

FOOLAD PAYA ENG. CO.



ENGINEERING DEPARTMENT



OUR MISSION

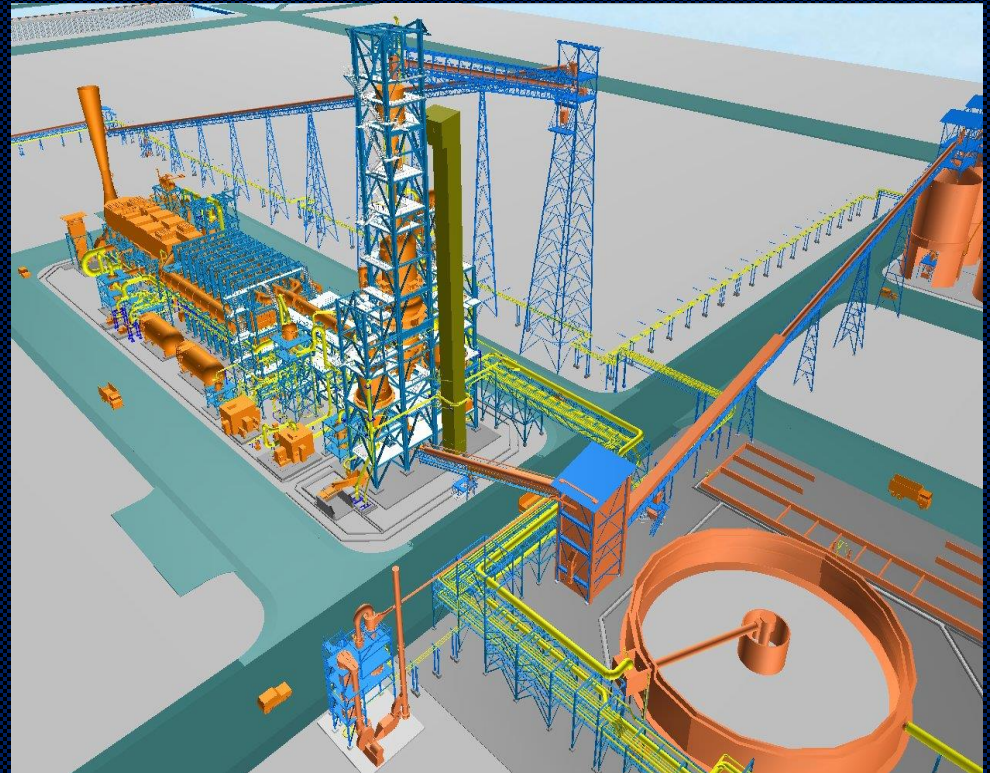
- In Engineering department, By using our knowledge and a vast sector of experiences which is accumulated in more than 2 decades, we have provided our bests for execution of engineering activities to ensure our clients get their needs that meets their requirements, with better Quality, Lower Cost, Shorter Time and Higher Performance.
- We utilize high quality experts and state of arts to achieve the optimum design, for having fabrication and to construct safely and efficiently.
- Engineering Department of Foolad Paya Eng. Co. established to support all engineering based company activities.
- The deliverables of Engineering Department covers all necessary documents which are required to support tendering, bid evaluations, procurement, contractual technical negotiations, Fabrication and Construction.
- All above mentioned activities, are possible by preparation of well-developed basic and detail engineering referenced to the international standards, customer specifications, and modern technology, as well as utilizing good skilled specialists, software, tools and rely to our decades experiences.



ENGINEERING DEPARTMENT CONSISTS OF THE FOLLOWING SECTIONS:

- Process
- Mechanical
- Piping and Utility
- Electrical
- Instrument & Automation section
- Civil and Structure
- IT Section
- Document Control Center

To provide all necessary engineering deliverables in every stage of EPC projects includes Budgeting and Bidding, Conceptual, Basic and Detail Design, Procurement, Fabrication, Construction and Commissioning and Preparation of As-built documents/drawings/data sheets.

