



Annual Review

2012-2013



LARSEN & TOUBRO
It's all about Imagineering

VISION

L&T shall be a professionally-managed
Indian multinational,
committed to total customer satisfaction
and enhancing shareholder value.

L&T-ites shall be an innovative,
entrepreneurial and empowered team
constantly creating value
and attaining global benchmarks.

L&T shall foster a culture of caring,
trust and continuous learning
while meeting expectations of
employees, stakeholders and society.



LARSEN & TOUBRO



THE L&T PLEDGE

On the occasion of the
Platinum Jubilee of our company,
we solemnly pledge to carry forward
the glorious heritage of our Company.

We are proud to be part of Team L&T,
which over the last 75 years
has helped build our nation,
created value for our stakeholders,
and developed the communities around us.

We resolve today to continue
this tradition of service.

Undeterred by obstacles,
we will work towards a better future for all,
and realise our dreams.

We will do this with the passion,
commitment and drive that has become:
'The L&T Way'.



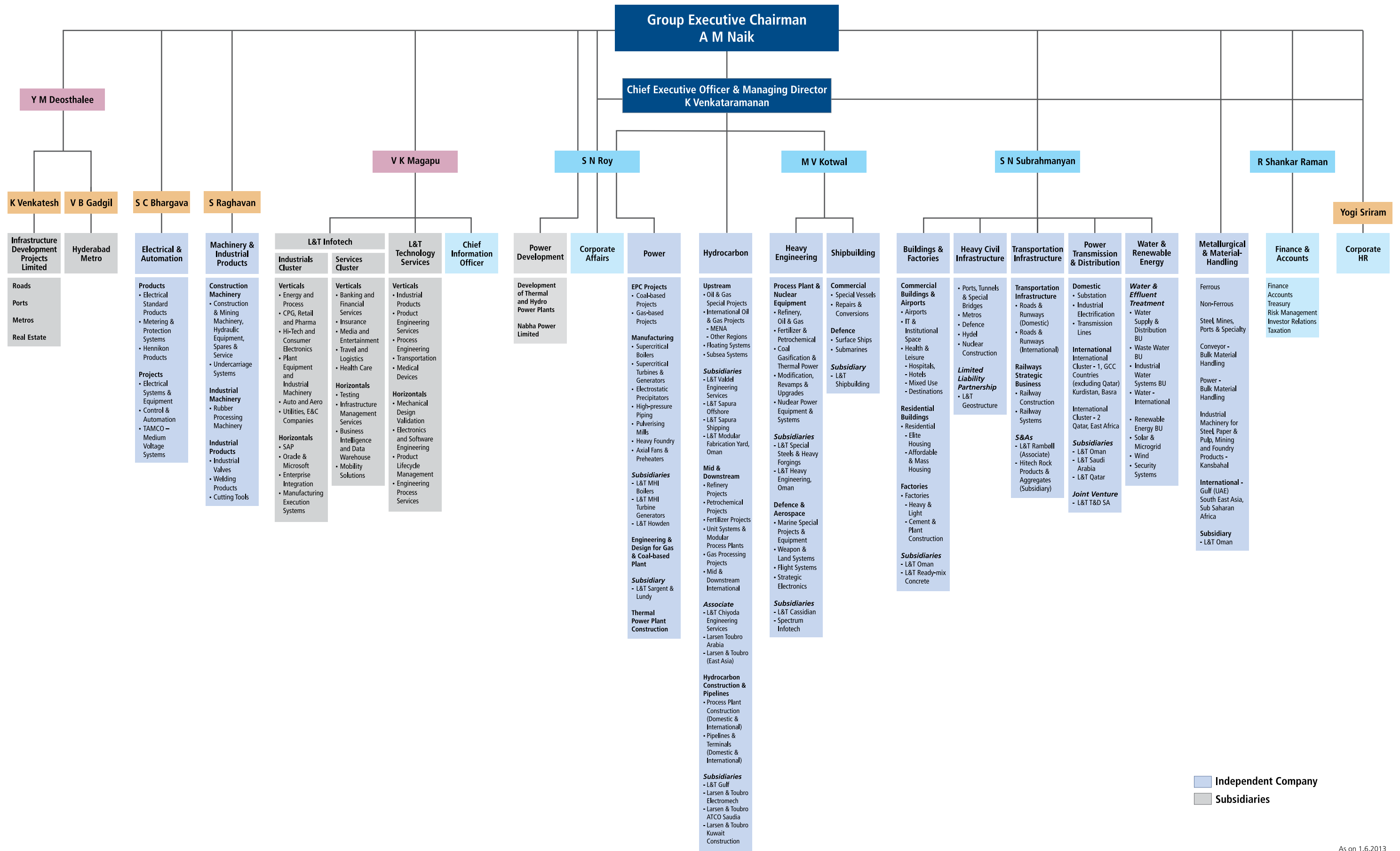
LARSEN & TOUBRO



Harvard Business Review ranked Mr. A.M. Naik the world's 4th
Best Performing Global CEO in the industrial sector, and the
32nd Best Performing CEO in the world.

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Leadership Team



A. M. Naik
Group Executive Chairman



K. Venkataramanan
CEO &
Managing Director



M. V. Kotwal
President
(Heavy Engineering)



S. N. Subrahmanyam
Sr. Executive
Vice President
(Infrastructure &
Construction)



R. Shankar Raman
Chief Financial
Officer



S. N. Roy
Sr. Executive
Vice President
(Corporate Affairs &
Power)



S. C. Bhargava
Sr. Vice President
(Electrical &
Automation)

Larsen & Toubro is a USD 14 billion technology, engineering, construction, projects, manufacturing and financial services conglomerate.

L&T is engaged in key sectors of the economy – infrastructure, hydrocarbon, power, defence, aerospace, construction, shipbuilding, electrical & automation, mining and metallurgy. The Company's integrated capabilities span the entire spectrum of 'design-to-deliver', and it offers turnkey EPC solutions in its major business lines. Its track record covers products, projects and processes executed to international benchmarks.

Every aspect of L&T's businesses is characterized by professionalism and high standards of corporate governance. Sustainability is embedded into its long-term strategy for growth.

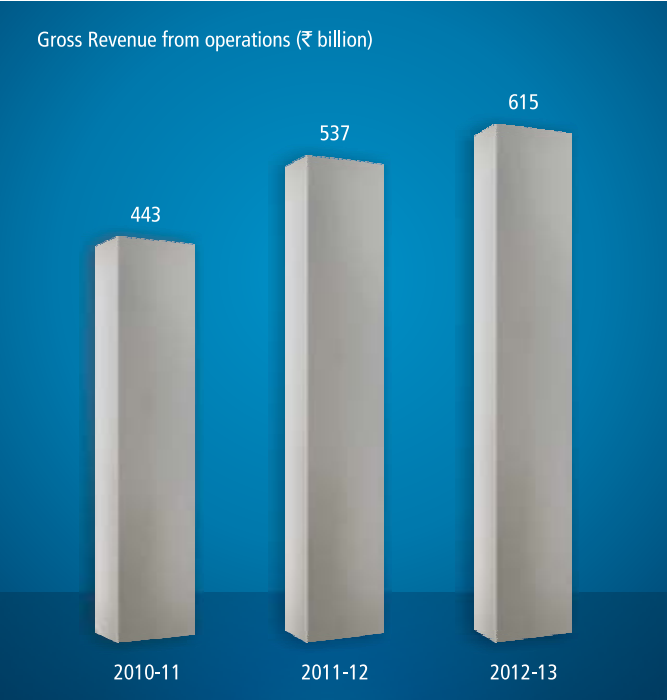
The Company has a global presence, with manufacturing facilities in seven countries besides India. In addition to a nationwide domestic network, L&T has several international offices and a supply chain that extends around the globe.

L&T has built a strong international organisation with multi-cultural teams having local knowledge and domain expertise.

Achievements

- L&T's signature of excellence is evident in:
- Infrastructure projects executed in India, the Middle East and South East Asia
 - Mega scale hydrocarbon projects
 - The world's longest heated and insulated oil pipeline
 - India's largest onshore oil processing terminal
 - The world's longest LPG pipeline (1270 km)
 - India's largest onshore gas processing terminal (80 MMSCMD)
 - The world's largest coal gasifier made in India and exported to China
 - The world's biggest EO reactor for a petrochemical complex in the Gulf
 - The world's largest FCC regenerator for a refinery
 - India's largest solar PV power plant – 40 MWp
 - India's widest range of switchgear
 - L&T played a critical role in building India's first nuclear-powered submarine
 - India's maiden moon mission

The following pages highlight the capability and review the operations (2012-13) of the Company's multiple businesses. L&T's corporate social initiatives and sustainability performance are also featured.



Year 2012-13 at a Glance

L&T

- Order Book as at March 31, 2013: ₹ 1536041 million as against ₹ 1457230 million as at March 31, 2012: 5% growth y-on-y
- Gross Revenue from operations at ₹ 614709 million in CY as against ₹ 537378 million in PY: 14% growth over 11-12
- Segment-wise composition of gross revenue:-
 - Engineering & Construction Segment: 87.97% in CY as against 86.95% in PY
 - Electrical & Electronics Segment: 5.88% in CY as against 6.58% in PY
 - Machinery & Industrial Products Segment: 3.87% in CY as against 4.70% in PY

- Others: 2.28% in CY as against 1.77% in PY
- PBDIT before exceptional and extraordinary items at ₹ 82580 million in CY as against ₹ 76209 million in PY - up by 8.36%
- PAT excluding exceptional and extraordinary items ₹ 46953 million in CY against ₹ 44134 million in PY - up by 6.4%
- Gross Debt: Equity ratio of 0.30:1 (previous year: 0.39:1)

L&T Group

- Gross Revenue from operations at ₹ 751953 million in CY as against ₹ 649601 million in PY - 16% growth over 11-12
- PAT excluding extraordinary and exceptional items at ₹ 49108 million in CY as against ₹ 46488 million in PY

BALANCE SHEET AS AT MARCH 31, 2013

	₹ MILLION	
	As at 31-3-2013	As at 31-3-2012
EQUITY AND LIABILITIES:		
Shareholders' funds	291427	252230
Non-current liabilities	83012	61145
Current liabilities	347303	362949
TOTAL	721742	676324
ASSETS:		
Non-current assets		
Fixed assets	89020	83637
Non-current investments	105227	90847
Other non-current assets	37465	41972
	231712	216456
Current assets	490030	459868
TOTAL	721742	676324

