

THE BEST SERVICE PROVIDER IN FIRED HEATERS

INNOVARE KTI FIRED HEATERS

WE UPGRADE YOUR VALUE

INNOVATION THROUGH TECHNOLOGY & QUALITY
INNOVATION FOR COMPETIVENESS
INNOVATION BY EXCELLENCE



KTI INNOVARE

OVERVIEW

KTI is the best service provider in Fired Heaters for a full range of applications from hot oil heaters to complex steam reformers.

For more than 45 years, KTI has built a solid reputation for innovative, cost-effective, and reliable furnaces, heat transfer and emission reduction equipment for the hydrocarbon processing and power industries. KTI has the resources and organization to execute projects of any size anywhere in the world. KTI undertakes everything from feasibility studies to complete turnkey facilities, under fixed price or reimbursable arrangements, in accordance with the requirements of the client and the project. KTI deliver superior quality to satisfied clients and provide the best service to upgrade your value.



WE'LL BE THE
BEST BUSINESS
PARTNER
FOR YOU

INTRODUCTION MILE STONE

<p>KTI Established Office in California, USA brand name of KTI</p>	<p>▶ 1974</p>	
<p>Open Houston Office </p>	<p>▶ 1991</p>	
<p>Technip USA Acquires KTI Group</p>	<p>▶ 1999</p>	<p><i>August 2012</i> Technip Acquires Stone & Webster Process Technologies in USA from SHAW group</p>
<p>Open TECHNIP USA Korea Branch Office in Seoul Doing business as KTI Korea</p>	<p>▶ 2006</p>	
<p>Close Houston Office KTI Korea handed over General Fired Heater Business</p>	<p>▶ 2012</p>	<p>INNOVARE </p> <p><i>June 2016</i> Establish Innovare KTI Fired Heaters Co., Ltd. in Seoul, Korea Doing business as KTI Korea</p>
<p>Transaction of KTI Korea Office to Innovare Engineering Holding Ltd., Hong Kong</p>	<p>▶ 2016</p>	



TEAM ORGANIZATION

PROCESS & THERMAL ENGINEERING

- **Thermal Calculation** : Regular Internal Study, Feasibility Study, Performance Optimization
- **Technical Sales** : Design optimization for Client Satisfaction

FURNACE MECHANICAL ENGINEERING

- **Piping analysis** : CAESAR II, In-House Software
- **Mechanical Engineering** : API , ASME, Know-how application
- **Structure Engineering** : STAAD PRO, TEKLA, In-House Software

