



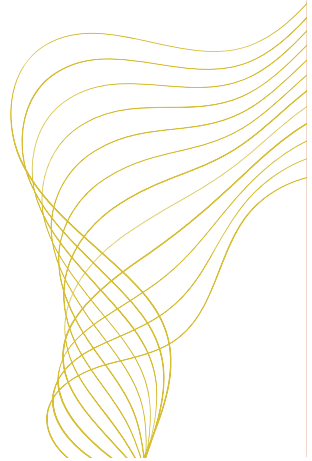
WELCOME TO H2 GLOBAL





H2 global technical services co., ltd.

Since 2009



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2. H2 Global Organization Chart
3. Provision of Comprehensive Services
4. Experiences and Tools
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Overview



- ❑ Established in 2009
- ❑ Services in oil, gas, petroleum refining, petrochemical, chemical, power, infrastructure and environmental industries:
 - **Engineering:** FS, Process Package Design, Piping Design, 3D Modeling, Shop Drawings (Specialised in Spoolgen Services)
 - **Design/Document Review:** Basic Design, Cost Estimate, Economic Analysis, FEED, Detail Design
 - **EPC** for modification/upgrade/expansion jobs
 - **Other businesses:** Consultancy ITB preparation/evaluation/recommendation

Consultancy services for Construction/Installation/Fabrication Supervision

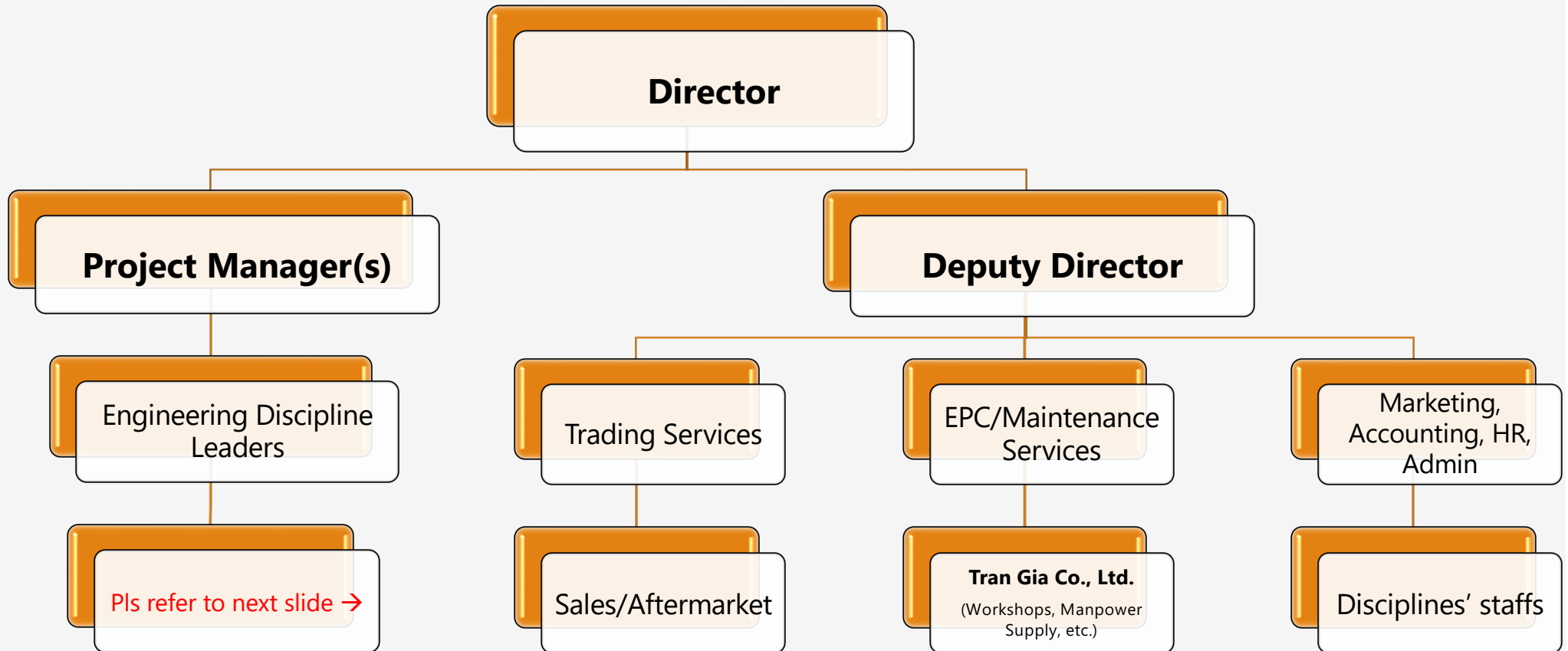
Trading of Equipment and Materials in Industry