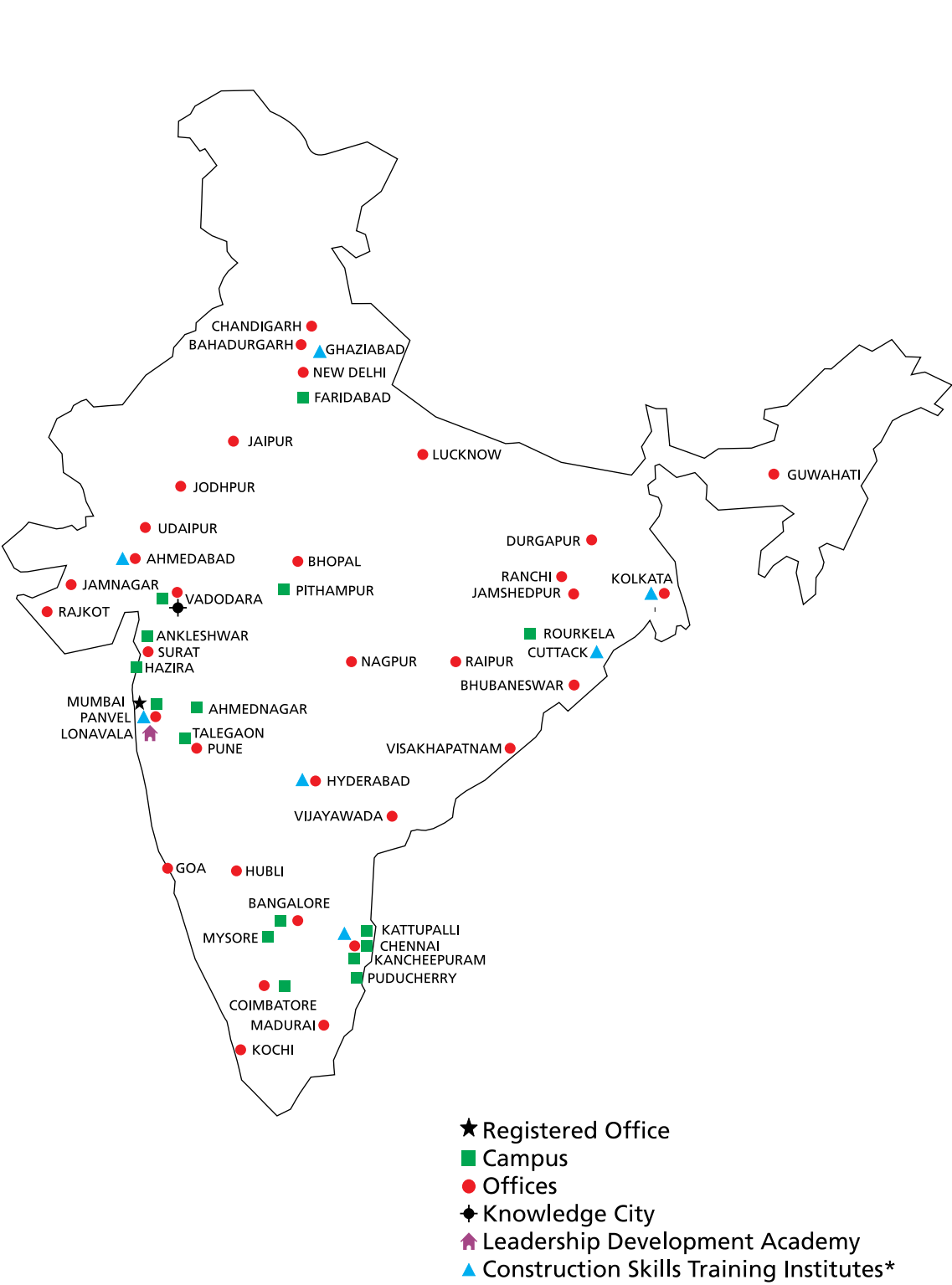
Note: Figures in the previous year have been regrouped / reclassified wherever necessary.

STATEMENT OF PROFIT AND LOSS FOR THE YEAR ENDED MARCH 31, 2013

	₹ MILLION	
	2012-13	2011-12
Revenue from operations (net)	608733	531705
Other income	18509	13383
Total revenue	627242	545088
Less: Expenses:		
Manufacturing, construction and operating expenses	479524	410224
Employee benefits expense	44363	36661
Sales, administration and other expenses	20775	21994
Finance costs	9824	6661
Depreciation, amortisation and obsolescence	8185	6995
	562671	482535
Profit before exceptional and extraordinary items and tax	64571	62553
Exceptional items	1760	550
Profit before extraordinary items and tax	66331	63103
Extraordinary items	781	0
Profit before tax	67112	63103
Tax expenses	18005	18538
Profit after tax	49107	44565
Basic earnings per equity share before extraordinary items (₹)	78.82	72.92
Diluted earnings per equity share before extraordinary items (₹)	78.18	72.23
Basic earnings per equity share after extraordinary items (₹)	79.99	72.92
Diluted earnings per equity share after extraordinary items (₹)	79.33	72.23
Face value per equity share (₹)	2.00	2.00

Note: Figures in the previous year have been regrouped / reclassified wherever necessary.

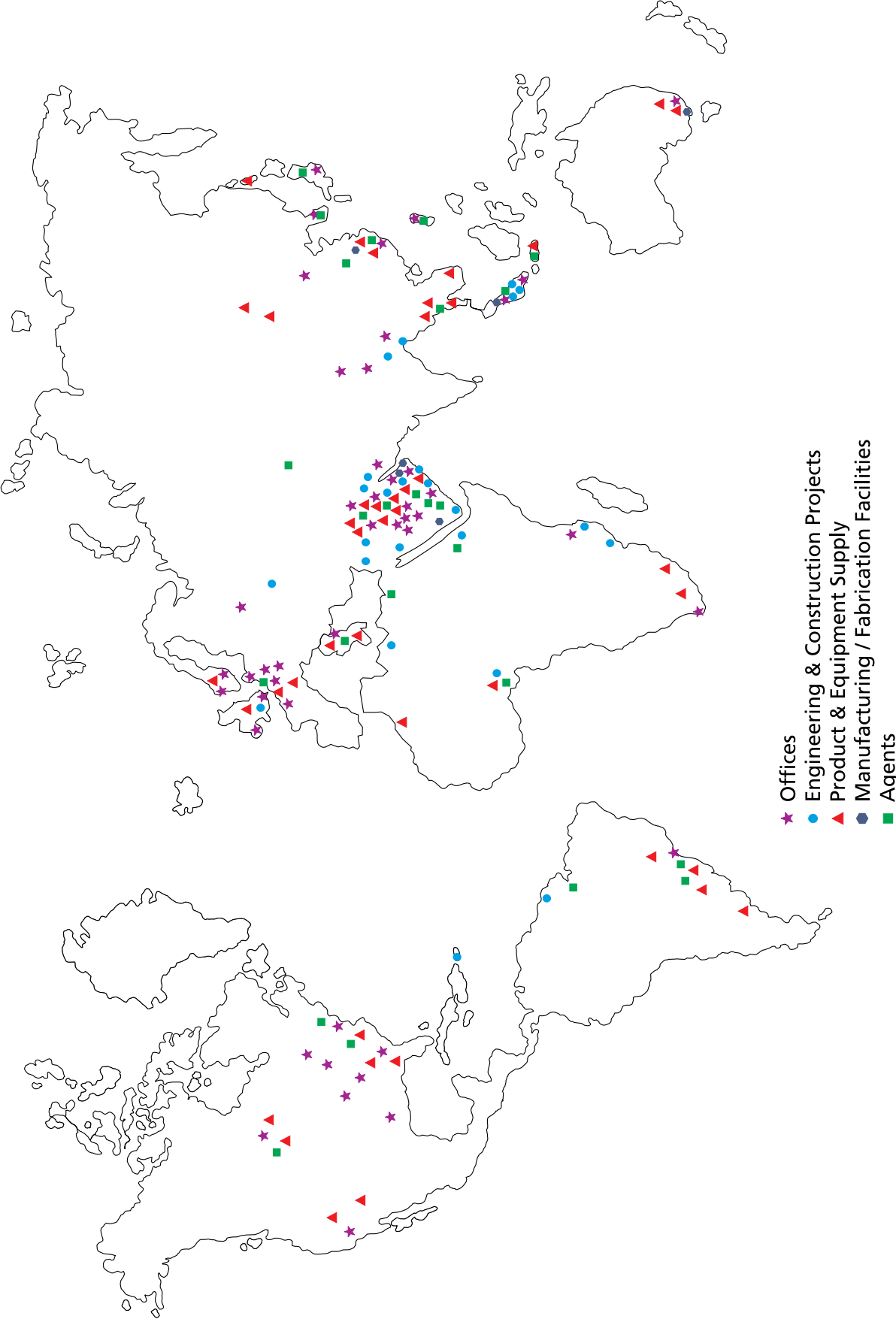
Nationwide Network



- ★ Registered Office
- Campus
- Offices
- ◆ Knowledge City
- 🏠 Leadership Development Academy
- ▲ Construction Skills Training Institutes*

*Part of L&T's Corporate Social Initiatives

Global Presence



- ★ Offices
- Engineering & Construction Projects
- ▲ Product & Equipment Supply
- Manufacturing / Fabrication Facilities
- Agents

Note: Map is broadly representative of L&T's presence in markets worldwide. For details of establishments within India, please refer to 'Nationwide Network'.



Mumbai High North Complex of ONGC, executed by L&T on an EPC basis. The massive complex comprises a process platform, a living quarters platform & control room, three process gas compression platforms, two flare platforms and two jackets including one weighing 13,500 tonnes.

L&T HYDROCARBON

L&T Hydrocarbon provides complete design-to-build engineering and construction solutions for the oil & gas sector. In-house expertise, extensive experience and collaborations with strategic business partners enable it to deliver end-to-end solutions for every phase of project – from front-end design engineering through fabrication, project management, procurement, construction and installation up to commissioning.

Key aspects of business philosophy are excellence in corporate governance, high safety and quality standards with focus on best in class HSE and IT security practices, timely execution and cost competitiveness. Integrated strengths coupled with an experienced and highly skilled workforce, are key enablers in delivering large

and complex projects in India and in select countries overseas. Its capabilities include in-house engineering, R&D centres, engineering joint ventures with reputed international companies, offshore installation capabilities, world class modular fabrication facilities, a competent project execution team and a work culture that places high emphasis on safety.

Major work centres in India are at Powai (Mumbai), Vadodara, Chennai, Bangalore, Faridabad, Hazira and Kattupalli. L&T has project execution offices in UAE (Abu Dhabi and Sharjah), Oman (Muscat), Qatar (Doha), and business development offices in Houston, London, Singapore, South Korea, Australia, Malaysia and Indonesia.

Overseas subsidiaries include L&T Modular Fabrication Yard LLC and Larsen & Toubro Electromech LLC (JVs with The Zubair Corporation in Oman), Larsen & Toubro Atco Saudia Company LLC (a JV with Abdulrahman Ali Al-Turki Group of Companies - ATCO - Dammam), Larsen Toubro Arabic LLC (a JV with Al-Jazirah Engineering & Consultants in Al-Khobar), Larsen & Toubro Kuwait Construction General Contracting Company WLL (a JV with Bader Almula and Brothers Company WLL Kuwait), and Larsen & Toubro (East Asia) Sdn. Bhd. incorporated in Malaysia as a Bumiputra Company.



L&T's heavy-lift-cum-pipelay vessel LTS 3000 installing a topside for Newfield Peninsula in Malaysia.



L&T's modular fabrication facility at Sohar in Oman has the capability to execute large scale fabrication up to 20,000 tonnes. Picture shows a jacket, a platform and a jack-up rig.

L&T Hydrocarbon is structured into three Strategic Business Groups:

- Hydrocarbon Upstream
- Hydrocarbon Mid & Downstream
- Hydrocarbon Construction & Pipelines

Hydrocarbon Upstream

Turnkey solutions to the offshore oil & gas industry encompass production, processing and pipeline projects. The track record includes large offshore platforms and pipeline projects in India, the Middle East, South East Asia and Africa for global companies such as ONGC, GSPC, Songas, Qatar Petroleum, Maersk Oil Qatar, PTTEP, Petronas and Bunduq. Major refurbishment of jack-up rigs was also undertaken. The Company is qualified to build new jack-up rigs,

Floating Production Storage & Off-Loading (FPSO) topsides and subsea projects.

Three state-of-the-art fabrication facilities – with a total capacity of around 150,000 MTPA – at strategically significant locations for modular structures, heavy jackets and oil rigs offer year-round delivery. Hazira (Surat, Gujarat) caters to business opportunities on the west coast of India and the Gulf. Kattupalli (near Chennai in Tamil Nadu) caters to opportunities on India's east coast (Kakinada Gas Fields, KG Basin and the South East Asia region). Sohar in Oman caters to opportunities in the MENA region.

Through a JV with Sapura Kencana Petroleum Berhad of Malaysia,

L&T owns a Heavy Lift Pipe Lay vessel, the LTS 3000, enhancing its offshore installation capabilities. Two engineering centres at Bengaluru and Faridabad through L&T Valdel and a centralized procurement capability centre enable the Company to offer integrated EPC services to E&P companies.

During the year, two projects from ONGC were secured. A breakthrough order was secured from Petronas Carigali for the Yetagun North field in Myanmar.

International operations are facilitated by business development offices at Abu Dhabi, Singapore, Houston and Perth. Upcoming opportunities are being explored in the CIS region and East Africa.



Booster compressor platform with an interconnecting bridge, built by L&T for Oil & Natural Gas Corporation (ONGC) in South Basin Gas Fields.



900 tpd ammonia plant of National Fertilizers Limited, Panipat - one of the many downstream hydrocarbon projects executed by L&T on a licence-plus-EPC basis

Hydrocarbon Mid & Downstream

Turnkey projects encompass engineering, procurement, construction and commissioning in the petroleum refining, petrochemicals, fertiliser and onshore gas processing sectors.