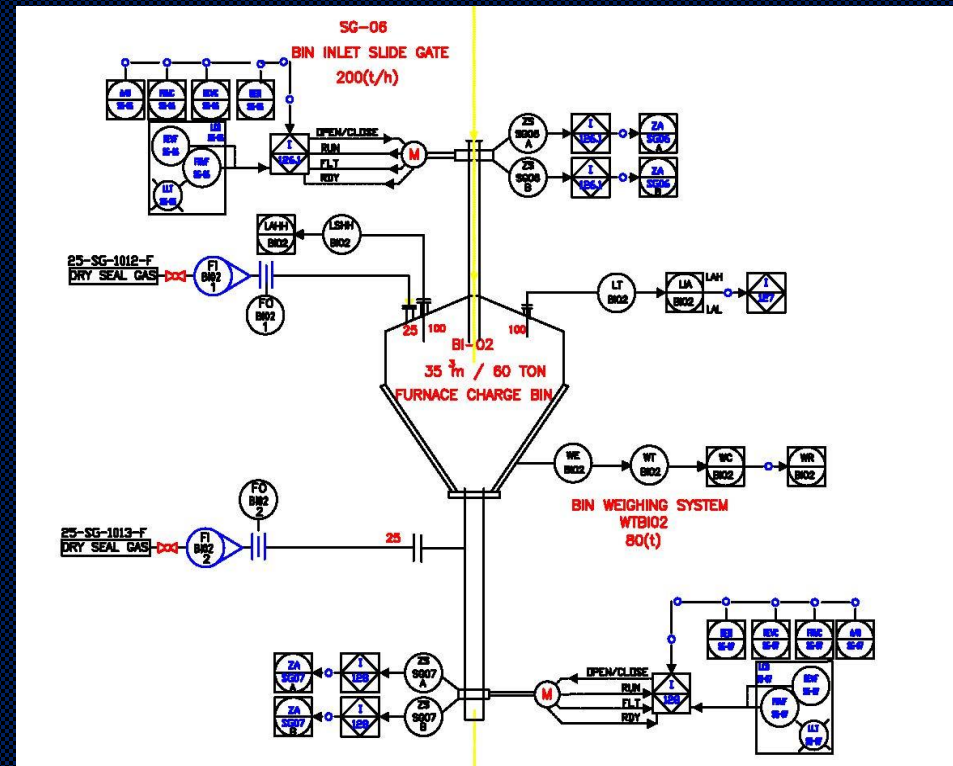




SCOPE OF ENGINEERING DEPARTMENT:

• Process:

- Plant Conceptual Design
- Process modeling and simulation
- Plant Process Issues (BFD, PFD and P&ID, control Philosophy, HAZARD and HAZOP Study,...)
- Pre-commissioning, commissioning & start-up Documents
- Process and Utility Unit (Water & Waste Water Treatment, Cooling and Heating Systems, Air and Air Separation Units, Material Handling)





SCOPE OF ENGINEERING DEPARTMENT: (CONTINUE)

• Mechanic:

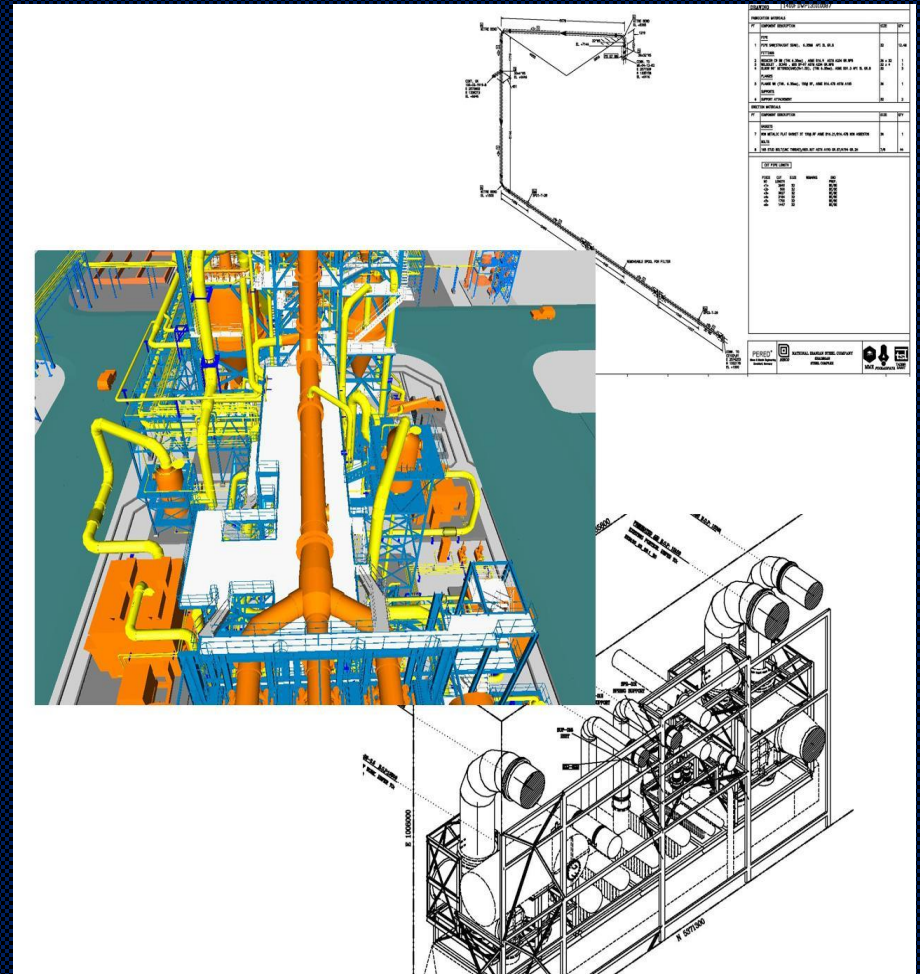
- Water Treatment System
- Nitrogen Plant System
- Pressure vessels
- Columns
- Shell and tube heat exchangers
- Flare Stack
- Above and Under Ground Storage tanks
- Material Handling System
- HVAC System
- Plant Fire Fighting System
- Wet and Dry Dust collection Systems