 **L&T Valves** **Authorised Distributor and Representative for the Vietnam market**

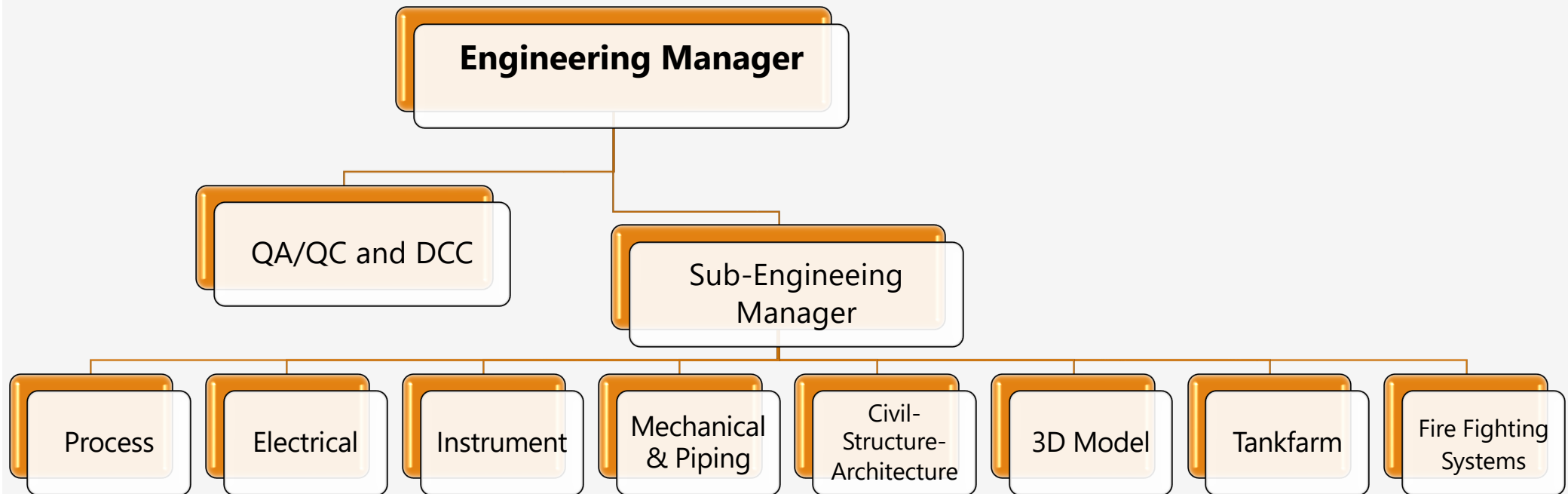
Supply of Operation and maintenance services

Supply Preservation (Mothballing) Services

H2 Co., Ltd. Organization Chart



Proposed Project Team Organization Chart





WHAT H2 CAN PROVIDE? (1/2)

- ❑ Detailed Design
 - To perform further the detailed design from FEED/Conceptual design for Clients
- ❑ Shop Drawings
 - To perform the SHOP DRAWING services from FEED/Detailed Designs
- ❑ As Built
 - To update the Drawings based on the MARKUPS to be given by subcontractors/site engineers/others
- ❑ 3D Model
 - To perform the 3D model (30% - 60% - 90%)
 - To perform the 3D model for SKIDs/VENDOR PACKAGES/...
- ❑ Spoolgen Services
 - To perform piping cutting drawings

WHAT H2 CAN PROVIDE? (2/2)



□ Out-Sourcing Services

- H2 is very strong in out-sourcing services for
 - CIVIL – STRUCTURE – ARCHITECTURE
 - ELECTRICAL
 - INSTRUMENTATION & CONTROL
 - PIPING
 - FIRE FIGHTING including FIRE ALARM
 - CATHODIC PROTECTION
 - DRAFTING SERVICES FOR P&IDs from PFDs and other disciplines
 - TRANSLATION SERVICES, PERMITS

Provision of the following Comprehensive Services



- Planning and Management
 - Project Management, Permit & License Application, Technical Manpower Support
- Engineering and Design
 - Architecture, Civil and Structure, Electrical, Instrument & Control, Process, Piping, Equipment engineering and design
- EPC for modification/upgrade/expansion jobs
 - Detailed Design, Shop Drawing
 - Specification, Inquiry and Purchasing, Cost Estimation, Bid Evaluation, Expediting, Inspection, Supplier & Subcontractor Management, Transportation, Custom Clearance
 - Construction Management, Supervision, QA/QC, QHSE, Fabrication/Assembling, Installation, Commissioning, Performance Test
- Trading Services
 - Supply of Equipment/Materials/Catalyst/Chemical for O&G and industrial Sections
- Provision of operation and maintenance services and preservation (Mothballing) Services
- Provision of Manufacturing Supervision

Experiences and Tools



Standardized by Company

- Project Management
- Engineering Knowledge
- Quality Control and Quality Assurance
- Health, Safety and Environment
- Confidentiality

Familiar with International Code and Standard (and local TCVN):

- Civil: AISC, ACI, AWS, ASTM, ASME, ANSI, ASHRAE, IBC, AASHTO, TRRB, Sabic Standard, UBC, BSEN, ASCE
- Piping: AISC, API, ASME, ASTM, ANSI, NFPA, JIS
- Equipment: AISC, ASME, ASTM, ANSI, TEMA, API, NFPA
- Process: ANSI, ASME, API, NFPA, TEMA, HEI
- Electrical: IEC, IES, NEC, IEEE, ANSI, NFPA, NEMA, API, BS, CNS, NACE, DNV, JIS, ICAO
- Instrument: API, ASME, ASTM, NFPA, ANSI, ISA, IEC

Integrated Engineering Tools:

- Civil: REVIT, FWP, PDS, PDMS, SP3D, SPR, SAP2000, STAAD PRO, In-house Program
- Piping: PDS, PDMS, SP3D, SPR, CAESAR-II, AUTOPIPE, PIPENET, In-house Program
- Equipment: PDS, PDMS, SP3D, SPR, PVElite, In-house Program
- Process: HTRI, PRO II, In-house Program
- Electrical: PDS, PDMS, SP3D, SPR, ETAP, ECODIAL, LUXICON, CALCULUX, DIALUX, EXCEL
- Instrument: PDS, PDMS, SP3D, SPR, INTOOL, In-house Program

