COMPANY PROFILE

GLOBAL VISION SOLUTION PROVIDER **Hanwha Vision**

Hanwha Vision

Hanwha Group

Hanwha will continue to embrace bold challenges for a sustainable tomorrow.

Founded in 1952, Hanwha continues to grow by quickly anticipating and responding to rapidly changing business environments with a balanced business portfolio that includes aerospace, energy & materials, finance and retail & services. As of 2021, we are the seventh largest business enterprise in South Korea and a Fortune Global 500 company.

Hanwha has become global leaders in its arenas by strengthening core competitiveness and securing future growth engines based on sound financial structures.

Sales 2021	**Business Enterprise in South Korea** Total asset basis, as of end of 2021	**Years of History** Founded in 1952
69.3 KRW Trillion	**TOP 7**	**70**
Domestic affiliates As of end of June 2022	**Global Networks** As of end of 2021	**Ranking on Fortune Global 500 in 2022**
93	**616**	**306**

BUSINESS SECTORS

- Aerospace & Defense
- Finance
- Energy & Materials
- Construction, Retail & Services

BUSINESS HIGHLIGHT

- **Hanwha Aerospace** received an order for Korean projectile (Nuri) advanced project, selected as Korea's representative space company

- **Hanwha Systems/Hanwha Aerospace** expands UAM globally through investment and strategic agreement with Overair, a leading UAM company in the U.S.

- **Hanwha Solution**, selected as an excellent company in the field of climate change response in CDP (Carbon Disclosure Project), a global sustainability management organization.

- **Hanwha Q Cells**, selected as the top brand in the solar power field in the U.S., Europe (9 consecutive years), and Australia (7 consecutive years) at the same time, has the No.1 market share in the U.S. for residential (4 consecutive years) and commercial (3 consecutive years) Solar Modules.

- Galleria Department Store (Gwanggyo) won the global No.1 in 'Shopping mall of the Year' of the '2021 Versailles Architecture Awards' hosted by UNESCO for the first time in Korea

- **Hanwha Life Insurance** (Vietnam) selected as the 7th most trusted life insurance company

FUTURE VISION

AEROSPACE
SOLUTIONS

Keep your eyes open wide
Now is the time to explore the space age

The Hanwha thirst for innovative horizons is expanding to space – a promising arena for exciting opportunities. Our efforts in developing technologies and accumulating expertise cover a range of areas, including developing engines for space-launched vehicles, examining space for natural resources and energy, harnessing satellite-based communications capabilities and advancing Earth orbit observations and establishing urban air mobility (UAM) infrastructures. Hanwha's bold moves in exploring space will yield as–yet–undiscovered keys to resolving Earth's multiplying puzzles and help us to achieve sustainability.

Nuri

On June 21, 2022, the Korean launch vehicle Nuri succeeded in sending a practical satellite into space. Nuri is a space launch vehicle that is sent off into space with 100% Korean technology in all processes, including design, production, and testing. In Nuri, there are Hanwha's efforts, such as core parts supplied and developed by Hanwha and liquid rocket engines developed by Hanwha Aerospace, the only aerospace engine company in Korea. In particular, the medium heavy engine technology of 75–ton scale is currently possessed by only seven countries in the world: Russia, the United States, France, Japan, China, India, and Korea.
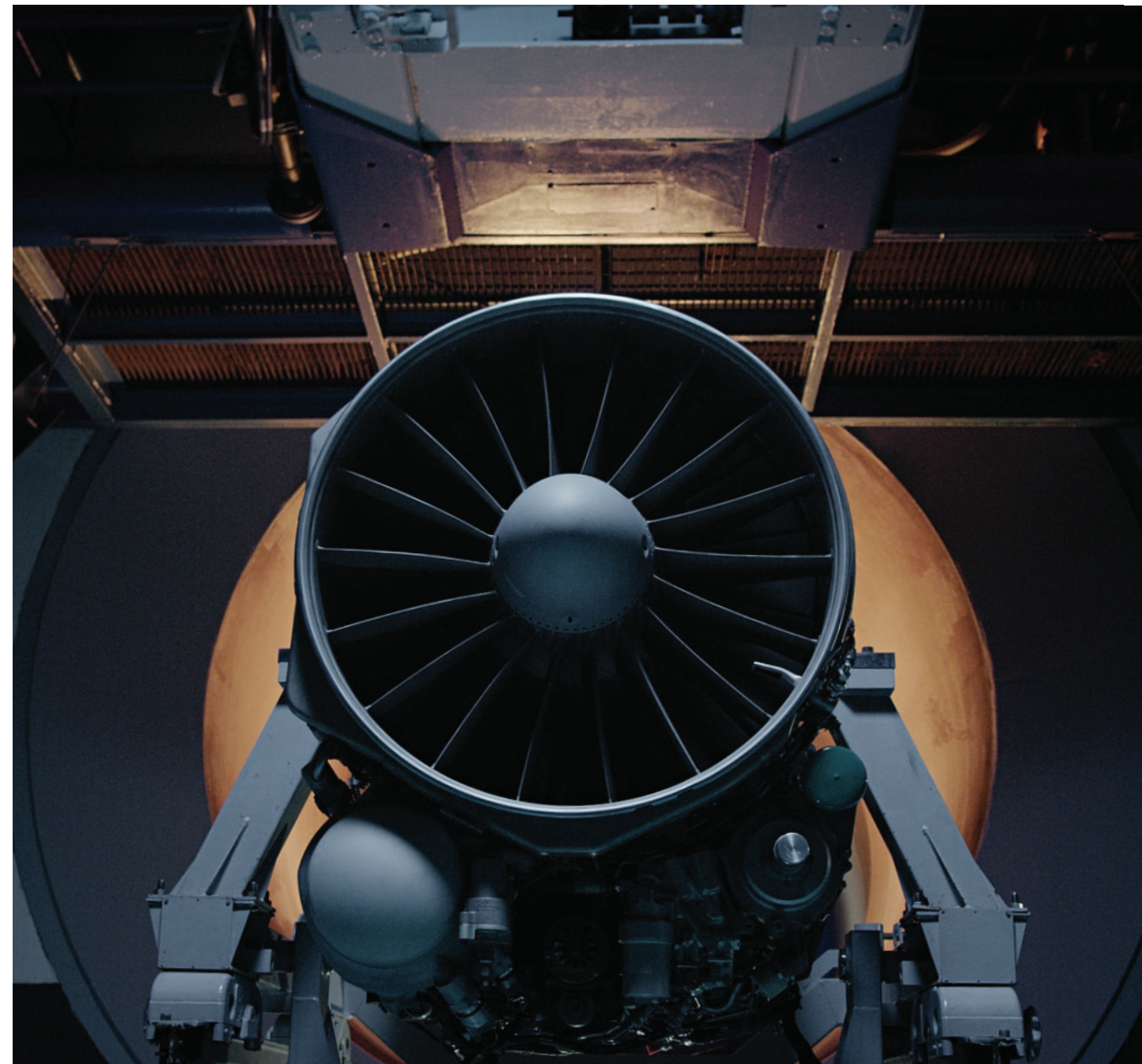
Danuri

