



Engineers India Limited



Engineering Services

Engineering Solutions from Concept to Commissioning
with a Customized Pre-emptive Approach



Engineering Services at Engineers India Limited



Delivering Excellence through People

PROFILE

Engineers India Ltd. (EIL) is a leading global engineering consultancy and EPC company. The Company has a diverse portfolio comprising Hydrocarbon, Chemicals & Fertilizers, Mining & Metallurgy, Infrastructure, Water and Waste Management, Solar & Nuclear Power sectors.

EIL has emerged as a 'Total Solutions' engineering consultancy company providing design, engineering, procurement, construction and integrated project management services from 'Concept to Commissioning' with highest quality and safety standards. It also provides specialist services such as heat and mass transfer equipment design, environmental engineering, specialist materials and maintenance and plant operations and safety services.

EIL has successfully completed all projects, all of which are operating smoothly (in most cases at more than rated capacity), and has, hence, created an array of satisfied clients. EIL has secured many repeat businesses from its clients which is a sign of client satisfaction, confidence and trust reposed in EIL.

EIL has earned the reputation of being a veritable treasure of technical knowledge, skills and professional competence. EIL has worked with almost all process licensors and a large number of engineering/ contracting companies worldwide and our engineers are well versed with international engineering codes and standards. With a workforce of over 3000 experienced employees & a variety of specialised services available under one roof, EIL offers an unique advantage to clients like none other.

5.6 million available Technical Manhours annually
9,600 available Construction Management and Supervision Man-months annually

GLOBAL PRESENCE

Geographical Regions	Key Countries served
Middle East	UAE Bahrain Kuwait Iran Oman Saudi Arabia Qatar Iraq
Asia / Asia Pacific	Australia Malaysia Indonesia Bangladesh Vietnam
Europe	Norway Turkey
Africa	Algeria Ghana Kenya Nigeria Angola Sudan Cameroon

TRACK RECORD

- 72 Major Refinery projects, including 10 grass root refineries,
- 9 Petrochemical complexes,
- 41 Oil and Gas Processing projects,
- 213 Offshore platforms including 40 process platforms,
- 46 Pipeline projects,
- 13 Ports, Storage & Terminals,
- 9 Fertilizer projects,
- 32 Mining and Metallurgy projects,
- 33 Infrastructure projects (airports, highways, bridges, water management, & energy-efficient intelligent buildings),
- 23 Turnkey/EPC projects.
- Infrastructure Projects
- Power / Captive Power Projects



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EIL's Key Strengths:

More than 5 Decades of Project Execution Experience

- More than 5000 assignments including over 400 major projects worth USD 200 Billion in total cost.

Concept to Commissioning Capabilities

- Feasibility, Licensing, FEED, PMC and EPC services
- Post Commissioning & Specialized services

Familiarization with Licensed Technologies

- Worked with most of the Licensors in world across wide spectrum of technologies in O&G, Refining, Petchem, Fertilizers, Non Ferrous

Vast In-house Data Bank

- Knowledge archives of Past Projects
- Vendor, Contractor and Cost information

Value Engineering

- Strong Design capabilities, Exposure to alternative technologies
- Extensive data bank, vast experience in green fields & revamps
- Feedback from operating plants.

Comprehensive Service Capability

- Multi-disciplinary expertise under one roof.