Engineering Capability - Process

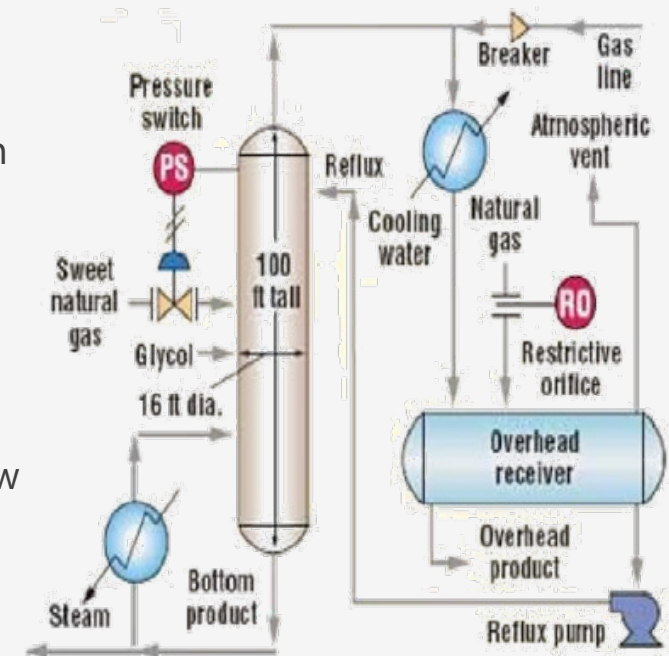


□ Process Basic Design:

- PFD, P&ID, Utility Balance Diagram, Material and Energy Diagram, Control Narrative, Operation Manual

□ Process Detailed Design:

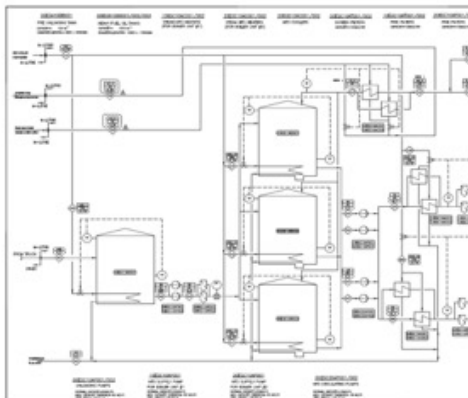
- P&ID Customization
- Rotating Equipment Calculation
- Exchanger Calculation
- Thermal Rating
- Line Sizing & Hydraulic Check
- Control Valves/PSV Calculation
- Instrument Data
- Utilities System
- Vendor Data/Document Review



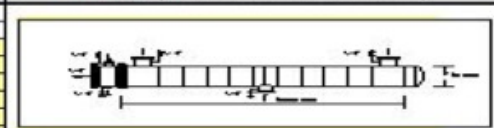
Engineering Capability - Process



CLIENT		PLANT		LOCATION		SERVICE		DESIGN NO.		P.O. NO.		SPEC. NO.		SHEET NO.			
						FINISHING COLUMN STEAM REBOILER						1		OF 1			
HEAT EXCHANGER DATA SHEET																	
1	Item No.	SE9511(3E9512)				Manufacturer											
2	Size	750	mm ID x	6000	mm L	Type	AJ12U		Connected In	1	Parallel	1	Series				
3	Surf/Unit (Gross)	77.56		m ²		Shell/Unit	1		Surf/Shell (Eff)	76.63		m ²					
PERFORMANCE OF ONE UNIT																	
Fluid Allocation		Shell Side				Tube Side											
6	Fluid Name	HYDROCARBON				22K STEAM											
7	Fluid Quantity, Total	111362				6371											
8	Vapor (In/Out)	36743															
9	Liquid	74613															
10	Steam					6371											
11	Water									6371							
12	Noncondensable																
3	Temperature (In/Out)	153.0				161.3				226.0				212.6			
4	Density (l/v)	732.3		kg/m ³		730.1						0.8434					
15	Viscosity, (l/v)	0.238		cP		0.235		0.003		0.018		0.126					
6	Molecular Weight, Vapor	106.2				18.0				18.0							
17	Molecular Weight, Noncondensable																
8	Specific Heat (l/v)	0.533		kcal/kg-°C		0.535		0.416		0.683		1.090					
9	Thermal Cond. (l/v)	0.033		kcal/hr-m-°C		0.033		0.018		0.035		0.562					
10	Latent Heat	84.75				162											
21	Inlet Pressure	0.89				19.70											
2	Velocity	3.30				5.14											
3	Pressure Drop, Allow/Calc	0.08				0.07				0.08							
4	Fouling Resist. (min.)	0.0004				0.0001											
5	Heat Exchanged	2,3408		MM kcal/hr		MTD (Corrected)		50.1		°C							
6	Transfer Rate, Service	758.41		kcal/m ² -hr-°C		Clean		1727.87		kcal/m ² -hr-°C							
CONSTRUCTION OF ONE SHELL																	
Design/Test Pressure		20.0				26.0											
Design Temperature		130.0				240.0											
No. Passes per Shell		1				2											
Corrosion Allowance																	
Connections																	
Size & Rating		In		10"		300#RF		6"		300#RF		3"		300#RF			
		Out		14"		300#RF		3"		300#RF		3"		300#RF			
		Intermediate															
6	Tube No	108U		OD 13.05		mm ; Thk (Ave.) 2.11		mm ; Length 6000		mm ; Pitch 25.40		mm ; Layout		□ 30			
7	Tube Type	PLAIN				Material				CARBON STEEL							
8	Shell	C.S. ID 750				mm ; Shell Cover											
9	Channel or Bonnet					Channel Cover											
10	Tubesheet-Stationary					Tubesheet-Floating											
11	Floating Head Cover					Impingement Protection				CIRCULAR PLATE							
2	Baffles-Cross	Type		VERT. NTIW-SEG		%Cut (Diam)		30.0		Spacing(c/c)		504.03		Inlet 250			
3	Baffles-Long					Seal Type											



