

HDC LABS

HDC LABS is a spatial AIoT platform company
providing spatial solutions
and lifestyle platform services
that encompass all lifestyles and values
by redefining space, life and future.

HDC LABS

**We shall do our best
to provide new values for our customers
by adding technology to space.**

HDC LABS has been newly founded as a result of the merger between HDC I-CONTROLS and HDC I-SERVICE.

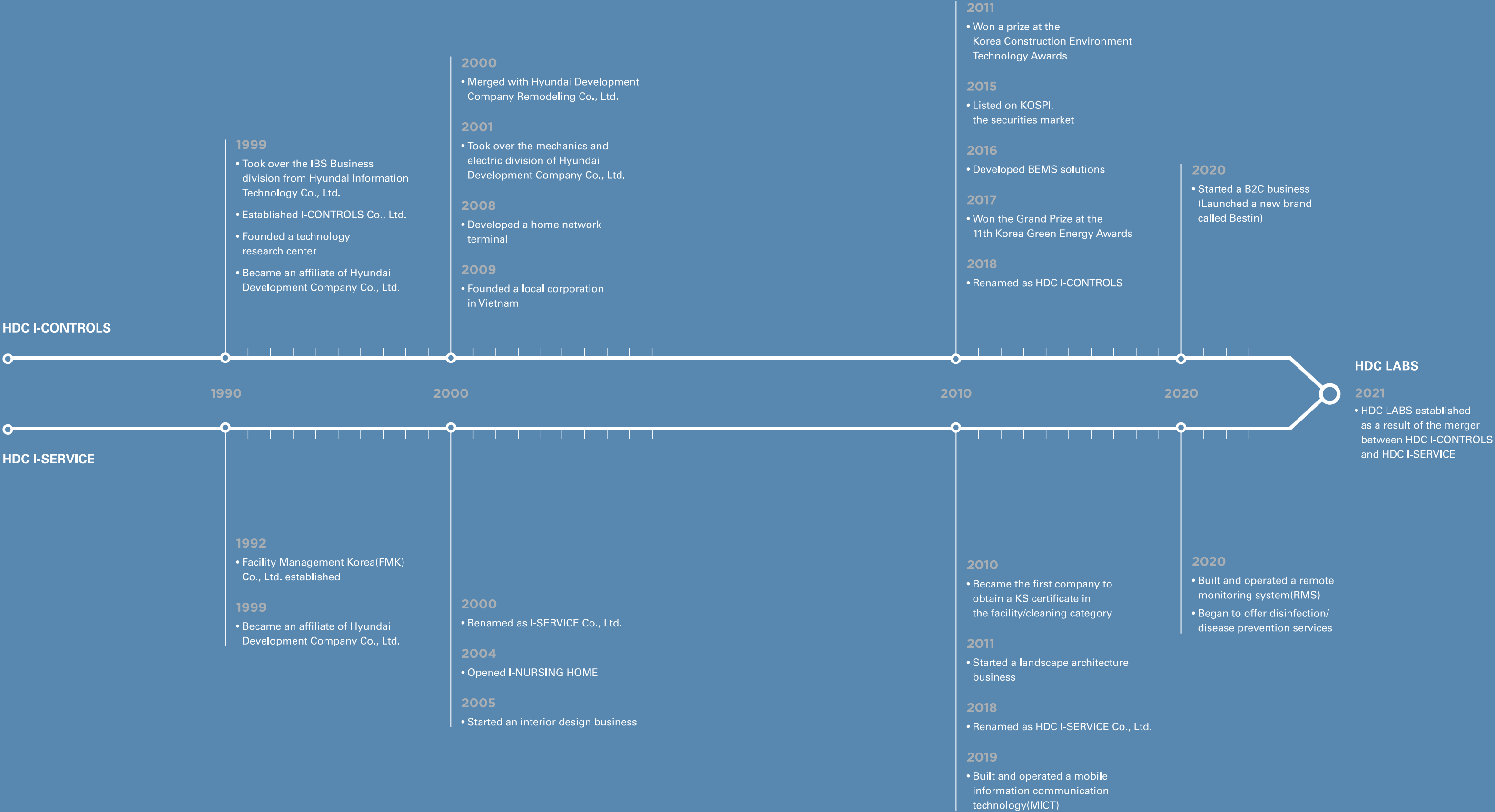
HDC I-CONTROLS is an eco-friendly construction IT specialist that has been leading the cutting-edge workplace environment and housing culture by proposing the best IT solutions, and has built a solid location in various business areas. On the other hand, HDC I-SERVICE is a leading building management company in Korea and provides optimal services to improve the real estate value of its customers' real estate.

As the merger of the two companies, HDC LABS is going to improve itself as a high value-added business by diversifying its portfolio and actively seeking out new businesses that utilize spatial data. At HDC LABS, we aim to enhance customer value by adding technology to space, and shall do our best to provide safer and more pleasant workplaces and residential environments.

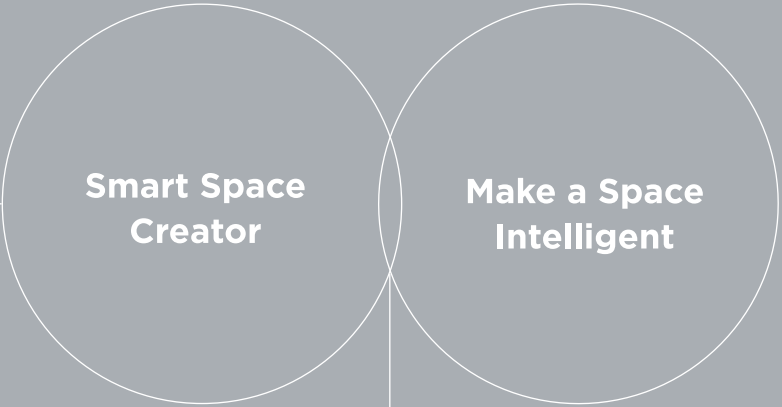
Seong Eun Kim CEO of HDC LABS

COMPANY HISTORY

Based on its accumulated AIoT technological competence in the smart home/building field and expertise in building management, landscape architecture, and interior design business, HDC LABS aims to be a spatial AIoT platform company, redefining space, life and the future.