The business has rich experience in project execution with diverse technologies from process licensors like UOP, Axens, Haldor Topsøe, CB&I Lummus, Black & Veatch, Ortloff, ExxonMobil, BOC Parsons, Du-Pont (Invista) and Davy Process Technologies.

Capabilities have been built and the resources developed to simultaneously execute multiple complex large-value projects meeting stringent delivery schedules, quality and safety norms. The

multi-locational centres of engineering excellence – L&T Chiyoda and in-house design and engineering centres – have over 1500 experienced engineers, equipped to address the complete spectrum of process and detailed engineering.

Business development and execution capabilities have been established in Sharjah and Al-Khobar. L&T is prequalified with major international oil & gas producers – such as Saudi ARAMCO, ORPIC, Petronas, Dragon Oil, Pertamina & KNPC – for large-value projects. Business development initiatives have been strengthened in South East Asia, where the Company is qualified to bid for major projects. The Company's presence in the Middle East market was reinforced by securing the order for an onshore gas processing project for Saih

Rawl facilities from PDO Oman during the financial year. An order was received for a project for a gas processing facility from Dolphin Energy, Qatar.

During the year, three ammonia modernization plants were completed: for Gujarat Narmada Valley Fertilizers Corporation, Bharuch, and National Fertilizers Limited, Bhatinda and Panipat. Strategic alliances with internationally renowned companies has made it a strong contender for fertiliser projects.

The Company has an excellent track record of executing hydrogen generation units, synthesis gas generation projects, diesel hydro-treating (DHDT) units, sulphur recovery units (SRU), naphtha



Lube-base oil project built by L&T on an EPC basis for Petronas Penapisan's refinery at Melaka, Malaysia.



700 TPD Methanol & 100 TPD Carbon Monoxide Plant for Methanol Chemicals Company (Chemanol) at Al Jubail in Saudi Arabia.

cracker and associated units and PTA plants. The DHDT unit for MRPL, Mangalore, hydrogen generation units for HMEL, Bhatinda and MRPL, Mangalore, and a gas processing facility for ONGC (Hazira) were commissioned during the year. Other major projects include the world-scale aromatic complex at ONGC Mangalore Petrochemicals Ltd. (OMPL), Reactor Regenerator Package as part of the FCC unit for Indian Oil Corporation (Paradip) and a gas processing facility for ONGC (Uran).

Hydrocarbon Construction & Pipelines

L&T undertakes turnkey construction of refinery, petrochemicals, chemical plants, fertilisers, gas gathering stations, crude oil & gas terminals, underground cavern storage system for LPG covering

civil, structural, piping, equipment and heavy lift works. It also undertakes cross-country pipelines on lump sum turnkey basis.

L&T's Pipelines Business Unit undertakes cross-country pipeline projects on EPC basis, including OFC, horizontal direct drilling (HDD), cathodic protection systems, testing, pre-commissioning and commissioning of pipelines. Expertise includes design, engineering, procurement, and construction. Construction capabilities comprise civil, mechanical, electrical and instrumentation.

L&T's Process Plant Construction Business Unit undertakes turnkey construction of process plants for refineries, petrochemicals, fertilisers, chemical plants, gas-gathering stations, crude oil & gas

terminals and strategic storage facilities including underground caverns and above-ground facilities.

World-class engineering for cross-country pipelines has been undertaken through a JV with Gulf Interstate Engineering of USA. Facilitators include competency centres for heavy lift, formwork, world-renowned quality management systems and HSE systems.

To cater to the international market – particularly in the GCC – local partnership ventures are set up in the Kingdom of Saudi Arabia, Kuwait and Oman.



DHDT project executed for Mangalore Refineries and Petrochemicals Limited.



Habshan-Ruwais-Shuweihat Pipeline being executed on an EPC basis in Abu Dhabi. L&T has constructed over 4,000 km of pipeline across some of the world's toughest terrain.

Internationally, projects are being executed – directly or through other EPC contractors – for key customers such as GASCO (UAE), ADCO (UAE), SADARA (KSA), KOC (Kuwait) and Dolphin Energy (Qatar), Petroleum Development Oman (Oman), Oil Tanking Odfjell Terminal Company (Oman). Domestic clientele include Cairn, HMEL, RIL and Indian public sector oil companies.

Initiatives

Health, Safety and Environment are core to L&T Hydrocarbon's operations. A robust HSE Management System, dedicated organizational support led by a committed leadership and emphasis on the Zero Incident Credo resulted in zero fatalities during the year – despite over 110 million man-hours at project sites.

A safety culture is fostered by training programmes and campaigns, international certifications received by personnel, a world-class Safety Innovation School, audits and safety-focussed site visits by Senior Management. Conservation initiatives led to significant savings of precious resources such as energy and water.

L&T Hydrocarbon's safety focus is affirmed by clients and national and international agencies – National Safety Council, American Society of Safety Engineers, British Safety Council and RoSPA. L&T's MFF Hazira and MFY Sohar Fabrication Yards have received the prestigious Green Banding & Amber Banding respectively for sustainable safety systems by Shell through OGP pre-qualification assessment methodology.

Multi-cultural teams undertake operations across all geographies. There is company-wide emphasis on identifying and developing talent from the region in which it operates. In Oman, for instance, an in-house training centre prepares Omani youth to become welders, crane operators, riggers, electricians and safety marshals. Around 450 Omanis have been trained so far. L&T's Sohar yard, in collaboration with Oman's Ministry of Manpower, plans to provide welder training to 100 young Omanis every year.



QP Shell's Pearl Gas-to-Liquid project at Ras Laffan in Qatar. L&T undertook mechanical construction of the liquid processing unit for a Toyo-Hyundai consortium.



L&T's joint venture with Mitsubishi Heavy Industries introduced world-class supercritical technology to India. L&T is rapidly building a presence in India in pursuit of its mission to become the 'most preferred provider of equipment, services and turnkey solutions for fossil-fuel-based power plants in the Indian market'.

L&T POWER

L&T Power is an integrated concept-to-commissioning solutions provider for thermal power plants. It sets up coal and gas based power generation projects on a lumpsum turnkey basis.

L&T Power has world-class manufacturing facilities for super-critical boilers, steam turbines, generators, pressure piping, axial fans, air-preheaters and electrostatic precipitators, and unmatched experience in project management, engineering and construction management.

A pan-India presence includes multiple project sites and project management centres at Vadodara, Faridabad and Chennai. Manufacturing facilities for critical piping and electrostatic

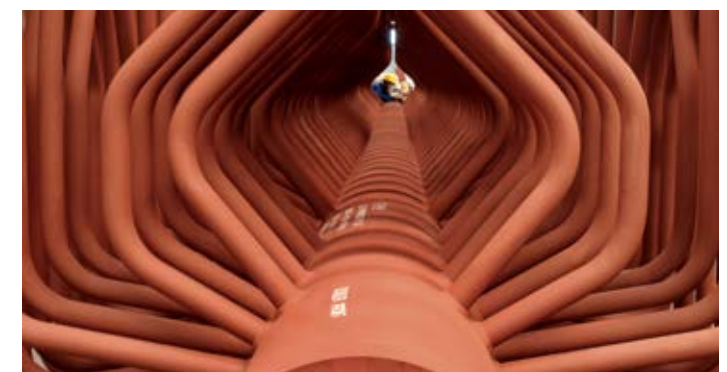
precipitators are located at Hazira, near Surat. The facilities for boilers, turbines, generators, axial fans and air-preheaters (housed in joint venture companies) are also located at Hazira. L&T Power has set up establishments at various locations in India to assist business development, with procurement being supported by an office in China.

Major Orders: Bookings: RRVUNL (Rajasthan Rajya Vidyut Utpadan Nigam Limited) for its 2x660 MW EPC project at Chhabra (Rajasthan) and NPCIL (National Power Corporation of India Limited) for its balance of turbine island contract at the 2x700 MWe Rawatbhata (Rajasthan) project.

Execution: The year saw critical milestones like stator erection, hydro-test, turbine box-up being achieved in some of the projects. L&T Power also successfully executed complex multi-nodal logistics plans for transport of heavy equipment across long distances and difficult terrain.

Initiatives

A Power Training Institute was set up at Vadodara last year. The institute will develop a pool of talented power professionals within the Company. Training programs were conducted across the gamut of relevant competencies. Strong emphasis has been placed on engineering and technology services with a view to introducing and inducting cutting-edge execution practices.



Supercritical boiler manufactured at L&T's state-of-the-art manufacturing facilities at Hazira.



Natural gas-fired combined cycle power plant built by L&T at Vemagiri in Andhra Pradesh, India

The increasing international focus is on gas-based power plants. Geographies of special interest are the Middle East (where the Company already has a track record of setting up power projects) and South East Asia. The Critical Piping unit which manufactures high-pressure piping spools for thermal power plants is actively seeking opportunities in the Middle East. Steps have been taken to build a business development team at Abu Dhabi.

Subsidiaries

L&T's subsidiaries in this sector include the following:

L&T-Sargent & Lundy (L&T-S&L) is a joint venture with Sargent & Lundy of USA, a global consulting firm in the power industry.

L&T-S&L offers the complete range of power plant engineering and consultancy services – from concept to commissioning. Its track record includes overseas projects in USA, Saudi Arabia, Oman, UAE, Jordan, China, Thailand, Malaysia, Sri Lanka, Bangladesh, Nigeria, Panama, Kuwait, Morocco and Kenya.

L&T MHI Boilers and **L&T MHI Turbine Generators** are joint ventures with global leader Mitsubishi Heavy Industries for manufacture of boilers and steam turbines & generators respectively. These are proving to have strategic potential. The companies are exploring markets for supply of components to MHI's third country projects in diverse geographies.

Efforts are on to introduce advanced ultra-supercritical steam generators in India. A prestigious order was secured from MHI to supply pressure parts for Rabigh Arabian Water Electricity Company, Saudi Arabia.

L&T Howden Pvt. Ltd. is a joint venture with Howden to design, engineer, manufacture and supply axial fans and air pre-heaters to Indian thermal power plants ranging from 100 MW to 1200 MW.



Supercritical turbine being assembled at L&T's Hazira Campus.



World's largest vacuum distillation column - weighing 975 MT - fabricated by L&T for Paradip refinery (Orissa, India).

L&T HEAVY ENGINEERING

L&T Heavy Engineering operates at the upper end of the technology spectrum, and has been at the forefront of introducing new processes, products and materials into the manufacturing sector.

It is one of the world's top five heavy engineering manufacturers, earning global recognition for the size and complexity of the equipment and systems that it designs and manufactures, and the speed with which they have been successfully executed. The Company's proven design and engineering strengths give it a competitive edge in its domain.

The business manufactures and supplies a broad spectrum of custom designed, engineered critical equipment and systems

to core sector industries like fertiliser, refinery, petrochemical, chemical, oil & gas, thermal power, nuclear power, aerospace, as well as equipment and systems for defence.

Many of the equipment manufactured by L&T Heavy Engineering are the world's largest, heaviest, first of its kind....These include the world's largest vacuum column, the biggest coke drum, the biggest EO reactor, the largest FCC regenerator.... The equipment was manufactured under stringent schedules while conforming to high safety standards.

Operations of L&T Heavy Engineering are structured into the following:

Process Plant & Nuclear Equipment

- Refinery, Cracker, Oil & Gas
- Fertilizer & Petrochemical
- Coal Gasification & Thermal Power
- Modification, Revamps & Upgrades

Defence & Aerospace

- Marine - Special Projects & Equipment
- Weapon & Land Systems
- Flight Systems
- Strategic Electronics



The world's largest coke drum, weighing 630 MT, for Indian Oil's refinery at Paradip (Orissa, India).



Reactors sail out from L&T's manufacturing facility at Hazira for coal gasification plants in Vietnam.

Design & Engineering

L&T's engineering capabilities are geared to design equipment as per specific customer requirements, and international codes and standards. Its large and talented design engineering team endeavours to generate optimum solutions leading to the lowest capital and operating costs.

Manufacture

L&T Heavy Engineering has a technology base on par with the best in the industry worldwide. It has several state-of-the-art manufacturing facilities in India and in Oman. In each plant, processes are streamlined to achieve high efficiency and benchmarked to the latest technologies. The workshops are

approved for use of U, U2, U3 N, NPT, R and S stamps.

