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#### INTRODUCTION

Since its establishment in 2003, GLOTEC Engineering has been delivering comprehensive engineering services, including feasibility studies, basic design, detail engineering, procurement support, and field engineering with supervising works. GLOTEC Engineering provides these services to address client needs of various industries such as Oil and Gas, Energy, Power generation, Semiconductor and Industrial plant business.

Especially we are actively responding to customer needs based on the advanced engineering technology such as Smart 3D Modeling, BIM 4D & 5D design, and Reverse engineering using laser scanner in the virtual spaces. GLOTEC Engineering will continue to step forward and provide excellent engineering solutions that ensure customer satisfaction and trust.



## OVERVIEW



<b>9</b>	2024.	Dec.	The Family-Friendly Certification by Minister of Korea	
Ŷ	2023.	Jun. Jan.	Received the Silver Tower Order of Industrial Service Merit. Established Glotec USA Inc. in Atlanta, USA	
¢	2022.	Jan.	Registered at KEEA for Elec. Power Design License	
<b>•</b>	2021.	Sep.	Certified as a Main-Biz Company from Korean Government	
Î	2020.	Jun. Jun. Api.	Registered at Construction Technical Consultancy License Registered at Architects of KE&CA Registered at Firefighting Supervision License	
¢	2019.	Jun. Jun.	Registered at the Plant Industries Association of Korea Certified as a Global Leading Company from KICOX	
<b>•</b>	2018.	Sep.	Moved office to SK V1 Center, Gasan-dong, Seoul	
<b>•</b>	2012.	Aug.	Established the affiliated research institute	
<b>¢</b>	2011.	Mar.	Registered at the International Contractors Association of Kor	ea
¢	2009.	Dec.	Obtained ISO 9001: 2009 Certification	
¢	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.,	
<b>0</b>	2003.	Mar.	Founded as Plantech ENG corporation	
SINCE				4







### Head Office

- 12~14<sup>th</sup> 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 : <u>www.gteng.co.kr</u>

- EMAIL : <u>gteng@gteng.co.kr</u>
- 8,170 M<sup>2</sup> (87,940 square feet)

600 Desks, 13 Meeting Rooms

• Number of Employees: 543













#### GLOTEC Engineering USA Inc.

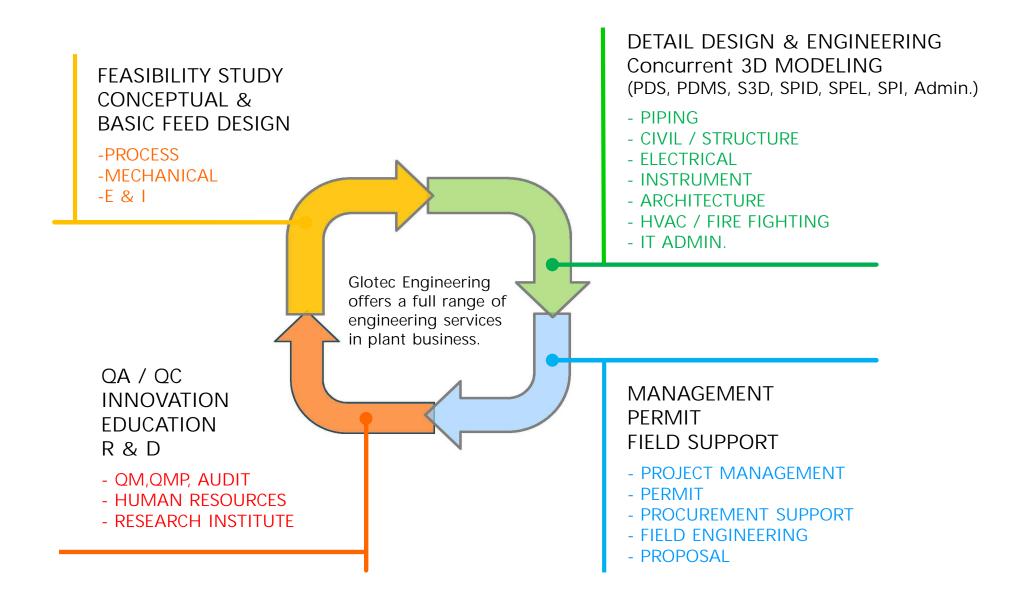
- Tennessee Head Office :
   5810, Shelby Oaks Drive Memphis, TN 38134, USA
- Kentucky Branch Office :

