Integrated EPCIC Services
Offshore E&P Development

L&T Hydrocarbon Engineering
A wholly owned subsidiary of Larsen & Toubro Limited
L&T Hydrocarbon Engineering is an engineering, procurement, fabrication, construction and project management company providing integrated ‘design-to-build’ solutions for large and complex Offshore and Onshore hydrocarbon projects worldwide.

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

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

Key strengths include project management, in-house engineering, state-of-the-art fabrication facilities, offshore installation, with sustained emphasis on quality, HSE and corporate governance.

The Company has large facilities in India (Mumbai, Vadodara, Chennai, Bengaluru, Faridabad, Hazira and Kattupalli), UAE (Sharjah), Saudi Arabia (Al Khobar) and Oman (Sohar). Offices at Abu Dhabi, Kuala Lumpur and Jakarta facilitate close interaction with our international clients.

L&T Hydrocarbon Engineering has over three decades of experience and expertise in the hydrocarbon sector and draws on L&T’s strengths and shares L&T’s value system, including its commitment to sustainability and inclusive growth.

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

MISSION

Execution Par Excellence
We are committed to evolving into a major Indian multinational, occupying leadership position in the hydrocarbon industry.

Our people are our prime movers. We practise collaborative team-working with zeal, responsiveness and a sense of urgency. We encourage our personnel to demonstrate an entrepreneurial spirit and assume ownership for their actions.

We believe in an ethical work culture, with emphasis on governance in all business dealings.

Our endeavour is to practise the highest levels of Quality, Health, Safety, Environmental and Information Security in all our operations.

Our focus is on sustainable value creation for all our stakeholders. We are passionate about our performance culture and committed to delivering excellence at every phase of our operations.

Subramanian Sarma
CEO & Managing Director
Offshore Product Profile

Offshore Platforms
With close to three decades of experience in delivering more than 60 fixed offshore platforms, ranging from topsides weighing over 28,000 MT for process complexes to projects at water depths exceeding 150m and in high temperature and high pressure fields, L&T Hydrocarbon Engineering offers EPCIC solutions for projects such as large, integrated process platforms, wellhead platforms and living quarters.

Offshore Modules
L&T Hydrocarbon Engineering, with its comprehensive engineering and modular fabrication capabilities, offers modular solutions for the offshore and onshore sectors. Offshore modules include gas compression, separation, dehydration, power generation, water injection, gas sweetening, etc.

Drilling Rigs and Floaters
Leveraging its experience in the offshore oil & gas industry and through strategic alliances with technology partners, L&T Hydrocarbon Engineering offers services for jack-up rigs, FPSOs and semi-submersibles.

Redevelopment & Upgradation Projects
The Company offers single-point expertise for executing large-scale brownfield projects with minimum downtime. It draws on its engineering strengths to modularize the brownfield activity for onshore construction, saving offshore time – thus delivering value to both, client and contractor.

Subsea Pipelines
Multiple pipeline projects involving pipeline lengths exceeding 700 km and water depths exceeding 150 m have been executed by L&T Hydrocarbon Engineering.

Subsea Systems
L&T Hydrocarbon Engineering collaborates with leading technology partners for subsea projects. These tie-ups will leverage the state-of-the-art, strategically located Modular Fabrication Facility at Kattupalli, on the East Coast of India, to manufacture advanced subsea hardware and to operate as a spoolbase for deepwater pipelay installation. With its extensive experience in the fields of offshore design, precision manufacturing & testing, offshore installation and commissioning, the Company offers total EPC solutions for deepwater subsea development.