PROCESS FLOW DIAGRAM



EXCHANGER DATA SHEET

Engineering Capability - Piping



□ Process Detailed Design:

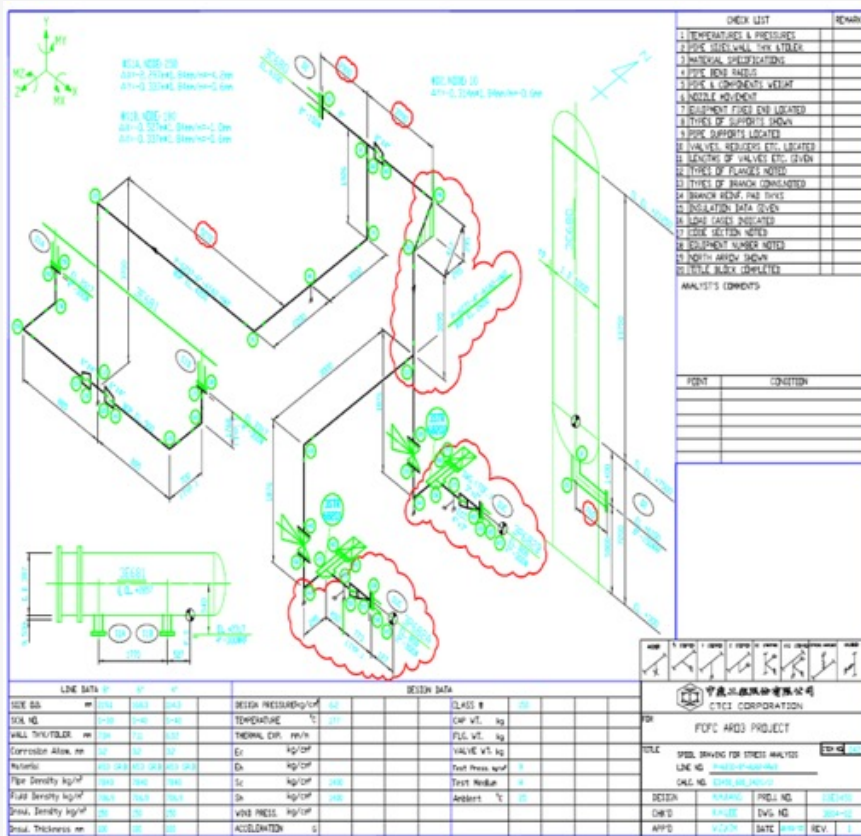
- Plot Plan
- Piping Specification
- Piping Layout
- CAD Customization
- 3D Modeling
- Spoolgen Services
- MTO, BOQ



