

INFRASTRUCTURE PROJECTS SEGMENT



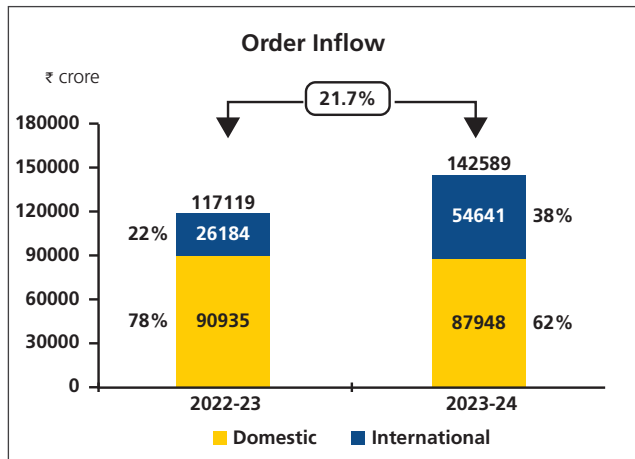
Artist's Impression

AIIMS Rewari, Haryana

The Infrastructure Projects Segment comprises the engineering and construction of:

- a) Buildings & Factories
- b) Transportation Infrastructure
- c) Heavy Civil Infrastructure
- d) Power Transmission & Distribution
- e) Water & Effluent Treatment
- f) Minerals & Metals

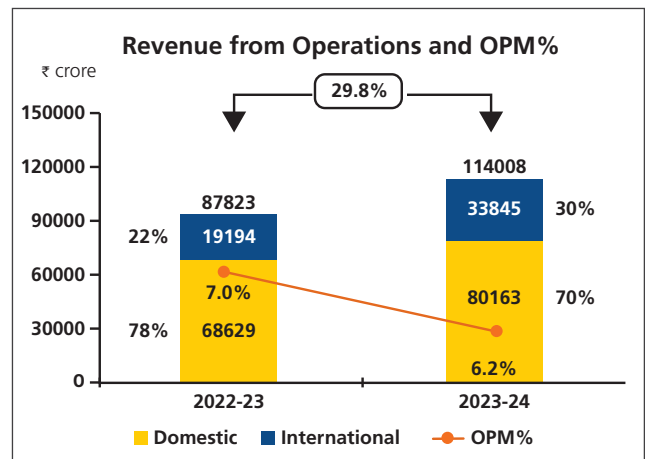
Financial performance of the segment



The Infrastructure segment secured orders worth ₹ 1,42,589 crore in FY 2023-24, higher by 21.7% over the previous year, with the receipt of multiple orders across various sub-segments. During the current year, the Buildings & Factories business registered growth with the

receipt of some residential as well as IT park orders. The Transportation Infrastructure business registered growth with the receipt of a prestigious order for electrification work in the High-Speed Rail project as well as for a few road projects. The Heavy Civil Infrastructure business registered growth on receipt of a few high-value orders for Urban Transportation. Power Transmission & Distribution business benefitted from the receipt of multiple orders for renewable energy projects. Water & Effluent Treatment business and Minerals & Metals business registered de-growth over the previous year due to deferment/delay in finalisation of orders.

The share of international orders for the Infrastructure segment increased to 38% from 22% in the previous year, with the share of the Middle East in overall international order inflow for the segment remaining at 93% in line with the previous year.





Hyderabad International Airport, Hyderabad, Telangana

The Infrastructure segment registered revenue of ₹ 1,14,008 crore for FY 2023-24 – a growth of 29.8% over the previous year. The growth was mainly driven by the ramp-up of execution across multiple project sites. Revenue from international operations constituted 30% of the total compared to 22% in the previous year.

The segment's operating margin for FY 2023-24 declined to 6.2% from 7.0% in the previous year. The decline is largely reflective of time and cost overruns in multiple jobs coupled with increased provision on contract assets and customer receivables.

The funds employed by the segment at ₹ 24,048 crore as on March 31, 2024, registered a decline of 2.2% vis-à-vis March 31, 2023, mainly on account of improved working capital management.

Buildings & Factories

Overview

The Buildings & Factories (B&F) business stands at the forefront of building urban infrastructure, offering end-to-end design-and-build turnkey solutions that seamlessly traverse the entire project lifecycle, from concept to commissioning. Its expertise extends across sectors such as airports, hospitals, stadia, retail establishments, educational campuses, IT parks, office towers, data centers, high-rise structures, industrial warehouses, test tracks, and other light factory structures.

Driving the success of the business are dedicated engineering design centres, various competency cells, and

innovative formwork systems. The business' commitment to innovation is further amplified by the mechanised project execution, a robust network of seasoned consultants and reliable vendors, and a meticulously digitised project control framework. Its talented workforce, adept at navigating complex challenges, contributes significantly to the realisation of iconic structures both in India and overseas.

The business is organised into the following Strategic Business Groups (SBGs):

Public Spaces, Airports & Factories SBG:

This SBG consists of the following three businesses:

- ▣ The Public Space business undertakes design & execution of iconic projects like statues, museums, stadia, metro stations/depots, convention centres, malls, integrated multi-modal developments, etc., right from concept to commissioning on an engineering, procurement and construction (EPC) basis
- ▣ The Airports business specialises in designing and constructing airport terminal buildings, along with their associated service structures. The business also provides integrated airport system solutions, including baggage-handling systems, passenger-flow monitoring, passenger boarding bridges, visual docking guidance systems, and other essential facilities
- ▣ The Factories business offers comprehensive EPC solutions with single-point accountability, catering to the needs of sectors like automobile plants & test tracks, semiconductor electronics & solar PV manufacturing, glass & paint manufacturing, vaccine manufacturing, warehouses, and FMCG products



Phoenix H10, Hyderabad, Telangana

Health, Residential & Commercial Buildings SBG:

- The Health business provides world-class healthcare infrastructure development, right from concept to commissioning in EPC mode, including medical and paramedical services as well as medical equipment
- The Residential business is a prime EPC solutions provider of elite, affordable, and mass-housing projects. The business has expertise in executing high-rise towers and developing mass-dwelling units
- The IT Office Spaces & Data Centers business specialises in end-to-end services, from conceptualisation to commissioning, for establishing innovative data centers. It also provides turnkey Design & Build solutions for Information Technology and office spaces. The business also strategically embraces innovative construction technologies, including prefabricated prefinished volumetric construction (PPVC), modular construction, and 3D printing

Business Environment

Public Spaces

The Private customer segment has demonstrated robust growth across multiple sectors, including MUD (Mixed Use Development), Hotels, and Malls. However, in large-size state-sponsored projects, the Government has strategically opted to split high-volume tenders for better price discovery. Also, some marquee public projects were delayed because of lower initial estimates that were not adequately aligned with the proposed scope of work.

