



L&T Construction

Power Transmission & Distribution



revolutionizing **power 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 eight related businesses:

- Buildings & Factories
- Heavy Civil Infrastructure
- Transportation Infrastructure
- Power Transmission & Distribution
- Renewables
- 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	
CONSTRUCTION & MINING MACHINERY	
RUBBER PROCESSING MACHINERY	VALVES

Building landmarks, setting benchmarks*

- **12** International Airports (total capacity: **250 MPPA**)
- **336,000+** IT Seats
- **94,000+** Dwelling Units
- **100+** Manufacturing Facilities
- **30,000+** Hospital Beds
- **500,000+ km** of Water & Wastewater Networks
- **12,800 MLD** of Water & Wastewater Treatment Plants
- **1.2 million+ Hectares** of Land Being Irrigated
- **970** EHV Substations
- **50,659 ckm** of Transmission Lines
- **100,000+** Habitations Electrified
- India’s Largest City Surveillance Project: **6,000 cameras** at **1,500 locations** at Mumbai
- **35+ GWp** Portfolio of Solar Plants
- **16 GWh** of Battery Energy Storage Systems
- **444 MW** of Floating Solar Plants
- **1.65 GW** of Wind BoP
- **436 km** of Metro Rail Corridors
- **468 km** of High-Speed Rail
- **25,889 Lane km** of Roads, Interchanges, & City Infra
- **11.5 million Sq. m.** of Runways
- **24** Nuclear Power Projects
- **6,191 Tkm** of Railway Track Laying
- **21,665 Tkm** of Railway Electrification
- **54 million tonnes** of Hot Metal (Iron) Making
- **24** Blast Furnaces

*The track record information published here is as of August 2025

A FORMIDABLE PLAYER

L&T's Power Transmission & Distribution business vertical is a major EPC player, providing technology-driven, end-to-end solutions for enabling access to clean, reliable electricity. It offers integrated EPC services and related digital energy solutions, starting from the establishment of smart and efficient transmission & distribution (T&D) networks to last-mile electrification. It serves utilities, renewable energy developers, and industrial & infrastructure customers in 30 countries across the SAARC, ASEAN, the Middle East, Africa, North America, and CIS regions.

The Transmission & Distribution business caters to various T&D utilities and developers, along with bulk power supply consumers like metros, airports, etc. in creating the following infrastructure:

Substations: Turnkey solutions for Extra-High Voltage (EHV) air-insulated / gas-insulated substations up to 1,200 kV, Flexible AC Transmission Systems (FACTS) devices such as Static Synchronous Compensator (STATCOMs) and Static VAR Compensator (SVCs), Digital Substation related solutions and EHV cable systems.

Transmission Lines: Complete EPC solutions for overhead transmission lines. It is well integrated with the digitally driven, sustainability-focussed tower manufacturing units, with a combined capacity to produce more than 1 lakh tonnes of tower components per annum. The Kancheepuram manufacturing facility also houses a state-of-the-art Tower Testing and Research Station, which provides its design and testing services to clientele across 33 countries.

Power Distribution: A range of EPC services related to urban/rural electrification, augmenting, reforming, and strengthening of high-voltage and low-voltage distribution networks, power quality improvement works, and advanced distribution management solutions.

The **Digital Energy Solutions** arm provides electricity-related consulting and digital solutions globally through its unique platform and a multitude of software products and solutions. Its cutting-edge offerings include hybrid energy management systems, control room and substation automation solutions, grid edge interconnections, and power system cybersecurity needs, amongst other solutions. Driven by powerful algorithms and simulations, the solutions offered by this business unit enable customers across India, the Middle East, and the USA to build resilient future-ready systems.

The focus of the PT&D business vertical is to create a path for a transition to sources of clean energy in India and abroad, while enabling the customers/prosumers with the highest standards of reliability, availability, and efficiency of power T&D networks.

India's first 1,200 kV substation at Bina



765 kV Fatehgarh-Bhadla Transmission Line



Electrification for a metro station



500 kV Surat Thani GIS, Thailand



220 kV grid substation at Airport Heights, Oman



765 kV Sipat-Seoni transmission line



400 kV AIS at Chlef in Algeria

500 kV HVDC Ethiopia–Kenya interconnect – largest in Africa



INTERNATIONAL DOMINANCE

L&T Construction was one of the earliest Indian companies to commence operations in the Gulf and has, over the years, gained significant market presence in the UAE, Oman, Qatar, Saudi Arabia, Kuwait, and Bahrain for executing power evacuation, transmission, and distribution projects on EPC basis.

