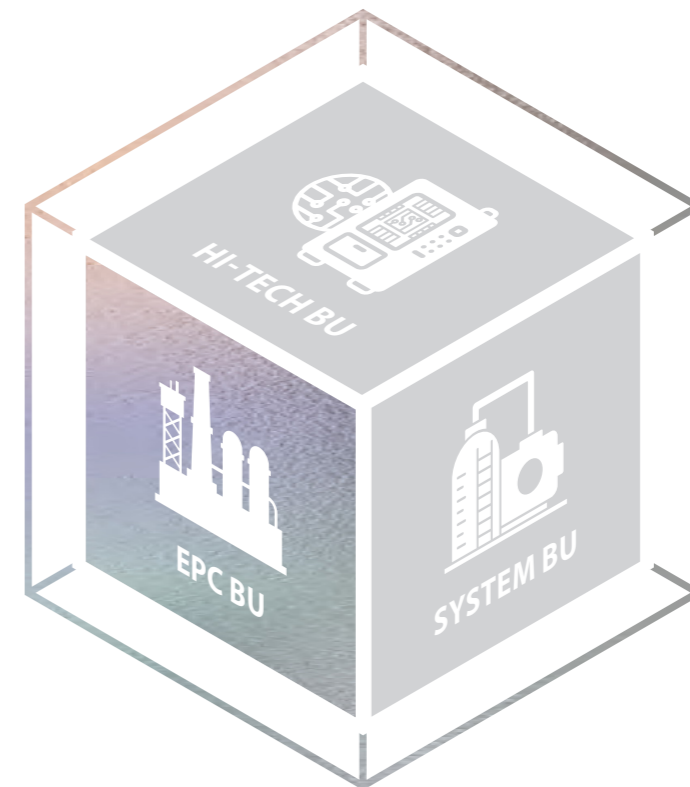


TOTAL SOLUTION PROVIDER

—

EPC BU



HANYANG ENG CO.,LTD

72, Yeongtong-ro 26beon-gil, Hwaseong-si, Gyeonggi-do, 18380, Korea
Tel. 82-31-695-0000 Fax. 82-31-204-0394

<http://www.hanyangeng.co.kr>



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A Global Company that Provides Total Engineering Solutions

HANYANG ENG is leading the creation of customer value
by implementing the best quality and services through quality management.
HANYANG ENG, which provides the best total service to customers with the best
technologies in the semiconductor and display fields, industrial plants
(general industry and gas industry), environment, green energy, and aerospace field,
is realizing sustainable growth with creative technologies to create
a bigger tomorrow through innovation.

Business Area

- Industrial Plant
- Gas Industry
- Environment & Green Energy
- Aerospace

HANYANG ENG

**We Provide the Best Service by
Putting Customer Value First**

Industrial Plants (General Industry & Gas Industry) |
Environment & Green Energy | Aerospace

EPC BU has the best engineers who provide optimal solutions to meet customer needs. We are pursuing continuous innovation and technology development with creativity, a challenging spirit, and a customer-oriented mind that are one step ahead.



EPC Business Unit is...

