

HI-TECH ENG

More Sustainable Engineering Company



We have the Solution!


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A company that proposes a clear solution with an efficient system and differentiated technology

We have the Solution!

Since its establishment in 1995, Hi-Tech Engineering has accumulated various project experiences in the fields of oil refining, petrochemicals, energy, and environment, and has grown into the most reliable partner in the fields of engineering, project management, and construction.

We, Hi-Tech Eng. have lots of experiences and specialized know-how especially in process improvement, capacity increment and revamping project area.

Based on our experience, we provide the entire EPC services through our own capability, and various solutions required by customers.

Hi-Tech Engineering creates a better future with the conviction that building trust with customers is a corporate value with safety, quality, innovation and integrity, respect and cooperation as the core competencies of the company.



About HI-TECH ENG

Introduction

Company Name	Hi-Tech Engineering Co.,Ltd.
CEO	Jang Yung
Address	366, Yeosusandan 1-ro, Yeosu-si, Jeollanam-do, Republic of KOREA
Established Date	December 7, 1995
Company Type	Middle Market Enterprise (Mid-sized Company)
Business Fields	Engineering and integrated construction of the industrial plant facilities
Capital	KRW 2.5 billion
Subsidiary Company	Hi-Tech ENV Co.,Ltd.

[Based on 2023 settlement]

Revenue	Credit rating	Cash flow rating	E.S.G rating
KRW 315.2 billion US \$ 239 million	BBB0	A	A+ (Highest level)

Mission and Vision

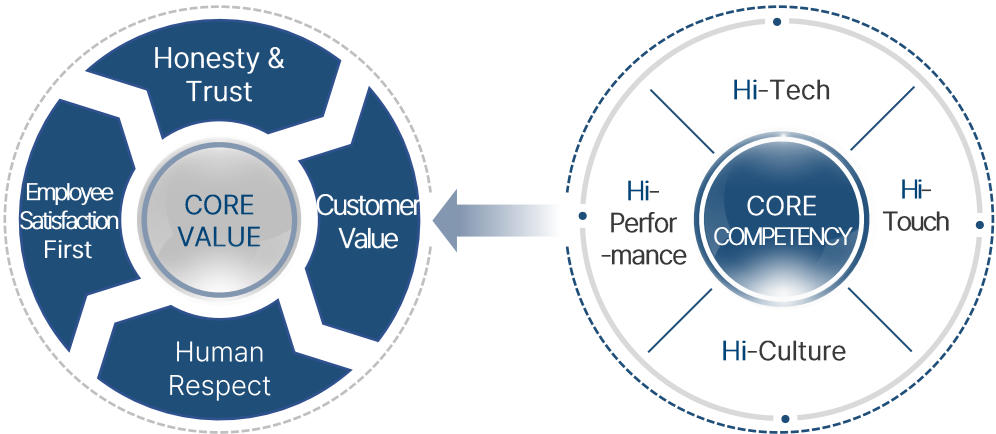
Hi-Tech Engineering strives to be a creative partner to provide optimal engineering solutions to achieve its vision of a 「More Sustainable Engineering Company」.

MISSION

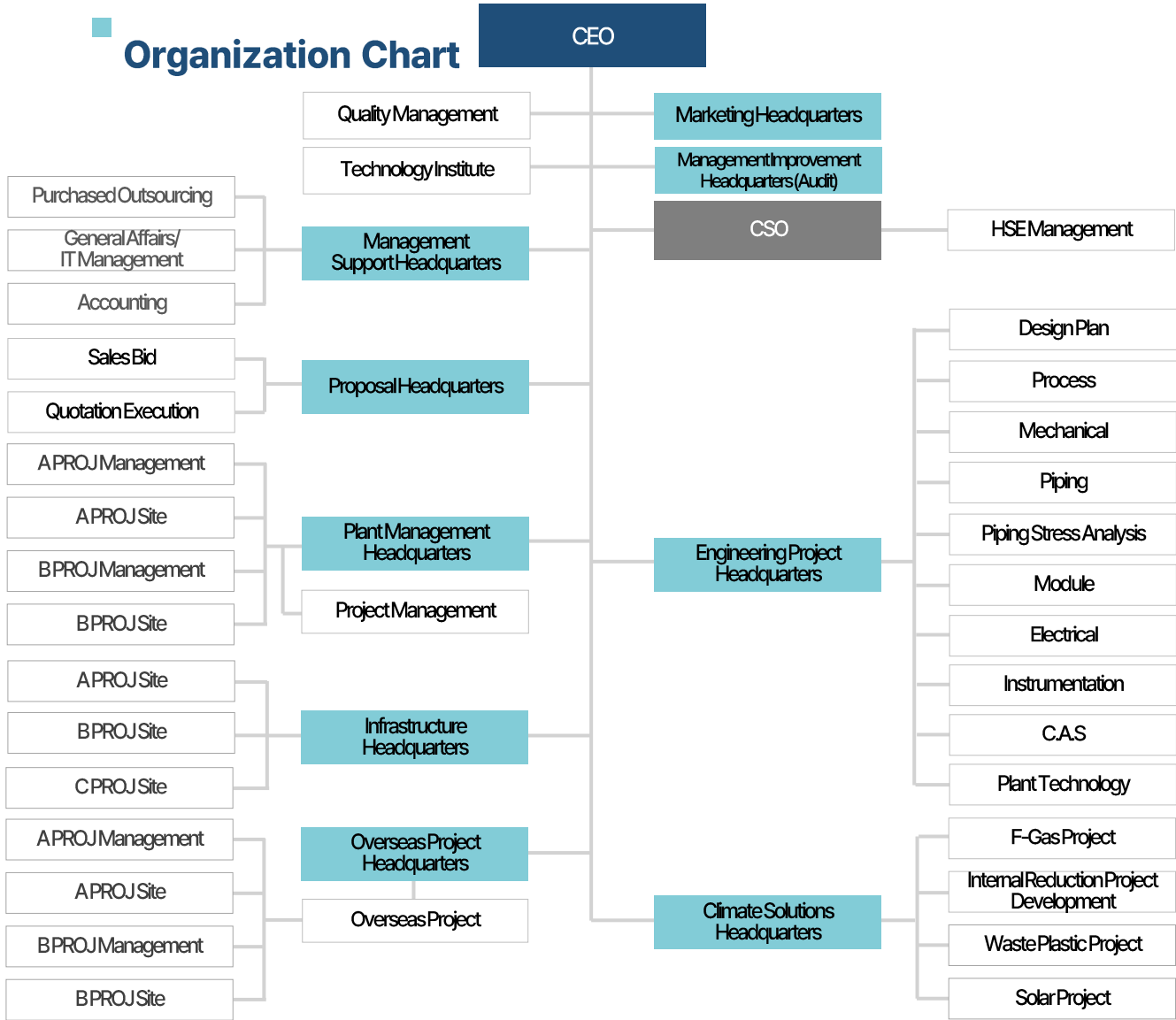
Creative Partner to Provide
The Optimal Engineering Solution

More Sustainable Engineering Company

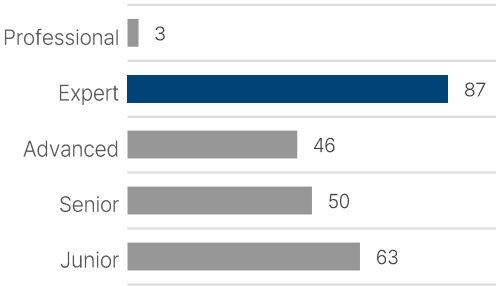
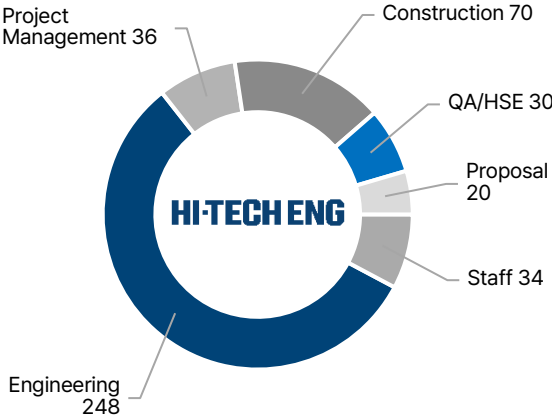
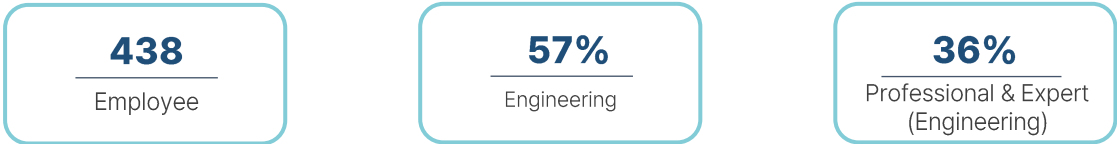
VISION



Organization Chart



Executives and staff members





About HI-TECH ENG History

1995 / 2012

- 1995** Established Hi-Tech Engineering Co., Ltd.
- 2000** Certified for ISO 9001 Quality management from Orion registrar inc., USA
- 2001** Introduced 3D design system from AVEVA (PDMS)
- 2002** Registered engineering service provider
- 2003** Registered integrated construction supervision business(Elec. power facilities)
- 2004** Registered design business for fire fighting facility(Mech. & Elec.)
Introduced 3D design system (PDS)
- 2005** Established Daesan office
Introduced 3D laser scan(Z+F IMAGER) system
Established and approved Technology institution
Established Seoul office
Won the minister award from Ministry of Knowledge Economy
- 2007** Moved the head office
- 2008** Registered Energy service company(ESCO)
- 2010** Registered the construction business for electric
- 2011** Registered the construction business for industrial environment facility
Registered the construction business for specialized fire fighting facility
- 2012** Established Ulsan Office
Certified for ISO 14001 Environmental management from DNV
Certified for ISO 45001 Health and safety management form DNV
Registered overseas construction business (Industrial environment facility, Electricity)



2013 / 2024

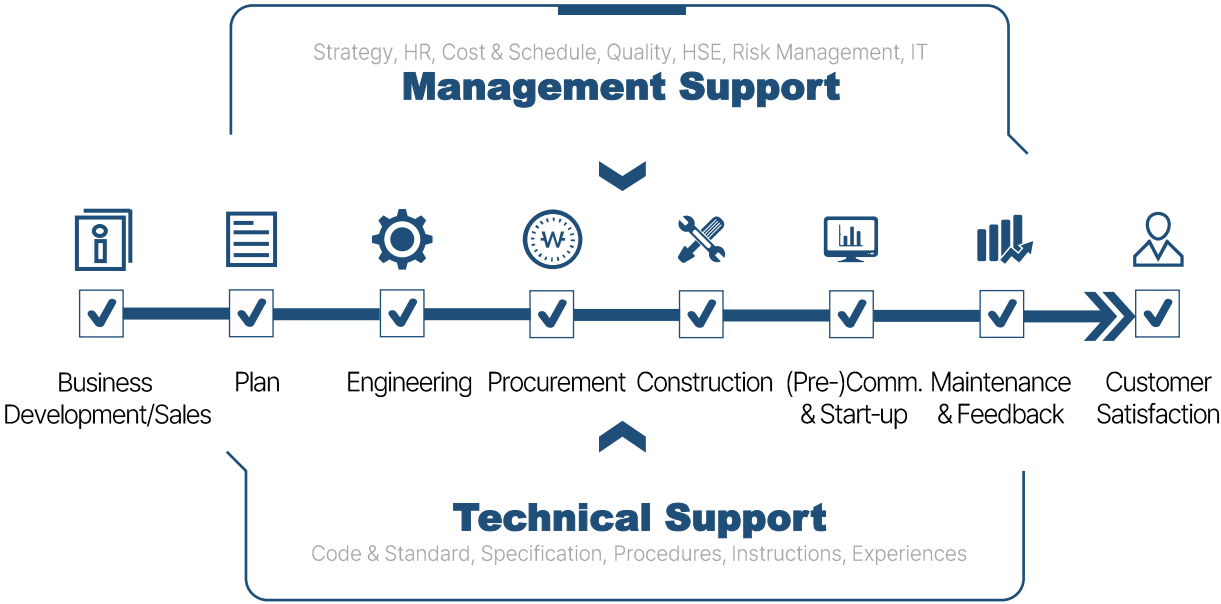
- 2013** Registered construction business for architecture
Registered design business for specialized 1st class power facility
- 2014** Registered construction business for mechanical
Registered software enterprise
- 2015** Registered specialized organization for OCA report
- 2016** Registered Public survey business
Received citation of minister from Ministry of Trade, Industry and Energy
- 2017** Certified as company for work and training parallel system
- 2019** Registered construction technology services business
Registered safety diagnosis specialized company (Architecture)
Certified as Family-friendly company
- 2020** Introduced 3D design system (AVEVA E3D Design)
Registered the specialized construction business for atmospheric environment
Registered construction for civil
- 2021** Certified as Mid-sized Company
- 2022** Established Hi-Tech ENV Co., Ltd.
Received citation of minister from Ministry of Trade, Industry and Energy
Received a commendation from the head of the National Fire Agency
- 2023** Received citation of minister from Minister of Strategy and Finance
Received citation of minister from Minister of Health and Welfare
Introduced 3D design system (S3D / Intergraph Smart 3D)
Registered as a hydrogen specialized Enterprise
- 2024** Received citation of minister from Ministry of Trade, Industry and Energy
Environmental Social Governance rating : A+ Highest level Certification





About HI-TECH ENG

Scope of Services



ESTIMATION

FEED & Case study
Cost estimation of total construction

BASIC ENGINEERING

License Documentation Development
Basic design & Process development
Process simulation with column rating & Design (using AspenONE, PRO-II)
Process dynamic analysis (using AspenONE)
Equipment sizing & Data sheets
Heat exchanger rating & Design (using AspenONE, HTRI)
Hydraulic calculation & Flare network analysis (using AspenONE, AFT Arrow, IN-HOUSE PROGRAM)
Instrument sizing & Data sheets (INSTRUCALC)
SIS Analysis (FAULT TREE+)

DETAIL ENGINEERING

Equipment selection
Calculation & Engineering drawing
3D Modeling
Piping construction drawing
Electrical construction drawing
Instrument construction drawing
Civil and architectural (Incl. Facilities) construction drawing
Other special construction drawing & Document related
As-built drawing for various construction

PROCUREMENT & SUPPORT

Vendor recommendation
(Stationary/Rotatory/Piping/Instrument/Electric part)
RFQ (Request For Quotation)
TBE (Technical Bid Evaluation)
CBE (Commercial Bid Evaluation)
Purchase Order
Vendor shop inspection
Delivery expediting and control

CONSTRUCTION

Field construction management
Construction supervision
Schedule control and reporting
Quality control and reporting
Field inspection and reporting
Cost control and reporting
Safety management
Environment management
Field Engineering service