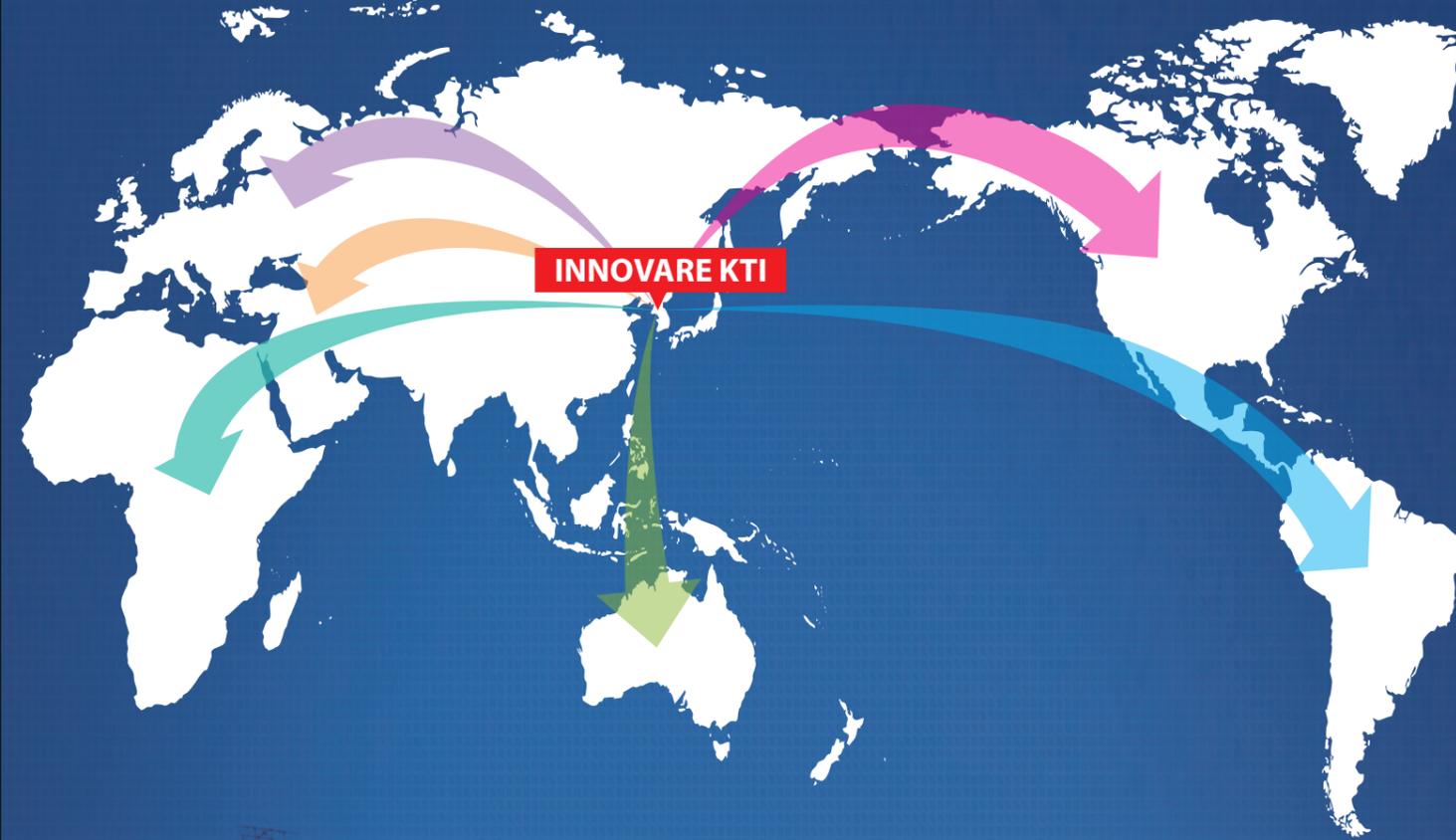
PROJECT MANAGEMENT

- **Cost & Schedule Control** : ISO 9001, Company Work Procedure
- **Procurement** : Expediting, Qualified Sub-vendors, strong and close relationship with sub-vendors for superior quality and schedule keeping

SCOPE OF SERVICE

Over **45** years history, I-KTI has supplied and installed every type and size of furnace.

- Engineering Studies
- CFD Modeling
- Process & Mechanical Design
- Supply of New Fired Heaters
- Supply of Auxiliary equipment (APH, BMS, etc)
- Revamp, Optimization, efficiency improvement and upgrade of existing units
- Turnkey Erection



BUSINESS MARKET CLIENT LIST

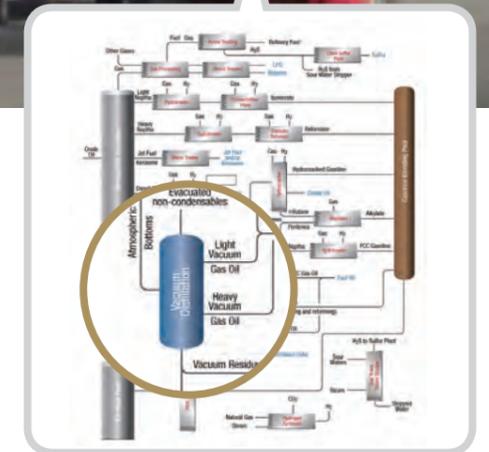
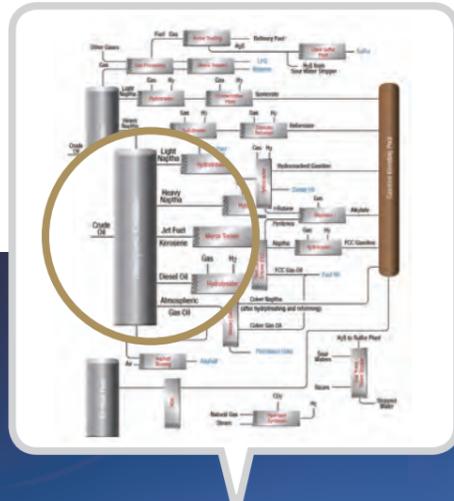
THE BEST SERVICE PROVIDER IN FIRED HEATERS