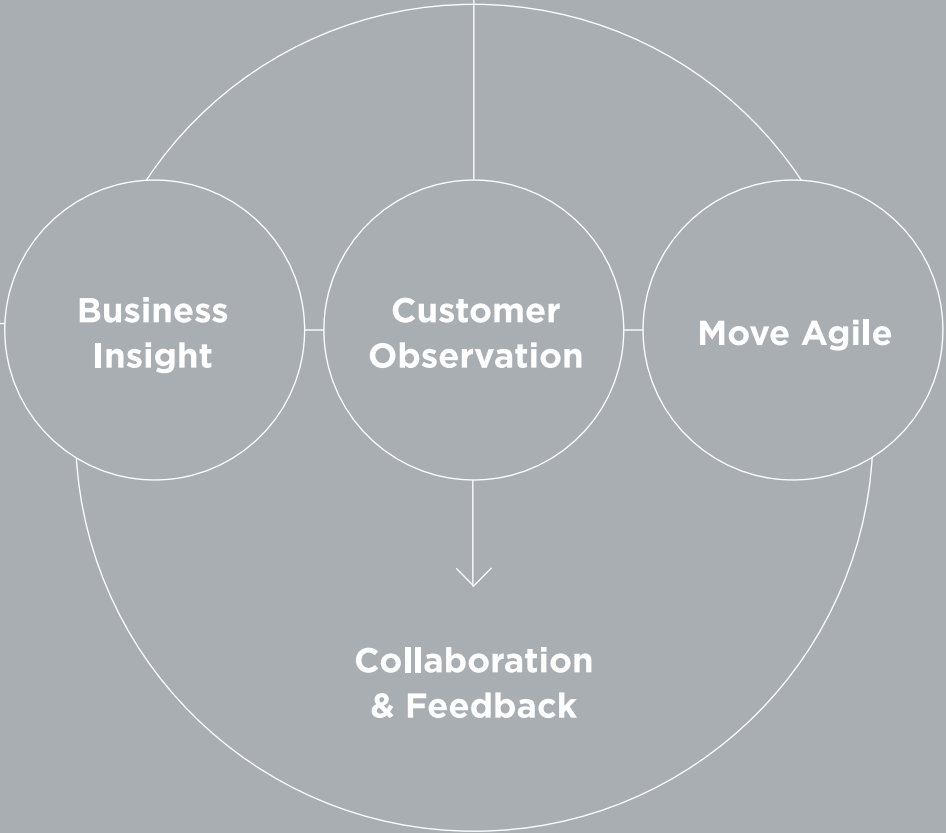
VISION & MISSION



SLOGAN



LABS WAY



CERTIFICATE

Information and communications construction business	Interior construction business	Facility maintenance business
Building construction business	Landscape architecture, tree-planting and facility construction business	Business specializing in facility management
Industrial facility construction business	Landscape architecture business	Facility security business
Firefighting system installation business	A member of the Tree Hospital Association(Type 1)	Housing management business
Electrical construction business	Gas facility construction business	Disinfection business, water tank cleaning business
Mechanical equipment construction business	Engineering activities	Sanitation management business
Mechanical equipment inspection business	Elevator installation business	KS certificate for facility management
ESCO (Energy Service Company)	Metal doors/windows construction business	KS certificate for cleaning services
ISO 9001, ISO 14001	ISO 45001, ISO 50001	

AWARDS

Design Awards

Digital door lock(IDL-400)	German Red Dot Award 2022, Good Design Award 2021
Digital door lock(IDL-300)	Good Design Award 2019, German Red Dot Award 2019
LED dining table light (Connected Light D1)	Selected for the WINNER prize at the Asia Design Prize 2019
LED dining table light (ORGANICO DINING-L)	Selected for the WINNER prize at the K-Design Award 2018
Home network system (IHN-D101, IEM-300)	German Red Dot Award 2018 The Minister Award from the Ministry of Trade, Industry and Energy at the Good Design Award 2017
Home network system (IHN-1020ML, IDC-840SL)	German iF Design Award 2014 Good Design Award 2013

Intelligent Building Awards

Daegu Bank's 2nd Head Office (IBS/SI/BEMS applied)	Gold Prize at the APIGBA Awards 2018 First Prize at the Korean Intelligent Building Awards 2017 The Minister Award from the Ministry of Land, Infrastructure and Transport at the Korea Green Building Awards 2016
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Landscape Architecture Awards

Mindscape Garden	Excellence Award at the Korea Garden Show 2017
Fences - Boundaries for Communing in the Garden	Selected for the artist's garden category at the 5th Gyeonggi Garden Culture Fair
Trip to a Loft	Bronze prize in the model garden category at the 3rd Chungju Gardening Festival
Empathy - A Garden of Communication that Connects Boundaries	Presidential Prize at the 12th National Award of Korean Landscape Architecture