Offshore Wind Farms
Leveraging its extensive capabilities and experience in the offshore Oil & Gas sector, L&T Hydrocarbon Engineering offers comprehensive EPCI solutions for offshore wind farm projects – Turbine Generator Foundations, HVAC and HVDC Substation Platforms. The Company utilises its world-class fabrication facilities and associates with partners to meet specific client requirements. L&T Hydrocarbon Engineering has been pre-qualified for such projects in Europe. It is also registered on Sellihca (Supplier No. 115192) and UVDB (Supplier No. 031051) qualification systems.
Integrated Capabilities

The Company has in-house engineering, procurement, fabrication, installation and commissioning capabilities enabling it to serve the needs of global projects. Project management teams execute all projects efficiently, meeting set targets of cost, time and quality.

- **Engineering:** In-house Engineering Centres provide engineering services for offshore Oil & Gas projects including advanced analytical engineering and trouble-shooting services.
- **Procurement** teams undertake cost-efficient global sourcing.
- **Fabrication:** Three Modular Fabrication Facilities, with a total capacity of around 150,000 MTPA, have been set up at strategically significant locations, viz. Hazira (Surat, Gujarat), Kattupalli (near Chennai), and Sohar in Oman, offering round-the-year delivery.
- **Installation:** Our captive 3000-tonne heavy-lift-cum-pipelay vessel LTS 3000 undertakes offshore installation
- Expertise in hook-up and commissioning
- Comprehensive QHSE system with defined structures and procedures
- Extensive IT-enablement for virtual, single-office operations
- Robust Risk Management protocol

![Topsides installed at Nasr and Umm Lulu fields of ADMA-OPCO, Abu Dhabi. EPCI Scope includes 4 Wellhead Towers, 1 Riser Manifold, 103 km Pipeline and 55 km Fibre Optic Cables.](image)

![Additional Development of Vasai East Project on India's West Coast for ONGC. The scope included EPCI of 2 Wellhead Platforms, 35 km Pipelines and modification. Picture also shows LTS 3000 – a captive heavy lift-cum-pipelay vessel.](image)

![FD-VI jack-up-rig after major repair and upgradation for Foresight Drilling, UK.](image)

![Sail-away of Asia's largest Process Platform jacket (13,500 MT) from the Oman yard.](image)

![Load-out of India's heaviest offshore module (4300 MT) – 150-man Living Quarters for ONGC](image)
Our engineering centres – with world-class client facilities, robust IT infrastructure and a capacity of over 3.5 million man-hours per annum – offer services across the hydrocarbon value chain.

The Engineering Centre for offshore projects at Bengaluru has around 400 experienced engineers and draughtsmen. It offers engineering solutions for wellhead platforms, process facilities/platforms/complexes, independent process and utility modules, complete FPSO topsides, riser and pipeline & subsea systems, jack-up rigs and MODU to MOPU conversions. Activities undertaken include concept studies, FEED/basic engineering, detailed engineering utilising complex 3D tools, procurement engineering, as-built documentation, pre-service engineering, marine transportation & installation support and special studies. Special analyses performed include Transient Flow Analysis, Dynamic Simulation, Non-linear Analysis (Wave Pushover Analysis, Time Domain Analysis for Rare Intense Earthquake, Boat Impact Analysis) using USFOS, Onbottom Roughness Analysis using SAGE, etc.

In addition, L&T-Chiyoda (a joint venture with Chiyoda Corporation, Japan) offers expertise in engineering of onshore projects and modules, while L&T-GULF (a joint venture with GULF Interstate Engineering, USA) offers engineering and consultancy services for onshore hydrocarbon pipeline projects.