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

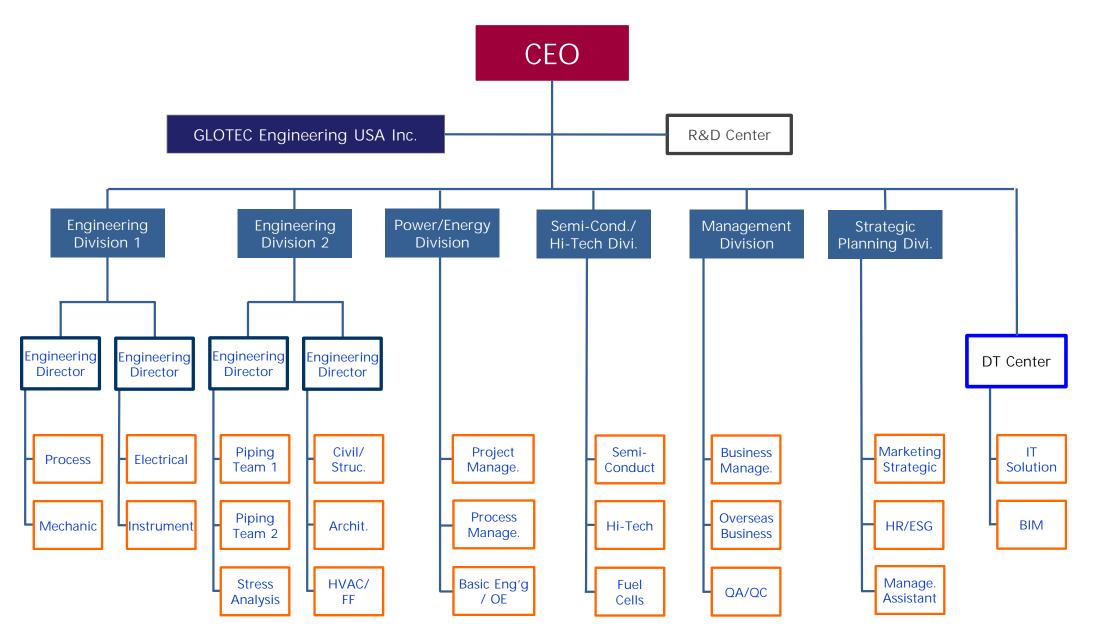


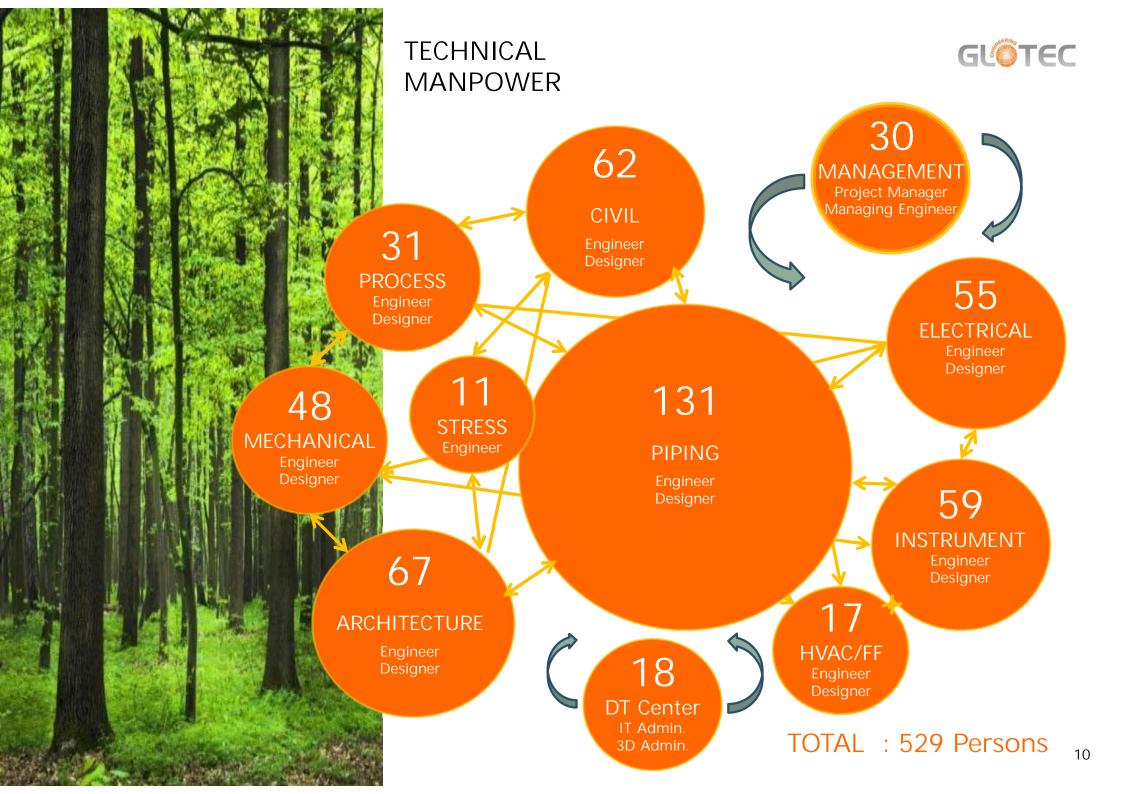
#### ROLE AND RESPONSIBILITY





### ORGANIZATION



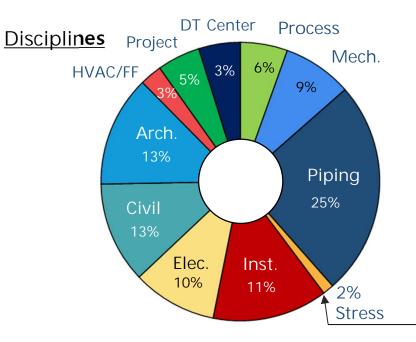


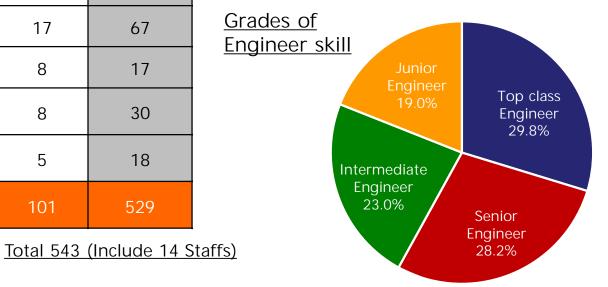


#### TABLE: TECHNICAL MANPOWER



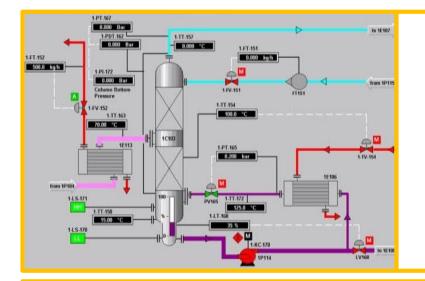
Category	Top class Engineer	Senior Engineer	Intermediate Engineer	Junior Engineer	Total (P)
Process	12	4	6	9	31
Mechanical	21	12	10	5	48
Piping	46	47	27	11	131
Stress	2	5	2	2	11
Electrical	12	12	11	20	55
Instrument	19	18	14	8	59
Civil	15	21	18	8	62
Architecture	10	21	19	17	67
HVAC & F/F	1	5	3	8	17
Project Management	16	3	3	8	30
DT Center	4	1	8	5	18
Total	158	149	121	101	529