We Open the Future with Advanced Thinking & Technology

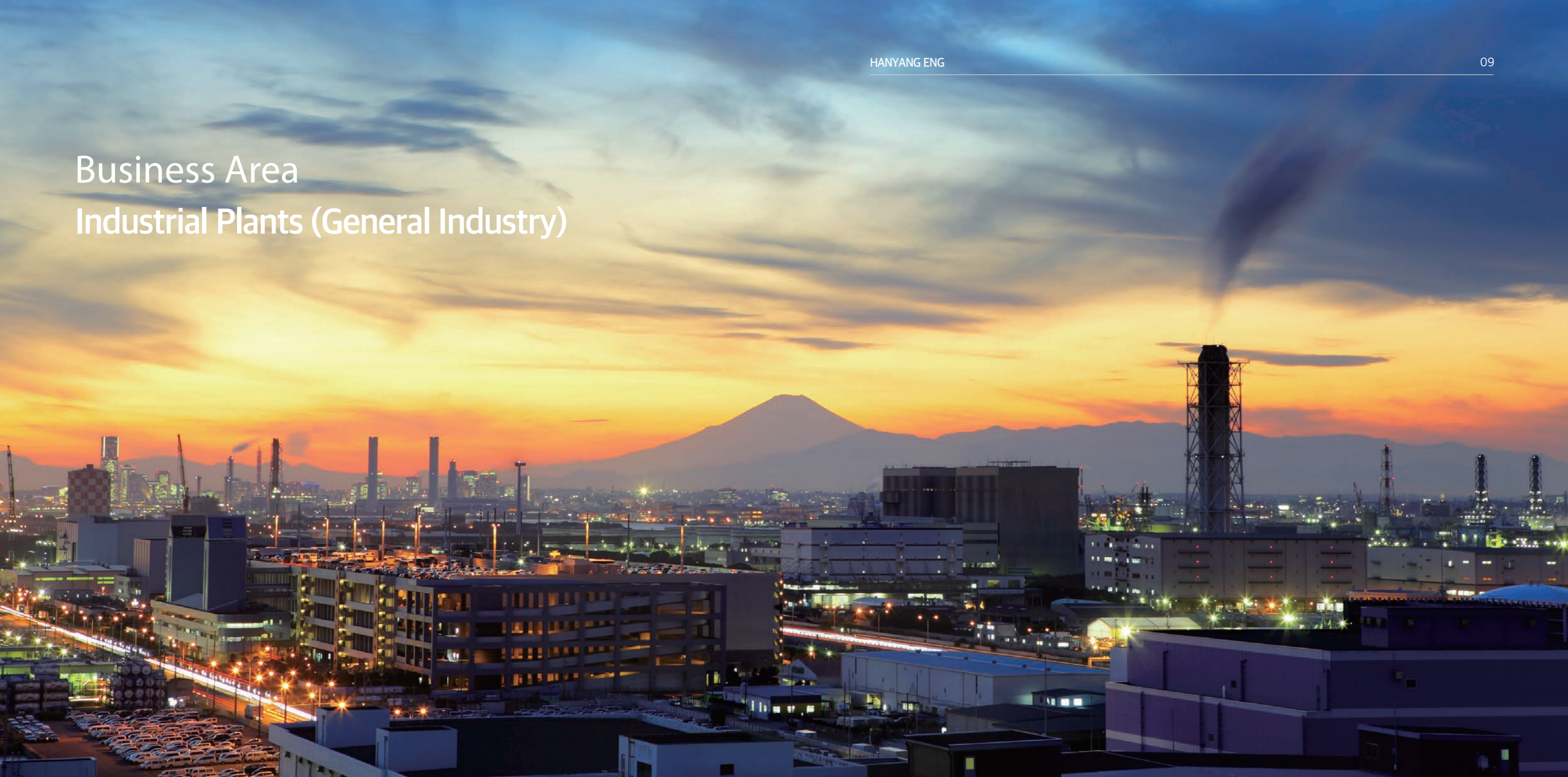
EPC BU has been providing services that meet the diverse needs of customers throughout the entire process from feasibility study to engineering, procurement, construction and commissioning as a Total Solution Provider based on domestic and overseas project experiences accumulated over the past 30 years. We will maximize the future value of our customers with our accumulated technologies and expertise and grow into a global company leading the future market based on the deep trust we have gained from our customers.

Core Value



Business Area

Industrial Plants (General Industry)



Industrial Plant

Industrial Plants (Chemicals/Materials)

HANYANG ENG is successfully carrying out EPC (engineering/procurement/construction) projects for various industrial plants, such as semiconductor/display electronic materials and material/parts/equipment fields. We are also preparing to enter the hydrogen and green energy fields, which are the future growth engines, based on our rich and diverse business management capabilities ranging from engineering/procurement/construction to commissioning.



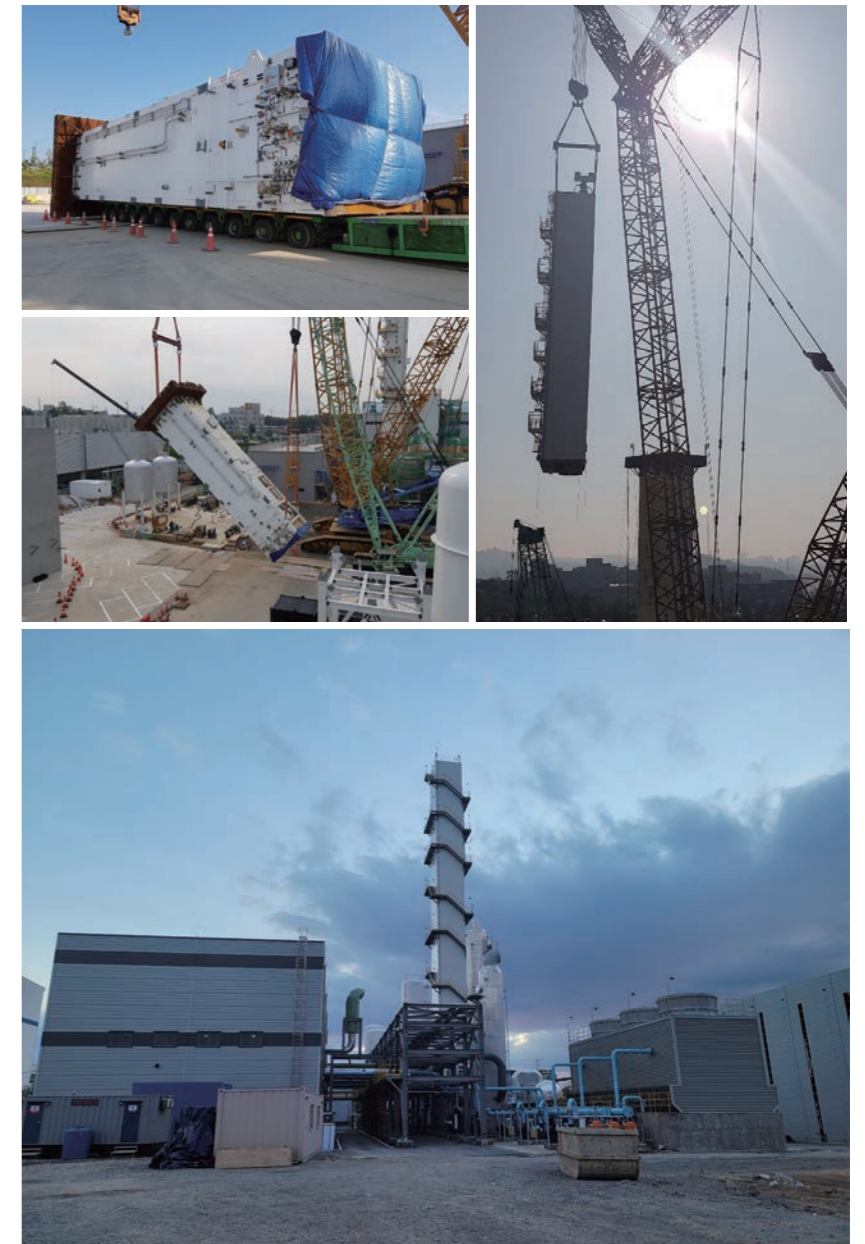
Business Area Industrial Plants (Gas Industry)