Airports

The Airport sector is experiencing a dynamic business landscape with several key trends. First, passenger traffic has crossed pre-COVID levels, signalling a positive trajectory for airport infrastructure development. Second, there is a growing demand for air travel in tier II and tier III cities as well, thereby presenting multiple lucrative opportunities for greenfield airports and expansion/modernisation of existing airports.

Factories

The factory construction business is experiencing sustained growth driven by orders from private players in response to the Government's impetus to manufacturing through the Production Linked Incentive (PLI) Scheme.

Health

In the hospital infrastructure industry, private investments are proceeding cautiously, leading to delayed expansions. Notably, many Indian Institutes of Technology (IITs) are establishing postgraduate medical research institutes along with super speciality Hospitals. Additionally, the Government's plan to set up infectious disease hospital blocks in all districts has expanded the scope of new hospital projects. These developments signal a dynamic landscape with potential for growth and innovation in healthcare infrastructure.



India International Convention Centre, Dwarka, New Delhi

Residential

Real estate has seen exponential growth in the previous year, with residential property sales scaling new highs amidst rising customer confidence, stable interest rates, and improved affordability. The surge in demand was witnessed in the upper middle class and luxury segments. New launches and sales in the top 7 cities have registered a growth of 25% and 31%, respectively, on a y-o-y basis.

IT OS and Data Center

With the cessation of the Work-from-Home (WFH) culture over time, the business is seeing growth from many real estate developers wanting to develop premium office spaces. The B&F Fast segment is witnessing significant interest in 3D concrete printing technology. Noteworthy is that the business is executing the world's largest 3D concrete printed facility in Chandigarh and also received an order for constructing villas in Bengaluru using the technology. The Data Center business is also gaining traction, not only in India but also in the GCC region.

International

The business has strategically expanded its presence in the Middle East, capitalising on the economic upswing in Oman. Furthermore, selective opportunities are being pursued in Saudi Arabia.

Major Achievements

Major Orders Won:

- ▣ Construction of two residential towers for Oberoi Realty in Thane
- ▣ Commercial and residential development for Prestige Group in Mumbai and Bengaluru
- ▣ Mass Housing development for CIDCO at Navade, Navi Mumbai
- ▣ Commercial development for Raheja Group in Hyderabad
- ▣ Commercial building at four locations in Bangladesh
- ▣ Commercial tower for TAISEI Corporation at BKC (Bandra Kurla Complex), Mumbai
- ▣ Airport at Bhogapuram, near Visakhapatnam, for GMR Airports Infrastructure Limited
- ▣ AIIMS hospital and allied infrastructure at Rewari, Haryana
- ▣ AIIMS hospital and allied infrastructure at Madurai, Tamil Nadu
- ▣ AI NAMA General Hospital at Oman
- ▣ MAHSR C3 High-Speed Railway Stations & Depot
- ▣ Paint Polymer Manufacturing Plant in Gujarat for Asian Paints
- ▣ Paint Manufacturing Plant in Kharagpur for Birla Paints

Key Projects Commissioned:

- ▣ Food Processing Plant in Ahmedabad for JR Simplot India
- ▣ Paint Manufacturing Plants for Birla Paints at Panipat, Ludhiana and Cheyyar, Tamil Nadu



Flacq Teaching Hospital, Mauritius

- ▣ Assam Cancer Care Foundation, Guwahati & Silchar, Assam
- ▣ AIIMS Guntur, Andhra Pradesh
- ▣ Delhi International Airport T1 Expansion and Hyderabad International Airport Expansion from GMR Airports Infrastructure Limited
- ▣ India International Convention & Expo Centre (IICC) Dwarka, IIT Hyderabad Ph2 and IIT Bhilai projects
- ▣ Statue Of Oneness in Omkareshwar, Madhya Pradesh
- ▣ Kalinga Stadium in Bhubaneshwar, Odisha

Other Key Achievements:

The business successfully designed and built the Shri Ram Janmabhoomi Temple and was instrumental in the timely consecration ceremony of Ram Mandir in Ayodhya, Uttar Pradesh.

The construction industry has taken significant strides towards sustainability. Spearheading this transformation, CIDCO Kharkopar, CIDCO Bамандongri, and the CIDCO Precast yard at Bамандongri have teamed with the Maharashtra Electricity Board to operate entirely on renewable energy sources. These initiatives, in addition to reducing carbon footprint, also set a precedent for other construction projects to follow suit. Furthermore, the Prestige Serenity Project at Bengaluru recently implemented a Power Purchase Agreement – a first in the construction industry for the use of renewable energy for site operations. These milestones underscore the business' commitment to environmental stewardship.

B&F is pioneering 3D concrete printing in India by constructing the country's first post office building using this cutting-edge technology. The Halasuru Post Office in

Bengaluru spans 1000 sq. feet and was built within an impressive 45 days. The project encompasses the entire spectrum of construction, including structures, MEP (mechanical, electrical, and plumbing), and finishes.

Outlook

Public Spaces: Central Government initiatives such as the Target Olympic Podium Scheme (TOPS) and the improved scenario in the hospitality industry, contribute to existing traction in the Public Spaces business. The business is also actively tracking the expansions of global retailers like IKEA. Further, prospects from the Central Government in Central Vista projects, Mixed-Use Development, and other sports redevelopment projects signal a healthy outlook for this business.

Airports: Supportive Government policies such as UDAN (Ude Desh ka Aam Nagrik) and the Air Cargo Policy are driving investments in various airport projects. While the business envisages an uptick in investments from the Central Government, large airports/expansions from private Airport Operators could be deferred. The business is also looking at opportunities in this sector in the GCC region.

Factories: Backed by schemes like the 'National Policy on Electronics 2019', the Electronics and Semiconductor industry is expected to grow significantly in FY 2024-25. Major players are looking to set up manufacturing facilities for batteries and semiconductor chips. With major automobile players actively expanding their existing production and venturing into Green Energy vehicles, this business is seeing healthy prospects in the medium-term.



Meerut Aligarh Ghaziabad Road Project, Uttar Pradesh

Health: Mega healthcare projects are on the rise with the Government accelerating healthcare infrastructure development across India. The Central Government's initiative to establish one medical college in each district (with a population of 10 lakh people +) has led to competition among state governments and private players to develop medical infrastructure. The Government's focus is on improving the bed-to-population ratio in order to align with WHO norms. Further, many large hospital redevelopment projects are shaping up across the country.

