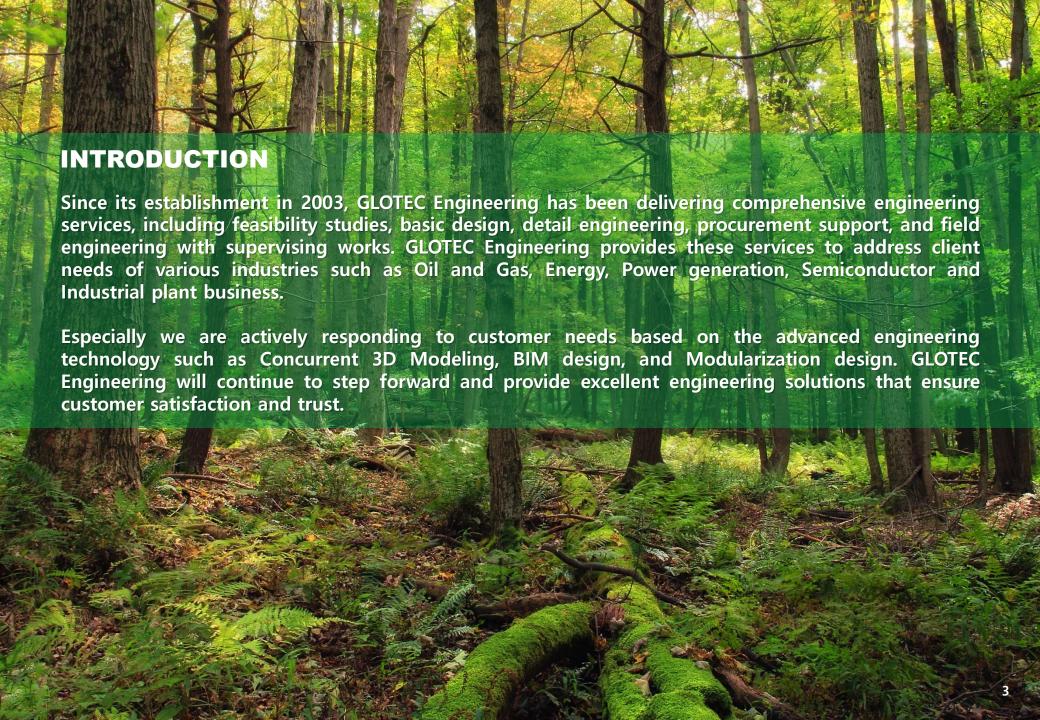




PREQUALIFICATION 2024

CONTENTS

- 1. INTRODUCTION
- 2. OVERVIEW
- 3. LOCATION
- 4. ROLE & RESPONSIBILITY
- 5. ORGANIZATION
- **6. TECHNICAL MANPOWER**
- 7. ENGINEERING ACTIVITIES
- 8. CORE TECHNOLOGY
- 9. BUSINESS
- 10. QUALITY & VALUE MANAGEMENT
- 11. DESIGN SOFTWARE & TOOLS
- 12. SUSTAINABLE GROWTH



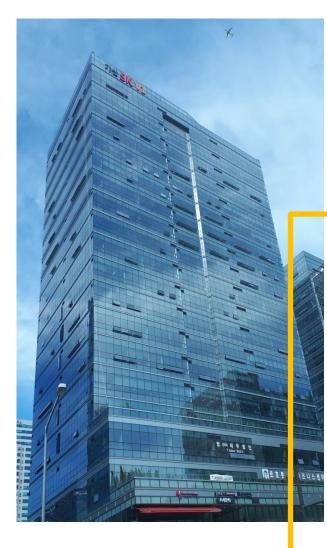


OVERVIEW

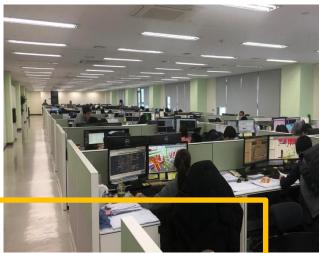


1		
Ŷ	2023.	Sep. Awarded as an Outstanding Job-Creating Company
		Jun. Awarded the Silver Tower Order of Industrial Service
		Jan. Established GLOTEC USA Inc. in Atlanta, USA
þ	2022.	Jan. Registered at KEEA for Elec. Power Design License
þ	2021.	Sep. Certified as a Management Innovation SMEs
\rightarrow	2020.	Jun. Registered at Construction Technical Consultancy License
		Jun. Registered at Architects of KE&CA
		Api. Registered at Firefighting Supervision License
\rightarrow	2019.	Jun. Joined to Korea Plant Industries Association (KOPIA)
		Jun. Certified as a Global Leading Company from KICOX
þ	2018.	Sep. Renewal of Registered ISO 9001: 2015 Certification
		Sep. Moved office to SK V1 Center, Gasan-dong, Seoul
Ŷ	2012.	Aug. Established the affiliated research institute
þ	2011.	Mar. Registered at the International Contractors Association of Korea
Ŷ	2009.	Dec. Obtained ISO 9001: 2009 Certification
Ŷ	2008.	Dec. Registered at the Korea Engineering & Consulting Association (Comply with Engineering & construction law and regulation)
		May Moved office to JEI PRAZE Building, Gasan-dong, Seoul
		Feb. Company name changed to Glotec Engineering Co. Ltd.,
Ō	2003.	Mar. Founded as Plantech ENG corporation
SINCE		4









Head Office

12~14th Floor, Gasan SK V1 Center

171, Gasan Digital 1-ro, Geumcheon-gu, Seoul, Korea

TEL: 82-2-6345-7000, FAX: 82-2-6345-7020

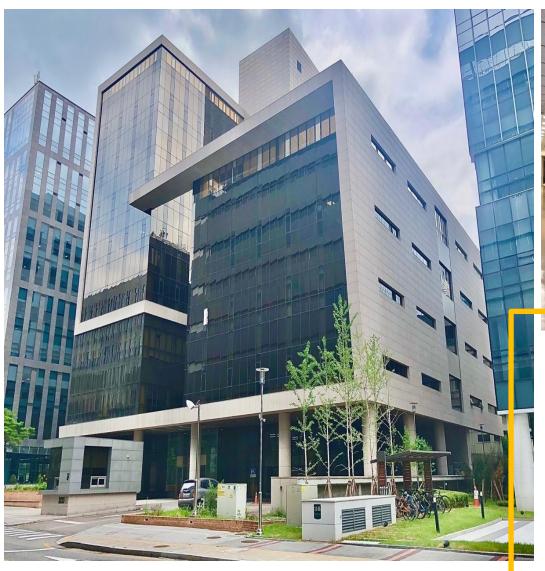
WEB: www.gteng.co.kr

EMAIL: gteng@gteng.co.kr

• 8,170 M² (87,940 square feet) 530 Desks, 13 Meeting Rooms

• Number of Employees: 595 Persons (include 19 staff)







GLOTEC Digital Center

1745-1, Gwanyang-dong Dongan-gu,

Anyang-si, Gyeonggi-do, Korea

1~10 Floors, Glotec Digital Center Bldg.,

TEL: +82-2-6244-8315

• Total Floor Area: 16,060 M2







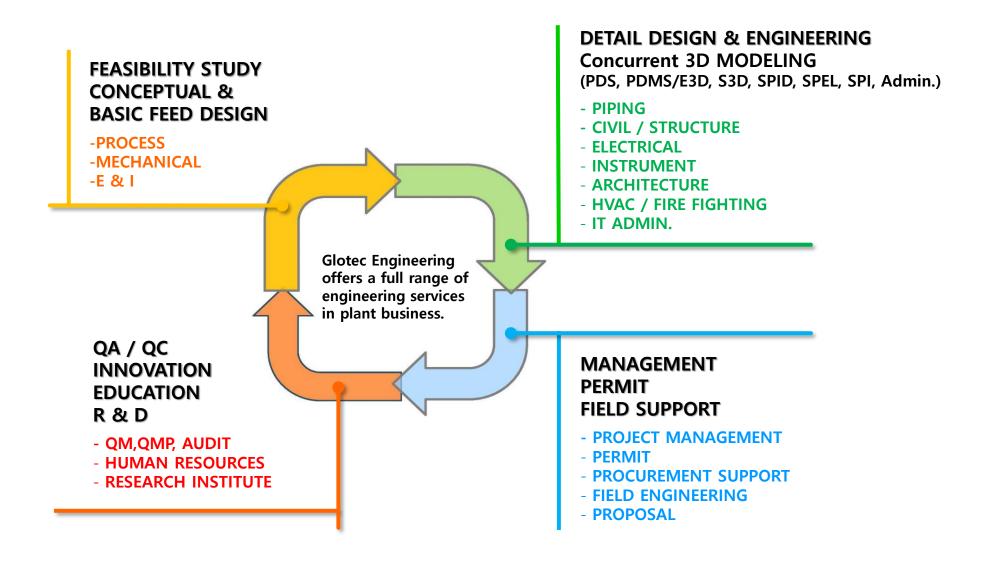


GLOTEC Engineering USA Inc.