Today, L&T is an undisputed market leader for single-window solutions to meet the complex power infrastructure requirements in the Middle East, Africa, and ASEAN regions.



380 kV transmission line at Riyadh in Saudi Arabia



132/22 kV primary substation at Saadiyat Island in Abu Dhabi



400/220/132 kV substation at Izki in Oman



275/132/33 kV GIS at Samalaju in Malaysia



500 kV Tha Li-Khon Kaen 4 transmission line, Thailand

765 kV ultra high voltage AIS at Unnao



400 kV switchyard for Jindal Power Plant



400 kV GIS switchyard at Chennai



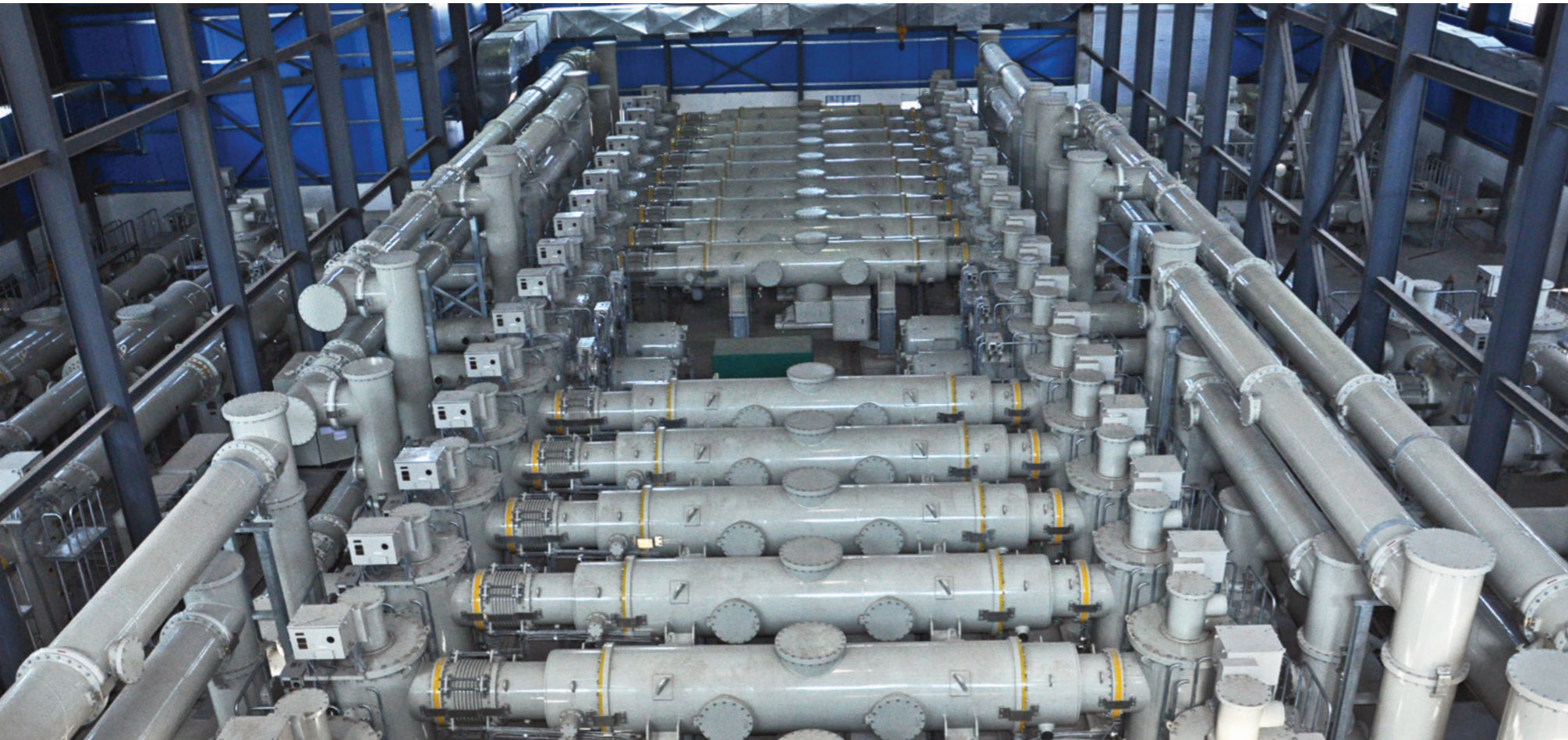
India's first STATCOM at NP, Kunta, Andhra Pradesh