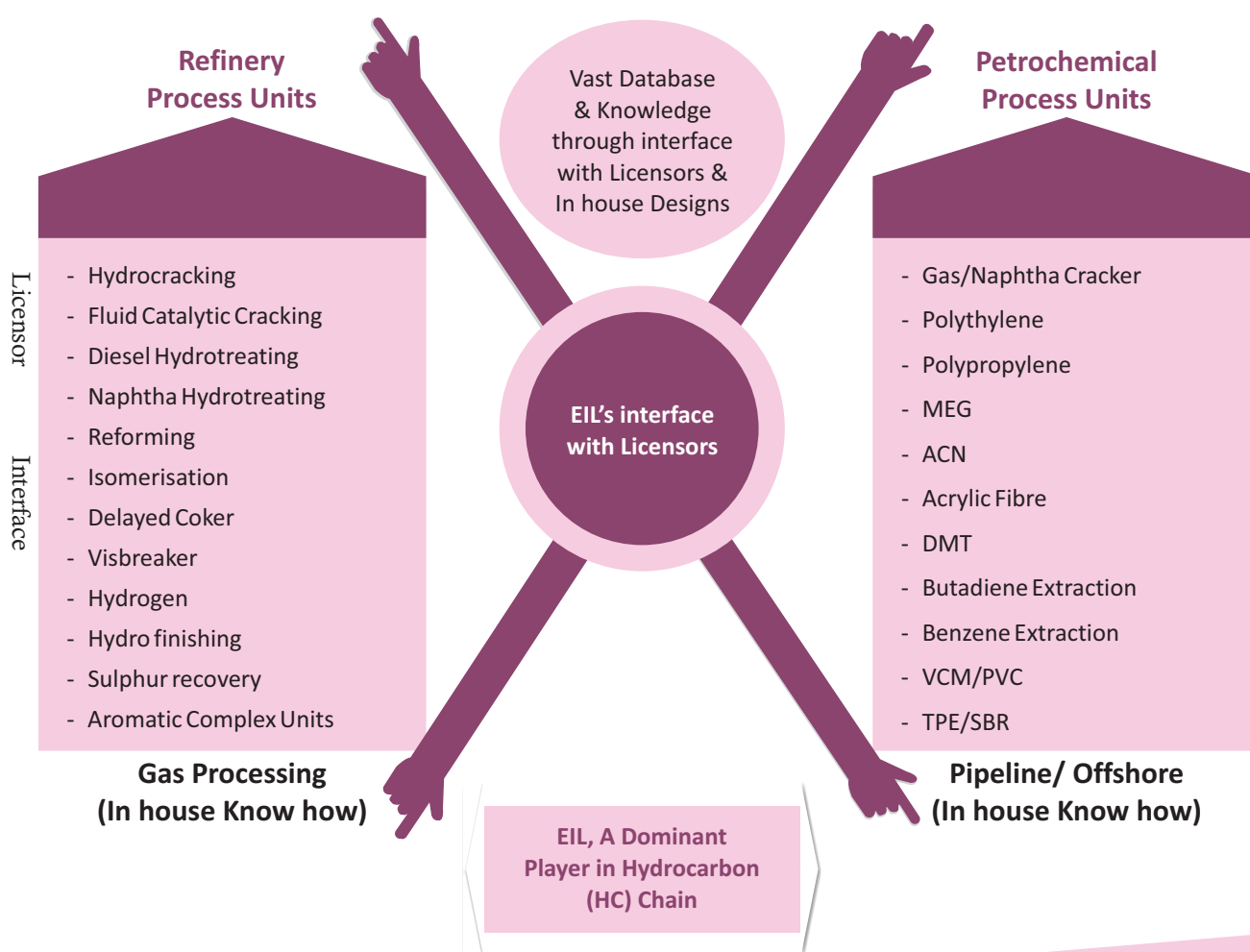
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EIL Experience – Licensed Technologies

EIL has wide exposure of working with all the major technology licensors in the field of Refineries as well as Petrochemicals. EIL has done technology selection for various competing technologies based on technical & commercial evaluation. EIL has also been involved in the review of Basic Design Packages prepared by licensors at various stages including review of Process Flow Diagram (PFD's), Process specifications of Critical Equipments, P&ID's, Equipment layout etc. EIL has also carried out residual process design for all such units followed by follow up during detail engineering stage.



- EIL rich experience with almost all international licensors for various refineries & petrochemical led to creation of a significant data bank.
- Invaluable skills to impart value engineering inputs towards optimisation of Plant Configuration & hardware.
- Overall uniformity & standardization through PMS, Control, Equipment, Design Standardization.