Residential: In the Indian residential building sector, post-COVID, there has been a consistent year-on-year increase in project launches and property sales across the top 7 cities. Simultaneously, the average inventory has reached an all-time low of 15 months by the end of the previous year. This, coupled with improved affordability, stable interest rates, and wealth effect, are contributors to medium-term growth.

IT OS and Data Center Business: The IT OS and Data Center Business is well-positioned to capitalise on the growing demand for Data Center construction in India and abroad, leveraging its experience, expertise, and strategic partnerships to tap into this lucrative market segment while continuing to serve its clients in the commercial and retail segments as well.

International Opportunities: Projects within the GCC countries present substantial prospects in the international markets as well. Notably, Saudi Arabia offers promising opportunities in sectors like airports, data centers, and stadia. Further, in Oman, the business is focussed on projects in the hospitality industry, encompassing both hotels and hospitals.

With healthy investment opportunities across public and private space anticipated in the medium-term across geographies, the business is well-placed to benefit from the improved momentum.

Transportation Infrastructure

Overview

L&T's Transportation Infrastructure business is one of the leading contractors in India, offering turnkey Design & Build/EPC solutions with single-point responsibility for all kinds of transportation infrastructure such as Roads, Runways, Bridges, Elevated Corridors, Railways, City Infra, Urban Transit, and Airports. The business is divided into two Strategic Business Groups (SBGs), namely, Railways Business Group (RBG) and Roads, Bridges & Formations (RBF) Business Group.

The Railways Business Group (RBG) is subdivided into Mainline Business Unit (MLBU) and Metro Business Unit (MTBU). MLBU addresses EPC construction works in the domains of civil & trackwork, electrification and system integration, including signalling & telecommunication for all Mainline Railway Projects, Dedicated Freight Corridors, Rail Links for Port, Mining and Power Plant facilities, etc. MTBU carries out EPC construction works involving ballastless trackwork, electrification, and system integration for all Mass Rapid Transit System Projects and Regional Rapid Transit Systems in India and abroad.

The Roads, Bridges & Formations (RBF) Business Group provides EPC Design & Build Construction services. RBF comprises a Roads & Runways (R&R) Business Unit,



Eastern Dedicated Freight Corridor (Contract Package 303), Uttar Pradesh

a Bridges Business Unit, and a Formations & Structure Business unit (F&S) with projects currently spanning across India, the UAE, and Mauritius. The R&R business is involved in the roads sector, viz. associated structures, cross-drainage, toll plaza, wayside amenities, etc.; in the airport sector, viz. construction of complete airside infrastructure (runways, taxiways, aprons, airfield ground lighting, fuel hydrant systems for international airports, both greenfield & brownfield); and to decongest urban areas, it provides design and construction solutions for elevated corridors. The Bridges Business deals with the construction of bridges, both in India and overseas, using ingenious and cutting-edge bridge construction techniques like incremental launching, segmental construction, full span, cable stay, precast & pre-stressed concrete, as well as steel & concrete composite construction. The F&S business provides construction services for all types of railway civil work in dedicated freight corridors, high-speed rail, and urban railway network projects.

The business has Engineering Design Centres located in Mumbai, Faridabad, and Chennai. It also has a Competency Development Centre at Kancheepuram and a Workmen Training Centre at Ahmedabad.

Business Environment

Railways Business Group

The Railway sector has been on a high growth trajectory for the past few years. The pace of investment has been at an all-time high with adequate financial support from the Government.

The Finance Minister, in the interim budget speech of FY 2024-25, announced the Government's focus on implementing three major railway economic corridors – Energy, Port Connectivity, and High Traffic Density. The budget allocation in the interim budget FY 2024-25 saw the largest ever capital expenditure allocation of ₹ 2.52 lakh crore in various areas like rolling stock, track augmentation works, electrification, passenger amenities, High-Speed Rail, and the Dedicated Freight Corridors.

With an emphasis on the introduction of High-Speed and Semi High-Speed Corridors, Regional Rapid Transport Systems, Suburban Rail Systems, first & last mile connectivity projects, modernisation of railway stations, implementation of Automatic Train Protection System 'KAVACH', manufacturing of Vande Bharat trainsets, and Electric Locomotives, the sector has been abuzz with activities, thereby opening up various opportunities for the business.

Roads, Bridges & Formations

The total budgetary outlay for infrastructure-related ministries increased from around ₹ 3.7 lakh crore in FY 2022-23 to ₹ 5 lakh crore in FY 2023-24, offering investment prospects for the private sector across the various transport sub-segments. The Government has also set ambitious targets for the transport sector, including the development of a two lakh-km national highway network and expanding airports to 220 by 2025.

The aviation sector has seen increased activity in the past ten years. The number of airports has doubled to 149 during this period.



Dwarka Expressway, Haryana

The Government is also focussing on developing new elevated corridor/flyover projects across major cities, with the primary aim of decongesting urban roads and highways.

Major Achievements

Major Orders Won:

- ▣ Mumbai-Ahmedabad High-Speed Rail – Traction Power Supply Package (EW1) from National High-Speed Rail Corporation Limited (NHSRCL)
- ▣ Jakarta Mass Rapid Transit (MRT) Project (Phase 2A) (Contract Package CP205) for MRT Jakarta through L&T's long-term Japanese partner, Sojitz Corporation
- ▣ Palasbari to Sualkuchi Cable-Stayed Bridge across the river Brahmaputra in Assam, from Public Works Roads Department (PWRD), Assam
- ▣ Dahisar Bhayandar Bridge in Mumbai, from Municipal Corporation of Greater Mumbai (MCGM)
- ▣ Versova Dahisar Bridge in Mumbai, from Municipal Corporation of Greater Mumbai (MCGM)
- ▣ Bhogapuram Airport in the state of Andhra Pradesh, from GMR Visakhapatnam International Airport Limited (GVIAL)
- ▣ Bengaluru Suburban Rail project (Package C4) in Bengaluru, Karnataka, from Rail Infrastructure Development Company (Karnataka) Limited (K-RIDE)

Key Projects Completed:

The business has completed/commissioned the following projects:

- ▣ Bar Bilara Jodhpur Road Project in Rajasthan was inaugurated in May 2023
- ▣ Mukkola Junction to Kerala/Tamil Nadu Border Road Project was completed and received PCOD (Provisional Commercial Operations Date) in June 2023
- ▣ RRTS – Priority stretch (Sahibabad to Duhai – 34 TKM) in Uttar Pradesh was inaugurated in October 2023
- ▣ Dhaka Metro (Phase 2 – Agragaon to Motijheel – 18 TKM) was inaugurated in November 2023
- ▣ Commercial Operation commenced in the entire section of 283 TKM in the WDFC CP 303 Project (Khurja to Pilkhani in Uttar Pradesh – 283 TKM) in November 2023
- ▣ The complete stretch of the 902 TKM section in EDFC CP-204, New Bhaupur to Mugalsarai in Uttar Pradesh, was commissioned in December 2023
- ▣ EDFC CP-105, Dadri to Khurja in Uttar Pradesh, was inaugurated in January 2024
- ▣ The Indergarh to Mej River Expressway Project in Rajasthan was inaugurated in February 2024
- ▣ CTP 14, a portion of the Dedicated Freight Corridor project, was inaugurated in March 2024
- ▣ Dwarka Package 3 (Delhi-Haryana Border to Gurugram (Haryana)) was inaugurated in March 2024
- ▣ Dwarka Package 4 (NH248 BB ROB to NH-8 SPR Intersection (Haryana)) was inaugurated in March 2024



Western Dedicated Freight Corridor (Civil & Track Package 14), Haryana-Uttar Pradesh

- ▣ Delhi International Airport (Phase 3A) was inaugurated in March 2024
- ▣ Meerut Aligarh Ghaziabad Road Project in Uttar Pradesh, completed in March 2024
- ▣ Kanpur & Agra Metro Track package 12 TKM from Fatehabad to Jama Masjid was inaugurated for public operation in March 2024
- ▣ A portion of EDFC projects CP 304 & CP 305 – 558 TKM (World Bank funded) was commissioned in March 2024
- ▣ Signalling & Telecom STP-17 (JICA funded) – 488 TKM between New Makarpura to New Gholvad in Gujarat was completed and in commercial operation since March 2024

Outlook

Railways Business Group

As envisaged under the National Infrastructure Pipeline, Railway investments revolve around improving track capacity and freight efficiency, augmenting the speed of trains, enhancing safety, and ensuring better connectivity.

Indian Railways (IR) has been actively focussing on network expansion in the past few years. In the Interim Union Budget for FY 2024-25, the railways sector has received the highest ever CapEx allocation of ₹ 2.6 trillion, with many projects aimed at capacity augmentation and traffic decongestion in the IR network.

The Government is targeting Rail Line Construction of 20 km/day in FY 2024-25 to add 45,000 Km of rail route in the next 8 years, with an estimated cost of ₹ 12 lakh crore, thereby increasing railways share in overall passenger/ freight movement from 25% to 50% by 2030. In recent

years, there has been a thrust for the development of Semi-HSR Corridor projects, for which Track and Systems packages worth ₹ 25,000 crore are expected to be finalised in the next five years.

Further, as part of the development of the Regional Rapid Transit System (RRTS), civil packages and system tenders in the next round are expected under the four RRTS corridors being implemented by the National Capital Region Transport Corporation (NCRTC).

There is continued thrust on building new and expanding Metro/MRT Systems to facilitate ease of movement and reduce carbon footprint. Systems orders are expected to be finalised across four Metros in the upcoming two years. The business outlook for the next five years includes 12 new projects (450 Km) in the Track and Systems domain.

Roads, Bridges & Formations

The Government of India has identified roads and highways as the 'go to sector' for spurring infrastructure investment in India. It is believed that investments in infrastructure yield a direct multiplier of over 2.5x on the economy and the roads sector in India has presented itself as a priority recipient of these investments. Over the last decade, there has been more than a 50% increase in the total length of highways in the country. The Government's budget support for road infrastructure has also rapidly increased, leading to a budget of approximately USD 31.5 billion for FY 2023-24.

The Ministry of Road Transport and Highways has requested a budgetary allocation of ₹ 3.25 lakh crore for FY 2024-25, marking a 25% y-o-y increase.



Mumbai Coastal Road (Package 1 & 4), Maharashtra

The National Highways Authority of India spent a record ₹ 2,07,000 crore in the construction of national highways in 2023-24, the highest ever capital expenditure so far, and a jump of 20% compared to ₹ 1,73,000 crore spent in 2022-23 and ₹ 1,72,000 crore in 2021-22.

The largest portion of the capital expenditure – equivalent to 24.5% or ₹ 2.7 Tn (USD 33.2 Bn) – has been allocated to the Ministry of Road Transport and Highways (MoRTH) in the Interim Budget of FY 2024-25. The Government increased its allocation to the MoRTH by 2.8% in the FY 2024-25 Budget. Higher budgetary allocations will help the ministry develop more highways and expressways amid difficulties such as rising interest rates and increasing land acquisition costs.

A fair risk sharing between Government and private sectors, as well as an improved dispute resolution mechanism, will encourage public-private participation in infrastructure projects.

International Front

While the business continues to focus on neighbouring countries like Bangladesh, it is also strongly examining entry into ASEAN, the Middle East, and North & East African countries, where L&T has a strong presence and footprint.

Most importantly, the business is targeting only those projects that are funded through secured sources like the Government of India – Lines of Credit or through Bilateral/Multilateral funding agencies such as JICA, EBRD, ADB, etc.

Heavy Civil Infrastructure

Overview

The Heavy Civil Infrastructure business is a market leader in EPC projects in the core civil infrastructure segments that are crucial for the country's sustainable economic growth and development.

The business has a strong domestic presence to undertake projects of mega scale and complexity, with an ability to provide both EPC and turnkey solutions to suit customer requirements. The domestic market contributes more than 95% of the total revenue of the business.

Further, the business derives a competitive edge due to its dedicated in-house design and technical capabilities, competency cells, fabrication facilities, specialised training centres, and strong resource base consisting of a huge fleet of Plant & Machinery, skilled workforce and a talented pool of employees.

The business segments include:

- a) Urban Transit Infrastructure consisting of Metros, Semi & High-Speed Rail, Urban tunnels
- b) Nuclear
- c) Hydel & Tunnels
- d) Ports & Harbours
- e) Defence Infrastructure

Urban Transit: As a frontrunner in augmenting urban transit infrastructure in India, this segment is currently involved in the construction of various metro rail packages, both elevated and underground, in Mumbai, Bengaluru, Chennai, Kolkata, Patna, New Delhi, and in Riyadh, KSA.



Kudankulam Nuclear Power Plant, Tamil Nadu

The segment is also executing multiple mega packages in India's first High-Speed Rail Corridor, connecting Mumbai to Ahmedabad. It has deployed the latest high-end construction techniques for the construction of Full Span Launching Girders, which is a first-of-its-kind being implemented in India. With a view to promoting the 'Aatmanirbhar Bharat' initiative, in-house fabricated equipment like Straddle Carrier, Launching Girders, and Girder Transporter are being used in the construction of this prestigious project.

