

PYRAMID

ENGINEERING :: SOLUTIONS

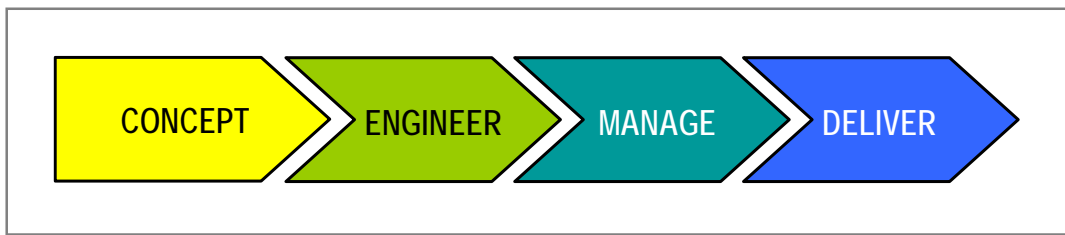
**“Global Projects & Service Provider
for Energy & Chemical Industries”**

COMPANY PROFILE



UNITED KINGDOM | USA | CANADA | INDIA | SINGAPORE | AUSTRALIA | RUSSIA | OMAN | DUBAI | CHINA | SAUDI ARABIA

- 1. Introduction**
- 2. Business**
- 3. Services**
- 4. HSE & Quality**
- 5. Information Systems**
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Pyramid Engineering & Consulting Limited is a leading provider of Engineering Services, Project Management and Lump Sum Turnkey solutions (LSTK) EPC for Energy and Chemical Industries.

Core Competence

- Engineering
- Project Management
- Procurement

Industries Served

- Oil & Gas: On Shore, Offshore, FPSO
- Refineries & Petrochemicals
- Fertilizers & Chemicals
- Terminals & Pipeline
- LPG & LNG
- Bio-fuels

Founded in 1995, Pyramid is a rapidly growing, multicultural, global company maintaining consistent relationships with its Customers, Employees and Suppliers. Pyramid Board comprises of highly qualified and experienced professionals from energy and chemical industries

Pyramid differentiates by offering high value solutions derived from its technological capabilities, comprehensive approach and competitiveness achieved through global reach and multicultural workforce.

Services

- Conceptual Design, Front End Engineering (FEED) Studies
- Project Management and Control Services
- Lump Sum Turnkey (LSTK) Engineering, Procurement & Construction (EPC) Services
- Process Equipment and Modular Process Plants design and supply
- 3D Modelling and Multidiscipline Detailed Engineering
- Special Engineering Applications
- Technology & Products Supply

Vision

- To be a Key Player in Energy Sector
- Deliver Quality Solutions Globally
- Leadership by Innovative Approach
- Best value to customers
- Growth by Excellence

Management system is based on process approach of ISO: 9001-2000 with key performance indicators (KPI) allocated for all the business activities. Pyramid believes in total transparency in all business activities and complies fully with US: FCPA guidelines.

Pyramid employs about 600 personnel across various global locations. People are the key asset and Pyramid invests significantly on training and skill development. Pyramid hires high quality, qualified personnel and provides them with relevant and specialised training for their specific function. Pyramid hires globally and is an equal opportunity employer.

Employee Profile

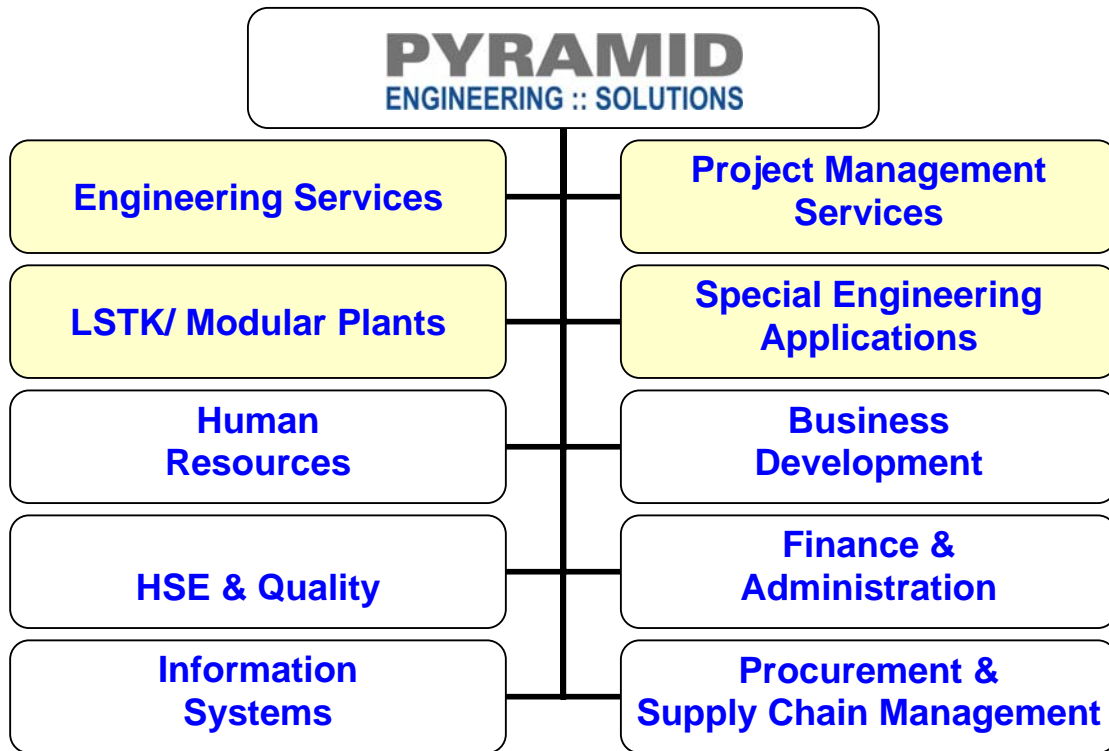
- Management: 12%
- Specialists: 8%
- Engineers: 59%
- Trade Certificate: 9%
- Support Functions: 12%