PRE-COMMISSIONING

Pre-commissioning/Commissioning
Performance test & Guarantee operation Assist



About HI-TECH ENG Sustainable Management

ESG Management system

Social

Employment Equality/
Capacity Development/
Human Rights Management/
Employee Health and Safety/
Community Relations/
Fair Communication/Diversity/
Inclusion of corporate culture



Environmental

Climate Change/Carbon Emissions
Environmental Pollution/
Waste/Toxic Substances
Resource virtuous cycle/Renewable energy
Environmental Certification/
Eco-friendly Product

Governance

Transparent Management
Ethical Management
Risk Management
Communication Governance

ISO Management system

Customer Satisfaction



Quality Management ISO 9001

Healthy & Safety Management ISO 45001

Environmental Management ISO 14001



Achieve quality goals for projects and services that realize customer satisfaction



Achieving an accident-free workplace by establishing an autonomous safety and health management system



Eco-friendly management activities through the establishment of an autonomous environmental management system



About HI-TECH ENG

Equipment & Program

Equipment

3D Scanner	IMAGER-5016	IMAGER-5010
Introduction period / Quantity	2020년, 2022년 / 2대	2010년, 2014년 / 2대
Speed	Max. 1.094 million pixel/sec.	Max. 1.016 million pixel/sec.
Distance / linear Error	365m / ≤ 1 mm	187.3m / ≤ 1 mm
Manufacturing company	Zoller+Fröhlich(Z+F)	Zoller+Fröhlich(Z+F)

Program (Package)

Project Management	Mech. & Piping Stress Analysis
MS-Project (for Schedule)	COMPRESS
Primavera P6 (for Schedule)	CAESAR II
Flow (Project Cooperation S/W)	NozzlePRO
Process	Electrical & Instrumentation
aspenONE Engineering	Power*Tools
AVEVA PRO/II	ETAP
AVEVA P&ID	AVEVA Electrical
Intergraph Smart P&ID	AVEVA Instrumentation
AutoCAD P&ID	Intergraph Smart Electrical
AFT Arrow	Intergraph Smart Instrumentation
3D Modeling	Piping
AVEVA E3D Design / PDMS / Review	J-Sketch / J-Support
Intergraph Smart 3D / PDS / Review	Isogen (for PDS)
Autodesk AEC (Architecture Engineering & Construction Collection) (with Revit)(for BIM)	
Autodesk PDMC (Product Design Manufacturing Collection) (with Inventor)	
Civil & Structure Analysis	
MIDAS Gen MODS	Tekla Structures (3D Modeling)
MIDAS Plant	eSDI (enhanced Structure Design Integration)
STAAD.Pro	SketchUp (3D Modeling)
AFES (For Foundation)	Enscape (3D Modeling)
PEDAS-Foundation	
Others	
Consequence Analysis	PWIM (Piping Work Inspection Management)
Weldy (Welding Map / Weld Data Management)	

Program (In-House)

Engineering	Electrical & Instrumentation
AutoCAD Plug-in	Power*Tools
Navisworks Plug-in	ETAP
HI-Mechanical	AVEVA Electrical
HI-Instrument	AVEVA Instrumentation
HI-Process	Intergraph Smart Electrical
PDMS Control System	Intergraph Smart Instrumentation
Piping Design Management System	



About HI-TECH ENG

License/Certificate/Patent

License

License	Field	Registered date
Design	Engineering (Chemical plant, HVAC & Plumbing, Structure, Electric facilities, Electric & Electronic Applications, Communication)	Jan , 2002
	Fire fighting facilities (Mechanical, electrical)	Mar , 2010
	Power facility professional (type 1)	Nov , 2013
	Offsite Consequence Analysis company	Apr , 2015
	Safety diagnosis specialized company (Architecture)	Dec , 2019
Survey	Public	Oct , 2016
Supervision	Construction technical service (Design & project management - general)	Jul , 2019
	Integrated(Electrical power facility)	May , 2003
Integrated construction	Industrial, environmental facility	Apr , 2011
	Architecture	Jun , 2013
	Civil	Jun , 2020
Specialized construction	Mechanical facility	Oct , 2014
	Atmospheric environment specialized	Mar , 2020
Overseas construction	Industrial, Environmental facilities	Oct , 2012
	Electricity	Oct , 2012
Others construction	Electricity construction	Sep , 2010
	Fire fighting facilities construction (Professional)	Apr , 2011
	Energy Service Company (ESCO)	Feb , 2008
	Hydrogen product manufacturing license	Jul , 2023

Certificate

Certificate	Standard	Registered date
Quality Management system	ISO 9001:2015	Jun , 2000
Health & Safety Management system	ISO 45001:2018	Mar , 2012
Environmental Management system	ISO 14001:2015	Mar , 2012
Institute of Technology		Jun , 2005
Work and training parallel system		Jan , 2017
Family-Friendly Company		Dec , 2019
Middle Market Enterprise (Mid-sized Company)		Apr , 2021
Hydrogen Specialized Enterprise		Dec , 2023

Patent

Application no.	Designation	Registered date
10-1638424	Method and system for managing ADD-IN program and PDMS database	May , 2015
10-1716717	Robot for welding defect inspection of oil storage tank using EMAT	Sep , 2015
10-1847946	Human resources management system and method specific project	Oct , 2016



About HI-TECH ENG

Putting customer needs and safety first

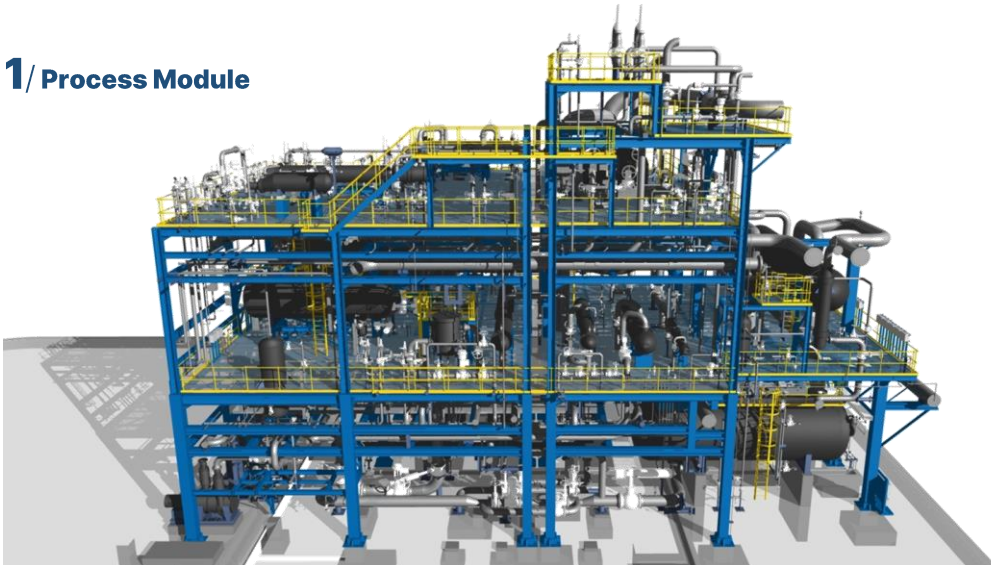
Modularization

Modularization minimizes the installation space by turning the plant into unit parts in the form of a mixed structure (structure, pressure vessel, piping, electrical room, etc.) It is a construction technology to reduce the overall construction period and cost by transporting.

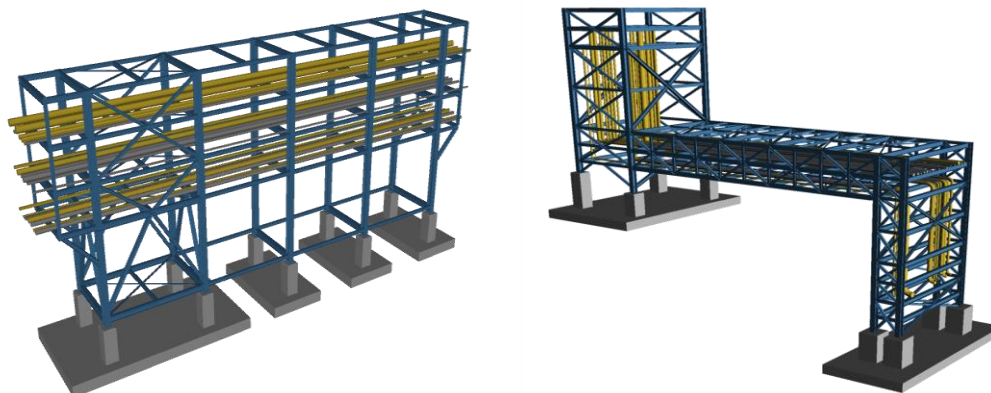
Unlike the existing stick-built method, its method applies for the purpose of reducing on-site work, and it can secure schedule/cost/quality when there is on-site limitation, minimizing the environmental impact of the construction site and shortening the construction period. In addition, it is possible to secure the stability of work, and expect effects such as productivity improvement and cost reduction.

In particular, in order to prevent various safety accidents occurring at the construction site, we do our best to prevent serious accidents at the site by minimizing on-site work by manufacturing modules and skids to extent possible in a manufacturing factory with safe working conditions.