765 kV GIS, Hyderabad



765 kV GIS at Pune



STEPPING UP EVACUATION TECHNOLOGY

Substations

With India's power sector poised for accelerated growth, ultra-high voltage substations are the next level of transmission in the country. As one of the prime players in the power sector, L&T is at the forefront of constructing high quality transmission and utility networks for Air Insulated Substations (AIS) of up to 1,200 kV and Gas Insulated Substations (GIS) of up to 765 kV. The comprehensive services cover complete design and layout of substations / switchyards, selection, procurement and timely delivery of equipment at site, civil works and installation, testing and commissioning.

DIGITAL ENERGY SOLUTIONS

Powering the Energy Transition with L&T NeuralGRID™

L&T Digital Energy Solutions (DES), the technology arm of L&T's Power Transmission & Distribution business, delivers end-to-end digital platforms and services that help utilities, developers, and governments accelerate the clean energy transition.

NeuralGRID™ Platform Suite

Smart • Secure • Scalable

- **RHOS – Renewable Hybrid Orchestration**
Seamless control of solar, wind, storage, and hybrid plants
Products: Power Plant Controller, BECS, Hybrid Energy Controller, R-SCADA, Historian
- **GSOS – Grid & Substation Orchestration**
Digital intelligence for substations and grid operations
Products: SCADA EMS/ADMS, PDC/WAMS, Substation Gateway, Field-Force Automation, RAS-AFAS
- **GEOS – Grid & Edge Orchestration**
Empowering EV charging and distributed energy ecosystems
Products: CPMS, SHEMS, Microgrid Controller, E3MS
- **HENOC – Hybrid Energy Network Operation Centre**
AI-enabled Balancing Authority (BA) and control centre
Optimizes dispatch, reduces VERBS penalties, captures tax credits, and increases revenue retention
- **PSIC – Power System Innovation Consulting**
Grid simulation, planning, compliance, HIL testing, and workforce training (USA, India, KSA)

The Financial Advantage

- **Cost Savings:** Cut imbalance penalties, O&M costs, ancillary fees
- **Revenue Growth:** Direct market access, optimized bidding, tax credit capture
- **De-risking:** NERC/FERC compliance, predictive analytics, cybersecurity lifecycle defence

Why L&T DES?

- Backed by 80+ years of EPC excellence and global delivery
- 18 GW+ renewable projects executed worldwide
- Trusted partner for utilities, developers, and governments across bulk power, distribution, and edge systems





Power control panels



Accelerated Power Development and Reform Project in Aurangabad

NETWORKING THE SMART WAY

Utility Power Distribution

L&T undertakes power quality improvement projects in India under various schemes launched by the Ministry of Power / Rural Electricity Corporation. Continuous improvements in quality of work and safety are highlights of L&T's success in such projects. With a strong project management team spread across various States, L&T is poised to play an active role in distribution reform projects. In the smart grid sector, L&T offers comprehensive solutions for turnkey electrification.



Auto recloser and sectionaliser works



Power quality improvement works



Rural Load Management System (RLMS)



Demand side management through RLMS unit



Restructured Accelerated Power Development & Reform Programme, Varanasi, India



800 kV HVDC Nidhura–Agra transmission line

SCALING NEW HEIGHTS

Transmission Lines

From the snow-clad heights of the Himalayas (3,200 m above sea level) to the vibrant plains and the deserts of the Middle East, L&T has demonstrated its expertise in executing complex transmission line projects. L&T's unique canvas of strengths cover design, manufacture and supply, to construction, testing and commissioning of EHV power transmission lines. L&T offers turnkey solutions for the construction of unique narrow base towers that occupy less space that are ideal for cities and microwave communication towers. A remarkable achievement in this sector is the commissioning of a 471 m high guyed mast communication tower, the tallest in India.



400 kV double circuit Karcham Wangtoo–Abdullapuri transmission line



Multi-circuit narrow base transmission line tower for Mumbai



765 kV D/C transmission line at Kudgi



220 kV transmission line for Blue City project at Muscat, Oman



220 kV river crossing transmission line on pile foundations



471 m high guyed mast communication tower – the tallest in India

Transmission line tower factory at Pithampur



INTEGRATED MANUFACTURING CAPABILITIES

State-of-the-art tower factories: L&T has 1,00,000 mtpa tower manufacturing facilities strategically located at Puducherry and Pithampur that are ISO 9001 and OHSAS 18001 certified and the first in India to be accredited with the energy management certification - ISO 50001. These facilities are equipped with the latest CNC lines for fabrication of towers and microprocessor based temperature controlled eco-friendly systems for galvanization of tower members.