In August 2022, Korea's first lunar orbiter, Danuri, was launched. Danuri is an unmanned prober that flies at an altitude of 100km on the moon and performs lunar observation missions. Hanwha's monopropellant propulsion system was used for Danuri to stably enter and settle in the lunar orbit. Also, the high–resolution camera LUTI, of which Hanwha Systems participated in the development, creates a map for the lunar lander to land on and takes optical zoom pictures of the area where resources can exist on the moon. The successful launch of Danuri allowed Korea to be listed as the 7th lunar exploration country.

Urban Air Mobility (UAM)

Urban Air Mobility (UAM), attracting attention as a next–generation aircraft, is one of Hanwha Systems' future strategic businesses and has entered the UAM market for the first time in Korea. Hanwha has entered a strategic partnership with Overair, a leading company in the private aircraft sector of the United States, to develop the UAM aircraft, 'Butterfly,' and is also promoting a test project for the electric propulsion system, a key technology for UMA commercialization.

Hanwha Systems is currently on future mobility aircraft development and business in the field of Air Logistics, which provides short–distance transportation using flying aircraft, and is providing total solutions for future mobility by supporting services and infrastructures of such, planning to become a global UAM solution provider.

FUTURE VISION

GREEN ENERGY
SOLUTIONS

It's the time for fundamental change to lead the transition to clean energy for the future of humanity.

Hanwha is ramping up its response to the challenges of climate change as green energy becomes a global necessity. With already-established expertise in renewable energy solutions for solar, hydrogen, and wind power, Hanwha is advancing as a total solutions provider for green energy to power Earth's sustainable tomorrow.

We are also committed to enriching lives and forging the path to a net zero world. Our focus is on the eco-friendly production of essential materials for semiconductor and secondary batteries for future high value-added industries and energy conversion. We are also building a viable circular economy with research into eco-friendly plastic materials and recycling solar modules.