**300+ Projects
and counting....**

Pyramid is having an impressive track record of globally delivering more than 300 projects with good quality and time. Pyramid is qualified to supply in European markets and is a member of Achilles Joint Qualifications System for North Sea operators.

Ethics

Integrity, transparency and enhancing Client satisfaction are the guiding business principles in all the transactions. Pyramid strives to be a good corporate citizen and fully comply with the law of the land in various countries it works. Pyramid shall continue to maximize value creation for its clients, employees, suppliers and stakeholders in a sustainable manner.



GLOBAL LOCATIONS

Head Office	Pyramid Engineering & Consulting Limited 1000 Great West Road, Brentford, Middlesex London TW8 9HH, United Kingdom	
Centres of Excellence	London, UK Calgary, Canada Mumbai, India Houston, USA	Oil & Gas Offshore Technology Gas Treatment & Heavy Oil Processing Major Engineering Centre Refining Technology Centre
Procurement Centres	UK, USA, Canada, Dubai, India, Singapore	
Sales Offices	UK, USA, Canada India, Singapore, Russia, Australia, China, , Dubai, Saudi Arabia, Oman	
	Contact Details may be obtained from www.pyramidenc.com	

Pyramid provides services and LSTK solution to Oil & Gas facility operators from well head to pipeline.

Process engineering in Oil & Gas is key strength at Pyramid and advanced simulation tools for Process Applications and Computational Fluid Dynamics are used to deliver optimum performance.



Oil & Gas

- Field development
- Jackets and Platforms
- FPSO/ Platform Topsides Modules
- Gathering centres and Pipelines
- Plants for Oil, Gas and Produced Water treatment
- Technology & Products for performance improvement

Refinery & Petrochemicals

- Open Art Units CDU, VDU, Amine etc.
- Licensed Units
- Petrochemicals VCM, MEG,
- Polymers PE, PP, PVC
- Fibre intermediates PTA, POY
- Aromatics BTX
- Utilities and Offsites
- Small Modular Refineries

Complete lifecycle solutions for Refinery and Petrochemical plants including technology selection, FEED, process engineering, facility planning, Project Management, detailed engineering, Commissioning, Revamps and Debottlenecking.



Complete lifecycle solutions for Fertiliser & Chemical plants including technology selection, FEED, facility planning, LSTK Supply, Project Management, Commissioning, Revamps and Debottlenecking.



Fertilisers & Chemicals

- Urea Plants
- Ammonia Plants
- Organic Chemical Plants
- Polymer plants
- High / Low Temperature Shift
- CO₂ Removal System
- Zero Ammonia Emission Systems

Terminals & Pipelines

- LNG/ Cryogenic Terminals
- Crude and Product Terminals
- LPG Storage Facilities
- Mounded Storage Facilities
- Ship / Tanker Loading Facilities
- Cross Country pipelines
- Pumping and compression Facilities
- Pigging Stations

Basic Engineering, FEED, facility planning, engineering and Project Management services for Terminals & Pipelines.



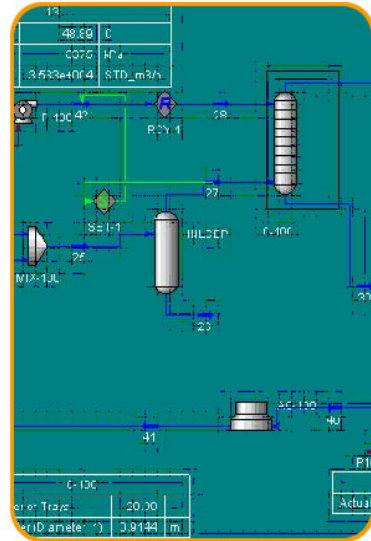
Technology, FEED, facility planning, engineering and LSTK EPC supply of Plants and Systems for Alternative Fuels.