### 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

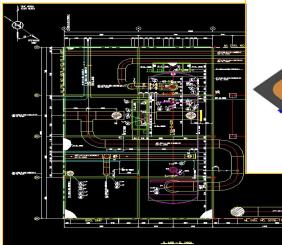






#### PIPING

- 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





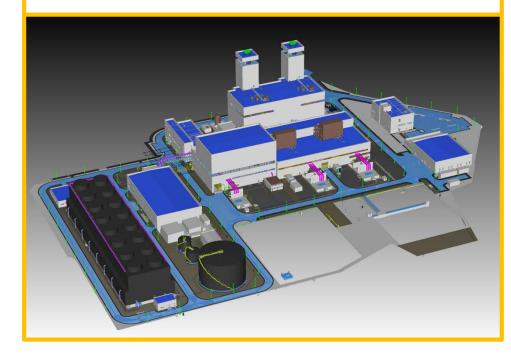


#### HVAC · Fire Fighting

- 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

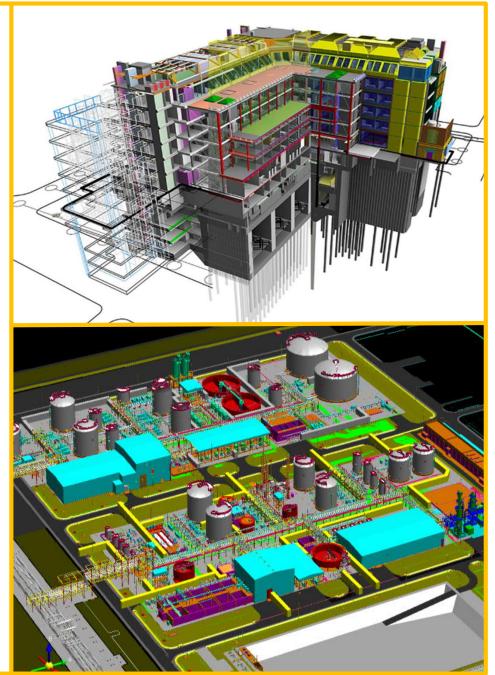
- Proposal, Basic Design & Environment Impact Assessment
- Process & Mechanical Design Criteria , Engineering Detail
   Schedule & PFD (Heat & Water Balance)
- MR, TBE, Technical Specification and Procurement Support
- Engineering & Design for GTG, HRSG, GOV, WT and WWT, Aux. Buildings, Vendor Package 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

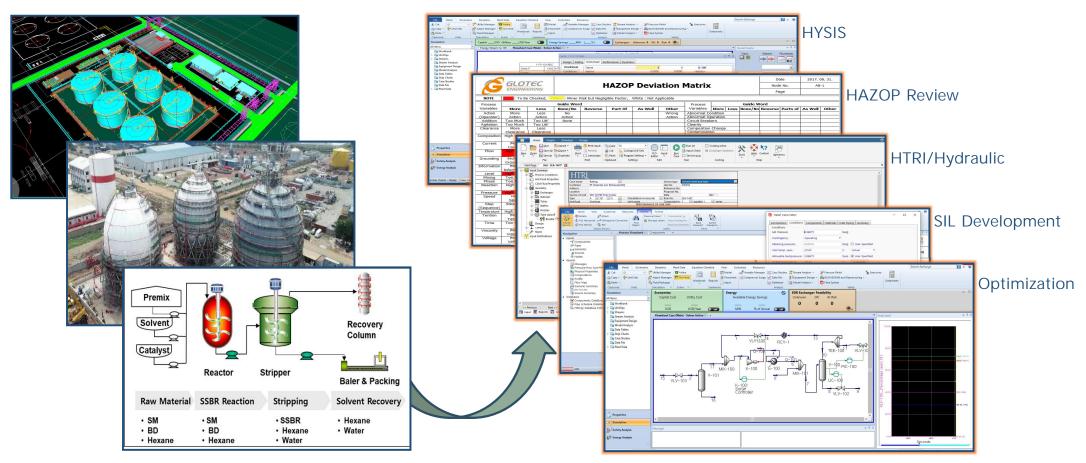




## CORE TECHNOLOGY **I**

### **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 Front-end engineering design (FEED) to Detail design that prioritizes safety and optimization.

