



leading the **energy transition**



# 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





1.8 GWp Solar PV IPP Project, Sudair, KSA

## A GLOBAL PLAYER IN THE RENEWABLES EPC BUSINESS

**Speed and Scale** is our buzzword.

From 3 GWp PV Solar in 2021 to a portfolio of:

**35+ GWp of Solar PV + 16GWh of BESS + 444 MW of Floating Solar + 1.65 GW of Wind BOP**

Executing 12+ projects in the range of 500 MWp to 3,047 MWp

Conventional energy is finite. Lighting up tomorrow's world requires imaginative and innovative solutions. L&T Construction has developed the capabilities to provide those solutions. Our pillars of growth are:

- **Energy Transition:** Driving the shift toward sustainable, low-carbon energy solutions through innovation and clean technology adoption.
- **Affordable & Reliable Power:** Ensuring cost-effective project execution, long-term value creation, and competitive pricing.
- **Cost Leadership & Timely Delivery:** Committing to on-schedule execution with robust project management, operational excellence, and stakeholder alignment.



112.5 MW Solar Project in Goaltore, WB



Battery Energy Storage System, EGAT, Thailand



4 MWp Floating Solar PV Project, Tirupati

## Why L&T?

**Global Ranking:** Ranked globally among top 5 solar EPCs

**Engineering Excellence:** Cutting-edge design technology and globally adopted practices to provide improved system performance and reduced levelized cost of electricity (LCOE)

**Resilient Supply Chain:** Digital supply chain, predictive planning, global procurement power and logistics network, strategic and technological partnership

**Safety First:** Maintaining the highest EHS standards in every phase of project delivery

**Proven Construction Capability:** Track record of delivering GW-scale projects on time using mechanized processes

**Global Presence:** Strong presence and expertise in India, the Middle East, and CIS, rapidly expanding to the rest of the world

**End-to-End and Hybrid Renewables Solutions:** Ability to offer hybrid renewables solutions involving PV solar, BESS, and wind, including grid integration capabilities and conceptual engineering for feasibility and FEED stage studies

**Strong Talent Pool:** A talent pool of 2,500+ experienced professionals for the Renewables business covering 34 diverse nationalities

**Digitalization as way of life:** Enhanced value proposition by using digital technologies in each phase of renewables project development, right from engineering & procurement to construction & commissioning, fast and accurate survey using drones / LiDAR, integrated project management solutions, monitoring safety and quality reporting and checks through apps, immersive safety training modules through VR, remote monitoring of equipment through IoT

### Our Services:

- Solar Photovoltaic (PV) Power Plants
- Floating Solar projects
- Battery Energy Storage Systems (BESS)
- Wind Energy – growing from BOP to complete wind solutions
- Hybrid Renewable Solutions
- Grid Integration



28 MWp Floating Solar PV Project in Auraiya, Uttar Pradesh



315 MWp Solar PV Power Project, Babarzar, Gujarat



2.2 GWp Ar Rass 2 PV Solar Project, KSA





388 MWp Solar PV Power Plant. Jeddah, KSA



1,425 MW Al Kahfah Solar PV Project, KSA



AMAALA Utilities PPP Project, KSA



Asia's largest CSP plant  
125 MWe solar thermal power plant  
(600 acres) at Pokhran, Rajasthan



345 MWp Solar PV Project in Tamil Nadu



832 MWp Ar Rass 1 PV Plant, KSA



DEWA VI 1,800 MWac Solar PV Project, UAE

# KNITTING GREEN ZONES

## Grid-Connected PV (Utility Scale)

Having a project portfolio of 26+ GWp of solar projects under construction & 8.9 GWp of projects commissioned in India & Abroad, L&T provides technologically agnostic, independent and flexible utility solar power projects with a high bankability factor. L&T's solar projects are characterized by speed of execution, superior quality and optimum land requirement.



