



building mega civil **infrastructure**



The Indian CONSTRUCTION GIANT

L&T Construction, India's largest construction organization and ranked among the world's top contractors, has been transforming cityscapes and landscapes with structures of immense size and grandeur for several decades. The organization's capabilities span the entire gamut of construction – civil, mechanical, electrical, and instrumentation engineering – and its services extend to all core sector industries and infrastructure projects.

Several of the country's prized landmarks – edifices, structures, airports, industrial projects, flyovers, viaducts, water and power infrastructure projects – carry L&T's signature of excellence in construction. Today, more and more structures beyond India's boundaries are standing tall, thanks to L&T Construction.

L&T Construction straddles seven related businesses:

- Buildings & Factories
- Transportation Infrastructure
- Heavy Civil Infrastructure
- Power Transmission & Distribution
- Water & Effluent Treatment
- Minerals & Metals
- L&T GeoStructure

Over eight decades of **UNDISPUTED LEADERSHIP**

Larsen & Toubro is an Indian multinational engaged in EPC projects, hi-tech manufacturing, and services. It operates in over 50 countries worldwide. A strong, customer-focused approach and the constant quest for top-class quality have enabled L&T to attain and sustain leadership in its major lines of business for over eight decades.

EPC PROJECTS	
CONSTRUCTION	ENERGY
HI-TECH MANUFACTURING	
HEAVY ENGINEERING	DEFENCE
SERVICES	
IT SERVICES	TECHNOLOGY SERVICES
DIGITAL SERVICES & E-COMMERCE	
FINANCIAL SERVICES	
OTHERS	
REALTY	SMART WORLD & COMMUNICATION
CONSTRUCTION & MINING MACHINERY	
RUBBER PROCESSING MACHINERY	VALVES

Building landmarks, setting benchmarks*

- **12** International Airports
- **310,000+** IT Seats
- **81,500+** Dwelling Units
- **90+** Manufacturing Facilities
- **27,000+** Hospital Beds
- **5 lakh +** km of Water & Waste Water Networks
- **9,300** MLD of Water & Waste Water Treatment Plants
- **9.3 lakh** Hectares of Land Being Irrigated
- **905** EHV Substations
- **45,345 ckm** of Transmission Lines
- **100,000+** Habitations Electrified
- **3.6** GWp Portfolio of Solar Plants
- **420** km of Metro Rail Corridors
- **243** km of High-Speed Rail
- **23,134** Lane km of Roads, Interchanges, & City Infra
- **10.38 million** Sq. m. of Runways
- **9,163.7** MW of Hydro Power Projects
- **8,080** MW of Nuclear Power Projects
- **5,713** Tkm of Railway Track Laying
- **20,501** Tkm of Railway Electrification
- **40 million** tonnes of Hot Metal (Iron) Making
- India's Largest City Surveillance Project: **6,000** cameras at **1,500** locations at Mumbai

*The track record information published here is as of March 2023

STRUCTURES FOR THE FUTURE

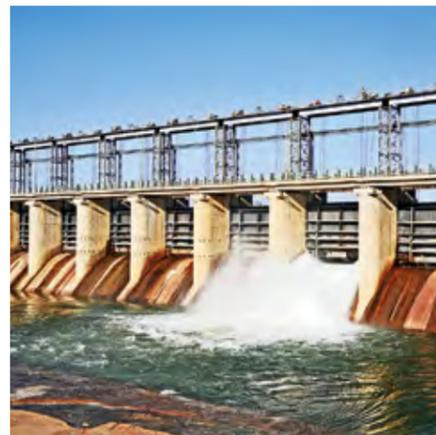
Need to turn a river in the high Himalayas into a green power source? Or, build walls mid-sea, run a train underground or straddle the deepest valley with a viaduct? L&T Construction helps in both finding the answers and implementing them at some of the world's most challenging worksites.

Sharply focused on capitalizing infrastructure needs, L&T builds structures for the future that facilitate movement of people and goods and fuels progress through clean, green power.