Alternative Fuels

- Fuel Alcohol
- Bio-Diesel
- Biomass Handling & Treatment System

PROCESS ENGINEERING

- Simulation and basic engineering for *Open Art* process units
- Residual Process engineering for *Schedule A* package
- Design of package units for Oil & Gas applications
- Heat and Mass Balance, generation of PFD and P & IDs
- Specification for various equipment and package systems
- Design of plant hydraulics and pumping system
- Process Design of Distillation Columns, Separators, KO Drums etc.
- Heat exchanger thermal sizing and flow induced vibration analysis
- Design of Fired Heaters and Waste Heat Boilers
- Pipeline Surge and Slug Flow Analysis
- HAZOP & Loss Prevention Study
- Commissioning, Troubleshooting and Revamp assistance.



Software: HYSYS, HTFS, PipeNet, Smart Plant, Flare Net

PIPING ENGINEERING

- Engineering of In-plant Piping system for Refinery and Petrochemical Units
- Cross country pipelines and pigging systems
- Offshore Platform and Sub-sea pipelines
- Piping Flexibility and Stress analysis
- Composite Dynamic analysis of Piping, Equipment and Structure system
- Plant 3-D Modeling and clash detection
- Generation of Piping Layouts and Isometrics
- Piping material and Support Specifications
- Revamp and modification engineering



Software: PDS, PDMS, AutoCAD, CADWorx, CAESAR

MECHANICAL ENGINEERING

- Design of complete range of process equipment e.g. Vessels, Heat Exchangers, Columns, Cone roof, Floating roof and Dome roof API Tanks, Horton Spheres, Mounded Bullets, Silos, Fired heaters and Reformers, Unfired Boilers, Nuclear vessels, Power plant equipment.
- Mechanical Design and detail engineering as per ASME Sec. VIII Div. 1 & 2, ASME Sec. III, API650, API 620, AD Merkblatter, PD: 5500, TEMA, EJMA, NUREG, IBR, Indian Standards etc.
- Design by analysis for critical service equipment
- Stress, Thermal Analysis and Fatigue life evaluation of equipment using Finite Element Analysis.
- Generation of Data Sheets and Drawings.



Software: - ANSYS, PV Elite, Codecalc, E-Tank

CIVIL & STRUCTURAL ENGINEERING

- Design of Technological Structures for Refinery and Petrochemical Units
- Development of Industrial facilities and related civil work
- Design of Offshore Platforms, Jackets and Top-Sides
- Design of Deepwater Structures
- Seismic qualification of Nuclear Power facilities
- Stress & fatigue analysis of Structures using Finite Element Analysis.
- Structural analysis & detail engineering of Fired Heaters and Reformers
- Design and Engineering of Skids and Modular Structures
- Design of special foundations for large process equipment
- Structural 3-D Modelling and automated fabrication drawing generation



Software: - STAAD Pro, SACS, ANSYS, X-Steel, ProSteel

INSTRUMENTATION

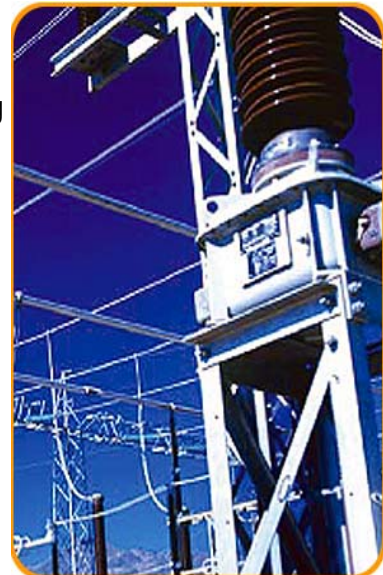
- Instrument Data Sheets and Index
- Logic Development and preparation of Cause & Effect diagrams
- DCS/PLC engineering & I/O List
- Preparation of Field Instrument and control panel specifications
- Preparation of inter lock diagrams and loop drawings
- Preparation of JB and cable schedule
- Layout for Instrument / JB / Cable trays for Field & Control room
- Installation, mounting and hook up drawings
- F&G & PA System
- Communication Network Design
- Preparation of Air and Power distribution scheme
- Sizing of Relief Valve / Control valve / orifice plate