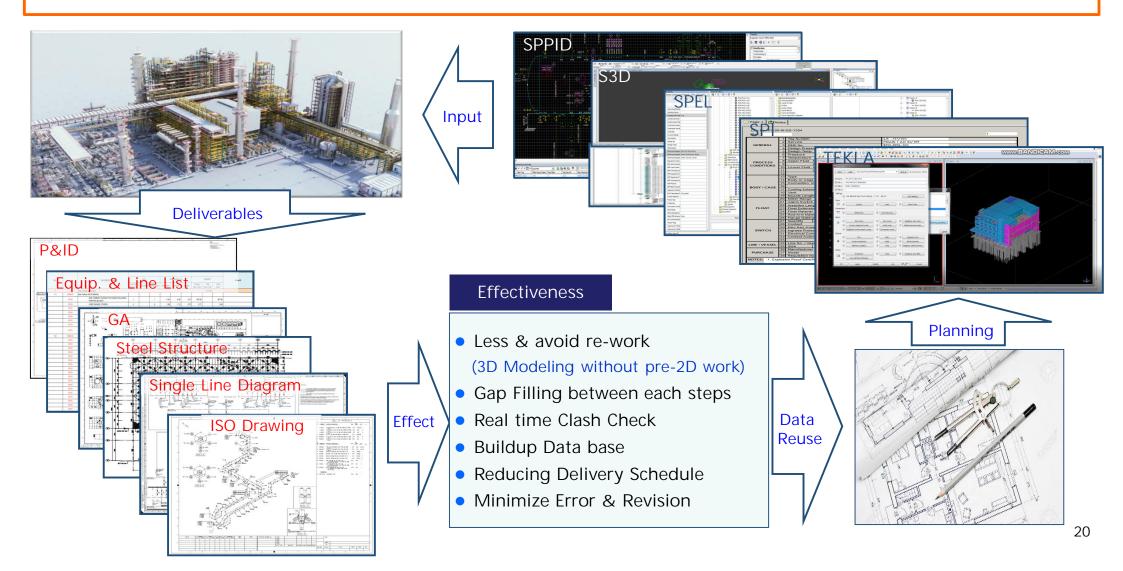




## Core technology ${f u}$

### Concurrent 3D Technology

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

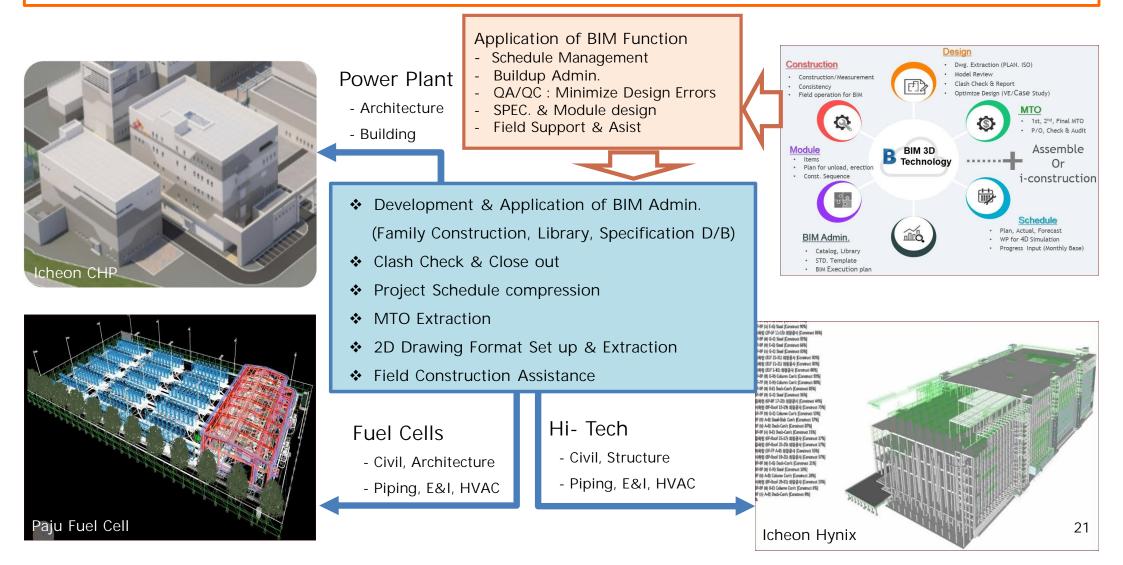




### Core technology ${\rm I\!I}$

## 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.

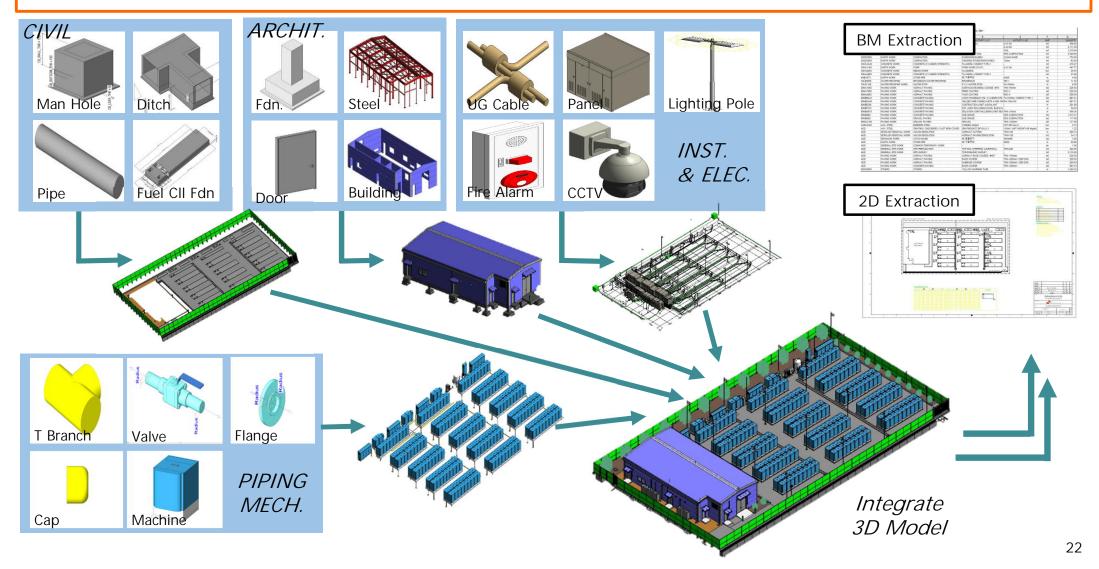




## Core technology ${f I\!I}$

## 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.

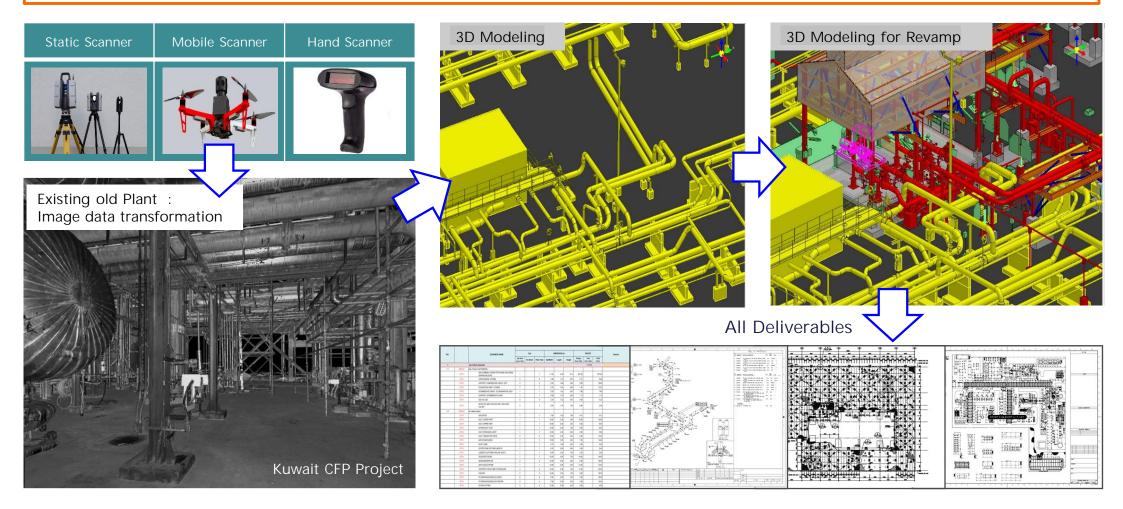




## Core technology ${\rm I\!V}$

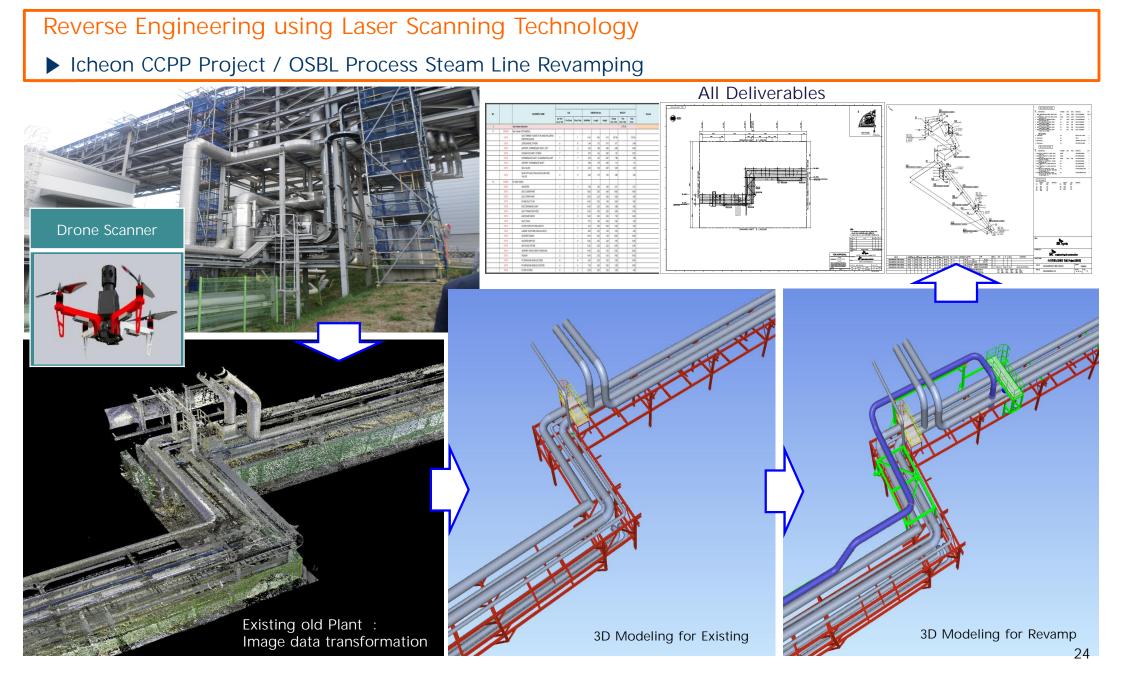
### Reverse Engineering using Laser Scanning Technology

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 ${\rm I\!V}$





### Core technology $\boldsymbol{V}$

### 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.

				Cont	ents			Remarks	PAU ( Pre
	F	Fort Hills	Suncor F	Project,	Canada (	Apr. '1	4~Nov.'15)	Modules (PAU 74, PAR 41)	