Solar power

Hanwha Solutions is promoting various businesses in the major global market to realize the perfect solar power value chain, from solar cell and module production to ESS (Energy Storage System), power plant development, and power retail. We ranked No.1 in the market shares in both residential and commercial solar power sectors in the United States, and are expanding our influence to Europe, Asia, and Australia.
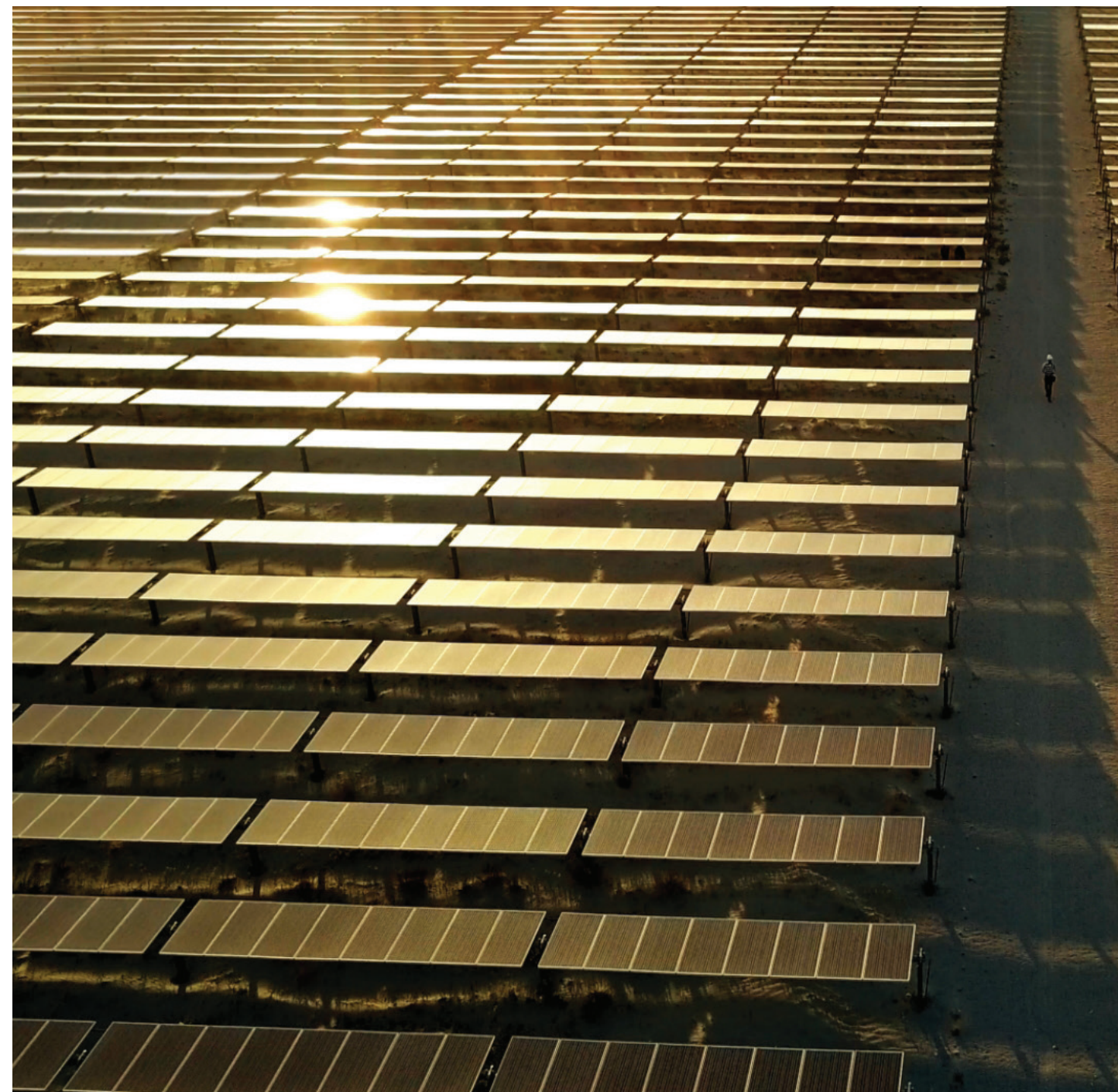
Hydrogen value chain

Hanwha is focusing its capabilities on building another clean energy source, the hydrogen ecosystem. We aim to provide the optimal eco–friendly energy solution for carbon neutrality in various fields of the hydrogen industry ecosystem, from carbon–free hydrogen production using solar power to water electrolysis technology, hydrogen compression, storage, charging, and utilization. By actively utilizing the outstanding potential of hydrogen energy, we, Hanwha, will become a leading group that contributes to overcoming the global climate crisis.

Green energy

Hanwha is constructing an eco–friendly ecosystem that covers the newly emerging hydrogen and wind powers along with a solar power value chain based on our global technology leadership.

Our solar power business is expanding its scope from the production and sales of solar cells and modules to high value–added services using IT technology, and we are currently researching carbon–free hydrogen production using renewable energy such as solar and wind power in the hydrogen energy sector.

FUTURE VISION

SUSTAINABLE ENERGY
SOLUTIONS

We continue the sustainable development of our society by discovering innovative technologies that will solve the future problems of humanity.

To leave a sustainable world for future generations, Hanwha is proactively investing in forward-looking technologies and businesses. We believe our breakthrough technologies and businesses will lead future innovation as we focus on convergent technologies such as genetic engineering, biotechnology, biopharmaceuticals and data storage/utilization. We are further researching food and seed gene editing technologies that can relieve food crises and reduce carbon emissions.

Biotechnology
(Utilization of genetic engineering, biotechnology, biodata storage)

Hanwha Impact is invested in an American gene therapy development company, 'Tessera Therapeutics,' and expects epoch–making changes in the life science field, especially in the treatment of various diseases. We are also investing in 'Inari Agriculture,' an agtech –a compound word of agriculture and technology– company, with the aim of creating a future where we can successfully address both the food and climate crises.

Food tech

Hanwha Solution is conducting R&D and investment in alternative meat. We invest in 'New Age Meats,' a pork cultured meat development company located in California, USA, and a company that produces artificial meat by extracting steam cells from fish, prepares for the future food business, as well as contributes to carbon emission reduction.

Hanwha Vision

'Hanwha Vision' will become your vision partner who realizes a sustainable future and provides new values.

Global vision solution provider

Over the past 30 years, we have established ourselves as a global video security specialist based on world-class optical design, manufacturing, and image processing technology .

We have been ensuring safety and happiness around the world and across society with products and solutions with outstanding performance, high reliability, and industry-leading cyber security policies.

For the past 30 years, all of our consideration all started with the customer. Starting with the desire to protect the safety of our customers and what they consider important, we now want to give them answers to their concerns. We want our solutions to reach the visions of our customers.

We add innovation to our competitiveness, take the first step of challenge, and are now leaping forward as a vision solution provider.