Gas Industry

Gas Industry (ASU/Industrial GAS)

HANYANG ENG has been accumulating differentiated technologies and know-how by constructing gas production plants for over the last 20 years. Especially, in the fields of cryogenic gas equipment and ASU (Air Separation Unit) construction, which produces gases such as nitrogen, oxygen, argon, etc. from the air in the atmosphere, we have been carrying out projects for global gas production customers, including Linde Korea, Air Products Korea, and Air Liquide Korea, for a long time. We provide the best value to our customers based on differentiated technologies and accumulated know-how.



Business Area

Environment & Green Energy



Water Treatment Plant Settling Tank (Clarifier)

Environment & Green Energy

Environment & Green Energy (Water & Wastewater Treatment/Reuse/Seawater Desalination)

HANYANG ENG has experience in engineering, manufacturing, constructing, and performing commissioning on water and wastewater treatment equipment, (ultra) pure water treatment equipment, seawater desalination equipment, condensate polishing equipment, reuse systems, etc. for power plants and industrial plants. We especially have the technology to construct a wastewater treatment plant that processes more than 100,000 tons per day, and through continuous investment, we are developing technologies and capabilities to carry out environment-related projects such as water treatment, air, waste, etc.



MBP(Mixed Bed Polisher)



CPP(Condensate Polishing Plant)



RO(Reverse Osmosis)

Business Area Aerospace

Aerospace

Aerospace (Launch Vehicles/Testing Equipment/Parts)

HANYANG ENG's aerospace business contributed to the success of the launch by actively participating in the 'Naro-1' project, Korea's first space launch vehicle in 2013, starting with the participation in the "KSR-III" project, the first liquid-fuel rocket in Korea in the late 1990s. We also have accumulated excellent technologies by carrying out the construction of various testing equipment and launchers necessary for the development of 'Nuri', the first Korean launch vehicle. Our technical capability has been recognized by developing core components, such as hydraulic and pneumatic umbilical, electric umbilical, and solenoid valves, which are key parts of Korean launch vehicles together with KARI (Korea Aerospace Research Institute). Moving forward, we will continue to do our best to make the aerospace industry a next-generation growth engine of the country by participating in new fields such as the performance improvement projects of the Korean launch vehicles and the development projects of small launch vehicles.



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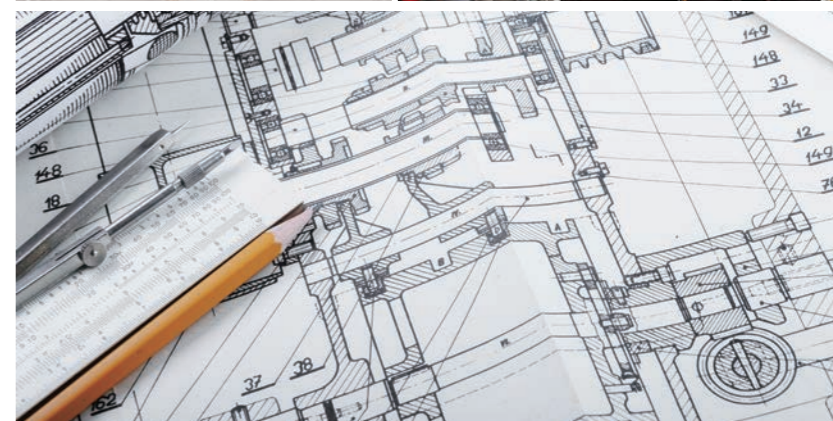
Engineering Center



Engineering Center

Engineering Service

EPC BU has the comprehensive engineering capability to carry out projects in an integrated manner. Also, we have been securing essential capabilities that can be used in various industrial fields, such as cleanrooms, ultra-pure water facilities, ultra-high-pressure facilities, industrial gas plants, wastewater treatment, hydrogen plants, etc., based on industry-academia collaboration with accumulated engineering experience assets and comprehensive construction experience for many years. Moving forward, we will transform into a Total Engineering Provider that provides greater satisfaction and services to our customers by further strengthening our core technologies, technical capabilities, and expertise in each field.