### Complete FPSO Topside Engineering Projects

<table>
<thead>
<tr>
<th>FPSO Project</th>
<th>Client</th>
<th>Completion</th>
<th>Capacity (BOPD) (Oil processing facilities)</th>
<th>Capacity (MMSCMD) (Gas processing facilities)</th>
<th>Capacity (BWPD) (Produced water handling facilities)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cluster-7</td>
<td>ONGC</td>
<td>2015</td>
<td>26,500</td>
<td>1.8</td>
<td>25,000</td>
</tr>
<tr>
<td>MV-29</td>
<td>MODEC</td>
<td>2015</td>
<td>150,000</td>
<td>5</td>
<td>162,000</td>
</tr>
<tr>
<td>T. E. N</td>
<td>MODEC</td>
<td>2014</td>
<td>80,000</td>
<td>4.8</td>
<td></td>
</tr>
<tr>
<td>OSX3</td>
<td>MODEC</td>
<td>2012</td>
<td>100,000</td>
<td></td>
<td>15,000</td>
</tr>
<tr>
<td>Jubilee</td>
<td>MODEC</td>
<td>2010</td>
<td>120,000</td>
<td>4.5</td>
<td>80,000</td>
</tr>
<tr>
<td>MV-20</td>
<td>MODEC</td>
<td>2009</td>
<td>31,250</td>
<td>3*3.3</td>
<td>12,500 (Skimming, hydrocyclones, flotation cell)</td>
</tr>
<tr>
<td>MV-18</td>
<td>MODEC</td>
<td>2008</td>
<td>100,000</td>
<td>3.5</td>
<td>1,500 (Hydrocyclones, degassing &amp; disposal facilities)</td>
</tr>
</tbody>
</table>

Offshore Engineering Centre at Bengaluru
Expertise & Experience
The Company’s Project Management teams, backed by sound processes and experience, deliver large and complex offshore 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 worldwide network of suppliers, efficient expediting and detailed 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.

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.

Operations and projects are managed professionally with the expertise of a diverse talent pool of project management professionals, backed by software like DOCTRAC, PRIMAVERA P6 Ver. 8.3, SAP ECC 6.0 and TIMETRACK.

L&T has also established an advanced facility – Knowledge City – on a 112-acre campus at Vadodara (India) to leverage its strengths in project management. Knowledge City houses the ‘L&T Institute of Project Management’, a pioneering initiative for developing leading project managers across the domains of EPCIC projects.

Global Sourcing
Experienced procurement teams, with category-specific domain expertise, source a variety of material. This includes structural bulk, piping, static equipment, rotary equipment (pumps and compressors), packaged items (gas dehydration units and chemical injection skids) and electrical and instrumentation items.

An established worldwide vendor network supported by an inspection and expediting team aids cost-efficient global sourcing enabling us to meet critical project schedules. We actively consider and evaluate new vendors with an impressive past track record from LCC.

We follow customer-oriented purchasing with a ‘Total Cost of Ownership’ approach and SAP-based procurement processes. IT-based procurement helps automate purchasing systems and effectively controlling delivery schedules, the cost and quality of procurement. Procurement uses SAP ARIBA, easy-TRACK, and various other in-house developed MOSS-based programs for Vendor Documentation Management (VDMS) for effective Supply Chain Management (SCM). GPS techniques are used for online tracking of critical assignments and rapid transportation of equipment and materials from source to final destination.

1. Project offices at the Powai Campus, Mumbai
2. L&T Institute of Project Management at Vadodara – a registered educational provider of PMI, USA – develop project managers across the domains of EPC.
The Company offers comprehensive EPF (Engineering, Procurement, Fabrication) modular solutions for setting up projects primarily in the Oil & Gas sector.

The Company’s three world-class Modular Fabrication Facilities are strategically located in proximity to major oil and gas fields and allied maritime infrastructure. The yards offer year-round delivery with robust QHSE performance and are equipped for flexibility, project control and management, and cost competitiveness.

Facilities are situated on the waterfront with load-out jetties suitable for dispatch of large and heavy modules via ocean-going vessels and barges.

The Fabrication Facilities are accredited with global certifications, pre-qualifications from all major Oil & Gas customers and have state-of-the-art equipment to deliver complex modules and structures, duly tested / pre-commissioned at the facility itself.