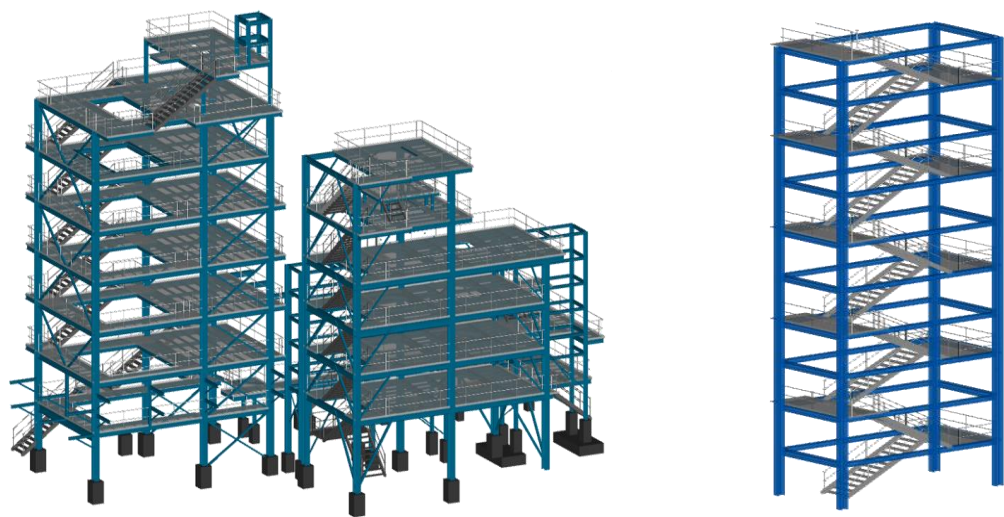
1/ Process Module



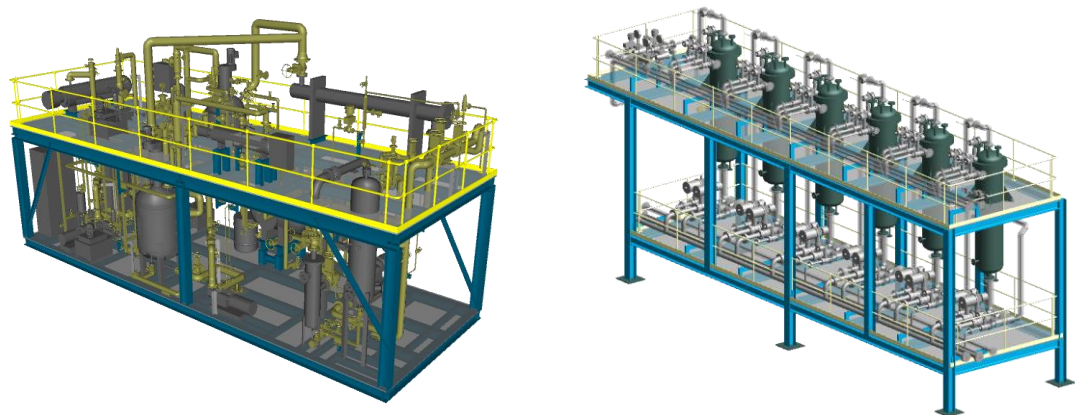
2/ Pipe Rack Module



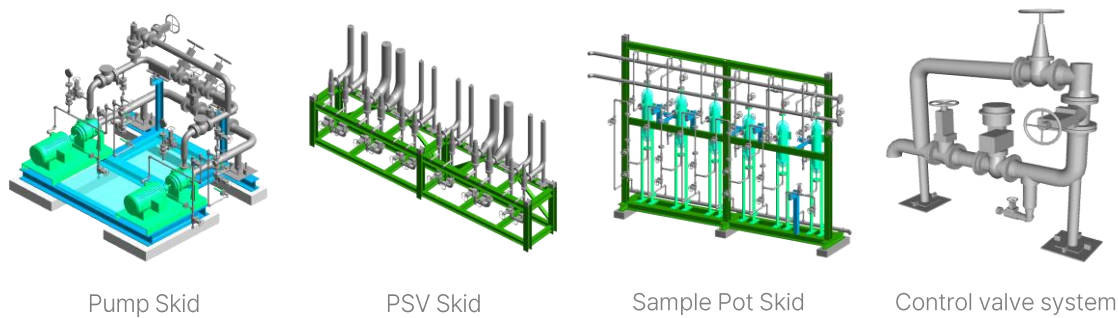
3/ Structure Module



4/ Skid Type Module



5/ Small Size Skid & Spools



Pump Skid

PSV Skid

Sample Pot Skid

Control valve system



About HI-TECH ENG

Realizing the highest level of perfection

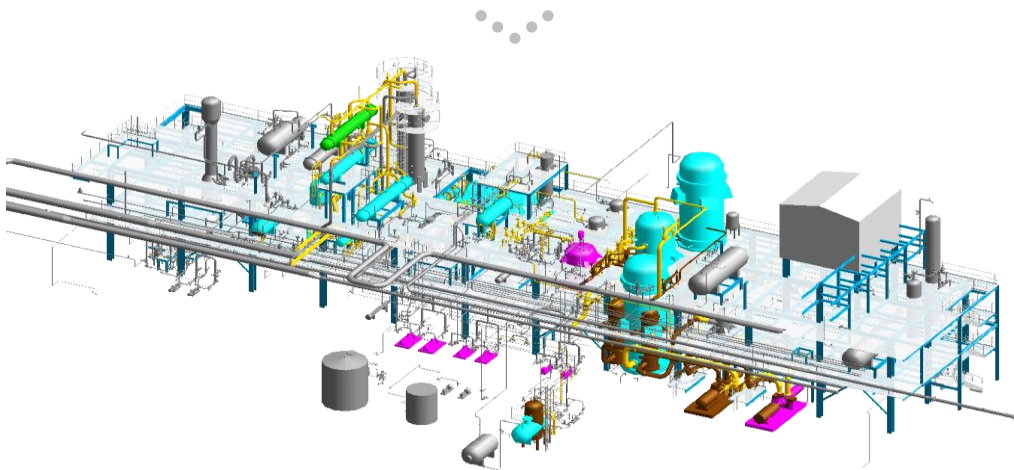
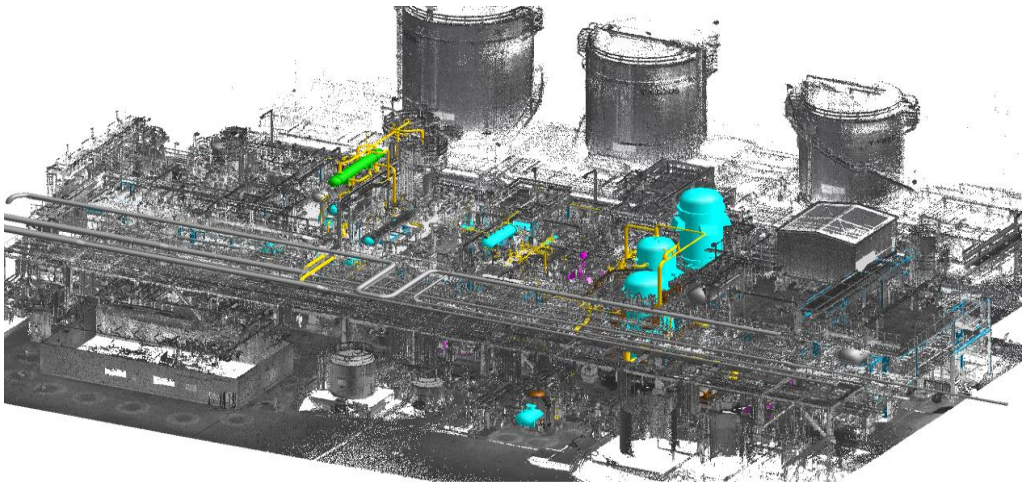
3D Laser Scan & Revamping Project

Carrying out projects necessary for process improvement and capacity increase of existing plants faces more difficulties and problems than building a new plant.

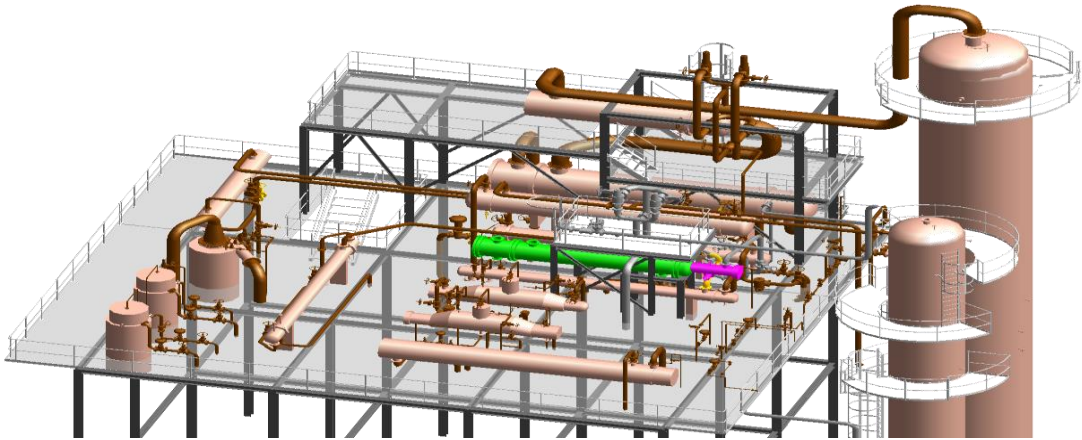
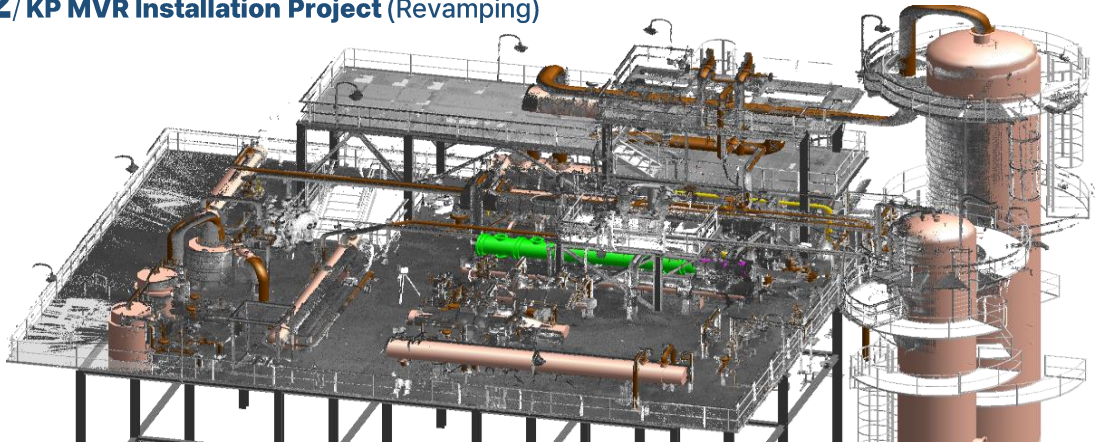
There are various facilities in the field that are not expressed in the drawings, and the drawings you have show a lot of errors with the site, and there are cases where there are no drawings.

Hi-Tech Engineering has been implementing 3D Laser Scan and 3D Modeling since 2005 to solve these problems, applying a lot of experience and know-how required for the Revamping Project.

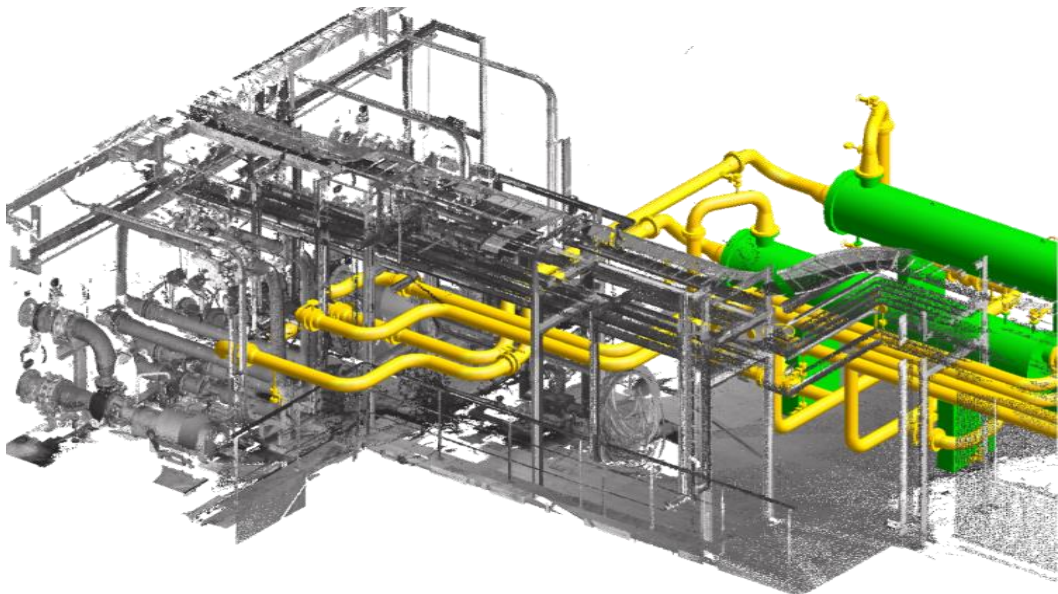
1/ PB2 100,000MTA Plant (Revamping)



2/ KP MVR Installation Project (Revamping)



3/ NCC Energy Saving Project (Revamping)





Business Portfolio

With 30 years of experience and technology

Refinery & Petrochemical Plant Business

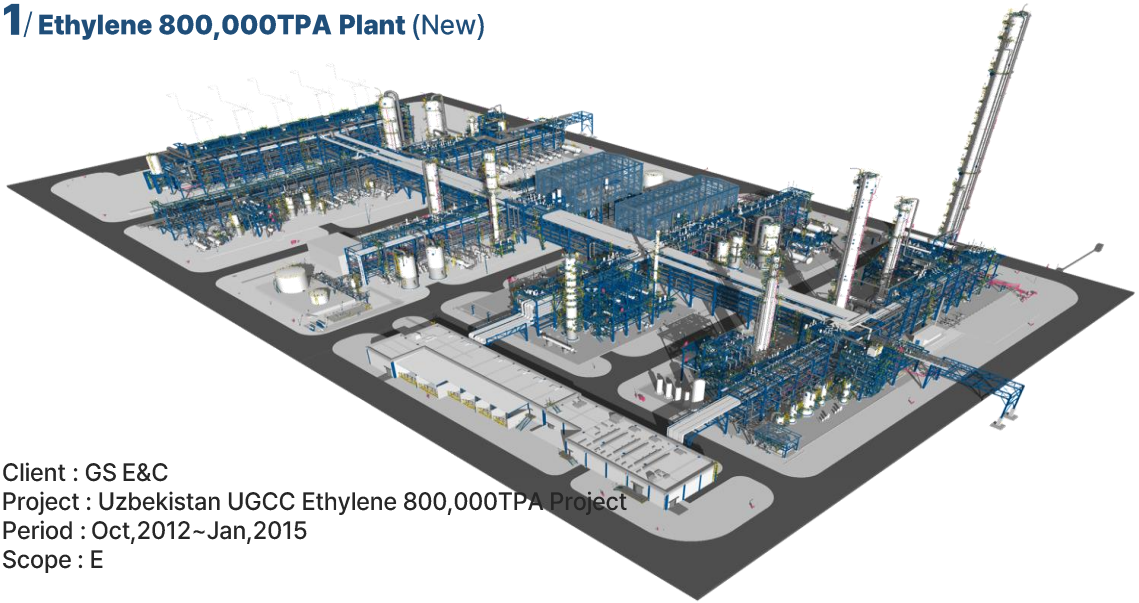
Technical professionals with a wide range of design experience, and expertise in Oil & Gas, Refinery, Petrochemical and General chemical are essential in the Plant projects.

Hi-Tech Eng. performs many projects successfully in all of the areas such as project planning, feasibility study, detailed designing, procurement of equipment & materials, construction management and commissioning based on the accumulated experiences and technical powers in designing and procurement service areas with many of the typical local and overseas oil refining & petrochemical companies such as GS Caltex, LG Chemical, Kumho P&B Chemical, Kumho Mitsui Chemical, Kumho Petro Chemical, Kumho Poly Chemical, Lotte Chemical etc.

We promise that we will become a trustful global engineering company by strengthening the competitiveness of quality of refinery & petrochemical plant business, and advance capabilities to the overseas markets.



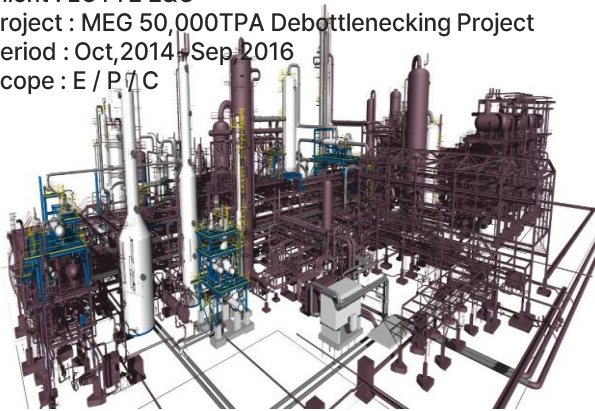
1/ Ethylene 800,000TPA Plant (New)



Client : GS E&C
Project : Uzbekistan UGCC Ethylene 800,000TPA Project
Period : Oct,2012~Jan,2015
Scope : E

2/ MEG 50,000TPA Plant (Revamping)

Client : LOTTE E&C
Project : MEG 50,000TPA Debottlenecking Project
Period : Oct,2014~Sep,2016
Scope : E / P / C

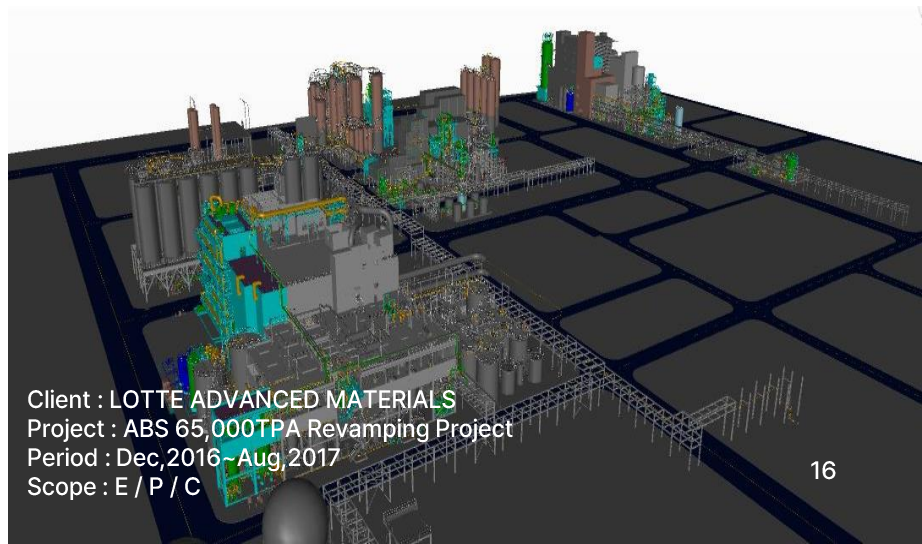


3/ EPM & EPDM 60,000TPA Plant (New)



Client : POSCO.ENG
Project : YEP-V(EPDM) 60,000TPA Project
Period : Jul,2013~Nov,2015
Scope : E

4/ ABS 65,000TPA Plant (Revamping)



Client : LOTTE ADVANCED MATERIALS
Project : ABS 65,000TPA Revamping Project
Period : Dec,2016~Aug,2017
Scope : E / P / C



Business Portfolio

Resource circulation and energy saving for environmental protection

Environmental/Energy Business

The Environmental/Energy Business is a green growth business that minimizes greenhouse gas emissions and environmental pollution through environmental preservation and efficient use of energy resources.

