,799,927,986	48,500,307,429	54,757,894,282	
Other current liabilities	633,723,770,929	873,228,643,014	1,127,235,746,669	
Provisions	214,426,807	0	13,007,693,858	
Current tax liabilities	3,809,242,828	14,597,423,212	14,389,180,852	
Non-current liabilities	207,991,486,960	270,527,127,380	302,610,137,553	
Borrowings and debentures	49,085,954,478	69,854,009,429	59,903,325,544	
Other financial liabilities	182,614,179	16,850,729,792	66,158,386,356	
Net defined benefit liabilities	134,627,314,806	158,790,303,886	159,187,616,988	
Provisions	24,095,603,497	25,030,175,825	17,360,808,665	

	2018	2019	2020
Deferred tax liabilities	0	1,908,448	0
Total liabilities	1,080,572,507,262	1,440,803,950,676	1,662,387,743,462
Equity			
Equity attributable to owners of the Parent Company	820,965,554,096	968,440,589,019	1,032,682,379,959
Share capital	510,335,620,000	551,151,945,000	551,151,945,000
Capital surplus	269,144,991,928	327,003,396,409	328,046,504,249
Capital adjustments	0	0	(739,290,460)
Accumulated other comprehensive loss	(88,653,440)	(1,617,871,751)	(2,794,490,607)
Retained earnings	41,573,595,608	91,903,119,361	157,017,711,777
Non-controlling interest	0	0	0
Total equity	820,965,554,096	968,440,589,019	1,032,682,379,959
Total liabilities and equity	1,901,538,061,358	2,409,244,539,695	2,695,070,123,421

Consolidated Statements of Comprehensive Income

Unit: KRW

	2018	2019	2020
Revenue	1,128,924,550,887	1,545,983,879,623	1,642,854,571,594
Cost of sales	985,156,652,844	1,310,510,602,044	1,395,324,672,962
Gross profit	143,767,898,043	235,473,277,579	247,529,898,632
Selling and administrative expenses	98,986,640,161	149,711,295,969	154,666,488,461
Operating profit	44,781,257,882	85,761,981,610	92,863,410,171
Other income	2,255,673,538	2,638,354,385	3,693,347,414
Other expenses	4,632,349,436	8,788,954,546	11,289,099,071
Finance income	3,630,967,528	7,665,900,462	6,751,637,000
Finance costs	3,831,670,197	5,105,742,470	8,682,514,526
Share of net profit of associates and joint venture accounted for using the equity method	0	0	(4,261,433,277)
Profit before income tax	42,203,879,315	82,171,539,441	79,075,347,711
Income tax expense(income)	961,570,456	9,275,429,766	(14,505,196,589)
Profit(loss) for the year	41,242,308,859	72,896,109,675	93,580,544,300
Other comprehensive income or loss	(9,334,129,776)	(8,275,400,013)	4,528,849,850
Total comprehensive income or loss for the year	31,908,179,083	64,620,709,662	98,109,394,150
Basic earnings per share			
Basic earnings per share	556	706	850