Ехр.	I	NEOS PE	OH Projec	ct, Belgiu	ım (Jul.	Modules (PAU 12, PAR 32)			
Project	L	otte LIN	E Project	, Indone	esia(Nov.	Module (PAR 59)			
	Ulsan, S-Oil Shaheen Project ('23.03 ~ '26.06)					Module (PAR 44)			
Exp.		Steel	Piping	Mech.	E&I	PM	Total	Experts T/F Team	
Experts (Person)		12	35	6	18	4	75	in operation	R
	-	<ol> <li>Basic Concept : Module Plan (Sizing)</li> <li>Detail Design :         <ul> <li>Module Lay out &amp; Configuration</li> <li>SP3D Modeling (Inc. Analysis)</li> <li>Shop Dwg. Extraction</li> </ul> </li> </ol>						PAR, PAU	
Design ability								All discipline	PTUNELINES
	3	3. Field Ir	nstallation	n Suppo	rt			COG, Inspection, Test, etc.,	



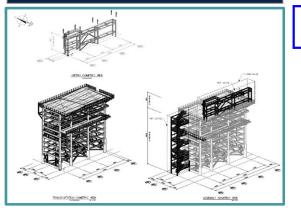
## Core technology ${\boldsymbol{\mathsf{V}}}$

# Modularization Design

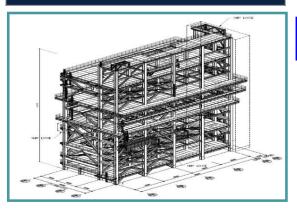
#### Applicable Modularization

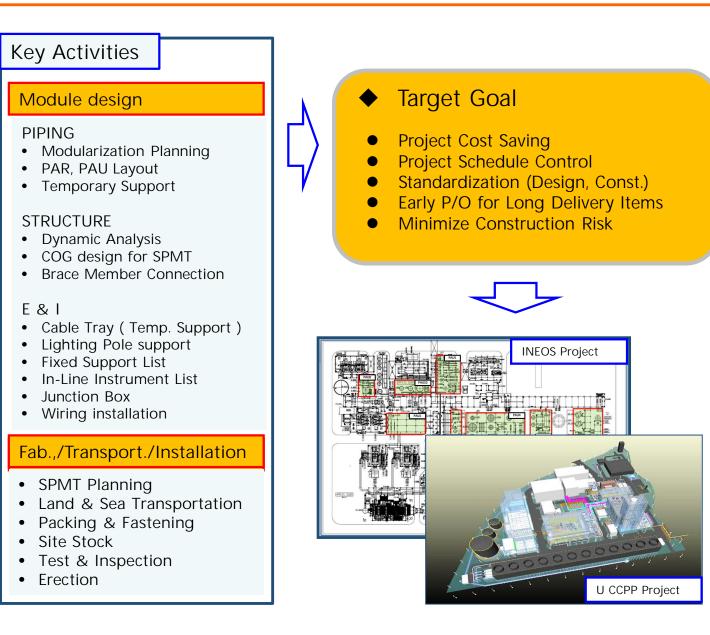
- Process Unit & Package (PAU)
- Main Pipe Rack (PAR)