Energy is needed to sustain society and industry, and it is important that the pollutants must not be emitted into the atmosphere during the entire process of obtaining energy. High-Tech Engineering is promoting the business to save energy by decomposing volatile organic compounds that discharged into the atmosphere during industrial processes through thermal oxidation reaction at a temperature above the ignition point. It effectively reduces the harmful substances and bad odors and reuses discarded waste heat energy.

In addition, we are actively operating the eco-friendly business as an engineering, procurement, and construction (EPC) company for the plastic recycling, which is the most efficient disposal method for plastic waste.

- MVR (Mechanical Vapor Recompression) system
- LDAR (Leak Detection And Repair) system
- VRU (Vapor Recovery Unit) system
- VCU (Vapor Combustion Unit) system
- RTO (Regenerative Thermal Oxidizer) system
- WWT (Waste Water Treatment) system
- Waste Resource Recycling system

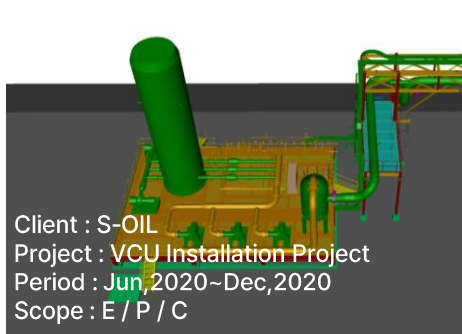
1/ MVR System



2/ VRU System



3/ VCU System



4/ RTO System

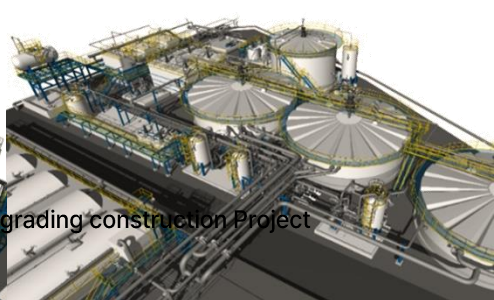


5/ WWT System

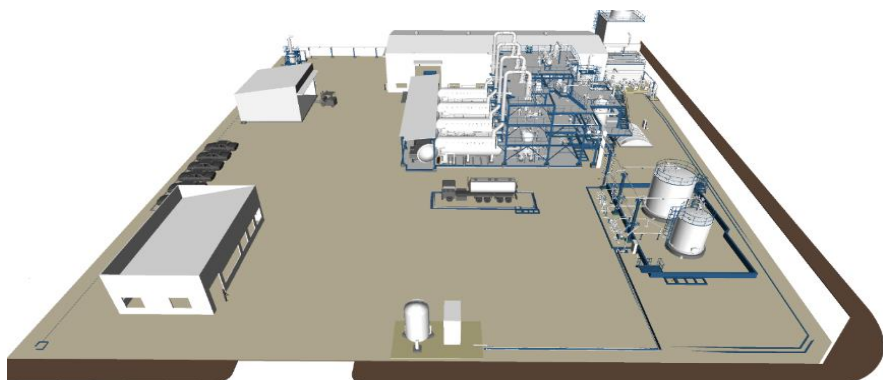
Biological Treatment Method



Chemical Treatment Method



6/ Waste Resource Recycling system



Client : JEONYOUNG R.G.O
Project : Waste synthetic resin 7,920TPA recycled oil 4,752TPA energy conversion Project
Period : Jul, 2022~May, 2023
Scope : E / P / C

Business Portfolio

Leading low-carbon green management

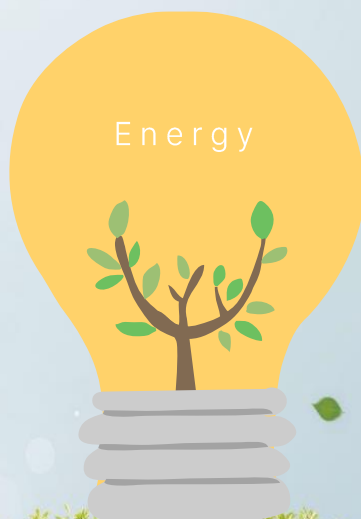
New & Renewable Energy Business

The new and renewable energy business refers to carbon neutrality and converts, stores, and utilizes hydrogen, solar power, photovoltaic power, bio, wind power, small hydro, and fuel cells.

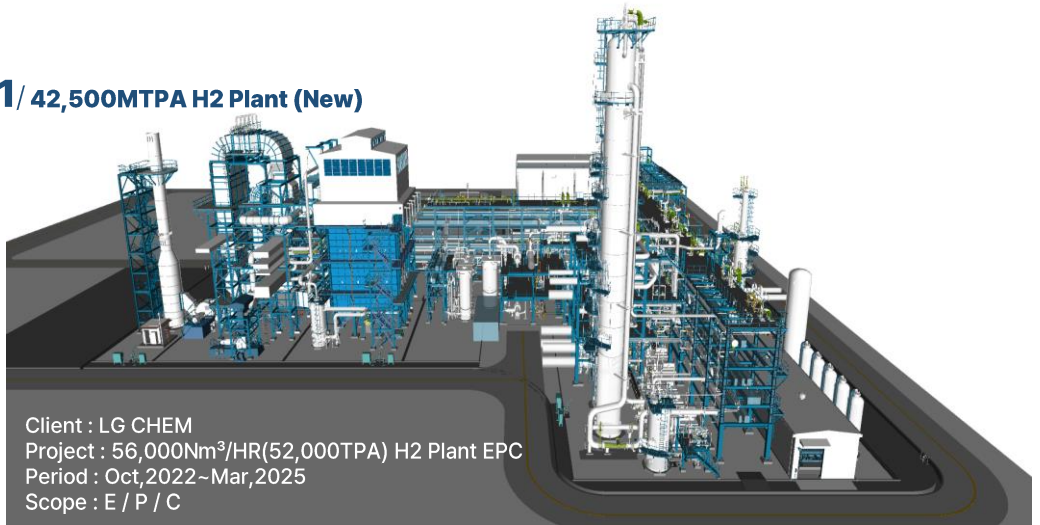
In order to respond to global issues such as climate change and energy transition, Hi-Tech Engineering is carrying out projects of CCS system through national carbon reduction projects. We has taken the lead in operating a project to separate, compress, liquefy and distribute hydrogen, which is the core of future energy, by not only conducting a feasibility study on the installation of a hydrogen supply network but also building a hydrogen production base (56,000 Nm³/hr).

In addition, we have secured safety and efficiency by obtaining permission for [Hydrogen product manufacturing business] in accordance with the {Act on Hydrogen Economy Promotion and Hydrogen Safety Management} and are contributing to the revitalization of the hydrogen economy by being registered as a hydrogen specialized company.

- Hydrogen system
- Rechargeable Battery system
- Bio system
- CCS(Carbon Capture Storage) system



1/ 42,500TPA H2 Plant (New)



2/ 5 ton/day LH2 Plant (New)



3/ Lithium-ion Battery Production system (New)

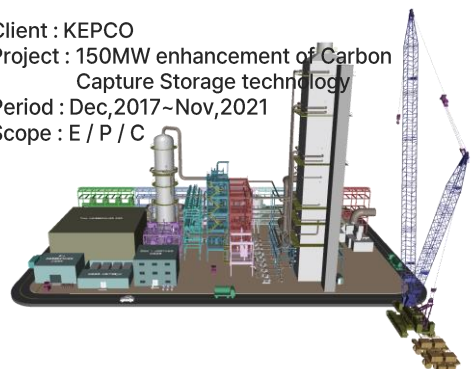


4/ 0.5TPD Ammonia Hydrogenation Process (Revamping)



5/ CCS system

Client : KEPCO
 Project : 150MW enhancement of Carbon Capture Storage technology
 Period : Dec,2017~Nov,2021
 Scope : E / P / C





Business Portfolio

Leading low-carbon green management

GHG Reduction Business

Our planet is experiencing accelerated global warming due to increasing greenhouse gas(GHG) emissions, resulting in severe consequences.

Hi-Tech ENV is implementing GHG reduction business in response to these climate changes.

GHG Reduction Business operates a facility in Dangjin, Chungcheongnam-do, using plasma technology to destroy one of the six greenhouse gases, Hydrofluorocarbons(HFCs).

This business has received approval from the Ministry of Environment to proceed as Korean offset Program and Hi-Tech ENV prepares for the Sustainable Development Mechanism (SDM) under Article 6.4 of the Paris Agreement.

Current Status

No.	Title of Methodology	Type	Effective Date
1	Methodology for Destructing by Plasma Technology of Waste Refrigerants (HFC-32, HFC-125, HFC-134a, HFC-143a) that remain in ISO Tank Containers returned to refrigerant Importers	Handling and Disposal of Waste	December 19, 2022

Domestic Project

No.	Title of Project	Valid Date	Title of Methodology
1	Destruction by Plasma Technology of Waste Refrigerants (HFC-32, HFC-125, HFC-134a, and HFC-143a) that remain in ISO Tank Containers by Hi-Tech ENV	December 5, 2023 ~ December 4, 2033	Methodology for Destructing by Plasma Technology Waste Refrigerants (HFC-32, HFC-125, HFC-134a, HFC-143a) that remain in ISO Tank Containers returned to refrigerant Importers



Business Portfolio

Project Experience

No.	Client	Project	Period	Scope
294	HYUNDAI ENG	INDONESIA 300,000TPA POLYPROPYLENE PLANT BALONGAN PROJECT	Jul,2024~May,2025	E
293	KUMHO POLY CHEM	PRE-ENGINEERING FOR THE INTRODUCTION OF THE 2ND PLANT 3-LINE NEW MVR	Jul,2024~Nov,2024	E
292	HANWHA	30 MTPA NO(NITRIC OXIDE) PLANT BASIC DESIGN PACKAGE	Jul,2024~Nov,2024	E
291	OCIM SDN. BHD.	MALAYSIA MP11 PROJECT (125TON/HR NATURAL GAS BOILER PACKAGE)	May,2024~Dec,2025	E / P / C
290	KUMHO POLY CHEM	PELLET-III PROJECT (EPDM 10,000MTPA)	May,2024~Aug,2025	E / P / C
289	KUMHO PETRO CHEM	PROJECT TO RELOCATE AND INSTALL EQUIPMENT FROM THE CNT FACTORY IN ASAN TO YULCHON CNT FACTORY 1	May,2024~Feb,2025	E / P / C
288	KUMHO MITSUI CHEM	NO.1 MDI PLANT ENERGY SAVING PROJECT	May,2024~Jul,2024	E / P / C
287	KUMHO MITSUI CHEM	NO.2 PLANT ENERGY SAVING PROJECT	May,2024~Jul,2024	E / P / C
286	KUMHO MITSUI CHEM	EPC INVESTMENT CONSTRUCTION TO SECURE EMERGENCY RESPONSE FLEXIBILITY FOR EACH PRODUCT BETWEEN NO.1 AND 2 PLANT	May,2024~Jul,2024	E / P / C
285	BASF HANNONG CHEM SOLUTIONS	ENGINEERING WORK OF JINDO EPC	May,2024~Jul,2024	E
284	S-OIL	HIGH THROUGHPUT TFT DESIGN SERVICE	May,2024~Jun,2024	E
283	S-OIL	PRE-ENGINEERING AND COST ESTIMATION SERVICES FOR DEMOLITION AND RELOCATION OF EXISTING FACILITIES AT GTG'S PLANNED SITE	Apr,2024~Jul,2024	E
282	LOTTE CHEM	FLARE SYSTEM LOAD ANALYSIS AND BASIC DESIGN	Apr,2024~Apr,2024	E
281	LOTTE CHEM	SUPPLEMENTATION OF HIGH-PRESSURE GAS PRECISION SAFETY DIAGNOSIS FINDINGS	Apr,2024~Dec,2024	E
280	LOTTE FINE CHEM	FEED DESIGN FOR COMMERCIALIZATION OF HPC (1,000TPA)	Mar,2024~Oct,2024	E
279	LG CHEM	DAESAN PLANT OSBL INFRASTRUCTURE EPC PROJECT	Mar,2024~Jul,2025	E / P / C
278	HANWHA ENERGY	LOTTE GS CHEMICAL STEAM SUPPLY PIPING INSTALLATION DETAIL DESIGN	Feb,2024~Aug,2024	E
277	S-OIL	BP ITEM PRE-ENGINEERING & COST ESTIMATION	Feb,2024~Jun,2024	E
276	KUMHO MITSUI CHEM	NORMAL INVESTMENT CONSTRUCTION IN 2023	Feb,2024~May,2024	E / P / C
275	KEPCO E&C	CCS PILOT PLANT (1MW) OSBL BASIC ENGINEERING, FEED DESIGN SERVICE	Feb,2024~Jun,2024	E
274	OCI	CONSTRUCTION OF 1,000TPA MONOSILANE(SiH4) PRODUCTION PLANT IN GUNSAN (OSP-1 PROJECT)	Jan,2024~Apr,2025	E / P / C
273	KOREA JAESAE NEUNGWON	KOREA LITHIUM HYDROXIDE GRINDING PROCESS CONSTRUCTION PROJECT ENGINEERING	Jan,2024~May,2024	E
272	S-OIL	BALL TANK EARTHQUAKE-RESISTANT DESIGN	Jan,2024~Jul,2024	E
271	GS E&C	PHU RAW C5 SEPARATION FACILITY INSTALLATION ENERGY SAVING DESIGN	Jan,2024~Mar,2025	E
270	GS CALTEX	BT PROCESS CAPACITY INCREASE LICENSE ACQUISITION SERVICE	Dec,2023~May,2024	E