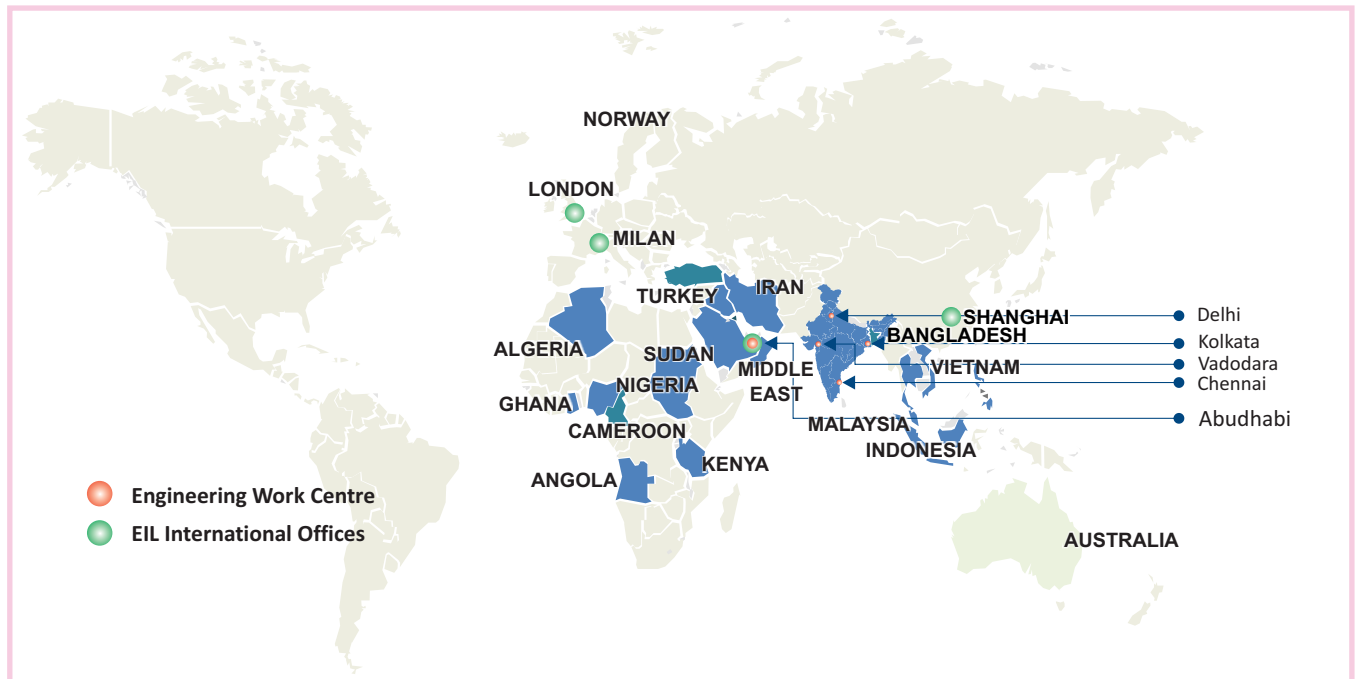
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Experience Credentials & Global Presence



Overseas Clients

MIDDLE EAST

ADNOC, ADMA OPCO, GASCO, TAKREER, ADCO, ZADCO, BOROUGE, BUNDUQ, NPCC, ADGAS, BANAGAS, BAPCO, ALBA, KNPC, EQUATE, PIC, NPC, ORPIC, SAUDI ARAMCO, SABIC

ASIA

PETRONAS, WIKA, PAU, TPAO, BCIC

AFRICA

SONATRACH, BOST, KPRL, DANGOTE, INDORAMA, SONANGOL, SUDAPET, WNPOC, HYDROMINE GLOBAL MINERALS GMBH Ltd.

