Integrated Solutions for the Hydrocarbon Industry
L&T Hydrocarbon Engineering is an engineering, procurement, fabrication, construction and project management company providing integrated ‘design to build’ solutions to large and complex Offshore and Onshore hydrocarbon projects worldwide.

The Company is a wholly-owned subsidiary of Larsen & Toubro Limited (L&T), a USD 16 Billion technology, engineering, construction, projects, manufacturing and financial services conglomerate catering to critical needs in key sectors including infrastructure, construction, hydrocarbon, defence and power.

As a dedicated subsidiary, L&T Hydrocarbon Engineering is positioned to sharpen its focus on service to its customer base and enhance responsiveness in all its engagements. The subsidiary continues to draw on the parent company’s organisational strengths and experience.

The Company has over three decades of experience and expertise in the hydrocarbon segment, and conforms to global standards and norms across all aspects of project management, HSE and corporate governance.

The Company caters to the needs of its client base in multiple geographies – India, the Middle East, Asia Pacific, Africa, the Americas and Europe.

It is conscious of its larger responsibilities as a corporate citizen, and is committed to the development of the communities around its facilities and project sites.

### L&T Hydrocarbon Engineering - Business Verticals

**Offshore**
- Process Complex
- Wellhead Platforms & Subsea Pipelines
- FPSO Topsides
- Jack-up Rigs
- Redevelopment / Upgradation Projects
- Subsea Systems
- Living Quarters
- Decommissioning

**Onshore**
- Upstream Oil & Gas Processing & Treatment Facilities
- Petroleum Refining
- Fertiliser
- Petrochemicals
- Cross-country Pipelines & Terminals
- Cryogenic Storage Tanks & Terminals

**Construction Services**
- Site Development & Pile Foundation
- Complete Civil & Structural Work
- Plant & Non-plant Buildings
- Piping & Mechanical Erection
- Electrical & Instrumentation
- Tankages including Firefighting System
- Laying of Cross-country & In-field Pipelines

**Modular Fabrication**
- Offshore Structures & Modules
- Onshore Structures & Modules including Pre-assembled Unit, Pipe Rack & Manifold Modules
- Modular Speciality Furnaces
- Refinery & Petrochemical Plant Equipment

**Engineering Services**
- Concept Studies
- Front End Engineering Design (FEED)
- Detailed Engineering
- Engineering for Thermal Systems & Modular Plants
- Advanced Analytical Engineering
- Special Studies
- EP / EPCM / PMC Services

An integrated Oil & Gas Service Provider covering the complete Hydrocarbon spectrum with in-house capabilities and over three decades of experience.
L&T's Global Presence

Network in India
The Company offers lump-sum turnkey EPCI services encompassing the entire value chain – from oil & gas production to processing. The range includes well-head platforms, process platforms and modules, subsea pipelines, brown field developments, floating systems and offshore drilling rigs (upgrade and new-build of jack-up rigs and conversion to EPS and MOPU) and deepwater subsea systems.

In-house Engineering Capability

Comprehensive engineering capabilities cover the complete project life cycle: concept studies, FEED, basic engineering, 3D model-based detailed engineering, special studies including safety, risk assessment, pre-service engineering and commissioning assistance. The special analysis performed include Transient Flow Analysis, Dynamic Simulation, Non-linear Analysis (Wave Pushover Analysis, Time Domain Analysis for Rare Intensity Earthquakes, Boat Impact Analysis) using USFOS and On-bottom Roughness Analysis using SAGE.

Installation Services

Heavy-lift-cum-pipelay vessel (LTS 3000), built through a JV with Sapura Kencana Petroleum Berhad of Malaysia, enables in-house installation of offshore platforms and pipelines.

Clients

Major clients include ONGC, Saudi Aramco, ADMA-OPCO, British Gas, Bunduq, Dragon Oil, GSPC, KIO, Maersk Oil Qatar, PETRONAS Carigali, PITEF Qatar Petroleum, Songas, ZADCO. The Company is also included under Achilles IJS and FPAL as an EPC contractor to the oil & gas industry in the North Sea.

As an outcome of a Long Term Agreement with Saudi Aramco, the Company has secured a major contract for Hasbah II Gas Increment Project in consortium with EMAS AMC, Singapore. EPCI scope includes 6 Wellheads, 2 Tie-in platforms including jackets with flare platform connected by bridge, 516 km offshore pipeline, 102 km composite cable, 45 km umbilicals, 164 km onshore pipeline, valve station and OHL line connectivity.