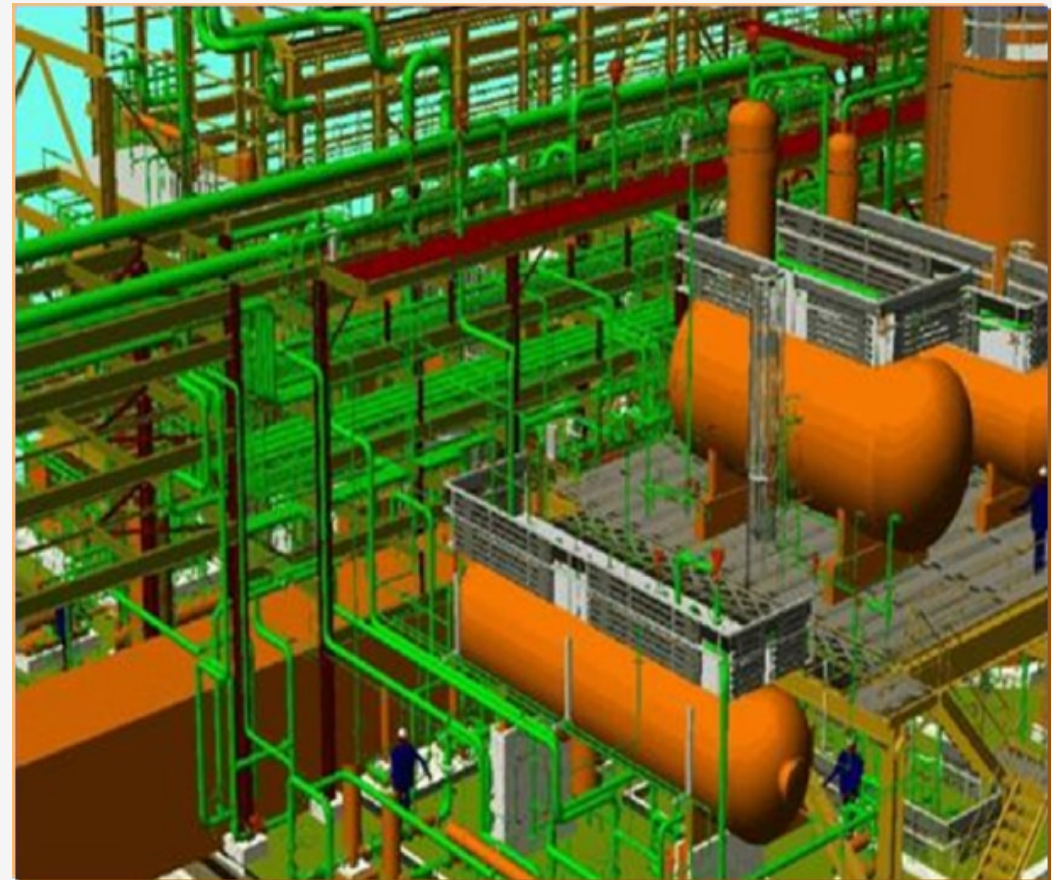
Engineering Capability - Piping



STRESS ISOMETRIC DRAWING



3D MODELING



Engineering Capability - Equipment

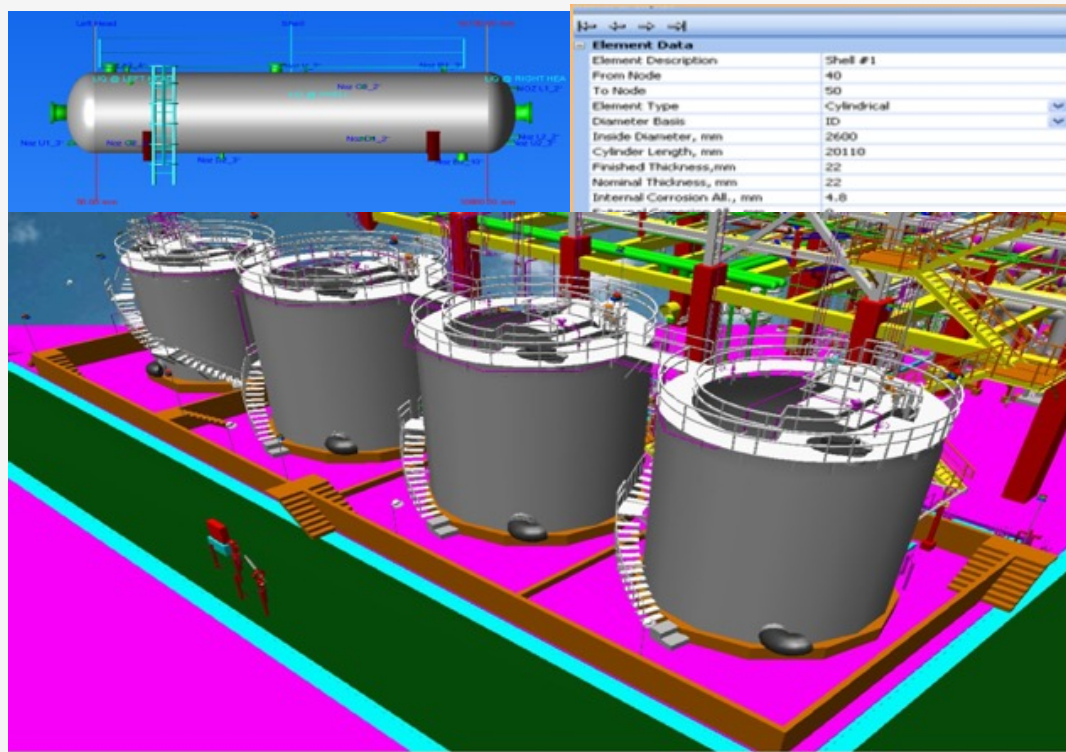


□ Tank, Vessel, Tower, Exchanger, HVAC Detailed Design:

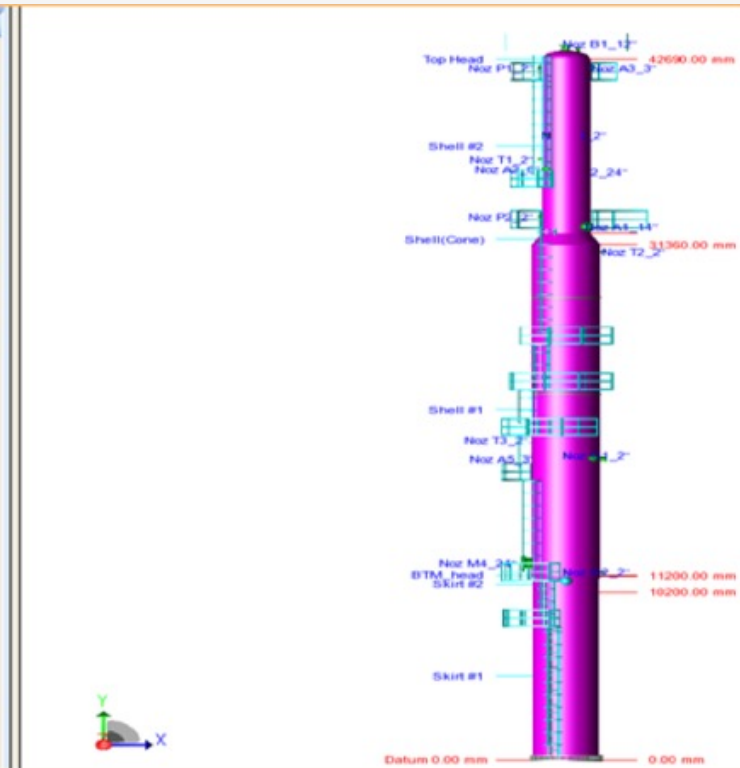
- Calculation Sheets
- Stress Analysis
- Equipment Detail (Shop) Drawing
- Platform & Ladder Detail (Shop) Drawing
- Requisition & Data sheet
- Technical Bid Evaluation
- Vendor Document Review