INDIA



INTERNATIONAL



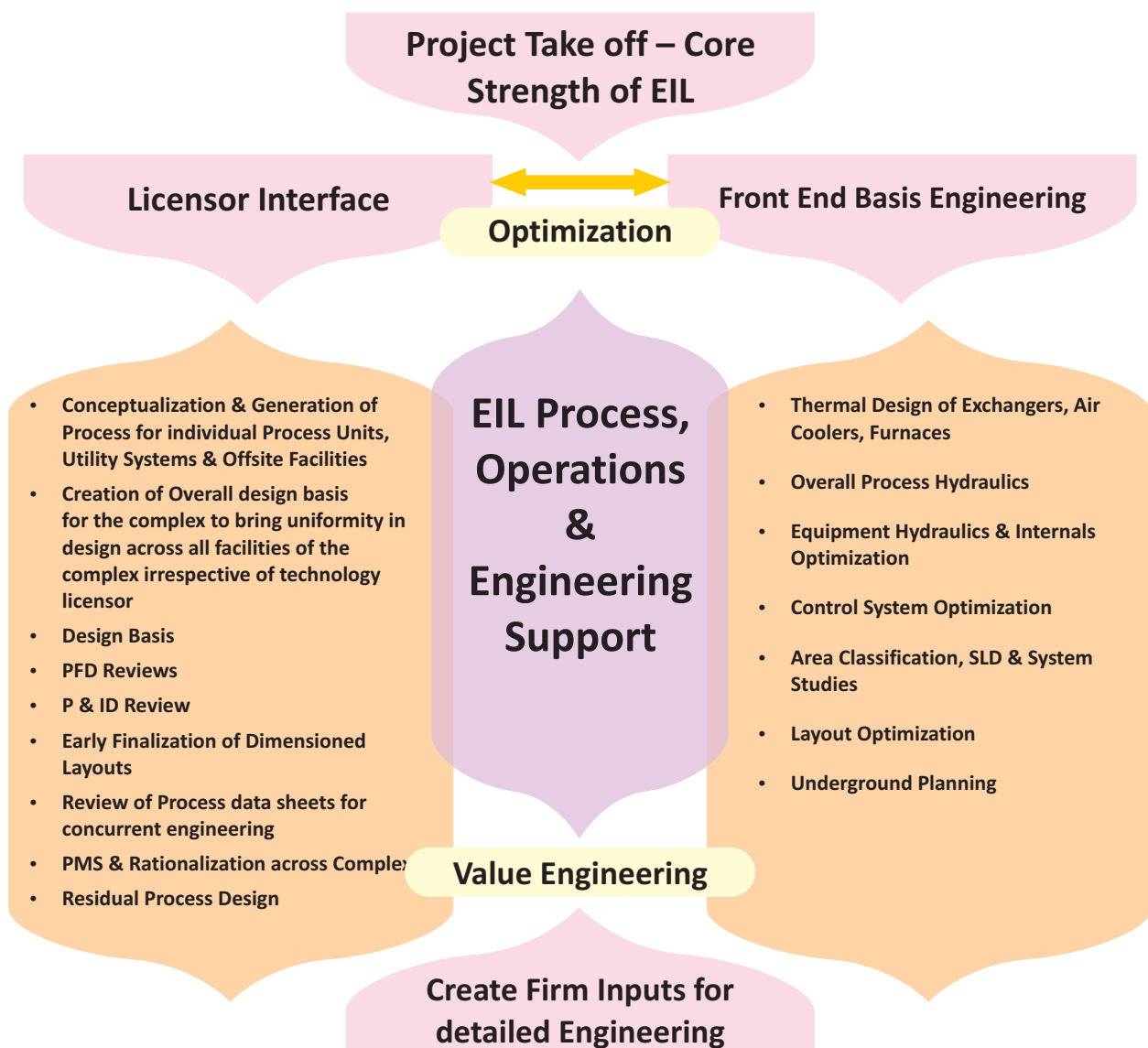
Delivering Excellence through People

Engineering Services at Engineers India Limited

Delivering Excellence through Our Strengths:

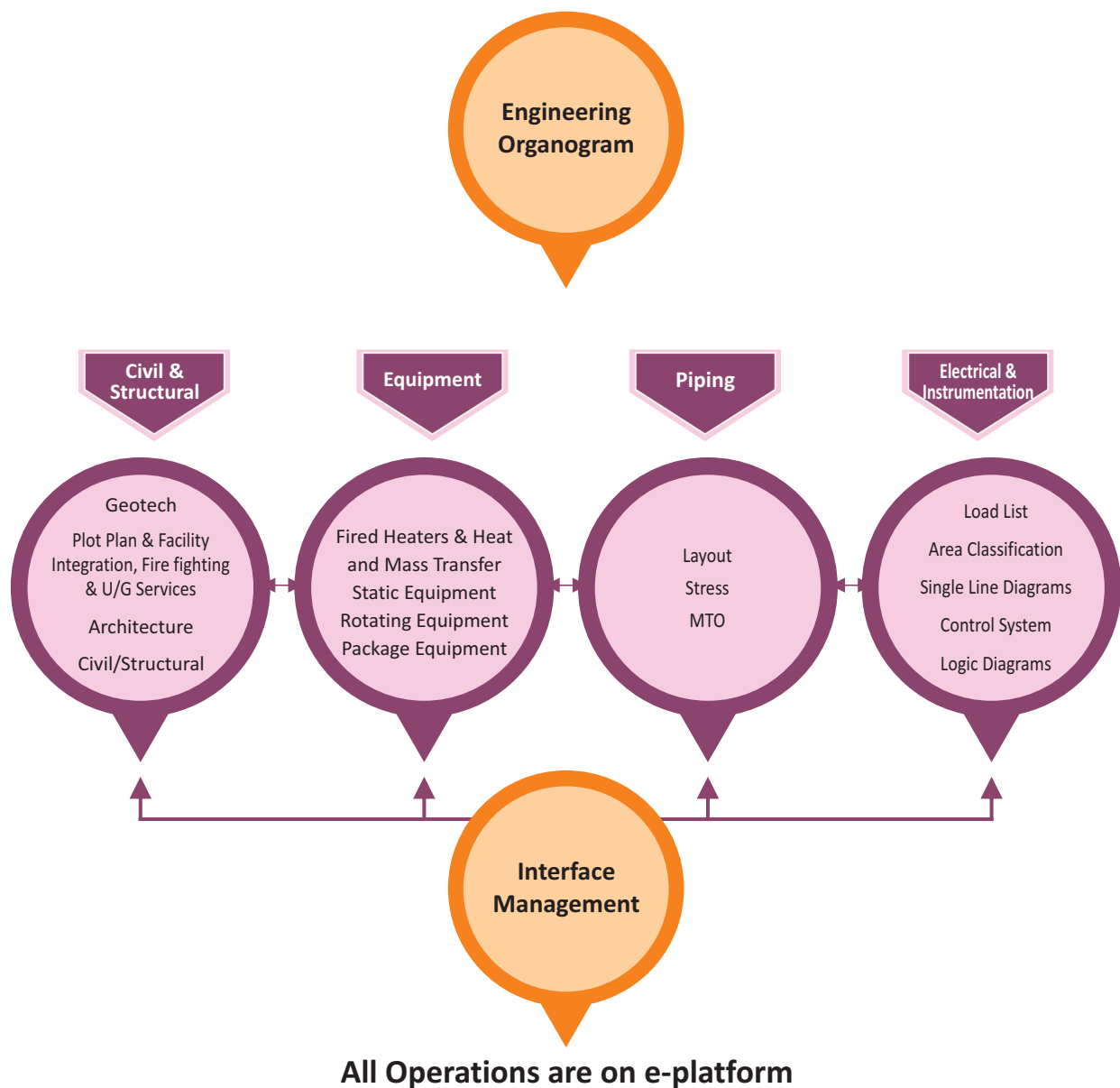
EIL remains dynamic & flexible to customer needs with customer as our first priority. Our engineering capabilities extend across the entire spectrum from conceptualization to commissioning of Projects with solution oriented pre-emptive approach. The Canvass includes:

- Conceptual Design & Basic Engineering including design basis, equipment and instrument data sheets, and equipment layout and safety systems for open art & EIL licensed units.
- Review of Basic Design Package & Residual Process Design for licensed units.
- Engineering Design Basis for various equipment, systems, Bulk & Site Works.
- Front End Engineering
- Detailed Engineering
- Engineering for Procurement
- Engineering for Construction
- Field Engineering