OIL & GAS REFINERY	EPC COMPANY
Shell	Technip
BP	Fluor
Conoco Phillips	KBR
Suncor	Bechtel
ExxonMobil	Jacobs
Chevron	CB&I
PDVSA	SNC Lavalin
Aramco	Saipem
Abu Dhabi Oil	TR
BAPCO	Petrofac
ADNOC	Worley Parsons
NIOC	Samsung
KNPC	SK E&C
Refining NZ	Hyundai E&C
SK Energy	GS E&C
GS Caltex	Daelim
Hyundai Oil Bank	Daewoo
S-Oil	SCT
Sinopec	Chiyoda
CNPC	Toyo
Lidong Chemical	JGC
CPC	Sinopec
Thai Oil	HQEC
Petronas	CTCI
Petron	HANWHA
Malaysian Ref. Co.	POSCO
Sonatrach	

Innovare KTI is A Technology-Based Equipment Supplier
That has been Designing and Supplying Fired Heaters

Crude Heater

- **Project** : No.5 CDU Project (1996)
- **Client** : Chiyoda, Japan
- **End User** : Yukong Limited, Korea
- New Crude heater with APH and EP system



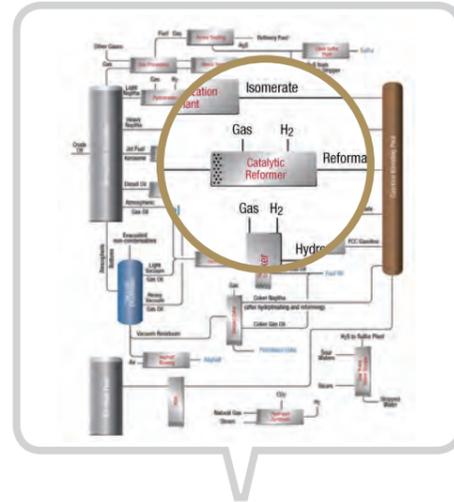
Vacuum Heater

- **Project** : CITGO New Crude & Vacuum Furnaces Project (2003)
- **Client** : Fluor, US
- **End User** : CITGO, US
- New two (2) Vacuum heaters



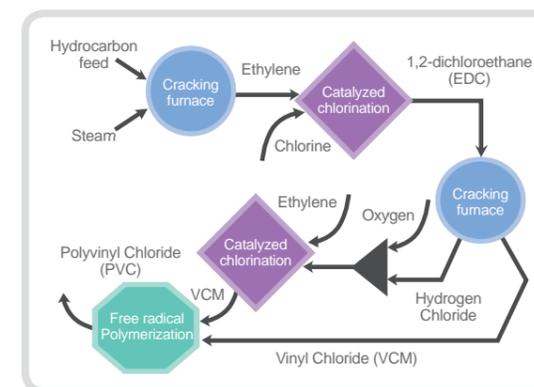
CCR

- **Project** : GS Caltex No.1 CCR (2007)
- **Client** : GS E&C, Korea
- **End User** : GS Caltex, Korea
- Installation of New Interheater to existing CCR Platforming
- Process Unit
- Installation of New Reactor Charge Heater



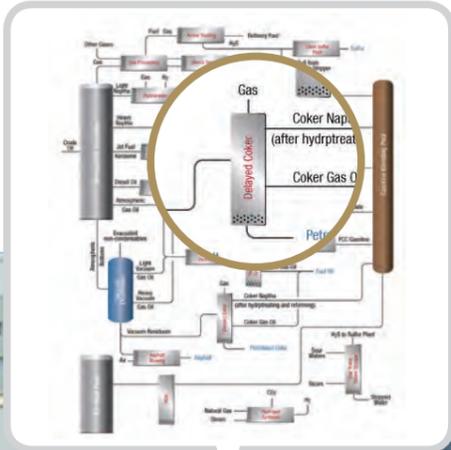
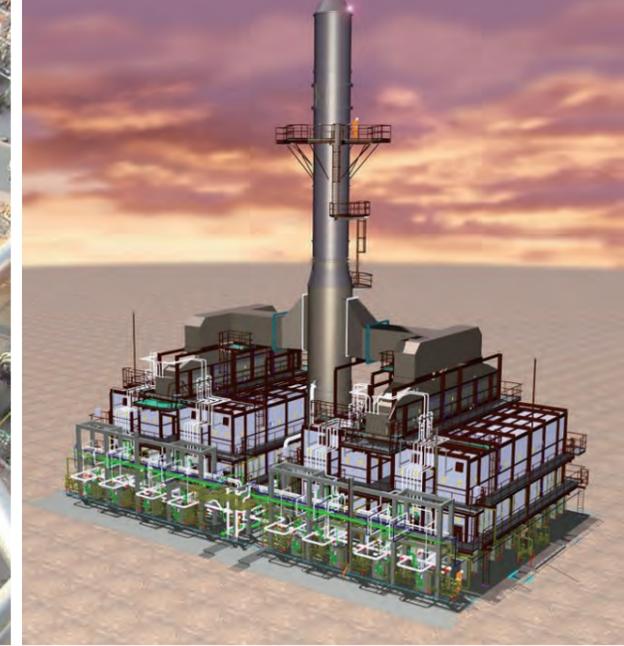
EDC Cracking Furnaces