- Tennessee Head Office :
 5810, Shelby Oaks Drive Memphis, TN 38134, USA
- Kentucky Branch Office :
 123 Webster Rdg Ct Vine Grove, KY 40175, USA
- Georgia Branch Office :
 1180 Satellite BLVD NW, STE 200, Suwanee, GA 30024, USA
 TEL: 470-915-0188

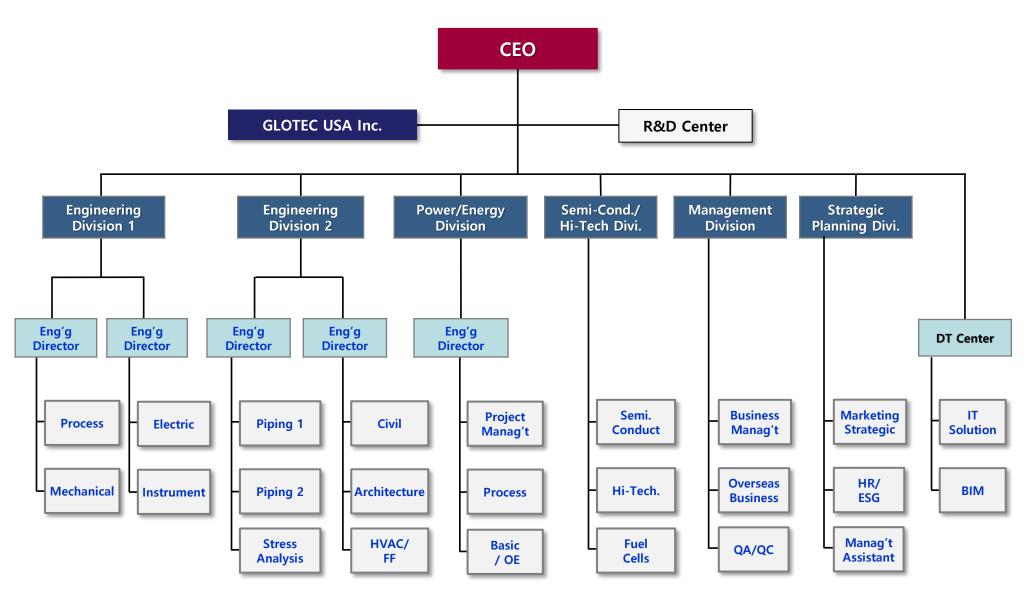


ROLE AND RESPONSIBILITY





조 직(ORGANIZATION)



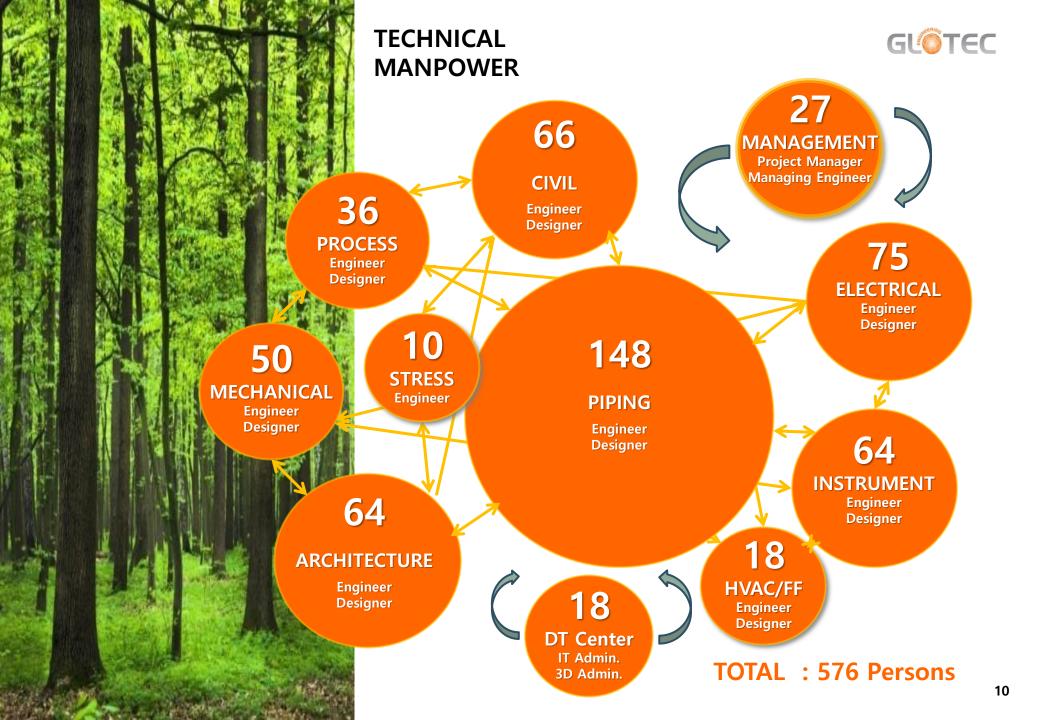
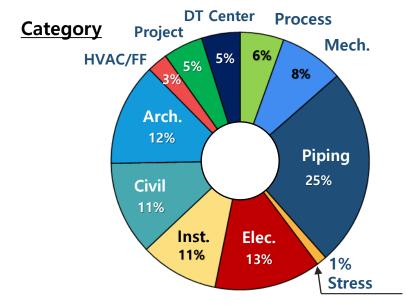


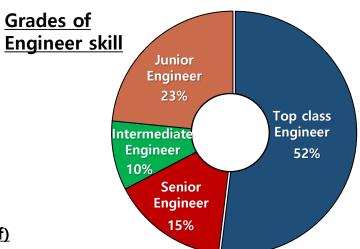


TABLE: TECHNICAL MANPOWER



Category	Top class Engineer	Senior Engineer	Intermediate Engineer	Junior Engineer	Total (P)
Process	13	5	4	14	36
Mechanical	37	5	1	7	50
Piping	75	32	19	22	148
Stress	5	1	2	2	10
Electrical	30	7	9	29	75
Instrument	33	14	6	11	64
Civil	43	11	3	9	66
Architecture	33	8	3	20	64
HVAC & F/F	4	1	1	12	18
Project Management	20	2	1	4	27
DT Center	6	3	4	5	18
Total	299	89	53	135	576

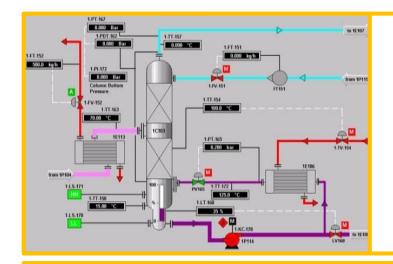




Total 595 (Include 19 Staff)



ENGINEERING ACTIVITIES



PROCESS

- Feasibility study, Conceptual, Basic & FEED Design and Engineering
- PFD and P&ID for Process and Utility
- Development & Update
 - P&ID, Piping line index, Tie-in list, Vendor data, Piping & Instrument Process Data Sheet (include Mech. etc.,)
 - HAZOP Review and SIL Study
- Provide the intelligent P&ID (SPPID)

MECHANICAL (Static & Rotating)

- Engineering drawings include calculation
- Detail design of Rotating, Stationary & Package Equipment
 - Vessels, Storage Tanks, Heat exchangers and Pumps etc.,
- Procurement services
 - Equipment data sheets
 - Material requisition (RFQ)
 - Technical clarification & Bid evaluation (TBE)
 - Review & approval of Vendor prints
 - Expediting and Schedule control
- Assistance on Fire Fighting & HVAC equipment design

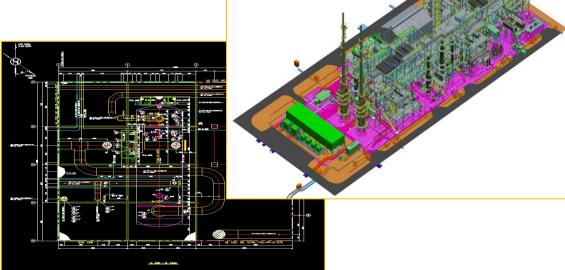






PIPING

- Plot plan
- Equipment location plan with routing study
- Provide the General Arrangement Drawing (GAD)
- Design the Piping plans & elevations
- Procurement service for Piping materials (MR,TBE)
- Piping support drawing and piping material handling
- Piping detail drawing and information for all disciplines
- 3D Modeling with PDS, PDMS, S3D, BIM including all Equipment
- Extract Plot Plan, ELP, GAD & ISO drawing and BM take off
- Perform the Stress analysis
- Field engineering







ELECTRICAL

- General & Specification
 - Engineering supervision & coordination
 - Electrical equipment specification
 - Electrical equipment data sheet
- Procurement service works
 - MR/TBE/PS for electrical items
 - Review and approval vendor print
- System calculation
 - Short circuit calculation
 - Load flow and voltage drop studies
 - Large motor starting study
 - Protective relay coordination
- Design & preparation of electrical drawings
 - Single line & schematic diagrams
 - Hazardous area classification
 - Power lighting, grounding layout
 - Fire alarm & telecommunication layout
 - Load analysis / cable schedule
 - 3D Modeling (PDS, PDMS, S3D, BIM, SPEL etc.,) .,)
- Field Engineering



INSTRUMENT

- General & Specification
 - Engineering supervision & coordination
 - Instrument specification
 - Instrument data sheets
 - Engineering study & review
 - Control system design
- Procurement service works
 - MR/TBE/PS for instrument items
 - Review and approval vendor print
- Provide the instrument detailed designs
 - Instrument index
 - Instrument logic, loop & junction box wiring diagram
 - Instrument signal wiring & cable tray layout
 - 3D Modeling (PDS, PDMS, S3D, BIM, SPI etc.,)
- Field Engineering