# COMPLETE SOLUTIONS FOR FLOATING SOLAR SYSTEMS

## L&T commissioned one of the first Floating Solar Projects in India

L&T's Renewables business commissioned a first-of-its-kind project to set up a 4 MWp Floating Solar Power Plant for Tirupati Smart City Corporation (TSCCL) at the Kailashgiri Reservoir, under the Smart City Mission of India. The scope of work included design, procurement, supply, installation, testing, commissioning, operation, and maintenance for ten years along with grid connection at 33 kV voltage. The company's offerings perfectly adapt to various sizes of floating solar projects with reliable options for end users. This was followed by multiple floating solar projects ranging from 28 to 126 MWp. Today, L&T is one of the leading solution providers in the floating solar segment.



28 MWp Floating Solar Plant for NTPC in Auraiya, Madhya Pradesh



90 MW Floating Solar Project, Omkareshwar, Madhya Pradesh







# BATTERY ENERGY STORAGE SYSTEM

## 24x7 stable renewable power

L&T's containerized solution for Battery Energy Storage System (BESS) is an all-in-one design including cutting-edge power electronics, state-of-the-art control systems and advanced battery technologies. With flexible and scalable design options, L&T offers a range of solutions ranging from kW to MW scale. Further, to provide immediate benefit to the customer, the storage solution is specifically designed for Plug and Play, which helps in reduction of installation time dramatically.

### Containerized BESS with

- IP Protection
- Access Control
- Fire Protection
- Temperature Control
- Web SCADA
- EMS Controller

### Features

- Intelligent Energy Management System
- ON Grid & OFF Grid functionality
- Black Start Possibility
- Balancing between renewable energy sources and load/consumption
- Grid Stabilization
- Reactive Power Adjustment



Inside view of CIF Factory



Test lab and Testing Facility



Skilled workforce

## BESS INTEGRATION FACILITY

The BESS Integration facility at Kanchipuram is a state-of-the-art facility for integrating electrical and mechanical components into the containerized system. Along with integration, various tests are carried out on the integrated containers, by replicating the site conditions to ensure smooth operation at sites.

### Features



Powered by 100% green energy sourced – 200 kWp Solar PV + 12 kWp BIPV + 750 kWh BESS



Annual production capacity of 1.3 GWh (expandable up to 5 GWh)



Capable to integrate multiple containers 20ft/40ft in parallel



State-of-the-art testing facility to ensure full-fledged FAT



Capable to simulate & test bess applications like PV smoothing, ancillary services, spinning reserve etc.



State-of-the-art testing facility containing PV simulators, grid emulators, load banks, DG, and BESS systems



Container Integration Facility - L&T, Kanchipuram





# OPERATIONS & MAINTENANCE

Post commission, monitoring, operations and maintenance support with O&M during DLP for seamless operations (turnkey+) is also on offer. Apart from established processes and procedures for proactive and reactive (breakdown) maintenance, L&T offers 24x7 site surveillance support for very large solar farms. Smooth functioning is ensured using a remote monitoring system at L&T's HQ in Chennai, real-time plant technician support and a well-networked communication channel with transmission / grid operator and plant owners.



Power evacuation



Operation and Maintenance



# ENGINEERING, DESIGN, & RESEARCH CENTRE (EDRC)

Fostering the energy transition with innovative engineering & technology solutions for renewables

At EDRC, we embrace green energy transition through best-in-class in-house engineering and sustainable technology solutions, driving excellence in Renewables project delivery worldwide.

From concept to commissioning, we engineer renewable plants built for performance and sustainability – custom designs optimized for diverse terrains, from simple to complex, powered by our in-house software tools.

Our highly skilled multinational design engineering team nurtures cutting-edge technologies and continuously develops valuable insights into diverse aspects of renewables, including power system analysis for optimizing the overall solution including optimal sizing of power elements.