Achievement

- Industrial Plant
- Gas Industry
- Environment & Green Energy
- Aerospace

HANYANG ENG

**We will Grow into a Global Company
that Prepares for the Future by
Obtaining New Technologies with
Forward-thinking**

EPC BU is preparing for new business areas such as green energy based on technologies and experience that have successfully completed numerous domestic and overseas projects. We will establish our capabilities to lead the domestic market by successfully carrying out a series of EPC projects from engineering to procurement, construction, and commissioning.

Achievement Industrial Plants (General Industry)



New Construction of HISEM (currently APACT) Eumseong Plant

Industrial Plant

Differentiated Project Execution with Accumulated Experience & Advanced Technologies

New Construction of HISEM (currently APACT) Eumseong Plant

At HANYANG ENG, which has successfully carried out large-scale EPC project, we have been establishing our status as a leading company in the domestic and overseas EPC industry by being recognized for our construction performance capabilities. We are expanding our business execution capabilities into overseas markets with advanced technologies and also by securing new technologies.

Partnership of Trust that Meets Customer Expectations

Incheon TOK Phase 1, 2, & 3 Projects

HANYANG ENG is being recognized as a reliable partner by providing customers with technologies and know-how for the EPC projects accumulated in various fields. By further strengthening our core technologies and expertise, we will grow into a company that provides greater satisfaction and service to global customers with greater satisfaction and service.

Achievements in General Industry

Construction Name	Customer	Completion (Year)
New Construction of Hwaseong AMCK Plant	Air Liquide Korea	2013
Incheon TOK advanced materials Phase 1 Project	TOK Advanced Materials	2014
Jincheon Hanhwa Q Cells S-ONE Project	Hanhwa Q Cells	2015
Icheon SK Hynix M14 Project	SK Hynix	2015
Banwol Infrastructure EPC Construction	Versum Materials Korea	2017
Incheon SK Incheon Petrochem Sulfur Tank & Additional Facility Installation Project	SK Incheon Petrochem	2018
Cheonan Dow Chemical Tiger Litho ST-2 ULM Project	Rohm & Haas Electronic Materials Korea	2019
Extension Construction of Cheongju Campus 2 SSD Module Raw Material Warehouse	SK Hynix	2019
Eumseong HISEM New Construction	HISEM (currently APACT)	2019
Cheonan Dupont KrF Construction	Rohm & Haas Electronic Materials Korea	2020
Cheonan Dow Chemical North Star Phase 1 Project	Rohm & Haas Electronic Materials Korea	2020
Cheonan Model Shop Phase 1 Project	Rohm & Haas Electronic Materials Korea	2020
Incheon TOK advanced materials Phase 2 Project	TOK Advanced Materials	2020
Cheonan Dupont CMP Slurry Operation	Rohm & Haas Electronic Materials Korea	2020
Sejong SK Trichem C2 Project	SK Trichem	2020
Lam Research Baran Plant Cleanroom Construction	Lam Research Manufacturing Korea	2021
Incheon TOK advanced materials Phase 3 Project	TOK Advanced Materials	2021
Daesan DYE Dongyang Environment Petro Pitch Pilot Project Dongyang Environment	Dongyang Environment	2021
Ochang Danil Gaschem Dragon Project	Danil Gaschem	2021
Pohang EcoPro AP ASU Project	EcoPro AP	2021
Gumi SK Siltron Welfare Building Construction	SK Siltron	2022

Achievement Industrial Plants (Gas Industry)



Giheung APK ASU Plant Mechanical/Piping Construction

Gas Industry

Construction Performance Recognized by the world-class gas company

Pyeongtaek PKC UGP, EN3000, PL9HN Mechanical/Piping Construction

HANYANG ENG, recognized for the capability to perform constructions by Linde Korea, the world's largest industrial gas company, took the construction for the gas facility for Samsung Electronics' Pyeongtaek Godeok Semiconductor Plant, which is the largest in Korea, successfully completed it in March 2020, and are participating in P2 and P3 constructions as well.

Advanced Technologies, Passion, and Continuous Performance Creation

Giheung APK ASU Plant Mechanical/Piping Construction

HANYANG ENG, recognized for capability by successfully performing the largest-scale Giheung ASU Plant construction in Korea, is making continuous achievements, such as taking additional constructions for Pyeongtaek Ph.3 and Ph.4 projects of mechanical piping construction after Pyeongtaek APK Ph.1 construction.