- **Project** : OxyMar EDC Cracking Furnace Project (1989)
- **Client** : Bechtel, US
- **End User** : OxyMar, US
- New four (4) EDC Cracking Furnaces



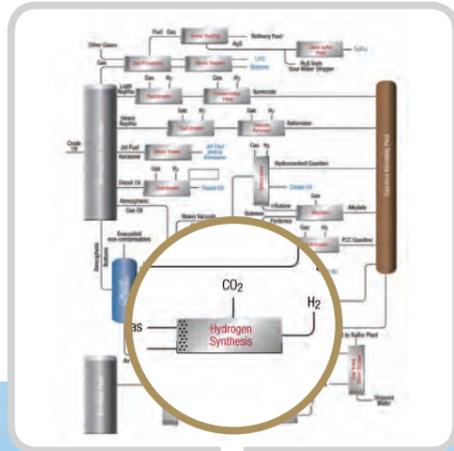
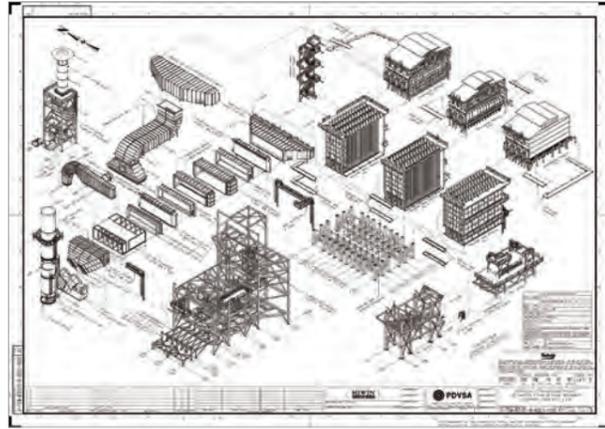
Coker Heater

- Project : Needle Coke Project (2013)
- Client : NFK, Japan
- End User : Posco Chemtech, Korea
- New two (2) coker heaters with fan