Engineering Capability - Equipment



3D MODELING



STRESS ANALYSIS

Engineering Capability – Civil & Structure



□ Geotechnical Work

- Exploration, Analysis and Report, Design

□ Civil & Structure Work

- RC & Steel Pipe Rack/Pipe Bridge/Conveyor support
- RC & Steel Equipment Supporting Structure
- RC & Steel Building/Dike/Retaining Wall/Blast Wall/Culvert
- Pipe Sleeper/Pipe Trench/Cable Trench
- Foundation/Road & Paving/Drainage System

- Concrete Tank/Cooling Tower

□ Architectural Work

- Layout & Detailing
- Landscaping

□ Plumbing

- For Service/Process Building

□ Shop drawing/Bar Bending Schedule

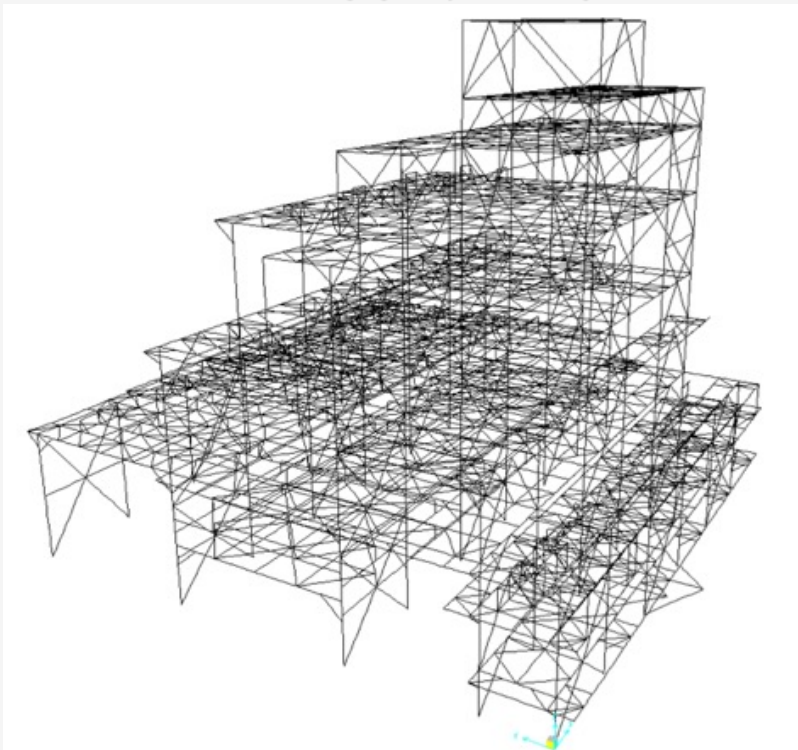
□ 3D Modeling



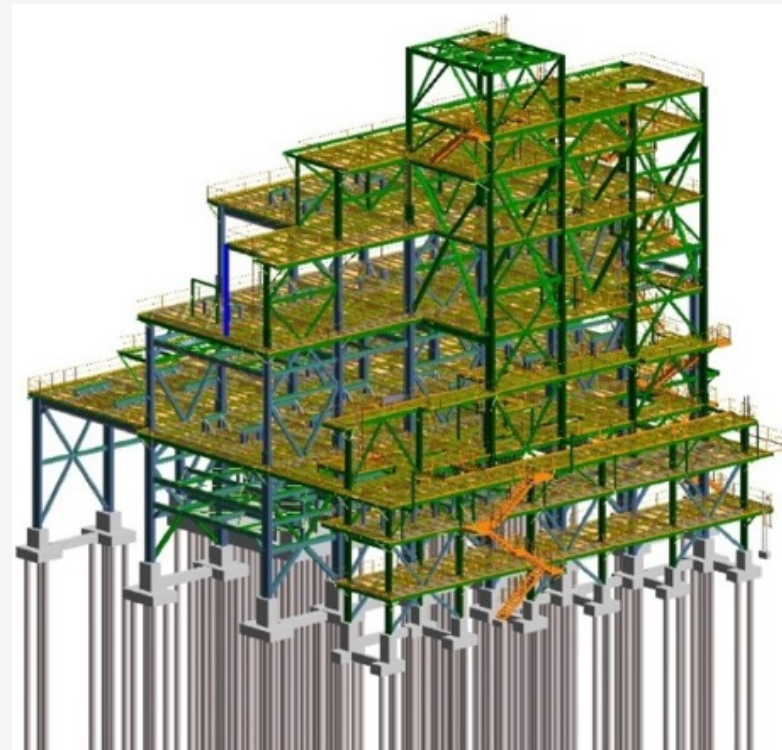
Engineering Capability – Civil & Structure



ANALYSIS MODELING



3D MODELING



Engineering Capability – Electrical



□ Power System

- One line Diagram
- Schematic Diagram
- Cable Tray System
- **Power** Layout
- Battery Calculation
- Conduit and Cable Schedule
- Relay Setting & Coordination
- Substation Layout
- Load Flow & Motor Starting
- Harmonic Study
- Short Circuit Calculation