Comprehensive range of design and construction services are offered for:

- Metros
- Hydro Power
- Nuclear Power
- Special Bridges
- Ports
- Tunnels
- Defence

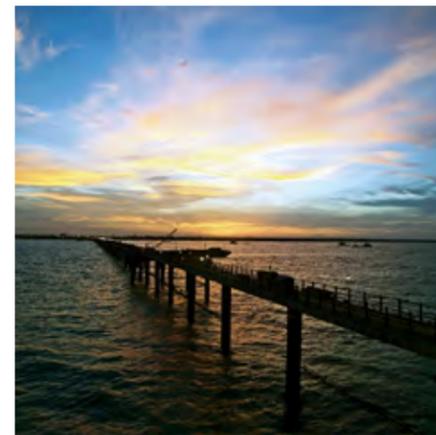
Delhi Metro



Earthen dam, Chhattisgarh



Kakrapar nuclear power plant



Jetty at Karaikal



Second Narmada bridge, Gujarat



Underground section of Chennai Metro

Underground stations



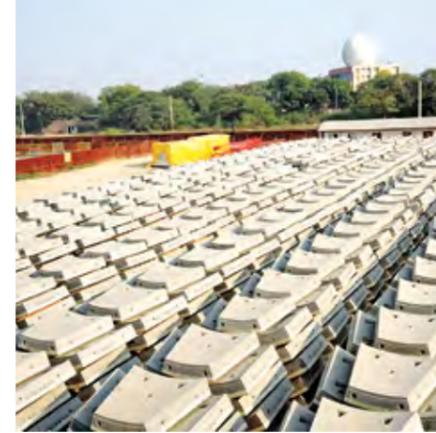
Underground sections



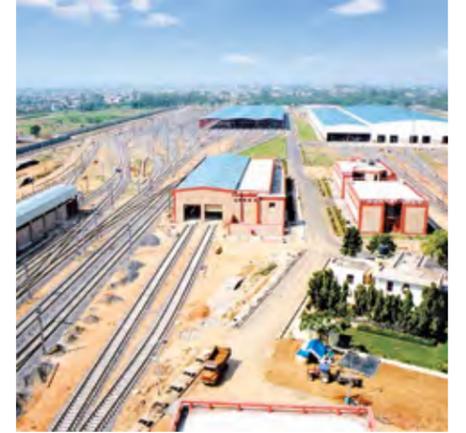
Girder erection for Hyderabad Metro



Precast yards



Depots



ON TRACK TO TRANSFORMATION

Metros

As an industry leader in augmenting capabilities for urban mass rail transit systems, L&T is involved in the construction of metro rail systems in almost all the major Indian cities including Hyderabad, which is one of the world's most prestigious and the biggest metro contracts on BOT basis. On the global front, L&T has made inroads in the Gulf region and is currently executing metro projects at Riyadh and Doha.

Structures developed by L&T for the metro, range from elevated rail corridors to underground metro rail corridors, station buildings along with alignment and expansive depots. L&T's EPC capability enhances the pace of operations. Technologies adopted include the conventional Drill and Blast Method (DBM), the New Austrian Tunneling Method (NATM), Tunnel Boring Machines (TBM), mechanical excavations and soft tunneling using road headers for underground alignment. Construction methods for erecting super structures include incremental launching and full span 'U' girders for the rapid completion of elevated corridors. The post modern precast yards help fast track projects well before the scheduled time.



Underground section of Delhi Metro

72 km in Hyderabad | 67 km in Delhi | 41 km in Riyadh | 16.3 km in Chennai
14 km in Kochi | 11.3 km in Qatar | 5 km in Kolkata | 4.5 km in Bengaluru



Delhi Metro

Bangalore Metro

Chennai Metro



Riyadh Metro

Hyderabad Metro

Doha Metro

WATER TO WIRE

Hydro Power

The hydro power business offers a 'Water to Wire' range of service on an EPC basis in tough mountainous terrains.