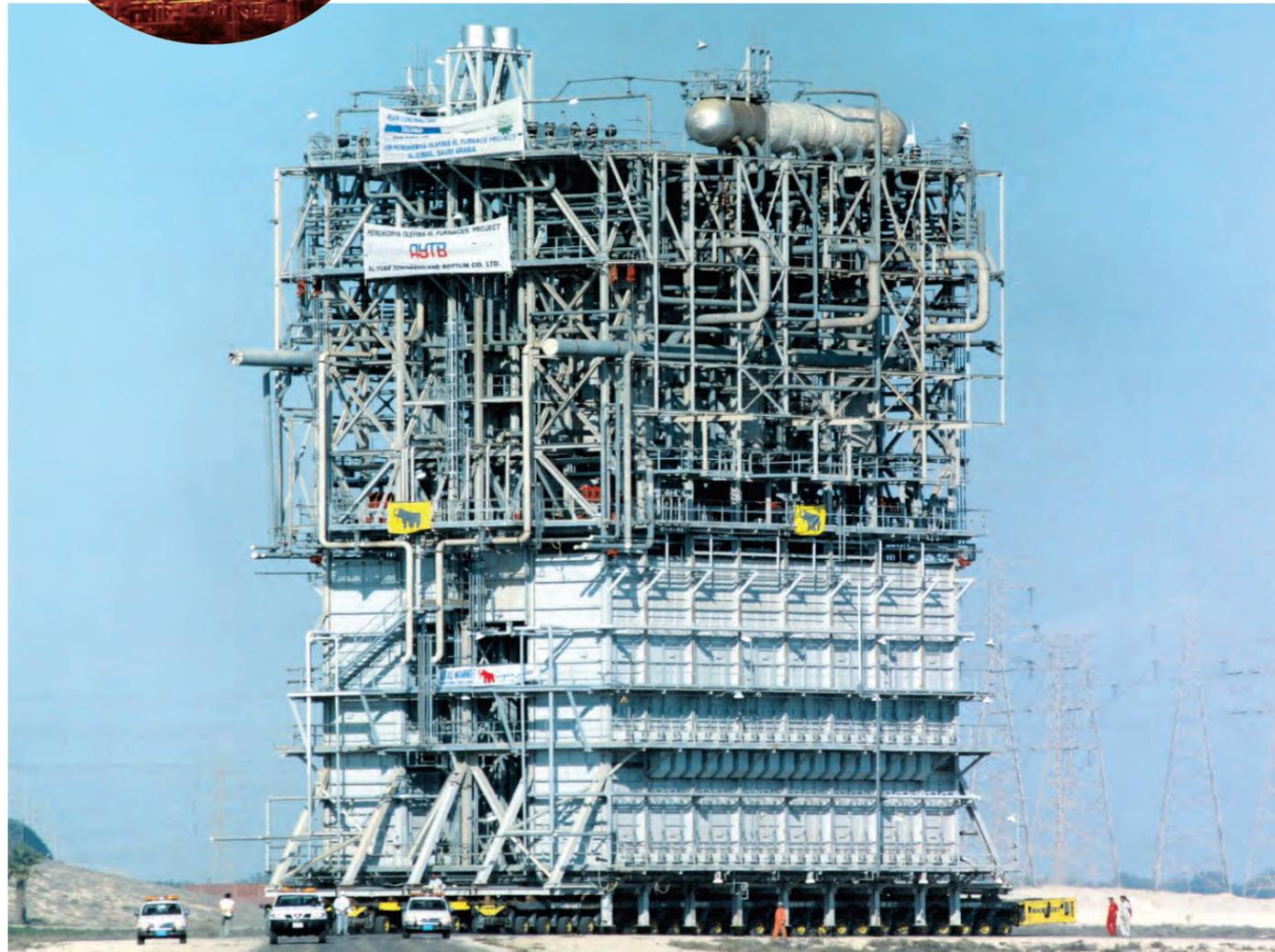
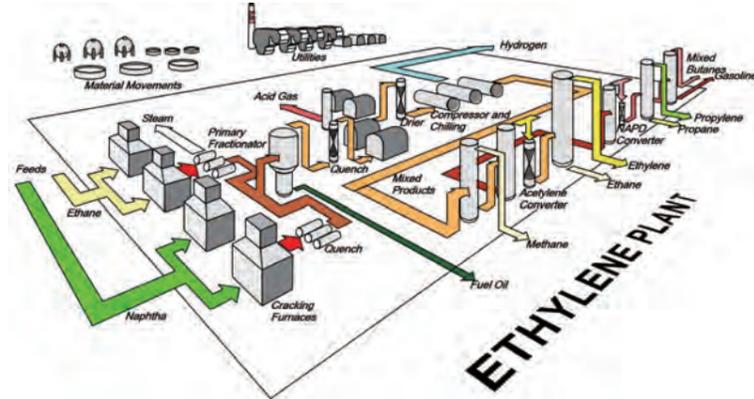
Hydrogen Reformer

- Project : PDVSA RPLC Project (2015)
- Client : HDEC, Korea
- End User : PDVSA, Venezuela
- New two (2) Steam Methane Reformer



Ethylene Cracking Furnaces

- Project : PETROKEMYA OLEFIN III Furnace Project (2001)
- End User : PETROKEMYA, KSA
- New Cracking Furnaces



Hot Oil Heater

- **Project** : TGEM Project (2014)
- **Client** : Hyundai Engineering, Korea
- **End User** : Petronas Carigali, Turkmenistan
- New two (2) hot oil heaters with purge fan



Reactor Charge Heater

- **Project** : SKEC PTTAR Clean Fuel Project (2010)
- **Client** : SK E&C, Korea
- **End User** : PTTAR, Thailand
- New reactor charge heater