The world-class fabrication capabilities of the business are the outcome of an integration of efficient material handling and preparation, precision machining and welding processes for a range of material, in varying thicknesses. Manufacturing facilities in India and the Middle East incorporate state of the art technology. The facilities are located at:

- Mumbai (Powai), Maharashtra: L&T's nodal complex integrates design, manufacture and R&D.
- Hazira, Gujarat: A major heavy manufacturing complex with captive 'Load-on' and 'Ro-Ro' jetties. Its mega-sized capabilities,

its waterfront facility and relative proximity to the Gulf facilitate the shipping out of over-dimensioned equipment. This includes the world's largest ethylene oxide reactor, shipped to Kuwait.

- Vadodara, Gujarat: An advanced composite facility that handles exotic materials
- Vishakhapatnam, Andhra Pradesh: A bay, leased by the Indian Navy, enables L&T to build strategic vessels
- Talegaon, Maharashtra: Strategic Systems Complex for integration and testing of weapons systems, sensors and engineering systems. This LEED certified Platinum facility reflects L&T's strong commitment to environment protection.
- Coimbatore, Tamil Nadu: Precision Manufacturing Facility manufactures precision-machined components and assemblies



Surface condensers, each with more than 24,000 titanium tubes, are ready for transport to a 2 x 800 MW power plant at Krishnapatnam in South India.



Critical equipment for a petrochemical plant being despatched from L&T's Sohar complex, Oman.

- Bangalore, Karnataka: A Military Communications and Avionics facility is integrated with a development centre and small-scale production facility for defence electronics and embedded software in these domains.
- Sohar, Oman: This is one of L&T's newest facilities and is part of L&T's joint venture with The Zubair Corporation. Located at the Sohar Industrial Port area, the facility will augment the capabilities of L&T Heavy Engineering to serve the GCC region and North Africa.

Capabilities

The workshops are equipped to manufacture and supply equipment and systems made of various materials such as Cr-Mo-V, stainless steel and different types of non-ferrous materials including Ni and Cu-based alloys, such as monel and inconel, to the hydrocarbon industry, including oil and gas, refinery, petrochemical, fertiliser, chemical and the power (thermal and nuclear) plant sector.

Project Management

Project management teams at each location are supported by detailed design and engineering centres. Manufacturing teams are backed by production engineering and manufacturing process development centres at each location. Technology and

Product Development Centres in Mumbai undertake new product development in process plant equipment as well as equipment & systems (including electronic systems/sub-systems) for strategic sectors.

Strong IT Base

L&T Heavy Engineering has a dedicated network management centre to manage IT-enabled operations. Workshops and offices are linked through VSATs, leased lines, wireless links, etc.

Logistics Management

Logistics plays a critical role in heavy engineering, considering the many large over-dimensional equipment that the business



Steam drum and WHB for Rashtriya Chemicals & Fertilizers, Thal



The photograph is for representation purposes only, and does not purport to be a photograph of the actual nuclear-powered submarine built by L&T.

L&T made a critical contribution to India's first nuclear-powered submarine – INS Arihant. L&T offers a wide range of equipment and systems for defence - Army, Navy and Air Force.

manufactures. Traffic and logistics experts regularly carry out comprehensive route surveys from point of origin to final destination. L&T engineers also plan and arrange the appropriate mode of transport, obtain statutory clearances and organize inter-agency coordination in keeping with the needs of customers.

Initiatives

In the pursuit of manufacturing excellence and productivity, the business continues to invest in its campaign to achieve an exclusive position in the global process plant equipment sector. It also aims to consolidate its leadership position as a dependable supplier of defence equipment & systems from the private sector.

Initiatives include:

- Implementation of Theory of Constraints (TOC)
- Enterprise-wide Collaboration for Alignment with Strategy
- Employee Engagement
- Innovation
- Sustainability

Technology & Product Development Centres are focused on process technologies, manufacturing technologies, mechanical systems technologies, defence electronics technologies, embedded software solutions and submarine designs.

Safety

L&T Heavy Engineering believes that safety is an integral part of the process of good manufacturing. A positive safety culture and low accident rate is fostered by on-going personnel development programmes.

A behaviour-based training approach infuses safety into every aspect of operations. These programmes highlight the 'good practices' followed in material handling, hydro-test procedures, maintenance and personal protection on the shopfloor. They equip employees with relevant knowledge on how to stay safe and healthy at the workplace, while contributing to the quality of the entire manufacturing process.



Steam generators for pressurized heavy water reactors. L&T is certified by ASME to use 'N' and 'NPT' stamps for manufacture of equipment and systems



India's PSLV C-19 takes off from SHAR, Sriharikota. L&T is closely associated with programmes of the Indian Space Research Organisation (ISRO). (Photo: Courtesy ISRO).

The business received the Safety Excellence Gold Award 2012 in the 'large organisation' category from the Federation of Indian Chambers of Commerce and Industry (FICCI).

Subsidiaries

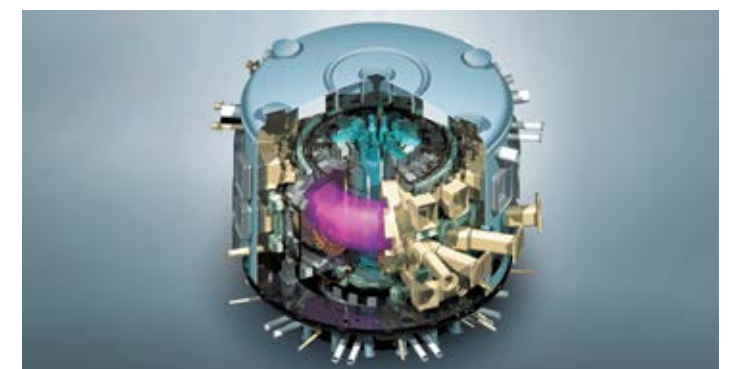
L&T Special Steels & Heavy Forgings Private Limited (LTSSHF) is a JV of L&T and Nuclear Power Corporation of India Limited (NPCIL), with L&T holding majority equity stake. LTSSHF represents a major strategic step towards achieving India's independence from imports of heavy forgings and ensuring timely supply of heavy forgings for nuclear power plants. During the year, it made large ingots and heavy forgings required for critical equipment in refineries, fertiliser and nuclear plants and other segments.

Larsen & Toubro Heavy Engineering LLC is a JV of L&T International FZE, Sharjah (L&T FZE) and The Zubair Corporation LLC, Oman. The facility was commissioned in October 2009 and is based at Sohar in Oman. The JV focuses on business in the Middle East, mainly GCC countries, and supplements the heavy engineering manufacturing and fabrication facilities in India.

Spectrum Infotech Private Limited (SIPL), a wholly owned subsidiary, possesses capabilities in defence electronics and avionics systems. SIPL concentrates on product development in embedded solutions, control and signal processing for defence sector and undertakes technology development and manufacture of avionics LRUs for military applications. It is certified by Centre for Military

Airworthiness and Certification (CEMILAC) of the Ministry of Defence, India. SIPL has obtained AS9100 Rev C, ISO 9001 and ISO 27001 certifications.

Magtorq Private Limited is an associate company in which L&T acquired a stake in 2010. It is engaged in design and manufacture of high-precision low-backlash servo class gearboxes for military and space applications besides a few critical industrial gearbox applications.



L&T will build the cryostat for the prestigious ITER alternative energy project that will help meet growing global energy needs.



L&T's shipyard at Kattupalli, near Chennai on India's east coast. The shipyard is part of an integrated complex that includes a port, a modular fabrication facility and heavy engineering works.

L&T SHIPBUILDING

L&T has identified shipbuilding for defence and commercial sectors as a major thrust area. It offers total solutions in shipbuilding – from concept and design for 'new-builds' as well as repair and retrofit.

The shipyards are located at Hazira on India's west coast and at Kattupalli near Chennai in Tamil Nadu on India's east coast.

DEFENCE

L&T's in-house design capabilities, production of critical equipment & systems, long association with the customer, ship and submarine construction experience and proven project management skills enable the business to leverage emerging opportunities.

L&T's Warship Design Centre has developed in-house designs for surface ships such as fast speed boats, attack craft, offshore patrol vessels and corvettes. The Centre is equipped with the latest software tools and know-how.

Major Orders

Booking: During the year L&T booked orders from Indian Coast Guard for construction of a further 18 interceptor boats.

Execution: The order for 36 interceptor boat project has picked up pace in FY13. The Company is planning to deliver 16 boats in FY14.

COMMERCIAL

L&T builds specialised commercial ships – multi-purpose heavy lift roll-on-roll-off, semi-submersibles, container ships, LPG/LNG vessels, chemical tankers, dredgers, reefers, cable-layers, etc.

Major Orders

Booking: L&T secured orders from Halul Offshore for construction of four offshore vessels at the Kattupalli shipyard.

Execution: A multi-purpose heavy lift vessel was delivered to Netherlands-based company from the Hazira shipyard. Two platform support vessels and two anchor handling tugs are currently under execution at the Kattupalli shipyard.



18,000 tonne shiplift at L&T's shipyard at Kattupalli.



L&T builds state-of-the-art airports in India and abroad. In India, L&T has constructed several modern airports that include New Delhi, Bangalore, Hyderabad and Mumbai. Currently, L&T is executing the Salalah International Airport at Oman.

L&T CONSTRUCTION

L&T Construction is India's largest construction organisation. It ranks among the world's top 30 contractors. L&T Construction is a business brand that encompasses six related businesses –

- Buildings & Factories
- Transportation Infrastructure
- Heavy Civil
- Water & Renewable Energy
- Metallurgical & Material Handling
- Power Transmission & Distribution

Many of the country's prized landmarks – its exquisite buildings, tallest structures, largest airports and industrial projects, longest flyovers, highest viaducts, longest pipelines including many other benchmark projects – have been built by L&T Construction.

Its leading-edge capabilities cover every discipline of construction: civil, mechanical, electrical and instrumentation engineering and services extend to all core sector industries and infrastructure projects.

BUILDINGS & FACTORIES

L&T's Buildings & Factories (B&F) business undertakes engineering design and construction of a wide range of projects. The portfolio includes: airports, IT parks, office complexes, educational institutions, stadiums, convention centres, metro stations, hospitals, hotels, residential buildings, factories, cement plants and warehouses.

The thrust of the business is on focused development in various building segments and expanding the customer base by providing 'Concept to Commissioning' solutions.



Wide ranging construction expertise enables L&T to meet the demands of scale, sophistication and speed in the construction of airports.



High-rises reflect a city's upward aspirations. L&T is constructing some of the tallest buildings in Mumbai - India's commercial capital. L&T's capabilities encompass malls, IT offices, commercial complexes, institutional buildings, mixed-use developments, hospitals, hotels and residential buildings on a design-build turnkey basis.

The unique proposition of offering integrated solutions under a single roof helps the business maintain its leadership position, retain key customers, enter new markets and secure major orders. Construction excellence coupled with technology, experience and expertise gained over several decades has helped the business project itself as one of the premium contractors in the industry.

Business Environment

The residential segment grew due to increased focus on affordable housing and real estate development in Tier II cities along with the metros. Major orders were secured and the business's geographical footprint expanded.

Increase in fund allocation to health sector, setting up new educational institutions, allowing FDI in aviation and retail and relaxation in floor space index in high-rise structures create favourable scenarios for sectors like IT space, hospitals, institutional space, aviation, mixed-use development and residential space. The plans of major IT companies to expand into non-metros and the expansion programmes by automobile and other sectors should improve the business outlook.

The business sharpened its strategy and made key moves for a better perspective of emerging markets, new businesses, and strategic tie-ups. Initiatives were taken to enter new geographies, improve operational excellence and expand the customer portfolio.

To harness new opportunities in Africa and KSA, new offices were set up in Nairobi and Riyadh. The year saw multiple initiatives in HR practices, talent acquisition, and manpower management.

Major Orders

The business is strengthening its presence in UAE and Oman and establishing its footprint in other countries such as Kuwait, Bahrain, Qatar, KSA as well as in Africa by forming strategic tie-ups and targeting major orders.

Booking: In the Factories segment, an order was received to construct a defence facility. The airport segment received orders to construct passenger terminal buildings in Chandigarh and



Scale and splendour at the new Elante Mall in Chandigarh.



