



HYUNDAI DOOSAN INFRACORE

CORPORATE OVERVIEW

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Age Group	Percentage
18-24	22%
25-34	18%
35-44	15%
45-54	12%
55-64	10%
65-74	8%
75-84	6%
85+	4%

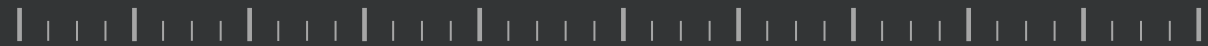


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- 01* Hyundai Heavy Industries
- 02* Hyundai Doosan Infracore
- 03* ESG Management

HYUNDAI HEAVY INDUSTRIES



The Legacy of Challenge and Growth from Shipbuilding to a Global Heavy Industry Company

1971~1999



1971 Wins contract for two 260,000 DWT VLCCs



1972 Groundbreaking ceremony for Ulsan Shipyard



1973 Establishment of Hyundai Shipyard & Heavy Industries (CEO and founder : Chung Ju-yung)



1976 Hyundai Shipyard & Heavy Industries inaugurates the Engine & Machinery Division



1977 Launch of the Heavy Electric Machinery Division (Predecessor of Hyundai Electric)



1983 HHI starts construction equipment business

1987 HHI ranks **global No.1** shipbuilder in new orders and production by Diamond, Japan

1993 HHI registers in The Guinness Book of Records in categories for "The Most Productive Shipbuilder," "The World's Largest Cargo Carrier" and "The Most Visited Shipyard."

1999 HHI listed on Korea Exchange (KRX)

2000~Today



2002 HHI Group spins off from Hyundai Group



2004 HHI produces the world's largest propeller
HHI launches the first 105,000 DWT tanker built on ground



2007 HHI completes a photovoltaic panel factory and starts green energy business



2009 HHI's Offshore & Engineering completes the 'H Dock'
HHI operates the 'Digital Shipyard' applied with wireless broadband (WiBro) technology



2010 HHI acquires Hyundai Oilbank
HHI's Engine & Machinery Division surpasses the record production milestone of 100 BHP



2015 HHI delivers 2,000 vessels for the first time in history

2017 Hyundai Robotics, Hyundai Electric Energy & Systems and Hyundai Construction Equipment spins off from HHI

2018 Launch of Hyundai Heavy Industries Holdings

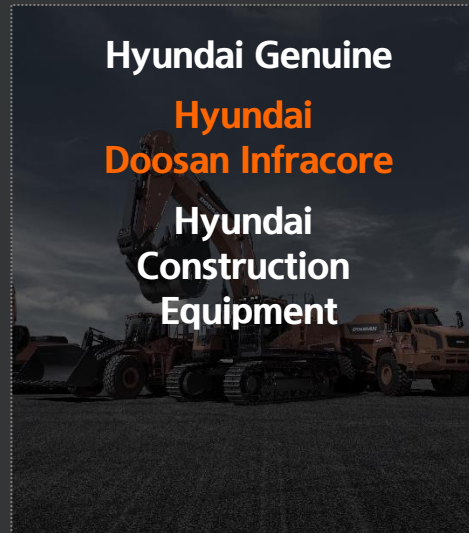
2021 Launching of Hyundai Genuine
HHI acquires Hyundai Doosan Infracore