NEW HELICAL COIL HEATER



HTS Heater (Heat Transfer Salt)

- **Project** : Daesan MMA Project (2012)
- **Client** : HEC, Korea
- **End User** : Daesan MMA, Korea
- New helical coil heater



OTSG (Once Through Steam Generator)

- **Project** : Husky Sunrise Phase 1 – CPF Project (2012)
- **Client** : Snamprogetti, Canada
- **End User** : Husky Oil Operations Limited
- New ten (10) OTSGs

FIRED HEATER STUDIES /
ENGINEERED REVAMPS /
EMERGENCY REBUILDS /
GLOBAL REVAMP SERVICES & EQUIPMENT

HEATER REPLACEMENT WITH NEW ONE



AIR PREHEATER REPLACEMENT

REPLACING
AIR PREHEATER
WITH NEW ONE
FOR EFFICIENCY
UPGRADE



COIL REPLACEMENT

REPLACING RADIANT & CONVECTION COIL

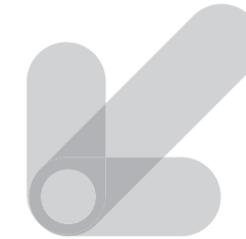


BURNER REPLACEMENT

1STEP

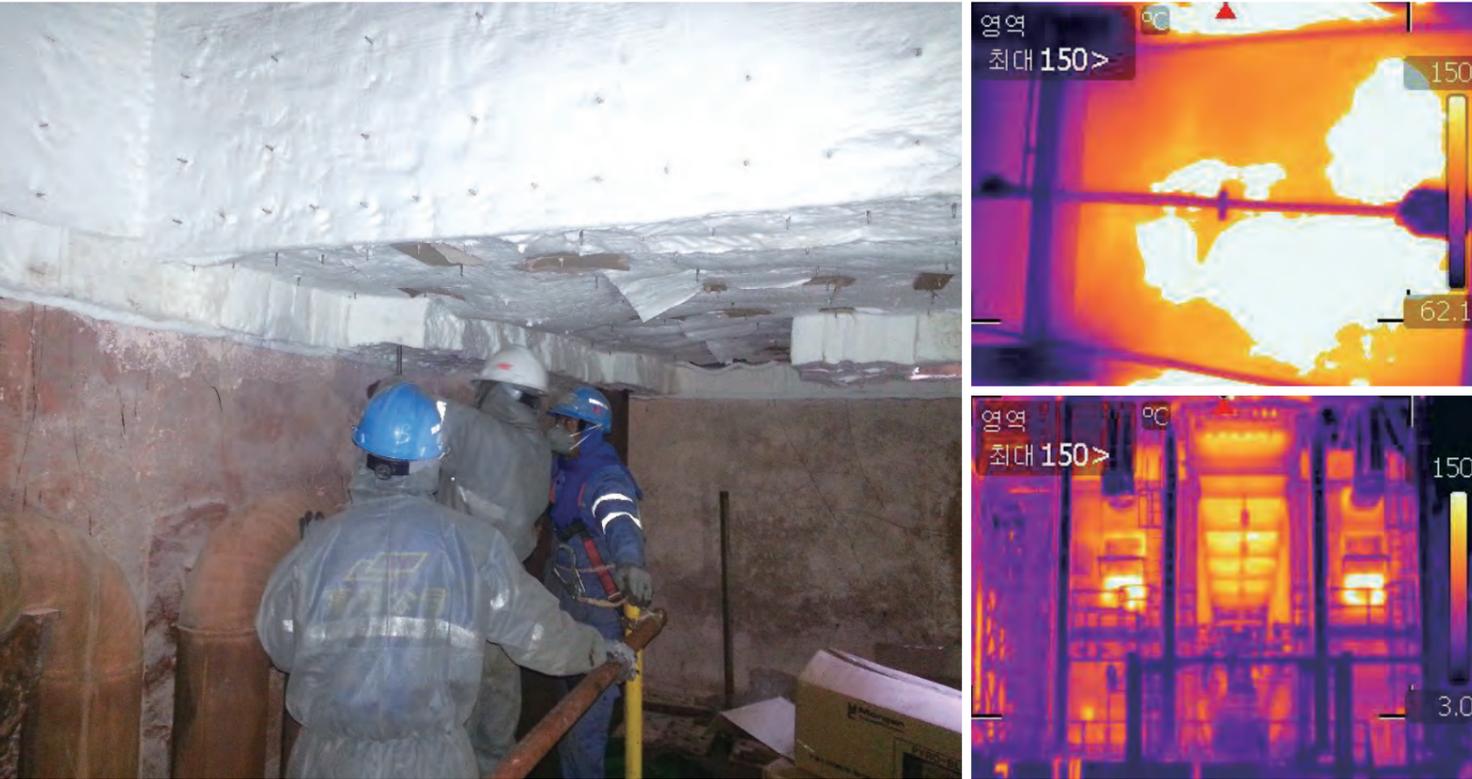


2STEP



3STEP

REFRACTORY REPLACEMENT



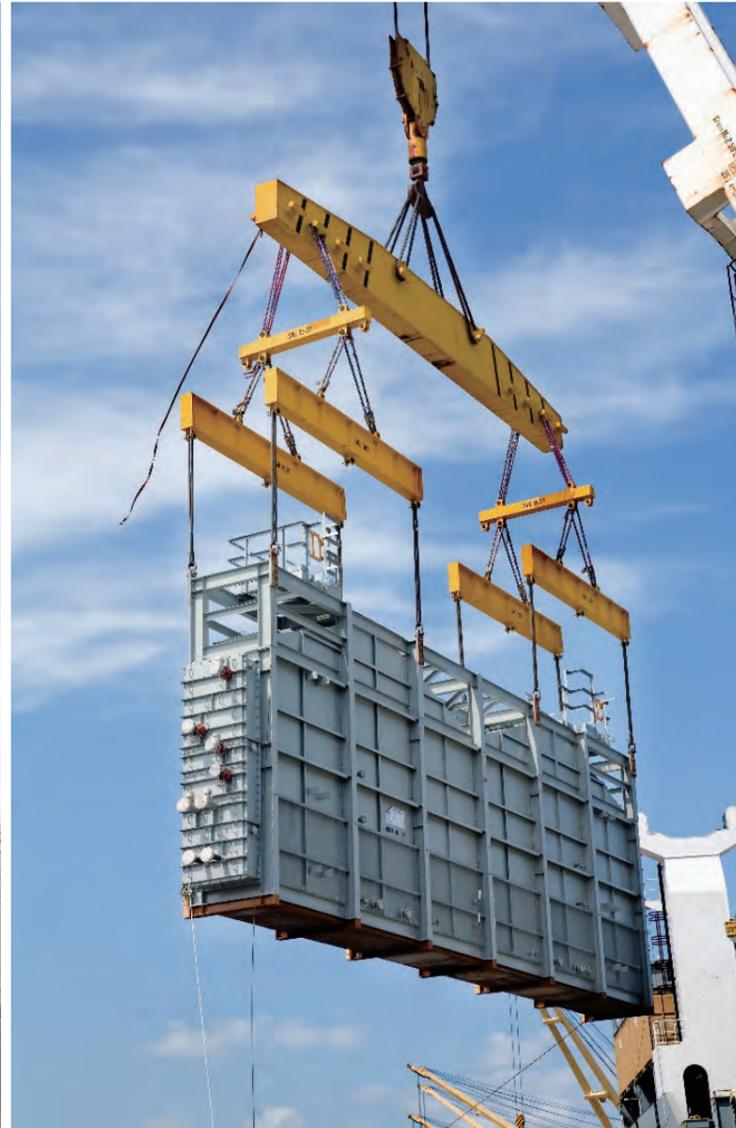