PATENT

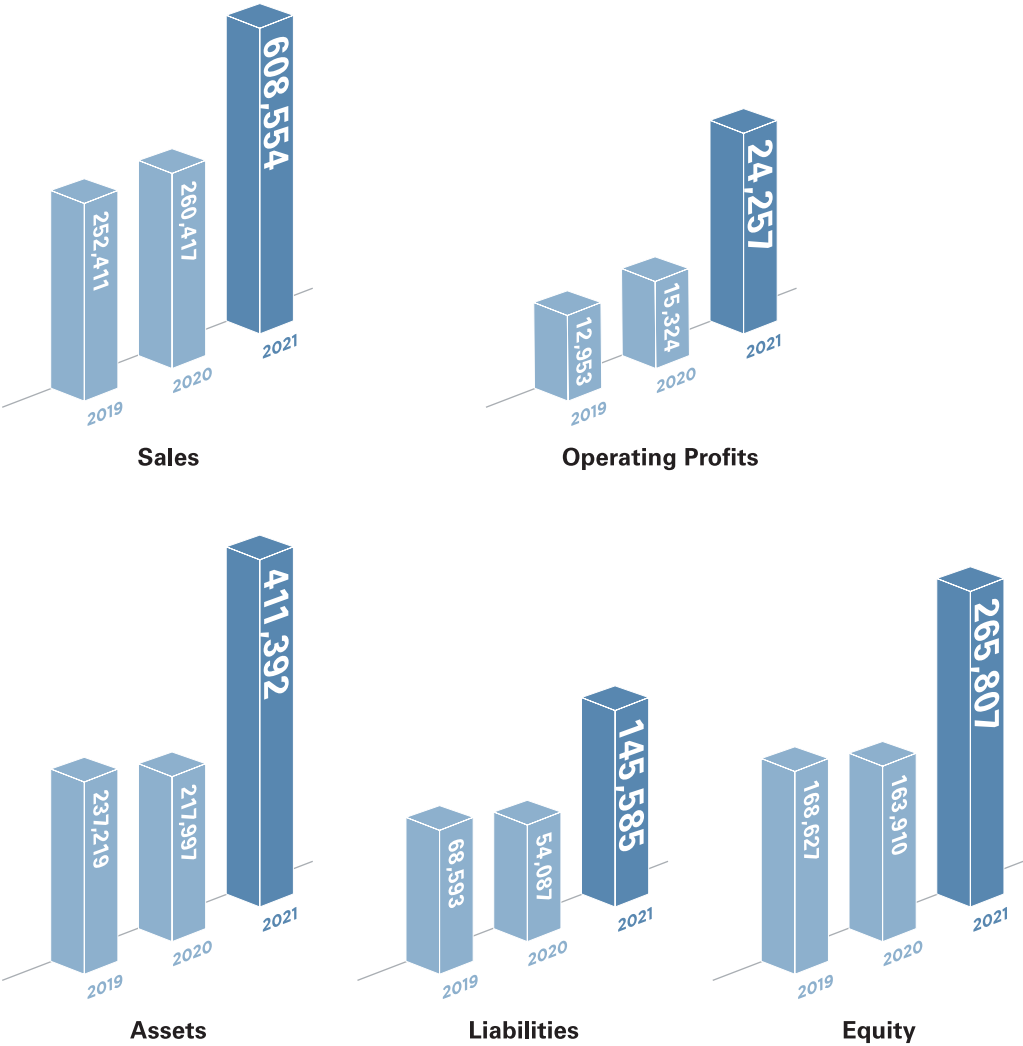
2022. 4	Photovoltaic louver system with bypass component	1020210109919
2021. 9	Method for effectively manufacturing microbial fermentation carriers for air purification systems	10-2300802
2021. 9	Perforated drain pipes for plant cultivation with air purification function	10-2300803
2021. 8	Method for producing information for building cleaning services	1020210021949
2019. 3	Room-controlled ventilation system with air cleaning function	No. GT-19-00603
2018. 2	DC lighting module and a lighting system that uses the DC lighting module	10-1830643-0000
2017. 7	Energy load estimation device, method, and computer-readable medium	1017210990000
2017. 3	Home network system for the disabled	1017207620000
2016. 5	Digital door lock with a wireless charging function	1016277770000
2013. 9	Energy management system	1013130490000
2003. 3	Integrated remote control device and its methods for use	1003786740000

FINANCIAL HIGHLIGHTS

HDC LABS prepares for a sustainable future based on its stable financial structure.

Consolidated Financial Statements

Unit: KRW 1 million



*The 2021 figures are the sum of the financial performances of HDC I-CONTROLS and HDC I-SERVICE. Therefore, official figures may differ from those disclosed.