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Project Management

Our Project Management Teams, backed by sound processes and experience, deliver large and complex offshore EPCI projects of over USD 1 Billion meeting world-class HSE, quality and schedule requirements. Procurement teams ensure certainty and cost competitiveness of supplies through a world-wide network of suppliers, efficient expediting and detailed planning.

Fabrication Facilities

In-house fabrication gives L&T Hydrocarbon Engineering the advantage of flexibility, project control and cost competitiveness. It has three state-of-the-art fabrication facilities – with a total capacity of around 150,000 MTPA. Two fabrication yards in India, one on West Coast at Hazira (near Surat in Gujarat) and the other on East Coast at Kattupalli (near Chennai in Tamil Nadu) and a yard at Sohar in Oman are strategically located and equipped to offer round-the-year delivery of process platforms, wellhead platforms, modular structures, heavy jackets and oil rigs.

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Topsides installed at Nasr and Umm Lulu fields of ADMA-OPCO, Abu Dhabi

Zawtika topside for PTTEP ready for loadout at L&T MFY, Oman

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MB Platform & Pipeline Project for BG Exploration and Production India Limited (BGEPIL)

NRC Process Platform, Bridge & Platform Modification Project for GNSC, India, at Hexa Complex, Mumbai High

Yetagun ‘D’ Platform installed offshore for PETRONAS Carigali

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Yetagun ‘D’ Platform installed offshore for PETRONAS Carigali

Track Record - Offshore

9 Process Platforms
61 Wellhead Platforms
750 km Subsea Pipelines
150 Platform Modifications
7 FPSO Topsides Engineering
4 Jack-up Rig Refurbishment

Engineering

5 6
The Company has end-to-end capabilities in EPC solutions for oil & gas and offers turnkey solutions across the hydrocarbon value chain covering petroleum refining, petrochemicals, fertiliser, oil & gas processing, cryogenic storage tanks & terminals including LNG, and pipeline sectors.

The track record includes oil & gas processing facilities, diesel hydrotreating units, motor spirit quality upgrade projects, sulphur recovery units, hydrogen generation units, lube base oil plants, fluidised catalytic cracker project, delayed coker project, naphtha cracker & associated units, PTA unit, paraxylene complex, methanol project, synthesis gas generation projects, cryogenic storage tanks & terminals and pipelines.

The projects executed cover technologies from multiple process licensors, including UOP, Axens, Haldor Topsøe, CB&I Lummus, Black & Veatch, Ortloff, ExxonMobil, BOC Parsons, Invista (formerly Du-Pont) and Davy Process Technologies. Strategic alliances with internationally renowned companies complement capabilities in the fertiliser and cryogenic sector.

**Engineering**

Detailed engineering centres integrate in-house strengths in engineering, fabrication, modularisation and construction to provide efficient designs and engineered solutions for hydrocarbon process plants meeting the highest safety and quality requirements.

L&T Chiyoda – a joint venture with Chiyoda Corporation of Japan – offers design and engineering services for onshore hydrocarbon plants. L&T-GULF – a joint venture with GULF Interstate Engineering, Houston – offers engineering and consultancy services for onshore hydrocarbon pipeline projects and onshore oil & gas field development projects covering design and engineering services.

Capabilities include feasibility studies, basic engineering, FEED, detailed engineering, project management services, procurement assistance and related services. Our experienced professional engineers work on state-of-the-art tools and software like HYSIS, PDS, PDMS, SPRO, STAADPRO and TEKLA structures to address the complete spectrum of process and detailed engineering.

**Project Management**

From initial design, procurement, construction to final commissioning, our highly experienced and responsive teams are geared to respond to the requirements of customers in focused geographies.

**Clients**

The Company is pre-qualified and has executed projects for major oil & gas companies including Petroleum Development Oman (PDO), Saudi Aramco, Kuwait Oil Company (KOC), SABIC, BAPCO, Banagas, CHEMANOL, KNPC, TAKREER, PETRONAS, Pertamina, Sonatrach, etc.