#### PAR (Piperack)



#### PAU (Equipment Structure)



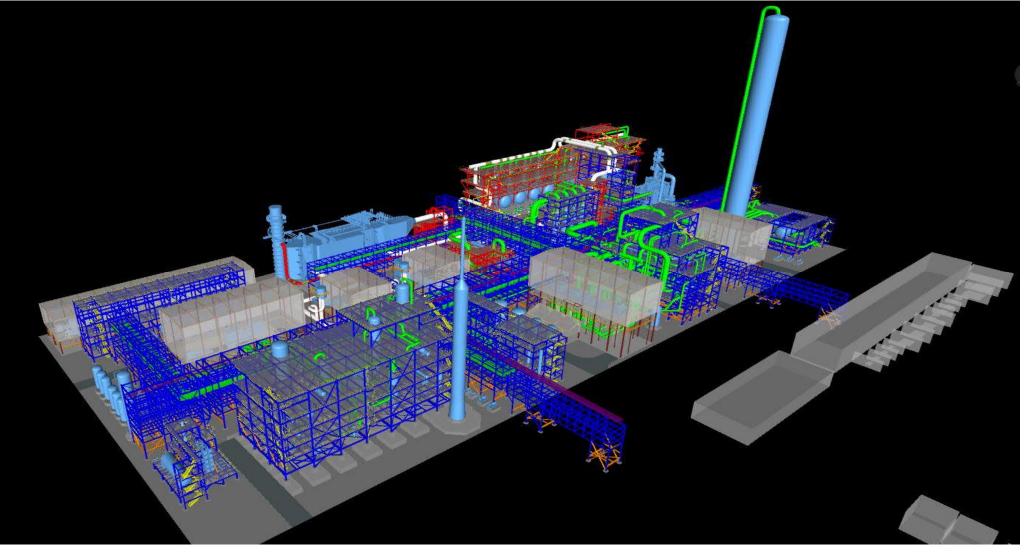




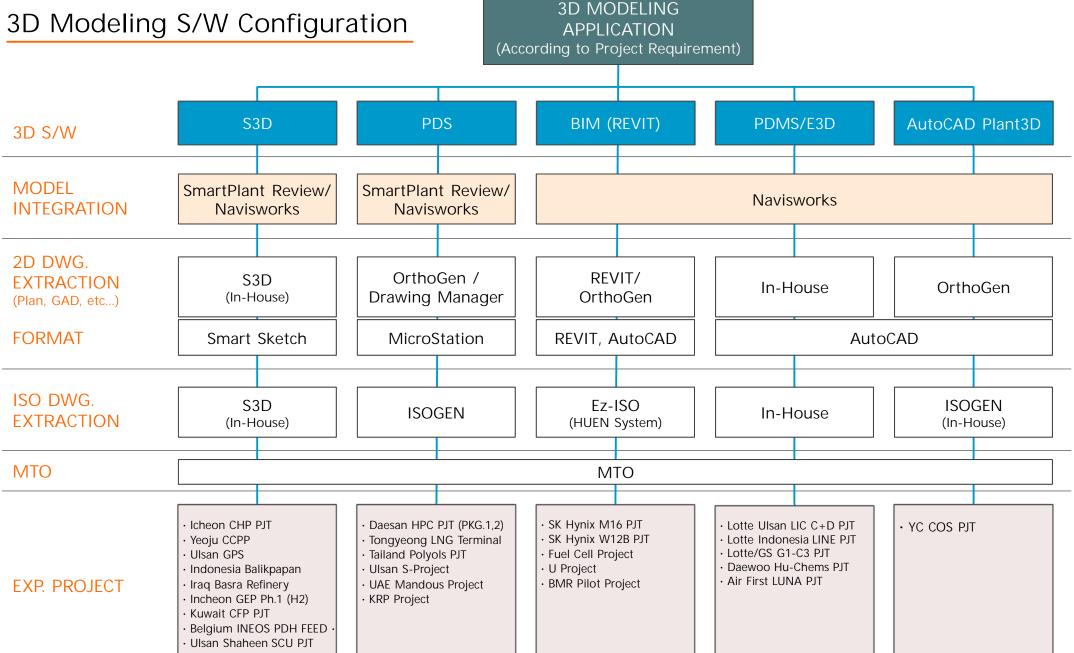
### Core technology $\boldsymbol{V}$

# 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*	DAEWOO E&C	Petrochemical	Yeosu TKG Huchems 6NA/2MNB Project	Korea	TKG Huchems	2022.04 ~ 2024.06
3	Inst./Elec	DL E&C	Petrochemical	Baltic PE, LAO Project	Russia	CNCEC	2022.01 ~ 2025.01
4	Full Range*	SK ecoplant	Power Plant	Icheon Gwan-go Fuel Cell Project	Korea	Korea West Power	2021.12 ~ 2022.10
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 Eng'g	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	Ulsan New PX Project (ISBL, OSBL)	Korea	SK Energy	2012.09 ~ 2014.10
48	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

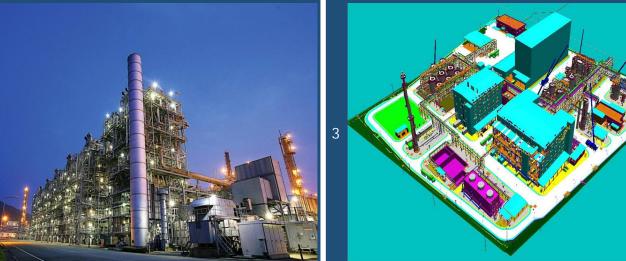
Since Glotec Engineering first entered the oil and gas industry in 2003, we have completed more than 100 projects worldwide and have grown into a full-service of engineering company.

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.

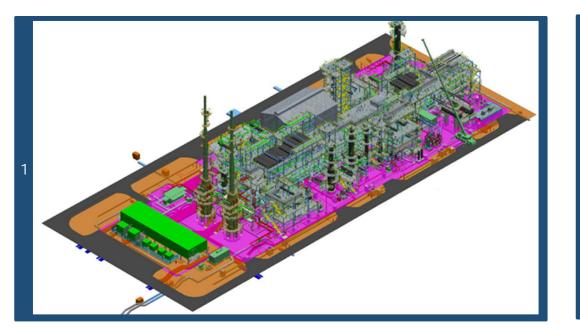


HPC Project (July. 2019 – Dec. 2021) ECU 800,000 T/Y, HDPE 300,000 T/Y, Tankage, Warehouse / Hyundai Chemical (HEC, LEC)

- 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)
- <sup>1</sup> S Project (Sep. 2017 Jun. 2019) VRDS 30,000 B/D, Ulsan, Korea / SKE(SKEC)
- 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)
- <sup>1</sup> 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)