Consolidated Statements of Changes in Equity

Unit: KRW

	Share capital	Capital surplus	Capital adjustments	Accumulated other comprehensive income(loss)	Retained earnings	Total
Balance at January 1, 2019	510,335,620,000	269,144,991,928	-	(88,653,440)	41,573,595,608	820,965,554,096
Comprehensive income (loss) for the year						
Profit for the year	-	-	-	-	72,896,109,675	72,896,109,675
Gain on valuation of financial assets at fair value through other comprehensive income	-	-	-	(1,580,205,653)	-	(1,580,205,653)
Loss on valuation of derivatives	-	-	-	(184,795)	-	(184,795)
Translation of foreign currency financial statements	-	-	-	51,172,137	-	51,172,137
Adjustment amount for profit or loss (overlay adjustment)	-	-	-	-	(6,746,181,702)	(6,746,181,702)
Transaction with shareholders						
Paid-in capital increase	40,816,325,000	57,858,404,481	-	-	-	98,674,729,481
Dividends	-	-	-	-	(15,820,404,220)	(15,820,404,220)
Balance at December 31, 2019	551,151,945,000	327,003,396,409	-	(1,617,871,751)	91,903,119,361	968,440,589,019
Balance at January 1, 2020	551,151,945,000	327,003,396,409	-	(1,617,871,751)	91,903,119,361	968,440,589,019
Comprehensive income (loss) for the year						
Profit for the year	-	-	-	-	93,580,544,300	93,580,544,300
Gain on valuation of financial assets at fair value through other comprehensive income	-	-	-	(149,968,075)	-	(149,968,075)
Loss on valuation of derivatives	-	-	-	81,162,828	-	81,162,828
Translation of foreign currency financial statements	-	-	-	(538,091,993)	-	(538,091,993)
Gain on Valuation of Investment Stock Using the Equity Method	-	-	-	(569,721,616)	-	(569,721,616)
Adjustment amount for profit or loss (overlay adjustment)	-	-	-	-	5,705,468,706	5,705,468,706
Transaction with shareholders						
Grant of share options	-	1,043,107,840	-	-	-	1,043,107,840
Acquisition of treasury shares	-	-	(739,290,460)	-	-	(739,290,460)
Dividends	-	-	-	-	(34,171,420,590)	(34,171,420,590)
2020,12,31	551,151,945,000	328,046,504,249	(739,290,460)	(2,794,490,607)	157,017,711,777	1,032,682,379,959

Consolidated Statement of Cash Flows		Unit: KRW		
	2018	2019	2020	
Cash flows from operating activities	113,044,282,299	408,620,564,116	174,791,239,735	
Net cash inflow from operating activities	(22,458,965,489)	(133,425,032,668)	(99,618,837,775)	
Proceeds from disposal of financial assets at fair value through profit or loss	25,890,494	8,706,978	10,450,010	
Acquisition of financial assets at fair value through profit or loss	(26,980,000)	(3,008,880,000)	(7,014,294,791)	
Acquisition of financial assets at fair value through other comprehensive income	(1,002,915,000)	(1,279,636,093)	0	
Acquisition of Investments in Associates	0	0	(28,964,233,036)	
Decrease in short-term financial instruments	200,000,000	7,090,477,406	76,406,321,621	
Increase in short-term financial instruments	(1,125,544,000)	(43,967,000,000)	(33,539,321,621)	
Decrease in long-term financial instruments	2,000,000	0	0	
Increase in long-term financial instruments	(1,002,000,000)	(2,500,000,000)	(3,800,000,000)	
Decrease in long-term loans	663,364,700	356,736,350	666,273,200	
Increase in long-term loans	(447,000,000)	(240,000,000)	(4,820,095,245)	
Disposal of Property and Equipment	24,199,092	139,434,330	361,384,823	
Acquisition of Property and Equipment	(35,569,660,231)	(42,486,491,206)	(45,626,428,899)	
Disposal of Intangible Assets	64,136,364	52,018	1,604,879,574	
Acquisition of Intangible Assets	(27,213,461,003)	(46,684,016,879)	(46,273,209,993)	
Decrease in deposits	301,106,000	372,236,444	3,282,084,256	
Increase in deposits	(321,930,173)	(1,227,102,016)	(3,090,757,674)	
Dividends income	0	450,000	10,350,000	
Cash outflows for business combination	0	0	(8,832,240,000)	
Cash inflows for business combination	42,969,828,268	0	0	
Cash flows from financing activities	(11,071,100,000)	84,594,219,574	(97,617,988,472)	
Increase in short-term borrowings	383,805,000,000	117,608,570,000	388,466,260,000	
Decrease in short-term borrowings	(423,805,000,000)	(117,608,570,000)	(428,466,260,000)	
Repayment of current portion of long-term borrowings	(1,071,100,000)	(4,284,400,000)	(30,000,000,000)	
Decrease in long-term borrowings	0	(6,962,150,000)	0	
Increase in long-term borrowings	30,000,000,000	0	30,000,000,000	
Repayment debentures	0	(30,000,000,000)	0	
Increase in debentures	0	59,844,380,000	0	
Lease payments paid	0	(16,857,935,687)	(22,707,277,422)	
Acquisition of treasury shares	0	0	(739,290,460)	
Dividends paid	0	(15,820,404,220)	(34,171,420,590)	
Paid-in capital increase	0	98,674,729,481	0	
Net increase in cash and cash equivalents	79,514,216,810	359,789,751,022	(22,445,586,512)	
Cash and cash equivalents at the beginning of the financial year	124,651,345,631	204,171,938,433	564,017,008,354	
Exchange gains on cash and cash equivalents	6,375,992	55,318,899	(1,698,753,321)	
Cash and cash equivalents at the end of the year in the consolidated statement of financial position	204,171,938,433	564,017,008,354	539,872,668,521	