Within India, the Company’s client base includes major national oil & gas, fertilisers and petrochemicals producers, including IOCL, MRPL, OMFL, HPCL, BPCL, RL, HMEI, CPCL, NFL, GSFC, GAFC, RCF, etc.

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FCC Reactor Regenerator for Indian Oil Corporation Limited at Paradip Refinery, India

Export Gas Compression Facilities Upgrade Project for Dolphin Energy Limited, Qatar

<table>
<thead>
<tr>
<th>Track Record – Onshore</th>
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<tbody>
<tr>
<td><strong>Petroleum Refining</strong></td>
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<tr>
<td>49 Refining Units, Diesel, HDT Hydrogen, Sulphur Recovery, MSQ Upgradation, Catalytic Reforming, Lube Base Oil, Coke Drum System, FCC Reactor Regeneration, Vacuum Distillation, Solvent Dewaxing, etc.</td>
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| **Oil & Gas Processing** |
| 17 Oil & Gas Processing Facilities, Gas Field Development / Processing / Compression, Condensate Fractionation & Cryogenic Air Separation |

| **Petrochemicals** |
| 2 Petrochemical Complex, 4 Petrochemical Units |

| **Fertiliser** |
| 6 Syngas and Ammonia FEED Conversion projects |

| **Cryogenic Storage Systems & Thermal Systems** |
| 6 Cryogenic Storage Terminals, 76 Cracking Furnaces & Reformers |

| **Cross-country Pipelines & Terminals** |
| 4500+ km Cross-country Pipelines, 9 Oil & Gas Terminals |
The Company undertakes turnkey construction of refinery, petrochemical, chemical and fertiliser projects, gas gathering stations, oil & gas terminals, including storage tanks and underground cavern storage systems for LPG. It also undertakes construction of cross-country pipelines. Capabilities cover design, engineering, procurement & construction of civil, mechanical, electrical and instrumentation for composite station works and cathodic protection systems for pipelines and stations.

**Technology & Capacity Building**

The Company offers innovative construction solutions with cutting-edge technology. State-of-the-art piping automation shops are equipped with pipe fit-up, CNC and orbital welding machines. Auto re-bar shops enhance efficiencies at project sites. FCAW semi-automatic welding enhances efficiency, CPD facilitates 24x7 radiography activity and PAUT speeds up delivery. We carry out GPS-aided surveys for pipeline projects with fully automated welding.

**Expertise in Heavy Lifts**

The Company provides customer-driven and tailor-made solutions in heavy lifting for hydrocarbon projects. Knowledge, experience and state-of-the-art equipment in combination with strong emphasis on high quality and safety standards have enabled us to build a proven track record in heavy lift capability. Our engineers, rigging foremen and skilled riggers, with vast experience in heavy lifting, are posted at various project sites supported by a centralised Construction Methods Cell in our Construction Services Headquarters.

**Equipment Fleet**

A large asset base of construction equipment serves as a backbone to our construction projects. The range includes heavy cranes up to 750T capacity, operating skidding systems and strand jack systems, pipe layers up to 100 T capacity, pipe-bending machines, major concreting equipment and related machinery.

**Track Record & Client Base**

In addition to providing construction for our EPC projects, we have also provided stand-alone construction services to external clients. Most projects executed by us are in excess of 10 million construction man-hours, with two projects in excess of 100 million construction man-hours.

Landmark projects include construction of the world’s largest refinery for RIL at Jamnagar, as well as the mega onshore gas terminal at Kakinada and all major processing units for the Bathinda refinery of HMEL. For Cairn India, we constructed the world’s longest heated and insulated crude oil pipeline – from Rajasthan to Gujarat – and India’s largest onshore oil processing terminal at Barmer, Rajasthan.

The international track record includes an HRG gas pipeline project for GASCO, gas-processing facilities for PDO and Dolphin Energy-Qatar and Polyethylene trains for SADARA Chemical Company. Major projects under execution include a Gathering Centre for KOC, Midyan Gas Processing Facility for Saudi ARAMCO and SNDC2 & KDC2 Gas Compression Projects for PDO.

The client base comprises several industry majors:

**India:** RIL, HMEL, IOC, BPCL, HPCL, ONGC, Cairn Energy, MRPL, NFL, RCF, GNFC, GSFC, etc.

**International:** GASCO, ADICO, TAKREER, ADGAS, BOROUGE, Al Hosn, ENOC, Saudi ARAMCO, SADARA, SATORP, KNPC, KOC, KAFCO, QP, Dolphin Energy, PDO, ODC, Oiltanking Odfjell Terminals & Co. LLC, etc.