Software: SmartPlant , INTOOLS, INSTRUCALC

ELECTRICAL

- Estimation of Power requirement and evolving Single Line Diagram for Power Distribution system and Illumination Engineering
- Specifications and schedule of quantities for Electrical Equipment.
- Cable schedules and Termination Schedules.
- General Arrangement & Civil Input Data for Switchyards, Substations, Load Dispatch Centres and Control Rooms
- Short Circuit Study & Relay Setting recommendations
- Cathodic Protection System Design
- Hazardous Area Classification Drawings
- Preparation of Layouts for Project Execution / Statutory approvals e.g. Equipment layouts, Cable Tray / Trench Layouts, Earthing & Lightning Protection Layouts and Lighting Layouts including Distribution Schedules

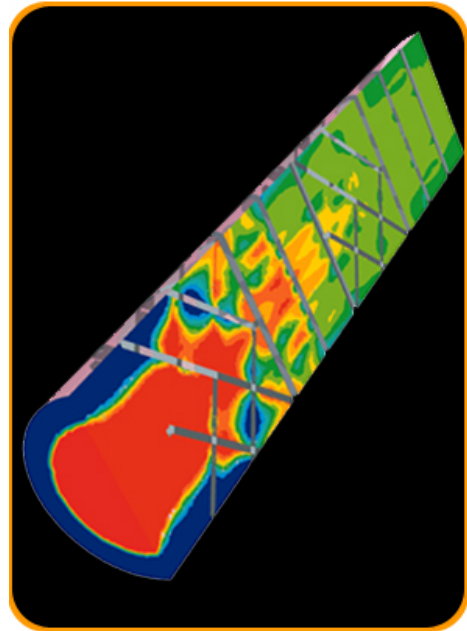


Software: SmartPlant, E-TAP. CABSYS

SPECIAL APPLICATIONS

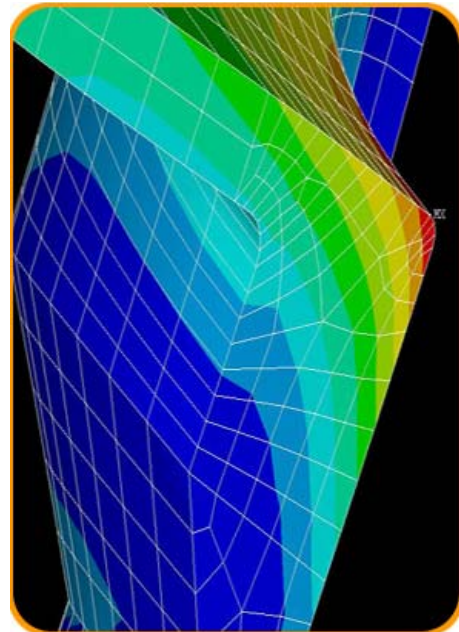
FINITE ELEMENT APPLICATIONS

- Structural and Thermal Stress analysis
- Structural Thermal Coupled Field Analysis
- Composite Analysis
- Fatigue and Vibration Analysis
- Transient & Non Linear Stress Analysis
- Qualification of components of geometry not covered by design codes
- Strength verification of Damaged or malformed components
- Domain expertise in Oil, Gas, Refining and Nuclear Industry



COMPUTATION FLUID DYNAMICS

- Heat Transfer and Fluid Flow Studies
- Two / Three Phase Separation studies
- Mass Transfer Phenomenon Studies