History

2011 ~ Present

2023.03	Changed company name to 'Hanwha Vision' Declared a leap toward being a vision solution provider
2022	Launched IP audio system
2021	Launched the X AI camera series
	Launched AI NVR and AI integrated solution
	Developed AI-based infectious disease response solutions
2020	30th anniversary of the video security business
	Launched the P AI camera series
	Launched Winsenet 7 SoC, a camera series with Wisenet 7 SoC acquired UL CAP (UL Cybersecurity Assurance Program)
2019	UK Government official cybersecurity certification
	Acquired 'Secure by Default'
	Launched the world's first 55x IR PTZ camera
2018	Established Hanwha Techwin Vietnam manufacturing corporation
2017	Wisenet 5 SoC and X camera series launched Acquired CES, a UK Government cyber security certification
2016	Establishment of Hanwha Techwin Middle East FZE
2015	Launched Hanwha Techwin
2013	Wisenet 3 SoC and camera series with Wisenet 3 SoC are launched
2012	Launched the world's first 37x IR PTZ camera

1990 ~ 2010

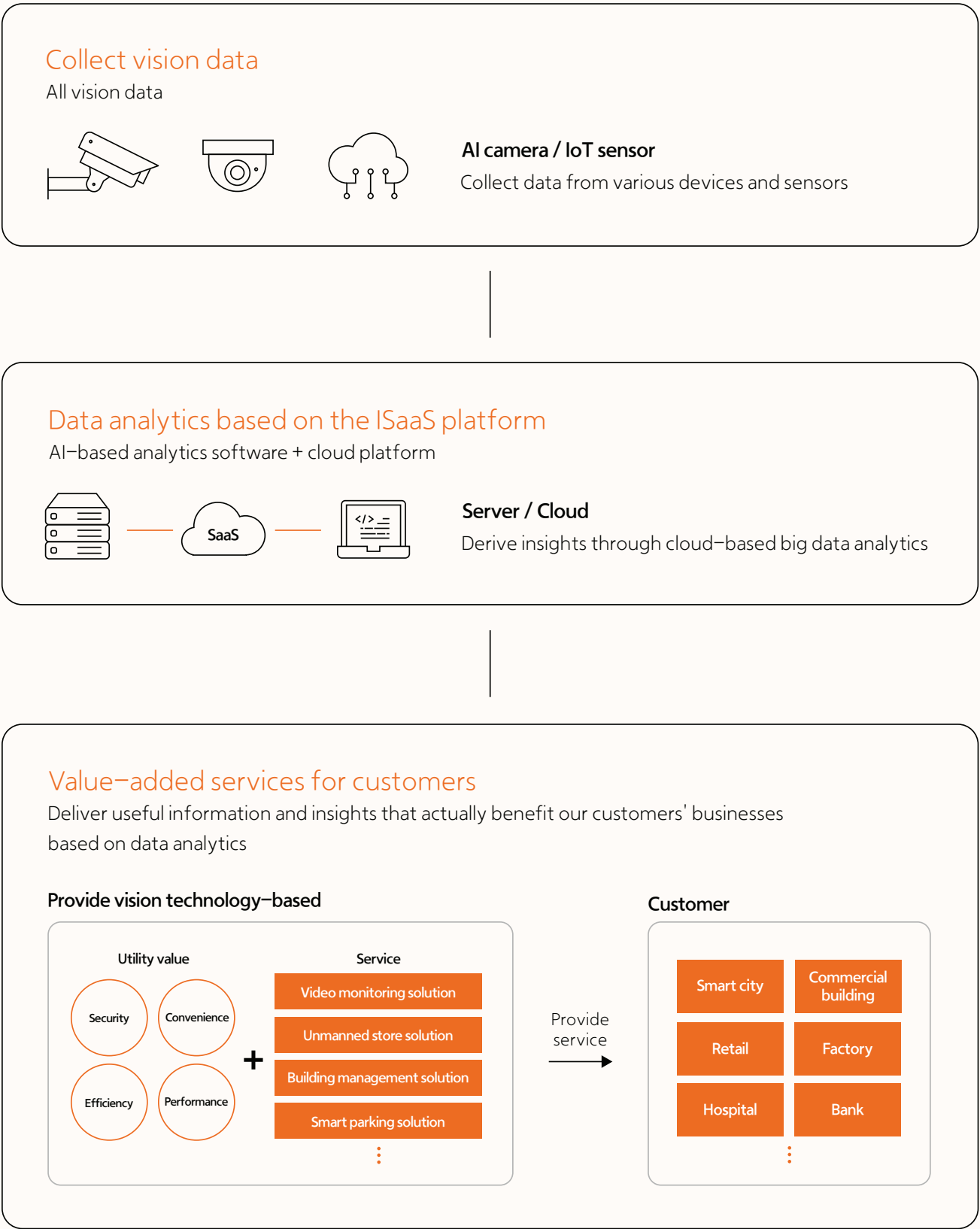|	
2009	Establishment of Hanwha Techwin Tianjin and Shanghai
2008	Launched the world's first 37x PTZ camera
2005	Developed advanced intruder automatic location tracking system
2004	Developed Winner 3 Analog ISP chip
2001	Establishment of Hanwha Techwin Europe
1997	Launched the world's best ultra-low illumination video surveillance camera
1993	Developed Korea's first Auto Iris lens for CCTV
1990	Started video surveillance business, establishment of Hanwha Techwin America

YOUR VISION SOLUTION PARTNER
Hanwha Vision

The future that Hanwha Vision envisions

Today, the video surveillance industry needs more advanced video monitoring and event information collected through security devices in real-time and it is used to quickly search and analyze stored video when necessary.