* E : Engineering, P : Procurement, C : Construction

No.	Client	Project	Period	Scope
269	KOLON INDUSTRY	BASIC DESIGN AND INVESTMENT COST CALCULATION SERVICE FOR PET CHEMICAL REGENERATION PLANT	Nov,2023~Mar,2024	E
268	S-OIL	DESIGN SERVICE FOR THE REVIEW OF DEMOLITION VOLUME OF OPERATION RESTING FACILITIES	Nov,2023~Dec,2023	E
267	KUMHO POLY CHEM	PLANT 1 RTO-3(47,000NM3/HR 2EA) NEW INSTALLATION PROJECT	Oct,2023~Jul,2024	E / P / C
266	KUMHO POLY CHEM	PLANT 1 VCU(1,200NM3/HR) NEW INSTALLATION PROJECT	Oct,2023~Jul,2024	E / P / C
265	GS E&C	EVERGREEN FEED & UTILITY PROJECT (PROCESS, PIPING, ELECTRICAL, INSTRUMENT, CIVIL DETAIL DESIGN)	Aug,2023~Aug,2025	E
264	KUMHO P&B CHEM	CONSTRUCTION OF POWER SUPPLY FACILITIES IN PLANT 3	Aug,2023~Jun,2024	E / P / C
263	KUMHO POLY CHEM	PRE-ENGINEERING FOR INTRODUCTION OF LOW-PRESSURE TURBO CHILLER IN PLANT 1	Jul,2023~Oct,2023	E
262	DAIKIN ADVANCED MATERIALS	G2 GAS RECTIFIER EPC PROJECT	Jul,2023~Mar,2024	E / P / C
261	AZIKEL	12,000 BPSD HYDROSKIMMING REFINERY BAYELSA, NIGERIA - BDP AND UTILITIES	Jul,2023~Dec,2024	E / P
260	HANWHA AEROSPACE	AP SYNTHESIS NEW CONSTRUCTION PROCESS BASIC DESIGN	Jul,2023~Sep,2023	E
259	KOREA JAESAE NEUNGWON	HIGH NICKEL CATHODE MATERIAL NEW LINE CONSTRUCTION PHASE 2 PROJECT	Jul,2023~Jun,2024	E
258	KUMHO MITSUI CHEM	2023 CURRENT INVESTMENT EPC CONSTRUCTION	Jun,2023~Dec,2023	E / P / C
257	GS E&C	LG CHEM AURORA PROJECT FEED & DETAILED DESIGN	Jun,2023~Dec,2023	E
256	LG CHEM	PIPE RACK EXTENSION DESIGN AND APPROVAL FOR OUTSIDE PIPELINE	May,2023~Dec,2023	E
255	BASF	6 INCH MULTI-PURPOSE PIPELINE TO JETTY	May,2023~Sep,2023	E
254	GS E&C	MFC DEBOTTLENECK/ENERGY SAVING PROJECT	May,2023~Mar,2025	E / P / C
254	JAEWON INDUSTRIAL	JAC20 REVAMPING PROJECT DETAIL DESIGN	May,2023~Jan,2024	E
253	GS E&C	EVERGREEN PROJECT DESIGN OUTSOURCING (PIPING, ELECTRICAL, INSTRUMENT, CIVIL)	Apr,2023~Aug,2023	E
252	LG CHEM	BIO-PA PILOT CONSTRUCTION(ISBL)	Apr,2023~Oct,2023	P / C
251	AIR LIQUIDE KOREA	PROJECT TO CONNECT H2 LINE/CO LINE/VENT LINE TO KMCI BLOCK AT Y2 PLANT ISBL	Apr,2023~Oct,2023	E / P / C
250	KUMHO PETRO CHEM	I-LINE SBS OFF GAS SYSTEM DESIGN AND APPROVAL	Mar,2023~Sep,2023	E
249	KUMHO POLY CHEM	FACTORY 2 RTO(80,000NM3/HR 2EA) NEW INSTALLATION PROJECT	Mar,2023~Dec,2023	E / P / C
248	LG CHEM	PILOT BUILDING OSBL AND ADJUSTMENT BUILDING INSTALLATION WORK	Mar,2023~Aug,2023	P / C
247	LOTTE CHEM	DETAILED DESIGN RELATED TO RELOCATION OF H-WWT1 WASTEWATER TREATMENT PLANT	Mar,2023~Dec,2024	E
246	S-OIL	VCU INSTALLATION 2nd STAGE PROJECT (9,000NM3/HR)	Feb,2023~Mar,2024	E / P / C
245	LOTTE CHEM	ESTABLISHMENT OF INFRASTRUCTURE FOR NEW DAESAN PROJECT	Feb,2023~Feb,2024	E / P / C
244	S-OIL	OFFSITE FACILITY IMPROVEMENT FOR FEEDSTOCK IMPORT	Feb,2023~Mar,2024	E / P / C
243	GS CALTEX	PE PROCESS THROUGHPUT INCREASE DESIGN & APPROVALS	Dec,2022~Apr,2023	E
242	GS CALTEX	RFCC FLARE GAS RECOVERY SYSTEM PROJECT DETAILED DESIGN SERVICE	Nov,2022~Dec,2023	E
241	LOTTE CHEM	PIP(POTASSIUM ISOPRENOXIDE) 1,100MTPA PROJECT BASIC DESIGN	Nov,2022~Dec,2023	E



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Project Experience

No.	Client	Project	Period	Scope
240	GS CALTEX	VRHCR PROCESS 2nd STAGE MEMBRANE NEW CONSTRUCTION DETAILED DESIGN SERVICE	Nov,2022~Mar,2024	E
239	LG CHEM	DAESAN H2 56,000NM3/HR(52,000TPA) PLANT PROJECT	Oct,2022~Mar,2025	E / P / C
238	DAYONE ENERGY	10-3 SECTION PIPE RACK RESTORATION PLAN & STRUCTURAL & PIPING SAFETY DIAGNOSIS SERVICE	Sep,2022~Dec,2022	E
237	LG CHEM	SUS SAN(ACRYLONITRILE-STYRENE) 40MTPA REVAMPING PROJECT	Sep,2022~Dec,2023	E / P / C
236	GS CALTEX	FEASIBILITY STUDY FOR BY-PRODUCT HYDROGEN SUPPLY PIPE AND WATER SUPPLY PIPE FOR HEAT RECOVERY	Sep,2022~Dec,2022	E
235	HANWHA ENERGY	DETAIL DESIGN SERVICE FOR LG CHEM STEAM SUPPLY PIPING INSTALLATION WORK	Aug,2022~Dec,2022	E
234	KUMHO P&B CHEM	KKLC BPA WAREHOUSE DESIGN & APPROVAL	Aug,2022~Sep,2023	E
233	KUMHO P&B CHEM	3rd FACTORY EXTERNAL PIPING PIPE RACK NEW PROJECT	Jul,2022~May,2024	E / P / C
232	LG CHEM	DAESAN D PILOT PLANT PROJECT	Jul,2022~Aug,2023	E / P / C
231	FARMHANNONG	TIAFENACIL PRODUCTION FACILITY BASIC DESIGN	Jul,2022~Sep,2022	E
230	LX MMA	P3 EXPANSION BASIC DESIGN & TIC	Jul,2022~Oct,2022	E
229	LG CHEM	PBAT 3,000TPA PROJECT	Jul,2022~Mar,2023	π
228	JEONYOUNG R.G.O	WASTE SYNTHETIC RESIN 7,920TPA RECYLED OIL 4,752TPA ENERGY CONVERSION PROJECT	Jul,2022~May,2023	E / P / C
227	XI C&A	NCC T/A & STEAM NETWORK OPTIMIZATION PROJECT DESIGN	Jul,2022~Feb,2023	E
226	HAMPYEONG-GUN	LIVING RESOURCES RECOVERY CENTER INSTALLATION PROJECT (8TPD)	Jun,2022~Jun,2023	P / C
225	GS E&C	BASIC & DETAIL DESIGN RELATED TO NO.1 PAREX PROCESS MVR PROJECT	Jun,2022~Jun,2024	E
224	KUMHO P&B CHEM	DESIGN & APPROVAL FOR STT(I) MIBK TANK USE CHANGE	Jun,2022~Dec,2022	E
223	LOTTE CHEM	NEW 250,000TPA HPEO REFINING FACILITY IN DAESAN EG-1 PLANT	Jun,2022~Dec,2023	E / P / C
222	HANWHA ENERGY	DETAILED DESIGN OF CRESOL STEAM SUPPLY PIPING INSTALLATION WORK	May,2022~May,2023	E
221	NAMHAE CHEM	BASIC DESIGN OF 810TPD 30% FUMING SULFURIC ACID MANUFACTURING FACILITY	May,2022~Aug,2023	E
220	HYUNDAI ENG	LG CHEM ABS REBUILDING PROJECT	May,2022~Jun,2022	E
219	HANJU	DESIGN SERVICED RELATED TO DISSOLVED REFINED SALT BUSINESS (PHASE 1)	May,2022~Sep,2022	E
218	LOTTE CHEM	VANADIUM ELECTROLYTE 480TPA PRODUCTION PLANT CONSTRUCTION	May,2022~Jun,2023	E / P / C
217	LG CHEM	LDPE EXTERNAL PIPING PIPE RACK EXTENSION DESIGN (690M)	May,2022~Dec,2022	E
216	KUMHO P&B CHEM	FACTORY 1,2 RTO(12,000NM3/HR, 23,000NM3/HR) INSTALLATION PROJECT	May,2022~Jan,2023	E / P / C
215	KUMHO POLY CHEM	VOC IMPROVEMENT DESIGN	May,2022~Aug,2022	E
214	LG CHEM	LLDPE WEATHER PILOT OSBL FEED, TIC SERVICE	Apr,2022~Jul,2022	E
213	GANGJIN-GUN	DAEGU JEODU DISTRICT VILLAGE SEWERAGE MAINTENANCE PROJECT	May,2022~May,2024	P / C
212	KUMHO POLY CHEM	PLANT IMPROVEMENT DESIGN	Apr,2022~Dec,2022	E
211	KUMHO MITSUI CHEM	PLANT ANNUAL SHUT-DOWN PROJECT	Apr,2022~Nov,2022	E / P / C

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No.	Client	Project	Period	Scope
210	LG CHEM	DETAILED DESIGN FOR INTRODUCTION OF HIGH-CONCENTRATION PROCESS IN YEOSU PC PLANT	Mar,2022~May,2023	E
209	LG CHEM	DAESAN O PILOT 2nd PROJECT BASIC DESIGN & TIC SERVICE	Mar,2022~Jun,2022	E
208	LG CHEM	YEOSU NCC 2 PLANT RAW C5 EXPANSION DETAILED DESIGN	Feb,2022~Dec,2022	E
207	LG CHEM	YEOSU HDPE PLANT LINE-1 PROCESS DESIGN	Feb,2022~Apr,2022	E
206	KUMHO POLY CHEM	EPDM 50,000TPA BASIC ENGINEERING	Jun,2022~Feb,2022	E
205	GANGJIN-GUN	GUNDONGBIJA DISTRICT VILLAGE SEWERAGE MAINTENANCE PROJECT	Jan,2022~Jan,2024	P / C
204	KUMHO P&B CHEM	LP PROCESS 60,000TPA NEW REVAMPING PROJECT	Jan,2022~Apr,2023	E / P / C
203	LOTTE CHEM	L-NC PROJECT RELATED EXTERNAL C3 LPG PIPING FEASIBILITY STUDY	Jan,2022~Jun,2022	E
202	KICOX	YEOSU INDUSTRIAL COMPLEX PUBLIC PIPE RACK PHASE 4 CONSTRUCTION(INCREASED STAGE) DETAILED DESIGN	Jan,2022~Jul,2022	E
201	WONIK MATERIALS	0.5TPD H2 PRODUCTION PROCESS DETAILED DESIGN	Dec,2021~Jul,2024	E
200	JAEWON INDUSTRIAL	DETAILED DESIGN SERVICE RELATED TO THE EXTENSION OF 3 NMP TOWERS AT THE HUNGARY PLANT (NMP 30,000TPA)	Dec,2021~Jun,2022	E
199	GS CALTEX	PURGE GAS SUPPLY PIPE REVIEW SERVICE	Dec,2021~Jan,2022	E
198	KUMHO POLY CHEM	3 LINE DEBOTTLENECKING PROJECT RELATED WORK	Dec,2021~Aug,2022	E / P / C
197	LG CHEM	ABS PLANT FLARE STACK NEW CONSTRUCTION DETAILED DESIGN	Dec,2021~Mar,2023	E
196	S&I CORP.	DESIGN OF A NEW PLANT TO PRODUCE 50,000TPA OF PBAT (POLYBUTYLENE ADIPATE TEREPHTHALATE)	Nov,2021~Dec,2023	E
195	KUMHO POLY CHEM	4 LINE MVR(UC-403) NEW INSTALLATION PROJECT RELATED WORK	Nov,2021~Nov,2022	E / P / C
194	LG CHEM	TRANSPARENT ABS DEBOTTLENECKING PROJECT	Nov,2021~Apr,2022	E / P / C
193	PURIIOGEN	BASIC DESIGN SERVICE FOR PURIOGEN YEOSU PG-1 PLANT ESTABLISHMENT	Nov,2021~Mar,2022	E
192	S&I CORP.	BDP & TIC SERVICE FOR THE ESTABLISHMENT OF AN 80,000TPA MMA(METHYL METHACRYLATE) PLANT IN ULSAN	Nov,2021~Dec,2021	E
191	JEONYOUNG R.G.O	25TPD COMBUSTIBLE WASTE ENERGY CONVERSION PROJECT FEASIBILITY STUDY	Oct,2021~Jun,2022	E
190	S&I CORP.	PILOT FACILITY DESIGN FOR RESEARCH & DEVELOPMENT OF POLY OLEFIN ELASTOMER	Sep,2021~Sep,2022	E
189	S&I CORP.	DETAIL DESIGN OF THE MICRO-PRESSING PROCESS & THE CRUSHING AND CLASSIFICATION PROCESS	Sep,2021~Dec,2021	E
188	JINSUNG ENG	BASIC DESIGN OF SEMICONDUCTOR SPECIAL GAS MASS PRODUCTION PLANT (C4F6 0.05MTPA PILOT PLANT)	Sep,2021~Nov,2021	E
187	S&I CORP.	OMA(OCTANOLE METHACRYLATE) 37.3TPD DETAILED DESIGN & TIC SERVICE	Aug,2021~Sep,2021	E
186	KOREA JAESAE NEUNGWON	ANNUAL OUTPUT OF 65,000TPA LITHIUM BATTERY CATHODE MATERIAL(1-2) PROJECT	Aug,2021~Jun,2022	E
185	KUMHO PETRO CHEM	SSBR 60,000TPA REVAMPING PROJECT	Aug,2021~Dec,2022	E / P / C
184	LG CHEM	PVC 400,000TPA REVAMPING PROJECT	Aug,2021~Oct,2022	P / C
183	LG CHEM	ABS DP 220,000TPA REVAMPING PROJECT FEED DESIGN	Aug,2021~Dec,2021	E
182	GS E&C	KPIC NEO-II & KBD PROJECT (PIPING/ELEC./INSTR./CIVIL)	Jul,2021~Mar,2023	E
181	HANWHA SOLUTION	TECHNICAL MANAGEMENT TEAM HANYANG BRIDGE FACILITY PRECISE SAFETY DIAGNOSIS	Jul,2021~Oct,2021	E