SCOPE OF ENGINEERING DEPARTMENT: (CONTINUE)

- **Piping:**
 - Process Piping System
 - Utility Piping System
 - AG & UG Piping
 - Piping Design Criteria
 - Material Selection
 - Modeling with PDMS
 - Flexibility & Stress Analysis
 - Support Design

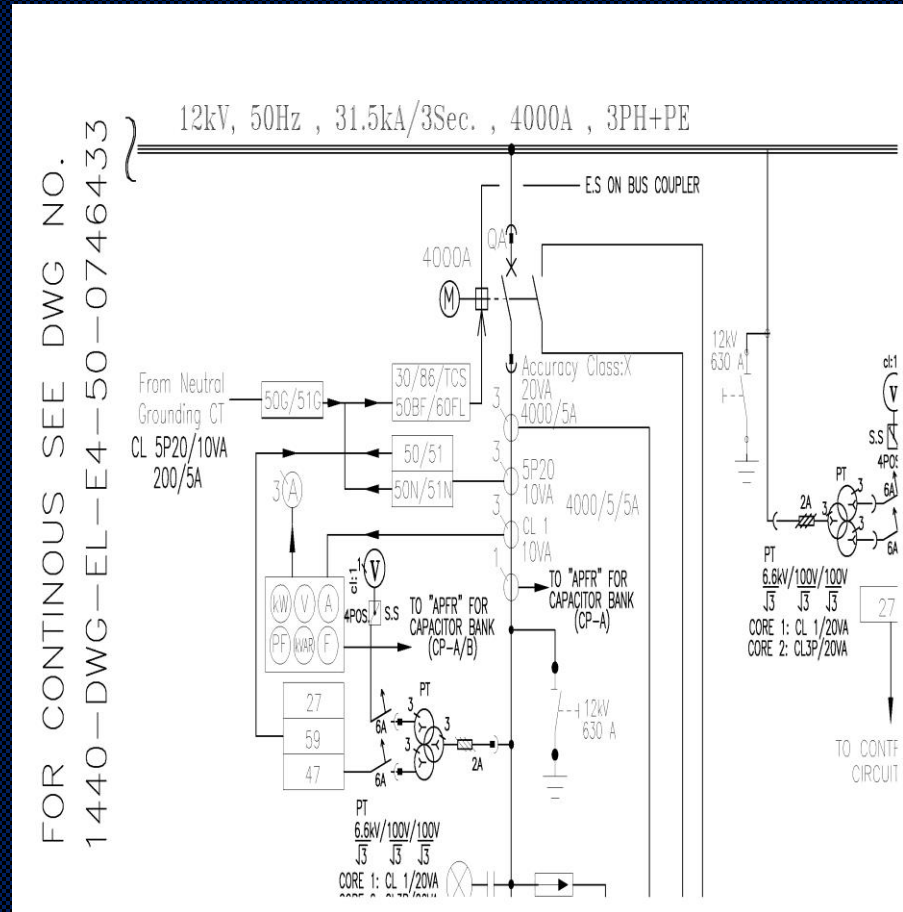




SCOPE OF ENGINEERING DEPARTMENT: (CONTINUE)