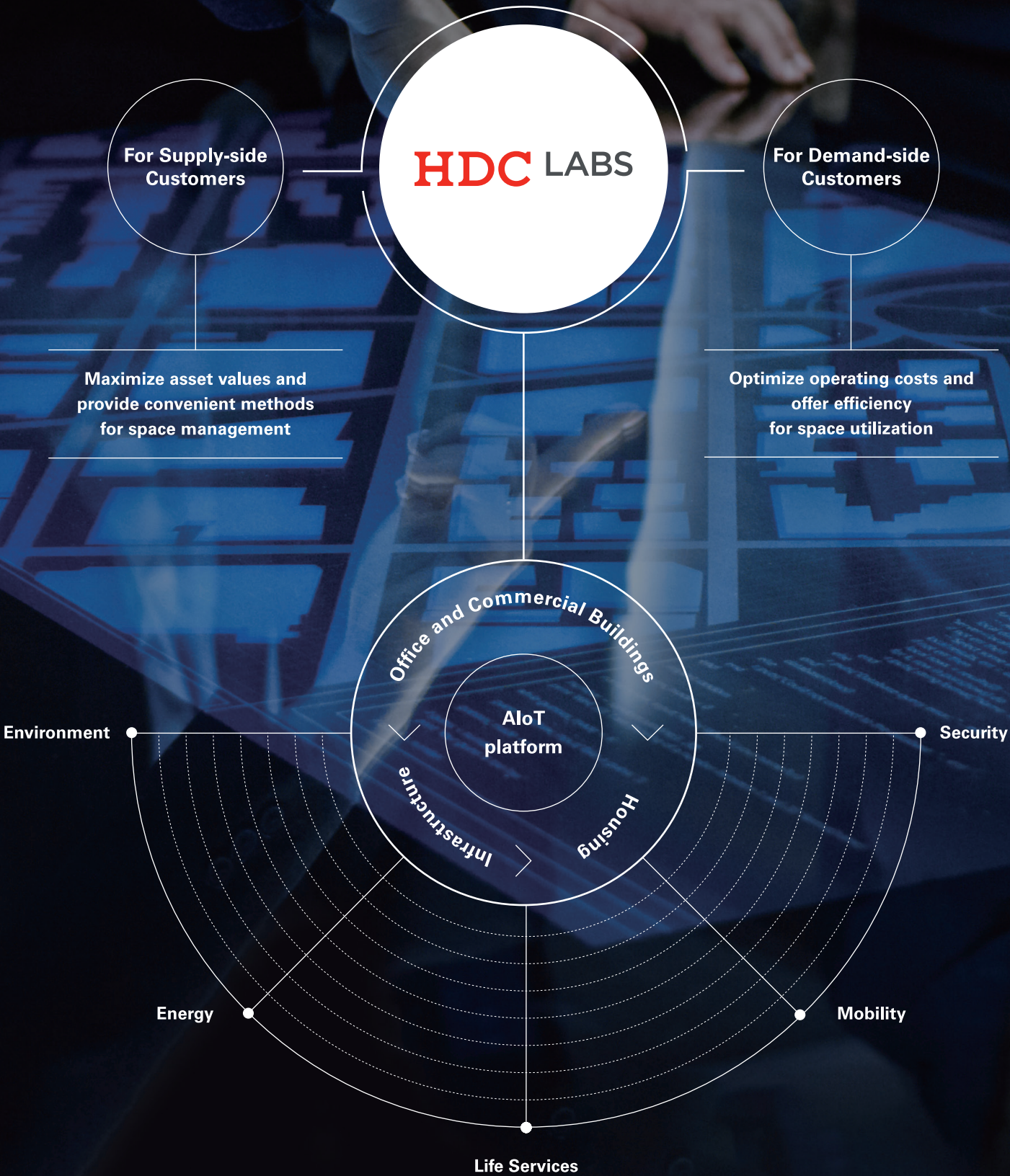
Credit Rating

As of 2022

Credit Rating Agency	Credit Rating	Cash Flow Rating
E CREDIBLE	A+	B
NICE D&B	A+	B

BUSINESS STRATEGY

HDC LABS has transformed its business model to a platform business that targets both demand and supply markets in order to provide solutions that maximize customers' values.



HOME SERVICE

Based on our credibility and know-how built through our continuous development and supply of home network systems, we are leading the shift towards home IoT and mobile-based smart home technology, and providing customized solutions that consider housing characteristics.

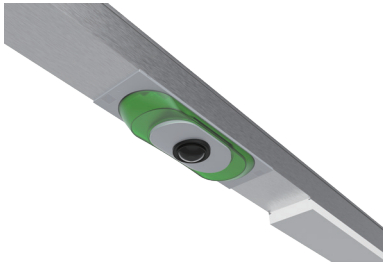
Smart Home IoT System

We are at the forefront of new trends in the home network market with our specialized design products, and we provide solutions that correspond to customer needs and social issues.



3
Smart LED Mood Lighting System

User-oriented smart LED system with various lighting functions and effects that can be controlled using a home network system or a smartphone application.



4
Underground Parking Lots with Tracking Devices

Provides parking guidance, recognition of parking locations and security, using 360-degree cameras and CCTV analysis technology.



6
IPARK App and HDC Homepad Solution

Provides control over smart home systems and convenient services through an integrated app for IPARK and HDC Homepad.



7
Home Network Solution

Our smart home IoT solution provides user-oriented convenience and a smart living space by changing the existing living space environment.

1
Premium Housing Solutions

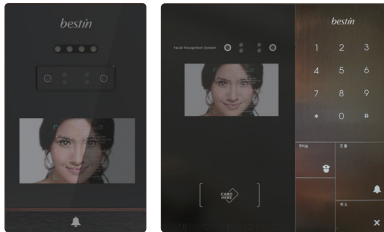
We offer high-end residential space solutions that follow KNX, a standard communication protocol.

2
DC Power Distribution System

Maximizes power efficiency by reducing the number of power conversion steps between AC and DC power. It also provides solutions for energy management and stability, and helps to extend the life of products by supplying high-quality power.

5
Field Test Runs

On-site remote-control system based on an integrated data-based dashboard.



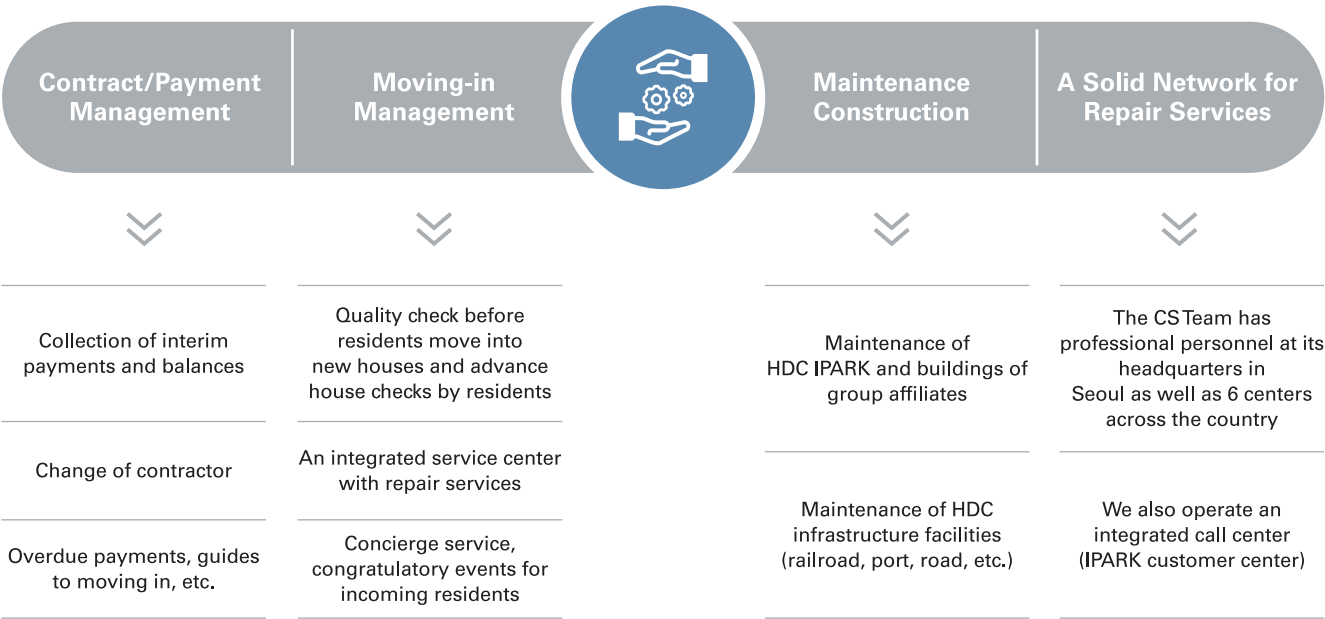
8
Facial Recognition Access

This access control system that uses contactless facial recognition technology, enables fast, convenient and high-security control.