ESG Data

Business-Economic Performance

1) Stock and Dividends

Item	Unit	2018	2019	2020	
Stock	Issued shares	No. of shares	51,033,562	110,230,389	110,230,389
	Outstanding shares	KRW million		110,230,389	110,121,845
Dividends	Total dividends	KRW million	15,820	34,171	25,328
	Dividend payout ratio	%	38.36	46.88	27.07
	Dividends per share	KRW	310	310	230

2) BOD Operations

Item	Unit	2018	2019	2020	
Board of Directors	BOD Meetings Held	Number of times	13	14	11
	Attendance of Directors in BOD Meetings	%	100	99.2	100
Board of Directors	Internal directors	Number of persons	4	2	3
	Independent directors		2	4	4
	Submitted items	Number of items	33	48	38

3) CEO Remuneration

Item	Unit	2018	2019	2020
Total CEO Remuneration	One million won	1,033	981	545

4) Economic Values Distributed

Item	Unit	2018	2019	2020	
Employees	Wages		215,390	288,922	313,788
	Welfare & benefits		50,953	65,576	65,800
Suppliers	Purchases		534,657	534,824	783,915
Shareholders & Investors	Total cash dividends	KRW million	15,820	34,171	25,328
	Interest expense		3,726	4,960	6,231
Government	Income taxes, etc.		962	9,275	(14,505) ¹⁾
Communities	Funds raised from Hanwha Systems		187	190	199
	Funds raised from employees		131	315	297

1) 2020 Tax refund

5) R&D Investment

Item	Unit	2018	2019	2020
R&D expenditures	KRW million	157,822	253,908	280,373
Government subsidy		1,513	1,146	2,015
R&D expenditures against sales	%	14.07	16.71	17.18
Accumulative Patent Registrations by Year	No. of Cases	n/a	1,050	1,307

Social Performance

1) Employee Data¹⁾

Item	Unit	2018	2019	2020
Total employees		3,388	3,611	3,692
By employment contract	Permanent	3,321	3,515	3,586
	Temporary	67	96	106
By gender	Male	2,942	3,104	3,170
	Female	446	507	522
By region	HQ employees	1,257	1,392	1,215
	Local Operations employees	2,131	2,219	2,477
By age	Under 30	629	734	755
	Between 30~50	2,507	2,625	2,674
	Over 50	252	252	263

1) Personnel taking leave of absence is not included

2) New Employees

Item	Unit	2018	2019	2020
By employment contract	Permanent	351	357	199
	Temporary	49	54	48
By gender	Male	294	306	213
	Female	106	105	34

Social Performance

3) Employee Diversity (Employment status)

Item	Unit	2018	2019	2020
Employees with disabilities	No. of persons	44	47	49
	%	1.3	1.3	1.3
Female middle managers ¹⁾	No. of persons	131	152	170
	%	29	30	33
Female managers ²⁾	No. of persons	116	119	140
	%	26	23	26
Veterans	No. of persons	55	62	60
	%	2	2	2

1) Calculated as (Number of female middle managers) / (Total number of middle managers), assistant managers account for middle managers

2) Calculated as (Number of female managers) / (Total number of managers), from managers to top management

4) Turnover Rate and Length of service

Item	Unit	2018	2019	2020
Total Number of Turnover	No. of persons	195	192	186
Total Turnover Rate	%	5.9	5.4	5.0
Voluntary Turnover Rate ¹⁾	%	5.6	5.4	4.3
Average Length of service (Permanent employee)	Year	10.5	10.6	11.1
Average Length of service (Temporary employee)	Year	5.3	5.0	6.4

1) Turnovers except for retirees and recommended resigners

5) Employees Performance Assessments

Item	Unit	2018	2019	2020
Employees who received regular performance assessments	No. of persons	3,173	3,421	3,544
Ratio of employees who received regular performance assessments	%	100	100	100