CIVIL / STRUCTURE

- Site preparation
- Drainage , Road & Paving
- Pipe Rack Structure design
- Equip. Structure w/ FDN. design
- Dynamic loaded foundation design
- Basin & Pond structure design
- Pile system and Soil retaining structure design
- 3D Modeling (PDS, PDMS, S3D, BIM, Tekla etc.,)
- Equipment foundation design with calculation
- Shop fabrication drawing review
- Field Engineering

ARCHITECTURE

- Engineering for Offices, Warehouses, Control buildings,
 Substations and Guard houses, etc. in oil & gas plants
- Engineering for FAB, CUB, Warehouses and WWT buildings etc. in semiconductor & industrial plant
- Engineering for Turbine buildings, pump house, etc. in power plant
- Calculation and Analysis for Arch. engineering
- Construction work supervision
- Domestic project permits and reporting
- 3D Modeling (PDS, PDMS, S3D, BIM etc.,)
- Field Engineering





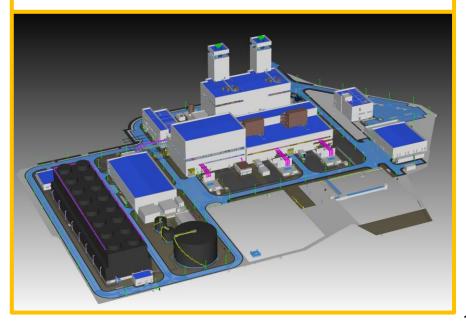


HVAC · Fire Fighting

- Specification & Data Sheet
- HVAC, F/F & Plumbing Equipment schedule
- HVAC, F/F & Plumbing Flow Diagram
- Layout Plan & Piping Design
- HVAC, F/F & Plumbing Control System
- Bill of Materials
- Calculations
- 3D Modeling (PDS, PDMS, S3D, BIM, etc.,)
- Permits for Fire Fighting
- Procurement Support (MR, TBE)

POWER & ENERGY

- Proposal, Basic Design & Environment Impact Assessment
- Process & Mechanical Design Criteria , Engineering Detail
 Schedule & PFD (Heat & Water Balance)
- MR, TBE, Technical Specification and Procurement Support
- Engineering & Design for GTG, HRSG, GOV, WT and WWT, Aux. Buildings, Vendor Package etc.,
- Field Engineering & Construction work supervision
- Project permits and reporting
- 3D Modeling (PDS, PDMS, S3D, BIM, etc.,)

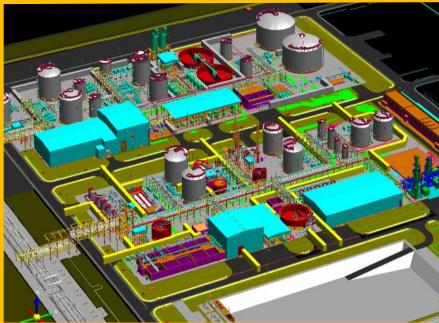




DT CENTER

- Assist for Concurrent 3D (PDS,PDMS,S3D,BIM) Operation
 - ✓ Smart Plant Suite (SP3D, SPPID, SPI, SPEL, Admin.)
 - ✓ 2D Extraction Set up (Plot Plan, ELP, GAD etc.,)
 - ✓ Isogen. Set up & Trouble shooting
 - ✓ Clash Report & Data Back up
 - ✓ MTO Extraction Set up
 - ✓ 3D Model Review Set up (SPR, Navisworks)
 - ✓ Tekla program (Steel Structure) Back up
- Software & Hardware System & License Management
- D/B Server Set up
- BIM Admin.
- Drawing Format Set up
- Support for Vendor Package 3D Model Import
- Assistance on As-Built 3D Model Issue



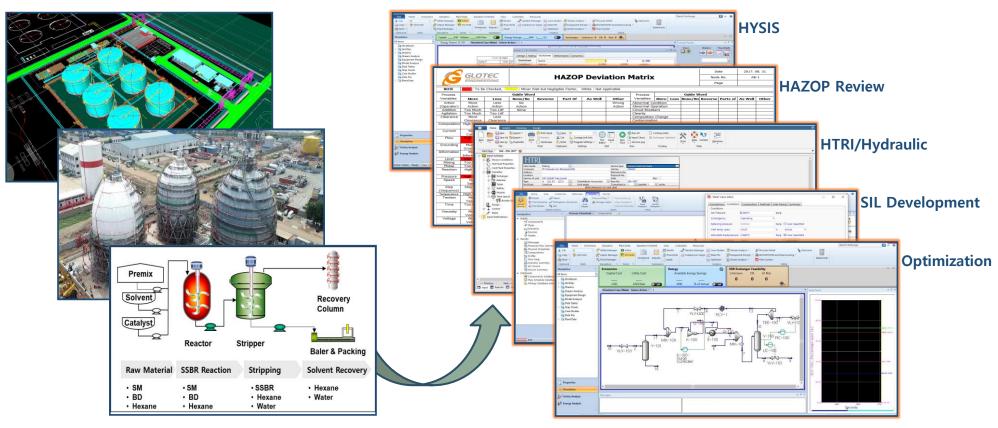




CORE TECHNOLOGY I

Basic Engineering

The expert engineers at GLOTEC Engineering have a diverse range of experience and technical skills in refinery, petrochemical, and fine chemicals. We utilize Steady-Status & Dynamic Simulations to perform design and engineering works, and we offer total engineering solutions to clients, from Basic engineering, Feasibility studies and FEED (Front-end engineering design) to Detail design that prioritizes safety and optimization.

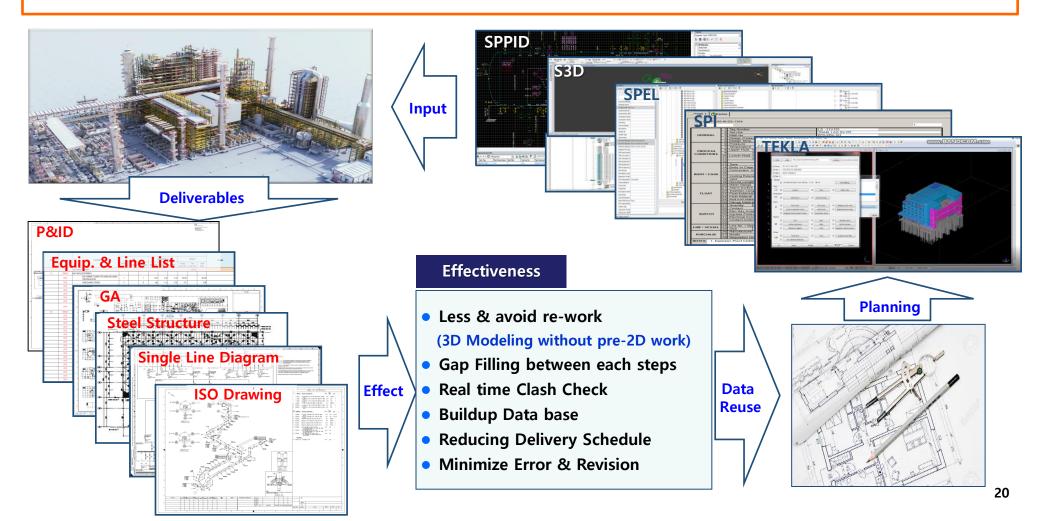




CORE TECHNOLOGY II

Concurrent 3D Technology

Glotec Engineering performs concurrent 3D design using Smart 3D technology, which goes beyond existing solutions such as PDS and PDMS(E3D). To maximize reliability and efficiency, all deliverables are produced using SPPID, S3D, SPEL, SPI and TEKLA, which share data through DT solutions.





CORE TECHNOLOGY III

BIM – Building Information Modeling Technology

Glotec Engineering specializes in plant design utilizing BIM technology in the high-tech industries such as semi-conductor and fuel cells. With optimized IT administration support, we apply BIM for design, procurement and construction to ensure customer satisfaction.