Achievements in Gas Industry

Construction Name	Customer	Completion (Year)
GN2, GO2, GAR P/L Construction	Praxair Korea	2014
S3-B U/G Pipeline SEC Internal Construction	Praxair Korea	2014
Hydrogen Refiner Transfer Piping Construction	Praxair Korea	2015
SEC S3 N2/O2, Ar Supply System	Praxair Korea	2015
Yongin EN-3000 Plant	Praxair Korea	2016
40063K HDO VPSA Mechanical Construction	Praxair Korea	2018
Pyeongtaek APK PH3,4 Project	Air Products Korea	2018
Tangeong 2ND EN-900 Plant	Praxair Korea	2019
40073K ASU Mechanical/Piping Construction	Praxair Korea	2019
Pyeongtaek PKC Utility-pipe Conduit Piperack Installation & Piping Construction	Praxair Korea	2019
40075K SMR Mechanical/Piping Installation, Backup Piping Construction, and H2 purifier Installation	Praxair Korea	2019
Pyeongtaek PKC UGP, EN3000, PL9HN Mechanical/Piping Construction	Praxair Korea	2019
40075K PL9 2nd ASU Plant	Praxair Korea	2020
Giheung APK Mechanical/Piping Construction (GFE Mechanical/Piping Construction)	Air Products Korea	2020
Yongin PKC 2nd EN-3000 Mechanical/Piping Construction	Praxair Korea	2020
Godeok PKC Refinery Room & Gas Room Piping Construction	Praxair Korea	2020
Pyeongtaek Linde Korea M3800 #1,2 ASU Plant Construction	Linde Korea	2020
Pyeongtaek 40095K SEC P2 4-split Refiner Construction	Linde Korea	2022
Pyeongtaek Linde Korea SEC P3 2-split Refiner Construction	Linde Korea	2022

Achievement Environment & Green Energy



Water Treatment Plant Settling Tank (Clarifier)

Environment & Green Energy

Challenging the Global Market with the Best Technologies that Consider the Environment

Wastewater, Sewage, Reuse Equipment

We present a total solution optimized for domestic and overseas customers based on our technical capability in constructing wastewater treatment plants that process more than 100,000 tons per day. We will contribute to solving the global water shortage and grow into a global leader in the environmental field.

Clear and Clean Water Made with the Best Technology

Seawater Desalination (Pure Water & Ultra-pure Water) Equipment

With HANYANG ENG's technology, seawater is transformed into clean water and pure water through the process of SWRO (freshwater) - BWRO (industrial water) - EDI (pure water). We provide the optimized seawater desalination solution to meet customer needs with the best technology.

Achievements in Environment & Green Energy

Construction Name	Customer	Completion (Year)
Malaysia TNB3A Coal-fired Power Plant Condensate Desalination (CPP) Equipment	DL E&C	2017
Bukpyeong Coal-fired Power Plant Water/Wastewater Treatment Equipment, Condensate Desalination Equipment Construction	SAE-A STX ENTECH	2018
Philippines SBPL Coal-fired Power Plant Seawater Desalination, Water/Wastewater Treatment Equipment	DL E&C	2018
Philippines Masinloc Coal-fired Power Plant Condensate Desalination (CPP) Equipment	POSCO E&C	2019
Algeria Combined Cycle Power Plant Water/Wastewater Treatment Equipment	Hanhwa E&C	2019
China Wuxi M8 Wastewater Treatment Facility Construction	SK Hynix System IC	2020
Icheon Plant W11 Integrated Wastewater Reuse Facility Construction	SK Hynix	2020
Icheon Plant W12 Integrated Wastewater Treatment Facility Construction	SK Hynix	2020
Paju LCD General Industrial Complex Wastewater Termination Facility Installation Construction	Korea Environment Corporation/Paju-si	2020
Icheon Plant Cooling Wastewater Reuse Facility Construction	SK Hynix	2021
Extension Construction of Yangpyeong-gun Sewage Treatment Facility	Yangpyeong-gun Office	2021
Daesan Biomass Power Plant Water/Wastewater Treatment Equipment Construction	Hyundai E&C	2021
Extension Construction of Icheon Plant W11 Ammonia Stripping	SK Hynix	2021
Icheon Plant W12 Integrated Wastewater Reuse Facility Construction	SK Hynix	2021
Naepo Green Energy Power Plant Water/Wastewater Treatment Facility Construction	Lotte E&C	2022
Cheongju SEC Power Plant Water/Wastewater Treatment Equipment	SK Ecoplant	2022
Ulsan GPS Power Plant Water/Wastewater Treatment Equipment	SK Ecoplant	2022
Icheon Plant W12B Integrated Wastewater Facility Construction	SK Hynix	2022
Vietnam Haiphong LGD H2 DI System	LG Display	2022

Achievement Aerospace



※ 공공누리에 따라 한국항공우주연구원의 공공저작물 이용

Aerospace

The First Step to Opening Korea's Space Age Korean Launch Vehicle Launcher Established

HANYANG ENG participated in the entire process of engineering/construction/ commissioning of the Korean launch vehicle and launcher, such as charging and discharging fuel and oxidizer for the Korean launch vehicle, production/supply of high-pressure gas, launch vehicle temperature control launch vehicle protection equipment, etc.