TUBE SUPPORT REPLACEMENT



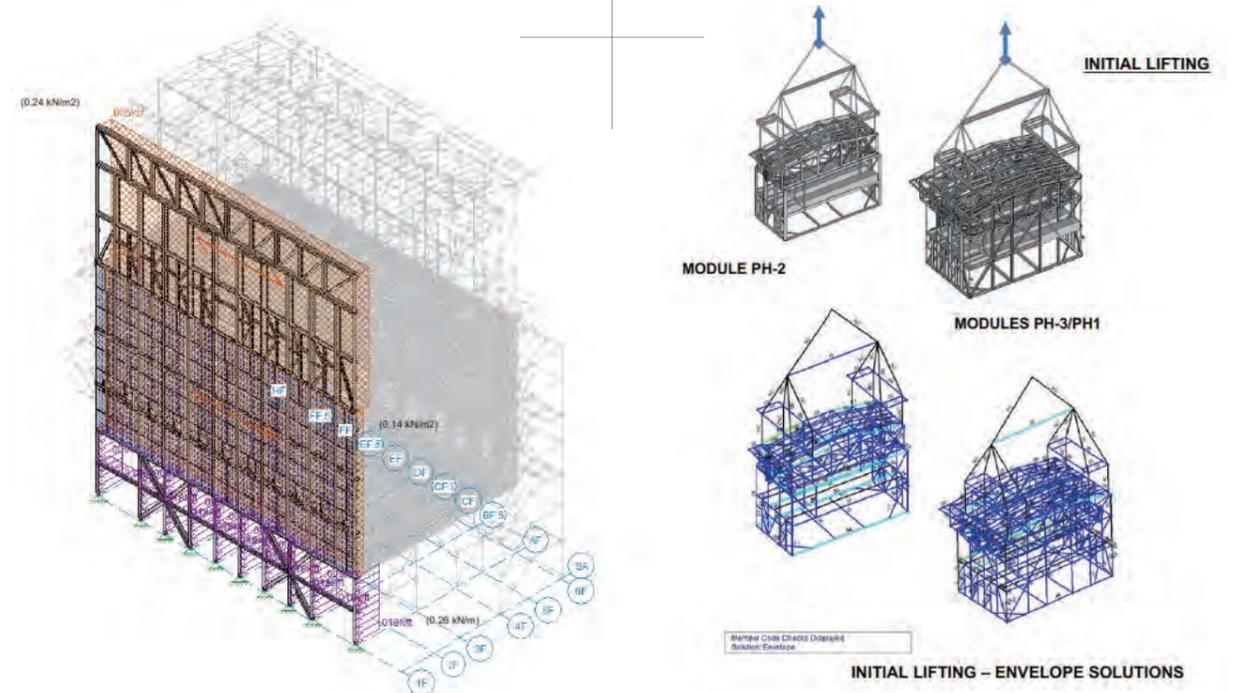
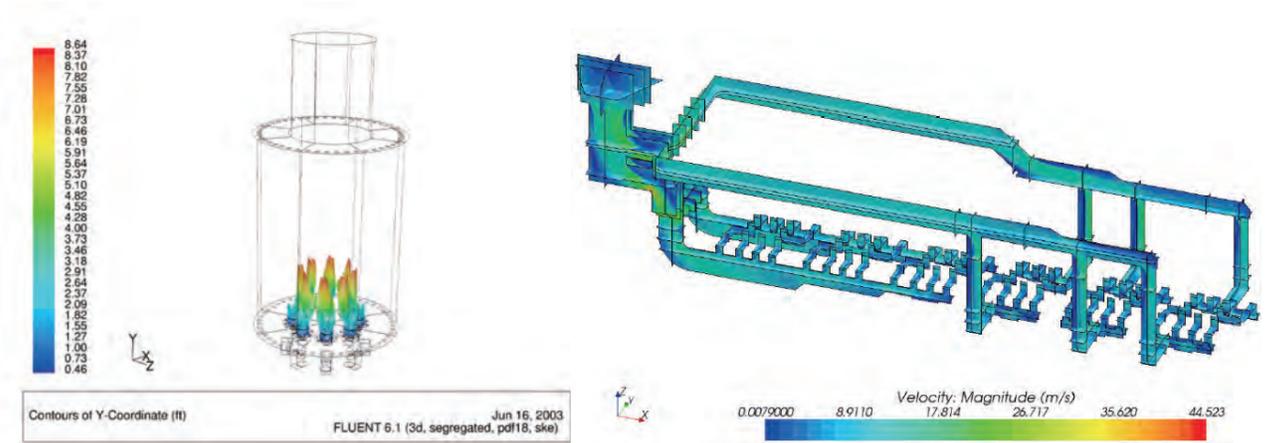
ADDING SOOTBLOWERS



TRANSPORTATION



ENGINEERING SERVICES DESIGN, ANALYSIS & FEASIBILITY STUDY



CAPACITY AND EFFICIENCY IMPROVEMENT :
 INNOVARE KTI PROVIDES OPTIMIZED DESIGN AND COST-EFFECTIVE SOLUTIONS
 TO INCREASE CAPACITY OR IMPROVE THE EFFICIENCY OF EXISTING FIRED HEATERS.



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