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Project Experience

No.	Client	Project	Period	Scope
180	KUMHO MITSUI CHEM	NO.2 MDI PLANT REVAMPING PROJECT(MDI) DESIGN, EQUIPMENT DELIVERY SERVICE	Jun,2021~Dec,2023	E / P / C
179	KUMHO MITSUI CHEM	NO.2 MDI PLANT PROJECT(FOX) DESIGN, EQUIPMENT DELIVERY SERVICE	Jun,2021~Dec,2023	E / P / C
178	JAEWON INDUSTRIAL	PMA 24,000TPA PRODUCTION PROCESS DESIGN	May,2021~Oct,2021	E
177	WONIK MATERIALS	GAS 2 TEAM 0.5TPD AMMONIA HYDROGENATION PROCESS DETAIL DESIGN	Apr,2021~Aug,2021	E
176	KUMHO POLY CHEM	FACTORY 1 RTO-2(38,000NM3/HR 2EA) NEW INSTALLATION WORK	Apr,2021~Nov,2021	E / P / C
175	KUMHO MITSUI CHEM	410,000TPA PLANT 3D DESIGN	Apr,2021~Dec,2021	E
174	HANWHA SOLUTION	DETAILED DESIGN FOR PETROLEUM RESIN R-220 DUAL	Apr,2021~Nov,2022	E
173	OCI	POHANG PLANT HSPP-MPR-001-PILOT PACKAGE MANUFACTURING WORK	Mar,2021~Jun,2021	E / P / C
172	KPIC	ONSAN PLANT NCC, DPG, ARU UNIT SAFETY VALVE & SHUT-OFF VALVE DESIGN SERVICE	Mar,2021~Dec,2021	E
171	LG CHEM	ACS ORGANIC LOADING PROCESS DEMOLITION & RESTORATION WORK	Feb,2021~May,2021	E / P / C
170	LG CHEM	CIVIL DESIGN & STEEL STRUCTURE REVIEW RELATED TO NCC PSV DUALIZATION	Feb,2021~Oct,2021	E
169	SGC E-TEC E&C	EPC WORKS FOR PIPING AMONG LOTTE CHEMICAL 6 BLOCK INFRA 2 PROJECT	Feb,2021~Apr,2022	E / P / C
168	DAYONE ENERGY	ISBL/OSBL STEAM SUPPLY PROJECT FOR LOTTE GS CHEMICAL	Feb,2021~Oct,2021	E / P / C
167	LG CHEM	ABS PLANT NEW FLARE STACK CAPACITY REVIEW & DESIGN	Jan,2021~May,2021	E
166	DOOSAN ENERBILITY	H2 5TPD HYDROGEN LIQUEFACTION PROJECT (BASIC & DETAIL DESIGN)	Jan,2021~Feb,2023	E
165	YTT	200M3/HR GASOLINE & BUTANE MIXING PROJECT	Jan,2021~Mar,2021	E / P / C
164	LOTTE CHEM	ABS 65,000TPA→68,000TPA REVAMPING PROJECT BASIC DESIGN & FEED	Jan,2021~Apr,2021	E
163	KUMHO POLY CHEM	FACTORY 2 RTO(65,000NM3/HR 2EA) NEW INSTALLATION PROJECT	Dec,2020~Sep,2021	E / P / C
162	LG CHEM	DETAILED DESIGN FOR PVC SL-3 REVAMPING PROJECT	Dec,2020~Nov,2022	E
161	LG CHEM	3AA DEBOTTLENECKING BASIC DESIGN	Dec,2020~Nov,2022	E
160	JAEWON INDUSTRIAL	JWH-2 PROJECT NMPTOWER 2 PIPING PRODUCTION	Oct,2020~Mar,2021	E
159	WONIK MATERIALS	YC 0.1% B2H6 & H2 MIX PROJECT DETAIL DESIGN & APPROVAL	Dec,2020~Mar,2021	E
158	DAYONE ENERGY	LOTTE GS CHEMICAL OSBL DETAILED DESIGN	Dec,2020~Feb,2021	E
157	YTT	YTT BUTANE BLENDING PROJECT RELATED DETAILED DESIGN & SUPERVISION AGENCY	Nov,2020~Mar,2021	E
156	HYUNDAI ENG	HDO BIO DIESEL OVERALL DESIGN	Nov,2020~Dec,2020	E
155	KOREA JAESAE NEUNGWON	ANNUAL OUTPUT OF 65,000TPA LITHIUM BATTERY CATHODE MATERIAL PROJECT	Nov,2020~Sep,2021	E
154	LG CHEM	PSV DESIGN ADEQUACY REVIEW	Oct,2020~Mar,2021	E
153	KUMHO P&B CHEM	LIQUID EPOXY RESIN(III) 20,000TPA REVAMPING PROJECT	Oct,2020~Oct,2021	E / P / C
152	JAEWON INDUSTRIAL	DETAILED DESIGN FOR THE EXPANSION OF 2 NMP TOWERS IN HUNGARY FACTORY	Dec,2020~May,2021	E
151	KUMHO MITSUI CHEM	2020 T/A(TURN AROUND) INVESTMENT DESIGN SERVICE	Sep,2020~Dec,2020	E

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No.	Client	Project	Period	Scope
150	LG CHEM	FEASIBILITY STUDY FOR NEW PIPE RACK REVAMPING BETWEEN YONGSUNG & JEOKRYANG COMPLEX	Aug,2020~Feb,2021	E
149	LG CHEM	FEASIBILITY STUDY FOR NEW/REVAMPING PIPE RACK FOR OUTDOOR OFFICIALS	Jul,2020~Dec,2020	E
148	OCI	GUNSAN PLANT, RE CVD THERMAL STRESS ANALYSIS	Jul,2020~Oct,2020	E
147	KICOX	FEASIBILITY ANALYSIS & BASIC DESIGN SERVICE FOR YEOSU INDUSTRIAL COMPLEX'S PUBLIC PIPE RACK & LOADING ARM INSTALLATION PROJECT	Jul,2020~Mar,2021	E
146	LG CHEM	DETAIL DESIGN & APPROVAL OF BPA HEAVIES	Jul,2020~Dec,2020	E
145	DAEA ENERGY	SULFUR SOLIDIFICATION PLANT DESIGN & APPROVAL	Jul,2020~Aug,2021	E
144	S-OIL	VCU(9,000NM3/HR) INSTALLATION PROJECT	Jun,2020~Dec,2020	E / P / C
143	HANWHA SOLUTION	OA PRODUCTION TEAM 2-EH STORAGE TANK(V-369C) INSTALLATION	Jun,2020~Mar,2021	E / P / C
142	HANWHA SOLUTION	OA OXO CATALYST PROCESS INCREASE P&C CONSTRUCTION	Jun,2020~Jan,2021	E / P / C
141	KUMHO P&B CHEM	PLANT 1 KPA(IV) PLANT COOLING WATER GRP PIPE REPLACEMENT WORK	Jun,2020~Nov,2020	E / P / C
140	KUMHO POLY CHEM	METALLOCENE PROCESS BASIC DESIGN	May,2020~Dec,2020	E
139	EM TECH	DETAIL DESIGN FOR RELATED TO JPC-550 (1,000 L/HR PROCESS UNIT) & NEW SITE TANK INSTALLATION PROJECT	May,2020~Jun,2021	E
138	LOTTE E&C	PIPING DESIGN SERVICE DURING LOTTE CHEM D-NC_R PROJECT	May,2020~Nov,2020	E
137	CHEMICAL SAFETY AGENCY	PRODUCTION & INSTALLATION OF 3 TYPES OF OUTDOOR TRAINING FACILITIES	May,2020~Dec,2020	E / P / C
136	GANGJIN-GUN	JAKCHEON GUSANG DISTRICT VILLAGE SEWER MAINTENANCE PROJECT	May,2020~May,2022	P / C
135	GS CALTEX	3RD CONSTRUCTION OF IMPROVEMENT OF ELECTRICAL EQUIPMENT IN LOGISTICS CENTER	Apr,2020~Nov,2020	E / P / C
134	KUMHO POLY CHEM	KP-1 RTO-1(35,000NM3/HR 2EA) INSTALLATION PROJECT	Apr,2020~Dec,2021	E / P / C
133	WONIK MATERIALS	DETAIL DESIGN FOR E PROJECT IN YANGCHEONG PLANT (CH2F2 0.224MTPA, C4F8 0.346MTPA)	Mar,2020~Jan,2021	E
132	GS E&C	YEOSU NO.2 COMPLEX PROJECT (PIPING FIELD ENGINEERING)	Mar,2020~Dec,2020	FE
131	LOTTE CHEM	NEW INSTALLATION OF D-GE/BDG EXPANSION REACTION FACILITY FOR DAESAN PLANT	Mar,2020~Mar,2021	E / P / C
130	HANWHA SOLUTION	BASF YEOSU PLANT HCL 35% EXTERNAL NEW PIPING DESIGN & APPROVAL	Mar,2020~Jun,2020	E
129	KUMHO MITSUI CHEM	MDI 200,000TPA, CA, HYDROCHLORIC ACID OXIDATION FACILITY BASIC DESIGN	Mar,2020~Jun,2020	E
128	KUMHO POLY CHEM	1 PLANT FLARE LOAD SUMMARY & PRESSURE VESSEL INSTALLATION RELATED DESIGN	Feb,2020~May,2020	E
127	MARINE GLORY	INSTALLATION OF 5 PETROCHEMICAL TANKS & DESIGN OF ADDITIONAL FACILITIES	Jan,2020~Dec,2021	E
126	LOTTE E&C	LOTTE CHEM INFRA-2 FEED DESIGN	Jan,2020~Mar,2020	E
125	WONIK MATERIALS	DETAIL DESIGN FOR 2,000MTPA HIGH PURITY CO2 REFINING & FILLING FACILITY CONSTRUCTION PROJECT	Jan,2020~Mar,2020	E
124	HYUNDAI ENERGY	DETAIL DESIGN OF STEAM PIPING INSTALLATION FOR GS CALTEX MFC PLANT	Dec,2019~Jan,2020	E
123	GS E&C	LG CHEM Y2C(YEOSU #2 COMPLEX) SAPO PIER EXTERNAL PIPING CONSTRUCTION	Nov,2019~Sep,2020	E / P / C
122	DOOSAN ENERBILITY	H2 5TPD HYDROGEN LIQUEFACTION PROJECT APPROVAL SERVICE	Nov,2019~Mar,2020	E
121	S&I CORP.	LG MMA M2 MTBE(METHYL TERTIARY BUTHYL ETHER) 150,000TPA EXPANSION PROJECT	Nov,2019~Dec,2020	E



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Project Experience

No.	Client	Project	Period	Scope
120	YEOSU TECHNICAL DIRECTOR'S COUNCIL	PIPE RACK SAFETY DIAGNOSIS OF EXTERNAL PIPELINES BETWEEN 10-2,3 SECTIONS	Oct,2019~Mar,2020	E
119	KUMHO P&B CHEM	80,000MTPA KAR(KUMHO ACETONE RECYCLE) PROJECT	Oct,2019~May,2021	E / P / C
118	HYUNDAI ENERGY	AIR LIQUID PIPE RACK STRUCTURE STABILITY REVIEW	Oct,2019~Oct,2019	E
117	HANWHA CHEM	OA PRODUCTION TEAM CATALYTIC PROCESS EXPANSION DESIGN & APPROVAL	Oct,2019~Jan,2021	E
116	KUMHO PETRO CHEM	SBS(STYRENE BUTADIENE STYRENE) 45,000TPA REVAMPING PROJECT	Oct,2019~Aug,2020	E / P / C
115	GS CALTEX	MFC PROJECT - 3WHARF APPROVAL SERVICE FOR THE 2nd PRODUCT PIER	Oct,2019~Apr,2021	E
114	KUMHO MITSUI CHEM	NEW LOGISTICS BASE CONSTRUCTION	Oct,2019~Aug,2020	E / P / C
113	GS E&C	GS CALTEX MFC(MIXED FEED CRACKER) OUTSIDE PIPE LINE INSTALLATION WORK	Sep,2019~Nov,2020	E
112	LG CHEM	DETAILED DESIGN OF VCM1 EDC(ETHYLENE DICHLORIDE) REACTION PROCESS IMPROVEMENT	Sep,2019~Jul,2020	E
111	GS E&C	GS CALTEX MFC(MIXED FEED CRACKER) OUTER PIPE LINE INSTALLATION WORK	Sep,2019~Jul,2021	E / C
110	LOTTE E&C	WP4 MTO WORK IN INDONESIA LINE PROJECT	Aug,2019~Oct,2019	E
109	HYUNDAI ENG	KUMHO P&B CHEM BPA(BISPHENOL-A)-5 PROJECT	Aug,2019~Mar,2020	E
108	KUMHO PETRO CHEM	DESIGN & APPROVAL FOR CATALYST MANUFACTURING FACILITIES IN 9 BLOCKS	Aug,2019~Feb,2020	E
107	LG CHEM	DETAIL DESIGN OF SAP5 POWDER ASSEMBLY BACK-UP SYSTEM CONSTRUCTION	Jul,2019~Dec,2019	E
106	GS CALTEX	NO.4 DIESEL HDS(87UNIT) CAPACITY INCREASE (75->80KBD) APPROVAL SERVICE	Jun,2019~May,2020	E
105	DAEWOO PLANT	KPB2 LER(LIQUID EPOXY RESINS) STORAGE TANK 6EA INSTALLATION DESIGN	Jun,2019~Nov,2019	E
104	E1	YEOSU STATION PIPERACK EXTENSION DESIGN PROJECT (2.2KM)	May,2019~Nov,2019	E
103	GS CALTEX	DETAIL DESIGN OF LPG PIPE CONSTRUCTION FROM YEOSU PLANT TO E1 YEOSU STATION	May,2019~Dec,2019	E
102	YNCC	BASIC DESIGN SERVICE FOR PIPE RACK EXPANSION PROJECT FOR THE INSTALLATION OF NEW PIPING BETWEEN PLANT 1 & 2	Apr,2019~May,2019	E
101	KUMHO MITSUI CHEM	2019 SHUT-DOWN INVESTMENT CONSTRUCTION PROJECT	Apr,2019~Jun,2019	E / P / C
100	PMC TECH	TANK REVAMPING PROJECT DESIGN & APPROVAL	Apr,2019~Mar,2020	E
99	KUMHO POLY CHEM	TPV(THERMO PLASTIC VULCANIZATE) PLANT PROCESS IMPROVEMENT PROJECT	Apr,2019~Jul,2019	E / P / C
98	LOTTE ADVANCED MATERIAL	ABS A4 PROCESS & HIGH HEAT-RESISTANCE NYLON PROCESS BASIC DESIGN & FEED	Mar,2019~Aug,2019	E
97	LOTTE CHEM	BASIC DESIGN FOR DAESANG E PROCESS 5000MTPA BDG PRODUCTION PROCESS	Mar,2019~Aug,2019	E
96	GS E&C	GS CALTEX MFC(MIXED FEED CRACKER) PROJECT	Feb,2019~Apr,2021	E
95	S&I CORP.	CDC PROJECT ORGANIC CATALYST & OSBL DETAIL DESIGN SERVICE	Feb,2019~Jan,2020	E
94	LG MMA	REPLACING MMA(METHYL METHACRYLATE) PROCESS INSTRUMENT & LINE IN MMA3 PLANT	Feb,2019~Nov,2019	E / P / C
93	LG MMA	MMA3 PLANT MA PRODUCT TOWER REPLACEMENT & INSTALLATION	Feb,2019~Nov,2019	E
92	YNCC	ETHYLENE & BTX(BENZENE TOLUENE XYLENE) AREA ENERGY SAVING PROJECT	Jan,2019~Jun,2019	E / P / C
91	GS CALTEX	PETROCHEMICAL 2TEAM NO.2 AROMATICS PROCESS THROUGHPUT INCREASE BASIC/DETAILED DESIGN & APPROVAL	Jan,2019~Oct,2019	E