Passion for the Future of Korea

Korean Launch Vehicle (Nuri) Parts Developed

HANYANG ENG is expanding the technological area beyond the establishment of testing equipment to the development of components within the launch vehicle. We are accumulating core technologies in the on-board field of launch vehicles based on the experience of countless efforts and challenges.

Continuous Innovation, Challenging Spirit of Overcoming Limitations

75-ton Ground/High-altitude Engine Combustion Testing Equipment

Based on advanced technology that integrates special technologies such as high temperature, high pressure, ultra-low temperature, vacuum, etc., HANYANG ENG takes care of the development, construction, and operation of the combustor for the development of the engine, which is the heart and core part of a rocket, turbo pump propulsion supply system, and engine (ground combustion/high combustion) testing equipment, and has been recognized for its technical capabilities.

Achievements in Aerospace

Construction Name	Customer	Completion (Year)
Small Combustion Testing Facility Installation	KARI	1999
Liquid Engine Combustion Testing Site Construction	Hyundai Mobis	2000
KSR-III Launch Site Construction	KARI	2002
Production of Gas Generator for Multi-purpose Practical Satellite Sound Test	KARI	2003
KSLV- I Launcher & Related mechanical and piping Construction & Launch Support	Hyundai Heavy Industries	2013
Korean Launch Vehicle (KSLV- II) 75-ton Engine Ground & High Combustion Testing Facility Engineering & Construction	Hanhwa	2015
Korean Launch Vehicle (KSLV- II) 75-ton Combustor and Turbopump Testing Equipment	Hanhwa	2016

Construction Name	Customer	Completion (Year)
Production of The Geostationary Orbit Composite Satellite Thermal Radiation Device & Thermal Vacuum Testing Equipment	KARI	2016
Engineering & Production of the Korean Launch Vehicle (KSLV- II) Propulsion Engine Comprehensive Testing Facility and the High-Pressure Gas Supply	Hyundai Rotem	2016
Production & Operation of Korean Launch Vehicle (KSLV- II) General Assembly Building Gas Support Equipment & Umbilical Connection	KARI	2018
Production of Thermal Tent for Multi-Purpose Satellite No. 7 Optical Mount Thermal Vacuum Test	KARI	2020
Production of Liquid Nitrogen & Gaseous Nitrogen Supply Device for Space Environment Testing Equipment	KARI	2020

HANYANG ENG

Total Solution Provider

HANYANG ENG has been recognized for its capabilities by accumulating various business experiences and technologies in domestic and overseas markets since its establishment in 1988.

Now, HANYANG ENG is pursuing substantial growth by discovering new business models and new markets in line with the changing global paradigm to enhance future value, and practicing transparent management. Through this, we will be a 'Total Solution Provider' that provides optimized quality and services in not only the semiconductor/display industry but also in the fields of industrial plants, gas, environment, green energy, and aerospace.