The future that **Hanwha Vision** envisions is one in which our technology is used more valuably. We collect various vision data through our vision technology, detect the past pattern and current situations through data analysis using the cloud, and establish a solution that leads toward future predictions to deliver more valuable and meaningful insights to our customers.

Hanwha Vision will be your vision solution partner helping you to enjoy a much safer and more convenient life and enhanced business efficiency and performance through our technology.

Collect vision data
All vision data

AI camera / IoT sensor
Collect data from various devices and sensors

Data analytics based on the ISaaS platform
AI-based analytics software + cloud platform

SaaS

Server / Cloud
Derive insights through cloud-based big data analytics

Value-added services for customers
Deliver useful information and insights that actually benefit our customers' businesses based on data analytics

Provide vision technology-based

Utility value

Security | Convenience

Efficiency | Performance

Service

+

Video monitoring solution

Unmanned store solution

Building management solution

Smart parking solution

Customer

Provide service →

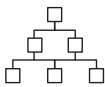| Smart city | Commercial building |
| Retail | Factory |
| Hospital | Bank |

CORE
COMPETITIVENESS

Hanwha Vision has core competitiveness in vision technology based on optical and image processing technology accumulated over 30 years. As image processing technology through AI has become popular, currently, what matters more is how to process information to create valuable information. In response, **Hanwha Vision** plans to provide valuable information in various fields through technology conversion and expansion through AI capabilities and a cloud platform.

Also, we will continue to enhance our competitiveness in cybersecurity.

Vision technology

Hanwha Vision provides a high-quality image and vision information through world-class optical and image processing technology.

AI-based intelligent analysis

Hanwha Vision has AI-based intelligent solutions through a self-developed analytics algorithm, and provides optimized information to customers by efficiently analyzing vast amounts of data.

Cyber security

Hanwha Vision conducts regular security management and verification under the leadership of S-CERT, a dedicated security organization, and gradually enhances security stability for business expansion.

R&D
POWER

The headquarters R&D Center located in Pangyo Techno Valley, Gyeonggi–do, is the central axis of **Hanwha Vision**'s global R&D. Here, the commercialization of various vision technology–based solutions is being developed, and as overall preliminary research centered around AI and cloud is established, various preceding types of research are being conducted.

In 2022, **Hanwha Vision** established the Innovation Center in the US, a global hub, and is putting effort into developing key element technologies for future business, such as AI and cloud, which will become **Hanwha Vision**'s core competencies.

In particular, we have established a global AI R&D system based on the headquarters, the US R&D Center, and AI data lab, to secure the AI full stack capabilities from the AI strategy establishment to data processing, commercialization, and future element development, thereby accelerating R&D to equip sustainable competitiveness.

American Innovation Center

Headquarters R&D Center
(Pangyo, Korea)

AI Lab

GLOBAL
NETWORK

Hanwha Vision Global Network

Hanwha Vision is conducting close networking with customers and partners around the world based on global R&D, manufacturing and sales base.

Europe major PJT

French highway traffic management PJT
French large bank PJT
UK large retail PJT
German large gas stations and stores PJT
Global energy specialize company Smart City PJT

Hanwha Vision
Korea (Headquarters)

Korea major PJT

Metropolitan subway station PJT
Major city safety/smart city PJT
Jeju island large hotel PJT

Hanwha Vision
Europe

Middle East major PJT

Middle East metropolitan safety PJT

Hanwha Vision
Middle East FZE

Hanwha Vision
America

Major US/South American PJTs

US large retail PJT
US hospital PJT
Global large-scale F&B American store PJT
Central and South America major cities urban safety PJT
Global energy specialize company
South America Smart City PJT

Hanwha Vision
Mexico

Hanwha Vision
Vietnam

Asia major PJT

Australian large real estate investment
company Commercial building PJT
Australian public institution PJT
India airport PJT
Saudi Arabia school PJT

Hanwha Vision
SOLUTION LINEUP

Hanwha Vision has integrated solution lineups for customers, to make the best performance in various installation and usage environments. Experience **Hanwha Vision**'s solutions and services right now. You can get valuable information through business insights, including security, operations, and marketing.

Camera solutions

A variety of vision data can be collected through the camera. We have the network and analog lineups depending on the usage environment and have P, X, Q, and T camera solution lineups to meet environmental requirements.

Recording & Management·Analytics Solution

Data collected through a camera or sensor is recorded on video recorders or a cloud, and this can be monitored in real–time through integrated monitoring software or a viewer as well as recorded video or event confirmation. The vast amount of data gathered in this way is reprocessed through the cloud or analytics software and delivered to customers as meaningful information.