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Construction Services

Panoramic view of HMEL Bhatinda Refinery, India. Scope included EPC of 2 x 44,000 MTN Hydrogen Generation Units and mechanical construction of 7 processing units.

Dishore Gas Terminal Project for Reliance Industries Limited at Kakinada, Andhra Pradesh, India

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Mangala Process Terminal for Cairn Energy India Limited at Barmer in Rajasthan, India

Construction of Polyethylene Trains for SADARA Chemical Company (JV of Saudi Aramco and Dow Chemicals) at Al Jubail, Saudi Arabia

Mechanical construction works for the world’s largest integrated polyolefins plant for Tecnimont-Samsung JV (TSJ) at Borouge-3, Ruwais, Abu Dhabi

Paraxylene Unit for J3 Project of RIL at Jamnagar, India

Laying of the world’s longest heated and insulated crude oil pipeline in India from Barmer to Bhogat — 24” x 619 km crude oil pipeline and 8” x 527 km natural gas pipeline

Liquid Processing Unit for OP SHA’S Pearl Gas-to-Liquid (GTL) project at Ras Laffan in Qatar

Midyan gas processing facilities project for Saudi Aramco, near Jeddah in KSA

Trestle piping at K3O, Terminal for Petronet UOS at Dahej, India

Construction of Polyethylene Trains for SADARA Chemical Company (JV of Saudi Aramco and Dow Chemicals) at Al Jubail, Saudi Arabia
The Company offers comprehensive EPF (Engineering, Procurement, Fabrication) modular solutions for setting up projects primarily in the oil & gas sector as well as the petrochemical sector.

The Company’s world-class Modular Fabrication Facilities are strategically located at:
- Hazira (Surat) on the West Coast of India
- Kattupalli (Chennai) on the East Coast of India
- Sohar in Oman

Each of these locations was selected for its proximity to major oil and gas fields and allied maritime infrastructure. The yards offer year-round delivery capability with robust QHSE performance and are equipped for flexibility, project control & management and cost competitiveness.

Facilities are situated on the waterfront with easy access to clients across the globe and have load-out jetties suitable for dispatch of large and heavy modules via ocean-going vessels and barges.

Our modular solutions harness the extensive experience of our Engineering Services, covering the entire spectrum engineering from concept to commissioning in oil & gas as well as load-out and transportation analysis.

In addition to the clients of offshore business, other major customers for the onshore modular solutions include Technip / ADIGAS, Petrofac / ZADCO, Reliance Industries, Fluor / KNPC and Fluor / SASOL.

The facilities have an impressive track record for timely delivery to the complete satisfaction of our customers.
Onshore processing modules (8 Nos.) for ADIGAS-OAG project of Technip, Abu Dhabi

Sail-out of CCR modules for Reliance Industries, Jamnagar, India

PAR & PAM modules being transported from L&T MFY, Oman for Petrofac / ZADCO UZ 750K project

Compressor modules string-tested at Modular Fabrication Facility

Load-out of India’s heaviest module (5300 MT), 150-man living quarters for ONGC, India

Offshore

Platforms
Living Quarter Modules
Compressor Modules
Jack-up Rigs
Jackets
Urdges

Onshore

Piperack Modules (PAM)
Manifold Modules (PAM)
Process Modules (PAM)
Modular Reformers, Cracking Furnaces & Heaters
Modular CCR Projects
Equipment and Skids

Capability Spectrum - Modular Fabrication Solutions
Our Engineering Services vertical offers comprehensive solutions covering the entire spectrum of engineering across the Hydrocarbon value chain. We combine world-class engineering expertise and resources with the rich experience of executing large-scale EPC projects over several decades. We provide direct engineering services to a diverse clientele that includes owner-operators of hydrocarbon processing facilities, global EPC contractors and engineering consultants. Located in Mumbai, the Engineering Services team offers end-to-end engineering solutions, covering Concept and Basic Studies, Front End Engineering Design (FEED), advanced engineering studies, complete detailed engineering services and engineering for special applications (such as reformers, cryogenic systems and modular solutions). This is complemented by Project Management Services comprising EPCm, PMC and Procurement Services. Leveraging the rich experience of executing large EPC Projects, our Engineering Services team also offers Pre-commissioning and Commissioning support, Inspection & Expediting services and O&M support, including comprehensive Asset Integrity Management solutions.