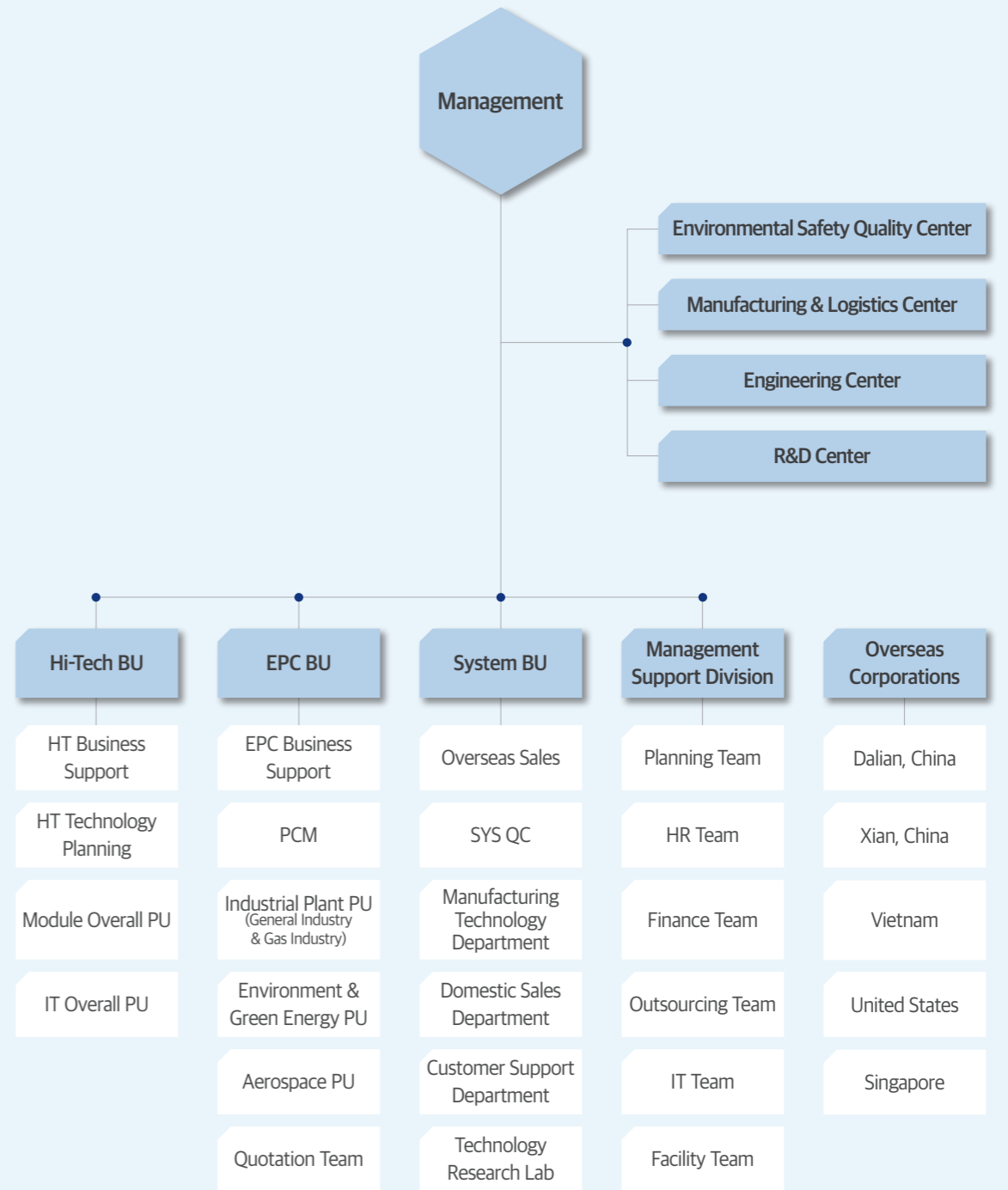
 **HANYANG ENG**



Major Clients

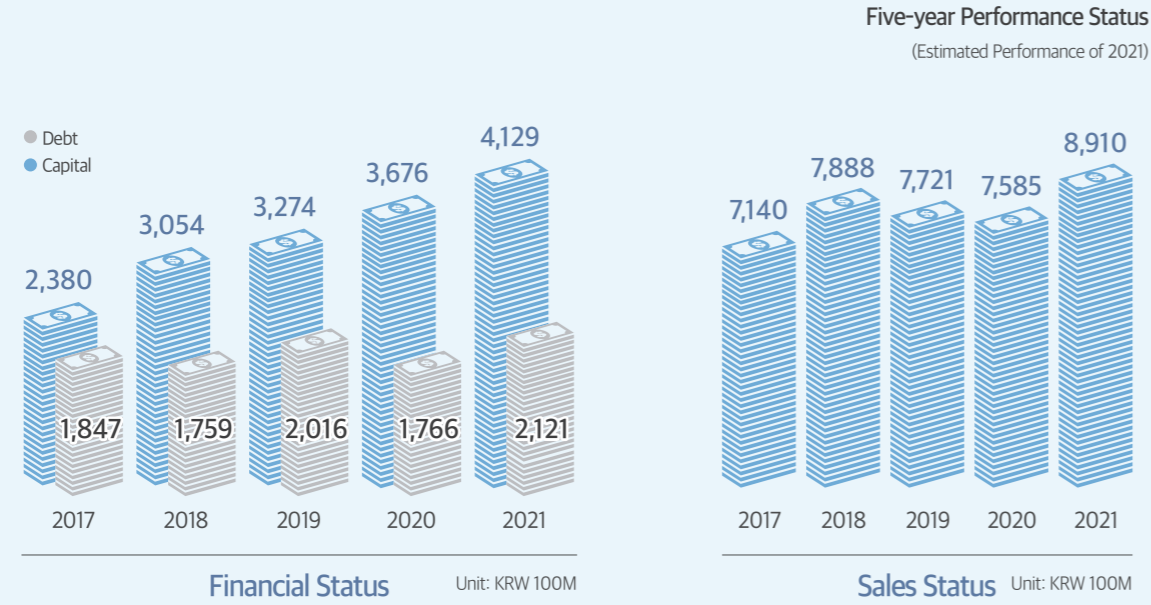


Organization



* BU(Business Unit)
* PU(Performance Unit)

Investment



Overview

Place for Mechanical Equipment Construction Nationwide

1ST

(2020 and 2021)

Place for Gas Facility Construction Nationwide

2ST

(2020 and 2021)

Credit Rating

A+

(2021)

Obtaining Own Development Equipment & Technologies

Manufacturing & Logistics Centers in Cheongju and Hwaseong

Average Converted Accident Rate of HANYANG ENG
(based on the last 3 years)