Power Plant

- Architecture
- Building

Application of BIM Function

- Schedule Management
- Buildup Admin.
- QA/QC : Minimize Design Errors
- SPEC. & Module design
- Field Support & Asist



- Development & Application of BIM Admin.
 (Family Construction, Library, Specification D/B)
- Clash Check & Close out
- Project Schedule compression
- ❖ MTO Extraction
- 2D Drawing Format Set up & Extraction
- **❖** Field Construction Assistance

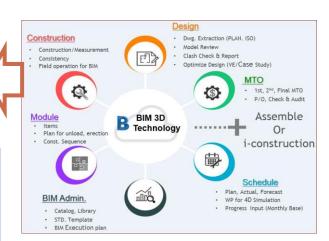
Paju Fuel Cell

Fuel Cells

- Civil, Architecture
- Piping, E&I, HVAC

Hi- Tech

- Civil, Structure
- Piping, E&I, HVAC



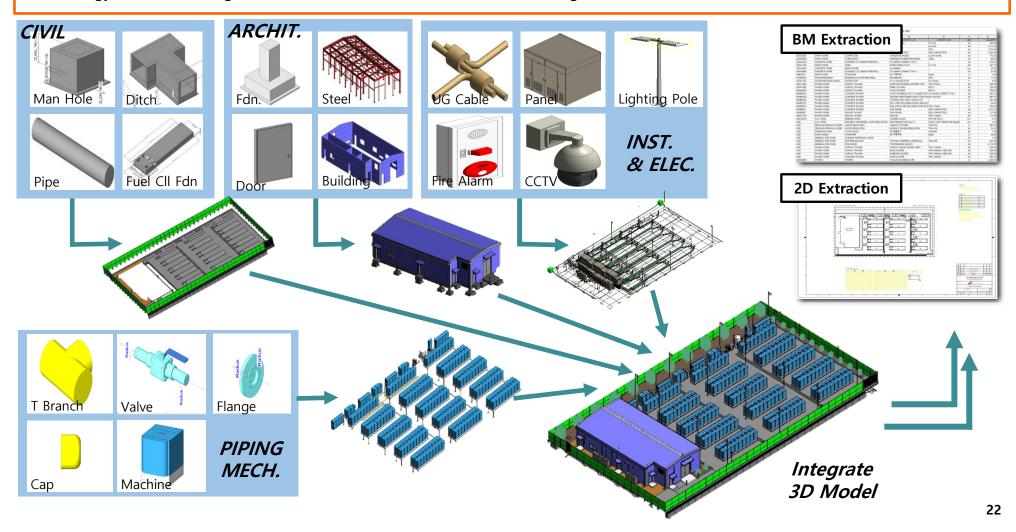




CORE TECHNOLOGY III

BIM – Building Information Modeling Technology

Glotec Engineering has developed an exclusive BIM administration technology. To achieve more efficient design, we apply this technology to 3D modeling for automatic material takeoff and 2D drawing extraction.

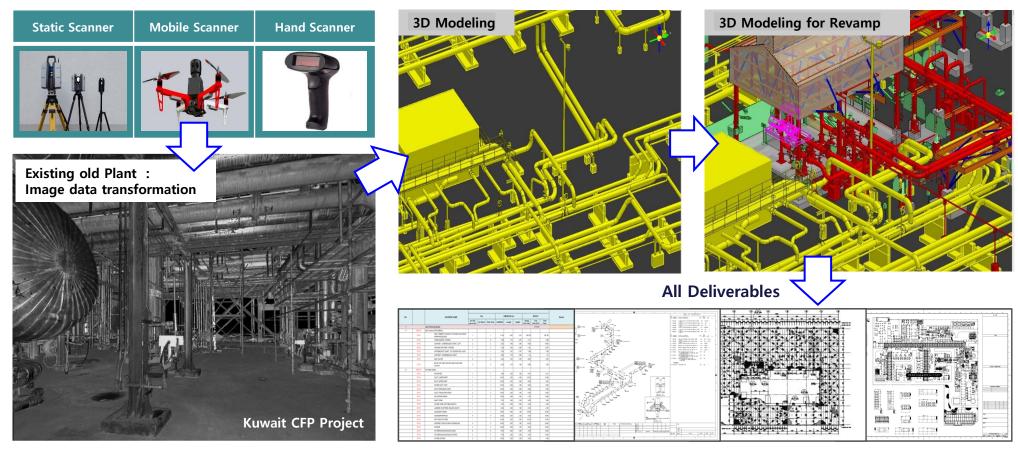




CORE TECHNOLOGY IV

Reverse Engineering using Laser Scanning Technology

The existing old plant has many difficulties with maintenance, repair and extension due to an insufficient document management system that resulted in a lack of relevant drawings and data. Glotec Engineering is now able to address customer demand by offering reverse engineering through image data transformation and 3D modeling, which utilizes laser scanning technology.

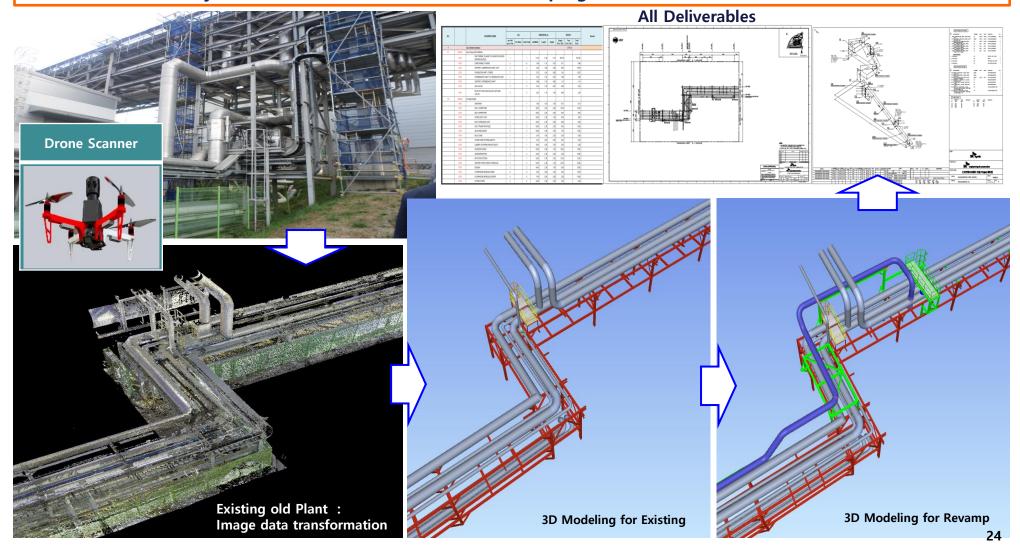




CORE TECHNOLOGY IV

Reverse Engineering using Laser Scanning Technology

► Icheon CCPP Project / OSBL Process Steam Line Revamping





CORE TECHNOLOGY V

Modularization Design

Through our 3D modeling ability, we apply modularization design to oil and gas, power, and energy plants. This improves constructability, project schedule, and purchase order(P/O) for long delivery equipment, resulting in cost savings and shared project risk.

				Remarks						
	For	rt Hills S	uncor Pr	Modules (PAU 74, PAR 41)						
Exp. Project	INEOS PDH Project, Belgium (Jul. '19~Nov. '20)							Modules (PAU 12, PAR 32)		
	Lot	tte LINE	Project,	Module (PAR 59)						
Exp. Experts (Person)		Steel 11	Piping 21	Mech.	E&I	PM 4	Total 52	Experts T/F Team in operation		
	1. Basic Concept : Module Plan (Sizing)							PAR, PAU		
Design ability	2. Detail Design: - Module Lay out & Configuration - SP3D Modeling (Inc. Analysis) - Shop Dwg. Extraction						Module Lay out & Configuration P3D Modeling (Inc. Analysis) All discipling			
	3. Field Installation Support						COG, Inspection, Test, etc.,			





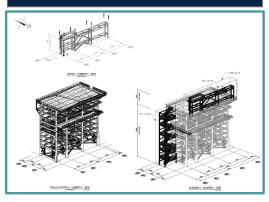


Modularization Design

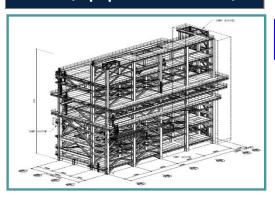
Applicable Modularization

- Process Unit & Package (PAU)
- Main Pipe Rack (PAR)

PAR (Piperack)



PAU (Equipment Structure)



Key Activities

Module design

PIPING

- Modularization Planning
- PAR, PAU Layout
- Temporary Support

STRUCTURE

- · Dynamic Analysis
- COG design for SPMT
- Brace Member Connection

E & I

- Cable Tray (Temp. Support)
- Lighting Pole support
- Fixed Support List
- In-Line Instrument List
- Junction Box
- Wiring installation

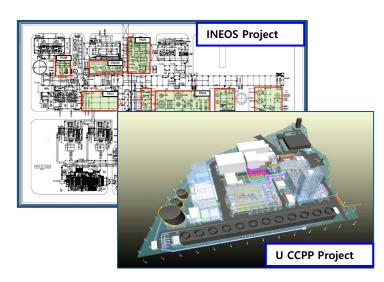
Fab.,/Transport./Installation

- SPMT Planning
- Land & Sea Transportation
- Packing & Fastening
- Site Stock
- Test & Inspection
- Erection



- ◆ Target Goal
- Project Cost Saving
- Project Schedule Control
- Standardization (Design, Const.)
- Early P/O for Long Delivery Items
- Minimize Construction Risk