DESIGN APPRAISALS

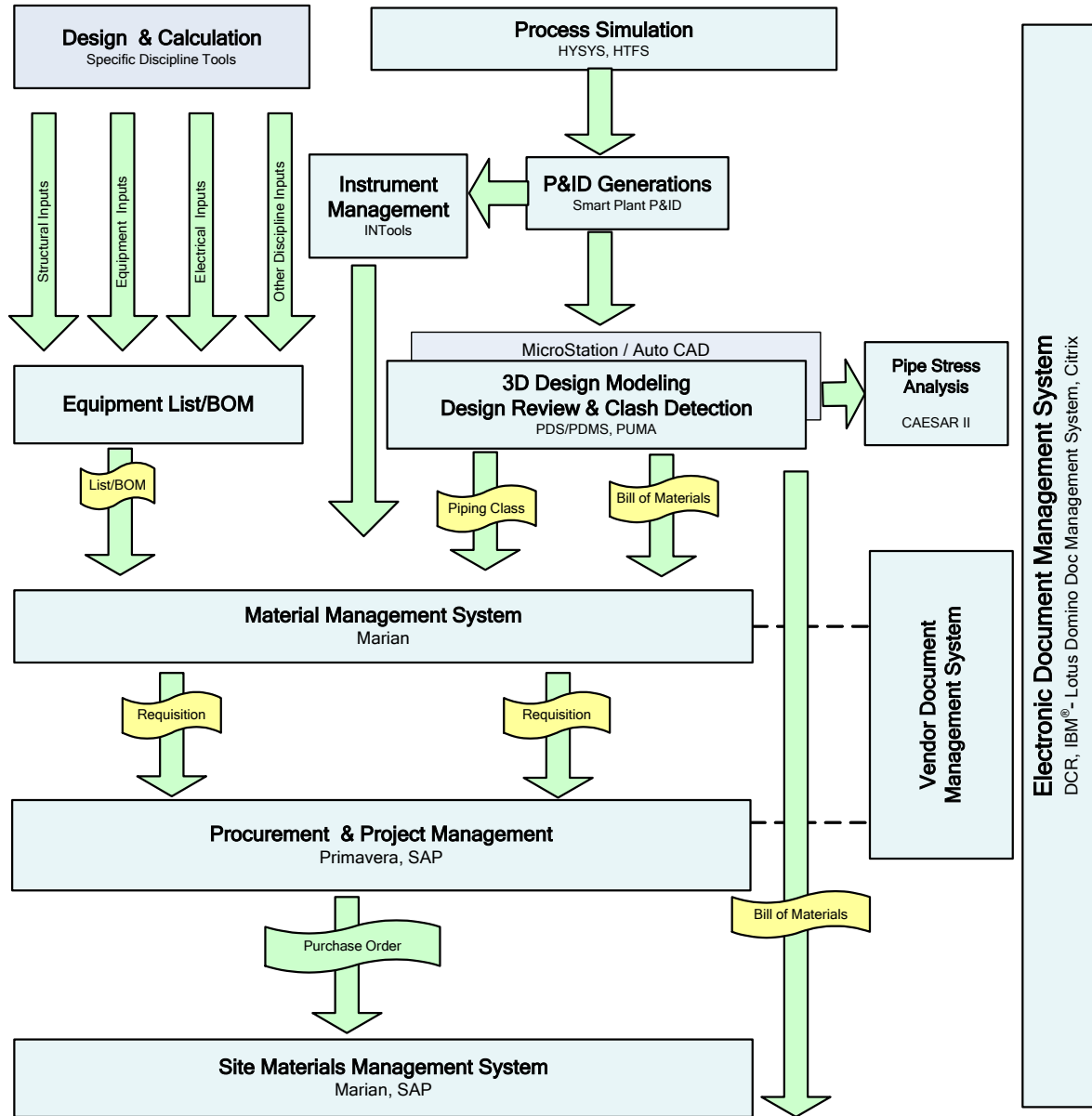
- Static Equipment
- Rotating Equipment
- Special Equipment
- Steel & RCC Structures

FAILURE ANALYSIS & RESIDUAL LIFE ASSESSMENT

Pyramid combines its domain expertise of Process Industry with highly versatile stress and vibration analysis facility to provide this unique service. Pyramid operates along with Plant Owners and Third party inspection agencies to study the failures establish the cause and provide engineering solutions to prevent or avoid recurrence

ENGINEERING MANAGEMENT

Pyramid has a clearly defined workflow and discipline interface procedures critical for multidiscipline, multi location engineering delivery.



PROJECT MANAGEMENT CAPABILITY

Pyramid strives for excellence in the execution of all its projects with Quality, Time, Cost and safety as the prime parameters.

All global offices and procurement centres are networked for effective Data Management and Communication.

Project Management is an integral part of all projects with varied scope, i.e., Design Engineering, EPC, LSTK project.



Qualified professionals with adequate experience are mobilized for effective Project Management & Control. Projects are delivered using established Project Management tools / techniques such as Gantt Charts, Critical Path Method (CPM) etc.

Project Management & Control Philosophy

- Strategy Development
- Bidder Prequalification
- Tendering & Bid Evaluation
- Contract Management
- Engineering Approvals & Quality Assurance
- Construction Management & Quality Assurance
- Planning, Monitoring and Control
- Health, Safety and Environment Management
- Budgeting and Cash Flow Estimation
- Procurement Services