The business also undertakes Semi High-Speed Rail construction and has successfully completed a portion of the Delhi-Meerut RRTS project during the year.

Hydel & Tunnels: The Hydel sub-segment offers comprehensive turnkey construction solutions for hydroelectric dam projects, barrages, pumped storage plants, and complex irrigation projects. Presently, the business is executing projects in Madhya Pradesh, Assam, Arunachal Pradesh, Uttarakhand, and Jammu & Kashmir.

In the Tunnels segment, the business is executing two major rail tunnel packages connecting Rishikesh-Karnaprayag, Uttarakhand.

Nuclear: The Nuclear sub-segment undertakes civil construction works for nuclear power plants. It has expertise in the construction of Pressurised Heavy Water Reactors (PHWRs) and Light Water Reactors (LWRs) in addition to Natural Draft Cooling Towers (NDCTs). Currently, the business is engaged in the construction of nuclear power plants and associated facilities in Tamil Nadu, Maharashtra, and Rajasthan.

Ports & Harbours: This sub-segment has extensive expertise in constructing greenfield ports, shipyard structures, and seawater intake systems along the country's coastline. It specialises in offering comprehensive construction solutions for various marine infrastructure elements that include breakwaters, berths, jetties, wharfs, dry docks, and shore protection structures. Currently, the business has a presence in Tamil Nadu, Kerala, Andhra Pradesh, and Maharashtra.

Defence Infrastructure: L&T has established a pre-eminent position in shoring up the country's defences. The Defence Segment offers single-point EPC solutions, from concept to commissioning, for various defence establishment infrastructure facilities in India.

L&T GeoStructure Private Limited, a wholly-owned subsidiary, is a pioneer in the ground engineering space and is engaged in foundation and ground improvement-related projects. It has a strong, professional, and specialised team with knowledge of design, equipment, and methods to execute and supervise sophisticated foundation works. The business has expertise in deep piling and diaphragm walls, multi-cellular intake wells for river-linking, marine terminals with berths, jetties, and deep cut-off walls.

Business Environment

The Government is keen on developing core infrastructure that is crucial for economic advancement, as evidenced by the enhanced budgetary allocation in the Union Budget. The capital expenditure outlay for the FY 2024-25 has increased by 11.1% to ₹ 11.1 trillion, equivalent to 3.4% of GDP.



Mumbai-Ahmedabad High-Speed Rail Project

Urban Transit

India's metro network is expanding at an unprecedented pace, with construction work currently in progress covering about 990 km across various cities. With the focus on sustainable development, continual expansion of our cities, and the realisation of greater first-mile and last-mile connectivity, India's metro systems have the necessary prioritisation from the Government. With over 12 corridors proposed in the National Rail Plan, High-Speed Rail projects are also being prioritised. Newer technology of hyperloop, more sustainable high-speed transportation, is also being considered in the country, with an MoU being signed between India and Switzerland. With the aim of alleviating city traffic congestion and improving connectivity between cities, many tunnel projects are also being prioritised by the Government.

Hydel

India's commitment at COP26 held at Glasgow in 2021 was for the creation of 500 GW non-fossil power generating capacity by 2030 and the Government is taking steps to increase investment towards offshore wind, pumped storage, hydel power, nuclear power, etc. Pumped Storage Plant (PSP) projects are considered as one of the first priorities amongst all energy storage systems to facilitate the achievement of this goal. The Government's prioritisation of mega hydel projects in Northeastern states and J&K also signals a promising business landscape.

Nuclear

As part of the country's efforts to achieve a cleaner energy transition, Nuclear Power Corporation of India Limited (NPCIL) is currently on a mission to commission

a nuclear power reactor every year. The nuclear power capacity is expected to increase from 7,480 MW to 22,480 MW by 2032. Even though large-scale plants remain the main focus for the country, the Government is also exploring options for Small Modular Reactors (SMRs), with effectiveness and feasibility studies and collaboration with other countries.

Ports & Harbours

SagarMala, a flagship programme of the Ministry of Ports, Shipping and Waterways, aims to promote port-led development of the country. According to the Ministry, as many as 800 projects have been identified as a part of the programme, including Port Modernisation & New Port Development and Port Connectivity Enhancement, which will result in increased capacity and world-class infrastructure at Indian ports. With Indian regulation encouraging private sector involvement in the sector, the Ministry has identified around 80 Public Private Partnership (PPP) Projects, valued at ₹ 42,300 crore, set to unfold by FY 2024-25.

Defence

The Government is focussing on building new capacities and upgrading existing defence infrastructure with an increased budget allocation to the Ministry of Defence. This will lead to the creation of opportunities in various Defence Infrastructure projects.

International

The business is exploring opportunities in the Middle East and SAARC countries with prospects visible in the Urban Transit, Ports, and Harbours businesses.



Mumbai Coastal Road (Package 1 & 4), Maharashtra

Major Achievements

Major Orders Won:

- ▣ Mumbai-Ahmedabad High-Speed Rail (MAHSR) C3 project – Construction of 135.45 km stretch of the prestigious Mumbai-Ahmedabad High-Speed Rail Project, including construction of viaducts, stations, major river bridges, depots, tunnels, earth structures, stations, and other auxiliary works
- ▣ Orange Gate Tunnel – Design and construction of an Underground Road Tunnel Project between Orange Gate, Eastern Free Way to Marine Drive Coastal Road at Mumbai
- ▣ Kolkata Metro – Design and Construction of an Underground Metro Project connecting the Joka – Esplanade Metro Corridor in the city of Kolkata
- ▣ Patna Subway Tunnel – Construction of a 1.5 km pedestrian tunnel connecting Patna Museum and Bihar Museum, between Bailey Road and Chajju Bagh in Patna, Bihar

Key Projects Completed:

- ▣ Mumbai Trans Harbour Link (MTHL 1) – India's longest sea bridge (connects South Mumbai with Navi Mumbai), spanning nearly 22 km, was inaugurated in January 2024
- ▣ Mumbai Coastal Road Project Phase 1 (MCRP) – This ambitious project was inaugurated in March 2024
- ▣ Delhi Meerut RRTS Lot 1 – A leap in India's urban transit infrastructure. The project was inaugurated in March 2024

Other Key Achievements:

- ▣ Successful completion of 100 km of superstructure erection in Mumbai-Ahmedabad High-Speed Rail (MAHSR) C4 project with cumulative concrete pouring of 50 lakh cubic metre
- ▣ India's first 30 m U-Girder span in metro construction placed successfully in Chennai Metro Rail Ltd. (CMRL RT-01)
- ▣ Record tunnelling of 37.4 m in a single day and an average of 450 m/month per TBM of 9.1 m dia. in RVNL Package 4
- ▣ Head Race Tunnel breakthrough three months ahead of schedule at 120 MW Lower Kopili HEP in Assam

Outlook

According to CRISIL, India is expected to spend nearly ₹ 143 lakh crore on infrastructure in the next seven fiscals through 2030, more than twice the ~ ₹ 67 lakh crore spent in the previous seven fiscal 2017 to 2023, with a primary focus on Urban Transit, Renewable Energy, and Ports. The upcoming phase of infrastructure development is set to witness an increase in the average project size and a notable increase in mega-scale projects. The Government is also striving to encourage private and foreign investment through various initiatives such as a liberalised FDI policy, fiscal incentives, and measures such as PM Gati Shakti and the National Single Window System (NSWS) to improve ease of doing business.

With India's aim to achieve Net Zero by 2070, the country has to focus on green construction technologies in future infrastructure projects. Faced with rapid urbanisation, the Government is considering the implementation of



90 MW Floating Solar Project, Omkareshwar, Madhya Pradesh

Mass Transit Systems such as Metro/Metro Lite/Metro Neo/Personal Rapid Transit System in Tier 1 and Tier 2 cities as an initiative, part of the green mobility drive to reduce the country's carbon footprint in the fight against climate change. With a strong push towards green energy initiatives, including favourable policies and incentives, the business has unprecedented opportunities in the Hydro, Nuclear, and Pumped Storage Sectors and an opportunity to contribute meaningfully to India's sustainable energy transition.

Power Transmission & Distribution

Overview

L&T's Power Transmission & Distribution business vertical is a major EPC player, providing technology-focussed, end-to-end solutions for enabling access to clean, reliable electricity. It offers integrated EPC services and related digital solutions, starting from the establishment of Solar PV plants to smart & efficient transmission and distribution networks to last-mile electrification. It serves Renewable Energy Developers, Utilities, Industrial, and Infrastructure customers in 30 countries across the SAARC, ASEAN, the Middle East, Africa, North America, and CIS regions.

The business is broadly organised into four major groups, viz., Renewables SBG, Transmission & Distribution (Domestic) SBG, International Transmission & Distribution Business Units, and the Digital Energy Solutions business.

The **Renewables business group** is a single-stop EPC service provider globally for GW-scale Solar PV, Energy

Storage, Microgrid, and Hybrid Renewable Projects. There are very few players with such strong experience and expertise in handling different module technologies, module mounting structures, and storage types.

The business group has accumulated in-depth engineering and construction know-how to execute a vast range of renewable projects, be it hybrid, floating or linear, with best-suited technologies for terrain type and tracking. The round-the-clock renewable energy required by emerging load centres such as Data Centers and Green Hydrogen plants can be effectively provided by the business, with its wide-ranging capabilities in Solar PV Plants, Battery Energy Storage Systems, Energy Management Systems/SCADA, Wind Balance of Plant, and grid elements.

The container integration facility at Kancheepuram augments the capabilities of the business with an annual capacity to integrate ~ 400MWh of battery energy storage system with associated intelligent management and control systems. In addition to India, the Renewables SBG has a major presence in Saudi Arabia and the United Arab Emirates.

The **Transmission & Distribution (Domestic) business group** caters to various T&D utilities and developers, along with the bulk power supply consumers like metros, airports etc.

The *Substation business unit* provides turnkey solutions for Extra High Voltage (EHV) air-insulated/gas-insulated substations up to 1200kV, 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.



500kV Pulah Indah Olek Lempit Transmission Line, Malaysia

The *Transmission Line business unit* provides complete EPC solutions for overhead transmission lines. It is well integrated with the digitally driven, sustainability-focussed tower manufacturing units, which have a combined capacity to produce more than 1 lakh tonnes of tower components per annum. The Kancheepuram manufacturing facility also houses the world-renowned Tower Testing and Research Station, which provides its design and testing services to clientele from 33 countries.

The *Power Distribution business unit* has been at the forefront of distributing electricity in an efficient manner to all, by providing 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 **International T&D business units** provide the entire spectrum of power T&D-related services in the Middle East, Africa, and ASEAN regions.

Over the past three decades, the *Middle East business unit* has earned a strong reputation among the utilities and oil companies in Saudi Arabia, UAE, Oman, Qatar, Kuwait, and Bahrain, having executed several marquee projects. It enjoys an enviable track record and garners a significant share of T&D projects awarded every year.

Larsen & Toubro Saudi Arabia LLC (LTSA), a wholly-owned subsidiary, provides engineering, construction, and contracting services in the sphere of transmission & distribution in Saudi Arabia.

The *Africa business unit* has executed several landmark projects in Algeria, Egypt, Morocco, Kenya, Ethiopia, Tanzania, Uganda, Botswana, Mozambique, and Malawi. It has made further inroads into Western & Northern Africa with ongoing projects in Guinea, Cameroon, and Tunisia. With the regional offices strategically located in Nairobi and Casablanca to serve the vast continent, the business has earned a coveted position with a sizeable market share in the addressable segment.

In the *ASEAN region*, L&T is an established international T&D player, holding a portfolio of prestigious projects spread across Malaysia, Thailand, Myanmar, and the Philippines. The offices in Kuala Lumpur, Bangkok, and Jakarta serve as the touchpoints for the electricity companies in the region.

The **Digital Energy Solutions** arm of L&T's Power T&D business provides electricity-related consulting and digital solutions globally through its 'Spark' platform, and a multitude of software products and solutions. Its cutting-edge offerings include hybrid energy management systems, energy storage controllers, substation data platforms, power system cyber security needs, etc. Driven by powerful algorithms and simulations, the solutions offered by this unit enable customers across India, the Middle East, and the USA to build resilient future-ready systems.

The Power Transmission & Distribution business vertical aims to provide a green technology path to clean energy transition in India and abroad while providing customers and prosumers with the highest standards of reliability, availability, and efficiency of power transmission and distribution networks.



400kV Ottapidaram, Tamil Nadu

Business Environment

A vibrant renewable energy market in the Middle East provides ample opportunities coinciding with a plethora of Power Transmission & Distribution related projects. This makes up for the relatively subdued environment in India and Africa. Further, these opportunities come with significantly higher package sizes, thereby aiding effective resource utilisation and facilitating volume growth. Due to ongoing disturbances in the Red Sea, the supply chain was impacted to an extent. However, the execution of projects has largely continued unhindered.