• Electrical:

- Transformer sizing study (Power & distribution)
- Technical specification for all electrical equipment
- Data sheet for all electrical equipment
- Short circuit study (ETAP software)
- Motor starting study (ETAP software)
- Load flow and power balance study (ETAP software)
- Power and Distribution Transformers
- 33 KV switchgear single line diagram
- 6.6 KV switchgear single line diagram
- Capacitor bank system
- LV switchgear single line diagram
- Earthing & lightning system
- Lighting & socket system
- DC system
- UPS system
- Cabling, Termination and Accessories





SCOPE OF ENGINEERING DEPARTMENT: (CONTINUE)

• Structural and Civil Works:

- **Heavy Industrial Structures**

(e.g. 800 tones Structure with 67 m Height supporting +2700 tones equipment)

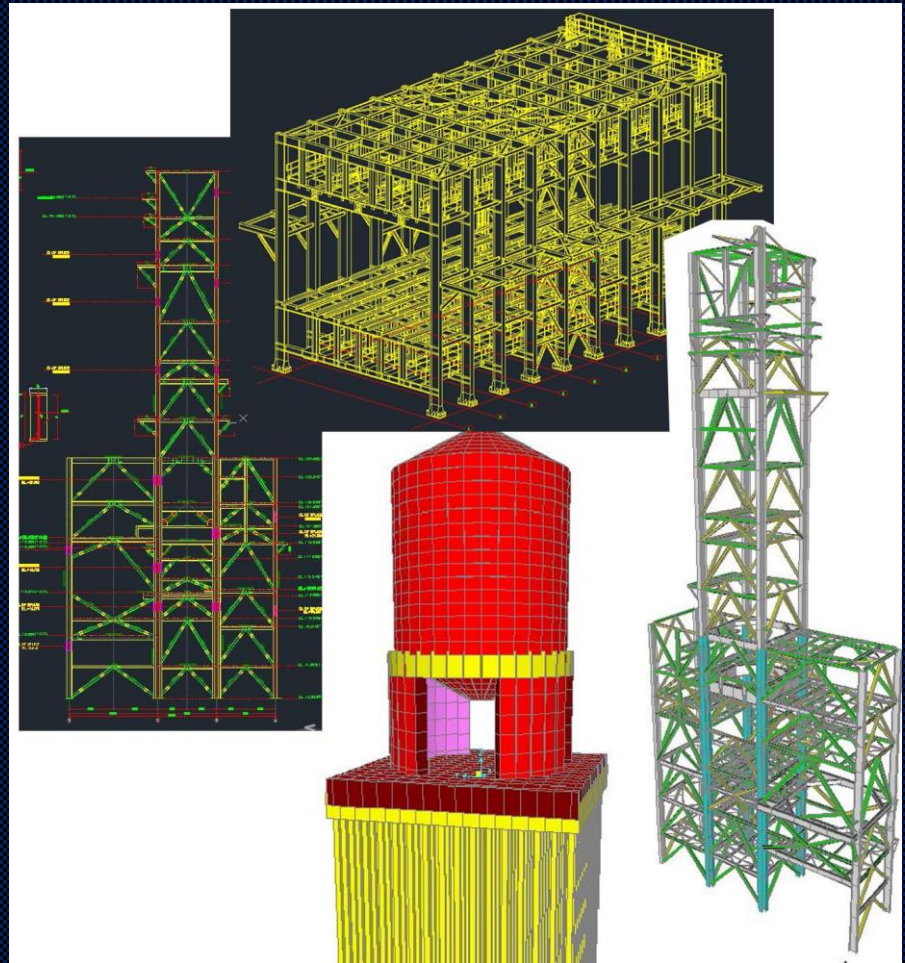
- **Major Supports of Supper Heavy Equipment (DRI Furnace, EAF,...)**