Customer Satisfaction

With more than 20 years of maintenance/repair know-how, a nationwide network for repair services, and a digital customer management system, we are able to provide high-quality integrated services which range from managing contracts/payments for housing, as well as helping with move-ins and any follow-up management that’s required. We aim to continuously innovate our services by seeing through the customers’ perspective.



Major Performance

Construction Company	Construction Site Name	Number of Households	Completion Date	Applied Services
Daewoo E&C	Gwell Prugio, Cheongju Technopolis	1,148	2022. 5	Home network system
Hyosung Heavy Industries	Hyosung Harrington Place, Hongje Station	1,144	2022. 3	Home network system
SK Ecoplant	SK Leaders View, Luwon City	3,104	2022. 1	Home network system, one-pass system
Ilsung Construction	Truel, Samcheok	885	2021. 12	Home network system, one-pass system
Hyundai E&C	The Penthouse, Cheongdam PH129	29	2020. 8	KNX solution, underground parking lot solution
KCC Engineering & Construction	Switzen, Sacheon	1,738	2020. 6	Home network system, one-pass system
Seoul Housing & Communities Corporation	Wirye District A1-5, 12BL	-	2020. 6	Underground parking lot solution
HDC Hyundai Development Company	Taepyeong IPARK, Jeonju	1,319	2022. 5	DC distribution, lighting, wiring equipment, underground parking lot solution, parking control, one-pass system, etc.
HDC Hyundai Development Company	Daejeon IPARK City	2,560	2021. 11	
HDC Hyundai Development Company, Lotte E&C	IPARK CASTL, Byeongjeom Station	2,666	2021. 3	
HDC Hyundai Development Company	Dream Forest IPARK	1,711	2020. 12	
HDC Hyundai Development Company, Lotte E&C, POSCO E&C	FORESTIA, Sanseong Station	4,809	2020. 7	
HDC Hyundai Development Company	IPARK, Unjeong New Town, Paju	3,042	2020. 7	

Better life, Bestin

Bestin creates a space that encompasses all of a customer’s lifestyles and values, as well as providing new experiences and values. We strive to go beyond customers’ expectations with its digital-based and life-centered smart home business, and make a better life and enhanced spatial value.



Bestin Smarterior Line-up

DOORLOCK

With luxurious and high-tech designs, our door locks provide high security and various convenient features, thereby redefining the standards of premium door locks.



IDL-400

IoT LIGHTING

Our lighting technology will allow you to make your own space with 100 different types of lighting. We offer optimal lighting environments that can be adjusted to the situation, studying, resting, sleeping and so on.



Minimalist

IoT SENSOR

IoT sensors control lighting and other devices using Bestin’s Home App through Bestin’s IoT Hub – the center for a smart and convenient life.



IoT Hub

FACILITY · PROPERTY MANAGEMENT

Comprehensive Real Estate Management







We provide total solutions and technical analysis for optimized building management that reduce maintenance costs and extend the life of building.

 Facility Management	Operation of mechanical/electrical/fire safety/braking control facilities
	Physical building due diligence
	Energy management and mechanical facility inspections
 Cleaning Management	Cleaning services for buildings
	Specialized cleaning (marble, carpet, waxing work)
	Consulting for cleaning services
 Security Management	Manned guarding at vulnerable and major areas
	Security patrol (electronic patrol system)
	VIP protocol and reception
 Parking Management	Calculation of parking fees and guidance for vehicles
	Operation of parking lot and management of consignments
	Valet parking services in partnership with professional businesses
 Disease Prevention/ Pest Control	Disinfection, surface sterilization, pest control
	Sanitation equipment rental service
	R&D center for technology development
 Clerical and Administrative Support	Call center operation
	Stationery, mail, parcel and pantry management
	Management of various rental equipment

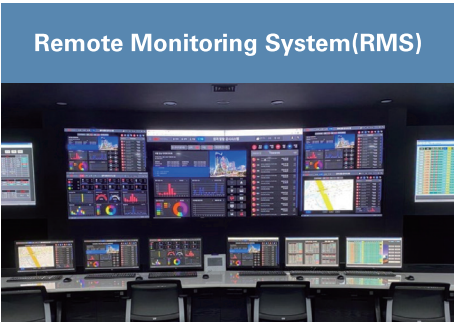


Property Asset Management

We provide optimized lease services for both building owners and tenants as well as comprehensive consultation services for the purchase and sale of real estate, in order to increase satisfaction and improve the value of building assets.

 Operation Management	Set and manage an operating budget
	Maximize rental yield
	Efficient financial/accounting management
 Lease Management	Attract and maintain anchor tenants
	Manage rental/maintenance fees and overdue payments
	Improve tenants' satisfaction and ensure stable lease
 Lease Service for Lessors	Calculate appropriate rental and maintenance fees
	Design and provide lease packages
	Review and prepare lease agreements
 Lease Service for Lessees	Provide a guide on optimal lease space
	Suggest lay-out plans
	Negotiate terms of lease agreements
 Purchase/ Sale and Investment	Analysis of a real estate's location, profitability and legal rights
	Management of ownership transfer process
	Analysis of real estates for investment and help with search for investors
 Reports	Monthly report
	Report on the collection of rental/maintenance fees and overdue payments
	Real estate lease market trend reports

Our Systems



Monitoring	Real-time monitoring to prevent dangerous situations
Performance Diagnosis	Analysis of facility efficiency and performance management
Alarms and Alert Messages	Mobile alarms and alerts according to the type of alarm signal
Optimal Equipment Operation	Optimal operation of equipment in consideration of load fluctuations



Helps to Improve Management Efficiency	Builds a database for a facility's management history and inspection records
Efficient Personnel Operation	Systematic work instructions, elimination of work gaps
Complaint Analysis and Improvement Measures	Builds a database of complaints that can be used for CS training
Create a Smart Workplace Environment	Offers real-time work schedules and alarm settings