**Modular Fabrication Facility - Hazira, West Coast, India**

The Modular Fabrication Facility at Hazira is one of the largest in South Asia. Located on the Tapti river near Surat, the facility has unimpeded passage to the Arabian Sea, 8 km away. It has set multiple benchmarks in fabricating and loading out offshore / onshore Oil & Gas structures for Oil & Gas majors. It holds the distinction of being ‘green-banded’ by Shell for Occupational Health and Safety Systems as part of its global pre-qualification process.

| |  
|---|---|
| Total Area | 515,000 sq.m. |
| Fabrication Capacity | In excess of 50,000 MTPA (depending on the product mix) |

**Modular Fabrication Yard - Sohar, Oman**

A state-of-the-art yard at Sohar offers year-round load-out of complex structures such as large, integrated process topsides, jack-up rigs, FPSO topsides and semi-submersibles. We are committed to Omanisation, and have inducted young Omanis at various levels in the organisation, by imparting a range of technical skills through various technical programmes.

| |  
|---|---|
| Total Area | 500,000 sq.m. |
| Fabrication Capacity | In excess of 50,000 MTPA (depending on the product mix) |
Modular Fabrication Facility – Kattupalli, East Coast, India

The mega-complex at Kattupalli near Ennore Port, India, offers year-round load-out facilities. It is part of L&T’s sprawling 1200-acre marine complex in a Special Economic Zone, which includes a shipbuilding and ship-repair yard, a minor port as well as a freight-container station.

Modular Fabrication Facility – Kattupalli, East Coast, India

- Total Area: 600,000 sq.m.
- Fabrication Capacity: In excess of 50,000 MTPA depending on the product mix

Installation Vessel: LTS 3000

L&T Hydrocarbon Engineering with SapuraKencana Petroleum Berhad of Malaysia, operates LTS 3000, which was jointly built to provide heavy lift and pipelay services to the Oil & Gas industry. LTS 3000 is a self-propelled, fully SPS-compliant, DP3 convertible heavy lift-cum-pipelay vessel. L&T Sapura Shipping Private Limited (LTSSPL) owns and operates LTS 3000. L&T Sapura Offshore Private Limited (LTSOPL) provides offshore installation services for platforms and pipelines. LTS 3000 has successfully installed 78 offshore structures (jackets, topsides, etc.) and has laid 272 km of sub-sea pipelines (including piggyback pipelines) at various oil fields in India, Malaysia, Indonesia, Myanmar and Vietnam.

Installation

Installation Vessel: LTS 3000

- Total Area: 600,000 sq.m.
- Fabrication Capacity: In excess of 50,000 MTPA depending on the product mix

- Specifications
- Length: 160 m
- Beam: 37.8 m
- Depth: 15 m
- Propulsion: 3 Azimuth Thrusters
- Crane Capacity: 3000 ST (maximum)
- Pipelay Capacity: Pipe OD: 6”-60” S-Lay method
- Accommodation: 290 Man LQ
- Classification: ABS+IAI (E)+AMS+DPS-1

**ISO 9001** certification affirms our capabilities in the execution of turnkey projects covering design, engineering, project management, procurement, manufacturing, erection, construction and commissioning of various plants and systems.

**ISO TS 29001** certified for Offshore Engineering (standard for the Oil & Gas sector)

**ISO 14001 (Environment)** certifies us to design and engineer environmentally-friendly plants. All our Modular Fabrication Facilities / Yards and project construction and commissioning activities comply with this certification.

**OHSAS 18001 (Health & Safety)** certification has been received by our Modular Fabrication Facilities / Yards. All project construction and commissioning activities comply with this certification.

**ISO 50001 (Energy)** certification has been received by our Modular Fabrication Facilities / Yards, which comply with Energy Management Systems.

**ISO/IEC 27001 (IT Security)** L&T is the first company to be certified to ISO/IEC 27001 on the very first day of its publication. The certification was granted by BVC.

**NBBI, ASME & API Authorisation:** Our Modular Fabrication Facilities are accredited by NBBI, ASME and API, and are authorised to use their ‘U’, ‘S’, ‘R’, ‘NB’ & ‘API’ symbols and monograms.