- **Foundation of Static and Dynamic Equipment**

- **Site Leveling and Paving**

- **Underground Civil Works**

- **Industrial and Occupational Buildings (Steel or Concrete Structures)**

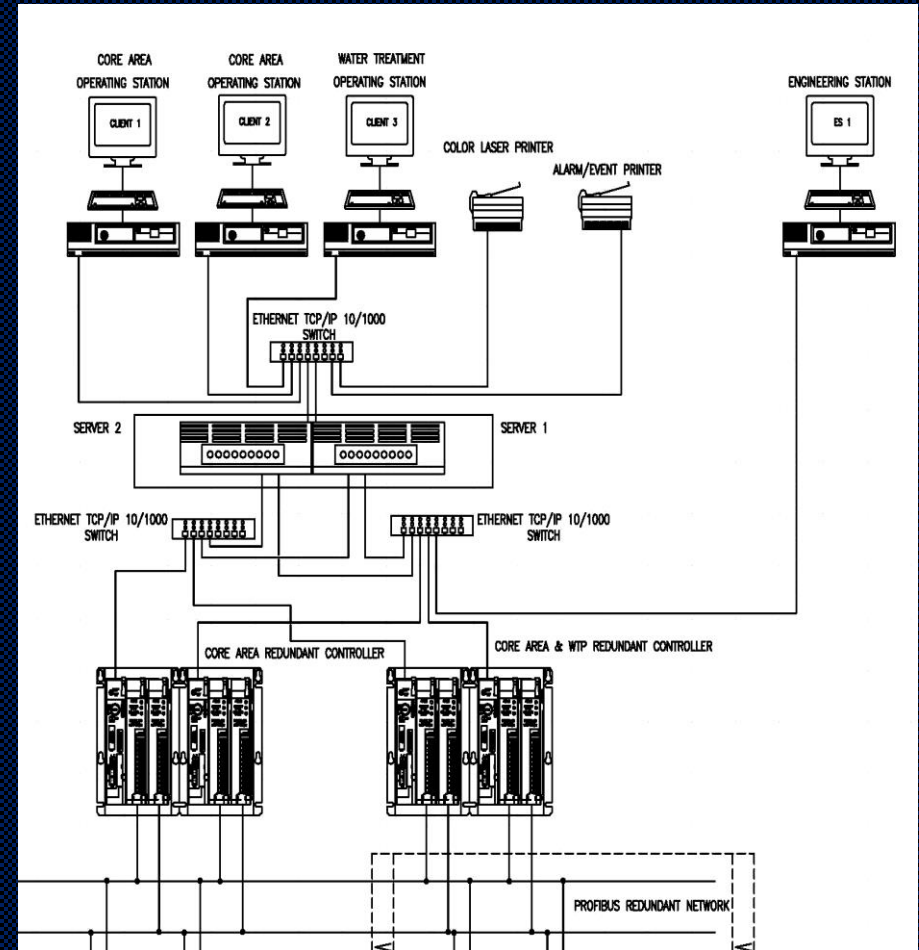




SCOPE OF ENGINEERING DEPARTMENT: (CONTINUE)

• Instrument and control:

- Detail Design of Field Instrument includes Logic Diagrams, Loop Diagrams, Data Sheets, Circuit Wiring Diagrams, I/O list, cable list, inst. layout and cable routing ,Hook-up and mounting detail ,etc.
- Technical specification and Inquiry Documents for control and monitoring system
- Technical specification and Inquiry Documents for ESD system
- Technical specification and Inquiry Documents for F&G system
- Technical specification and Inquiry Documents for bulk material