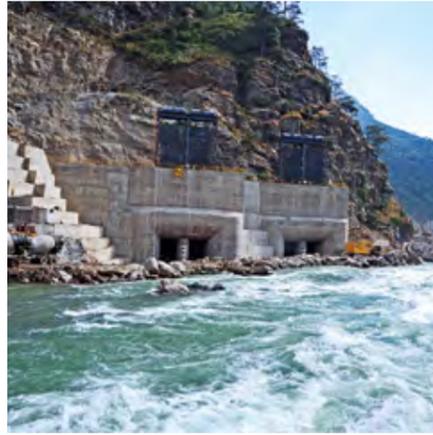
Areas of expertise cover:

- Diversion weirs, barrages, concrete / earthen / rockfill dams including roller compacted concrete dams
- Underground tunnels of various geometry (both concrete lined and steel lined), pressure shafts, surge and de-silting chambers
- Large underground and surface power houses
- Hydro-mechanical components such as gates and penstocks including erection of electro-mechanical equipment

Srinagar HPP



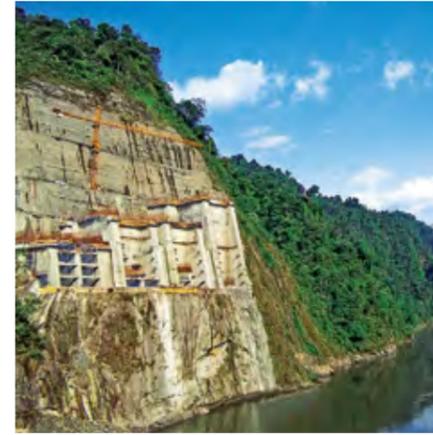
Intake structure at Punatsangchhu, Bhutan