Zero incidents



CNC machine in operation



Galvanizing in progress



Temperature-controlled systems



Heavy-duty machine



Testing of towers with different capacities



Control tower with a 360° view of the tower testing facility



Inside view of the control room

SUPERIOR TESTING PROWESS

L&T's Transmission Line Testing & Research Station (TLTRS) is one of the largest in the world and India's first private testing station to be accredited by National Accreditation Board for Testing & Calibration Laboratories (NABL). Since inception in November 2009, TLTRS has completed testing of towers for many international clients from Mexico, Malaysia, Spain, Oman, Abu Dhabi, Saudi Arabia and Egypt. Located in Kancheepuram near Chennai, this testing station is equipped with a proto fabrication unit to make modifications on tested towers. It is equipped with facilities to carry out tests on square or rectangular base lattice towers, triangle (telecommunication towers), monopoles, tubular structures and guyed towers for capacities of up to 1200 kV.



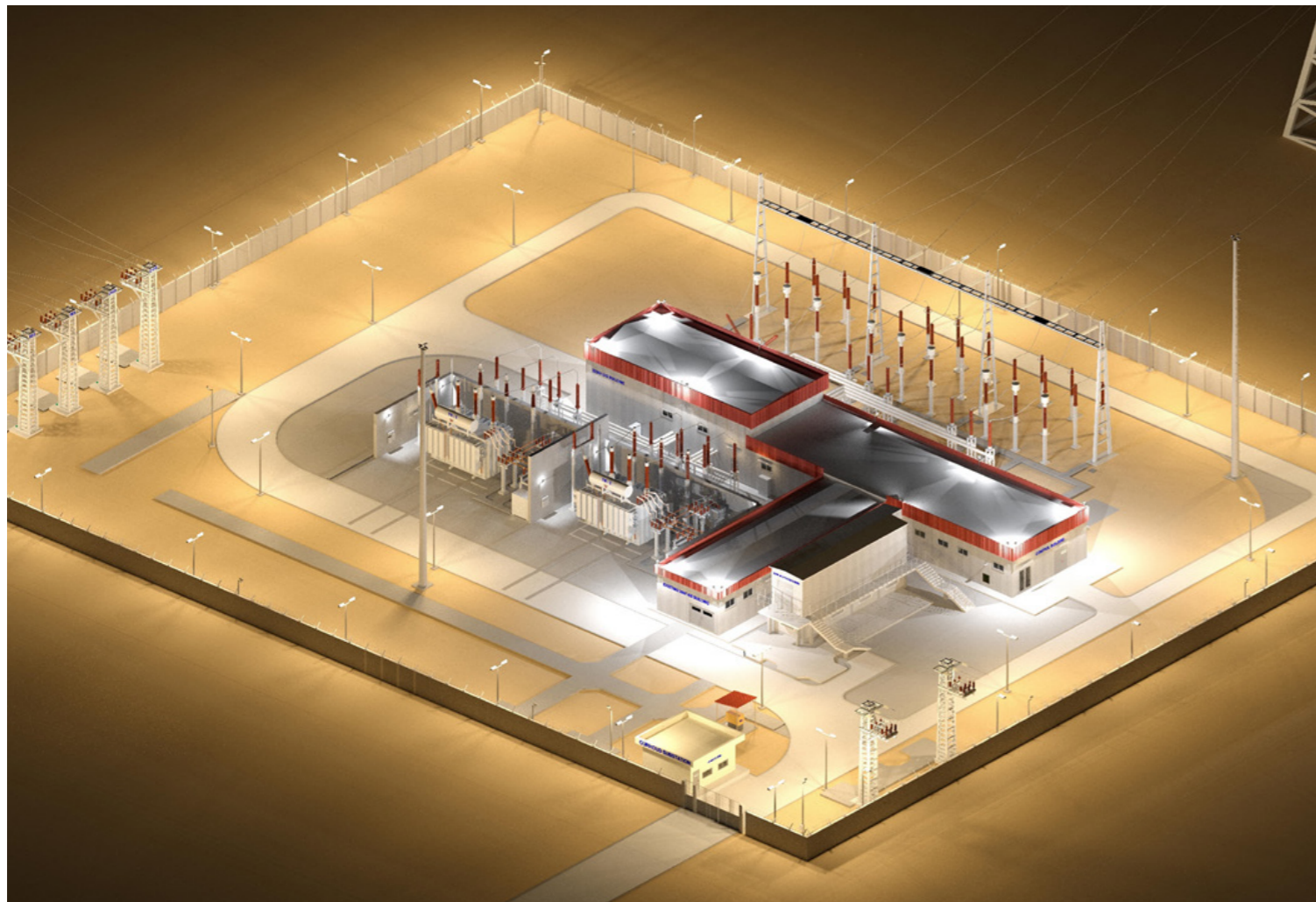
State-of-the-art tower testing station at Kancheepuram, near Chennai