* E : Engineering, P : Procurement, C : Construction

No.	Client	Project	Period	Scope
90	KOREA VOPAK TERMINAL	VCU FACILITY MANUFACTURING INSTALLATION & DESIGN(TERMINAL 2)	Dec,2018~Dec,2020	E / P / C
89	KOREA VOPAK TERMINAL	VCU FACILITY MANUFACTURING INSTALLATION & DESIGN(TERMINAL 1)	Dec,2018~Dec,2020	E / P / C
88	VERSUMP M KOREA	SIHWA GABLE-INFRASTRUCTURE EPC PROJECT	Dec,2018~May,2019	E / P / C
87	LOTTE CHEM	DAESAN PLANT D-EG ½ WASTE HEAT RECOVERY ENERGY SAVING PROJECT	Dec,2018~Nov,2019	E / P / C
86	KUMHO POLY CHEM	PELLET STAGE II PROJECT	Dec,2018~Oct,2019	E / P / C
85	KOREA PLANT IND. ASSOCIATION	TURKMENISTAN, MTO PROJECT	Dec,2018~Jul,2019	E
84	GS CALTEX	CONSTRUCTION OF PIPING 3D INSPECTION DRAWINGS (OUTSIDE THE FACTORY)	Dec,2018~Jun,2019	E
83	GS CALTEX	CONSTRUCTION OF 3D INSPECTION DRAWING FOR OFFSITE PIPING IN THE PLANT 1	Dec,2018~Jun,2019	E
82	GS E&C	LG CHEM Y2C PROJECT (ETHYLENE 800,000TPA)	Nov,2018~Jun,2021	E
81	KUMHO POLY CHEM	EPDM PLANT 2 DEBOTTLENECKING PRE-ENGINEERING	Nov,2018~Jan,2019	E
80	Q-BIO TECH	WASTEWATER TREATMENT PLANT REVAMPING DETAILED DESIGN & APPROVAL	Nov,2018~Jul,2019	E
79	GS CALTEX	FEASIBILITY STUDY(YEOSU PLANT~E1 LPG PIPE SEISMIC DESIGN RELATED)	Oct,2018~Jan,2019	E
78	GS CALTEX	VGOFCC(VGO FLUIDIZED CATALYTIC CRACKER) SLURRY FILTER TRAIN ADDITIONAL INSTALLATION - BASIC DESIGN	Oct,2018~Dec,2018	E
77	LG MMA	BASIC DESIGN FOR TRANSFER OF DRUM PACKING SYSTEM TO OUTSIDE OF MMA3 PLANT	Sep,2018~Dec,2018	E
76	GS CALTEX	DESIGN OF GROUNDING PROJECT FOR EXTERNAL PIPING BETWEEN PLANT & OIL STORAGE TEAM(ANTI-AGING)	Sep,2018~Mar,2019	E
75	LG MMA	TECHNICAL TEAM SF300B DEDICATED LINE TIC & BASIC DESIGN	Sep,2018~Dec,2018	E
74	DAWOO E&C	GS CALTEX SAR REVAMPING PROJECT / PIPING DETAILED DESIGN	Aug,2018~Nov,2019	E
73	KUMHO P&B CHEM	STT(I) STORAGE FACILITIES INSTALLATION	Jul,2018~Jan,2020	E / P / C
72	LG CHEM	DETAILED DESIGN FOR IMPROVEMENT INVESTMENT IN EG CO2 REMOVAL SYSTEM	Jul,2018~May,2019	E
71	GS CALTEX	REVISION OF APPROVAL ACCORDING TO INCREASE IN BOP FEED THROUGHPUT	Jul,2018~Dec,2018	E
70	LG MMA	ESTABLISHMENT OF ACRYLIC RUBBER PRODUCTION PROCESS PROJECT (DESIGN)	Jul,2018~Mar,2020	E
69	LG MMA	ESTABLISHMENT OF ACRYLIC RUBBER PRODUCTION PROCESS PROJECT	Jul,2018~Feb,2020	E / P / C
68	LG MMA	MMA2 PLANT DESIGN OF ESTER WORK	Jul,2018~Oct,2018	E
67	DAWOO E&C	GS CALTEX SAR REVAMPING PROJECT PIPING 3D SCANNING & APPROVAL	Jul,2018~Nov,2019	E
66	VERSUMP ADM KOREA	BTBAS PRODUCTION FACILITY EXPANSION PROJECT BY BATCH POLYMERIZATION OF T-BUTYLAMINE(TBA) & DICHLOROSILANE(DCS)	Jul,2018~Mar,2019	E / P / C
65	HYUNDAI E&C	DESIGN-PLANT(PIPING)/YEOSU GROUP ENERGY UNDERGROUND STEAM PIPELINE GROUNDING PROJECT	Jun,2018~Sep,2019	E
64	GS CALTEX	REFINERY 3TEAM PSV DUALIZATION DETAIL DESIGN SERVICE	Jun,2018~May,2019	E
63	SK AIR GAS	CDA REVAMPING PROJECT DETAILED DESIGN AT CHEONGJU PLANT 1 (CDA 30,000Nm³/HR)	Jun,2018~Feb,2019	E
62	KUMHO MITSUI CHEM	MDI(METHYLENE DIPHENYL ISOCYANATE) 60,000MTPA PLANT REVAMPING PROJECT	Jun,2018~Jan,2019	E / P / C
61	VERSUMP M KOREA	SIHWA OFFICE BUILDING REINFORCEMENT PROJECT	Jun,2018~Oct,2018	E / P / C



Business Portfolio

Project Experience

No.	Client	Project	Period	Scope
60	KUMHO MITSUI CHEM	NEW INSTALLATION M-EC520A1/A2 SYSTEM	Jun, 2018~Jul, 2018	P / C
59	YNCC	DETAILED DESIGN RELATED TO THE REPLACEMENT OF LOW-VOLTAGE ELECTRICAL FACILITIES IN THE PLANT 1	Jun, 2018~Jul, 2019	E
58	GS E&C	MFC FEED PROJECT (CIVIL DESIGN)	Jun, 2018~May, 2019	E
57	LG CHEM	BUTENE-1, RBD PROJECT BULK MATERIAL PURCHASE PROVISIONAL CONTRACT	May, 2018~Jan, 2019	E / P
56	VERSUM MATERIALS	DEMOLITION WORK AT SIHWA PLANT	May, 2018~Oct, 2018	E / P / C
55	LG CHEM	BPA 30,000TPA REVAMPING DETAILED DESIGN & 1 CASE	May, 2018~Apr, 2019	E
54	SHELL KOREA	BDEP DEVELOPMENT FOR NEW STORAGE TANKS INSTALLATION	Jun, 2018~Jul, 2018	E
53	LOTTE CHEM	VRU(VAPOR RECOVERY UNIT) INSTALLATION	Apr, 2018~Nov, 2018	P / C
52	HANWHA CHEM	OSBL PIPE RACK INSTALLATION PROJECT	Apr, 2018~Sep, 2018	E / P / C
51	LG CHEM	BUTENE-1, RBD PROJECT CONSTRUCTION	Apr, 2018~Jan, 2019	P / C
50	FARMHANNONG	ALA, BUTA, BTCM, FLO BASIC DESIGN PROJECT	Apr, 2018~Apr, 2018	E
49	LG CHEM	SAP5(SUPER ABSORBENT POLYMER) 15,000MTPA DEBOTTLENECKING PROJECT	Apr, 2018~Oct, 2018	E
48	LG CHEM	DETAIL DESIGN FOR EXTENSION COMPLEX UTILITY CENTER & INFRASTRUCTURE CONSTRUCTION	Apr, 2018~Mar, 2019	E
47	GS E&C	LG CHEM NCC PROCESS IMPROVEMENT PROJECT	Apr, 2018~Dec, 2018	E
46	BASF	8.7MTPA MIXTURE PRODUCTION BUILDING INSTALLATION PROJECT	Mar, 2018~Mar, 2019	E / P / C
45	LG CHEM	CA1 ELECTROLYZER PILOT FACILITY PROJECT	Mar, 2018~Dec, 2018	E / P / C
44	SERVEONE	YEOSU CA2 GENERAL CONTRACTOR	Mar, 2018~Dec, 2019	E
43	JAEWON INDUSTRIAL	JNJ(PDP) FEED DESIGN(PMA 27,600TPA S200 14,400TPA)	Mar, 2018~Jul, 2018	E
42	VERSUM SPC KOREA	PYEONGTAEK CMP(CHEMICAL MECHANICAL POLISHING) PROJECT (ACT-CMI, ACT-935 16TPD)	Mar, 2018~Jan, 2019	E / P / C
41	GS E&C	LG CHEM 6AA PROJECT SMS/PSM	Mar, 2018~May, 2019	E
40	HANWHA ENERGY	9 BLOCK PIPE RACK DESIGN	Feb, 2018~Nov, 2018	E
39	LG MMA	CONSTRUCTION OF DISPERSANT SEMI-MASS PRODUCTION FACILITY & SUSPENSION POLYMERIZATION PILOT RECONSTRUCTION	Feb, 2018~May, 2018	E
38	LOTTE CHEM	K-PIA, PTA IG DRYER VENT GAS PREVENTION FACILITY(ACTIVATED CARBON ADSORPTION TOWER) PRODUCTION AT ULSAN PLANT	Feb, 2018~Sep, 2018	E / P
37	VERSUM PM KOREA	ALCHEMY PROJECT (MCS 80MTPA + TSA 15MTPA NEW)	Feb, 2018~Feb, 2019	E / P / C
36	KUMHO P&B CHEM	LIQUID EPOXY RESIN(III) 45,000TPA LP & LTI PROCESS PROJECT	Jan, 2018~Jun, 2019	E / P / C
35	KUMHO MITSUI CHEM	COMPLEMENTARY WORK RELATED TO COLOR IMPROVEMENT	Jan, 2018~Apr, 2018	E / P / C
34	AISA STABILIZERS	GOJI PROJECT BASIC DESIGN	Jan, 2018~Apr, 2018	E
33	YEONGJU NONGHYUP	LIVESTOCK MANURE REGIONAL INTEGRATED MANAGEMENT CENTER RESOURCE CONVERSION PILOT PROJECT (120TPD)	Jan, 2018~Oct, 2019	E / P / C
32	SERVEONE	YEOSU LG CHEM SAP5(SUPER ABSORBENT POLYMER) REVAMPING PROJECT	Nov, 2017~May, 2019	E
31	GS CALTEX	DETAIL DESIGN FOR RFCC(RESIDUE FLUID CATALYTIC CRACKING UNIT) WET GAS SCRUBBER INSTALLATION	Nov, 2017~Oct, 2019	E

* E : Engineering, P : Procurement, C : Construction

No.	Client	Project	Period	Scope
30	VERSUM MATERIALS	NUMAT PROJECT(BF3 3.6Nm ³ /DAY, AsH3 3.6Nm ³ /DAY, PH3 216Nm ³ /DAY)	Nov,2017~Mar,2018	E / P / C
29	FARMHANNONG	CRF #3,4 BASIC ENGINEERING PACKAGE SERVICE	Nov,2017~Feb,2019	E
28	GS E&C	GS CALTEX VGO FCC(VGO FLUIDIZED CATALYTIC CRACKER) PROJECT	Oct,2017~Apr,2018	E
27	KPIC	ONSAN PLANT SS BOILER & LP ETHYLENE TANK DETAILED DESIGN	Oct,2017~Apr,2019	E
26	SK AIR GAS	ASU PLANT CONSTRUCTION DESIGN SERVICE FOR M14 PHASE 2B SEMICONDUCTOR PLANT EXPANSION PROJECT	Oct,2017~Nov,2018	E
25	KUMHO MITSUI CHEM	DESIGN RELATED TO INVESTMENT OTHER THAN INSTALLATION OF U-GA206D	Sep,2017~Nov,2017	E
24	HANWHA E&C	STYRENE COPOLYMERIZATION(CP) 50,000TPA, THE 50,000TPA PRODUCTION FACILITY CONSTRUCTION DESIGN	Sep,2017~Jun,2019	E
23	SERVEONE	LG MMA MAA 80,000TPA REVAMPING PROJECT	Sep,2017~Aug,2019	E
22	SEA ENG	MVR DESIGN PROJECT	Sep,2017~Mar,2019	E
21	POSCO E&C	MDI 340,000MTPA PLANT PRODUCT SHIPPING SITE IMPROVEMENT WORK	Aug,2017~Apr,2018	P
20	HYUNDAI ENG	THAILAND EFFICIENCY, ENERGY & ENVIRONMENT(3E) PROJECT	Jul,2017~Feb,2018	E
19	S-OIL	MOKPO STORAGE VRU(VAPOR RECOVERY UNIT) PACKAGE & CONCRETE INSTALLATION WORK	Jun,2017~Dec,2017	E / P / C
18	SK SHOWA DENKO	SS PROJECT EPC LUMP & SUM TURNKEY PROJECT (CH3F 20MTPA)	Jun,2017~Dec,2018	E / P / C
17	GS E&C	3NE PROJECT	May,2017~Apr,2019	E
16	KUMHO P&B CHEM	SER(SOLID EPOXY RESINS) STAGE II 6,000TPA→22,000TPA REVAMPING PROJECT	May,2017~Feb,2018	E / P / C
15	KICOX	RESEARCH SERVICE FOR INSTALLING ADDITIONAL PIPING DUE TO SATURATION OF UNDERGROUND PIPING IN ONSAN NATIONAL INDUSTRIAL COMPLEX	May,2017~Nov,2017	E
14	KUMHO POLY CHEM	INSTALLATION OF LINE & HEAT EXCHANGER FOR INTEGRATED OPERATION OF PP REFRIGERATOR	Apr,2017~Oct,2017	E / P / C
13	HYUNDAI E&C	HCC THE PROJECT	Apr,2017~Aug,2017	E
12	VERSUM MATERIALS	SIHWA BDP PROJECT	Apr,2017~Jun,2017	E
11	BASF	TOURBILLON PROJECT DIKE INSTALLATION	Apr,2017~Jun,2017	E / P / C
10	SAMSUNG C&T	OFF-SITE IMPROVEMENT PLAN DETAIL DESIGN & APPROVAL	Apr,2017~Aug,2018	E
9	PTT TANK TERMINAL	4,000TPA PROPYLENE STORAGE TANK PROJECT	Mar,2017~Aug,2018	E
8	POSCO ICT	GWANGYANG WORKS FERROMANGANESE LOW-TEMPERATURE ORC POWER GENERATION DESIGN	Mar,2017~Feb,2018	E
7	OCI	GUNSAN PLANT, AGRICULTURAL WATER UTILIZATION FACILITY INSTALLATION	Jan,2017~Aug,2017	E / P / C
6	KPIC	ULSAN PLANT SPP PROJECT DESIGN	Mar,2017~Jul,2018	E
5	GS E&C	GS CALTEX NO.1 CDU(CRUDE DISTILLATES UNIT) REVAMP PROJECT	Mar,2017~May,2018	E
4	KUMHO MITSUI CHEM	IMPROVEMENT CONSTRUCTION FOR MDI(METHYLENE DIPHENYL ISOCYANATE) EXTENSION BOTTLENECK ELIMINATION	Feb,2017~Apr,2017	E / P / C
3	HANWHA CHEM	W-TFT CA1 TEAM 35% HYDROCHLORIC ACID SHIPPING INFRASTRUCTURE CONSTRUCTION WORK	Feb,2017~Dec,2017	E / P / C
2	KOREA SILICON	2K-1601 MVR SYSTEM INSTALLATION WORK	Jan,2017~Nov,2017	E / P / C
1	HYOSUNG	DH-1 IMPROVED PROJECT DETAILED DESIGN	Jan,2017~Dec,2017	E