HARDWARE FACILITIES

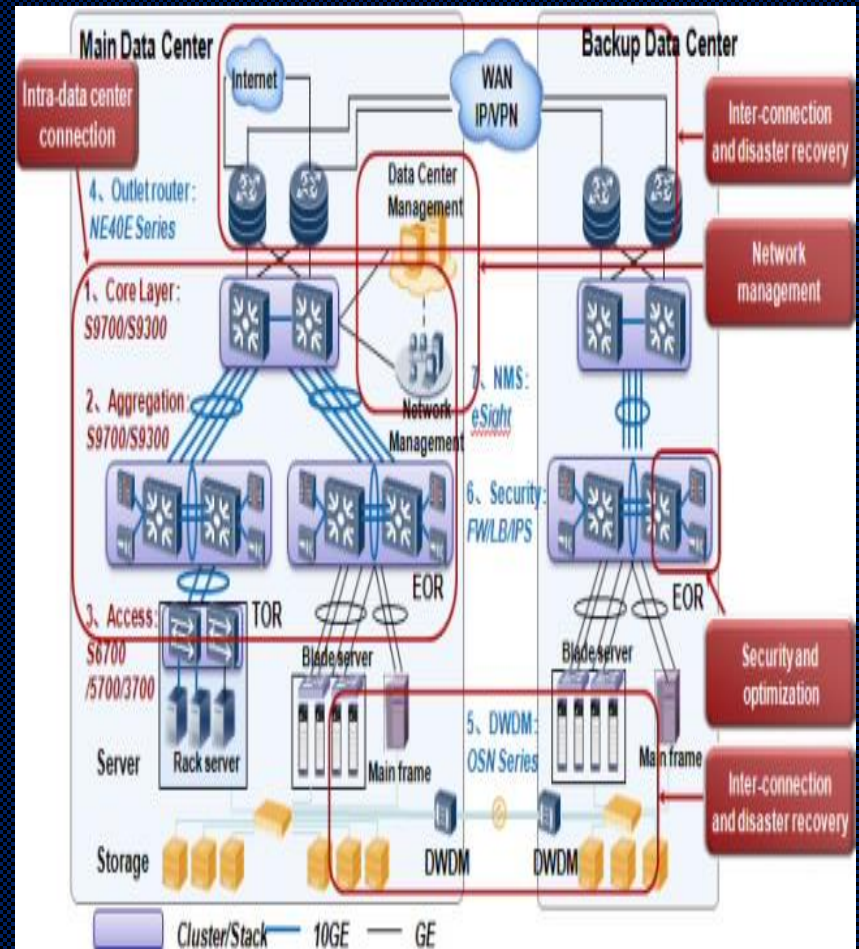
- Server 15 Pcs (Cloud Computing)
- Switch 24 port 100 Mbps 7 Pcs
- Switch 16 Port 1 Gbs 5 Pcs
- Router 5 Pcs
- Patch Panel 5 Pcs
- Node 500 Nodes
- Personal Computer (PC) & Laptop 175 Pcs
- Printer 30 Pcs
- Scanner 10 Pcs
- Plotter / Scanner 1 Pcs
- Wireless card 200 Pcs
- Access point 15 Pcs





SOFTWARE FACILITIES

- **Networking**
- MPLS and WAN Technology
- Active Directory & DNS Server
- File & Print Sharing Server
- Fax Server
- Email and Web Server
- DHCP Server
- VOIP Server
- Symantec End Point Security
- Office Automation Systems
- Network Monitoring System
- Backup Server
- VPN and Remote Management
- Network Cameras
- **Operating System**
- MS Windows Clients (XP, 7,8)
- MS Windows Servers (2003,2008,2012)
- Linux
- VMWare





SOFTWARE FACILITIES :

ENGINEERING SOFTWARE:

CONTINUE .

- ASPEN PLUS
- ASPEN HYSYS
- ProMax
- Aspen B-JAC
- Aspen Flarenet
- Flaresim
- Fluent
- PDMS
- Caesar
- Ansys
- PVElite
- NozzlePro6
- Tank
- ETAP
- E-PLAN
- DIALUX
- CALCULEX
- ETAP
- SIMATIC Manager
- INTOOLS Plant Instrumentation Design
- CROSBY Safety Valve Sizing
- LESER Safety Valve Sizing
- FISHER Control Valve Sizing
- MASELONIAN Control valve Sizing
- DRESSER Safety Relief Valve Sizing
- CONVAL
- Daniel Flow Element Sizing
- PCS7 SIEMENS
- SAP
- SAFE
- Tekla Structures
- ETABS
- Carrier (E20 II)
- AutoCAD
- Inventor
- Mechanical Desktop
- Matlab
- **Document Management and Control System "DORSA"**



SOFTWARE FACILITIES :

CONTINUE

- **Standard Documents:**

- ASME
- BSI
- DIN
- ISO
- ASTM
- ANSI
- JIS
- API
- AWS
- NASE
- IPS
- IEC
- ISA
- NFPA
- ASHRAE





SOFTWARE FACILITIES :

CONTINUE

- **Graphics**

- Adobe Photoshop CS5
- Corel Draw X10
- Flash MX

- **Project Management**

- MS Project
- Primavera Project Planner

- **Anti Virus**

- Norton End Point Security Client
- Symantec Anti virus Client

- **Official**

- Hamkaran System Procurement software
- Hamkaran System Accounting software
- Hamkaran System Inventory software

- **MS Office**

- MS Word
- MS Excel
- MS Access
- MS PowerPoint
- MS Visio
- MS Outlook



OUTSOURCING

- Depending to the work load and type of the project, we may use local or foreign experienced engineering groups or companies to handle our scope in project.
- To ensure that outsources production has the reliable deliverables we define a clear plan of complete engineering scope. We provide all design criteria and all basic design for detail design and supervise tightly outsources activities according to engineering plan and having quality control by senior engineers on all outsources deliverables. So we can certainly guaranty all deliverables that to be issued through our engineering system.