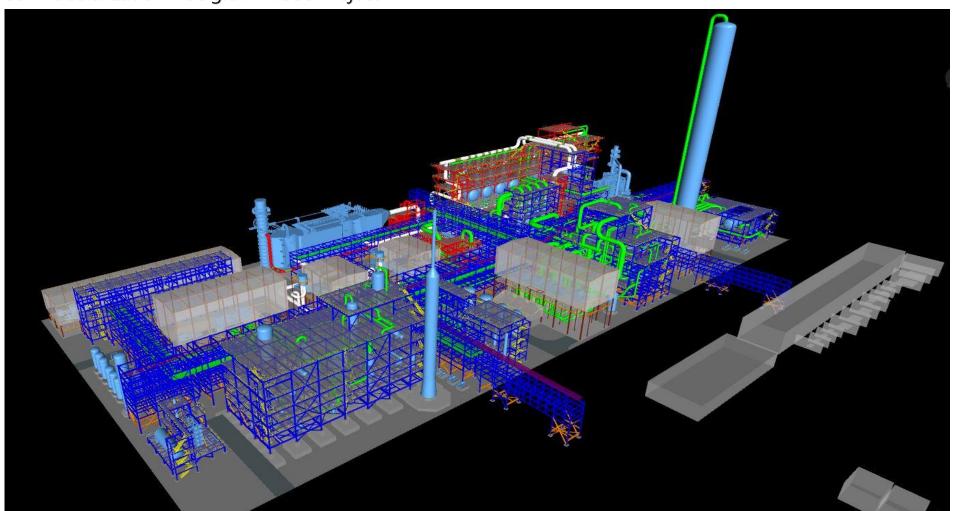


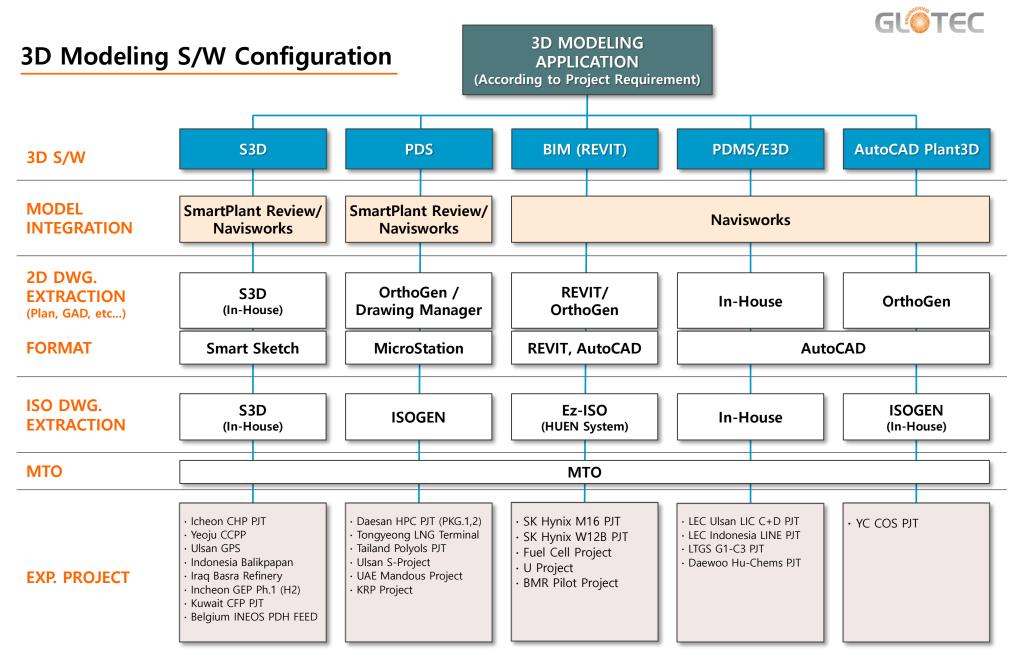


CORE TECHNOLOGY V

Modularization Design

3D Modularization – Belgium INEOS Project







BUSINESS

Extensive precision and technology

Glotec Engineering has established a competitive technology in the oil refining, gas processing, petrochemical and industrial plant engineering. It is also delivering top qualified services to our clients ranging from full basic and detail design to procurement and field engineering support.

Oil and Gas

Refineries Oil and Gas Processing Petrochemicals Liquefied Natural Gas (LNG)

Power Plant

Coal-fired Generation Plant Cogeneration Plant Renewable Energy Plant

Industrial Plant

Semiconductor Plant Electronic Plant General Industrial Plant

Major Experienced Project Summary



NO	Category	Contractor	Business Sector	Project Name	Location	Client	Period
1	Full Range*	HDEC	Petrochemical	S-Oil Shaheen PKG#1 SCC Project	Korea	ARAMCO (S-Oil)	2023.03 ~ 2026.06
2	Full Range*	Lotte E&C	Petrochemical	Yeosu G1-C3 Project	Korea	롯데GS화학	2022.06 ~ 2024.09
3	Full Range*	DAEWOO E&C	Petrochemical	Yeosu TKG Huchems 6NA/2MNB Project	Korea	TKG Huchems	2022.04 ~ 2024.06
4	Inst./Elec	DL E&C	Petrochemical	Baltic PE, LAO Project	Russia	CNCEC	2022.01 ~ 2025.01
5	Full Range*	SK ecoengineering	Petrochemical	Boryeong GEP2 Hydrogen FEED Project	Korea	SK E&S	2021.12 ~ 2022.06
6	Full Range*	Lotte E&C	Petrochemical	LOTTE LINE Project	Indonesia	Lotte Chemical	2021.11 ~ 2024.02
7	Full Range*	Wonik Material	Petrochemical	YC O-Chang COS Project	Korea	Wonik Material	2021.08 ~ 2021.12
8	Full Range*	SK ecoplant	Power Plant	Daewon Fuel cells Power Plant(19.8MW)	Korea	Daewon Green Energy	2021.02 ~ 2021.12
9	Full Range*	SK ecoplant	Petrochemical (H2)	Incheon GEP 1 H2 Feed / Detail	Korea	IGE	2021.04 ~ 2021.07
10	Full Range*	SK ecoplant	Power Plant	Ulsan GPS CCPP Power (1,200MW)	Korea	Ulsan GPS	2021.03 ~ 2022.08
11	Full Range*	KOGAS_Tech	LNG	Tongyoung LNG Terminal	Korea	TEP/Hanwha	2021.04 ~ 2024.03
12	Full Range*	Lotte E&C	Petrochemical	Lotte BP C+D Project	Korea	Lotte BP Chem.	2021.02 ~ 2022.10
13	Electric	Hyundai E&C	Refinery	Iraq Barsrah Refinery Upgrading	Iraq	South Refineries Company (SRC)	2021.02 ~ 2023.05
14	Full Range*	SK ecoplant	Industrial	BMR Pilot Plant (Battery Recycle)	Korea	SK Innovation	2020.12 ~ 2021.12
15	Full Range*	SK Energy	Petrochemical	Ulsan, IPA (Iso Propyl Alcohol) FEED	Korea	SKGC	2020.12 ~ 2021.04
16	Full Range	Wonil T&I	Petrochemical	Pyeongteak H2 Supply	Korea	KOGAS	2020.09 ~ 2021.12
17	Full Range*	SK materials	Industrial	Sejong P Project	Korea	SK MR	2020.08 ~ 2021.05

^{*} NOTE: Full range of Design and Engineering service in all disciplines such a Process, Mechanical, Piping, E&I, CSA, HVAC and Fire fighting etc.,

Major Experienced Project Summary



NO	Category	Contractor	Business Sector	Project Name	Location	Client	Period
18	Full Range*	SK ecoplant	Petrochemical	Bukhara Refinery Modernization	Uzbekistan	UOC	2020.08 ~ 2021.05
19	Full Range*	SK ecoplant	Industrial	Icheon M16 Ph-2 W12b Project	Korea	SK Hynix	2020.08 ~ 2022.10
20	Full Range*	SK ecoplant	LNG	Icheon SK Hynix UG LNG Supply	Korea	SK Hynix	2020.06 ~ 2022.10
21	Full Range*	SK ecoplant	Petrochemical	AGIC PDH & complex U&O FEED	Saudi	SK ecoplant	2020.04 ~ 2020.07
22	Full Range*	SK ecoplant	Power Plant	Paju Fuel cells Power Plant(8.1MW)	Korea	Paju Ecoenergy	2020.03 ~ 2020.12
23	DT	SK ecoplant	Power Plant	Yeoju LNG Power (1,000MW, CCPP)	Korea	SK Hynix	2020.01 ~ 2022.08
24	Mech.	Samsung Eng'g	Petrochemical	Sarawak Methanol Project	Malaysia	Sarawak, Malay	2019.12 ~ 2020.03
25	Full Range*	SK ecoplant	Combined Heat Power Plant	Icheon Smart Energy (570MW, CHP)	Korea	SK Hynix	2019.11 ~ 2022.08
26	Full Range*	Lotte E&C	Petrochemical	HPC Project / HDPE & Tankage unit	Daesan, Korea	Hyundai Chem.	2019.07 ~ 2021.12
27	Piping	Hyundai Engʻg	Petrochemical	HPC Project / ECU & DFU unit	Daesan, Korea	Hyundai Chem.	2019.07 ~ 2021.12
28	Full Range*	SK ecoplant	Petrochemical	INEOS PDH FEED Project	Belgium	INEOS	2019.07 ~ 2020.11
29	Process Stress	Hyundai E&C	Petrochemical	Marjan Increment PKG 6	Saudi Arabia	ARAMCO	2019.07 ~ 2022.10
30	Full Range*	SKE / HEC	Refinery	RDMP RU-V Balikpapan Project	Indonesia	PT PERTAMINA	2019.04 ~ 2023.07
31	Piping,Elec., Inst. Civil	SK ecoplant	Revamping	MARS Proposal Project	Thai, Rayong	IRPC	2019.02 ~ 2019.04
32	Full Range*	SK ecoplant	Refinery	Ulsan S - Project	Korea	SK Energy	2018.11 ~ 2020.04
33	Full Range*	SK Innovation	Lithium-ion battery Separator	Jiang-su LIBS Ph-1 Project	China	SK Innovation	2018.10 ~ 2020.12
34	Full Range*	SK ecoplant	Crude Oil Cavern & Pipeline	ADNOC-Mandous Project	UAE	ADNOC	2018.07 ~ 2022.01

^{*} NOTE: Full range of Design and Engineering service in all disciplines such a Process, Mechanical, Piping, E&I, CSA, HVAC and Fire fighting etc.,