Audio system solution

IP audio systems can deliver messages quickly and efficiently and can be utilized as a customized security solution in various environments when combined with a video security system.
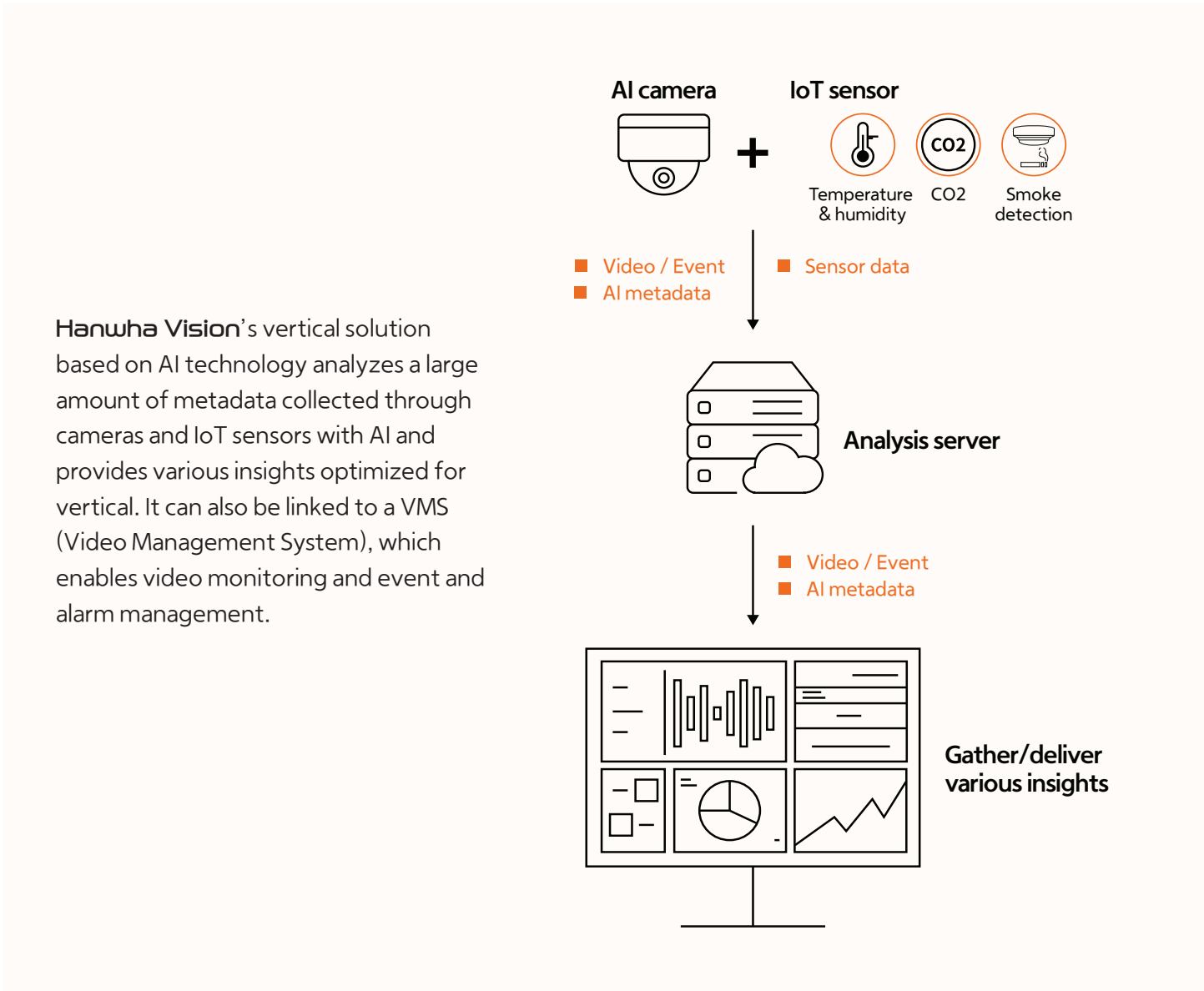
Peripherals

These are peripherals required for system installation, connection, and expansion.

Hanwha Vision
AI-BASED
SMART SOLUTION

Hanwha Vision's Smart Solution provides an optimized solution that best fits the customer's business environment. Meet the Smart Solution that will present your vision in any business environment now.

Hanwha Vision's vertical solution based on AI technology analyzes a large amount of metadata collected through cameras and IoT sensors with AI and provides various insights optimized for vertical. It can also be linked to a VMS (Video Management System), which enables video monitoring and event and alarm management.

AI camera

IoT sensor

Temperature & humidity   CO2   Smoke detection

- Video / Event
- AI metadata

- Sensor data

Analysis server

- Video / Event
- AI metadata

Gather/deliver various insights

Smart Solution utilization plan

Retail

Information collected through cameras and sensors installed in the store is accumulated in the analysis server and analyzed, reprocessed, and visualized through AI, so that customers can receive a variety of information from the viewpoint of store management efficiency.

Insight

- Number of customers, stay hours analysis
- Customer type (gender, age) analysis
- Number of customers by area, stay hours, and heatmap analysis
- Customer mobility flow and checkout queue management
- Rank analysis of the number of customers among stores
- Actual purchasing customer ratio analysis (linked to POS)

City

We can quickly provide information for efficient city safety and traffic management to the public institution-related operations and management (government/local government) and provide solutions for fast response by collecting, reprocessing, and visualizing traffic/parking data and incidents and accidents in the urban area.

Insight

- License plate recognition, map-based traffic management, and counting by vehicle type
- Contestation and speed detection, traffic flow analysis, speeding vehicle detection
- Illegal parking, U-turn detection, accident detection
- Detecting emergency-stopped vehicles, detecting falling objects on the road
- Check the parking situation of on-street parking lots

Factory

We monitor workers not wearing safety gear and abnormal workplace situations in real-time by analyzing various vision information collected from factories and workplaces and provide information for factory efficiency through the statistical analysis of work status.

Insight

- Work situation analysis by the number of workers and heatmap analysis zone
- Factory operation status analysis, abnormal situation detection
- Logistics and inventory management: loading dock, fleet management

SUSTAINABILITY MANAGEMENT PHILOSOPHY OF Hanwha Vision

We are working to realize responsible management in the environmental, social, and governance aspects.