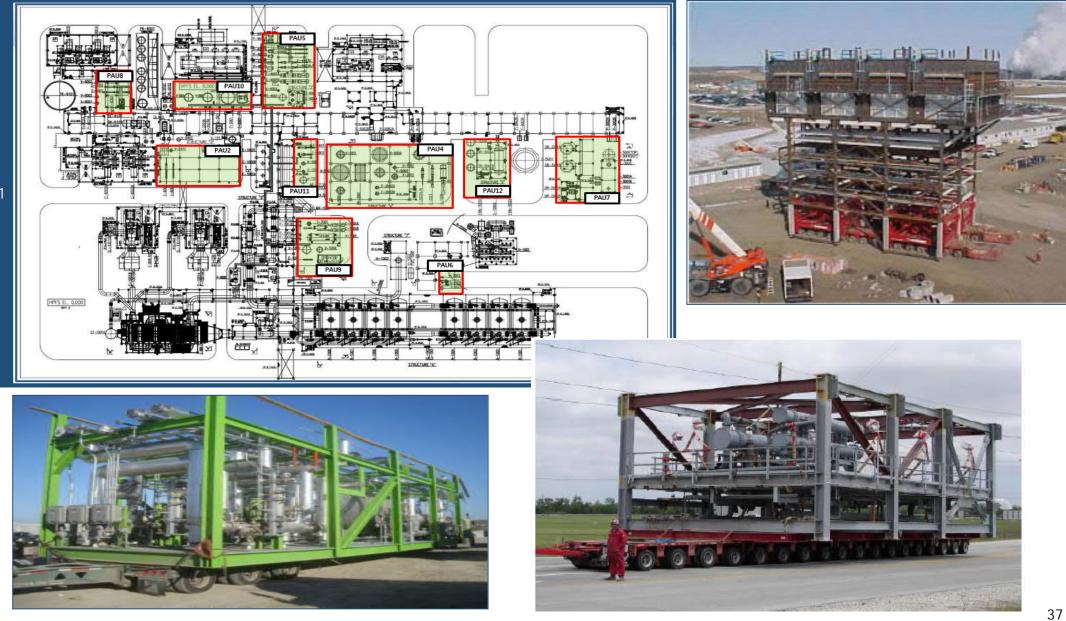






INEOS PDH FEED Project / Module (Jul. 2019 – Jun. 2020) 750KTA Propane Dehydrogenation Plant FEED, Module Design, Antwerp, Belgium / INEOS(SKEC)

1





#### S-OIL Shaheen Project / PKG#1 SCC Unit (Mar. 2023 – Jun. 2026) Steam Cracking Unit, (Ethylene 1800KTA, Propylene 770KTA), Module Design for PAR, Ulsan, Korea / Saudi Aramco (HDEC)

1





# 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.

Ulsan SKMU Power Project (Sep. 2022 – Jun. 2025) 300MW CHP, Ulsan, Korea / SKMU & SKEE

Ulsan GPS CCPP Power Project (Mar. 2021 – Aug. 2022)
 1,200MW(2+2+1), Ulsan, Korea / SK ecoplant & GPS

SK Hynix Smart Energy Center CHP Project (Nov.2019 – Aug.2022) 570MW(1+1+1) Combined Heat Power Plant, Icheon, Korea / SKEC

Yeoju Natural Gas Power Plant Project (Jan. 2020 – Apr. 2021) Power Generation 1,000MW, Yeoju, Korea / SKEC & SK Hynix

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







# 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

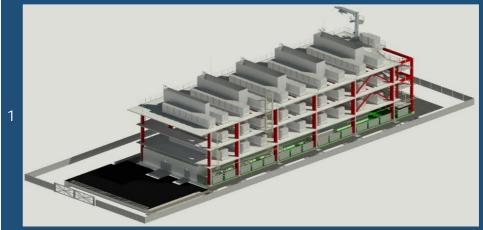
Paju Eco Energy Project (Feb. 2020 – Oct. 2020) - 9.8MW Fuel Cell, Paju, Korea / SKEC

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

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)

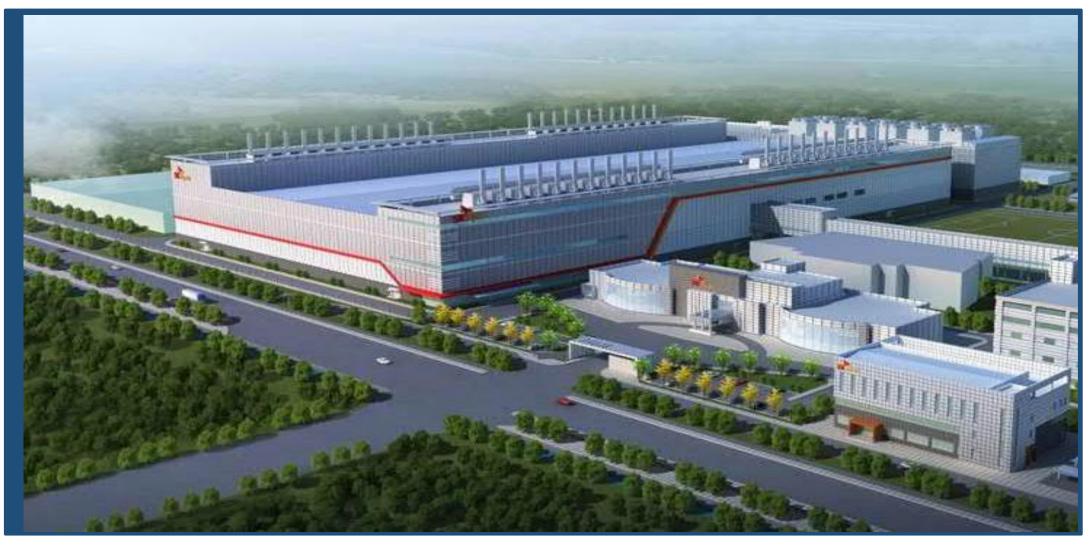






# SEMICONDUCTOR & INDUSTRIAL

Wuxi hynix project (Jan. 2017 – Jan. 2019) FAB, Utility facility, CUB, WWT/WT Shop, Clean room extension, Total floor space (new) : 294,990 M<sup>2</sup> ( 29.49 ha), Building area(new) : 93,660 M<sup>2</sup> ( 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 M<sup>2</sup> Floor : A/G 5<sup>th</sup> Floor, U/G 1st Floor Sejong City, Korea / SK Materials





# QUALITY AND VALUE MANAGEMENT



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

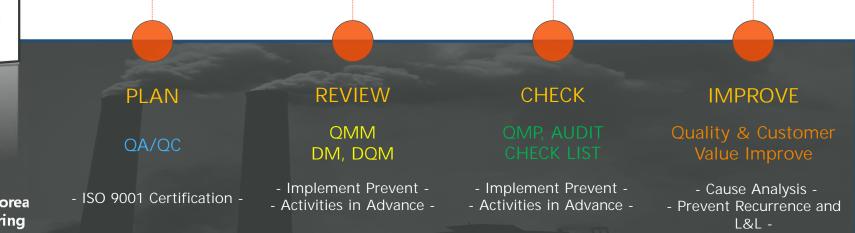
Glotec Engineering aims to enhance design quality and project

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.