**Awards & Accolades**

The Company’s quality and safety focus has been affirmed by several awards and accolades.
Track Record

3 DECADES
OF EXPERIENCE
ACROSS GEOGRAPHIES

Clients
# Track Record

## Process Platforms

<table>
<thead>
<tr>
<th>Client</th>
<th>Project</th>
<th>Completion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oil &amp; Natural Gas Corporation (ONGC)</td>
<td>Bassein Development Project</td>
<td>2017</td>
</tr>
<tr>
<td>Gujarat State Petroleum Corporation (GSPC)</td>
<td>Process-Cum-Living Quarter Platform Project</td>
<td>2014</td>
</tr>
<tr>
<td>ONGC</td>
<td>Mumbai High North (MHN) Project</td>
<td>2012</td>
</tr>
<tr>
<td>ONGC</td>
<td>Vasai East Development Project</td>
<td>2009</td>
</tr>
<tr>
<td>ONGC</td>
<td>Booster Compression Platform (BCP-B2) Project</td>
<td>2008</td>
</tr>
<tr>
<td>Bunduq Company Ltd</td>
<td>Gas Reinjection Project</td>
<td>2008</td>
</tr>
<tr>
<td>ONGC</td>
<td>MNW Project</td>
<td>2004</td>
</tr>
<tr>
<td>ONGC</td>
<td>HRC Process Platform, Bridge &amp; Modifications</td>
<td>1998</td>
</tr>
<tr>
<td>Enron Oil &amp; Gas India Ltd.</td>
<td>Process Deck &amp; Equipment</td>
<td>1998</td>
</tr>
</tbody>
</table>

## Wellhead Platforms

<table>
<thead>
<tr>
<th>Client</th>
<th>Project</th>
<th>Completion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Saudi Aramco</td>
<td>Hasbah II Gas Increment Project (6)</td>
<td>2019</td>
</tr>
<tr>
<td>ONGC</td>
<td>Addl. Devp. of Vasai East Project (2)</td>
<td>2016</td>
</tr>
<tr>
<td>ONGC</td>
<td>MHN RD Phase-III 5 Well Platform Project (5)</td>
<td>2015</td>
</tr>
<tr>
<td>British Gas</td>
<td>MB Platform &amp; Pipeline Project (1)</td>
<td>2015</td>
</tr>
<tr>
<td>ADMA-OPCO</td>
<td>Umm Lulu &amp; Nasr Phase-I Field Devp. Project (4)</td>
<td>2015</td>
</tr>
<tr>
<td>PETRONAS Carigali</td>
<td>Yetagun North - Phase V Development Project (1)</td>
<td>2014</td>
</tr>
<tr>
<td>ONGC</td>
<td>HRP-II Well Platforms Project (3)</td>
<td>2014</td>
</tr>
<tr>
<td>ONGC</td>
<td>B127 Well Platforms Project (4)</td>
<td>2014</td>
</tr>
<tr>
<td>GSPC</td>
<td>Deen Dayal West Field Development Project (1)</td>
<td>2014</td>
</tr>
<tr>
<td>PTTEP International Limited</td>
<td>Zawtika Development Project, Phase-1A (3)</td>
<td>2013</td>
</tr>
<tr>
<td>ONGC</td>
<td>MHN RD Phase II Wellhead Project (4)</td>
<td>2012</td>
</tr>
<tr>
<td>Maersk Oil Qatar</td>
<td>Block 5 Development Plan - Package 14 (2)</td>
<td>2010</td>
</tr>
<tr>
<td>ONGC</td>
<td>MHSRP II Project (3)</td>
<td>2009</td>
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<tr>
<td>ONGC</td>
<td>4 Wellhead Platform Project (4)</td>
<td>2007</td>
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<tr>
<td>ONGC</td>
<td>9 Wellhead Platform Project (9)</td>
<td>2005/06</td>
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<tr>
<td>ONGC</td>
<td>N-9 &amp; N-10 Well Platform Project (2)</td>
<td>2004</td>
</tr>
<tr>
<td>ONGC</td>
<td>S1-Sand Project (3)</td>
<td>1995</td>
</tr>
<tr>
<td>ONGC</td>
<td>I-MNTW Project (4)</td>
<td>1994</td>
</tr>
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## Subsea Systems