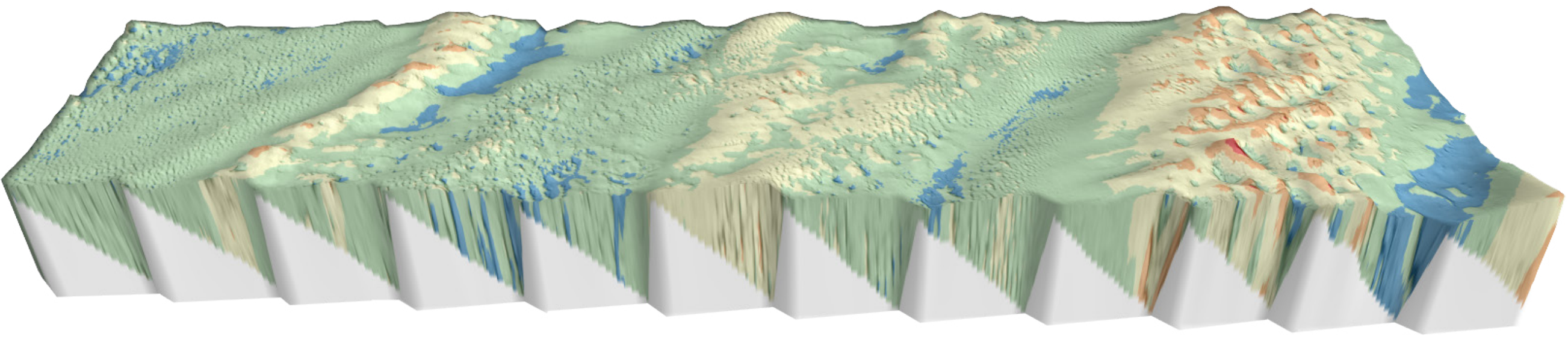
## END-TO-END, ONE-STOP ENGINEERING & DESIGN SOLUTIONS

### Research & Development

L&T's in-house R&D cell fosters new methodologies and cutting-edge solutions, shaping designs that are resilient and future-ready, backed by patented innovations and proprietary software tools







3D DEM – Q GIS / Arc GIS

# SERVICES – PV

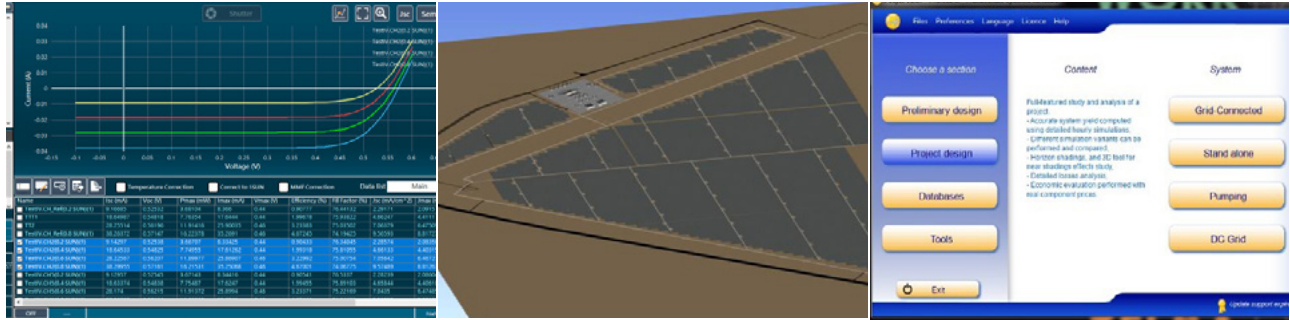
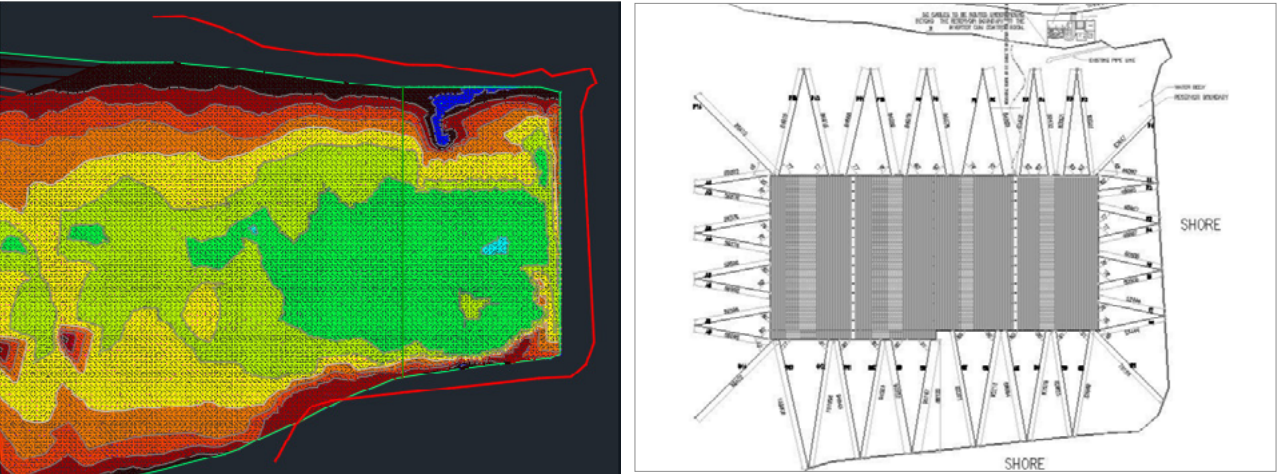
## Conceptual Engineering