One of multiple high-rise residential and commercial complexes being built by L&T that are changing the skyline of Mumbai

Sindhudurg. Orders were secured for the construction of IT Parks. An order was won for the construction of a new campus for the prestigious Indian Institute of Technology. Major orders for 5-star hotels were received. In Abu Dhabi, an order was won for a specialty hospital.

Execution: Key projects commissioned this year include ITC Grand Chola, a five-star luxury hotel in Chennai, Elante mall in Chandigarh, ATC Tower and a single-span hangar for Mumbai International Airport, IT Parks in Chennai and Gandhinagar, GIFT City in Gandhinagar, cement plants and River View apartments in Lucknow.

Human Resources

Thrust was placed on bridging the gaps in niche areas for business growth and enhancing project execution capabilities through an integrated HR approach. Strong focus was laid on talent acquisition. Customized programmes addressed skill gaps of employees. Workmen management centres have been set up in order to effectively manage workmen, improve their skills and increase efficiency.

Internal control mechanisms cover all operations. Well-documented policies and guidelines are laid down to evaluate and authorise tenders, work orders and purchase orders. A separate cell monitors and reports business processes undertaken by project locations.

Subsidiaries

Larsen & Toubro Oman LLC (LTO), a joint venture with the Zubair Corporation LLC, has been providing engineering, construction and contracting services for over 15 years in Sultanate of Oman.

It has an excellent track record in civil projects and continues to enjoy customer preference in the country. L&T holds a stake in the Company through its wholly owned subsidiary – L&T International FZE.

Last year, LTO secured major orders in the residential and institutional segments from a slew of prestigious clients. It is envisaged that business will further expand this year.



L&T offers a single point, design-to-build solution for the infrastructure needs of the entire manufacturing sector



Crescent Bay - an elite residential project coming up in the heart of Mumbai, India's commercial capital.

During the year the Company secured major orders in the Buildings & Factories sector: from Jindal Shadeed Steel for an expansion melt shop project in Sohar, Muttawar Residential Project, construction of Buraimi University and infrastructure works for Military Technical College.

Several projects were handed over, including buildings for the Ministry of Manpower and the German University.

The completion of major prestigious projects within stringent time-lines demonstrates the superior project management and project execution capabilities of the business in handling large 'design build and turnkey' projects.

The business is poised for better growth in revenues on the backdrop of a healthy order book and proven track record.

The canvas of the Buildings & Factories business will continue to be in the public eye - spectacular high-rises, massive and complex commercial structures and impressive factories. In many ways, therefore, the business is a flagship of the brand. It will continue to augment its capabilities, keep pace with emerging technologies and stay abreast of new developments in the keenly competitive field to build further on the leadership position that it enjoys.



L&T Business Park at Powai, Mumbai



An elevated road corridor decongests the bustling metropolis of Nashik. L&T undertakes a wide range of critical transportation infrastructure projects in international markets.

TRANSPORTATION INFRASTRUCTURE

This business comprises four sectors: Roads, Runways & Elevated Corridors, International Infrastructure, Railway Construction & Railway Systems.

The business is recognized as a construction major in the transportation infrastructure sectors of road and rail in India. It has consolidated its presence in Gulf, and continues to sharpen its focus on international markets.

The business environment on the domestic front is consistent, with a series of EPC projects and expressway projects lined up.

On the international front, the infrastructure thrust of the governments in the Middle East - both in roadways and railways is expected to open up more opportunities in UAE, Qatar, Oman and Kuwait. Four UJVs were formed with Darwish, Sraiya, Delma & Hashemi in the UAE and Qatar for roadway projects and two JVs formed with Fujita and Ansaldo for railway projects in the UAE and Saudia Arabia respectively.

Operational excellence focused on cost reduction and productivity improvement measures in subcontracting, procurement, manpower cost reduction, equipment utilisation and optimisation, construction methodology & lean processes, project management, contract management, etc. In-house design teams were further

strengthened and engineers received intensive training in key competency areas, etc.

Prospects

Several projects which have been tendered in the recent past and infrastructure development plans of UAE and Oman are expected to continue at steady pace. Qatar projects are expected to start soon.

In the rail sector, the Indian Railways is laying greater emphasis on doubling and electrification. Large opportunities are expected in the metro area. More railway projects are coming up in the Middle East.



L&T's capabilities in bridge-building include design and construction of many types of bridges of different span lengths using innovative techniques and construction methods.



L&T is constructing India's first monorail network in Mumbai – India's commercial capital. The project involves design, construction, installation, testing and commissioning the 19.7-km corridor on a turnkey basis. This includes project management, civil work, DC traction systems, interface management, automatic fare collection system and E&M services.

The introduction of Binder Bitumen grade VG 40 and applicability of new IRC code will have a positive impact on the business in terms of cost effective designs resulting in overall cost reduction for the project. Being the premier EPC player with in-house design expertise will give the Company a competitive edge while adapting to this evolving technological environment.

Risk-mitigation measures include smart mobilization, focus on a diversified business portfolio (metro, DFCC and monorail) and in-house design and QS teams for quantity check to reduce cost impact due to quantity increase for the EPC projects.

Major Orders

L&T captured 41% of Rail Vikas Nigam Limited (RVNL) market in the year 2012-13.

A few large NHAI road orders through PPP mode with external developers and a major EPC package are on the anvil.

Major orders were bagged in the roads, rail and airports sectors in India and UAE.

Execution: L&T Oman dualised the Ghala Al Ansab Road in Oman.

HEAVY CIVIL INFRASTRUCTURE

L&T designs, engineers and constructs projects in several sectors: metros, ports, tunnels, special bridges, hydro power, nuclear power and defence infrastructure.

Business Environment

The business recorded very good performance despite the slowdown in economic growth and subdued investment scenario, thanks to its focussed approach and proven record of performance.

The operational and financial performance of the business reflects healthy growth.



The Metro at Bangalore makes commuting easier in the country's IT capital



Ports are part of the wide portfolio of major infrastructure projects built by L&T. Capabilities cover design, complete civil, electrical and mechanical construction using innovative techniques and advanced construction methods. L&T's track record covers construction of docks, container terminals, ports, harbours, jetties, berths, breakwaters and shipyards.

Major Orders

Booking:

Major orders secured during the year include underground and elevated packages of the Delhi Metro project, the 171 MW Lata Tapovan Hydropower project in Uttarakhand, the 850 MW Ratle Hydropower Project in Jammu & Kashmir, natural draught cooling tower package of the Kakrapar Nuclear Power Project 3&4, design and construction of C17 Beddown Infrastructure facilities, taxiways, aprons and several other buildings, etc. at Hindan Air base, Ghaziabad.

Execution:

Key projects completed include Kattupalli port-cum-shipyard facilities and the 520 MW Parbati HEP. Projects nearing completion include a 330 MW HEP, an elevated corridor, a metro and a nuclear power project. Substantial progress was made in several major projects: 330 MW Srinagar HEP in Uttarakhand, elevated corridor at Nashik, Bangalore metro, Kudankulam Nuclear Power Project (unit 1&2), etc.

Initiatives

Several initiatives were undertaken to improve cost-competitiveness, with clear focus on supply chain management, operational

excellence, value engineering, improved capacity utilisation, etc.

A stronger presence was established in key international markets such as the Middle East. Project-specific tie-ups were established during the year. The Company remained focussed on attracting and retaining talent possessing the requisite competencies. Emphasis was laid on continuous training and development to enhance productivity and support business needs.

With the specific and continuous thrust on business development, the business is looking at new opportunities across various business segments in India as well as in international markets.



Sheikh Khalifa Interchange - linking the emirates of Abu Dhabi and Dubai - a major infrastructure project under construction.



L&T has supplied critical equipment and built almost every nuclear power plant in India. Picture shows the Rajasthan Atomic Power Plant.

Subsidiary

L&T GeoStructure LLP

This subsidiary was formed in 2012-13 as a joint venture of L&T and Transworld Infraprojects Limited. Larsen & Toubro holds 74 per cent of the stake in the new company. The organisation is poised to undertake a broad range of projects in the business areas of ground engineering, viz., ground soil investigation, deep excavation, earth retaining structures, piling, ground improvement, micro-tunneling, mine shafts and other related activities.

Outlook

Given the widely recognized gap between infrastructure demand and supply in growing economies like India, businesses relating to Heavy Civil Infrastructure are likely to witness consistent growth over a sustained period well into the future.



330 MW hydro-electric power project executed by L&T.



L&T has wide experience in design and construction of water processing, transmission and distribution facilities. It has proven project management expertise and a country-wide operational presence.

WATER PROJECTS AND RENEWABLE ENERGY

This business comprises the Water & Effluent Treatment Strategic Business Group (SBG) and the Renewable Energy Business Unit (BU). These lines of business provide services covering the entire value chain (concept to commissioning) and play an important role in creating a water-surplus, energy-secure and green future.

WATER & EFFLUENT TREATMENT

This business caters to turnkey infrastructure projects in water supply & distribution, waste water collection, treatment, disposal, re-use and industrial & large water systems. In the Gulf, cutting-

edge technologies are being deployed in water and waste water treatment projects.

Rapid urbanisation and industrialisation in India is providing great impetus for creation of efficient and reliable water infrastructure for supply of potable water and collection, treatment & re-use of waste water. Stringent pollution control norms are a major driver for investment in effective effluent-treatment systems. Substantial investments are envisaged in lift-irrigation projects.

Major Orders

Booking:

Fresh orders secured include Cuttack Sewerage Scheme for Odisha

Water Supply and Sewerage Board (which includes micro-tunneling of 10 km), 25 MGD and 50 MGD Water Supply Schemes for Gujarat Industrial Development Corporation (GIDC) at Dahej, water supply schemes for five districts in Rajasthan for PHED, Sewerage Scheme in Bhatpara under National Ganga River Basin Authority (NGRBA) for Kolkata Municipal Development Authority in West Bengal, Hanamapur Lift-Irrigation Scheme for Krishna Bhagya Jala Nigam Ltd. (KJBNI) in Karnataka and 110 MGD Raw Water Pumping Station, Raw Water Transmission Main, a 50 MGD water treatment plant & Clear Water Pumping Station at Kolkata for Kolkata Municipal Corporation.

Execution: Major projects commissioned in 2012-13 include a



India's largest solar plant built by L&T in Rajasthan. L&T can develop solar energy projects on an Engineering, Procurement & Construction basis.



Thermal desalination plants are part of L&T's capabilities in the water sector

20 MGD Water Treatment Plant in Delhi for Delhi Jal Board (DJB), Barmer Water Supply Scheme in Rajasthan and Utkal Alumina Water Supply Scheme in Odisha.

RENEWABLE ENERGY

This business provides turnkey EPC services for projects on utility-scale photovoltaic/concentrated solar power plants, decentralised solar photovoltaic systems, wind power plants, micro-grids, smart-grids and integrated security solutions.

Business Environment

Photovoltaic capacity of around 4000 MW is being allocated in India. For wind power projects, the reinstatement of generation-

based incentives is expected to add impetus to investments. With expected thrust on Renewable Purchase Obligation compliance, restructuring of financials of state distribution companies and augmentation of transmission and distribution infrastructure, the renewable energy sector is set for accelerated growth.

The business environment for integrated security solutions looks bright, with tenders being floated by government authorities for city surveillance systems, intelligent traffic monitoring systems and security systems for critical infrastructure set-ups like nuclear power plants and airports.

The Solar Business is executing a 125 MW Solar Thermal Power Project, the largest of its kind in Asia, based on compact Linear

Fresnel technology provided by Areva. With over 300 MW of solar projects executed / under-execution, L&T is the only Indian company to enter the list of international solar EPC players as per a report of IMS Research.

Major Orders

Booking: New orders secured include a 55 MW solar PV plant for Kiran Energy in Tamil Nadu under REC mechanism and a 20 MW Solar PV Plant for another leading developer in Rajasthan.

Execution: A 20 MW solar PV plant has been commissioned for Kiran Energy at Rajasthan and a 17 MW solar PV Plant has been commissioned for Malpani Group at Pokhran, Rajasthan.