<table>
<thead>
<tr>
<th>Client</th>
<th>Project</th>
<th>Completion</th>
</tr>
</thead>
<tbody>
<tr>
<td>ONGC</td>
<td>S1 Vashishta Project</td>
<td>2017</td>
</tr>
</tbody>
</table>

## Modification Projects

<table>
<thead>
<tr>
<th>Client</th>
<th>Project</th>
<th>Completion</th>
</tr>
</thead>
<tbody>
<tr>
<td>ONGC</td>
<td>NQ Reconstruction Project</td>
<td>2010</td>
</tr>
<tr>
<td>ONGC</td>
<td>Pipeline Replacement Project</td>
<td>2008</td>
</tr>
<tr>
<td>Qatar Petroleum</td>
<td>PS-2/3 Living Quarters &amp; Power Upgradation Project</td>
<td>2005</td>
</tr>
<tr>
<td>ONGC</td>
<td>Additional Process Gas Compressor Project</td>
<td>2002</td>
</tr>
<tr>
<td>ONGC / EIL</td>
<td>Bombay High Pipeline Replacement Project</td>
<td>2001</td>
</tr>
<tr>
<td>ONGC</td>
<td>Pipeline &amp; Platform Modification Project</td>
<td>2000</td>
</tr>
<tr>
<td>ONGC / EIL</td>
<td>Clamp-On Related Project</td>
<td>2000</td>
</tr>
</tbody>
</table>

## Rig Repair, Upgradation & Modification

<table>
<thead>
<tr>
<th>Client</th>
<th>Project</th>
<th>Completion</th>
</tr>
</thead>
<tbody>
<tr>
<td>ONGC</td>
<td>Sagar Pragati</td>
<td>2016</td>
</tr>
<tr>
<td>ONGC</td>
<td>Sagar Uday (BMC Class 300)</td>
<td>2012</td>
</tr>
<tr>
<td>Lynemouth Drilling SA</td>
<td>FD VII</td>
<td>2009</td>
</tr>
<tr>
<td>ONGC</td>
<td>Sagar Lakshmi</td>
<td>1998</td>
</tr>
</tbody>
</table>

(All projects completed without any delay penalty)
## Recent Projects

### Hasbah II Gas Increment Project
**Client:** Saudi Aramco  
**Field Location:** Hasbah Offshore, Saudi Arabia  
**Key Features:** EPCIC scope includes 6 Wellheads (Topside only), 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.

### Subsea Installation of VA & S1 Development Project
**Client:** Oil & Natural Gas Corporation  
**Field Location:** Eastern Offshore, India  
**Key Features:** EPC of pipelines, umbilicals and fabrication of subsea structures to tie-in 3 deepwater wells, located in water depths of 350 to 700 metres, to an onshore terminal located off the East Coast of India. The project involved the establishment of a state-of-the-art spoolbase at our Kattupalli Fabrication Facility to support reel-lay of deepwater pipelines.

### MHNRD Phase-III 5 Well Platform Project
**Client:** Oil & Natural Gas Corporation  
**Field Location:** Mumbai High North, west coast of India  
**Key Features:** EPCIC of 5 unmanned wellhead platforms, clamp-on structure and associated modifications at N11 platform, associated modifications at MNW platforms and strengthening of NQD jacket.