Site studies, smart layouts, optimized array & inverter strategies, floating island strategies, and grid-ready designs – to maximize performance and minimize risk for best LCOE

## Detailed Engineering

Complete designs covering electrical single-line diagrams, cable routing, earthing & lightning protection, mounting structures, complete civil works, SCADA integration, power evacuation, and grid impact studies – engineered for performance and compliance.

Bathymetry and island anchoring & mooring



Automated tools for LCOE & EBV analysis



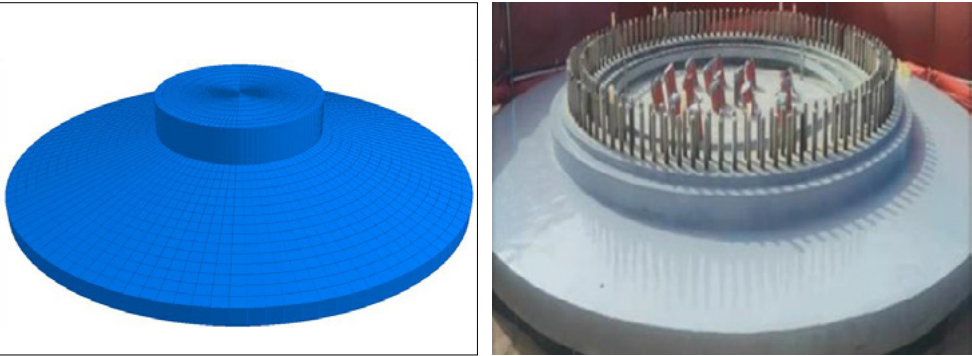
# SERVICES – WIND

## Conceptual Engineering

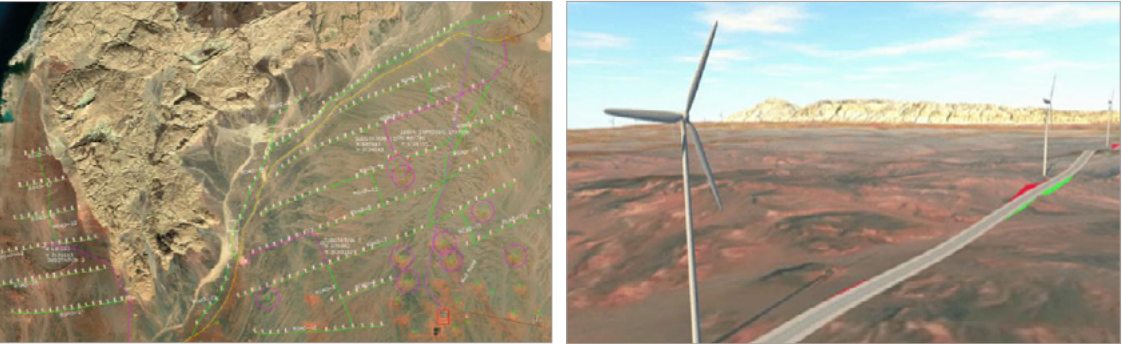
Resource studies, turbine sitting, and road & drainage layouts with electrical and civil designs for seamless grid integration.