Reverse osmosis technology in operation at desalination projects



Blast furnace at Vizag Steel Plant. The company undertakes detailed engineering, procurement, manufacture, supply, construction, erection and commissioning of projects in the areas of ferrous and non-ferrous metals and mineral beneficiation.

METALLURGICAL & MATERIAL HANDLING

This business undertakes EPC (Engineering, Procurement & Construction) projects for ferrous (iron & steel making) and non-ferrous (aluminium, copper, lead & zinc) metal industries, bulk material & ash handling systems in power, port, steel and mining sector. It has a well-established Industrial Machinery & Foundry work shop at Kansbahal, Odisha and a fabrication shop at Kanchipuram, Tamil Nadu.

Business Environment

The business has retained market leadership and enhanced its

market share in 2012-13. L&T has partnered various steel producers in capacity expansion programmes. This contributed to adding 10 million tpa to the country's domestic production capacity.

Major Orders

Execution: Major plants executed and commissioned during the year include: Sinter Plant for IISCO, Burnpur; Sinter Plant for SAIL, Rourkela; Blast Furnace for RINL, Visakhapatnam; Pellet Plant (6 MTPA) for Tata Steel, Jamshedpur; 'I' Blast Furnace (3 MTPA) for Tata Steel, Jamshedpur; LD shop for Tata Steel, Jamshedpur; Sinter Plant(204 Sqm) for Bhushan Steel, Angul and 4 MTPA Dry Circuit Material Processing (DCMP) Plant for Tata Steel, Joda. The business supports the country's major power producers in the

commissioning of their projects.

The business is currently executing major metallurgical projects at Kalinganagar & Jamshedpur for Tata Steel, at Bhilai for SAIL, at Angul for Bhushan Steel, at Bellary for JSW, at Angul for JSPL, at Rayagada for Utkal Alumina and at Mahan for Hindalco.

Material-handling packages are being executed at Lalitpur for BIDCO, at Rajpura for Nabha Power Thermal Power Plant, at Anpara for UPRUVNL, at Raigarh for DB Power, at Tiroda for Adani Power Limited, at Joda and Noamundi for Tata Steel, at Tuticorin for NTPL. Ten other material handling plants are being executed concurrently for various customers.



Coke oven battery executed by L&T for one of India's major steel plants.



Coal-handling plant executed by L&T at Koderma in Jharkhand. L&T is a single point solution provider for a comprehensive range of material handling systems.

L&T caters to the high-end customised manufacturing needs of metallurgical sectors like steel and power. Primary products include surface miners, crushing systems, paper machinery, apron feeders and key equipment for the coke oven, pellet and steel-making segment. L&T is equipped to manufacture high-end equipment for the metallurgical sector involving heavy fabrication, intricate castings, precision machining and critical assembly.

The fabrication shop at Kanchipuram provides the support of heavy fabrication and assembly of Material Handling Equipment like stackers, reclaimers, and a host of other mid-precision level equipment catering to the steel and other process plants.

A sharper focus on international markets has resulted in securing orders in JSIS, Oman and EMAL, UAE. This success has given the business the impetus to explore newer geographical locations in Sub-Sahara Africa and South-East Asia.

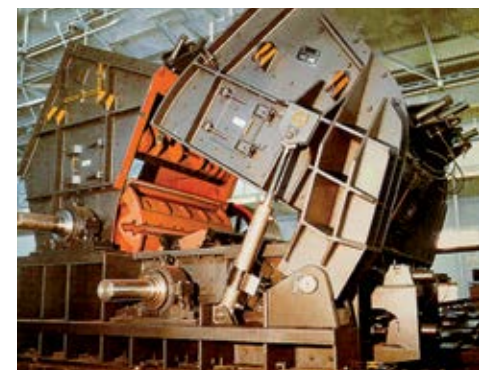
Initiatives

Strategic alliances have been formed with global technologists, e.g.

- Paul Wurth - for blast furnace, coke oven and by-product plant
- Outotec - for sinter plant and pellet plant
- Nippon Steel - for coke: dry-quenching and continuous annealing & proceeding lines
- METSO - for iron ore beneficiation

To increase capacity in the material-handling sector through the use of new concepts and technology, the business has formed technology tie-ups with global technologists. These include:

- Ashton Bulk, UK – for crescent-type wagon tipplers, high capacity side-arm-chargers and ducking tripper-type stacker reclaimers
- Norwest, US – for coal washeries
- FLCE, France – for long belt conveyors
- UCC, US – for ash-handling systems



Limestone crusher manufactured by L&T



L&T executes a wide variety of transmission line projects across some of the world's toughest terrain, and provides comprehensive services for power transmission and distribution projects around the world. Capabilities include design, manufacture, supply, construction, testing and commissioning of EHV power transmission lines.

POWER TRANSMISSION & DISTRIBUTION

A leading EPC player, L&T offers integrated solutions and end-to-end services ranging from design, manufacture, supply installation and commissioning of transmission lines, substations, distribution networks, electrical & instrumentation works for power, process and infrastructure projects, and communication systems worldwide.

The Industrial Electrification Business Unit provides turnkey Electrical, Instrumentation & Communication (E&IC) solutions for major power plants including thermal & nuclear plants, process plants, hydrocarbon & pipeline projects, IT parks, airports, sea ports,

metros, intra-city power transmission networks, etc.

The Substation Business Unit provides turnkey solutions for power evacuation schemes from power plants, main grid substations for utilities, power distribution & power quality improvement works under rural electrification projects.

The Transmission Line Business offers turnkey solutions for power evacuation systems, boosted by its state-of-the-art tower manufacturing units at Puducherry and Pithampur, complemented by its tower-testing facility at Kanchipuram.

International Business Units in UAE, Qatar, Kuwait, Oman and Saudi

Arabia offer complete solutions in high voltage substations, power transmission lines, EHV cabling, E&IC works for infrastructure projects such as airports, oil & gas industries, etc.

Major Orders

Booking: Major orders were secured from central utilities such as PGCIL, NPCIL, State Utilities and other private players in the generation, EHV transmission and distribution segment. Orders were received for electrification of process plants and metro projects. Orders secured include 765 kV substations at Bara and Lalitpur for Jaypee and BIDCO respectively, 765/400 kV & 400/220 kV substations across India for PGCIL & TNEB, power distribution and quality improvement works schemes for state utilities.



One of many 400 kV gas-insulated substations (GIS) installed by L&T. Currently it is executing India's first 765 kV GIS in Pune.



Switchyards are part of L&T's capability in executing projects for power transmission and distribution. L&T has constructed India's first 1200 kV air-insulated project and offers comprehensive engineering design and construction services for high-voltage substations and industrial electrification projects.

Major transmission line projects include 800 kV HVDC Line from Champa to Kurukshetra, 400 kV line from Kurukshetra to Jalandhar, Barh to Gorakhpur & Biharsharif to Sasaram for PGCIL.

Industrial projects include E&I works for HSM, SMS and RMHS packages for Tata Steel and E&I works for blast furnace for NMDC, a prestigious order for field instrumentation works for NPCIL Kakrapar Atomic Plant, 11 kV and 22 kV ring main distribution network for TANGEDCO, electrical & mechanical works for Bangalore Metro Network.

Overseas, a major breakthrough was achieved in the 220 kV segment in UAE by securing 220/33 kV grid station at Zakher and

Ayn Al Faydha for AADC in addition to 132 kV GIS substations for FEWA. A prestigious order to execute an 11 kV power distribution network for the Emirates Palace was also received.

An order was received for a special airport system package for Concourse 4 of Dubai International Airport and also E&I works for Abu Dhabi Airport airside works.

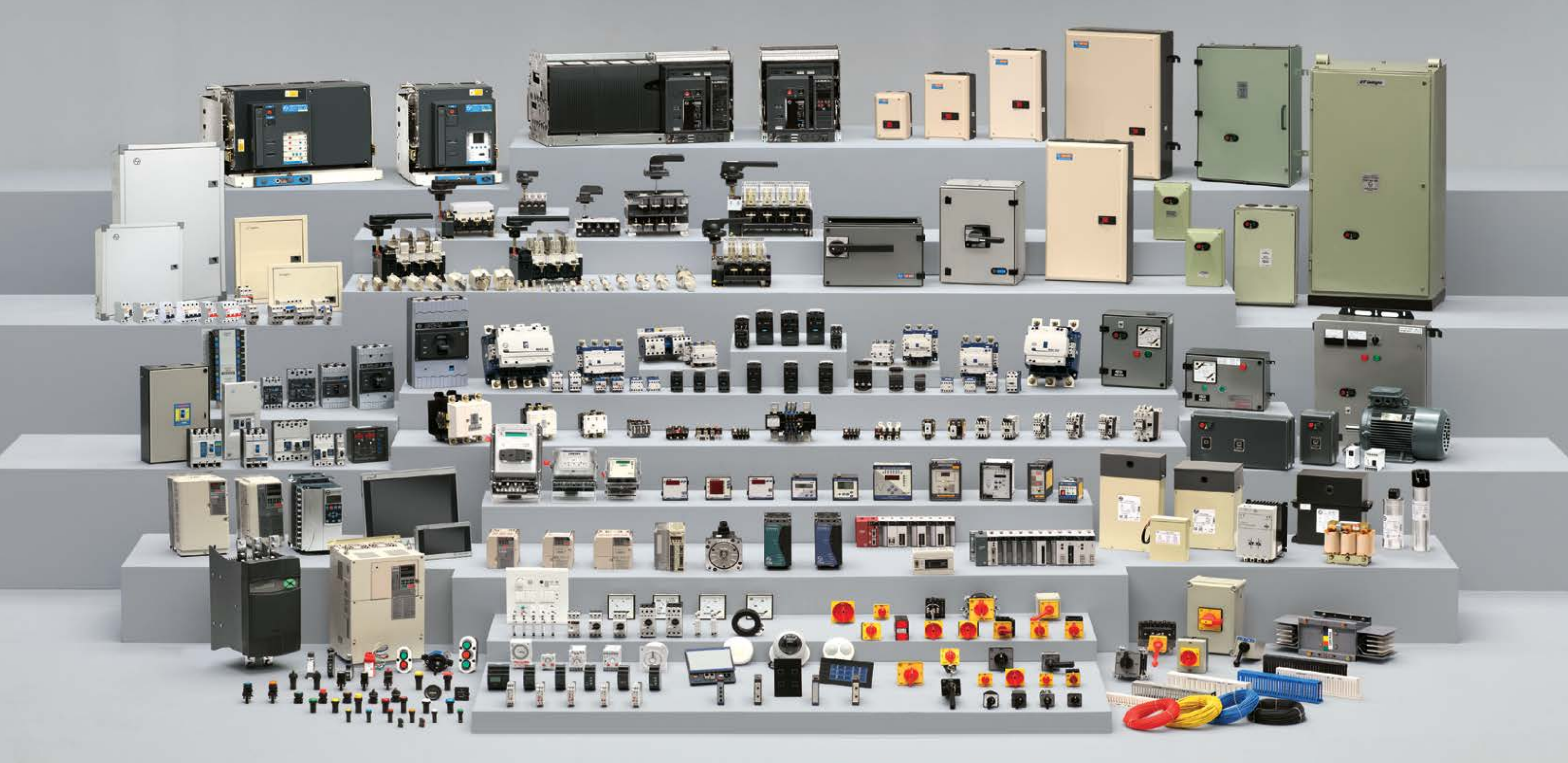
Other orders include the first-of-its-kind 1200 kV National Test Station at Bina for PGCIL, 48 500 MVA, 765/400 kV transformers commissioned at various substations of PGCIL across India, a 400/132kV bulk power receiving station for TATA, a 132 kV hybrid GIS substation for RRVNPL, 765 kV transmission line from Agra

to Jatikalan for PGCIL, 400 kV transmission line from Korba to Bhilai for CSPTCL, 400 kV transmission line from North Chennai to Almathy for TANTRANSCO, E&I works for Bhushan Steel Plant, Rourkela Steel Plant for SAIL and Burnpur Steel Plant for ISP, Synchronized Unit-1 of 2x500 MW Mauda TPP for NTPC, Unit -3 of 6x660 MW Sasan TPP for Reliance.

Execution: A major electrical project was commissioned, comprising an EHV and MV power system network for Qatar Petroleum and 132 kV GIS substation for KAHARAMAA. A 132 kV substation was commissioned for DEWA, seven 33/11 kV substations in Al Ain, three 33/11kV substations for ADPC. L&T also commissioned a 220 kV substation and overhead line in Bahrain.