□ Grounding/Lightning:

- Ground Resistance Calculation
- Step/Touch Voltage Calculation
- Grounding & Lightning Layout
- **Lighting**
- Illumination Calculation
- Lighting Fixture Schedule
- Lighting Layout
- Lighting Panelboard Schedule

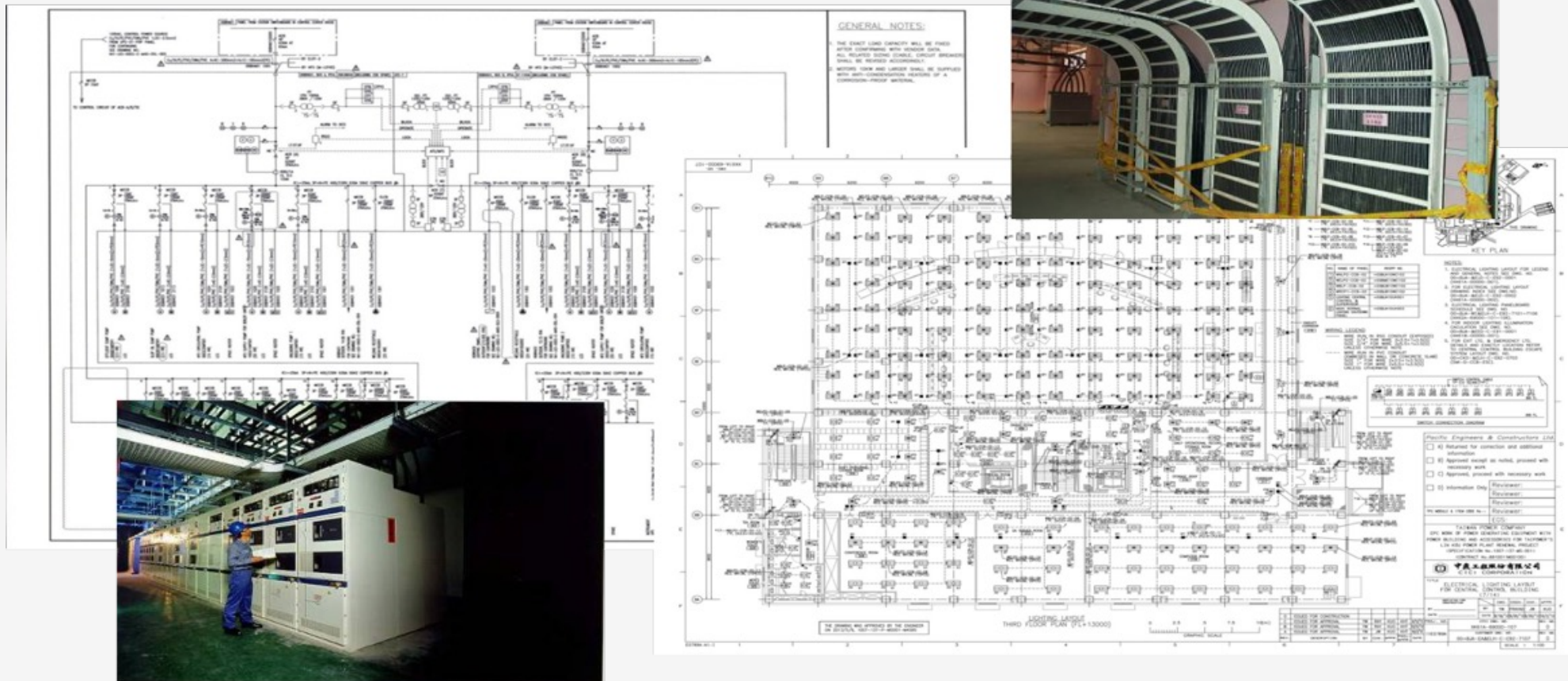
□ Communication:

- Page Party Sound Level Calculation
- Page Party/Telephone/Network Riser Diagram
- Page Party/Telephone/Network Layout
- **Closed Circuit Televison**
- **Fire Alarm System**
- **Hazardous Classification**
- **Cathodic Protection**
- **Material Take-off (MTO)**
- **Technical Bid Evaluation (TBE)**

Engineering Capability – Electrical



ONE LINE DIAGRAM



Engineering Capability – Instrument



□ Field Instrument Design:

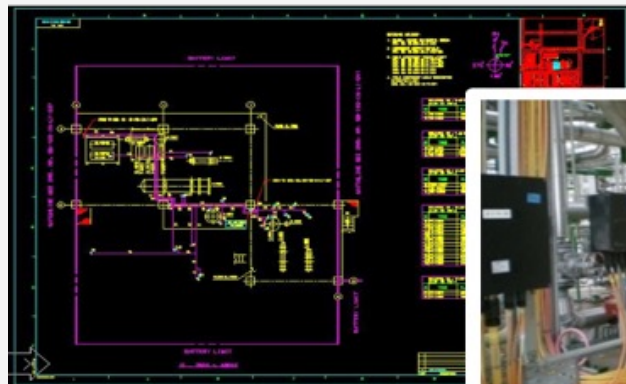
- Wiring, Air Piping & Tubing Layout
- Main Cable Layout
- Connection List
- Hook-up
- Instrument Specification
- MTO