## Detailed Engineering

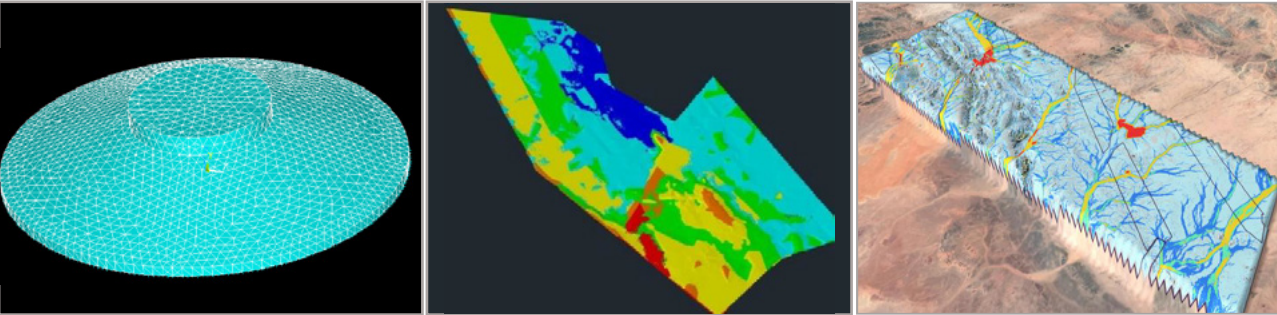
End-to-end engineering including foundation design, road networks, crane pads, collector systems, substations and grid interconnections, and grid impact studies – ensuring constructability and efficiency.



Turbine foundations



3D road layout



Ansys FEM

HEC RAS & HEC HMSC

Hydrology analysis

# SERVICES – BESS & HYBRID PLANTS

## Conceptual Engineering

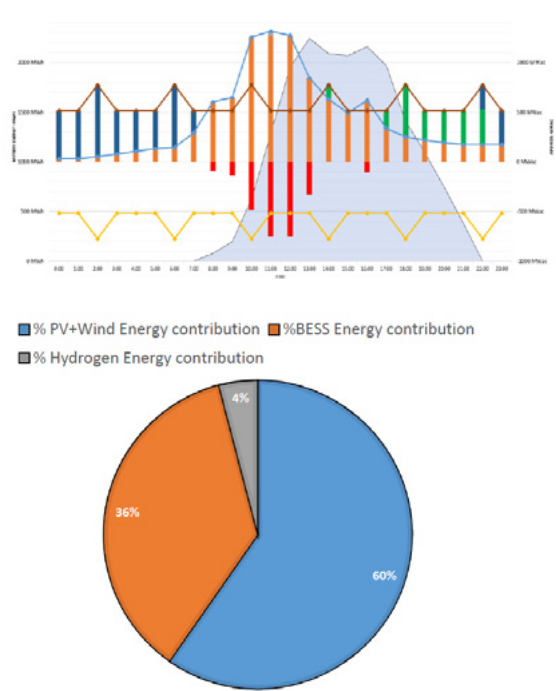
BESS – Flexible, safe, and reliable storage solutions supporting applications like power quality, peak shaving, etc.