### Additional Development of Vasai East Project
**Client:** Oil & Natural Gas Corporation  
**Field Location:** Vasai East Field, west coast of India  
**Key Features:** EPCIC of 2 unmanned wellhead platforms, 36 km subsea pipeline and topside modification works on existing BPA and BCP-A2 process platforms.

### MB Platform and Pipeline Project
**Client:** British Gas  
**Field Location:** Panna Mukta Field, west coast of India  
**Key Features:** EPCIC of MB wellhead platform, laying of 30 km of subsea pipeline and modification works at MA & PPA platforms.

### Process-cum-Living Quarters Platform
**Client:** Gujarat State Petroleum Corporation  
**Field Location:** Deen Dayal West Field, east coast of India  
**Key Features:** EPCIC scope includes process platform with living quarters (45 personnel), flare tripod, TG module, two connecting bridges and modification work on connecting Deen Dayal Wellhead Platform (DDW1).

### Yetagun North Phase V Development
**Client:** Petronas Carigali  
**Field Location:** Yetagun Field, Myanmar  
**Key Features:** EPCIC of a wellhead platform, 11.2 km of 10” subsea pipeline and extensive brownfield modification works on a process platform, which included critical activities performed during the client-specified shutdown period.

### Umm Lulu & Nasr Field Development
**Client:** ADMA-OPCO  
**Field Location:** Nasr & Umm Lulu Fields, Abu Dhabi (UAE)  
**Key Features:** Umm Lulu - EPCIC of 2 wellhead platforms, 24 km pipeline, 38 km fibre optic cable.  
Nasr - EPCIC of 2 wellhead platforms, manifold platform, 79 km rigid pipeline and 40 km fibre optic cable.
HRC Process Platform, Bridge & Platform Modification Project for ONGC at Heera Complex, Mumbai High.

Scope includes Process Platform (1.5 MMSCMD) with Compression Module and 20-man Living Quarters; Bridge; Platform Modification 30,000 BPD oil, 20,000 BPD water, and 1.5 MMSCMD gas.

Landmark Projects

USD 1.1 billion MHN Process Platform & Living Quarters Project for ONGC.

It won the ‘Project of the Year-Large’ award instituted by the Project Management Institute (USA). Scope of work covered detailed engineering, procurement, fabrication, installation and commissioning of Project Facilities designed to handle 8.8 MMSCMD of Gas Processing & Compression.

- MNP Process Platform
- MLQ Living Quarters (150 men), 4 Interconnecting Bridges
- Modifications on MNW and NA Platforms

GSPC’s Process-cum-Living Quarters Platform for Deen Dayal West Field Development Project on India’s East Coast.

It won the ‘Project of the Year – 2014’ award. Scope included Process Platform with 45-man LQ, flare tripod, two connecting bridges and modification work on connecting wellhead platform (6-Legged with 16-wellslots) designed to accommodate Jack-up Rig, Tender Assisted Rig & Modular Rig for drilling operations post WHP installation.

BCP-B2 Booster Compression Platform Project for ONGC.

It won the Global Project Management Institute (USA) award. Scope of work included detailed engineering, procurement, fabrication, installation and commissioning of project facilities with 4 compressor trains (5 MMSCMD each)

- Topside (6,970 MT), Jacket (2,100 MT), Piles (2000 MT)
- Modification on existing platforms
- BCP-B2 bridge connected with BCP-B (existing) platform (260 MT)

GSPC’s Process-cum-Living Quarters Platform for Deen Dayal West Field Development Project on India’s East Coast.
L&T Hydrocarbon Engineering draws on the culture of safety of its parent company, Larsen & Toubro Limited. It has recognized that an industrialized process of improvement is the key to sustaining the safety culture, through a robust structure created to implement HSE management systems.