PROJECT INFORMATION SYSTEM

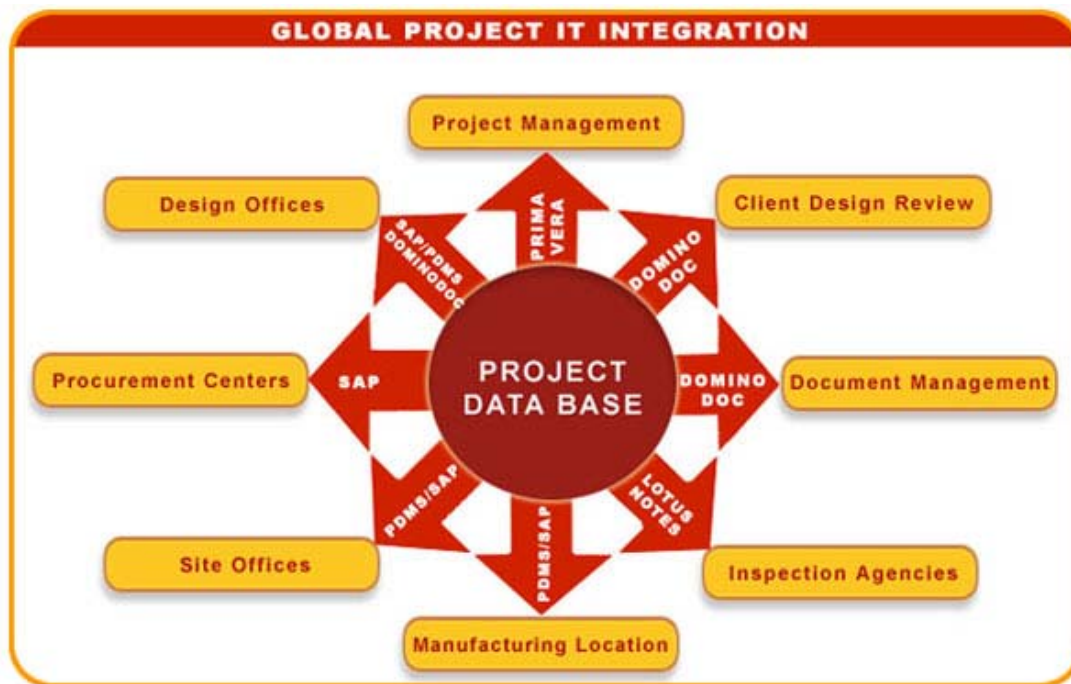
Pyramid strives for effective Project Management by utilizing state-of-the-art IT infrastructure.

Primavera® Web based Project Management Tool is effectively utilized across all the projects. This tool facilitates project planning, resource allocation and provides the details of Project status enabling efficient project monitoring / management.

IBM® Lotus Domino.Doc is effectively and securely deployed for Documentation Management System. Internal as well as external E- Mail communication is effectively managed through the IBM® Lotus Notes

All critical business processes are mapped and integrated through the deployment of **SAP® ERP**.

All IT driven Project Management tools and IT infrastructure are configured for reliability and maximum productivity.



PROCUREMENT CAPABILITY

Pyramid understands the importance of Procurement and Vendor Relationship Management in excellence of engineering and EPCM activities. Pyramid believes in long relationship where benefits of both parties are important factors. Pyramid is also committed to support vendor quality enhancements initiatives.

Pyramid has an established global procurement portal to ensure material requirements are communicated to vendors on time with minimal paperwork. Vendors and Suppliers can register themselves in the system for prequalification and bidding. The procurement system is built on robust database. Reliability, Confidentiality and security of data is of highest order. The data is updated at periodic intervals.

Global Procurement Services

- Procurement Strategy Development
- Vendor Selection
- Vendor Prequalification
- E-procurement
- Frame Agreement Development
- Supplier Relationship Management
- Vendor Documents Approval
- Inspection & Expediting
- Large Database with Pre-qualified Vendors
- Long experience with major vendors



Procurement Policy

- 3 Suppliers are integral part of organization and project execution. All dealings are kept transparent and trust worthy.
- 3 Pyramid Safe guards all personal and confidential information as collected from suppliers; it may be disclosed in case if it is required by the law.
- 3 Procuring materials/ items in timely manner fulfilling all quality and HSE aspects with economical prices.