SUSTAINABILITY

As a responsible member of society, **Hanwha Vision** seeks to provide fundamental solutions to solve economic, environmental, and social problems and lead positive change through our business, technology, and social activities. Along with this, based on the philosophy of 'Together, further,' we will create a better future for all by realizing the value of fair management and sharing.

ENVIRONMENT

Hanwha Vision faithfully complies with the obligations of global environmental regulations to create a sustainable future and is making continuous efforts to minimize the impact on the environment wherever our technology and capabilities reach.

Compliance with international environmental standards

Hanwha Vision abides by the European and Chinese RoHS (Restriction of Hazardous Substances Directive) and observes the restriction on substances hazardous to the human body in our product. We have also obtained ISO14001 certification, satisfying international standards for environmental management.

Green purchase

In order to provide eco-friendly products to our customers, we go through a verification process from the product development and design stages. We have institutionalized the submission of information on hazardous substances in materials when purchasing parts for product production, and we are conducting environmental management capability evaluation in the stage of selecting suppliers and the procurement of supplies. We also encourage purchasing the environmental-related certified product for subsidiary materials consumed in product production activities.

Eco-friendly products

Hanwha Vision attaches self-declared environmental labels on products with eco-friendly features so that customers can easily recognize the environmental feature of products.

eco | RoHS compliant

SOCIETY

Hanwha Vision respects the human rights of its members, realizes work-life balance, and seeks companionship growth through win-win cooperation with its partners. Also, by creating various values for customers and local communities, we are leading positive change.

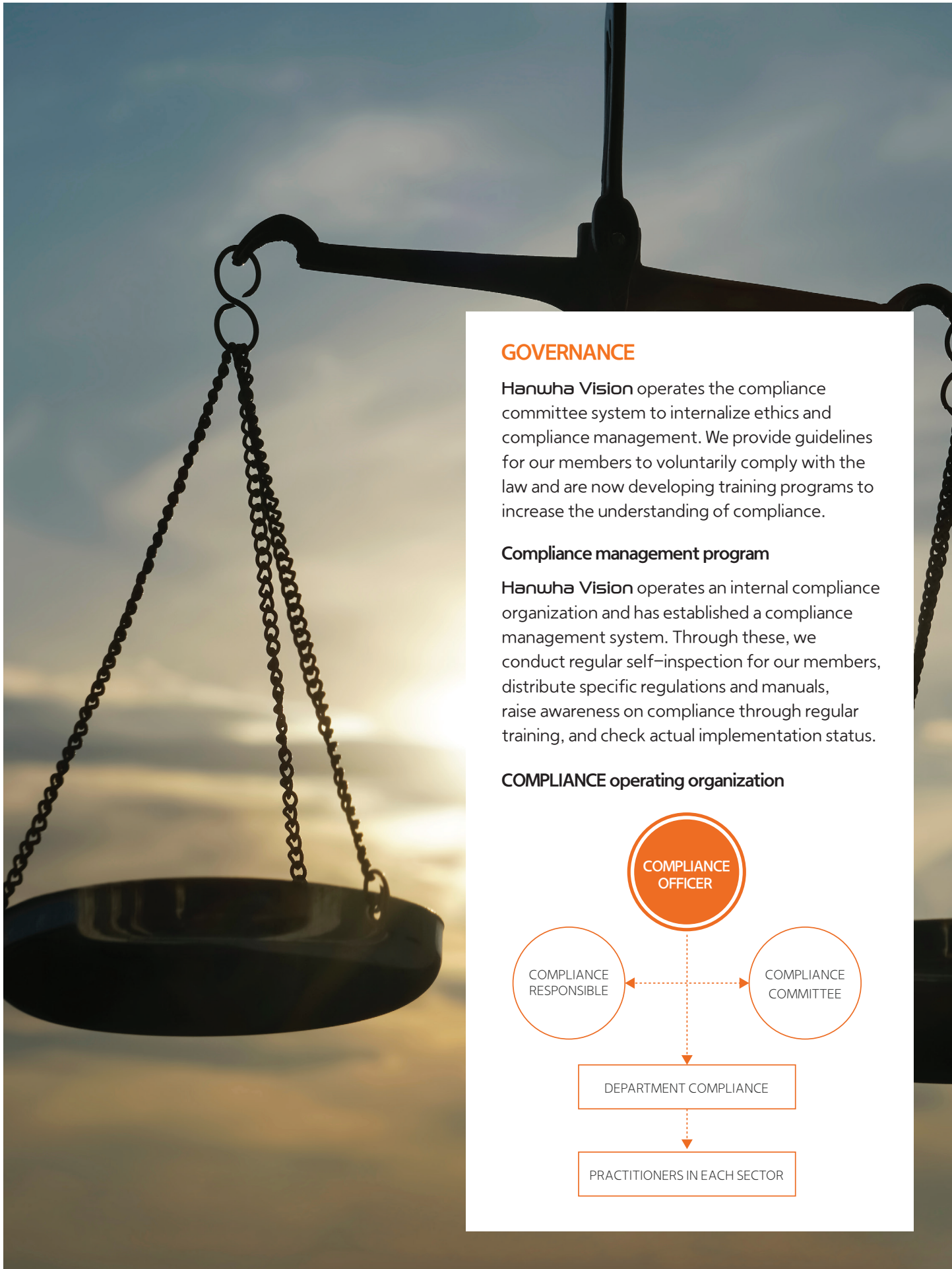### Flexible organizational culture and system

We are operating various systems to create a flexible organizational culture where our members can focus both on their work and life through work-life balance. We have implemented a 'flexible commute system' for members to manage their commuting time flexibly, and various leave systems such as a 'sabbatical month' which provides a one-month vacation, a 'dad's vacation' to encourage male employees to use leave after their spouse gives birth, and a 'development leave' for self-development.