Major Experienced Project Summary



NO	Category	Contractor	Business Sector	Project Name	Location	Client	Period
35	Full Range*	SK ecoplant	Petrochemical (PP)	PPTGC Polyols Project	Thai, Rayong	Global Chemical	2018.02 ~ 2020.08
36	Full Range*	SK Innovation	Industrial	LIBS #12,13 PROJECT	Korea	SK Innovation	2018.01 ~ 2019.12
37	Full Range*	LG Chemical	Revamping	Daesan ATS BRU Revamping Project	Korea	LG Chemical	2018.07 ~ 2019.07
38	Full Range*	SK ecoplant	Industrial	Wuxi Hynix Project	Wuxi, China	SK Hynix	2017.01 ~ 2019.01
39	Full Range*	SK ecoplant	Industrial	Jungpyeong LIBS #10, 11 Project	Korea	SK Innovation	2016.08 ~ 2017.12
40	Full Range*	Hyundai Oil bank	Refinery	Daesan Hyundai Oil bank Tank Plant	Korea	Hyundai Oil bank	2016.06 ~ 2019.02
41	Elec. & Inst.	Hyundai Heavy Industrial	Refinery	KIPIC AL-ZOR Project	Kuwait	KNPC	2016.01 ~ 2019.06
42	Full Range*	G-TEC	Gas Terminal	Ghana LPG Gas Terminal Project	Ghana, Africa	Ghana Accra	2015.05 ~ 2020.03
43	Full Range*	SK ecoplant	Refinery	CFP Project	Kuwait	KNPC	2014.07 ~ 2020.12
44	Full Range*	SK ecoplant	Refinery including WWT, Power Plant	KARBALA Refinery Project	Iraq	SCOP	2014.06 ~ 2021.12
45	Full Range*	SK ecoplant	Gas Plant	Ulsan P- Project (PDH)	Korea	SK Gas	2014.01 ~ 2017.11
46	Full Range*	SK ecoplant	Refinery Inc. Power Plant	NSRP Complex Project	Vietnam	NSRP	2013.08 ~ 2016.12
47	Full Range*	SK ecoplant	Petrochemical	V Project (Aromatics_ ISBL, OSBL)	Korea	SK Energy	2012.04 ~ 2014.04
48	Full Range*	SK ecoplant	Petrochemical	Ulsan New PX Project (ISBL, OSBL)	Korea	SK Energy	2012.09 ~ 2014.10
49	Full Range*	Daewoo E&C	Gas Plant	HOUT Onshore Gas Project	Saudi Arabia	KJO (Aramco & KNPC)	2012.05 ~ 2014.03

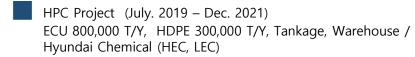
^{*} NOTE : Full range of Design and Engineering service in all disciplines such a Process, Mechanical, Piping, E&I, CSA, HVAC and Fire fighting etc.,



OIL & GAS

Since Glotec Engineering first entered the oil and gas industry in 2003, we have completed more than 100 projects worldwide and have grown into a full-service of engineering company.

Glotec Engineering has achieved success in petrochemical plant engineering by completing various kinds of largescale projects, ranging from basic and detail design to field engineering support.



- RDMP RU-V Balikpapan Project (Apr. 2019 Jul. 2023) RFCC 90 kBSD, Indonesia/PT PERTAMINA (SKEC)
- ADNOC M-Project (Dec. 2017 Sep. 2019) Crude oil Cavern, 14,000Mbbl x 3ea, Fujairah, UAE / ADNOC(SKEC)
- S Project (Sep. 2017 Jun. 2019) VRDS 30,000 B/D, Ulsan, Korea / SKE(SKEC)
- 2 ATS Project (Jun. 2018 Jul. 2019) Butadiene Rubber Revamping, Daesan, Korea / LG Chemical
- Polyols Project (Oct. 2017 Apr. 2019)

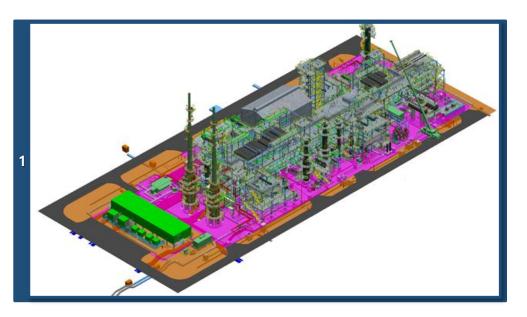
 PPTGC Petrochemical, 130,000 T/y, Thailand/ PPTGC(SKEC)















- Al-Zor Refinery Project (Jan. 2016 Jun. 2019)
 Detail for Electric & Instrument, Kuwait / KNPC(HHI)
- 1 CFP Refinery Project (Jul. 2014 Dec. 2017) Clean Fuels Refining, Kuwait / KNPC (SKEC)
- P (PDH) Project (Jan. 2014 Nov. 2015)
 Propylene 600,000ton, Ulsan, Korea / SK Gas(SKEC)
- NSRP complex Project (Aug. 2013 Dec. 2016)
 Aromatics and Utility, Nghi Son Refinery, Vietnam / SKEC & JGCS
- JZR & TP Project (Jun. 2012 Dec. 2017)
 J05 Process, J70 P/R, J77 Flare, Saudi Arabia / SKEC & ARAMCO





- IRPC UHV Project (Nov. 2012 Feb. 2014)
 Tankage and Utilities, Thailand / SKEC & IRPC
- V (V-4) Project (Oct. 2012 Jun. 2014) TAU, ORU, SUL process, Ulsan / POSCO ENG.
- New PX Plant Project (Sep. 2012 Mar. 2014)
 Para-Xylene 1,000Kmta, benzene 600Kmta, WWT, Ulsan / SKEC
- HOUT Onshore Gas Project (May. 2012 Mar. 2015) Gas process, Flare, Utility, Saudi Arabia / DW E&C
- V Project (Apr. 2012 Apr. 2014)
 ISBL, OSBL, Utility for Propane & Butane, Incheon / SK Energy(SKEC)
- WASIT Gas Plant (#1,3,4) Project (Feb. 2011 Mar. 2014) Gas Processing, Utility, WWT, Saudi Arabia/ Aramco(SKEC)







- LO Tank Terminal Project (Jan. 2011 Aug. 2012) Lube oil for UCO, LBO, HBO, NBO, Ulsan, Korea / SK Gas
- RRE (Area #1,2,3) Project (Jan. 2010 Apr. 2013)
 Ruwais refinery expansion, 417,000BPSD, UAE/ Takreer (SKEC)
- Jubail Export Refinery Project (Oct. 2009 Sep. 2012) Utility facilities, Saudi Arabia / SKEC & ARAMCO
- New FCC Project (Jun. 2006 May. 2008) Refinery 60,000 BPSD, Ulsan, Korea / SK Energy (SKEC)
- RPMAA Project (Jan. 2003 Oct. 2004)
 Gas gathering & Processing, Mina Al Ahmadi, Kuwait / KNPC(SKEC)

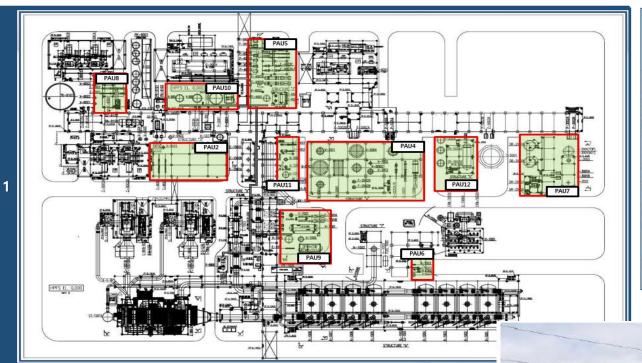








INEOS PDH FEED Project / Module (Jul. 2019 – Jun. 2020)
750KTA Propane Dehydrogenation Plant FEED, Module Design, Antwerp, Belgium / INEOS(SKEC)









POWER PLANT

Glotec Engineering has successfully conducted a CCPP power plant, incorporating gas turbine and steam turbine generation, power transmission and substation, as well as a renewable energy plant due to our high technical excellence.

- SK Hynix Smart Energy Center CHP Project (Feb.2020 Mar.2023) 570MW, 90Gcal (1+1+1) Combined Heat Power, Icheon, Korea / SKEC
- SK MU LNG Power Plant Project (Sep. 2022 Jun. 2025) 300MW,196Gcal (1+1+1) Combined Heat Power, Icheon, Korea / SKEC
- Ulsan GPS CCPP Power Plant Project (Nov. 2021 Aug. 2024) 1,226MW (2+2+1) Combined Cycle Power, Ulsan, Korea / SKEC
- KARBALA Power Plant Project (Jun. 2014 Apr. 2016) Power Generation 30+20MW, Iraq / SKEC & SCOP
- Chile Coal Power Project (Jun. 2008 Jul. 2011) 240Mw Coal Power Plant, Chile / HEC
- Hyundai Green Power Project (Oct. 2007 Dec. 2010) 400Mw(100Mwx4), Dang-jin, Korea / Daelim E&C
- LNG combined Power Plant Project (May. 2004 Oct. 2005) 1,070 Mw LNG, Gwang-yang, Korea / Daelim Energy





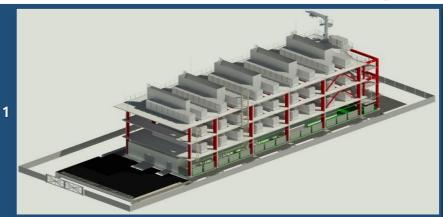




FUEL CELLS

GLOTEC Engineering not only executes numerous fuel cell projects based on advanced BIM technology, ensuring competitiveness, but also continues to grow as a leading engineering company through consistent participation in fuel cell business.