6) Ratio of female employees' base pay against that of male employees¹⁾

Item	Unit	2018	2019	2020
Ratio of female employees' base pay against that of male employees	%	79	78	79

1) Ratio of the basic salary for men to the basic salary for women on contracted annual salary, and the basic salary is same for same position regardless of gender

7) Maternity and Childcare Leave

Item	Unit	Unit	2018	2019	2020
Childcare Leave	Employees who took Childcare leave	Male	4	11	16
		Female	20	30	26
		Subtotal	No. of persons	24	41
	Employees reinstated after taking Childcare leave	Male	4	11	13
		Female	18	30	26
		Subtotal		22	41
Reinstatement Rate after taking Childcare leave	Male		100	100	81
	Female	%	90	100	100
	Subtotal		92	100	93
Ratio of Employees who worked 12 months or longer after reinstatement	Subtotal	%	95	100	95
Maternity Leave	Employees who took maternity leave	No. of persons	23	23	16
			23	23	16
	Reinstatement Rate after taking maternity leave	%	100	100	100

8) Pension Funds

Item	Unit	2018	2019	2020
Number of participant (DC Type)	No. of persons	153	183	214
Pension Funds under Management - on a non-consolidated basis (DC Type)	KRW Million	8,909	11,368	14,606
Number of participant (DB Type)	No. of persons	1,925	1,835	2,038
Pension Funds under Management - on a consolidated basis (DB Type)	KRW Million	31,503	31,518	34,991

9) Employee Training

Item	Unit	2018	2019	2020	
Training expenditures	Total	KRW Million	4,000	4,760	578
Training hours	Total	Hours	182,008	167,923	67,472
	Training time per person		54	46	18
General Training (job, leadership, etc.)			90	72	17
Anti-sexual harassment education	Training time per person	No. of persons	1.4	1	1.4
Human rights education (Workplace Harassment prevention education)			1	1.6	2.4

Social Performance

10) Social contribution

Item	Unit	2018	2019	2020	
Donations (by donator)	Total donations		317	505	496
	Donations made by Hanwha Systems		187	190	199
	Donations made by Hanwha Systems employees	KRW million	131	315	297
Donations (by donation type)	Cash		26	27	43
	Business expenses		192	392	302
	Investment in kind		85	87	151
Social Contribution Performance	Total participation time	Hours	10,091	11,588	1,964
	Volunteers	No. of persons	3,127	3,410	1,245
	Beneficiaries		5,639	6,966	4,803
Employee volunteers	Volunteers	Hours	3,127	3,410	1,245
	Volunteer hours per employee	No. of persons	2.69	3.69	2.29

11) Service Satisfaction

Item	Unit	2018	2019	2020
Service Satisfaction Index	%	98.8	98.1	98.4

12) Suppliers

Item	Unit	2018	2019	2020
Supplier size	No. of suppliers	917	1,098	1,147
Total purchases from suppliers ¹⁾	KRW hundred million	6,742	11,852	17,179

¹⁾ Total cost of the raw materials purchasing cost in the Annual Report and other outsourced items purchasing cost

13) Shared Growth

Item	Unit	2018	2019	2020	
Win-Win Growth Funds	Investment from financial institutions (A)		14,000	14,000	14,000
	Investment from Hanwha Systems (B)	KRW million	7,000	7,000	7,000
	Total (A+B)		21,000	21,000	21,000
Early payment before holidays	Funds spent		9,716	10,290	11,995
	Funds spent	KRW million	24,832	20,574	13,601
Training support	Training programs	No. of programs/ suppliers	13	35	11
	Participated Suppliers		414	704	181
	Trainees	No. of persons	798	1,996	904
Best supplier incentive	Best suppliers	No. of suppliers	37	39	25
	Best supplier employees	No. of persons	10	10	Not implemented

14) Fines and non-monetary sanctions imposed for violations of laws and regulations

Item	Unit	2018	2019	2020
Violation of laws and regulations	Total issued fine	KRW million	0	0
	Number of lawsuits filed	Case	4	5
			2	1
Unfair trade	Number of unfair trades	Case	1	1
	Total issued fine	KRW million	0	0
Ethics/anti-corruption/compliance self-check	Number of self-check	Times	n/a	n/a