Mutual growth through win-win cooperation

Hanwha Vision supports SMEs to strengthen their capabilities and enter the public procurement market through the 'win-win cooperation support system between large and small businesses'. We jointly produce products through our vision technology (AI, image process, optical, etc.) and support entrance into the public procurement market and the domestication of imported parts and materials.

Safety and trust-based system

We comply with worker safety standards through ISO 45001 (management systems of occupational health and safety) certification and construct a quality assurance system throughout the entire process of products and services through ISO 9-001(quality management system) to provide our customers with a sense of trust.
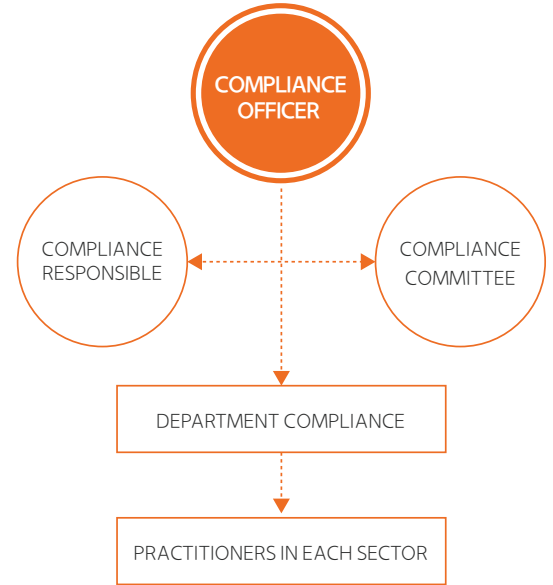
GOVERNANCE

Hanwha Vision operates the compliance committee system to internalize ethics and compliance management. We provide guidelines for our members to voluntarily comply with the law and are now developing training programs to increase the understanding of compliance.
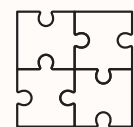
Compliance management program

Hanwha Vision operates an internal compliance organization and has established a compliance management system. Through these, we conduct regular self-inspection for our members, distribute specific regulations and manuals, raise awareness on compliance through regular training, and check actual implementation status.

COMPLIANCE operating organization

COMPLIANCE OFFICER

COMPLIANCE RESPONSIBLE

COMPLIANCE COMMITTEE

DEPARTMENT COMPLIANCE

PRACTITIONERS IN EACH SECTOR

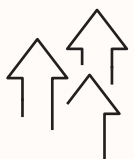# Hanwha Vision
CORE VALUES

Technology and solutions

A company that solves personal, corporate, and social problems through advanced vision solutions and creates new growth engines by adding new values

Innovation

A company that never just stays in the present but seeks answers to a better tomorrow through challenges and innovations

Growth

A company that aims for sustainable growth for ourselves and our customers through unsparing investment for the future and cooperation with reliable partners

Sustainability

A company that contributes to the sustainable environment of individuals and society through our technology, solutions and services

Hanwha Vision
AWARD HISTORY

Award

2023 – Awarded GIT Security Award 2023 for the sustainability sector

2022 – Winner in the video security camera category in Security InfoWathch.com Readers' choice (PNM−C12083RVD)
– Awarded US Security Today Product of the Year (PNM−C12083RVD) for the AI camera sector

2021 – Awarded ADI Best Operations Support
– Awarded US Security Today Product of the Year for network camera
– Awarded the Best IP video security, the Best cyber security solution of ASTORS Security Awards
– Awarded the US Secure Campus Award (2 consecutive years) in network camera sector
– Awarded the Govies Government Security Award (3 consecutive years) in the security camera sector
– Received the grand prize in Security Awards Korea Brand

2020 – Awarded US Secure Campus Award in the network camera sector
– Awarded the Govies Government Security Award (2 consecutive years) in the security camera sector

2019 – Awarded US Security Today Product of the Year for network camera
– Awarded the Govies Government Security Award in the security camera sector
– Awarded the ASTORS Homeland Security Award for Best IP Video Security Solution
– Awarded the grand prize in Security Awards Korea Brand (2 consecutive years)

2018 – Awarded Consumer's Choice in the network camera sector of asmag.com
– Received the grand prize in Security Awards Korea Brand
– Awarded the iF Design Award's (2 consecutive years) main prize

2017 – Winner of the UK Benchmark Awards in the video hardware sector
– X series awarded ADI Best New Product Award
– Awarded the Red Dot Design Award (3 consecutive years) and the iF Design Award
– Received the Prime Minister's Commendation on Information Protection Day by Korea Internet & Security Agency

2016 – Received the TTA Test & Certification Awards' grand prize

2015 – Awarded in the Smart Home Camera Red Dot Design Award (2 consecutive years)

2014 – Awarded in the Smart Home Camera Red Dot Design Award

2012 – Awarded the CES Innovation Award in the Smart Home Camera Red Dot Design Award

Hanwha Vision