Hybrid – Integrated solar, wind, and storage delivering 24x7 clean power with optimized energy mix, reduced curtailment, and grid stability

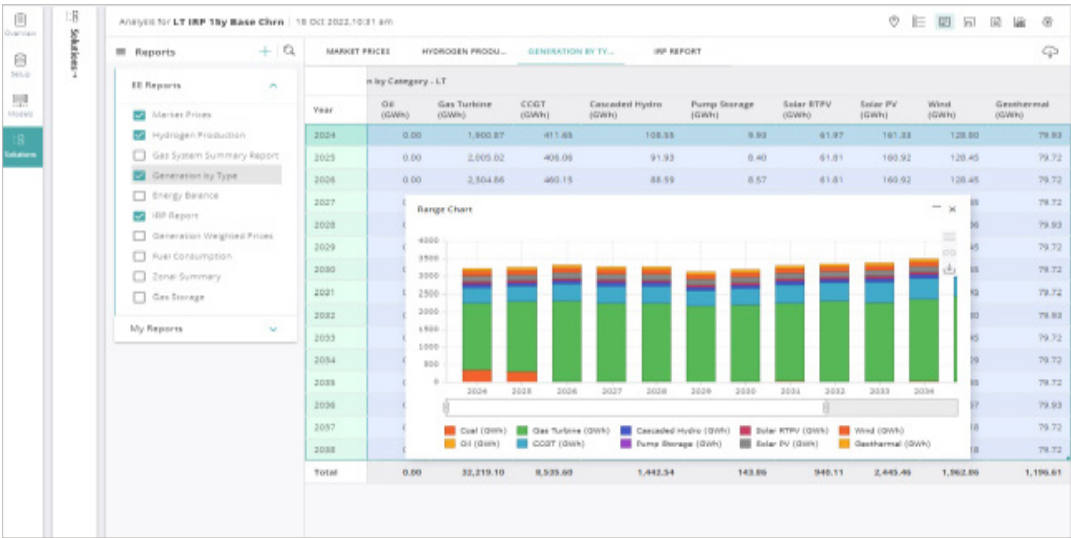
## Detailed Engineering

BESS – Detailed system layouts for battery enclosures, power conversion systems, HVAC, fire protection, safety and control systems – delivering reliable and regulatory-compliant solutions.

Hybrid – Shared substations, advanced protection schemes, integrated controls, and EMS strategies – engineered for smooth operations, grid stability, and optimized resource utilization.