**Advanced Engineering Capabilities**

The Engineering Services Unit in Mumbai incorporates our Centre of Excellence in Advanced Engineering, which has been operating for over four decades. Its focus is multi-disciplinary, covering several engineering domains: Process, Thermal, Environmental, Materials and Mechanical. The expertise and skills we offer translate into tangible competitive advantages for our customers, enabling them to select the appropriate technology and products, develop complete concept and FEED packages, optimise process / equipment design, solve product or process-related problems. The FEED Group develops innovative solutions and has proven capabilities in process simulation, process design, design optimisation and performance guarantees. The Group has in the past undertaken concept studies, advanced simulation (steady-state, dynamic and transient), process design, FEED development and verification, performance improvement studies, debottlenecking and troubleshooting of process units for a wide variety of oil & gas facilities.

Our advanced engineering solutions extend across key technology domains such as Process, Energy & Environmental, Mechanical, Materials & Corrosion and Offshore Engineering. Key offerings include: advanced process simulation and optimization; multi-phase flow simulation; Computational Fluid Dynamics (CFD); dynamic simulation of power plants; 3D modelling and Finite Element Analysis (FEA); machinery diagnostics through vibration & acoustic analysis; dynamic analysis of piping network; material evaluation and characterization studies; corrosion risk assessment / corrosion control and comprehensive engineering solutions for fixed offshore platforms and modules to drilling rigs, floaters and subsea systems. We have capabilities to conduct special studies involving in-place, lift, load-out and transportation analysis, mooring analysis and float-over studies for integrated decks. These are further complemented by expertise in geotechnical studies and naval architecture.

Our domain experts provide multi-disciplinary support for troubleshooting, de-bottlenecking and failure analysis for operating plants. Root-cause analysis capabilities enable us to undertake such studies involving static equipment, rotating and reciprocating machinery as well as piping systems and structures. With increasing focus on asset integrity management, we have developed capabilities for specialized services such as Reliability, Availability & Maintainability (RAM) Studies, Fitness for Service (FFS) Assessment, development of Risk Based Inspection (RBI) Methodology and Corrosion Management Manual (CMM) as well as comprehensive Residual Life Assessment (RLA) studies.
Detailed Engineering Capabilities

Our key offerings in Detailed Engineering are supported by multi-disciplinary capabilities, covering the following:

- **Process**: Complete detailed engineering solutions involving residual process engineering, steady-state and dynamic simulation, heat and mass balance, P&IDs, hydraulics calculations, P&IDs, heat duty, data sheets, line list, utilities, sizing calculations for control valve and pressure relief valve, fire water demand, fire water network, fire and gas source list and detection, among others.

- **Civil/Structural**: Design and drawings for structures, buildings, control rooms and substations, architectural drawings, analysis using STAADPRO, modelling in Tekla, fabrication drawings, foundations, dynamic analysis for foundations, drainage and underground piping including 3D modelling.

- **Electrical & Instrumentation**: Electrical system studies, ETAP, substation layouts, sizing calculations, cable tray layouts, instrumentation index, system architect, I/O, system design, DCS, ESD, sizing calculations, FO cables, IBS, fire & gas detection, field instruments and bulk.

- **Special Studies**: Special engineering reviews and safety studies, HAZOP, HAZID, SIL, risk assessment, PHAs, pre-commissioning & commissioning-related engineering support, troubleshooting and de-bottlenecking studies and operations review.

We also offer value engineering solutions, comprehensive project management support that includes PMC, E&P and EPCm Services, including procurement services. Value-added engineering services are offered by leveraging the rich experience gained in executing challenging, large-scale projects worldwide.

Value Proposition

The Engineering Services arm is committed to providing safe and sustainable solutions. Backed by decades of experience and rich domain knowledge, the team is geared to provide value-added services to customers. Significant value is delivered across the Hydrocarbon sector. The Engineering Services team comprises a huge resource pool (over 4 million engineering hours) with rich multi-disciplinary expertise. A large portfolio of industry-standard software tools, robust IT infrastructure and in-house R&D facility further augment the capabilities. Benchmarked through leading certification and accreditation systems, the engineering work processes offer consistent product quality with on-time delivery.