Head Race Tunnel, Tapovan Vishnugad



Subansiri Lower HPP



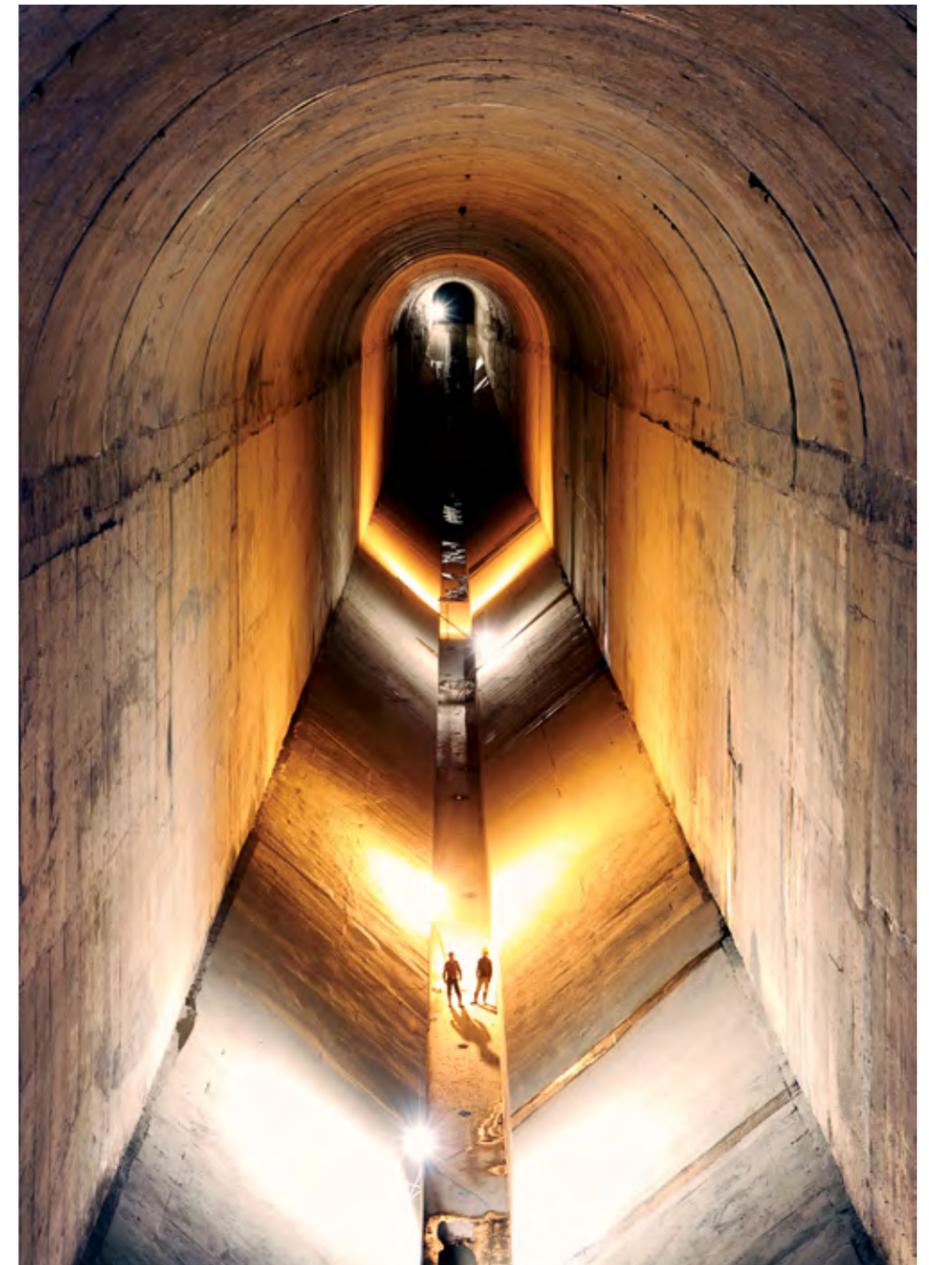
100 MW Kuttiyadi HEP, Kerala



Rockfill dam, Parbati



Underground desilting chamber, Parbati



8315 MW of clean, green power

Kaiga atomic power plant



Kudankulam nuclear power plant



Induced draft cooling tower, Kaiga



Rajasthan atomic power project



Tarapur atomic power plant



Turbine erection for Kudankulam nuclear power project



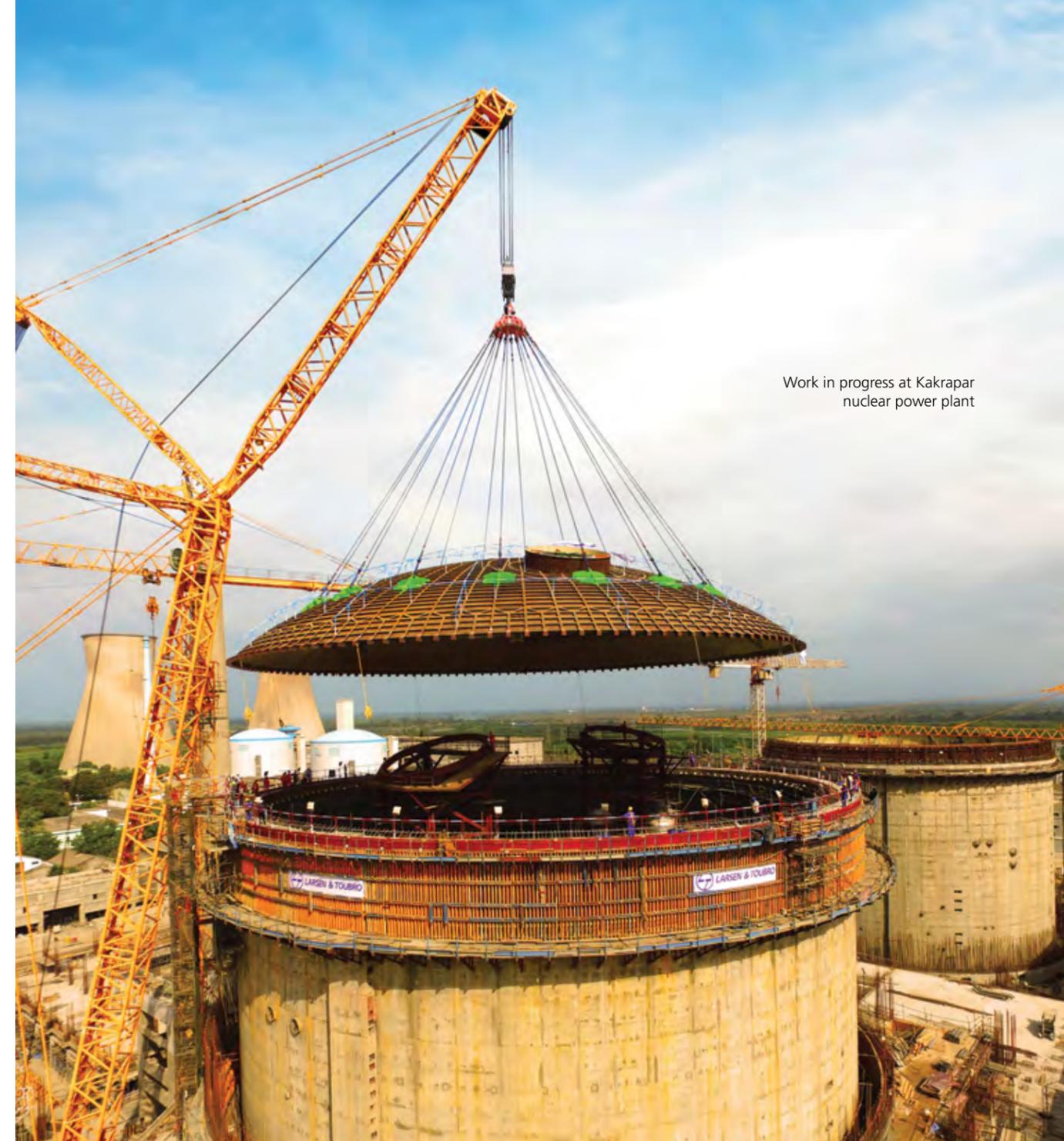
FUSION OF INTEGRITY AND INGENUITY

Nuclear Power

A majority of nuclear power plants and heavy water projects in India carry the L&T stamp of excellence.

Areas of expertise cover:

- Civil construction and erection services for nuclear containment structures (reactor buildings), control buildings, auxiliary buildings and other associated structures
- Design, consultancy including seismic qualification, procurement and construction services for pump houses, cooling towers, head end facilities
- Mechanical works and piping systems, associated detailed engineering, procurement and other related works
- Engineering, procurement and construction for electrical and instrumentation works
- Construction and commissioning of back end projects such as fuel reprocessing and storage buildings



Work in progress at Kakrapar nuclear power plant

Arial view of third Narmada bridge



AN OCEAN OF EXPERIENCE

Ports