A company leading the future with the most innovative industrial solutions

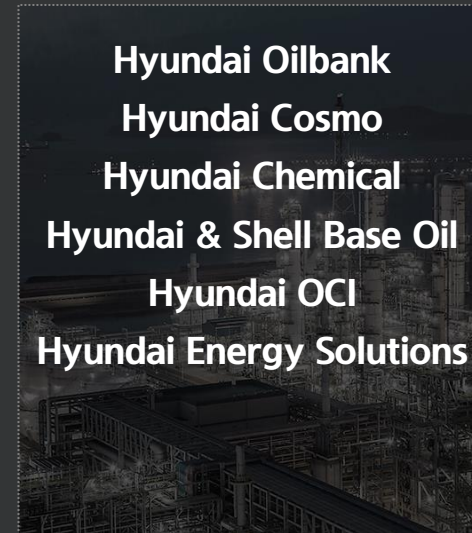
Marine



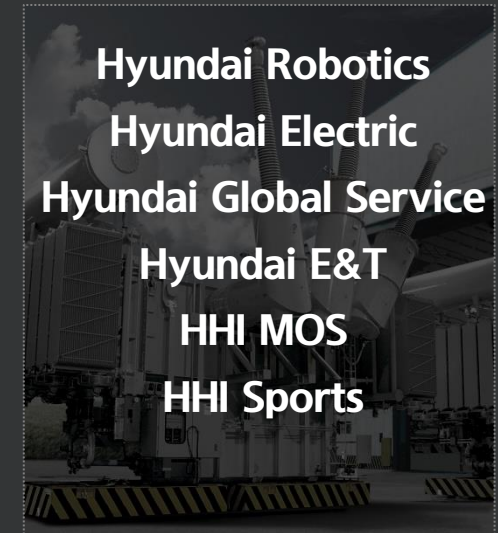
Construction Equipment



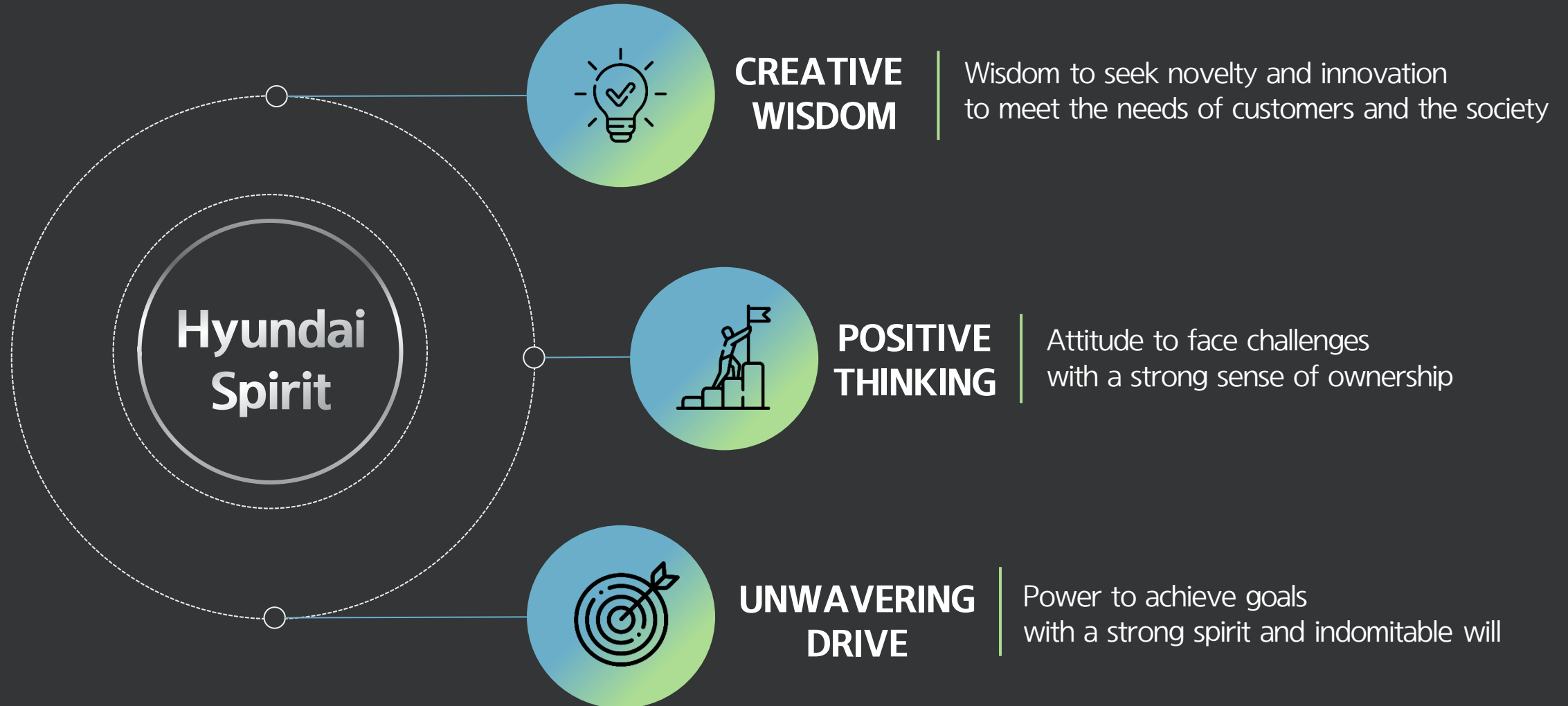
Energy



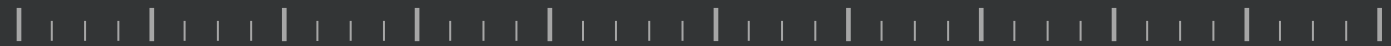
Industrial & Services



The Hyundai Spirit that challenges and achieves goals with infinite potential and a strong driving force



HYUNDAI DOOSAN INFRACORE



Forging a New History beyond its 80 Years of Legacy



Chosun Machine Works
(1937 ~ 1962)

1937 Korea's first large-scale machine factory



Korea Machinery Industries Corp.
(1962 ~ 1976)

1966 Listed on the Korea Stock Market

1975 Completes construction of Incheon Diesel Engine Factory (The largest in Asia)



Daewoo Heavy Industries
(1976 ~ 2000)

1977 Completes construction of Incheon Excavator Factory

1979 Completes construction of small diesel engine factory

1985 Develops its own excavator model and engine

1990 Enters the European market (Belgium)

1994 Enters the Chinese market



Daewoo Heavy Industries & Machinery Ltd.
(2000 ~ 2005)

2000 Spins off the General machinery business

2001 Re-listed on the stock market



Doosan Infracore
(2005 ~ 2021)