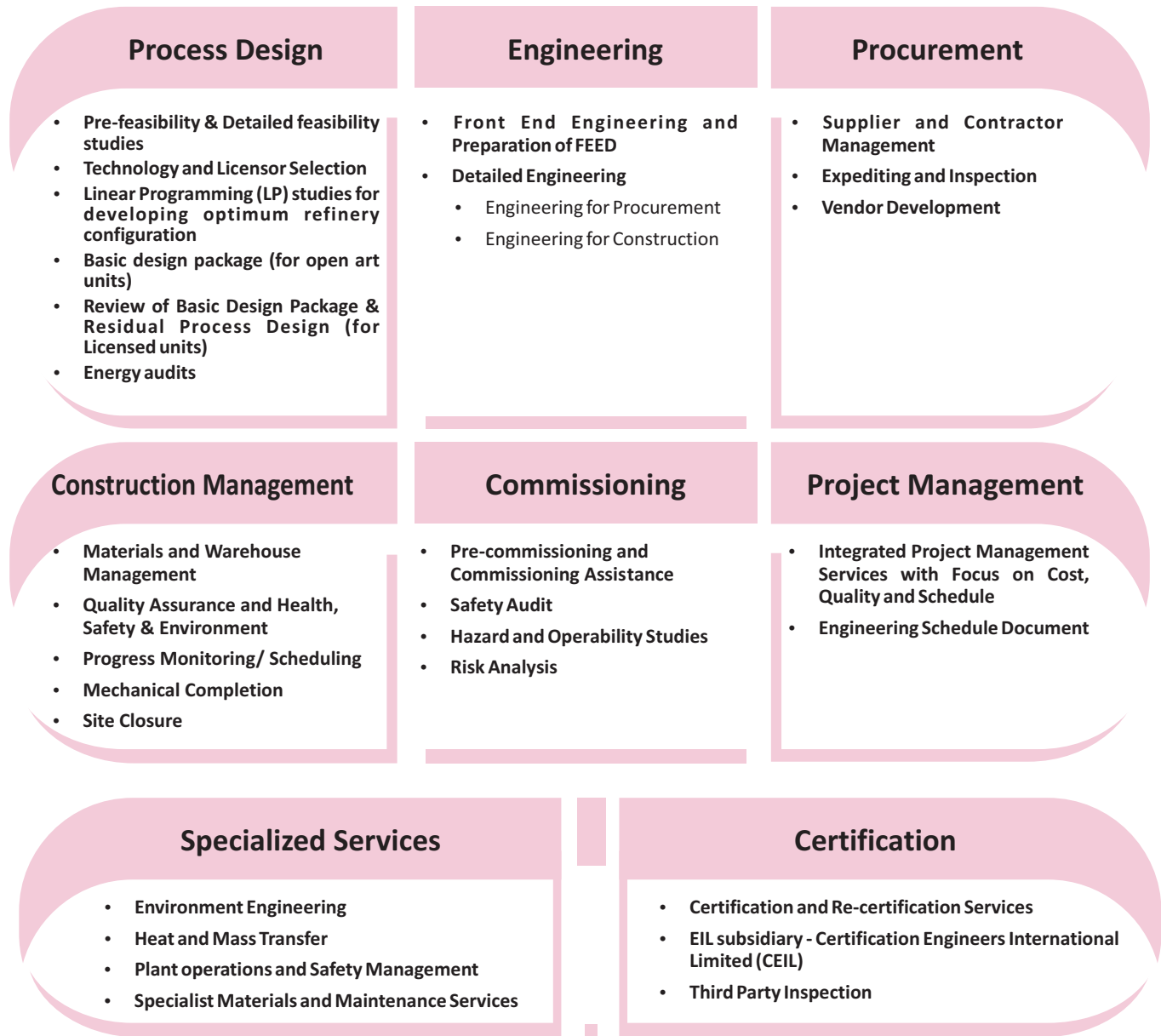
Detailed Engineering Set Up:

- Engineers India Limited has a specialized & experience engineering group which provides concept to commissioning services.
- Engineering Division is the largest Division in the Organization with **about 1000 Employees**.
- The Division provides services to all Project Divisions from 4 offices. HO at New Delhi & Regional Offices at Chennai, Vadodara & Kolkata. Engineering Division consist of the following :



Engineering Services at Engineers India Limited

Service Offering - From Concept to Commissioning (Grass roots design & revamps)



Specialist Services:

Geo Tech	Residual Life Assessment
Integrated finite Element Analysis	Environmental Services including EIA, STP, ETP & TTP designs
Heat & Mass Transfer	Hydrogen & Water Pinch analysis services
Single Point Responsibility for shallow depth offshore structure with all support analysis	HSE
Specialist Materials & Maintenance	Plant Operation and start up
Pipeline Optimization, Health & Integrity Check	Safety Audits & Recommendations

Interface Management of Various Facets of Detail Engineering:

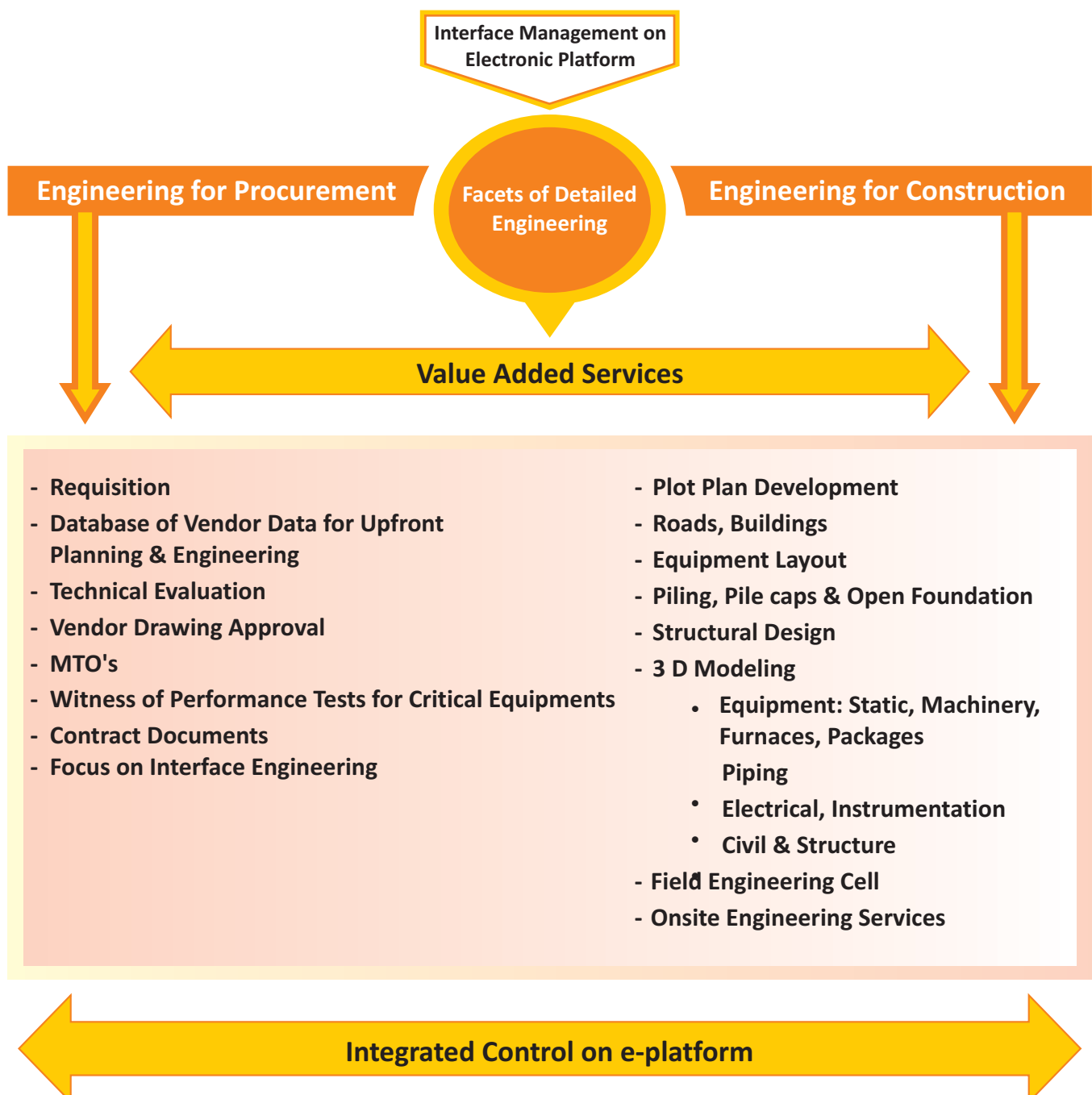
Expertise of EIL in detailed engineering which includes Engineering for Procurement & Engineering for Construction are interfaced through integrated e- platform.

EIL ensures smooth interface management encompassing entire scope of interface works during Engineering, Procurement, and Construction (EPC) phase. EIL ensures no impact on schedule, cost, quality, safety, etc. owing to diligent interface checks during the EPC phases.

Our Interface works flows incorporate communication workflow among various EPC Contractors, interface solution workflow including seamless data transfer.

EIL has well defined systems, procedures and templates of interface control for all defined interface works.

Various facets of Engineering include:



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Support to Engineering:

- Engineering department of Engineers India Limited follows standards & specifications conforming to Global Benchmarks.
- Standard & Specifications are close to 2000 Nos. including Standard Specification, Engineering Standards, Procedures, and Work Instructions & Design Guides.
- Internationally Adopted software packages and in house developed packages, Integrated across a digital management system for total e- working.
- Bought Out Softwares for 3 D Plant Modeling system, for Piping Stress Analysis, for Iso- Generation & BOM, For Isometric Sketches for 3D system, for Auto Plant Isometrics, Piping Layout routing, Flow Analysis of Pipe & Duct Network, Analysis & Design of Submarine Pipelines.