15) Violation of Information Security

Item	Unit	2018	2019	2020
Information Security Violations or Cybersecurity Incidents related to customers' privacy	No. of Cases	0	0	0
Number of customers affected by data breaches	No. of persons	0	0	0
Total fine or penalty paid due to Information security violations or cybersecurity incidents	KRW million	0	0	0
Security personnel	Number of security personnel	38	51	52
	Number of security personnel who have completed human rights training	34	37	38

16) Employee safety and health

Item	Unit	2018	2019	2020
Number of work-related incidents	Cases	n/a	1	1
Number of work-related injuries	No. of persons	n/a	1	1
Number of days lost	Days	n/a	46	0

Environmental Performance (Gumi, Yongin, IDC Operations)**1) Energy Consumption**

Item	Unit	2018	2019	2020
Energy consumption	Total	375,959	368,716	373,526
	Electricity	GJ	363,952	357,867
	Fuel		11,964	10,848
Renewable energy consumption	MWh	10	9	9

2) GHG Emissions

Item	Unit	2018	2019	2020
Total emissions (Scope 1+2)		18,163	18,062	17,544
Scope 1	tCO ₂ eq	1,108	640	576
Scope 2		17,055	17,423	16,968

3) Water Consumption

Item	Unit	2018	2019	2020
Annual Water Consumption	ton	93,945	94,745	87,089
Municipal water		93,945	94,745	87,089

4) Waste Generation

Item	Unit	2018	2019	2020
Total weight of waste	ton	240	212	243
Disposal cost		57	57	59
	Recycle	196	182	234
Disposal type	Landfill	General	0	0
		Designated	0.8	0.5
	Incineration	General	37.0	25.5
		Designated	5.4	3.6

5) Non-compliance with Environmental Laws and Regulations

Item	Unit	2018	2019	2020
Non-compliance with Environmental Laws and Regulations	Total monetary value of significant fines	KRW million	0	0
	Total number of lawsuits filed	No. of Cases	0	0
	Total number of non-monetary sanctions	No. of Cases	0	0

GRI STANDARDS

Reporting Topic			Page	Remarks
GRI 102 General Disclosures				
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	102-5	Ownership and legal form		Published in Annual Report
	102-6	Markets served	12-13	
	102-7	Scale of the organization	102	
	102-8	Information on employees and other workers	102-104	
	102-9	Supply chain	75-77	
	102-10	Significant changes to the organization and its supply chain		No major changes during the reporting period
	102-11	Precautionary Principle or approach	93-95	
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	102-17	Mechanisms for advice and concerns about ethics	85-86	
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	102-20	Executive-level responsibility for economic, environmental, and social topics	18-19, 80-82	
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	102-23	Chair of the highest governance body	80	
	102-24	Nominating and selecting the highest governance body	80-81	
	102-25	Conflicts of interest		Compliance with the conflict of interest regulation of commercial law and domestic law
	102-26	Role of highest governance body in setting purpose, values, and strategy	18-19, 80-82	
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102-30	Effectiveness of risk management processes	93-95		

Reporting Topic			Page	Remarks
GRI 102 General Disclosures				
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	102-32	Highest governance body's role in sustainability reporting	18-19, 80-82	
	102-33	Communicating critical concerns	93	
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	102-36	Process for determining remuneration	82	
	102-37	Stakeholders' involvement in remuneration	82	
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	102-39	Percentage increase in annual total compensation ratio		Published in Annual Report
Stakeholder engagement	102-40	List of stakeholder groups	36-37	
	102-41	Collective bargaining agreements	77	
	102-42	Identifying and selecting stakeholders	36-37	
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	102-44	Key topics and concerns raised	36-37	
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	102-46	Defining report content and topic Boundaries	38-39	
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	102-48	Restatements of information		Published for the first time
	102-49	Changes in reporting		Published for the first time
	102-50	Reporting period	About This Report	
	102-51	Date of most recent report		
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	102-53	Contact point for questions regarding the report		
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Reporting Topic		Page	Remarks
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	302-5	Reductions in energy requirements of products and services	49-51
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SASB, TCFD Index