2005 Incorporated into Doosan Group

2007 Acquires Bobcat

2008 Acquires Moxy

2010 Completes construction of Gunsan CE Factory

2012 Completes construction of Incheon Compact Diesel Engine Factory

2014 Completes construction of Incheon Global R&D Center

2018 Demonstrates the world's first 5G-based country-to-country equipment remote control

2019 Completes construction of Boryeong Proving Ground

Demonstrates Concept-X, the world's first integrated control solution for future construction sites

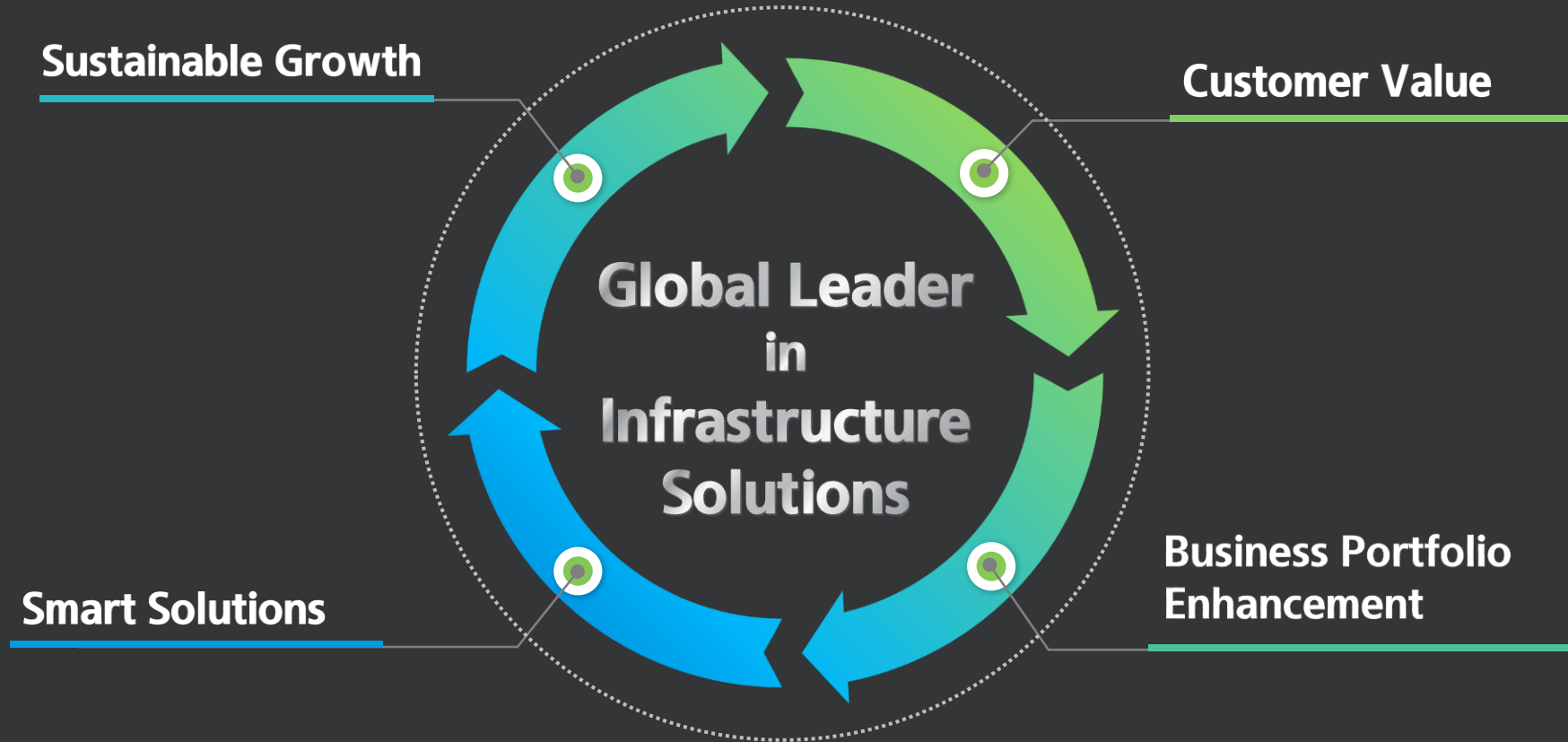
2020 Launches XiteCloud, a smart construction management solution



Hyundai Doosan Infracore
(2021 ~)

2021 Incorporated into HHI Group

Leaping forward as a global leading company that provides infrastructure solutions