- Bundang Fuel Cell Power BIM Standardization (Sep.2019 ~ Dec.2019)
 8MW Fuel Cell (accumulatedata standardization), Pilot Modeling
- Paju Eco Energy Project (Feb. 2020 Oct. 2020)
 9.8MW Fuel Cell, Paju, Korea / SKEC
- Uiwang Fuel Cell Power Generation Project (Aug. 2020 Jun. 2021)
 9.9MW Fuel Cell, Uiwang, Korea / SKEC
- Honam Fuel Cell Power Generation Project (Sep. 2020 Sep. 2021)
 15MW Fuel Cell, Yeosu, Korea / SKEC
- Ulsan Daewon Green Energy Project (Oct. 2020 Aug. 2021) - 19.8MW Fuel Cell, Ulsan, Korea / SKEC
- Paju Eco Energy 2 Stage Project (Dec. 2020 ~ Nov. 2021)
 16.2MW Fuel Cell, Paju, Korea / SKEC





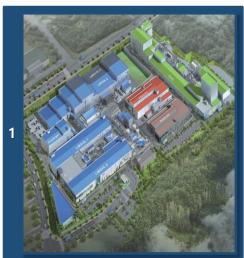




SEMICONDUCTOR & INDUSTRIAL

Glotec Engineering has carried out industrial plant projects that require high technologies involving semiconductors, lithium-ion battery separators, and ultra-pure water treatment facilities.

- 'M' China Ph-1 Project (Oct. 2018 Dec. 2020) Lithium-ion battery separator, China / SKI
- LiBS #12, 13 project (Aug. 2017 Jan. 2019) Lithium-ion battery separator, Jeung-pyeong, Korea / SKI
- 2 SK Hynix M15 Ph-2 Project (Aug. 2021 Dec. 2022) FAB & Wafer test C/R, UPW, PCW, WWT, Cheongju, Korea/SK Hynix(SKEP)
- LiBS #10, 11 project (Aug. 2016 Dec. 2017)
 Lithium-ion battery separator, Jeung-pyeong, Korea / SKEC
- SK Hynix M16 Ph-2 FAB project (May. 2020 Oct. 2022) FAB & Wafer test C/R, UT/OS, WWT, Icheon, Korea / SK Hynix (SKEP)









SEMICONDUCTOR & INDUSTRIAL

Wuxi hynix project (Jan. 2017 – Jan. 2019)

FAB, Utility facility, CUB, WWT/WT Shop, Clean room extension, Total floor space (new) : $294,990~M^2$ (29.49~ha),

Building area(new) : $93,660 \text{ M}^2$ (9.36 ha),

Wuxi, China / SK Hynix (SKEC)





SEMICONDUCTOR & INDUSTRIAL

SKMR R&D Center Project (Oct. 2020 – Aug. 2021)

DIW, IA, Scrubber, N2, Vacuum System, Clean Room, WWT Total floor space (new) : 8,560 M² Floor : A/G 5th Floor, U/G 1st Floor Sejong City, Korea / SK Materials





QUALITY AND VALUE MANAGEMENT



Certifications

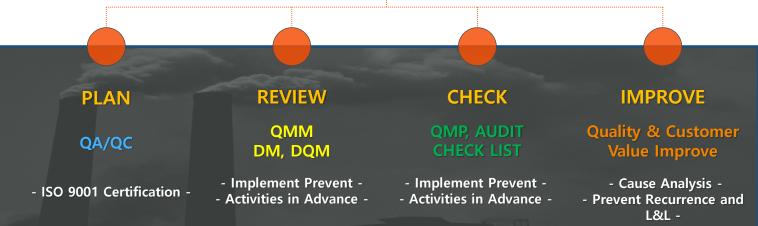
- ISO 9001 : 2015 /renewal
- Registered at International contractors association of Korea
- Registered at Korea engineering and consulting association

Glotec Engineering aims to enhance design quality and project management in order to minimize errors and maximize customer values.

Quality Control

Since 2009, Glotec Engineering has been certified for ISO 9001 quality management and implements faultless quality management and control assurance in all projects.

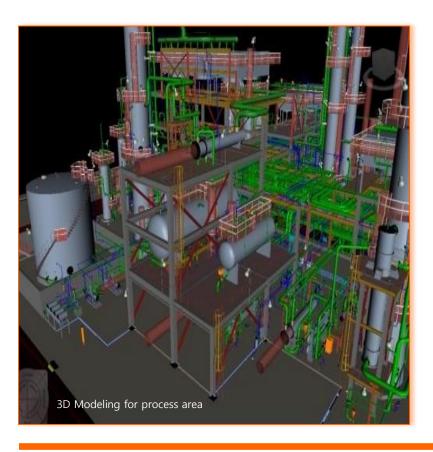
It strives to achieve zero-defect design by ensuring quality control at each step of the work process, and it provides field engineering support through a team of quality experts.





DESIGN SOFTWARE & TOOLS

Glotec Engineering provides optimal design and engineering tools, including the latest design software. We use up-to-date techniques such as concurrent 3D modeling for improved accuracy.



COMMON

AUTO CAD ADT Network Version PDMS, PDS/Micro-Station, SP-3D, BIM (RAVIT), SPR (Smart Plant Review)

PROCESS

ASPEN HYSYS: Process Simulation

HTRI: Thermal Rating

MECHANICAL

Compress: Tower / Vessel Strength calculation

B-JAC: Heat exchanger calculation

PIPING

CAESAR II : Piping Stress Analysis

EZ - ISO & GTX Image CAD

ELECTRICAL

SPEL: Smart Plant / Electrical

ETAP: Electrical transient analysis program

INSTRUMENT

Intools: Instrument data base & design

SPI : Smart Plant / Instrumentation

CIVIL STRUCTURE

SAP2000: Finite Element Analysis of Structures STADD Pro: Finite Element Analysis of Structures MIDAS GEN: Finite Element Analysis of Structures

InROAD: Site Grading

iAFES: Foundation Analysis PEDAS: Foundation Analysis

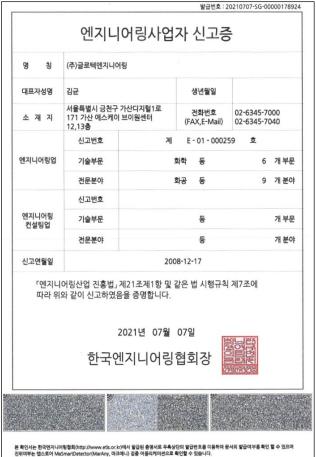
TEKLA: 3D Modeling



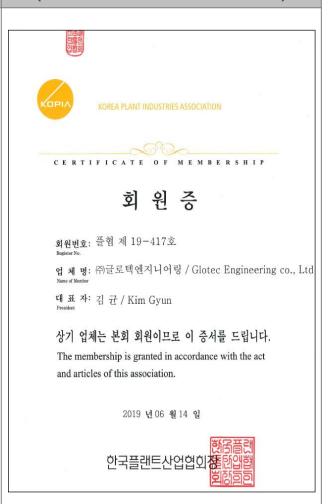
Business license



Declaration of engineering business



Certificate of membership (Korea Plant Industries Association)





[발급일자: 2018년 10월 31일]

Certification of international contractor

KS Q ISO 9001

Certificate of R&D center

■ 해외건설측진법 시행규칙 [별지 제3호서식] <개정 2014, 2, 14>

제 645 호 No. 645

해외건설업 신고확인증 (Certification of International Contractor)

상 호

(주)글로텍엔지니어링

(Name of Company)

대 표 자 :

(Name of Company Representative)

법 인 등 록 번 호 (생 년 월 일) : [110111-2733213]

[Corporation registration number(date of Birth)]

신 고 언 종 : (Type of Business) 건설엔지니어링업 (Engineering)

주된 사무소의 소재지 : 서울특별시 금천구 가산디지털1로 171, 12층13층

(가산동,가산에스케이브이원센터) (Address of Company)

(171 Gasan digital 1-ro, Geumcheon-gu, Seoul,

「해외건설촉진법」 제6조 제1항에 따라 해외건설업의 신고를 하였음을 증명

This is to certify that the above mentioned company is an enrolled international contractor in compliance with Clause 1 under Article 6

of Overseas Construction Promotion Act.

2011년 03월 11일

해외건설협회장

(Chairman of International Contractors Association of Korea)



해외건설업신고사항(상호, 대표자, 영업소소재지)이 변경된 경우 사유발생양로부터 30일이내 반드시 변경신고를 하시기 바랍니다.

210mmx29/mm [보존용지(1종) 120g/m²]



Seoul, Korea Tel +82.2.3397.0101

Fax +82.2.3397.0105

KQ 091243 2009-12-21 2024-12-20 Expiry date

IAF Code

2021-12-21 2021-12-17

Quality Management System Certificate KS Q ISO 9001:2015/ISO 9001:2015

We certify that the Quality Management System of the Organization:

Glotec Engineering Co., Ltd.