With its wide geographical presence, exposure to the EPC Project environment and advantage of leveraging with other L&T Businesses, our Engineering Services vertical is uniquely positioned to serve as the single-point engineering solution provider for the hydrocarbon sector.
L&T Hydrocarbon Engineering is committed to continual improvement of its business processes by using internationally accepted standards. Its corporate policy is a reflection of an Integrated Management System for Quality, Environment, Energy, Occupational Health & Safety, IT Security and Human Resources, whilst implementing globally recognised standards such as ISO 9001 / ISO TS 29001, ISO 14001, OHSAS 18001, ISO 50001, ISO / IEC 27001 and SEI - CMMI Level 5.

A centralised Management Systems Cell, with qualified personnel, administers these functions. Periodic internal audits and corrective actions with management reviews at various levels ensure compliance throughout the business processes and lead to continual improvements.

**Quality – ISO 9001, ISO TS 29001, NBBI, ASME & API Accreditations**

The Company's Quality Management System is certified to ISO 9001 and ISO TS 29001. This certification affirms its capabilities in the execution of turnkey projects covering marketing, design, engineering, project management, procurement, manufacturing, erection, construction and commissioning of various plants and systems.

Our Modular Fabrication Facilities are accredited by NBBI, ASME and API. The authorisation to use their ‘U’, ‘S’, ‘R’, ‘NB’ & ‘API’ symbols and monograms reflect the capabilities of our facilities to manufacture, repair and assemble pressure vessels and boilers in accordance with ASME Boiler & Pressure Vessel Codes, and to manufacture pipes in accordance with API 2B and 5L specifications.

**Environment – ISO 14001**

Our Engineering Services are certified to ISO 14001 for their capability to design and engineer environmentally friendly plants. Our Modular Fabrication Facilities / Yards and all project construction and commissioning activities are in compliance with Environment Management System and are certified to ISO 14001.

**Occupational Health & Safety – OHSAS 18001**

Our Modular Fabrication Facilities / Yards and all project construction and commissioning activities are certified to OHSAS 18001.

**Energy – ISO 50001**

Certification has been received by our Modular Fabrication Facilities / Yards, which comply with Energy Management System.

**IT Security – ISO / IEC 27001**

Along with the Ministry of Communications and Information Technology, Government of India, L&T pioneered the IT Security Management System movement in India. L&T’s R&D effort in this field resulted in a National Standard for ISMS and the project of national significance created a new benchmark for Indian industries and strategic sectors, assuring the security of customer information while protecting critical information and information processing assets.

L&T is the world’s first company to be certified to ISO/IEC 27001 on the very first day of its publication. The certification was granted by BVC.

**SEI-CMMI Level 5 – Business Processes Capability Maturity**

L&T-Chiyoda was declared CMMI Level 5 compliant by SEI, USA, and became the world’s first EPC-Engineering Company to reach this level.
Health, Safety & Environment (HSE)

Our Zero-Incident Credo indicates the importance we attach to the health and occupational safety of personnel at every stage – design, engineering, construction, start-up and commissioning. All our activities are carried out in line with our policy on Health, Safety & Environment.

Being an OHSAS-18001 and ISO-14001 certified organisation, Health, Safety and Environment are the cornerstones of our business philosophy. We strive for continuous improvement through the protection and development of the health and safety of our employees and stakeholders. Our robust HSE Management system has a well-defined structure, systems and processes. Plans and procedures are periodically reviewed and upgraded to achieve high HSE performance standards. We are committed to strengthening HSE management through periodic audits, training and interaction with national and international organisations.

In pursuit of a sustained safety performance, we commenced our journey for safety cultural transformation in partnership with world leader, Du-Pont Sustainable Solutions. Measures include a unique Safety Innovation School at Hazira, which has helped institutionalise the safety culture across the workforce.

The numerous awards and accreditations received from national and international agencies and clients for exemplary HSE performance are the testimonials of our commitment towards HSE. Recent awards include:

- Golden Peacock Occupational Health & Safety Award (2013)
- Platinum Award for Modular Fabrication Facility (MFF), Hazira and Certificate of Appreciation for MFF-Kattupalli from FICCI-Safety Excellence Awards for Manufacturing
- British Safety Council (BSC) International Safety Merit awards for all three fabrication facilities as well as for EGCFU-DEL project
- BSC’s Five Star Health & Safety Management System Audit
- RoSPA Gold awards for Hydrocarbon International & Modular Fabrication Yard at Sohar (Oman)
An integrated IT-enabled Project Management approach accelerates schedules, enhances efficiencies and enables clients to monitor progress.