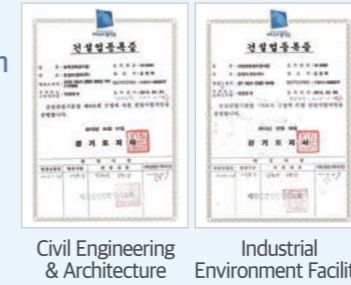
0.17%

* Average Converted Accident Rate of Domestic Construction Industry: 0.66%

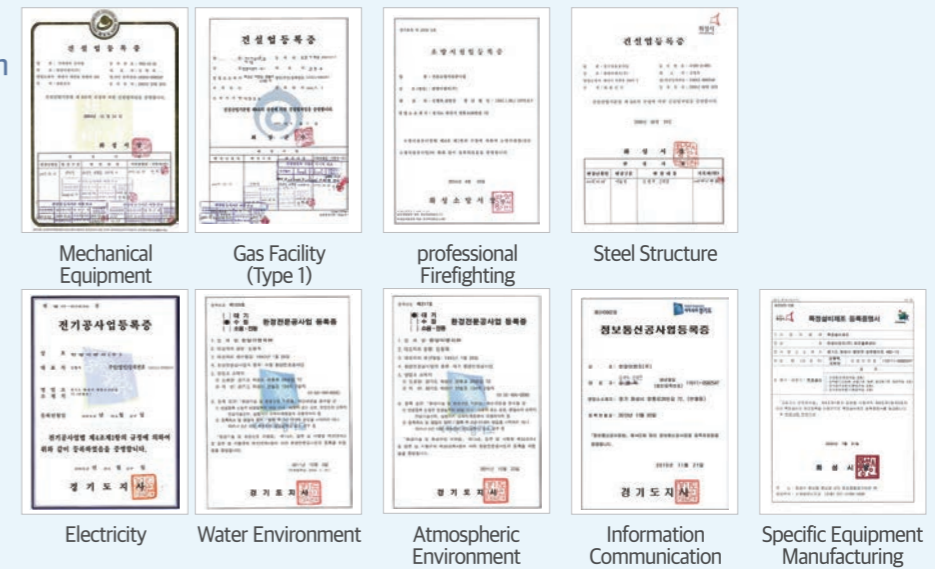
Certificates

Licenses

General Construction Industry



Specialized Construction Industry



Certifications & Industrial Property Rights

Certifications



Industrial Property Rights



Global Network & Subsidiaries

Domestic & Overseas Business Sites

Domestic

HQ

72, Yeongtong-ro 26beon-gil, Hwaseong-si, Gyeonggi-do
Tel. 82-31-695-0000 Fax. 82-31-204-0394

Seoul Office

Hanyang Bldg., 123, Yeoksam-ro, Gangnam-gu, Seoul
Tel. 82-2-2148-0000 Fax. 82-2-2148-0190

Central Branch (Eumbong)

32, Yeonamsan-ro, Eumbongmyeon, Asan-si, Chungcheongnamdo
Tel. 82-41-541-0139 Fax. 82-41-534-4634

Manufacturing & Logistics Center (Gajae-ri)

482-15, Samcheonbyeongma-ro, Paltanmyeon, Hwaseong-si, Gyeonggi-do
Tel. 82-31-695-9006 Fax. 82-31-354-7943

Manufacturing & Logistics Center (Cheongju)

91, Jikji-daero 307beon-gil, Heungdeok-gu, Cheongju-si, Chungcheongbuk-do
Tel. 82-43-229-0200 Fax. 82-43-229-0279

Overseas

Dalian, China

HANYANG Construction(Dalian) Co., Ltd.
No.127 Liaohe Road, Wanda Plaza, Bulding 4, Room 915, Development Zones, Dalian City, Liaoning, China
Tel. 86-411-8753-6190 Fax. 86-411-8753-6192

Xian, China

HANYANG (Xian) Engineering Co., Ltd.
Room 706, Building A, Yanxiang City Plaza, No. 56 Jinye 1 Road, High-tech Zone, Xi'an, China
Tel. 86-29-8115-4808

Vietnam

HANYANG ENG Vina Co., Ltd.
Unit 2603, Floor 26, Eurowindow B/D, No. 27 Tran Duy Hung Str, Trung Hoa Ward, Cau Giay Dist, Hanoi City
Tel. 84-43-253-5265 Fax. 84-43-253-5265

United States

HANYANG ENG USA Inc.
12100 Samsung BLVD SUITE 100 Austin TX 78754, U.S.A

Singapore

HYE Global PTE., Ltd
3 Shenton Way #16-08, Shenton House Singapore



Affiliates

HCM Co., Ltd.

332-7, Samsung 1-ro, Hwaseong-si, Gyeonggi-do
Tel. 82-31-204-4330 Fax. 82-31-695-0195
<http://www.hcmkorea.com>

CTP Korea Co., Ltd.

332-7, Samsung 1-ro, Hwaseong-si, Gyeonggi-do
Tel. 82-31-202-3734
<http://www.ctpkorea.com>

※ CV & PV Business Unit separately operated

DINNO Co., Ltd.

D-810, 357, Guseong-ro, Giheung-gu, Yongin-si, Gyeonggi-do
Tel. 82-31-229-3040
<http://www.d-inno.co.kr>

Partners

HANYANG Digatech Co., Ltd.

332-7, Samsung 1-ro, Hwaseong-si, Gyeonggi-do
Tel. 82-31-695-5000
<http://www.hanyangdgt.com>