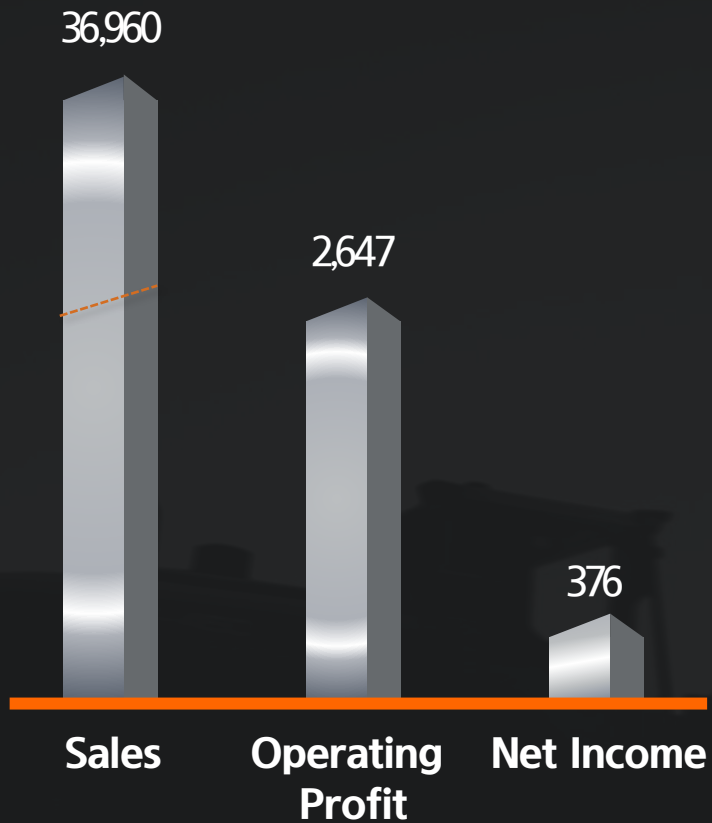
Powered by Innovation

With 'Innovation' comprising our foundation and core value, the slogan expresses our commitment to create infinite business opportunities driven by innovation



2020 Financial Results and Key Performance

Unit: KRW 100 Million



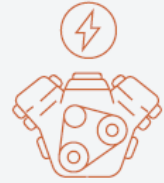
200,000 +

Accumulated number of excavators produced by the Chinese subsidiary



XiteCloud

Received the Minister of Land, Infrastructure and Transport Award at Smart Construction Challenge 2020



48V mild hybrid powertrain

Successfully completed an equipment application test



ECUBE Solution

A total solution provider of aftertreatment system



DooEco

Established an IoT-based integrated environment monitoring system



DI360

Opened a big data-based work platform

Expanding the Global Business Network

Sales

Seongnam, Korea | Yantai, China |
Beijing, China | Americana, Brazil |
Santiago, Chile |
Elnesvågen, Norway |
Groot-Ammers, Netherlands |
Suwanee, U.S. | Prague, Czech
Republic

PDC (Parts Distribution Center)

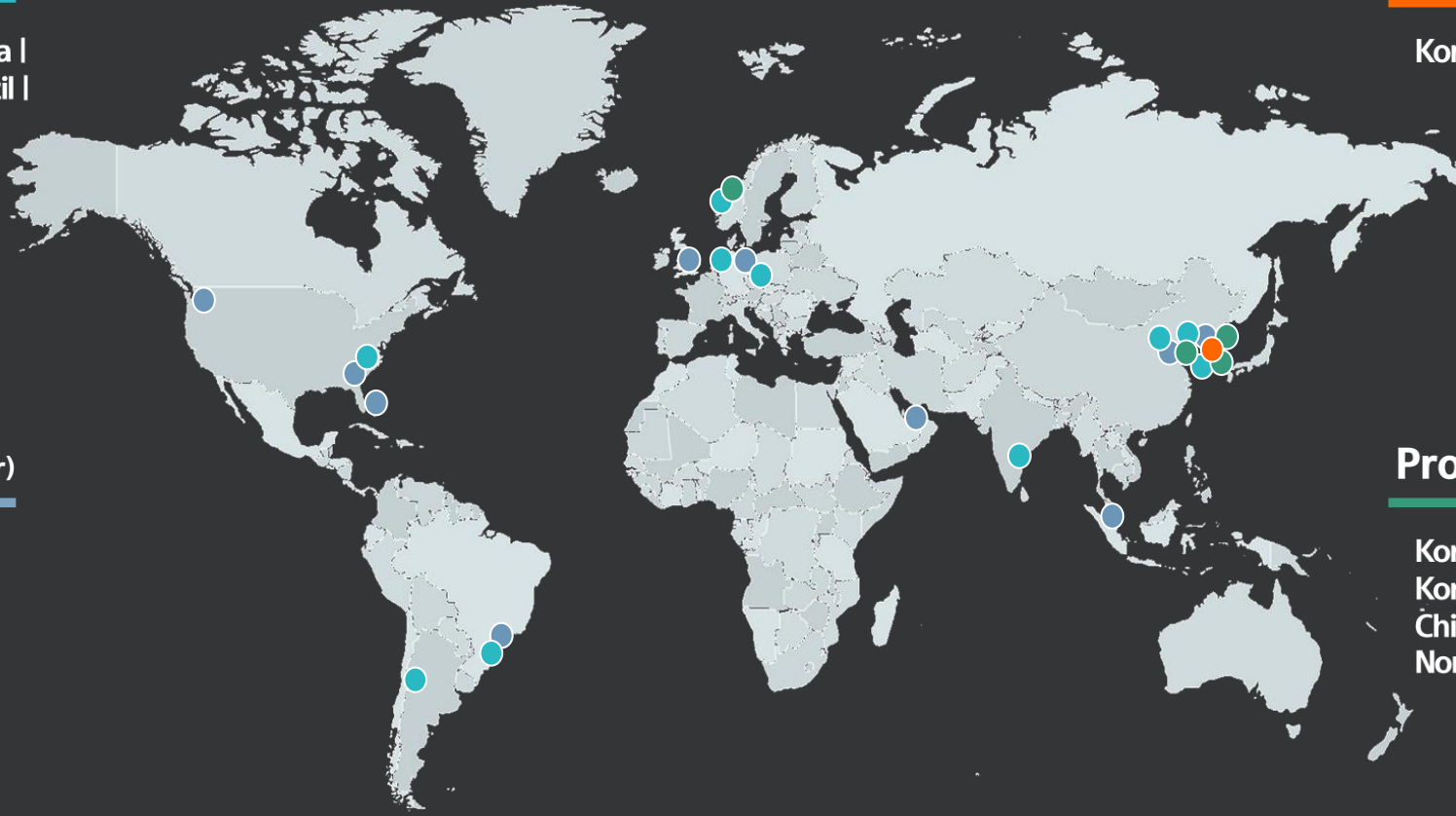
Ansan, Korea | Yantai, China |
Halle, Germany | Dubai, UAE |
Singapore | Americana, Brazil |
Miami, U.S. | Atlanta, U.S. |
Seattle, U.S | Cardiff, U.K.