Is in compliance with the standard KS Q ISO 9001:2015/ISO 9001:2015 for the following products/services:

Design, development and engineering service of civil, building, plant(refinery, petrochemistry, general chemistry, power plant, environmental and industrial equipment) at overseas and domestic site and electrical works

General Manager Seung-Chan Lee

Maintenance of the certification is subject to continual surveillance audit and dependent upon the bservance of Kiwa Korea's certification criteria

Kiwa Korea Ltd. 411, SJ Technoville, 12-13 F. Gasan SK V1center, 171, Gasan digital 1-ro, Geumcheon-gu, Seoul, 278 Beotkkot-ro. Geumcheon-gu,





기업부설연구소 인정서

1. 연 구 소 명: (주)글로텍엔지니어링 R&D Center

[소속기업명: (주)글로텍엔지니어링]

2. 소 재 지: 서울특별시 금천구 가산디지털1로 171

1201호 = 1218호 (가산동) 회실 중 1218호 위치

3. 신고 연월일: 2018년 10월 29일 (최초인정일: 2012년 8월 17일

₩ 변경내역: 소재지 변경

[문서번호: vlpB-mmAN-OFCB-cYLy]

제 2012112475 호

과학기술정보통신부

「기초연구진흥 및 기술개발지원에 관한 법률」제14조의 2제1항 및 같은 법 시행령 제27조제1항에 따라 위와 같이 기업부설연구소로 인정합니다.



2018년 10월 30일



寒 한국산업기술진흥협회에서 발급되었으며 "http://www.RND.OR.KR"에서 "문서번호"를 입력하면 원본대조 및 유효성을 검증할 수 있습니다



Construction technical consultancy license

Certification of licensed architect

Firefighting supervision license



등록번호 : 서울-2-653호

건설기술용역업 등록증

상호 또는 법인명: (주)글로텍엔지니어링

서울특별시 금천구 가산디지털1로 171, 12층 영업소의 소재지: 1201~1218호, 13층 1301호~1318호(가산동. 가산 에

스케이 브이원 센터)

소속 국가 명: 대한민국

성 명 (대표자): 김균 생년월일: 19 1년 월 일

전문분야(세부분야): 설계·사업관리 (건설사업관리)

등 록 연 월 일: 2020년 6월 10일

「건설기술 진흥법」 제26조제1항에 따라 건설기술용역업자로 등록하였음을 증명합니다.

2020년 6월 10일

서 울 특 별



■ 건축사법 시행규칙[별지 제39호서식] 〈개정 2020. 6. 18〉

제 2022-금천구-엔지니어링사업자소속건축사-2 호

☑ 엔지니어링사업자 소속 건축사 신고확인증

□ 건설사업자 소속 건축사 신고확인증

상호 또는 명칭	(주)글로텍엔지니어림					
소재지	서울특별시 금천구 가산디지털1로 171 SKV1센터 12~13총					
신고인	성명	생년월일	19	년	월	일
(건축사)	황순태	자격번호		,	4 652	21章

☑ r 엔지니어링산업 진흥법, 제21조제1항에 따라 신고한 엔지니어링사업자

위 건축사는

□ 「 건설산업기본법」제2조제7호에 따른 건설사업자

에 소속한 건축사로서 「건축사법 시행규칙」제16조1항에 따라 신고를 하였음을 확인합니다.

2022년08월01일

서울특별시 금천구청장 연



제 2020-01-00060 호

소 방 시 설 업 등 록 증

종: 일반소방시설설계업(전기,기계)

상 호(명칭): 주식회사 글로텍엔지니어링

대 표 자: 김균 생년월일:19

영업소 소재지: 서울특별시 금천구 가산디지털1로 171 . 12층

1201호-1218호, 13층 1301호-1318호(가산동, 가

산 에스케이 브이원 센터)

「소방시설공사업법」제4조 제1항에 따라 소방시설설계업이

위와 같이 등록되었음을 증명합니다.

2020년 4월 17일



210mm× 297mm(보존용지(1종) 120g/nl)



License of Elec. Power Design & Engineering

Certification of Excellent ESG

Certified as a Main-Biz Company from Korean Ministry of SMEs

제 서울E-2-585호



설계업등록증

사 명 (주)글로텍엔지니어링

서울시 금천구 가산디지털1로 171, 12층, 13층

(가산동, 가산에스케이브이원센터)

법인등록번호 : 110111-2733213

설계업의종류 : 전문1종 설계업

○ 등록연월일 : 2022년 5월 20일

○ 영 업 범 위 : 전력시설물의 설계도서 작성

「전력기술관리법」제14조 제1항 같은 법 시행규칙 제25조 제3항에 따라 설계업 등록을 하였음을 증명합니다.

2022년 5월 20일

서울특별

NO 2022-137

Certificate of Excellent ESG



Company GLOTEC ENGINEERING CO.,LTD.

Representative Kim Gyun

Expiration August, 22, 2024



We hereby certify that the company named above is a SME(Small and Medium Enterprise) that fulfills corporate social responsibility of the global standard, based on the 2021 ESG implementation of examination conducted by KCCP(Korea Commission for Corporate Partnership).





제 210104-02110 호

경영혁신형 중소기업(Main-Biz) 확인서

업 체 명 : (주)글로텍엔지니어링

대표자명 : 김규

소 : 서울 금천구 가산디지털1로 171 소 : 1201-1218호 1301-1318호 (가산동)

유효기간: 2021.09.09 ~ 2024.09.08

위 업체는 경영혁신형 중소기업 육성사업에 의해 선정된 경영혁신형 중소기업(Main-Biz)임을 확인 합니다.



2021 년 09 월 09 일

중소벤처기업부





X Awarded as an outstanding job-creating company by the Korean Government





제 2023-16 호

대한민국 일자리 으뜸기업 인증서

기 업 명:(주)글로텍엔지니어링

법인등록번호: 110111-2733213

사업자등록번호: 108-81-59497

소 재 지:서울특별시 금천구 가산디지털1로 171

인 증 기 간:2023년 9월 4일 ~ 2026년 9월 3일

위 기업은 양질의 일자리 창출에 앞장선 우수한 기업으로 2023년 대한민국 일자리 으뜸기업으로 선정합니다.

2023년 9월 4일

고용노동부장



신용등급

BBB+

현금흐름등급

Watch 등급

정상

1023년04월09일 현재

주요주주(%)

59.6

김균

DNA PLUS

X Awarded the Silver Tower Order of Industrial Service Merit from Korean Government



X Company Credit Rating

발전에너지설계용역

총자산

매출성장율

68,206

69,136

59.916

31.5

-6.7

1.3

■ 주요 재무 현황 결산기준일

2022/12/31

2021/12/31

2020/12/31

결산기준일

2022/12/31

2021/12/31

2020/12/31

CREDIT RATING (주)글로텍엔지니어링 | 108-81-59497 | 김균 | ECC202304008653 🖷 기업정보 기업체명 (주)글로텍엔지니어링 (Glotec Engineering Co.,Ltd.) 110111-2733213 사업자등록번호 법인번호 (08503)서울특별시 금천구 가산디지털1로 171, 12층 1201호-1218호,13층 1301호-1318 본사주소 호(가산동) 대표자 김균 전화번호 02-6345-7015 산업분류 기타 엔지니어링 서비스업 설립일 2003년 03월 07일 재무결산일 2022년 12월 31일 보고서 최종수정일 2023년 04월 14일 신용등급 유효기간 2023년 04월 14일~2024년 04월 13일 ■ 신용등급이력 정기평가 하반기평가 결산기준일 평가일 평가일 현금호름등급 신용등급 현금흐름등급 신용등급 2022/12/31 2023/04/14 BBB+ 2021/12/31 2022/04/12 2022/08/31 2020/12/31 2021/04/12 BBB-2021/08/18 ▶주요 경영 현황 주요제품 경영정보 판매처(%) 에스케이에코플랜트 산업플랜트설계용역 중업원 549 명 에스케이에코엔지니 반도체설계용역 기업규모 어링

기업형태

자본금

외감

350 백만원

KEB하나은행 구로디지

주거래은행 (주)한국가스기술공사 ■ Report of E-Credible (2023)

롯데건설(주)

(주)대우건설

- Credit Rating: BBB+

- Watch Rating : Normal (Based on Apr. 9th, 2023)

54.1

59.3

X Great Culture Built with our Customers





We, Glotec Engineering, aim to cultivate a customer–centered corporate culture where we prioritize our customers and employees.

























































SUSTAINABLE GROWTH



Glotec engineering pursues sustainable growth through a strong corporate culture that values its customers and creates a great workplace and quality of life for all.







- Received the Presidential Commendation for Korea Engineering and Consulting Association (Oct. 2013)
- Received the Silver Tower Order of Industrial Service Merit from Korean government. (June. 2023)
- Technical Service (MOU) signing ceremony (July. 2020 Korea Gas Technology Corporation)



SUSTAINABLE GROWTH



- 1 An outdoor activity like a hiking to communicate closely. (April, 2010)
- 2 Strengthened the teamwork through the company track meet. (October, 2013)
- Promoted strong fellowship in the year-end party. (December, 2013)
- Event for the 15th anniversary of the founding. (May, 2018)







CHALLENGE AND ACHIEVEMENT

With our challenge, innovation and passion, we are creating a better world, better future.