Calculates the Appropriate Number of Cleaning Staff Needed	Calculations based on the characteristics of each building
Standardizes Cleaning Services	Works out standards for each zone and various finishing materials
Secures Data Reliability	Provides accurate cleaning information based on successful patents
Practical Use of Training	Provides customized job training for cleaning staff







Simplifies the Handling of Complaints	Improves accessibility using KakaoTalk
Prevention of Repeated or Similar Complaints	Prevention of repeated or similar complaints through analysis of received complaints
Strengthens Communication with Customers	Fast feedback with real-time communication
Ability to Share Major Notices	Can easily share important notices about building management services

Major Performance

Nationwide Integrated Management	 KB 국민은행	KB Kookmin Bank	Branch, Stand-alone Building	Facilities, Cleaning, Parking
	 HANKOOK driving emotion	Hankook Tire & Technology	Technodome, Geumsan/Jeonju Factories	Facilities, Dleaning, Security, Information, Parking
	 citi	Citibank Korea	Branch, Computer Center	Facilities, Cleaning, General Affairs
	 coupang	Coupang	Distribution Center	Cleaning, Disease Prevention

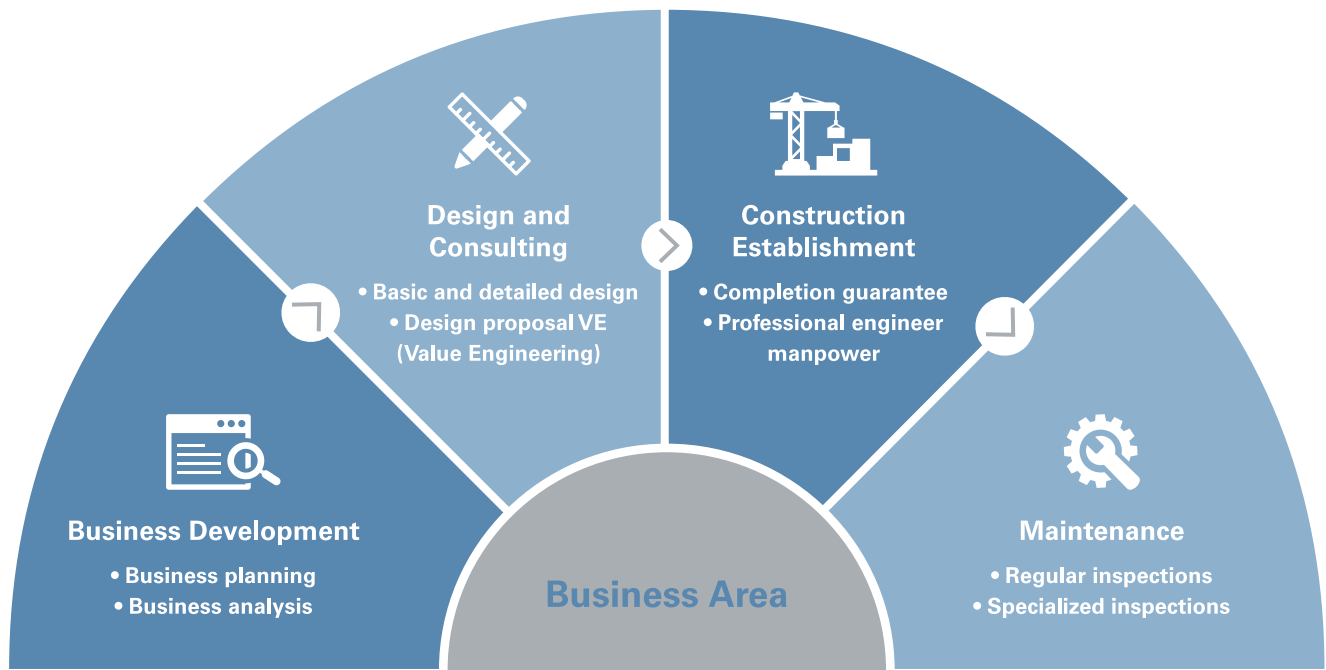
Business and R&D Facilities	 SAMSUNG	Samsung Digital City	280,236m ²	Facilities, Cleaning, General Affairs
	 kakao	Kakao Pangyo Office	162,731m ²	Facilities, Security
	 welcome to the soft world 누리꿈스퀘어	Nuri Dream Square	152,569m ²	Facilities, Cleaning, Security, Information, Parking
	 AhnLab	AhnLab & Solid Pangyo Office	69,421m ²	Facilities, Cleaning, Security, Information, Parking

Commercial Facilities	 HDC 아이파크몰	IPark Mall, Yongsan	266,538m ²	Facilities, Cleaning, Security, Parking
	 garden5 LIFE	Garden 5 Life	426,785m ²	Facilities, Cleaning, Security, Parking
	 CWANGGYO Alleyway	Alleyway Gwanggyo	38,755m ²	Facilities, Cleaning, Security, Parking
	 IKEA	Ikea	Goyang, Giheung, Dongbusan	Facilities

Large Hospitals	 서울아산병원	Asan Medical Center	2,715 Sickbeds	Cleaning, Funeral hall
	 용인세브란스병원 YONGIN SEVERANCE HOSPITAL	Yongin Severance Hospital	708 Sickbeds	Cleaning
	 SAMSUNG 강북삼성병원	Gangbuk Samsung Hospital	736 Sickbeds	Cleaning
	 건국대학교병원 KONKUK UNIVERSITY MEDICAL CENTER	Konkuk University Medical Hospital	908 Sickbeds	Cleaning

CONSTRUCTION SOLUTION

We provide customers with better spatial experiences converged with ICT total solutions; from planning, analysis, design, construction, to maintenance for all types of structures including buildings for business, residential, commercial and R&D, and social infrastructure.