Headquarters

Korea (Incheon)

Production Subsidiaries

Korea (Incheon)
Korea (Gunsan)
China (Yantai)
Norway (Elnesvågen)



Chapter 02 Hyundai Doosan Infracore

Product Overview

Construction Equipment

Mini Excavators
(Under 5 tons)



Mid & Large
Excavators



Wheel Excavators



Wheel Loaders



Articulated
Dump Trucks



Engines

Diesel / Gas
for Generators



Diesel / Gas
for Automotive



Diesel
for Marines



Diesel (G2)
for Off-Highway



Hybrid Powertrain



Diesel
for Military



Construction Equipment Highlights

Concept-X

Demonstrated Concept-X in 2019,
the world's first
integrated control solution
for future construction sites

5G-based Country-to-Country Remote Control

Demonstrated the world's first
5G-based country-to-country
equipment remote control
in 2018

Transparent Bucket

Developed the world's first
transparent bucket system
allowing drivers to see blind spots
in front of the bucket
through the cabin monitor

Design Awards

2016 Red Dot Design Award
2019 Pin Up Design Award
2020 Red Dot Design Award
2020 iF Award Main Award
2021 iF Design Gold Award
2021 IDEA Main Award

Engine Highlights

G2 Engine “Innovation Award” Winner

Selected as one of the Top 10
mechanical technologies of 2013
Winner of the Innovation Award
at the 2014 FLTA Awards

Next-Generation Tank Engine

Developed the world's second
1500 HP compact diesel engine
with local technology

Euro6 & Stage V

Maximized customer value
with its own after-treatment
(DPF+SCR) system and ULFC
(Ultralow Fuel Consumption)
technology

Hybrid Powertrain

Downsized 39-120 kW-class
industrial equipment,
eliminating and minimizing
high-priced after-treatment system

Digital Transformation



Digitalization of Business

- 1 Solutions for future construction sites
- 2 Electrification



Digitalization of Operations

- 1 Transition of the Core System
- 2 Platform for data-driven collaboration
- 3 Digital tasks by division