The domestic Renewable Energy space is characterised by self-EPC execution by developers, land acquisition requirements, and e-reverse auctions. Selected opportunities were pursued with specific customers in niche areas, such as Floating Solar Plants.

As the domestic power distribution space was fraught with aggressive customer estimates and a fragmented contractor base, the addressable opportunities were relatively lesser, for which the business was very particular. The recent revival of the order finalisation of transmission line packages for renewable energy evacuation provided a welcome relief.

Major Achievements

Major Orders Won:

- ▣ 2.8GWp Solar PV Plant EPC orders in the Middle East
- ▣ An integrated order involving Renewable Generation, Power, and Water Utilities for an ultra-luxury tourism destination in Saudi Arabia

- ▣ 75MW Floating Solar order in India
- ▣ 765kV Transmission Lines related to the integration of Renewable Energy Zone in Karnataka
- ▣ 400kV Transmission Line orders in Jharkhand and Chhattisgarh
- ▣ Receiving and Auxiliary Substations with SCADA for Chennai Metro Corridors 3 & 5
- ▣ Distribution Infrastructure improvement projects in Rajasthan and Gujarat
- ▣ Upgradation of SCADA (Supervisory Control and Data Acquisition) at Transmission Asset Managing Centres for monitoring and control of 275 EHV Substations in India
- ▣ A 400kV Substation and 3 Nos. 132kV Substation packages in UAE
- ▣ 400kV Transmission Line packages in UAE and Kuwait
- ▣ 8 Nos. 132kV Substations in Kuwait
- ▣ Substation packages from the ongoing network expansion phase in Qatar
- ▣ 525kV HVDC Transmission Line package in Saudi Arabia
- ▣ 380kV Substations and Overhead Line packages in Saudi Arabia
- ▣ 275kV Substation and Underground Cable laying order in Malaysia
- ▣ Certain Advanced Grid Services and Energy Consulting Services in the USA for the Digital Energy Solutions business



400kV JNHPP Chalinze Transmission Line, Tanzania

Projects completed and commissioned:

- 1.8GWp Sudair Solar Plant in KSA
- 15 Substations and 1409 CKM of overhead transmission lines in the Middle East
- 5 Substations and 420 CKM of transmission lines in Africa
- 138 CKM of 500kV transmission lines in the ASEAN region, including the Tallest Transmission Tower in Malaysia that entered the 'Malaysia Book of Records'
- 50 GIS bays in Thailand
- 220kV Transmission Line and two Substations in Nepal at high altitudes
- 400kV Substations & Transmission Lines in Tamil Nadu and Uttar Pradesh
- 220kV Substation & Transmission Line in West Bengal
- Improved Distribution Infrastructure by adding 1531 Ring Main Units and 1450+KM of cable conversion in Uttar Pradesh, West Bengal, Haryana, and Jammu
- 35MW Solar Plant with 57MWh Battery Energy Storage System in Gujarat

Significant Initiatives

- Initiated a global strategic partnership with Dell Technologies for synergistic use of high-end computing power with software solutions for energy utilities
- Memorandum of Understanding (MOU) signed with IIT Indore for Advanced Research & Development in renewable energy integration and control technologies
- Innovation in anchoring & mooring methods for floating solar projects

Outlook

Renewable electricity has emerged as the preferred source of energy in varied applications and industries. Significant investments for enhancing renewable energy capacity are witnessed in both developed and emerging economies. Novel solutions involving a spectrum of renewable technologies, including wind and energy storage, are being integrated for solar generation. This proliferation of renewable energy goes hand in hand with the multi-fold expansion of transmission grid infrastructure.

The GCC countries have set ambitious renewable energy addition plans for 2030, which are backed by action on the ground. Besides diversification of fuel mix, renewable energy for Green Hydrogen is another major driver. Our reputation and relationships with the major developers in the region are expected to fuel the growth of the business in the adjacent regions as well.

In specific countries of Africa and ASEAN, the business will leverage its proven track record, established relationships with various stakeholders, and ability to access the project finance market in order to pursue select opportunities arising from Just Transition initiatives, grid interconnection requirements, and renewable proliferation.

In India, a significant increase in the capacity of solar module manufacturing in the past year will improve input costs and delivery timelines, given the compulsory requirement to meet Approved List of Models and Manufacturers (ALMM) stipulations. Further, the tendering of the on-the-ground and floating solar plants by the Central and State Public Sector Enterprises will be the mainstay in the coming years.



Water Treatment Plant at Nashik, Maharashtra

765kV Transmission Line and Substation opportunities, mainly for the purpose of renewable energy evacuation, will continue to provide stable order inflow in the medium-term, besides HVDC corridors and Metro Rail projects. From select DISCOMs, distribution modernisation opportunities such as Loss Reduction Works and Supervisory Control and Data Acquisition (SCADA)/Advanced Distribution Management System (ADMS) packages are expected to gain momentum.

The ability to provide a range of advanced physical and digital solutions, including Dynamic Reactive Power Compensation, Hybrid Energy Management Systems, and EV Charging Infrastructure at scale, gives the business an edge over competitors.

The influx of orders coupled with ramped-up execution and efficient working capital cycle provide a strong ground for improved return ratios in the business.

Water & Effluent Treatment

Overview

L&T's Water & Effluent Treatment (WET) business is a technology-driven EPC business dedicated to delivering comprehensive solutions in the water space, through best-in-class project management, technological capabilities, and treatment process know-how. The business caters to varied customer segments for municipal water (potable & waste), irrigation, industrial water, desalination, and smart water infrastructure by implementing treatment plants, storage & pipeline networks for water supply & wastewater, irrigation, and industrial applications across

India and at various international geographies. The business is recognised for its successful implementation of large-scale projects nationally and globally, delivering clean water, sanitation facilities, and efficient treatment processes for the community. These efforts not only enhance public health and quality of life but also promote economic growth and sustainable development.

The business has a unique Water Technology Centre (WTC) in Kancheepuram, near Chennai, which has state-of-the-art laboratories to develop solutions for the ongoing/emerging challenges in the Water sector.

L&T's Water & Effluent Treatment business is structured into three verticals:

- (i) Water & Wastewater
- (ii) Irrigation, Industrial, and Infrastructure
- (iii) Water International

The **Water & Wastewater** business vertical provides water solutions to the municipal water sector. In the potable water arena, it undertakes projects that encompass sourcing, treatment, transmission, storage, and distribution for the entire value chain, from intake to households. In the municipal wastewater segment, projects involve the collection and conveyance of sewage, pumping stations, and wastewater treatment, including the treatment of sludge to the highest standards and generation of power.

