Engineering Capability Presentation
About Pyramid E&C

- Est. 1995, professionally managed Company
- Over 500 projects executed till date
- Employs over 600 Engineers and Construction Staff
- Main operations in UK, Middle East and India
- Certified to ISO 9001:2008 and Achilles JQS for North Sea
- Complete value chain for Oil & Gas Production, Transportation, Storage and Refining facilities

PLAN  DESIGN  BUILD  MANAGE

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INDUSTRIES SERVED

Pyramid E&C has core competence in following industry segments

- Oil & Gas
- Refining and Petrochemicals
- Hydrocarbon Storage & Distribution
- Biofuels
Pyramid E&C’s Policy is to provide Competitive, Safe and Innovative engineering solutions in a Productive, Lawful, Ethical and Socially responsible manner.


Achilles JQS for North Sea Company Reg.no:11-120253
Pyramid E&C is organized into following business units supported by group engineering and manufacturing assets. The project delivery models include Lumpsum, Reimbursable, Cost Plus, Rentals, Build own operate.

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Locations

Studies
Pyramid Engineering & Consulting, London, UK

Engineering
Pyramid Consulting Engineers, Thane, India

FEED/ EPC
Pyramid E&C Dubai, UAE

Process Modules
Avesta Engineering, Mundra, India

Other Offices: Singapore, Norway, Iraq, Saudi Arabia, Oman, Houston, Kuwait

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Pyramid E&C Dubai

Office setup in 2008 as Middle East regional Headquarters. The office is designed for 50 personnel providing following services:

- Sales
- Proposals
- Front End Engineering
- Project Management
- Banking & Finance
- Human Resources
- Procurement
Pyramid E&C India

Office setup in 1995 as Engineering Centre, grown to 700 personnel Capacity. Activities carried out are following:

- Proposals
- Detailed Engineering
- Procurement
- Human Resources
- Quality Management
- IT and Back End Support
Pyramid E&C London

Office setup in 2006 to develop business in Europe and Scandinavia. The office provides technical expertise and specialist services for Oil & Gas Offshore business. The main business areas handled are:

- Floating Production
- Subsea Engineering
- Human Resources
- Business Development
- Strategic Alignments
Engineering Capability

Comprehensive engineering team with track record of delivering more than 500 global assignments successfully.

- Feasibility and Conceptual Studies
- Front End Engineering & Design
- HSE Studies
- Tendering and Bid Evaluation
- Detailed Engineering
- Vendor Document Approval
- Construction Engineering
- Field Engineering Support
**Engineering Resources**

- **Base Staff**: 150
  - Plant Design: 4
  - Instrumentation: 6
  - Process: 15
  - Mechanical: 35
  - Project: 17
  - HSE & Q: 28
  - Civil/Structural: 20
  - Support Staff: 19
  - Documentation: 12

**Base man hours:** 300,000 Annum

**Total Capacity:** 1.3 Million Man-hours per annum

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ENGINEERING DISCIPLINES

Pyramid E&C has all the major disciplines in-house e.g.

- Process Engineering
- Mechanical Engineering
- Piping Engineering
- Civil & Structural Engineering
- Electrical Engineering
- Instrumentation Engineering
- Safety Engineering
- Risk Management
- Asset Integrity
- Environmental Studies
Process Engineering

- Process Simulation
- Basic engineering
- PFD & P&ID Development
- HAZOP & Safety Studies
- Design of Process equipment
- Plant hydraulics design
- Specification for package systems
- Instrument Specifications
- Loss prevention system design
- Operation & Maintenance Manual preparation
- Commissioning & Troubleshooting

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Mechanical Engineering

- Static equipment e.g. distillation Columns, Vessels, Tanks, Heat exchangers and Reactors as per International codes & Practices (ASME, API, BS, EN, TEMA etc.)
- Design by Finite Element analysis, Stress, Thermal analysis & Fatigue life evaluation
- Specification of Pumps and Compressors
- Specifications for Package bought outs
- Technical and commercial bid analysis
- Vendor Document Approvals
- Factory acceptance test witness
Piping Engineering