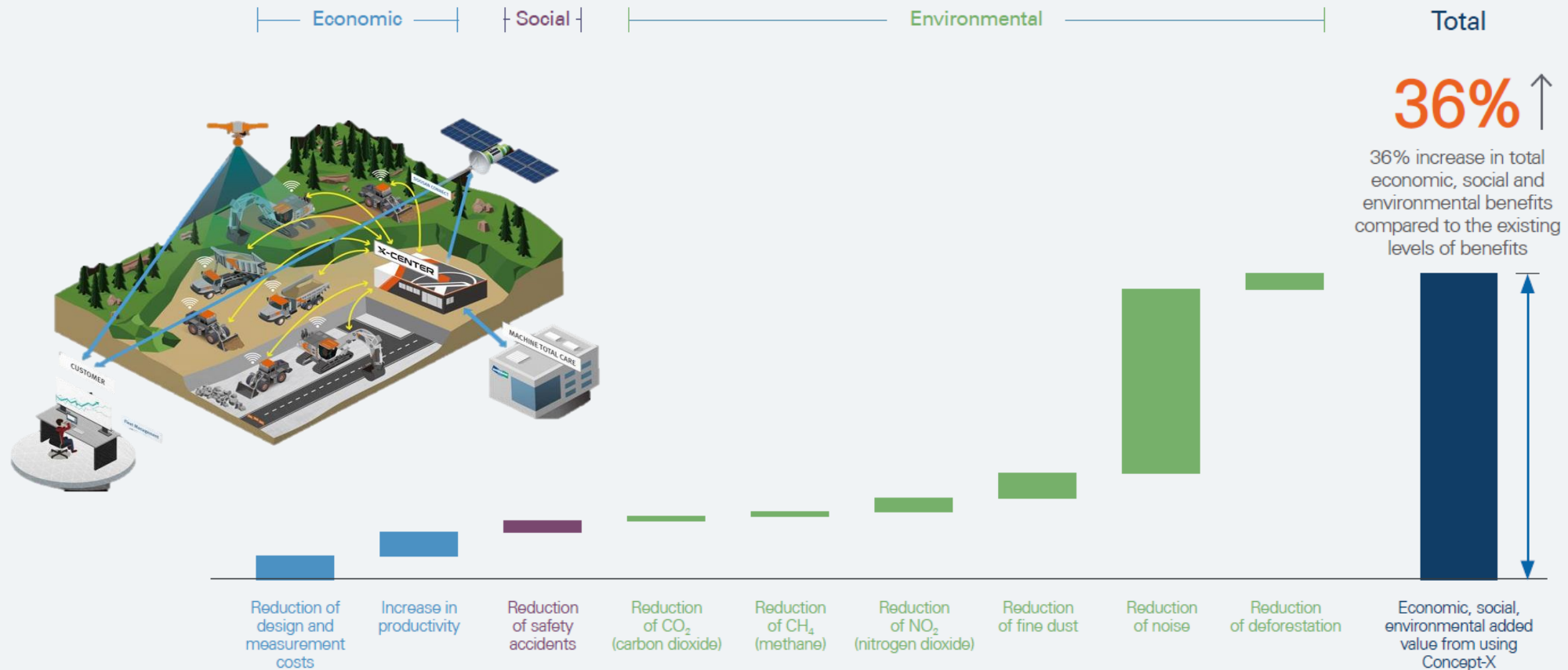
Digitalization of the Way We Work

- 1 Smart Workplace
- 2 In-house Startups
- 3 Strengthening of digital work capabilities

Future Innovation _ Concept-X

An integrated control solution that uses 3D drone topography survey and established plans to operate construction equipment without human intervention (Successfully demonstrated in Nov. 2019 for the first time in the world)

Total Economic, Social and Environmental Benefits brought by Concept-X



*Source : KPMG Strategy Consulting Group "Concept-X True Value" Report

Future Innovation _ XiteCloud

The first step of Concept-X commercialization and a comprehensive management solution for earthwork sites that establish an optimal construction plan using a 3D drone measuring and earthwork quantity calculation platform

Insight Beyond The Site.



- ✓ Accurate and fast drone survey with an error range of ± 3 cm
- ✓ 3D earthwork target drawing modeling
- ✓ 3D rock layer modeling



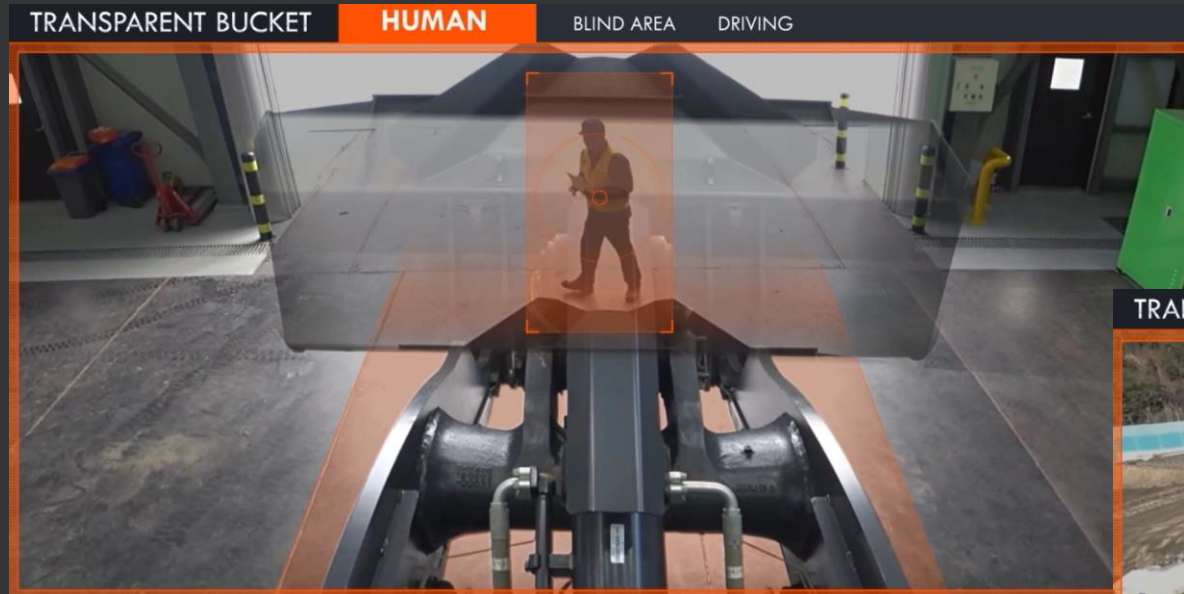
- ✓ Calculation of earthwork volume by rock layer
- ✓ Measurement of length and cross section, distance, coordinate values, etc.