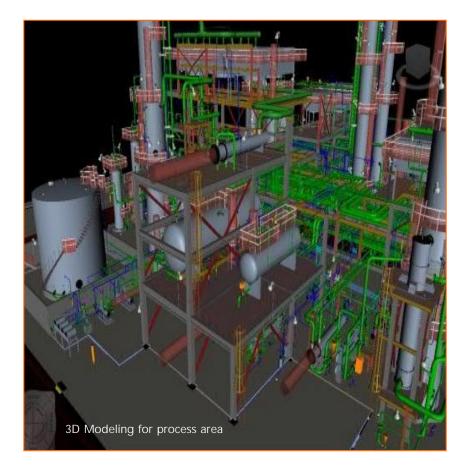
It strives to achieve zero-defect design by ensuring quality control at each step of the work process, and it provides field engineering support through a team of quality experts.





# DESIGN SOFTWARE & TOOLS

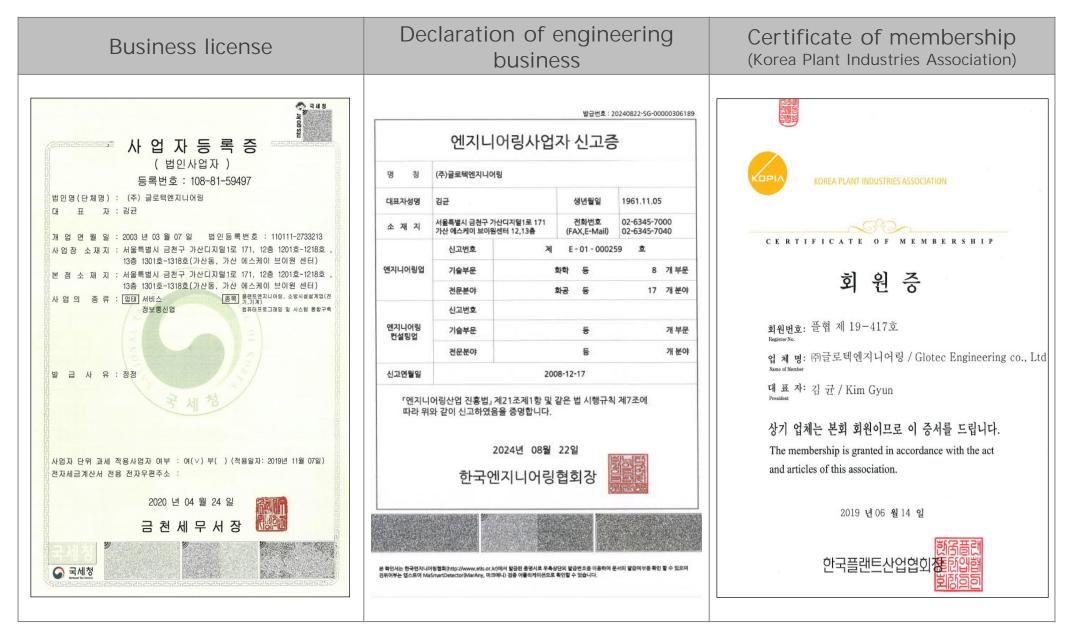
Glotec Engineering provides optimal design and engineering tools, including the latest design software. We use up-to-date techniques such as concurrent 3D modeling for improved accuracy.



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 InLOAD : Site Grading iAFES : Foundation Analysis PEDAS : Foundation Analysis TEKLA : 3D Modeling



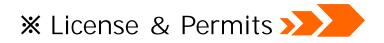








Certification of international contractor	KS Q ISO 9001	Certificate of R&D center
비해진감실해진법 (변제 제초회사제) 이번 전체 후 1. 140         제 645 호         No. 645	<image/>	<text><text><section-header><text><text><text><text><text><text><text><text><text><text><text><text></text></text></text></text></text></text></text></text></text></text></text></text></section-header></text></text>

















#### The Family-Friendly Certification by Korean Government

제2024-0140호

# 가족친화인증서

기 업 명: (주)글로텍엔지니어링 소 재 지: 서울특별시 금천구 가산디지털1로 171 (가산동) 1201-1218.1301-1318,12층, 유효기간: 2024.12.01~2027.11.30

위기업은 「가족친화사회환경의조성 촉진에 관한법률」 제15조 제1항에 따라 우수한 가족친화경영 운영체제를 구축하고 가족친화제도를 운영함으로써 근로자의 일·생활 균형을 지원하고 국가경쟁력 향상에 기여하였기에 가족친화기업 으로 인중합니다.

2024년 12월 01일



### Company Credit Rating

I . CREDIT RATING		(주)글로텍엔지	(주)글로텍엔지니어링   108-81-59497   ECC202404007007			
기업정보						
기업명	(주)글로택엔지니어링 (Glotec Engineering CoLtd.)					
사업자번호	108-81-59497	법인번호	110111-2733213			
대표자	김균	설립일자	2003.03.07			
산업분류	(M72129) 기타 엔지니어링 서비스업					
분시 주소	[08503] 서울특별시 공천구 기산디지털1로 171, 12층 1201호-1218호,13층 1301호-1318호(기산등)					
결산기준일	2023 12.31	신용등급 유효기간	2024.04.15 ~ 2025.04.14			

#### 주요 신용정보 DNA 신용등 WATCH 등 BBB+ Α 정상 평가 기준일: 2024.04.15 평가 기준일: 2024.04.15 평가 기준일: 2024.04.14 | 현금흐름등급 분포 ┃ 신용등급 분포 CC 018F 정기 평기 하반기 평기 결산 기준일 신용등급 현금흐름등급 2023.12.3 2022 12 31 BBB 2023.09.05 2023.04.14 BBB 2022.08.31 2021.12.31 2022 04 12

주요 재무 현황						(단위 : 백만 원)
결산 기준일	총자산	부채총계	자본총계	매출액	명업이익	당기순이익
2023.12.31	65,037	42.111	22,925	57,701	2,035	1,657

- Report of E-Credible (2024)
  - Credit Rating : BBB+
  - Watch Rating : Normal
  - ( Based on Apr. 14<sup>th</sup> , 2024)

#### The Silver Tower Order of Industrial Service Merit from Korean Government



# **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.







- 1 Received the Presidential Commendation for Korea Engineering and Consulting Association (Oct. 2013)
- 2 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)
- <sup>3</sup> Promoted strong fellowship in the year-end party. (December, 2013)
- Event for the 15<sup>th</sup> anniversary of the founding. (May, 2018)







# CHALLENGE AND ACHIEVEMENT

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