Large-scale BESS plant design



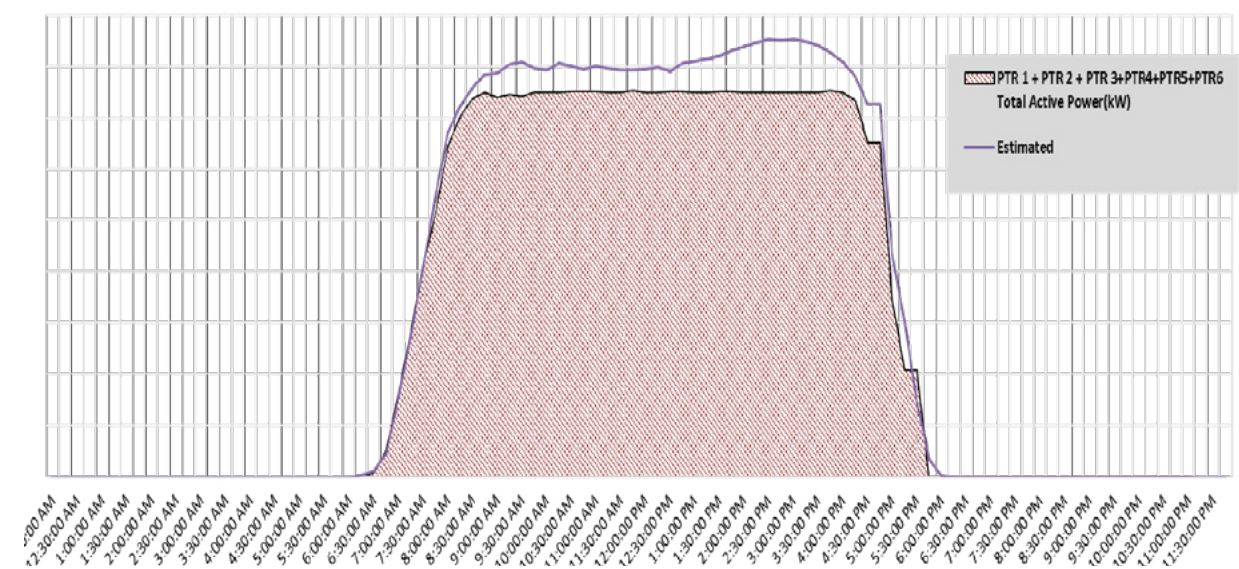
PLEXOS – Energy Mix



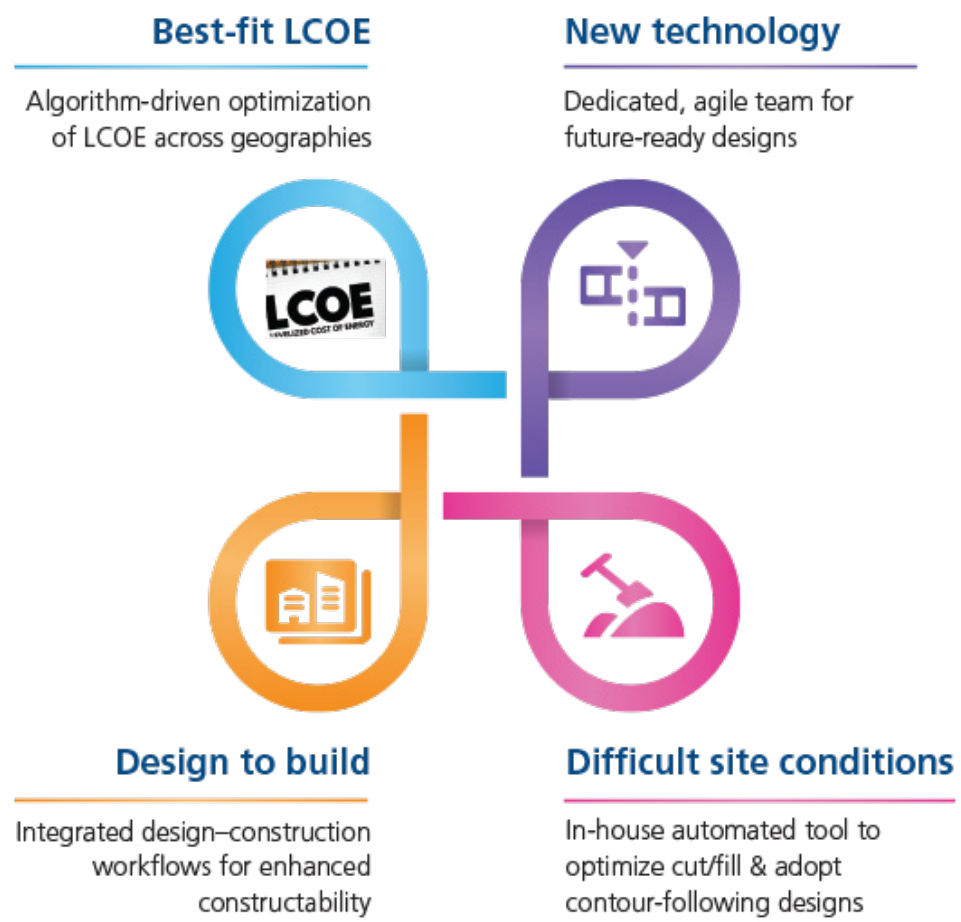
# SERVICES – SUPPORT ENGINEERING

O&M support, real-time performance review and upgrade paths, retrofits, and reliability upgrades to keep assets running at peak efficiency.