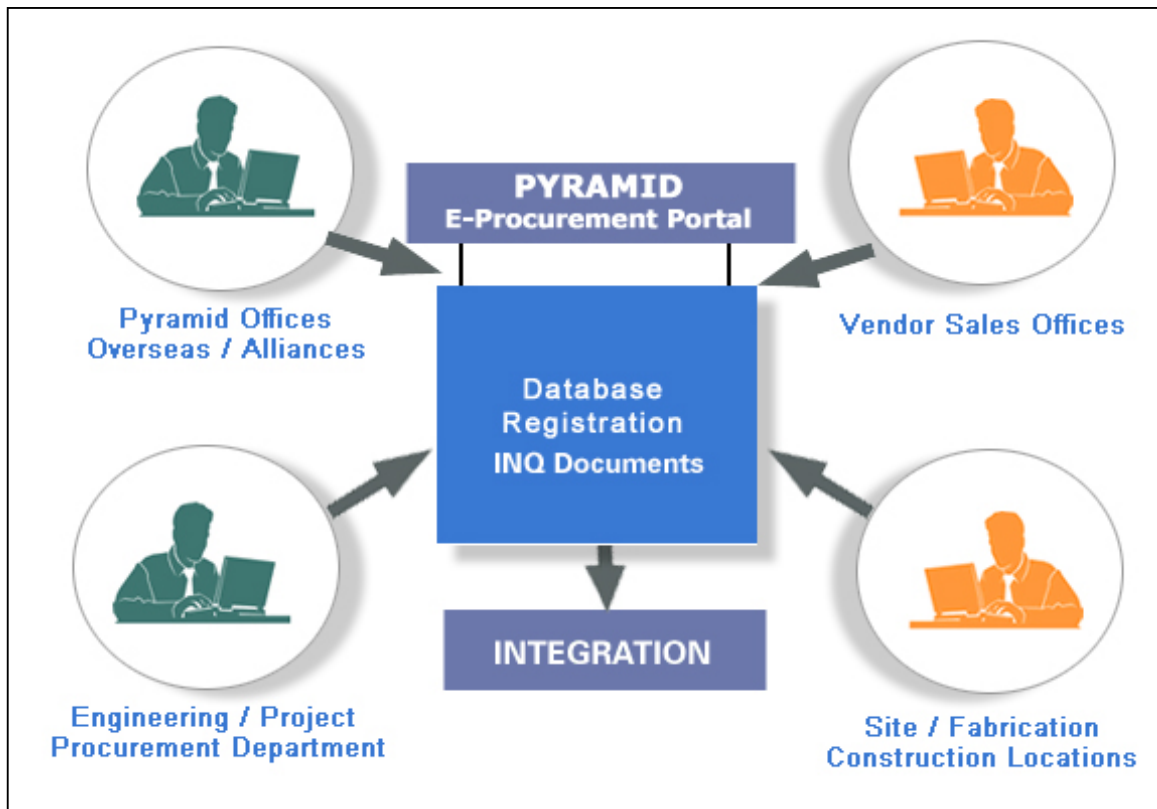
E-PROCUREMENT

Supplier can approach nearest procurement centre for submission of documents or registration.

The Procurement system is also available online (www.pyramidenc.com/procurement.html). Prospective supplier can register themselves and upload the relevant documents.



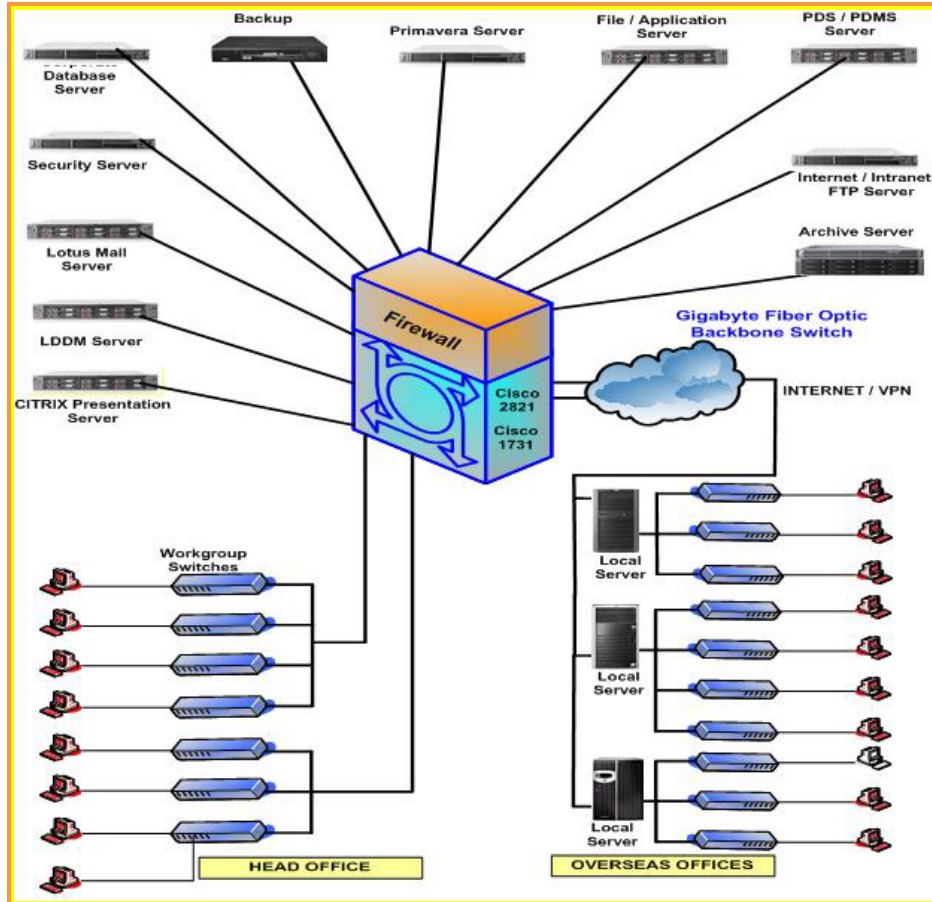
On review from pyramid Procurement Department, a unique username and password is provided for login and future bids and material requirements.