Periodic training and competency-building are the pillars of the Company’s HSE Management Programme. The personnel at our fabrication sites and offshore projects adhere to standards prepared in consultation with Du-Pont Sustainable Solutions. Regular audits ensure compliance. A world-class Safety Innovation School at Hazira provides experiential training in safety. Here, employees and contractors internalise a sense of responsibility for their own safety and that of their colleagues, to attain the goal of accident-free projects. Awards for exemplary HSE performance from clients as well as independent agencies affirm the success of efforts to continuously raise the bar.

**HSE recognitions:**
- **Offshore Projects**
  - ADMA-OPCO: 13 million man-hours without LTI on Nasr & Umm Lulu Phase - I Field Development project
  - PTTEPI: 4 million man-hours without LTI on ZAWTIKA project
  - PETRONAS: HSE Award – 2014 for exceptional HSE performance on Yetagun Project under ‘Contractor’ category (International)
  - ONGC: Certificate of Appreciation for commitment and contribution to HSE on HRP II WPP
  - British Gas: Certificate of Appreciation for safe completion of 1.5 million man-hours for MB Project

**Modular Fabrication Facility, Kattupalli**
- British Safety Council (BSC), UK International Safety Award with Merit for 2015 and 2014
- Three Star Rating in CII – South India EHS Awards – 2014

**Modular Fabrication Facility, Hazira**
- BSC International Safety Award with Merit for 2015 and 2014
- Royal Society for the Prevention of Accidents (RoSPA, UK) Gold Award – 2014
- Platinum Award from FICCI – Safety Excellence Awards Contest for Manufacturing – 2013
- Green Banding of HSSE Management System by Shell – 2012

**Modular Fabrication Yard – Sohar, Oman**
- BSC International Safety Award – 2014 for outstanding HSE management system
- Sword of Honour – 2014 from BSC for outstanding commitment to HSE
- ASSE GCC HSE Excellence Award – 2014 by American Society of Safety Engineers (Kuwait Chapter)
- RoSPA Gold Award – 2014 & 2013 for excellence in implementing HSE management system
- Safety recognition award by ADMA OPCO for achieving 5 million LTI-free man-hours – 2013
- ONGC: Certificate of Appreciation for commitment to HSE during major lay-up repair of jack-up rig ‘Sagar Uday’ – 2013
- 5 Star Rating from BSC for excellent HSE management system & effective implementation – 2013

**Corporate Health, Safety & Environment Policy**

As an integral part of our business philosophy, we are committed to protecting the environment and providing a safe and healthy workplace for our employees and stakeholders. To achieve this, we shall:

- Incorporate HSE considerations into all business processes
- Ensure compliance with statutory and other applicable requirements
- Prevent adverse environmental impact and avoid occupational health and safety risks
- Conserve natural resources, minimise waste generation and environmental emissions
- Impact structured training and augment resources for HSE performance
- Encourage communication, consultation and collaboration with all stakeholders

*Subramanian Samu*
CEO & Managing Director

L&T Safety Innovation School at Hazira, India - part of multiple initiatives for propagation of a safety culture across the Company
L&T and its Group Companies are guided by the principles of sustainability that advocate the production and use of resources in ways that generate economic growth, create social benefits and minimise the negative impact on the environment.

L&T is the first Indian Engineering & Construction company to report on the triple bottom line. We are driven by values such as transparency, empowerment, accountability and ethical corporate citizenship to create larger societal capital.

Climate change is one of the thrust areas in which our proactive initiatives of investing in cleaner technology and propagating renewable energy help us improve our operational efficiency and environmental performance.

We strive to develop innovative eco-processes by minimising the negative impact on the environment arising out of our operations through optimal use of material, energy and water.

Our CSR initiatives include a thrust on activities such as mother and child health, education, skill-building and water & sanitation at our international and domestic project locations.

Feedback from all stakeholders, including vendors, suppliers and contractors is obtained through a well-developed engagement process.

L&T Hydrocarbon Engineering’s Sustainability Reports highlight its approach towards a sustainable future through transparent governance, safer workplaces, developing competencies and initiatives towards conservation of water and energy.