Engineering Software :

- ANSYS
- ALLPILE
- ABAQUS
- ASPEN SOFTWARE SUITE
- AUTOCAD
- BUILDING DESIGN SUITE
- CAESAR II
- CALPUFF
- CHVAC
- CITRIX
- CORELDRAW
- CYME
- DESIGN II
- DIPS
- ETAP
- EXAMINE
- FE PIPE
- FEFLOW
- FLARENET / TLNET / TGNET
- FLUENT
- FRNC-5PC
- GATE CYCLE
- GEO PACK. PROF.
- GRL WEAP
- GTXRASTER CAD

- INSTRUCALC
- ISC-AERMOD
- LIBSYS
- MATLAB
- MICROSTATION
- NISA
- NAVIS WORK REVIEW
- OLGA -PVTSIM
- OMNIPAGE
- PDMS
- PDS
- PLAXIS 2D
- PERT MASTER
- PHAPRO8
- PHASE 2
- PHAST
- PHAWORKS
- PIPENET
- PVSYST
- PVLITE
- DNV-OS-F101
- ROCKWORKS
- AFT-FATHOM
- ETABS
- RCDC

- SACS
- SAP2000
- PHAST RISC-PHAST
- SLIDE
- SP3D
- SMART PLANT P & ID
- SPEIL / SPIL
- SPI-INTOOLS
- STAAD FOUNDATION
- STAAD PRO
- SURPAC
- TANK
- TEKLA STRUCTURE
- TILO SOFTWARE
- UDEC
- UNWEDGE
- VISUAL MODFLOW
- WEIBULL++8-BLOCKSIM 8
- PIMS-ASPENONE
- PIPE LINE STUDIO
- PIPENET
- PRIMAVERA
- PROVISION
- PROTREAT
- PV ELITE

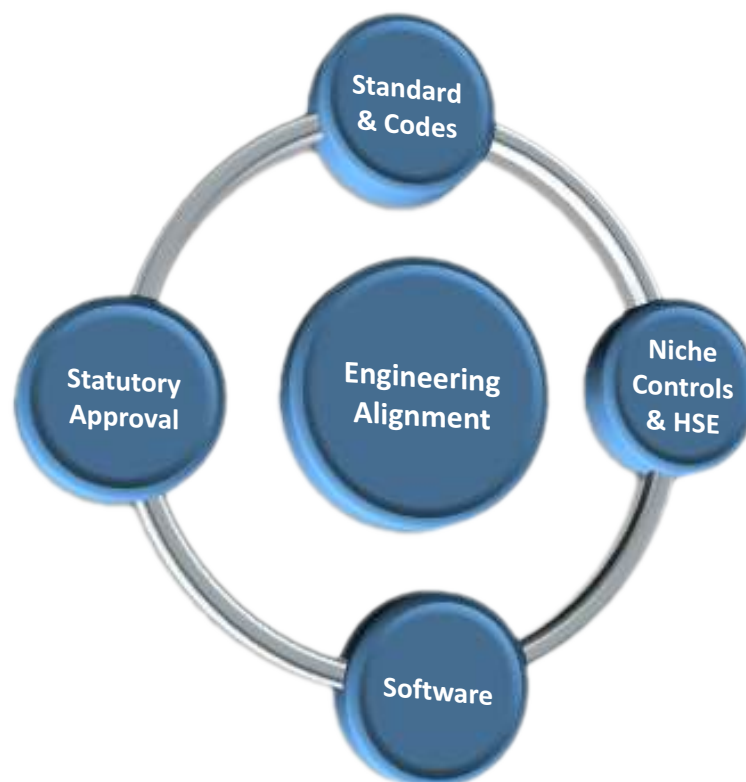
Engineering Capabilities & HSE:

Our Engineering capabilities and prowess continues to drive our “on schedule “and “within budget “project deliveries. Some of our solutions become industry standards. Adaptability, Value Engineering and Construction friendly designs are the key to our engineering capabilities. Innovation is at the core of what we do. On any given project in any location, our engineers encounter some of the most complex and challenging problems. By applying our ingenuity and creativity, we innovate to find solutions.

Our teams perform complex designs with the help of latest state of the art software. A huge databank of structured engineering data / information is our backbone and helps in providing fast – track engineering solutions, with focus on schedules, efficiency, lower costs and quality. HSE is central to our design and engineering capabilities.

At project sites, our competent and experienced field engineering teams take command to provide onsite engineering solutions for ensuring smooth Project completion.

Our all around engineering strength has catapulted us to emerge as one of the premiere total solutions and EPC Company in South Asia.



"Strengths"

- Safety Audits & HSE in Design
- Safety Reviews, HAZOP, HAZID, PLOT PLAN, LAYOUTS, SIL
- Constructability Review & twin around
- Field Engineering Cell for Construction report
- Construction Driven Engineering Interface

CORPORATE OFFICE

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