Control room built by L&T at a coal-handling plant



India's widest range of switchgear, offered by L&T. Switchgear is part of L&T's broad range of electrical and electronic systems, widely used in industrial, agricultural, building and commercial sectors.

L&T ELECTRICAL & AUTOMATION

L&T Electrical & Automation's wide suite of offerings include low and medium voltage switchgear, electrical systems, marine switchgear, industrial & building automation solutions, surveillance systems, energy meters & relays. They cater to industries, utilities, infrastructure, buildings and the agricultural sector.

L&T Electrical & Automation comprises two Strategic Business Groups (SBGs) and designated subsidiaries.

Products SBG

- Electrical Standard Products (ESP)
- Metering & Protection Systems (MPS)

Projects SBG

- Electrical Systems & Equipment (ESE)
- Control & Automation (C&A)

Subsidiary companies

- L&T Electrical & Automation FZE
- Tamco Switchgear
- Henikwon Corporation
- Servowatch Limited
- L&T Electrical & Automation Saudi Arabia

In-house design and development capability provides a competitive edge for the products and solutions of the business. L&T also has

state-of-the-art high-precision tool manufacturing facilities. As an industry leader, L&T's commitment extends to ensuring that switchgear users derive the maximum benefit from its products and systems. It owns and operates four Switchgear Training Centres (STCs) that impart training in installation and maintenance to engineers, consultants, technicians and electricians.

Manufacturing facilities incorporate advanced technology and adopt best-in-class practices. The manufacturing footprint covers India (Powai in Mumbai, Mahape and Rabale in Navi Mumbai, Ahmednagar, Vadodara, Coimbatore and Mysore), as well as Saudi Arabia, UAE, Malaysia, Indonesia, Australia and the UK.



A section of L&T's range of electronic meters and relays.



Medium Voltage Switchboard Panels of Tamco, an L&T subsidiary.

Key Acquisitions & Expansion

L&T acquired UK-based Servowatch Limited, a leading supplier of advanced integrated ship control systems for offering cutting-edge technology in the control & automation space for marine applications.

The business acquired a Malaysia-based busduct systems manufacturer – Henikwon Corporation engaged in manufacturing electrical busducts. Capacity has been ramped up for MCCBs and U-POWER ACBs, with the setting up of a switchgear factory at Vadodara. Facilities have been augmented for the manufacture of modular devices at Ahmednagar and a new module is in place in Coimbatore for LV Switchgear.

New Products

The Metering & Protection Systems business unit embarked on technology up-grade for integration of radio modules for facilitating collection of data over mesh network and development of pre-paid meter and smart meter.

A number of new products/variants were launched during the year that comprised Mpower GSM Module for controllers for the agriculture segment, Contactors, premium range of Miniature Circuit Breakers (EXORA), improved range of standard duty capacitors and new protection relay (Mcomp). A solar lantern – Diva – was launched for power-deficit areas of the country.

Research & Development

Facilities at Powai (Mumbai), Ahmednagar, Mysore and Coimbatore are approved by Department of Scientific & Industrial Research, Ministry of Science & Technology. Focused R&D activities enabled ESP to secure a New Product Intensity (NPI) index of >30%.

Intellectual Property

During the year, the business filed 159 patent applications, 29 trademark applications, 36 design registrations and 2 copyrights as well as ten international patent applications including six Patent Cooperation Treaties (PCT) and four Gulf Cooperation Council patent applications.



Supervisory Control and Data Acquisition system - SCADA



L&T 9020 Wheel Loader - part of the wide range of machines for the construction and mining sector

MACHINERY & INDUSTRIAL PRODUCTS

L&T Machinery & Industrial Products businesses target varying markets through three Strategic Business Units – Construction Machinery, Industrial Machinery and Industrial Products.

Construction & Mining Machinery

L&T Construction & Mining Machinery comprises multiple businesses focussed on specific segments. These are:

- Construction Equipment Business
- Mining Equipment Business
- Construction & Mining Tipper Business
- Hydraulic Equipment Business
- Product Support & Spare Parts

L&T Komatsu – a wholly owned subsidiary of L&T – offers a wide range of hydraulic excavators and other associated hydraulic components. Earlier, L&T-Komatsu was a 50:50 joint venture of L&T and Komatsu Asia Pacific Pte. Ltd., Singapore. During the year, L&T entered into an agreement to buy over the 50% equity of the foreign company, making it a wholly owned subsidiary.

The product range comprises models in the 7te to 60te class powered by diesel engines ranging from 54HP to 320HP. The 20te and 60te models are also offered with electric motors.

The Construction Equipment Business also distributes and provides after-sales support to a wide range of construction equipment

from Komatsu. The range includes hydraulic excavators, motor graders, dozers and other construction, road-building and recycling equipment.

The Mining Equipment Business distributes and provides after-sales support to a wide range of mining equipment from Komatsu. The range includes large hydraulic excavators with bucket capacities up to 48000 litres, wheel loaders with bucket capacities up to 20000 litres, large dozers up to 1150 HP, and other mining equipment from Komatsu's wide range.



L&T Komatsu PC 210 LC at work.



L&T's flow-control solutions for the hydrocarbon and power sectors are used worldwide. High-pressure valves for supercritical and nuclear power plants are a vital part of its product portfolio.

L&T Valves

L&T Valves manufactures and markets a wide range of products for the oil & gas and power sectors worldwide. The business has a strong international focus, and an established presence in global markets in the oil & gas and power sectors.

The distribution network of the business spans the globe, partnering some of the largest valve distribution companies in the world. In India, it has a presence in every industrial centre through a network of offices, field engineers, stockists, automation centres and service franchisees.

Performance

The business maintained a positive trend in 2012-13 registering a growth in sales of 18% and 7% in order inflow over the previous year. The targeted projects in international oil & gas sector were on schedule.

Initiatives

During the year, the business expanded approvals from key oil companies and power customers in the international market.

Manufacturing, Quality & R&D

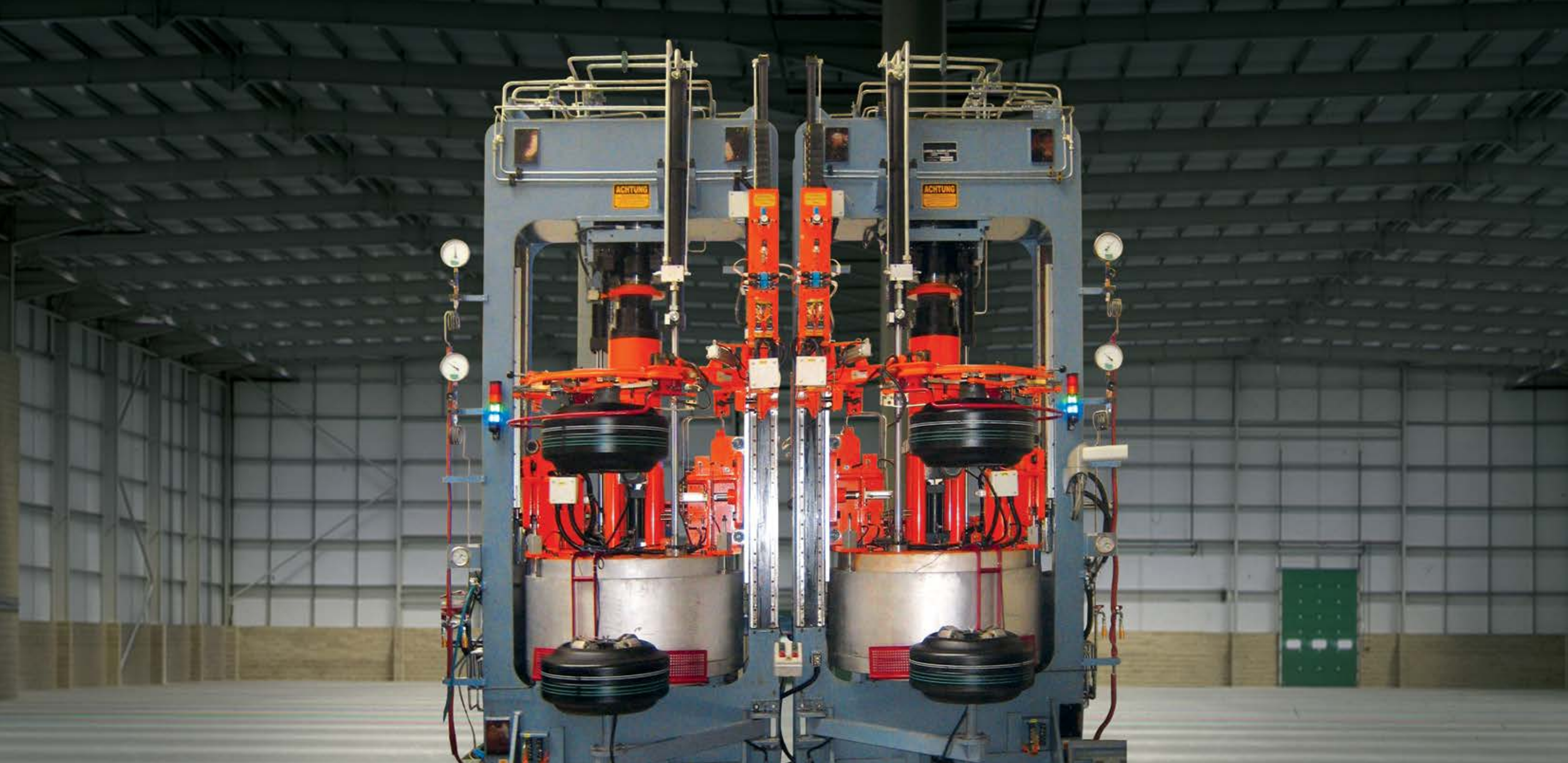
Integrated manufacturing facilities are located at Kanchipuram, Manapakkam and Coimbatore. Quality Management Systems

(QMS) are certified under ISO 9001 standards. QMS also meets the requirement of API Spec Q1 for manufacturing monogrammed products under API 6D license and for the supply of CE-marked valves (including certification for Explosive Atmosphere Directive (ATEX) as per PED regulation 94/9/EC) to European market as per PED regulation 97/23/EC.

L&T has built design and manufacturing capabilities to cater to new-generation valves and offer multiple advantages.



Valve manufacture in progress



Hydraulic tyre-curing press – part of L&T's wide range, manufactured and supplied to tyre manufacturers globally.

L&T Rubber Processing Machinery

This business undertakes the manufacture and marketing of rubber processing machinery, and meets the needs of the tyre and rubber industry worldwide. These machines are produced at two manufacturing facilities in India – Manapakkam (Chennai) and Kanchipuram.

The business was successful in tapping opportunities from global tyre companies and doubled its order inflow from overseas. Being the only tyre equipment manufacturer making radial tyre-building machines in India, it has developed the capability to design and develop its own premium products in the tyre-building machines

segment. Plans are underway to expand its presence in the market for radial tyres for trucks and buses.

Initiatives

Apart from newer sizes of presses, the business secured approvals of hydraulic press and tyre building machines from global tyre majors based in Europe and USA.

Subsidiaries

Larsen & Toubro (Qingdao) Rubber Machinery Company Limited is a wholly owned subsidiary of L&T International FZE, set up in Jiaonan, Qingdao, China. L&T Qingdao develops and supplies tyre curing presses and other rubber processing machinery on par

with the quality of products being supplied by L&T to its global clients.

EWAC Alloys Limited is a market leader in maintenance & repair welding. The solutions it offers leads to conservation of metal resources, and enables customers to record significant savings.

L&T Kobelco Machinery is a joint venture of L&T and Kobe Steel of Japan, to manufacture internal mixers and twin screw roller-head extruders for the tyre industry.



EWAC Alloys - a subsidiary of L&T - offers a wide range of welding alloys and processes that extend machine life and help in the conservation of resources.



Global headquarters of L&T Infotech at Mumbai. This L&T subsidiary offers domain-led solutions to global clients in BFSI, Manufacturing and Energy & the Petrochemical industry.

INFORMATION TECHNOLOGY

L&T Infotech is a wholly-owned subsidiary of L&T – and one of the fastest growing IT services companies.