- Development of Plot Plans and Equipment layouts
- Strength Calculations
- Flexibility analysis
- Plant 3-D Modeling and clash detection
- Piping Material Specification
- Support specifications
- Isometrics and Bill of Materials
- Advanced dynamic analysis
Civil & Structural Engineering

- Development of infrastructure and facilities
- Subsurface related civil work
- Foundation Design
- Structural analysis
- Structural design
- Offshore Design of Platform top sides
- Engineering of Skids and Modular Structures
- Structural 3-D Modelling
- Automated fabrication drawing and MTO generation
Electrical Engineering

- Electrical System Study
- System reliability and stability study
- Substation Design
- Hazardous Area Classification
- Load Calculation and System design
- Specifications for Electrical Equipment
- Calculation of Electrical Bulk materials
- General Arrangement & Interface inputs
Instrumentation Engineering

- Development of Control Logic
- Preparation of Cause & Effect diagrams
- Safety studies
- Specifications of controls system
- DCS/PLC engineering
- Preparation of Field Instrument specifications
- Layout and 3D modelling of Instrument system
- Mounting and hook up drawings
- Communication Network Design

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Safety Engineering

- Study Facilitation (HAZOP, HAZID, ENVID, BOWTIE etc)
- Active Fire Protection Design
- Passive Fire Protection Design
- Firewater System Design
- Blowdown/ Flare Studies
- Fire & Gas Mapping
- Site Hazard Assessment
Risk Management

- Fire & Explosion Studies
- QRA Studies
- Risk Assessment Studies
- TR Impairment Studies
- EERA Studies
- ESSA Studies
- HSEIA Studies
- ALARP Demonstration
- Cost Benefit Analysis
Specialist Studies

- Finite Element Stress Analysis
- Computational Fluid Dynamic Studies
- Gas Dispersion & Explosion Analysis
- Noise & Vibration Studies
- Fire & Gas Mapping (3D)
- Flow Assurance Studies
- Residual Life Assessment

Separator CFD Model

Pressure Vessel Nozzle FEA

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Asset Integrity

- Reliability Availability Maintainability (RAM)
- Reliability Centred Maintenance (RCM)
- Risk Based Inspection (RBI)
- Safety Integrity Level (SIL) Assessments
- Logistics & Transportation studies
- Failure Modes Effects & Criticality Analysis (FMECA)
- Life Cycle Costing
Environmental Studies

- Baseline Environmental Studies
- Environmental Risk Studies
- Legislative Compliance Reviews
- Preparation of Registers
Engineering Collaboration

- Document Management using Kronodoc®
- PDS/ PDMS Based collaboration for 3D environment
- Secure FTP based document delivery
- File Server with Active Directory Access control
- Lotus Redliner for 2D Drawings and Documents
- Multimedia Presentations
- Citrix® based application Virtualisation
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<td>Caesar II</td>
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<td>ANSYS</td>
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<td><strong>Instrumentation</strong></td>
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Engineering Coordination

Engineering Quality Management

- Level 1: Self Check
- Level 2: Review by Superior
- Level 3: Approval by Head of Group
- Level 4: Collaborative Review (PDS/ PDMS)
- Level 5: Interdisciplinary Check (IDC: Lotus Redliner)
- Level 6: Approval by Project Manager
- Level 7: Submission to Customer

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Information System

- Helpdesk
- Backup & Archive
- Documentation
- Collaboration
- Internet & Security
- Communication
Communication Systems

- Lotus Notes: E-mail
- Avaya IPBX Solution
- Polycomm Audio Conferencing
- Polycomm Video Conferencing (4 Channels)
- Internet Website
- Intranet Portal
- Secure FTP Server
- Facsimile Machines
Documentation

△ Comprehensive documentation center
△ Kronodoc® Document Management System
△ Secure file server for work in progress
△ Archive Server for completed projects
△ Printers and Plotters upto A0 size
△ Large format scanners upto A0 size
△ Compactor based Storage
HSE & Quality Management System

- Quality Management System are certified to ISO-9001-2008
- HSE Systems conform to OSHAS-18001 & ISO-14000
- Qualified by Achilles JQS- Largest Supplier database for UK/USA and European Oil & Gas Sector
- Key policy factors are Safety, Quality and Customer Satisfaction.


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