The system runs SAP along with e-Procurement, MOSS-based Document Management System, Pro-eTrack, KnowNet 2.0, eALPS+ and easyTRACK.

**Process Flow**

**Planning**

We have standardised on Primavera Enterprise software for project planning, scheduling and control. Primavera is integrated with SAP ECC 6.0 resulting in a common work break-down structure in both systems.

**Engineering**

The Project Task Force – comprising multi-disciplinary engineers from our engineering hubs – reviews the engineering inputs provided by the customer / process licensor and prepares a design basis for subsequent engineering work.

Interface of ERP and engineering software is used to upload bills of material. This ensures that collaborative design, engineering and project management bring measurable benefits in terms of reduced cycle time and better service levels. Custom-built software ‘P-BOM’ bridges the Plant Design System with the ERP system. Plant Design Systems such as PDS and PDMS generate the plant engineering drawings and the bills of material.

**Procurement**

Procurement services include strategy development, vendor identification, global sourcing, logistics & licensing, quality and other compliances.

e-Procurement has helped in automating purchasing systems and effectively controlling delivery schedules, cost and quality of procurement. e-Procurement includes use of SAP ARIBA, easy-TRACK, various other in-house developed MOSS-based programs for Vendor Documentation Management (VDMS) for effective Supply Chain Management (SCM).

SAP ARIBA allows short-listed vendors to participate in virtual negotiation over the internet. This enables us to secure the best terms.

The SAP Business Warehouse (BW), a business intelligence, online analytical processing software, handles strategic reporting needs and offers flexible and easily accessible reports from SAP ECC and other data sources. SAP BW is characterised by self-service, high-quality business reporting and analysis at all levels and a user-friendly MS Excel front-end.

GPS techniques are used for online tracking of critical assignments and rapid transportation of equipment and materials from source to final destination.

**Construction**

Activity Level Planning System (eALPS+) is a proprietary web-enabled software developed in-house for construction management with the tight integration of SAP to achieve proper data integrity and consistency. This application is used for micro planning, tracking, control and integration of construction activities at all project sites. A seamlessly integrated solution, it tracks material movement right from release of purchase order to arrival at final site, providing ‘Real Time’ status.

The L&T Institute of Project Management at Vadodara – a registered educational provider of PMI, USA – develops project managers across the domains of EPC.
Corporate Sustainability

Being a responsible corporate citizen, L&T Hydrocarbon Engineering strives for a sustainable growth in harmony with the environment and society, and is guided by the triple bottom line of sustainability that advocates the use of resources in ways that generate economic growth, create social benefits and minimise the negative impact on the environment. Our sustainability roadmap focuses on seven thrust areas. We have been disclosing our performance in the Sustainability Report annually.

We are committed to our economic, environmental and social responsibilities towards society. In the varied geographies we operate, we endeavor to capitalize on local talent, creating avenues for community development and spurring growth of local businesses. We are also mindful of our environmental performance, specifically our energy consumption, not just within our operations, but also of the products and services we offer, striving to meet the present and future global standards for efficient use of energy. We have adapted the theme ‘Building India’s Social Infrastructure’ to pursue holistic and integrated social development programmes at identified locations which are most in need. Simultaneously, L&T’s CSR initiatives include educational enrichment programmes in schools, increasing income generating capabilities of individuals and focusing on building healthy communities around our campuses and project sites.

We believe that sustainability practices in both internal and externals aspects help strengthen the core business through direct and indirect returns on these socio-environmental investments, and will help carry us through any challenges or obstacles we may face on the road to sustainability.

Employee volunteering is a company-wide movement driven solely by the passion to serve. More and more L&T-ites are opting to be ‘L&T-eers’, and add value to society through their time, energy and expertise.

Young Omnis, trained in multiple technical functions, have contributed significantly to projects executed at L&T’s Modular Fabrication Yard in Sohar, Oman. Enhancing the skill levels of local communities is part of our corporate social responsibility.