L&T Infotech is ranked by NASSCOM as the 8th largest software & services exporter from India. It provides end-to-end solutions and services in: Banking & Financial Services, Insurance, Travel & Logistics Media & Entertainment, Healthcare, Manufacturing, Energy & Process, Utilities, E&C, Hi-tech & Consumer Electronics, Product Engineering Services, Consumer Packaged Goods, Retail & Pharmaceuticals, Auto & Aerospace and Industrial Products.

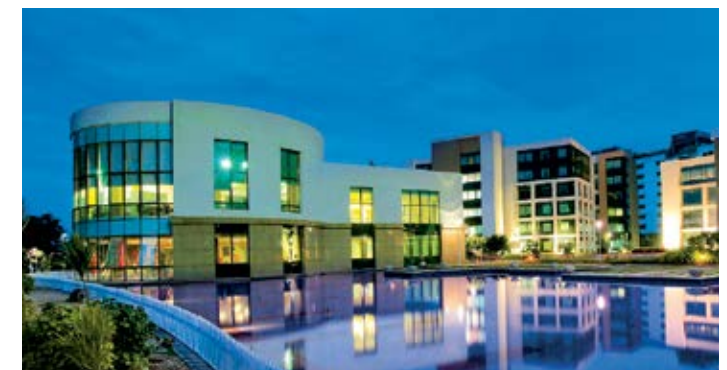
L&T Infotech delivers business solutions in the following horizontal/ service lines: Testing, Mobility, Infrastructure Management System;

Business Intelligence/Data Warehousing, SAP, Oracle and Microsoft, Enterprise Integration and Manufacturing Execution Systems, in addition to an innovative CIO-thought partnership program that provides a value-driven edge. The Company's three-pronged value proposition promises Business-to-IT Connect, Engage the Future and Power of Execution.

The Company plans to actively offer cutting-edge offerings in the technology space including an end-to-end cloud computing adoption toolkit and cloud advisory consulting services, enterprise mobility solutions covering a smart access platform, big data advisory services, and in-memory computing.

L&T Infotech has developed intellectual properties (IPs) in all the vertical and horizontal service lines and leverages them to provide IP-led solutions.

Headquartered in Mumbai, India, L&T Infotech has a global presence across continents. It has a deeply entrenched culture of training and mentoring. Coupled with a work ethos that encourages innovation, the Company lists high among the best companies to work for, and was ranked among the top 20 IT BPO employers by NASSCOM.



L&T Infotech's Bangalore facility.



Knowledge City, Vadodra. The campus houses the global headquarters of L&T Technology Services.

TECHNOLOGY SERVICES

L&T Technology Services registered a three-year CAGR of 45%, and is today acknowledged as one of the emerging leaders in the Indian Engineering Research and Development service segment.

The Zinnov 2012 Global Service Provider Ranking, (GSPR) has placed our Industrial Products Domain in the Leadership Zone for the second time in a row.

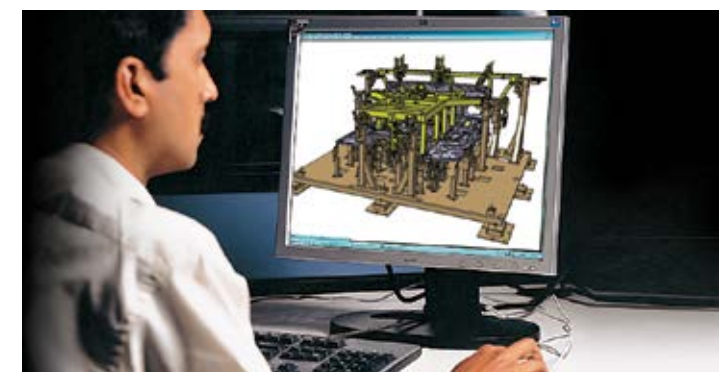
With headquarters in Vadodra, India, Technology Services has design centres in Vadodra, Bangalore, Chennai, Mysore and Mumbai. Its global footprint covers the US, Europe, Middle East and Asia Pacific.

Service offerings include product design, analysis, prototyping, testing, embedded system design, manufacturing engineering, plant engineering & construction management and asset information management using cutting-edge Computer Aided Design / Computer Aided Manufacturing / Computer Aided Engineering technology in various domains. The business has supported innovation through co-authoring over 70 patents.

Alliances and partnerships are in place with AUTOSAR (Automotive Open System Architecture), National Instruments, Intel and GENIVI. L&T Technology Services was the first to receive ISO/IEC 27001:2005 certification for IT Security Management Systems. It is an ISO 9001:2008 and a CMMI level 5 certified organisation.

Initiatives

- Focus on global account management
- Investments in the solutions space with emphasis on setting up test labs, tear-down studios and on-boarding of solution architects & domain experts
- Setting up of the Technology Solutions and Innovation Centre
- To attain the target of best-in-class, the business has embarked on a journey of bringing in operational efficiencies and standardisation and process consistency across the organisation.



Engineering talent is drawn from India's premier academic institutes.



Artist's impression of the Hyderabad Metro Rail Project being developed by L&T IDPL in partnership with the government. This project will drastically cut down commuting time and enhance the quality of life in Hyderabad.

INFRASTRUCTURE - CONCESSIONS

L&T leverages its established domain expertise in infrastructure project execution and financial services to execute concession projects in sectors crucial to the economy.

L&T Infrastructure Development Projects Limited (L&T IDPL)

This subsidiary of L&T is India's premier infrastructure builder. It is the leading player in 'Public-Private-Partnership' projects in India, with expanding interests in key sectors: Roads & Bridges, Ports, Metro Rail and Wind Energy. Emerging fields of interest are: Power Transmission Lines, Water and Railways.

L&T IDPL handles a large portfolio of infrastructure assets that includes around 20 road projects, two ports, the Hyderabad Metro Rail project and a wind energy project.

Roads & Bridges

L&T IDPL has one of the largest project portfolios in the road sector in India. Its portfolio of road projects includes some of the most economically significant and high-traffic corridors connecting important cities and industrial towns in the country.

Ports

The track record in this sector includes a deep-water, all-weather port at Dhamra in Orissa on the east coast of India. Other ports developed by IDPL include Kattupalli port near Chennai in the southern state of Tamil Nadu, Haldia seaport in West Bengal and Kakinada in Andhra Pradesh.

Metro Rail

The Hyderabad Metro Rail is one of the world's largest projects of its kind involving public-private partnership in the mass transport sector. The network will cover a total distance of over 72 km across three corridors. The project will transform Hyderabad, triggering robust economic activity around the city.



L&T's modern port facility at Kattupalli, north of Chennai



Corporate Social Responsibility

L&T's social responsiveness long predates the entry into contemporary corporate lexicon of terms like 'CSR'. Our people identify themselves with the social milieu in which they operate. They have believed in inclusive growth and have gone out of their way to assist the communities around them - not because it was the magic formula for sustainability, but simply because that is, and always has been part of the collective character of Team L&T.

Development of communities around our campuses is an integral component of our business model. We invest in their growth through various social initiatives. Our CSR policies and practices are closely aligned with the UN's Millennium Development Goals.

Thrust Areas

We empower via education, harness the untapped energy of the nation's youth through skill development centres and nurture mother & child health care programmes.

Over the years, our efforts to strengthen the foundations of the social pyramid have intensified and expanded.

Our social score-card is impressive

- Reached out to half a million beneficiaries
- Seven community health centres, and more underway
- Livelihood for over 5000 underprivileged women
- Engagement with over 50 community learning centres
- Outreach to over 150 schools

Construction Skills Training Institutes

L&T is one of the few construction companies in India with dedicated skills training institutes that provide employment to trainees through contractors at its project sites. The institutes train youth free of cost in basic construction trades like masonry, bar bending, carpentry, etc.



Mother & Child Health

A woman is the nucleus of the family, which in turn is the nucleus of society. Mother & child health, therefore is one of the thrust areas of L&T's social initiatives. We help mothers and their children in a number of ways: from counseling on family planning, vaccinating children, providing nutritional supplements, conducting specialized medical camps and immunization programmes.

Women's Empowerment

Skill building – especially for rural women – has always been an area of focus. Our skill-building initiatives for women include a host of activities and programmes including tailoring and designing, computer coaching, beautician's courses, fabric painting, handcraft

workshops, home nursing, food processing, etc. Additionally, self-help groups have also been created to encourage participation and positive interdependence.

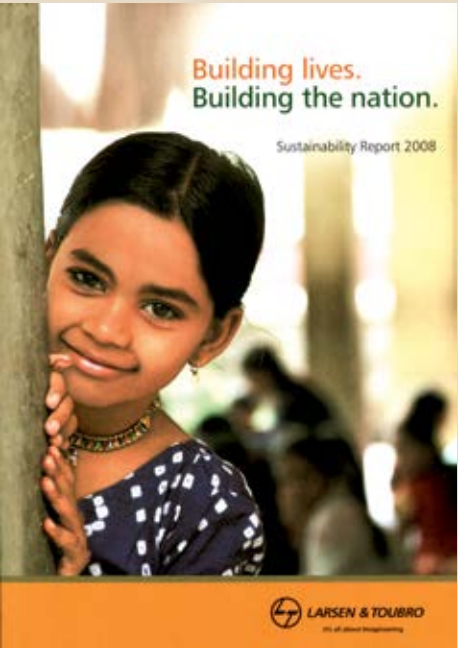
L&T-eering

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.

Ladies Clubs

L&T's women employees and wives of L&T-ites have organized themselves into groups to plan and implement social initiatives.








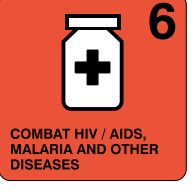




Consistent Reporting on Sustainability Performance

L&T was one of the first companies in the engineering & construction space in India to report on its sustainability performance. All our reports have secured GRI A+ from the Amsterdam-based Global Reporting Initiatives, indicating the highest level of disclosure.



The 'Green' signal for eco-friendly construction. Green buildings are a business opportunity for L&T. Featured here is L&T's LEED Platinum rated facility at Talegaon

L&T's Policies and Practices Are Aligned with the UN Millennium Development Goals

Millennium Development Goals	L&T's Alignment	Millennium Development Goals	L&T's Alignment
 1 ERADICATE EXTREME POVERTY AND HUNGER	<ul style="list-style-type: none">Nutritional support in pre-schoolsVocational and life skills trainingIncome generation for underprivileged youth & migrants	 5 IMPROVE MATERNAL HEALTH	<ul style="list-style-type: none">Pre & postnatal careHealth awarenessFamily planning measuresAnaemia control
 2 ACHIEVE UNIVERSAL PRIMARY EDUCATION	<ul style="list-style-type: none">Improve quality of educationProviding early childhood educationPromoting education in communitySchool infrastructure development & learning aids, enhancing curriculum and impacting classroom learning	 6 COMBAT HIV / AIDS, MALARIA AND OTHER DISEASES	<ul style="list-style-type: none">Integration with national health programmesAwareness drives and medical care for malaria and other diseasesCounselling, testing & Antiretroviral Therapy (ART) for HIV/AIDS
 3 PROMOTE GENDER EQUALITY AND EMPOWER WOMEN	<ul style="list-style-type: none">Skill development programmeEmpowering women in communitiesLivelihood opportunities for women	 7 ENSURE ENVIRONMENTAL SUSTAINABILITY	<ul style="list-style-type: none">Developing and enlarging L&T's green product portfolioImplementation of 3R (reduce, recycle, reuse) principlesWatershed development in rural areas and large scale tree plantation drives
 4 REDUCE CHILD MORTALITY	<ul style="list-style-type: none">ImmunisationProviding access to paediatric careRegular health check up in schools & pre schoolsPromotion of breast feeding	 8 GLOBAL PARTNERSHIP FOR DEVELOPMENT	<ul style="list-style-type: none">Skill building programmes in Middle EastSharing of best practices with stakeholdersCollaboration & partnership with NGOs



Awards & Recognition

Every year, L&T and its people receive a number of national and international awards that acknowledge its varied accomplishments. Presented by the media, industry associations, independent bodies and academia, they honour the Company's contribution in various spheres of business, technology, financial performance, growth and environmental protection. For details of recent awards, please visit www.larsentoubro.com