- ✓ Progress monitoring and documentation support
- ✓ Communication and issue management using 3D field model

Future Innovation _ Transparent Bucket

The transparent bucket is a system that allows the driver to see blind spots in front of the bucket through the cabin monitor. This is an innovative technology that records images in front of the wheel loader with the cameras installed at the top and bottom of the machine and shows combined images in real time using a curved projection method

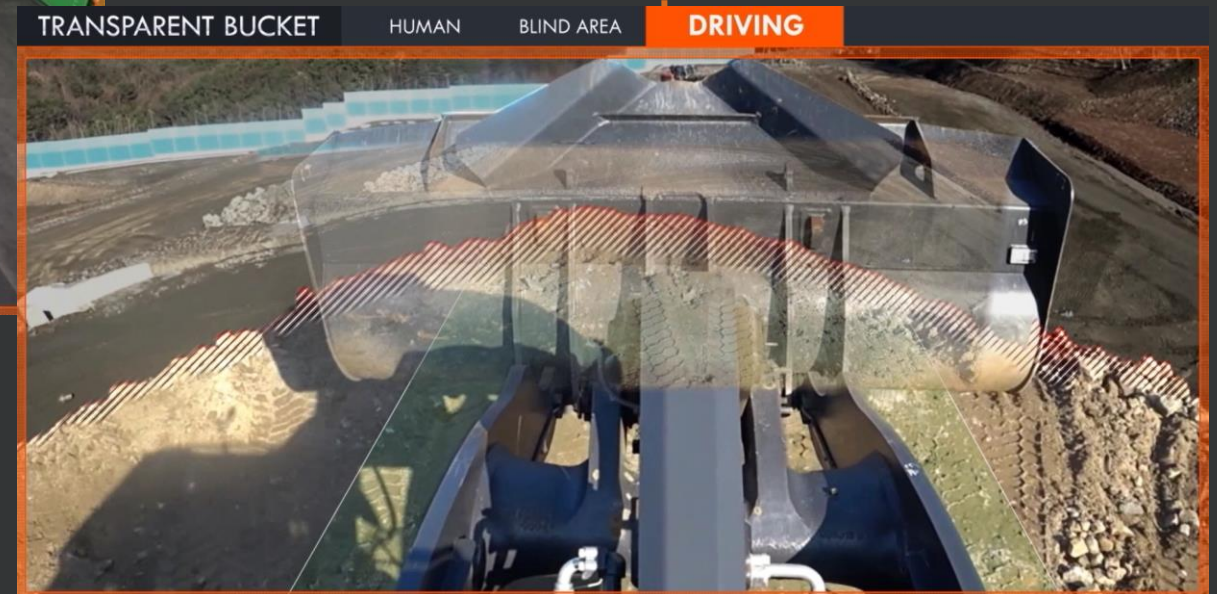


[Accident Prevention]

Easy to check what's in the blind spots through the monitor

[Improved Work Efficiency]

Possible to see beyond the bucket when loading, unloading, and transporting soil



Future Innovation _ **DOOSAN**CONNECT®

DoosanCONNECT is Hyundai Doosan Infracore's telematics service brand which locates the equipment and checks the status of various systems through a terminal applied to the machine

Boosting Worksite Management Efficiency



- Monitors equipment info.
- Limits movement range (automatic operations and stop)

Enhancing Productivity



- Checks machine operations and actual work time
- Checks fuel status and cumulative fuel efficiency



Smart Maintenance

A DoosanCONNECT-based customized service in which dealers proactively detect and respond to equipment issues



Boosting Convenience of Equipment Mgmt.

- Alarms user of consumables replacement cycle (filters & oil)



Bolstering Accident Risk Control

- Improved automatic gauge check
- Alarms equipment fault



DoosanCARE

DoosanCARE is Hyundai Doosan Infracore's unique customer care program that enhances customer relations and promotes mutual growth in the mid-to-long term.



Preemptive After-Sales Services

Hyundai Doosan Infracore provides customer-specific services by visiting customers on site regardless of machine fault and warranty

Enhancement of Fundamental Competence

Hyundai Doosan Infracore continues to boost fundamental competence by creating a virtuous cycle of improving and developing products and services and satisfying its customers



Development of Eco-friendly Technology

*Source : PwC "ELECTRIC EXCAVATOR IMPACT VALUATION" Report

Clean Engine Technology

Setting innovation as the main strategy for technological development and contributing to resolving climate change issues



Next Generation for Powertrain



Fuel cell



E-Powerpack



Hybrid (Mild/Full)



Expanding alternative fuels (CNG, LNG, LPG, Bifuel, Biodiesel)



Diesel (1.0-30 liters and more)



Electric Excavator

1.7-ton class mini electric excavator DX17Z-5 prototype unveiled in 2020 (Targeting commercialization in 2023)



Value Add-up

Per one electric excavator



Approximately
KRW 27.46 million

Creating a value of KRW 27.46 million per each electric excavator from the economic, social, and environmental perspective, compared to the diesel excavator (Assuming average usage of 750 hours a year for 5 years)