Environmental & Energy Project Experience

MVR (Mechanical Vapor Recompression)

* E : Engineering, P : Procurement, C : Construction

No.	Year	Project	Client	Scope
11	2016	1Factory 1-Line MVR Installation Project(using 96.6°C Waste gas, 2.4kg/cm ² G 16.5Ton/hr Steam Production)	KUMHO POLY CHEM	E.P.C
10	2016	MVR(IV) Project (Surplus steam 10T/hr 0.4kg/cm ² G→2.8kg/cm ² G Booster Production)	KUMHO P&B CHEM	E.P.C
9	2015	KP-I Plant 2-Line MVR Project (using Low heat source steam, -0.88kg/cm ² G 22.4Ton/hr Steam Production)	KUMHO POLY CHEM	E.P.C
8	2015	MVR(II) Project (using Surplus Hot Oil, 4.5kg/cm ² G 25Ton/hr Steam Production)	KUMHO P&B CHEM	E.P.C
7	2015	MVR Package manufacture and installation work (50Ton/hr 6.9kg/cm ² G→21kg/cm ² G, 12Ton/hr 9.8kg/cm ² G→35.2kg/cm ² G Boost)	KUMHO MITSUI CHEM	E.P.C
6	2014	MPC Reaction Tower MVR Project (using Waste heat, 10.5kg/cm ² G 12.6Ton/hr Steam Production)	LOTTE CHEM	E.P.C
5	2014	Samsung Total Chem MVR Package Project (Surplus steam 50Ton/hr 2.5kg/cm ² G→5.4kg/cm ² G Boost Production)	SAMSUNG TECHWIN	E.P.C
4	2012	Construction of new plant waste heat recovery system (using 98°C Waste heat 1.2kg/cm ² G 15.8Ton/hr Steam Production)	KUMHO POLY CHEM	E.P.C
3	2012	MDI 50,000MPA MVR Project (Surplus steam 6.6Ton/hr 7kg/cm ² G→18kg/cm ² G Boost Production)	KUMHO MITSUI CHEM	E.P.C
2	2010	Introduction of MVR in Solvent Recovery Process (using 92°C Waste gas, 2.9kg/cm ² G 6.3Ton/hr Steam Production)	KUMHO POLY CHEM	E.P.C
1	2009	Introduction of R-Line MVR System (using 102°C Waste water, 6kg/cm ² G 2.9Ton/hr Steam Production)	KUMHO PETRO CHEM	E.P.C

LDAR (Leak Detection And Repair)

No.	Year	Project	Client	Scope
9	2006	VCM LDAR System Monitoring work	HANWHA PETRO CHEM	E
8	2005	VCM Production team LDAR system Monitoring work	HANWHA PETRO CHEM	E
7	2005	LG Chem LDAR Supply contract	SK C&C	E
6	2004	Hanwha Petro Chem LDAR Inventory & TAG Installation work	SK C&C	E
5	2002	LDAR Inventory service for oil refining process 1 / MTBE process	LG CALTEX	E
4	2002	LDAR Inventory work (Oil 2~5 Team, RFCC)	LG CALTEX	E
3	2001	# 2 Aromatic Plant LDAR Inventory	LG CALTEX	E
2	2001	No.1 Aromatic Plant Shipment Facility LDAR Inventory	LG CALTEX	E
1	2000	Inventory work to introduce LDAR Program to No.1 Aromatics	LG CALTEX	E

VRU (Vapor Recovery Unit)

No.	Year	Project	Client	Scope
9	2018	VRU installation (removal of VOC using VRU after removal of storage tank RTO) (1,466m ³ /hr)	LOTTE CHEM	E.P.C
8	2018	VRU installation design(2 Terminal CI Gas process)	KOREA VOPAK TERMINAL	E
7	2017	Mokpo Oil Reservoir VRU Package (Water vapor treatment generated during logistics shipment (240m ³ /hr)	S-OIL	E.P.C
6	2012	Incheon VRU Expansion design (480m ³ /hr)	GS CALTEX	E
5	2011	Busan VRU Expansion design (480m ³ /hr)	GS CALTEX	E
4	2007	GS-CALTEX Detail design for VRU Installation (8,500m ³ /hr)	H-PLUS ENG	E
3	2006	GS-CALTEX Basic survey & detail design for offshore VRU plant installation (8,500m ³ /hr)	CLEAN AIR WORLD	E
2	2006	GS-CALTEX Piping design review of Aromatic Day Tank Area VRU plant	TECHWINE&C	E
1	2005	GS-CALTEX Piping design of Aromatic Day Tank Area VRU plant	TECHWINE&C	E

VCU (Vapor Combustion Unit)

* E : Engineering, P : Procurement, C : Construction

No.	Year	Project	Client	Scope
4	2023	VRU New installation Project (1,200Nm ³ /hr)	KUMHO POLY CHEM	E.P.C
3	2023	VCU 2nd additional connection project (9,000Nm ³ /hr)	S-OIL	E.P.C
2	2020	VCU installation to reduce storage emission in #1/2 facilities area for legal compliance (9,000Nm ³ /hr)	S-OIL	E.P.C
1	2018	VCU equip. manufacturing, installation & design (1,2 Terminal) (2,500Nm ³ /hr, 3,800Nm ³ /hr)	KOREA VOPARK TERMINAL	E.P.C

RTO (Regenerative Thermal Oxidizer)

No.	Year	Project	Client	Scope
11	2023	Factory 1 RTO(47,000Nm ³ /hr 2ea) installation project	KUMHO POLY CHEM	E.P.C
10	2023	Factory 2 RTO(80,000Nm ³ /hr 2ea) installation project	KUMHO POLY CHEM	E.P.C
9	2022	Factory 1,2 RTO(12,000Nm ³ /hr, 23,000Nm ³ /hr) installation project	KUMHO P&B CHEM	E.P.C
8	2021	Factory 1 RTO-2(38,000Nm ³ /hr 2ea) new installation project	KUMHO POLY CHEM	E.P.C
7	2020	Factory 2 RTO(65,000Nm ³ /hr 2ea) new Installation Project	KUMHO POLY CHEM	E.P.C
6	2020	KP-I RTO-1(35,000Nm ³ /hr 2ea) Installation Project	KUMHO POLY CHEM	E.P.C
5	2019	High heat resistant nylon A4 mass production process basic design FEED (including new installation of RTO)	LOTTE ADVANCED MAT'L	E
4	2016	Polymerization G-Line NB LATEX parallel production facility construction EPC (including new RTO installation)	KUMHO PETRO CHEM	E.P.C
3	2006	Yeosu NCC 3 factory Piping design for additional installation of VOC related RTO	EG GREEN TECH	E
2	2004	LG Caltex OIL RTO design	TECHWIN	E
1	2001	Civil design related to SM plant RTO	LG CHEM	E

WWT (Waste Water Treatment)

No.	Year	Project	Client	Scope
2	2018	Wastewater treatment plant detail design & approval (Revamping)	Q-BIO TECH	E
1	2013	Wastewater treatment plant upgrading construction (steamstripping→Improved steam reduction by microbial treatment)	KUMHO MITSUI CHEM	E.P.C

Waste Resource Recycling

No.	Year	Project	Client	Scope
1	2022	Waste synthetic resin 7,920TPA recycled oil 4,752TPA energy conversion project	JEONYOUNG R.G.O	E.P.C



New & Renewable Energy Project Experience

Hydrogen system

* E : Engineering, P : Procurement, C : Construction

No.	Year	Project	Client	Scope
10	2022	30 ton/day LH ₂ Yeosu plant Project design	AIR LIQUIDE E&C	E
9	2022	CA2 Hydrogen introduction plant detailed design	LG CHEM	E
8	2022	56,000 Nm ³ /hr(52,000TPA) Hydrogen plant EPC project	LG CHEM	E.P.C
7	2021	0.5 ton/day CJ-H ₂ Production process detailed design	WONIK MATERIALS	E
6	2021	5 ton/day Hydrogen liquefaction project detailed design & Approval	DOOSAN ENERBILITY	E.P
5	2020	0.5 ton/day Ammonia Hydrogenation process detailed design	WONIK MATERIALS	E
4	2014	H ₂ Boosting compressor installation design	SPG CHEMICAL	E
3	2011	Low purity hydrogen moisture removal and heating plant construction	SAMSUNG FINE CHEM	E.P.C
2	2011	Hydrogen mixed gas piping design	SEETEC	E
1	2004	Feasibility study service for hydrogen supply network installation	CLEAN AIR WORLD	E

Rechargeable Battery system

No.	Year	Project	Client	Scope
6	2024	Cathode material factory 4 P&ID implementation work	LG CHEM	E
5	2024	International customer screening production line modification project engineering	JAESAE NEUNGWON	E
4	2024	Lithium Hydroxide grinding process construction project engineering	JAESAE NEUNGWON	E
3	2023	High Nickel Cathode material new line construction phase 2 project	JAESAE NEUNGWON	E
2	2021	Annual output of 65,000TPA Lithium Battery Cathode material(1-2) project	JAESAE NEUNGWON	E
1	2020	Annual output of 65,000TPA Lithium Battery Cathode material(1-1) project	JAESAE NEUNGWON	E

Bio system

No.	Year	Project	Client	Scope
1	2023	Bio-PA pilot plant Construction(ISBL)	LG CHEM	E.P.C

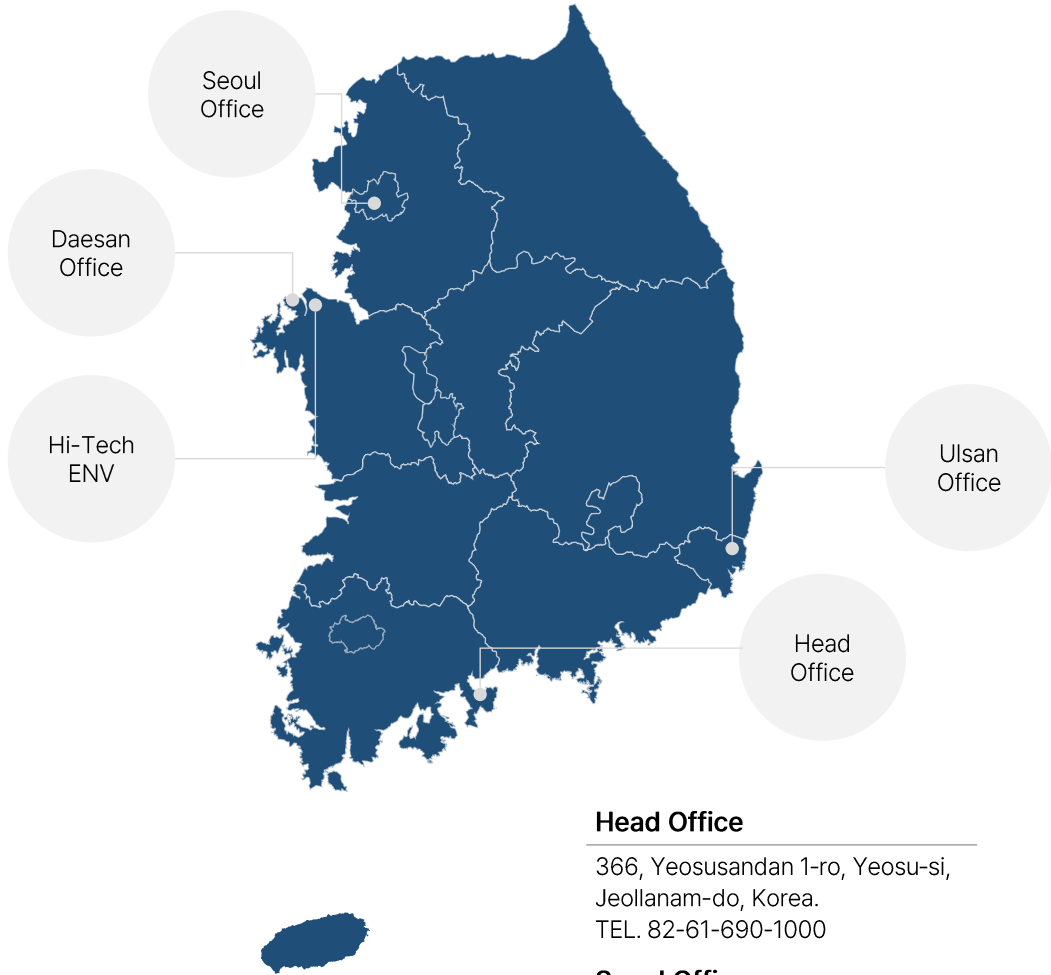
CCS (Carbon Capture & Storage) system

No.	Year	Project	Client	Scope
5	2022	Basic design and estimate for construction of CO ₂ capture pilot plant	HANWHA TOTAL ENERGIES	E
4	2021	FEED service for dry CO ₂ capture process after combustion of 1 million tons	KEPCO E&C	E
3	2020	Detail design for 2,000MTPA high purity CO ₂ refining & filling facility construction project	WONIK MATERIALS	E
2	2017	150MW Enhancement of Carbon Capture Storage technology (R&D)	KEPCO	E.P.C
1	2015	10MW Carbon capture technology commercial package module development (R&D)	KEPCO	E



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