## AUTOMATED TOOL FOR PERFORMANCE MONITORING



# Navigating complexity with innovation



Renewables EDRC delivers solutions through engineering by considering green initiatives

Minimized disturbance to the environment, contour-following solar structures

Use of fly ash, GGBS partially in place of cement

Manufactured sand instead of river sand

Precast, prefabricated construction to reduce levels of pollution

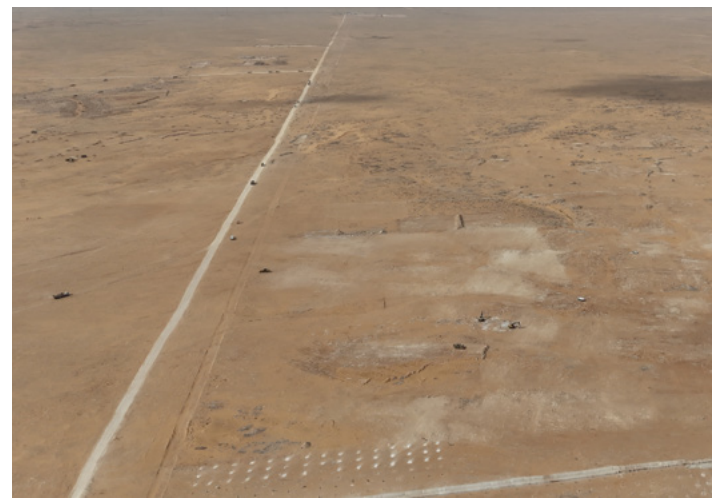
Local materials with lesser carbon footprint

Precise analysis & maximized user productivity through BIM, minimizing rework





Before grading



After grading

## PROJECT MANAGEMENT

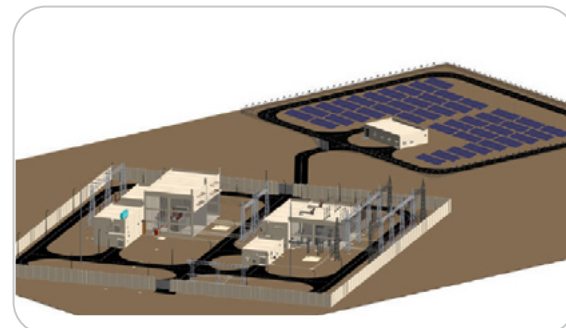
L&T's project management teams have repeatedly demonstrated their ability by delivering complex projects ahead of time even under critical conditions and stringent timelines. With perfect understanding of the fundamental drivers in the sector, L&T implements world-class project management practices in all its projects and meets the core criteria of shortest gestation time from conceptualization to commissioning. This is evident from the hallmarks of execution in the Indian solar industry. L&T has executed the largest and fastest solar power plant projects in India and has emerged as the No.1 EPC player, providing solutions for various solar technologies. L&T's global sourcing capabilities include:

- GPS enabled advanced monitoring systems for tracking the flow of goods
- JIT techniques for optimization of resources
- Strategic long-term component partnerships with supply partners
- Creating value in projects by awarding contracts to local contractors and logistic companies

## DIGITAL TRANSFORMATION

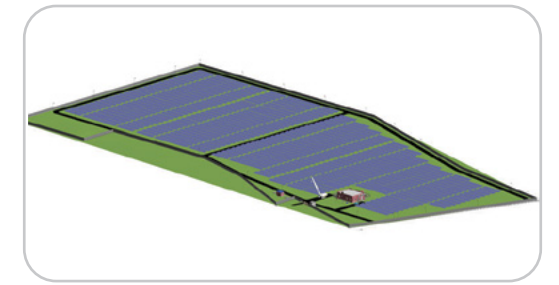
During the journey of digitalization at L&T, our intent is to enhance value propositions in each phase of renewable project development starting from the engineering, procurement, and construction to the commissioning, operations, and maintenance phases.

- Fast and accurate site survey using drones
- Optimized solutions with in-house developed software for various engineered items such as MMS, cables, civil work, site grading, PV tracker post foundation marking, etc.
- Integrated project management using in house developed applications such as PRAPTI and ALIGN integrated with BIM



Project Progress Monitoring

- Drone survey for monitoring module performance
- Optimum asset utilization using IOT in P&M
- Digital security at site stores
- Immersive VR training on safety practices



Digital Surveillance and Performance Monitoring

## SAFETY AND 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.



Safety orientation



Hands-on training at Construction Skills Training Institute (CSTI)



Awards and accolades





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