OUR SCOPE OF ACTIVITIES & CAPABILITIES:

Equipment Design for Oil, Gas and Petrochemical Industries

- Designing of pressure vessels according to ASME SEC .VIII.
- Designing of towers according to ASME SEC .VIII.
- Designing of storage tanks according to API 620 & API 650.
- Designing of heat exchangers according to TEMA & ASME
- Designer of heavy industrial steel structure according to the international standards.

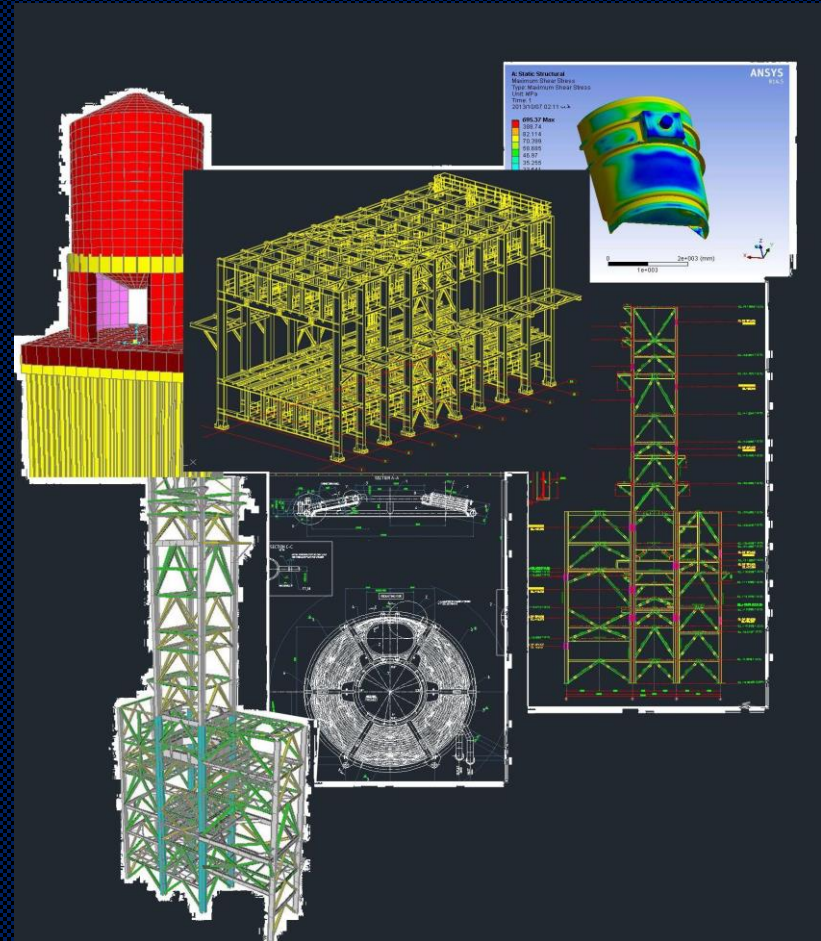




OUR SCOPE OF ACTIVITIES & CAPABILITIES:

Equipment Design for steel industries

- Water cooled systems for Electric Arc Furnaces (EAF) & Ladle Furnaces (LF)
- Mechanical Design of Ladle
- Steel structures for Billet & Slab Continuous Casting Mill (CCM).
- Steel structures for Rolling Mills.
- All items of Material Handling Systems
- Main Steel Structures for Furnace, Reformer and Heat Recovery System of direct reduction systems (MIDREX & PERED)





OUR SCOPE OF ACTIVITIES & CAPABILITIES:

Accomplished Projects in Oil, Gas and Petrochemical Industries

- Reverse engineering of Shiraz petrochemical reactor, Soda-Ash unit. (EP)
- Engineering of AG and elevated storage tanks for AMAK project. (EPC)
- Engineering of required split "T" for AMAK project. (EP)
- Engineering of oil storage tanks for Gachsaran no, 3 Desalting Plant. (EPC)
- Engineering of pressure vessels for Gachsaran no, 3 Desalting Plant. (EPC)
- Engineering of elevated storage tanks for Gachsaran no, 3 Desalting Plant. (EPC)
- Engineering of Cold Flare for Gachsaran no, 3 Desalting Plant. (EPC)