- 1

Smart Building

Installation of smart building systems including building automation, ICT, integrated security management, audio and video systems, System Integration(SI), Facility Management System(FMS), and etc.
- 2

Energy

Installation of renewable energy plants including photovoltaics, BIPV, fuel cells, ESS, waste to energy, and etc.
- 3

Fire Safety

Installation of fire safety and disaster prevention systems including fire extinguishment, smoke control equipment, fire detectors and receivers, evacuation guidance, and etc.
- 4

Interior Design

Differentiated interior design and installation for residential, commercial, and business spaces.
- 5

Mechanical Equipment

Installation of mechanical equipment including HVAC, cooling/heating, sanitation and gas equipment.
- 6

Electricity

Installation of power systems and equipment including substations, lighting equipment and fixtures, power and motorised equipment, and grounding.
- 7

Landscape Architecture

Customized total landscape and gardening solutions from design, installation, to management.
- 8

Social Overhead Capital(SOC)

Installation of integrated operation solutions, applying ICT to social overhead infrastructures such as roads, railroads, and ports.



Smart Building(FRONNIX)

FRONNIX provides all the devices, networks, and software necessary to control broadened and super-high-rise smart buildings. This system actualizes efficiency of building operation and management, and energy saving through artificial intelligent digital control.



iCOS
Central control unit for automatic control, security equipment, and SI



iBEMS, iFMS
Central control unit for energy and facility management of buildings



Master Controller
Repeater between Human Machine Interface (HMI) and DDC



DDC(BACnet IP)
Digital control unit for data acquisition and equipment control

Smart Fire Safety(Bestin Fire Guard)

Bestin Fire Safety enables integrated linkage of automation control, security systems, system integration, and energy solutions; this system supplies integrated and effective disaster prevention functions.



R-Type Composite Receiver
Multiple surveillance and control of fire detectors, transmitters, and extinguishing equipment up to 32 fire events/512 circuits



Repeater
Available on receiver Provides 2/4 circuit I/O port



Repeater Panel
Links up to 32 units/4CH



Emergency Power Board
Supplies up to 15A output current for fire safety



Intake Air Sensor
Detects smoke through an air intake pipe



Analog Sensor
Detects fire and transmits a signal to the repeater panel



Evacuation Lights
Detects fire and guides people along the evacuation route in case of an emergency

Smart Air Cleaning(Bestin Air)

Bestin Air discharges polluted air inside the living space, and supplies outside fresh air into buildings.



Applied Prefilters, deodorising filters, and HEPA filters(Optional)
Total heat exchanger : counter flow type
Noise: 40dB(living space) / 50dB or less(non-living space)
Air conditioning efficiency: cooling 45% / heating 70%
Materials: ABS(exterior), EPS(interior)



Major Performance

IBS, Equipment, Firefighting, Energy, SOC

- 1 Jeongseon Park Roche
- 2 IPark, Gocheok
- 3 Yongin Severance Hospital
- 4 Floating Photovoltaic Powerplant at Joseong and Gaecheon reservoir
- 5 Busan Harbor Bridge ITS

Interior Work

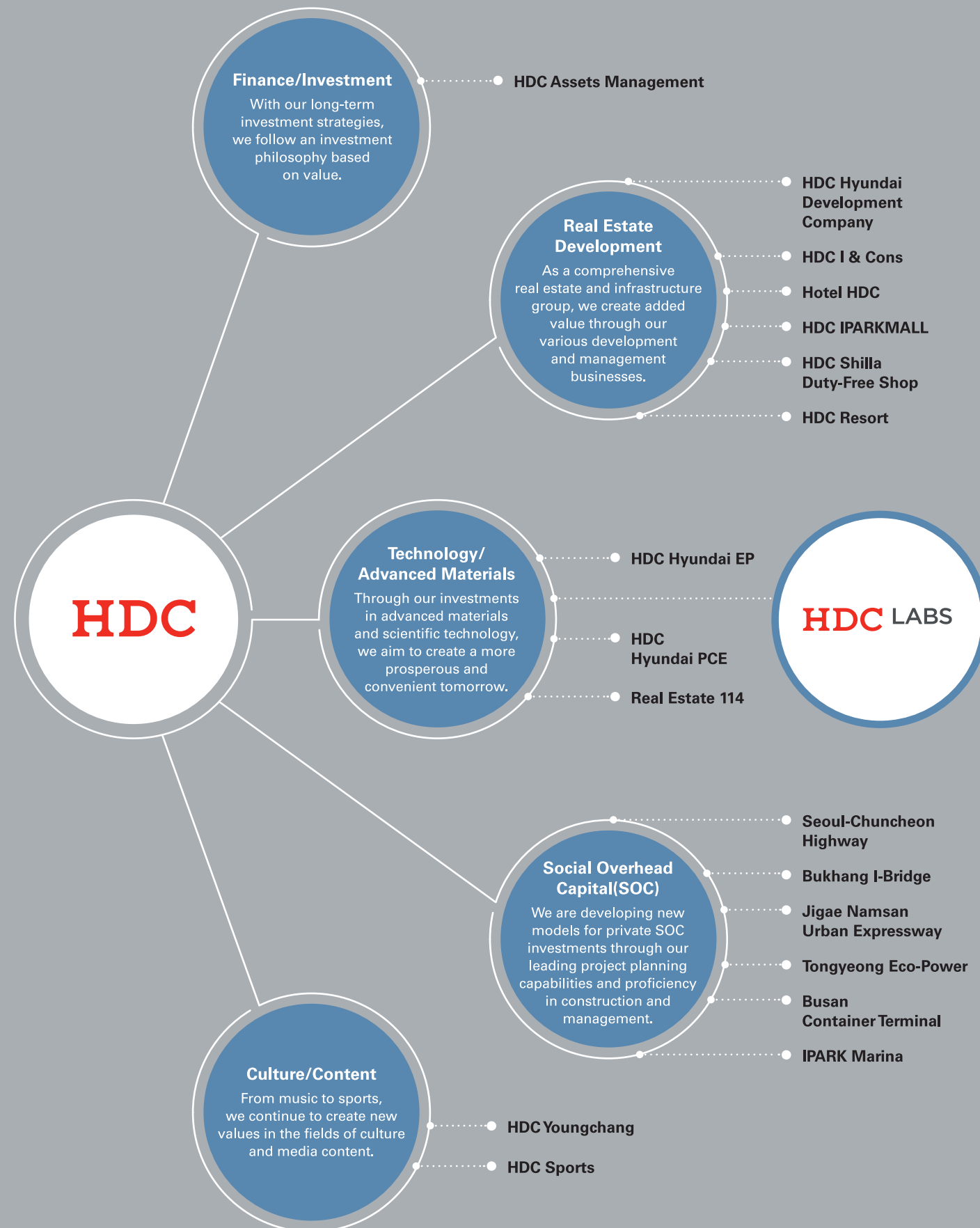
- 6 Jeongseon Park Roche
- 7 Lotte World Tower 42F
- 8 e-Pyeonghansang model house, Gangil, Hanam
- 9 Soomgo Office

Landscape Architecture

- 10 IPARK, Haeundae, Busan
- 11 EG the 1, The Grace, Wonju
- 12 Jeongseon Park Roche
- 13 Work submitted to 5th Gyeonggi Garden Culture Fair: "Fences"



AFFILIATES



Finance/Investment

HDC Assets Management HDC Assets Management implements responsible management by separating ownership from management to ensure transparency in asset management and autonomous decision-making.