SASB Index

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	RT-AE-150a.2	Number and aggregate quantity of reportable spills, quantity recovered	0 Cases
Data Security	RT-AE-230a.1	(1) Number of data breaches, (2) percentage involving confidential information	106
	RT-AE-230a.2	Description of approach to identifying and addressing data security risks in (1) company operations and (2) products	89-92
Product Safety	RT-AE-250a.1	Number of recalls issued, total units recalled	9 Cases, 616
	RT-AE-250a.2	Number of counterfeit parts detected, percentage avoided	0 Cases, 100%
	RT-AE-250a.3	Number of Airworthiness Directives received, total units affected	-
	RT-AE-250a.4	Total amount of monetary losses as a result of legal proceedings associated with product safety	N/A
Fuel Economy & Emissions in Use-phase	RT-AE-410a.1	Revenue from alternative energy-related products	N/A
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Business Ethics	RT-AE-510a.1	Total amount of monetary losses as a result of legal proceedings associated with incidents of corruption, bribery, and/or illicit international trade	106
	RT-AE-510a.2	Revenue from countries ranked in the "E" or "F" Band of Transparency International's Government Defence Anti-Corruption Index	-
	RT-AE-510a.3	Discussion of processes to manage business ethics risks throughout the value chain	93-95

TCFD Index

	TCFD Recommendation	Reference page
Governance	a) Describe the board's oversight of climate-related risks and opportunities	18-19, 52, 80
	b) Describe management's role in assessing and managing climate-related risks and opportunities	18-19, 52
Strategy	a) Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term	52
	b) Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning	52
	c) Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario	52
Risk management	a) Describe the organization's processes for identifying and assessing climate-related risks	52
	b) Describe the organization's processes for managing climate-related risks	53
	c) Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management	53
Metrics and Targets	a) Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process	53
	b) Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks	52-53
	c) Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets	53

Independent Assurance Statement

To readers of Hanwha Systems Sustainability Report 2021

Introduction

Korea Management Registrar (KMR) was commissioned by Hanwha Systems to conduct an independent assurance of its Hanwha Systems Sustainability Report 2021 (the "Report"). The data and its presentation in the Report is the sole responsibility of the management of Hanwha Systems. KMR's responsibility is to perform an assurance engagement as agreed upon in our agreement with Hanwha Systems and issue an assurance statement.

Scope and Standards

Hanwha Systems described its sustainability performance and activities in the Report. Our Assurance Team carried out an assurance engagement in accordance with the AA1000AS v3 and KMR's assurance standard SRV1000. We are providing a Type 2, moderate level assurance. We evaluated the adherence to the AA1000AP (2018) principles of inclusivity, materiality, responsiveness and impact, and the reliability of the information and data provided using the Global Reporting Initiative (GRI) Index provided below. The opinion expressed in the Assurance Statement has been formed at the materiality of the professional judgment of our Assurance Team.

Confirmation that the Report was prepared in accordance with the Core Options of the GRI standards was included in the scope of the assurance. We have reviewed the topic-specific disclosures of standards which were identified in the materiality assessment process. We also confirmed that the report was prepared in accordance with the TCFD recommendations and SASB.

- GRI Sustainability Reporting Standards
- Universal standards
- Topic specific standards
 - Management approach of Topic Specific Standards
 - GRI 201: Economic Performance
 - GRI 205: Anti-Corruption
 - GRI 302: Energy

- GRI 305: Emissions
- GRI 306: Effluents and Waste
- GRI 404: Training and Education
- GRI 413: Local Communities
- GRI 419: Socioeconomic Compliance
- SASB Sustainability Disclosure Topics & Accounting Metrics
- TCFD recommendations- GRI 205: 반부패(Anti-Corruption)

As for the reporting boundary, the engagement excludes the data and information of Hanwha Systems' partners, suppliers and any third parties.

KMR's Approach

To perform an assurance engagement within an agreed scope of assessment using the standards outlined above, our Assurance Team undertook the following activities as part of the engagement:

- reviewed the overall Report;
- reviewed materiality assessment methodology and the assessment report;
- evaluated sustainability strategies, performance data management system, and processes;
- interviewed people in charge of preparing the Report;
- reviewed the reliability of the Report's performance data and conducted data sampling;
- assessed the reliability of information using independent external sources such as Financial Supervisory Service's DART and public databases.