OUR SCOPE OF ACTIVITIES & CAPABILITIES:

Accomplished Projects in Steel Industries

- EAF Furnace Water Cooled Panel of Khouzestan Steel Complex (KSC)
- EAF Furnace Water Cooled Panel of Mobarakeh Steel Complex (MSC)
- EAF Furnace EBT System of Khouzestan Steel Complex (KSC)
- EAF Furnace EBT System of Mobarakeh Steel Complex (MSC)
- Revamping of EAF Suspension Beam
- Revamping of Reclaimer of Khouzestan Steel Complex (KSC)
- Material Handling of Khouzestan Steel Complex (KSC)
- DRI Plant of Hormozgan Steel Complex (HOSCO)
- DRI Plant of Kaveh Jonoub Steel Complex (KJSC)





OUR SCOPE OF ACTIVITIES & CAPABILITIES:

Engineering for EPC Plants in Steel Industries

- **SHADEGAN Steel Complex (SSCO):**

- Site Leveling and Access Road Design
- Complete Material Handling System from Raw Material income up to final product delivery
- Water Treatment System
- Piping of Process Area, Water Treatment Area, Material Handling System and all interconnection
- All Steel Structure of core area (Furnace, Reformer, Blower, Heat Recovery), Water Treatment, Material Handling
- All Building (MCC Room, Office, Workshop, Warehouse, Locker and Shower,...)
- Stacker & Reclaimer Area
- All Foundations and under ground networks
- Painting System of all plant items
- Fire Fighting System



OUR SCOPE OF ACTIVITIES & CAPABILITIES:

Engineering for EPC Plants in Steel Industries

- **BAFT Steel Complex:**

- Complete Material Handling System from Raw Material income up to final product delivery
- Water Treatment System
- Piping of Process Area, Water Treatment Area, Material Handling System and all interconnection
- All Steel Structure of core area (Furnace, Reformer, Blower, Heat Recovery), Water Treatment, Material Handling
- All Building (MCC Room, Office, Workshop, Warehouse, Locker and Shower,...)
- Stacker & Reclaimer Area
- All Foundations and under ground networks
- Painting System of all plant items
- Fire Fighting System



OUR SCOPE OF ACTIVITIES & CAPABILITIES:

Engineering for EPC Plants in Steel Industries

- **Miyaneh Steel Complex:**

- Complete Material Handling System from Day Bin to final product delivery
- Water Treatment System
- Piping of Process Area, Water Treatment Area, Material Handling System and all interconnection
- All Steel Structure of core area (Furnace, Reformer, Blower, Heat Recovery), Water Treatment, Material Handling
- Industrial Building (Workshop, Warehouse, Locker and Shower,...)
- All Foundations and under ground networks of core area
- Painting System of all plant items



OUR SCOPE OF ACTIVITIES & CAPABILITIES:

Engineering for EPC Plants in Steel Industries

- **Neyriz Steel Complex:**

- Complete Material Handling System from Day Bin to final product delivery
- Piping of Core Process Area, Material Handling System and all interconnection
- All Steel Structure of core area (Furnace, Reformer, Blower, Heat Recovery), Water Treatment, Material Handling
- All Foundations and under ground networks of core area



OUR SCOPE OF ACTIVITIES & CAPABILITIES:

Engineering for EPC Plants in Steel Industries

- **Chahar Mahal & Bakhtiyari Steel Complex (CBSCO):**
 - Site Leveling and Access Road Design
 - Scrap Yard
 - All Steel Structures of Industrial Area
 - All Electrical Substations (400 KV, SMP and Local substation)
 - Auxiliary units and Building (Laboratory, MCC Room, Office, Workshop, Warehouse, Locker and Shower,...)
 - Water Treatment System
 - All plant Piping (Process Area, Water Treatment Area, Material Handling System and interconnection)
 - Natural Gas Station
 - All Foundations and under ground Concrete networks



OUR SCOPE OF ACTIVITIES & CAPABILITIES:

Engineering for EPC Plants in Steel Industries

- **Revamp of Heat Recovery of DRI Plant (Khouzestan Steel Complex):**
 - Recuperators (By ALSTOM)
 - Piping
 - Steel Structures
 - Foundations
- **Material Handling System of “INSIG” Steel Making Plant:**
 - Process
 - Mechanical
 - Civil and Structures
 - Electrical system
 - Instrument and Control System
 - Fire Fighting System
 - Dust Collection System