ESG MANAGEMENT



MEMBER OF
Dow Jones
Sustainability Indices
In collaboration with  S&P SAM

11 consecutive years

Listed in the machine and
electric equipment categories of
DJSI Korea

KCGS
한국기업지배구조원

A

Rated Class A in the ESG Evaluation
by the Korea Corporate Governance
Service

DJSI Korea
electric equipment categories of
DJSI Korea

Service
by the Korea Corporate Governance
Service

Responsible and Eco-friendly Management

Pursuing sustainable growth with environment and safety as its top priority



Expanding eco-friendly products

〈Eco-friendly products〉

Defined as products that preemptively satisfies market regulations in five aspects : fuel economy, durability, noise, safety, and emission regulations

90.7% of all products are eco-friendly
(As of 2020)



Managing greenhouse gas emissions

Managed total GHG emissions at around 74% of the quota allocated by the Gov't during the second phase of the emissions trading scheme (2018~2020)

2020 GHG emissions in Korea decreased by around 19.4% YoY
(90,447 tCO₂eq)



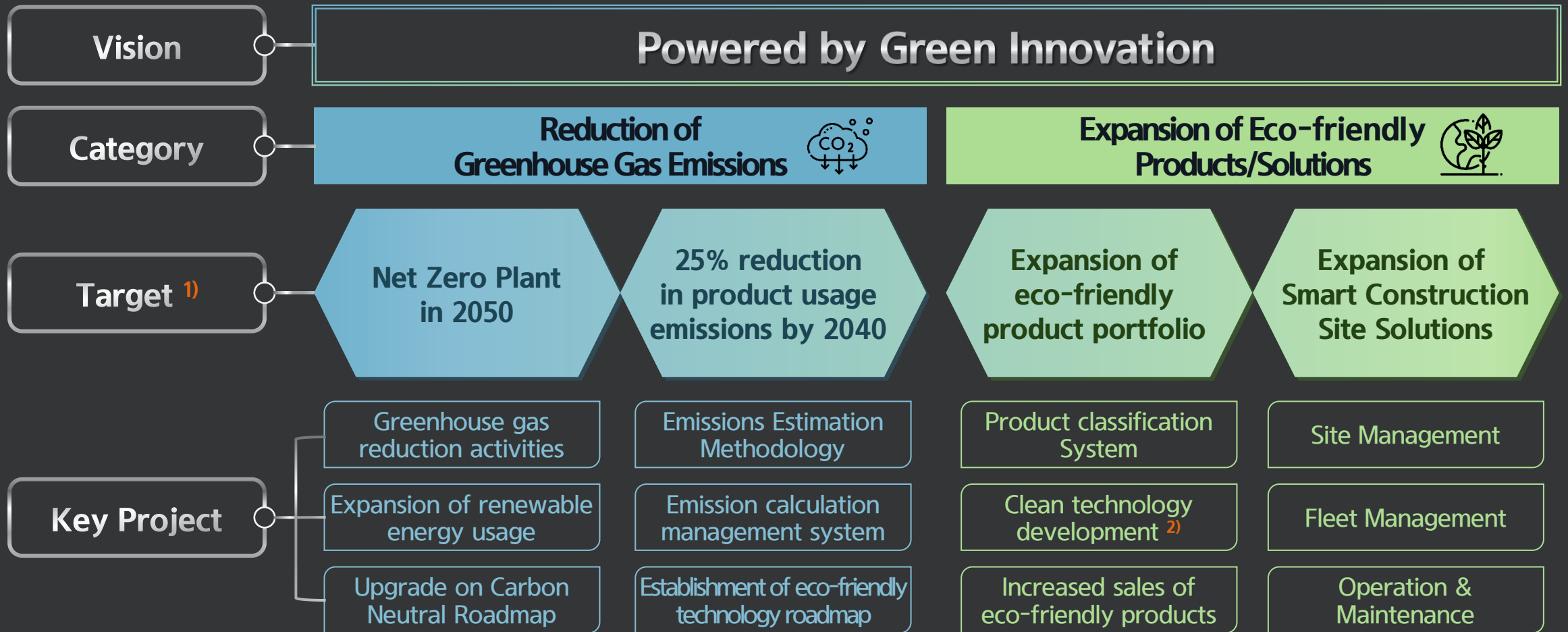
Preventing environmental risks and recycling resources

Established an integrated environmental monitoring system Based on IoT to enhance response towards environmental disasters

Wastewater reuse system
Recycling 48%
of total wastewater
(As of 2020, Incheon Plant)

Medium and Long-term Climate Change Response System

Actively responding to the global climate change crisis and creating sustainable values by fulfilling our responsibilities as a corporate citizen.



1) Baseline : 2020 , 2) Eco-friendly power conversion (hybrid Powertrain), Fuel efficiency (Hydraulic hybrid), Reduction of air pollutants (Combustion optimization, after-treatment)

Creating a Harmonious Community

Providing aid as a Global corporate citizen for underdeveloped areas and disaster zones around the world

Supporting the Next-Generation



Junior Engineering Class



Dream School for the next-generation



Hope Elementary School in China

Supporting Local Communities



Community-specific outreach activities

Supporting Damage Recovery



Recovery from earthquakes in China



Recovery from earthquakes in Nepal



HYUNDAI DOOSAN INFRACORE