With in-depth knowledge of marine technology, maritime structures such as greenfield ports, breakwaters, docks, container terminals, bulk berths, liquid jetties, shipyards, shiplift systems and shore protection have been engineered and built to spearhead waterway transportation.

In-house expertise in design, quarrying and state-of-the-art equipment ensure world-class quality and timely delivery.



Kattupalli port cum shipyard near Chennai

BRIDGING IDEAS

Special Bridges

L&T has bridged people and places in several countries across Asia with the finest bridges. Having pioneered the design and construction of major bridges, L&T has extensive experience in executing a wide range of bridges of different span lengths using ingenious cutting-edge construction techniques such as:

- Incremental launching
- Segmental construction
- Cable-stay
- Precast, prestressed concrete
- Steel and concrete composite construction



Second Vivekananda bridge



Panvel Nadi viaduct



Wadi Abdoun bridge, Jordan



Dhamra port, Odisha



Container terminal at Mundra, Gujarat



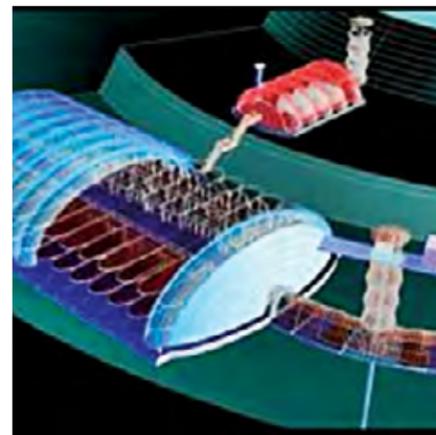
Military bases /
Air Force stations

A RELATIONSHIP OF SUBSTANCE

Defence

Backed by the expertise and experience gained from managing mega projects for over seven and a half decades, L&T has established a position of preeminence in shoring up the country's defenses. On offer are end-to-end solutions that include:

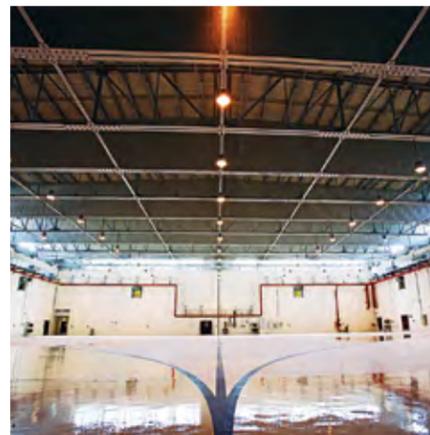
- Military bases / Air Force stations
- Ordnance factories, workshops and warehouses
- Weapon test ranges
- Underground structures for people and armament
- High altitude area shelters
- Critical storage facilities
- Pre-engineered buildings
- Blast walls / fences
- Watch towers with surveillance systems



Underground structures



Blast walls / fences



Hangers



Design engineers at work



Comprehensive geotechnical services

COMRADES IN COMMAND

Engineering Design and Research Centre: Engineering Design and Research Centre (EDRC), L&T's well-equipped design facilities in Chennai and Faridabad offer a complete range of design solutions including consultancy services for hydro power, irrigation, tunnel projects, elevated corridors for metro projects, special bridges, marine structures, cooling water systems for nuclear power plants and other special infrastructure projects.

Construction Methods and Planning Cell: The Construction Methods and Planning Cell (CMPC) complements operations by providing value-added solutions for critical and complex works that focus on implementation of cost-effective construction methods and aims at systematizing, automating and mechanizing processes by incorporating the latest trends in construction technology.

Major thrust areas provided by CMPC to facilitate execution include:

- Establishing temporary project infrastructure
- Planning for key plant and machinery
- Detailed construction planning and scheduling
- Detailed phasing plans, erection schemes for complex and heavy steel structures
- Complete precast solutions including design, detailed production plans and erection schemes
- Innovative formwork solutions for complex structures
- Devising project specific customized construction methods

Geotechnical Capabilities: L&T GeoStructure is a unique entity that focuses on foundation and ground improvement related businesses. The division has a strong and professional foundation specialist team with the knowledge of design, equipment and methods to execute and supervise sophisticated foundation works.

Project Management: From the innumerable projects handled, L&T has developed a core team of project managers and dedicated sub-contractors who thoroughly understand every facet of the activity from design, construction to commissioning and have established a fool-proof methodology for speedy construction.

Supply Chain Management: Fortified by longstanding strategic relationships with power equipment manufacturers of international repute, L&T leverages its global sourcing capabilities and offers clients a value-added service in flexibility of choice and guidance on equipment selection.

Plant and Machinery: Supported by a wide range of sophisticated and specialized equipment such as drill jumbos, heavy duty tower cranes, road headers, TBM, launching girders, piling rigs and barges, projects are fast tracked with top-class quality and cost-efficiency.

Precast Technology: For faster completion of projects, L&T adopts state-of-the-art precast technology for various railway and urban transit projects. Concrete elements such as viaducts, full span 'U' girders, tunnel lining rings, armour units, guideway beams, deck elements and even station buildings are prefabricated in state-of-the-art casting yards.

Safety & Quality: At L&T, Environment, Health & Safety (EHS) is considered a core value. Systems and procedures have been established for implementing the requisites at all stages of construction and are accredited to the International Standards of ISO 9001, ISO 14001 and OHSAS 18001. L&T continues to maintain its tradition of meeting stringent quality standards and adherence to time schedules across all projects.

Construction Skills Training Institute: Through its Construction Skills Training Institutes, L&T has been providing skill development training to empower and convert rural youth into trained workmen in significant numbers.



Tunnel Boring Machine



Precast 'U' girder for Delhi Metro



Ring girder erection at Kakrapar Nuclear Power Plant



Launching girders



Precast yards



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