□ Control System Design:

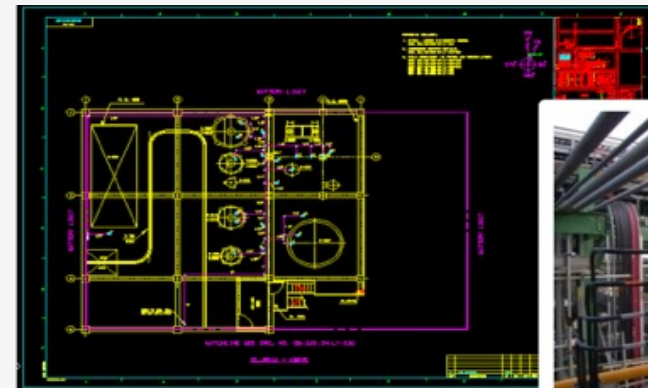
- DCS Architecture, Instrument Block Diagram
- Centre Control Room Arrangement, Cable Layout
- Loop Sketch, Wiring & Logic Diagram, I/O List



Engineering Capability – Instrument



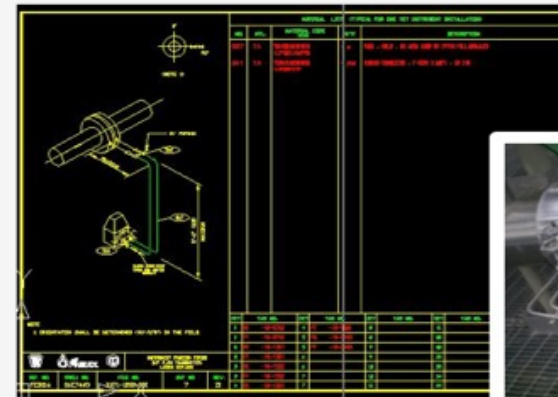
WIRING LAYOUT



AIR PIPING & TUBING LAYOUT



MAIN CABLE



HOOK-UP INSTALLATION



Highlights Completed Projects



No.	Project Name	Client/Stage	SoW	Year
1	Phu My Polypropylene Plant – 300 KTA	Client: Tecnimont/PMP Stage: FEED & Cost Estimate	SubCon. For OSBL scopes	2020-2021
2	LPG Pipeline for My Xuan B1- CONAC industrial zone	Client: Gastech Stage: EPC	PMC and Site Supervision	2019-2020
3	Gas receiving station for Global VN Aluminum Plant	Client: GLOBAL VIETNAM ALUMINUM CO., LTD Stage: EPC	PMC and Site Supervision	2020
4	Cai Mep Gemadept port-Terminal Link	Client: Gemadept/Estco Stage: EPC	SubCon. for E&I And HVAC System	2020
5	Long An International Port	Client: Long An Port Stage: EPC	EPC SubCon. for FFT System And HVAC System	2020

Highlights Completed Projects



No.	Project Name	Client/Stage	SoW	Year
6	Song Hau PNJ Jewelry Plant	Client: Song Hau Stage: EPC	EPC for the collecting of Acid in the Air of the Plant Package	2020
7	Bosch Plant – Long Thanh Industrial Zone	Client: Bosch VN Stage: EPC	Procurement & Construction (PC) for Electrical System	2014
8	Chau Phu – An Giang Gas Station	Client: PVOil Saigon Stage: EPC	EPC	2010
9	Supplying Gas system for Hoa Sen Steel Plant	Client: Hoa Sen/HTTEK Stage: EPC	EPC	2010
10	Supplying LPG System for FRITTA Plant	Client: FRITTA Co.,Ltd. Stage: EPC	PC	2009
11	Supplying LPG System for My Xuan Ceramic Viglacera Plant at My Xuan A Industrial Zone	Client: Viglacera/HTTEK Stage: EPC	PC	2009

Highlights On-going Projects



No.	Project Name	Client/Stage	SoW	Year
1	HAI LINH VUNG TAU LNG RECEIVING TERMINAL AND REGASIFICATION Capacity of 2.0 million metric tons LNG per year	Client: Hai Linh Company Stage: EPC	PC Con. For E&I Supply E&I Cables	2020-2023
2	CAI MEP - PHU MY GAS PIPELINE AND PHU MY GAS DISTRIBUTION STATION	Client: Hai Linh Company Stage: EPC	PC Con. For E&I Supply of E&I Cables Supply of L&T Manual Valves Supply of L&T SDV BDV Supply of Control Valves	2022-2024
3	HIEP PHUOC COMBINED CYCLE POWER PLANT REPOWERING - 1250 MW	Client: Hiep Phuoc Company Stage: EPC	PC Con. For E&I Supply E&I Cables Supply L&T Cryogenic Manual Valves	2021-2024

Highlights On-going Projects



No.	Project Name	Client/Stage	SoW	Year
4	NOI BAI INTERNATIONAL AIRPORT	Client: ACV/WEC Stage: EPC	Engineering Con. For E-I-CATHODIC PROTECTION And Stress Analysis Supply of E&I Cables	2023-2024
5	LOW PRESSURE GAS PIPELINE TO SUPPLY GAS FOR NHON TRACH INDUSTRIAL ZONE AND TON PHUONG NAM PLANT	Client: KTA NT Stage: BASIC DESIGN	BoD VERIFICATION	2023

Our clients and partners



powered by **PV GAS**



For questions and inquiries for H2 Global Technical Services Co., Ltd.

Pls visit our office



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