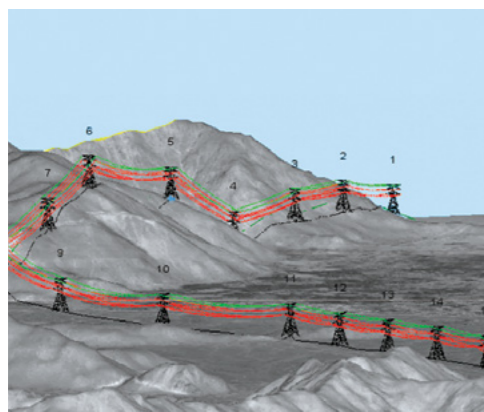
SPECIALIZED ENGINEERING SERVICES

The in-house design and research organization of the Power Transmission & Distribution vertical is globally one of the largest such team of specialized power T&D and renewable energy engineering professionals. The intellectual capital it embodies is out of more than four decades of worldwide experience and expertise in carrying out transmission/distribution system and clean energy generation projects. It has earned reputation for enabling timely completion of critical projects with flawless engineering. It is in the forefront of deploying sophisticated tools such as BIM and AI/ML customized to suit the electrical projects.

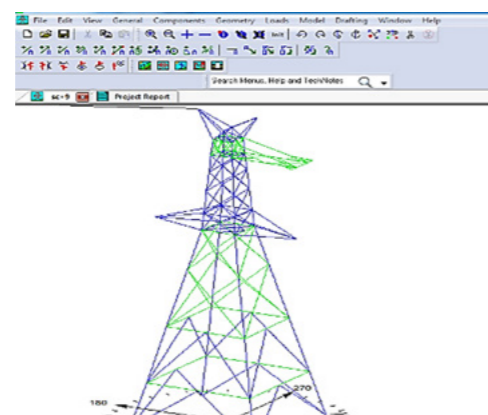
Longstanding relationships with leading suppliers of the world stand testimony to the integration abilities of our top-notch talent. The core multidisciplinary construction expertise of L&T and the application of cutting-edge digital solutions specialized for power system projects offer a unique value add to the customers for integrated delivery of projects from concept to commissioning.



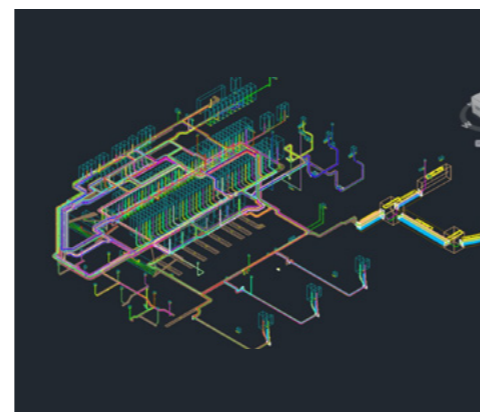
BIM model of a Gas Insulated Substation in Algeria



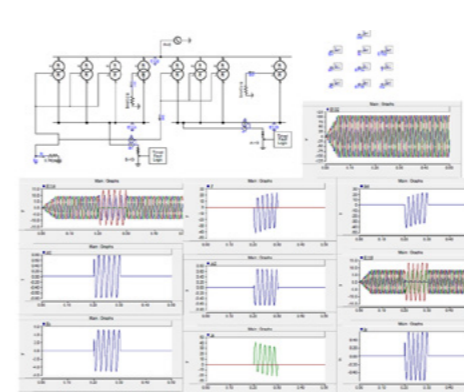
Route alignment



Tower design



Optimized cable routing



Power system transient studies



Design engineers at work

CAPITALIZING ON INHERENT CAPABILITIES

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.

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.



Grid & energy operation and technology integration



Transmission line tower factory at Puducherry



Control panels at a substation



CSTI trainees



Safety orientation at site



L&T Construction

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