Limitations and Recommendations

KMR's assurance engagement is based on the assumption that the data and information provided by Hanwha Systems to us as part of our review are provided in good faith. Limited depth of evidence gathering including inquiry and analytical procedures and limited sampling at lower levels in the organization were applied. To address this, we referred to independent external sources such as DART and National Greenhouse Gas Management System (NGMS) and public databases to challenge the quality and reliability of the information provided.

Conclusion and Opinion

Based on the document reviews and interviews, we had several discussions with Hanwha Systems on the revision of the Report. We reviewed the Report's final version in order to make sure that our recommendations for improvement and revision have been reflected. Based on the work performed, it is our opinion that the Report applied the Core Option of the GRI Standards. Nothing comes to our attention to suggest that the Report was not prepared in accordance with the AA1000AP (2018) principles.

Inclusivity Hanwha Systems has developed and maintained different stakeholder communication channels at all levels to announce and fulfill its responsibilities to the stakeholders. Nothing comes to our attention to suggest that there is a key stakeholder group left out in the process. The organization makes efforts to properly reflect opinions and expectations into its strategies.

Materiality Hanwha Systems has a unique materiality assessment process to decide the impact of issues identified on its sustainability performance. We have not found any material topics left out in the process.

Responsiveness Hanwha Systems prioritized material issues to provide a comprehensive, balanced report of performance, responses, and future plans regarding them. We did not find anything to suggest that data and information disclosed in the Report do not give a fair representation of Hanwha Systems' actions.

Impact Hanwha Systems identifies and monitors the direct and indirect impacts of material topics found through the materiality assessment, and quantifies such impacts as much as possible.

Reliability of Specific Sustainability

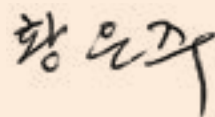
Performance Information

In addition to the adherence to AA1000AP (2018) principles, we have assessed the reliability of economic, environmental, and social performance data related to sustainability performance. We interviewed the in-charge persons and reviewed information on a sampling basis and supporting documents as well as external sources and public databases to confirm that the disclosed data is reliable. Any intentional error or misstatement is not noted from the data and information disclosed in the Report.

Competence and Independence

KMR maintains a comprehensive system of quality control including documented policies and procedures in accordance with ISO/IEC 17021-2015 - Requirements for bodies providing audit and certification of management systems. This engagement was carried out by an independent team of sustainability assurance professionals. KMR has no other contract with Hanwha Systems and did not provide any services to Hanwha Systems that could compromise the independence of our work.

Oct. 2021 Seoul, Korea



Memberships & Awards

Memberships

Memberships	
Defense Quality Society (DQS)	Korea Industrial Safety Association (KISA)
Institute for Printed Circuits (IPC)	Safety and Health Managers' Council
Fire Safety Association of Gumi National Industrial Park	Korea Association of Occupational Health Nurses
Safety Management Association of Gumi	Korea Fire Safety Association (KFSI)
Green Company	Korea Suggestion System Association (KSSA)
Korea Environmental Engineers Association of Daegu·Gyeongbuk	Korea Society for Quality Management
Korea Nurses Association	Korea Aerospace Quality Group
Korea Industrial Safety Association (KISA)	Korea Fire Safety Association (KFSI)
Korea Electric Engineers Association	Korea Association of Occupational Health Nurses
Korea Data Center Council	Korea Productivity Center
Korea Standards Association	Korea Personnel Improvement Association
Construction Association of Korea	

Awards

Date	Awards & Recognition	Remarks
2021.7	Awarded 'Korea Best Job Company' President's Commendation by Ministry of Employment and Labor	2 years in a row
2020.7	Awarded 'Korea Best Job' President's Commendation by Ministry of Employment and Labor	
2020.6	Hanwha Systems' corporate PR video won Home Silver Prize of QUESTAR Awards 2020	
2020.1	Hanwha Systems' Lee Kwang-byung Head of Department recognized with Minister's Commendation on 'Day of Aircraft' (Ministry of Land, Infrastructure and Transport)	
2020.1	Hanwha Systems' corporate PR video won Gold Prize of '2020 Galaxy Awards'	Only award in Korea
2018.12	Recognized with Minister's Commendation for security excellency corporate in Defense industry (Ministry of National Defense)	
2018.7	Hanwha systems Dr. Choi Taebong awarded 'Marquis Who's Who' Lifetime Achievement Award	