Real Estate Development

HDC Hyundai Development Company
 HDC is a comprehensive real estate infrastructure company and has considerable market dominance based on its know-how as the largest private housing supplier in Korea, and due to the power of its brand, IPARK. The company provides comprehensive services for construction projects, and boasts the best services in not only contract-type construction, but also in development-type construction, which ranges from land purchase to sales. The company also carries out many projects in the private SOC market.

HDC I & Cons Based on its information network with securities companies, trust companies, and developers, as well as its specialized planning services, HDC I & Cons focuses on developing a wide variety of real estates, such as small and medium-sized housing near subway/train stations, new commercial areas with potential, and parking lots, as well as in-house development projects.

Hotel HDC Hotel HDC develops, plans, and manages global hotels and is raising its status as a management company that helps improve hospitality services.

HDC IPARKMALL HDC IPark Mall pioneered the concept of a 'comprehensive shopping mall' as well as introducing the idea of a 'mall' culture. It is taking the lead in setting new trends through various experiential projects that are based on the concept of 'Urban Nature.'

HDC Shilla Duty-Free Shop This is the world's largest downtown duty-free shop. The synergy between the 30-year know-how of Hotel Shilla, a world-class duty-free business operator, and HDC Group's ability to create complex facilities, has allowed this business to continue to grow.

HDC Resort HDC Resort runs and develops resorts, such as Oak Valley, the largest single resort in Korea, Park Roche Resort & Wellness, which has been selected as an excellent wellness tourist destination, and IPARK Condominium, a family resort.

Technology/Advanced Materials

HDC Hyundai EP HDC Hyundai EP began as the petrochemical division of Hyundai Industrial Development & Construction in 1988. Through its innovation in the functional polymer industry, it has grown as a leading company over the last 30 years in various industrial fields, such as automobiles, electronics, construction, and daily necessities. The company is aiming to create new values and strengthening its future competitiveness by developing eco-friendly and high-quality advanced materials.

HDC LABS After HDC I-CONTROLS acquired HDC I-SERVICE in December 2021, HDC Labs was founded with a new name. The company combines AIoT technology for smart homes and smart buildings with its know-how of comprehensive real estate management, landscaping and interior design. It also nurtures future growth businesses, such as building operation and B2C service platforms. The company provides digital-based services that combine technology and data with expertise in construction and maintenance, and seeks to grow as a spatial AIoT platform company that redefines space, life and the future.

HDC Hyundai PCE HDC Hyundai PCE began as the business division of Hyundai Development Company in 1988 and became an independent affiliate in 2014. It is a precast concrete company with high price competitiveness because precast concrete is taken to the construction site and assembled there. In addition, precast concrete can be used to construct safe earthquake-resistant buildings in a short amount of time and is useful in building residential spaces with outstanding soundproofing and insulation. With its experience from various construction projects across the country, HDC Hyundai PCE seeks to grow into the best precast concrete company in Korea.

Real Estate 114 Using various sources of data, such as real estates for sale, market prices, and actual transaction prices, Real Estate 114 offers objective pieces of information that help its customers make smooth transactions and rational investment decisions. The company also uses REPS, which is the only real estate statistical service available in Korea, and K-Atlas, a community-based data integration service, to provide real estate big data services that can meet customers' needs. It seeks to be a leading company in the big data platform market by providing comprehensive real estate solutions.

Social Overhead Capital(SOC)

Seoul-Chuncheon Highway The first private-invested infrastructure in Korea under the Act on Public-Private Partnerships in Infrastructure. The expressway has eased traffic congestion and reduced travel distance and time, thus contributing to national development and providing economic benefits.

Bukhang I-Bridge With the opening of the Busan Harbor Bridge, along with Gwangan Bridge and Geoga Bridge, the chronic traffic congestion to old downtown Busan has been eased, saving travel time and logistics costs.

Jigae Namsan Urban Expressway The only expressway that connects the downtown area of Changwon to the new town in the northern part of the city.

Tongyeong Eco-Power A privately-funded development project that includes a 900 MW LNG power plant, a 200,000 kl LNG storage tank, and supplementary facilities in an area of 260,000m² at Gwangdo-myeon, Tongyeong-si, Gyeongsangnam-do.

Busan Container Terminal Established for designs, construction, management, and maintenance of the Busan New Port Phase 2-4, it will take advantage of being located at the entrance of seaway point to the Busan New Port, satisfactory depth for large vessels, and the modernized automatic terminal.

IPARK Marina The IPARK Marina is the 'Suyeong Bay Yachting Center Redevelopment Private Investment Project' located in Woo-dong, Haeundae-gu, Busan. The project is planning to develop and operate berthing facilities for 628 ships, as well as accommodation and commercial facilities for users in an area of 234,711m².

Culture/Content

HDC Youngchang HDC Youngchang is a comprehensive music company that manufactured pianos for the first time in Korea. It seeks to grow into a global culture company that helps to spread different lifestyles and cultural content.

HDC Sports HDC Sports runs Busan IPark, a professional soccer team, and aims to nurture players, expand the football base, and develop sports culture. They make continuous efforts to make Busan IPark a beloved soccer team that is the pride of Busan citizens.

HDC LABS create the value of space
through innovative technology.
We design a new way of life that
goes beyond smart technology
and offer marvelous experiences.

HDC LABS