INFORMATION SYSTEM

Pyramid maintains state-of-the-art IT Infrastructure which contributes to the overall excellence of all the Business Processes. The information system is described as following major component:

NETWORK TOPOGRAPHY

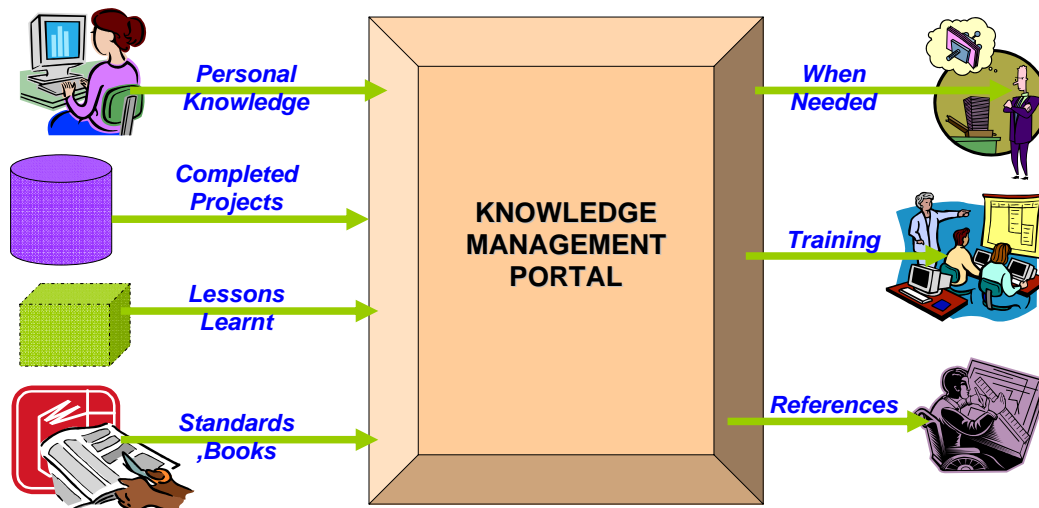


HARDWARE		
File Servers	Data Storage	HP
Application Server	Citrix, SAP, Primavera , Lotus Domino Doc, File , Archive, Lotus Notes , Same time , PDS,PDMS	HP
Desktops	Work station and general	HP / Compaq.
Laptops	General purpose, Presentation	HP/ Compaq/ Sony
Router	Networking Switch	CISCO
Scanner	A0 size Scanner	ColorTrac
Printers	A4 to A3 size , B & W and Color	HP, Sharp
Plotter	A3 to A0 size	HP

Engineering Applications			
Process Engineering		Mechanical Engineering	
HYSYS	Process simulation	PDS®	3-D Plant Design & Modeling system
HTFS	Heat Exchanger design	PDMS®	3-D Plant Design & Modeling system
SmartPlant P&ID	Intelligent P&ID Generation	ANSYS®	Finite Element Software
PipeNet	Piping Network Design	Caesar II	Piping Stress Analysis
Flarenet	Flare Network Design	PV Elite	Design of Pressure Vessels
Instrumentation		E- Tank	Design of API Storage Tanks
Smart Plant Intools	Instrumentation suite	CodeCalc	Design of Pressure Vessels
InstruCalc	Design and sizing calculations	Cadworx	2D and 3D Modeling
Electrical Engineering		Alias I-Sketch	Isometric Modeling
ETAP	Electrical Power system study	Marian	Material Management Software
Structural Engineering		Navis Works	3D Model Review
STADPRO	Analysis and Design of structures	Microstation	3-D & 2-D CAD drafting.
SACS	Offshore Structure design	AutoCAD	3-D & 2-D CAD drafting.
Enterprise Management Tools			
SAP®	Enterprise Resource Planning	IBM® LotusNotes	E- mail Communication
HRMS	Human Resource Management	EDMS(KRONODOC)	Documents Management
Primavera®	Project Management	Lotus® TimeSheet	Time Management application
Sage ACT®	Customer Relationship Management	Lotus® DCR	Planning and tracking documents
IT Applications			
Windows	Operating System	Oracle Database	Scalable Database
CITRIX	Web Access & Virtualization	MS SQL Server	Scalable Database
Symantec	Anti-Virus Software	VERITAS	Back up software
Fortinet	Firewall system	Cisco	Router and LAN Management
MS- Office	Standard Offices Applications	MS - Visio	Graphics and Drafting application

OBJECTIVES

- To make the right information available to the right people at the right time.
- Managing Knowledge within the organization as a database
- Creation, capture, storage and dissemination of Expertise and Knowledge.
- Codes, Standards, Articles, Suppliers' information etc. are managed by IT Applications.
- Dedicated Knowledge Server available for storage of Data / Information with periodic back-up system
- Secure access to the information / solutions / knowledge and sensitive data.



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