The **Irrigation, Industrial, and Infrastructure** business vertical caters to the needs of the irrigation and industrial sector by providing a wide variety of water solutions, including mega & micro irrigation, treatment of industrial effluent, plant water systems, and water infrastructure



Varanasi Sewage Treatment Plant, Uttar Pradesh

for smart cities. Desalination projects are also undertaken by this vertical.

The **Water International** business vertical focusses on providing complete water solutions in the markets of the Middle East, East Africa, and SAARC (South Asian Association for Regional Cooperation) countries.

Business Environment

With the Government's focus on water infrastructure development, the business foresees significant market opportunities in the Urban Water & Water Management, Wastewater, Industrial & Desalination, and Irrigation sectors.

The business faces industry-specific challenges, including intense competition from established players and new entrants, workforce shortages, commodity price fluctuation, and cost escalations. Despite these challenges, the business remains resilient and actively addresses these headwinds through improved productivity and timely project implementation with exceptional quality and safety standards, thereby meeting stakeholder expectations.

In the Middle East region, the water demand is expected to grow significantly as huge spending is envisaged in the areas of desalination and treatment of wastewater & industrial effluents. The conscious pursuit of value-accretive opportunities in the Middle East is a risk mitigation to a high-growth but commoditised domestic market.

Major Achievements

Major Orders Won:

- ▣ Ballia Water Supply Project, Uttar Pradesh
- ▣ Firozabad Water Supply Project, Uttar Pradesh
- ▣ AMAALA Utilities Water Package, KSA
- ▣ Chittorgarh Package I Water Supply Project, Rajasthan
- ▣ Mega Lift Irrigation Project Cluster XXII & XXV in various Districts, Odisha
- ▣ Southwest Guwahati Water Supply Project, Assam
- ▣ Effluent Treatment Plant for Talcher TPP Stage III, NTPC, Odisha

Major Projects Commissioned:

More than 10 million people benefitted from the commissioning of 32 projects during FY 2023-24. Some of the major projects commissioned during the year are:

- ▣ Ranchi Smart City, Jharkhand
- ▣ Gangadhar Meher Lift Irrigation Project, Odisha
- ▣ Shivhar Water Supply Scheme, Uttar Pradesh
- ▣ Diggian Sewage Treatment Plant, Chandigarh
- ▣ Coimbatore Sewage Treatment Plant, Tamil Nadu
- ▣ Chhatarpur Water Supply Scheme, Madhya Pradesh
- ▣ Jawai Water Supply Project, Rajasthan
- ▣ Sauni L3P8, Gujarat
- ▣ 30 MLD Common Effluent Treatment Plant, Gujarat
- ▣ Zanzibar Water Supply Project, Tanzania



Gangadhar Meher Lift Irrigation Scheme, Bargarh, Odisha

Significant Initiatives

Multiple strategic initiatives were implemented during the financial year with an enhanced focus on digitalisation, mechanisation, and technology to make the business more future-ready in its quest to stay ahead in the competitive market.

- With a focus on operational excellence, the business implemented precast/hybrid construction methods (Intake, Pumphouses, Elevated Storage Reservoirs, and House Service Connections) across various projects to address the shortages in skilled manpower
- Predictive analytics incorporated in tendering based on historical data to estimate optimised tender Bills of Quantity (BOQ) with accuracy & speed, which has substantially reduced manual efforts and improved tendering efficiency
- Aerial survey using drones, extensive usage of ArcGIS software for auto-zoning of villages & volumetric calculations for large areas, Gap Information Monitoring App (GIMS), and House Service Connection app are some other key initiatives undertaken on the engineering & execution front
- The Incident Potential Rate (IPR) dashboard helps monitor project execution and facilitates risk evaluation in real-time. This AI/NLP-enabled platform has fast-tracked management intervention that facilitated quick decision-making, resource planning, and mobilisation, culminating in a better EHS environment at the projects
- The business has piloted the 'Integrated Project Management System (IPMS)' in a few projects to foster

seamless collaboration across departments, enhance visibility into all aspects of project management, and mitigate risks proactively

Outlook

The business is predominantly a B2G company with many state government departments as its clientele. The growth of the business is highly dependent on the policies of the central and state governments. In the Interim Government Budget for FY 2024-25, the Central Government has once again emphasised its vision of making India 'Viksit Bharat' by 2047, thereby underscoring the importance of the various welfare schemes for its citizens, which, in turn, is expected to further drive opportunities in the Water, Wastewater, and Irrigation sectors. Additionally, the Jal Jeevan mission (Har Ghar Jal) that aims to provide piped water to every rural household will continue to provide opportunities in the arena of potable water infrastructure and ancillary services.

On the International Business front, the Middle East (especially the Kingdom of Saudi Arabia) presents new business horizons with ongoing mega-development projects. The business will collaborate with strategic partners to leverage opportunities that are aligned with regional priorities and economic growth initiatives.

Domestic competition remains fierce with a low entry barrier and emergence of new entrants, due to which innovation and technological advancements become critical for sustained business growth.

Amidst these opportunities, challenges like commodity price volatility and increased cost pressures persist



Alumina Refinery Expansion Project at Vedanta Lanjigarh, Odisha

across the industry. The business will focus on strategic planning and improved risk management practices to counter these challenges.

Minerals and Metals

Overview

L&T's Minerals & Metals (M&M) business offers complete EPC solutions for the Minerals & Metals sector across targeted geographies. The business undertakes end-to-end engineering, procurement, manufacturing, supply, construction, erection, and commissioning of projects, covering the complete spectrum from mineral processing to finished metals.

The business also offers comprehensive product solutions with an array of customised Mineral Crushing Equipment and Plants for varied applications, surface miners, material handling, high-speed railway construction equipment, steel plant machinery, and other custom-made critical equipment & complex assemblies catering to core industrial sectors including mining, steel, ports, fertilisers, cement, chemical plants, etc.

The complete range of product solutions is backed by five decades of knowledge & experience, in-house design capabilities, and state-of-the-art manufacturing facilities, providing after-sales product support and value-added & cost-effective services to ensure higher uptime. The manufacturing centres are in Kansbahal, Odisha and Kancheepuram, Tamil Nadu.

Business Environment

Domestic Business

Currently, India is the second-largest crude steel producer in the world. Domestic steel consumption has witnessed consistent robust growth, driven by sectors like infrastructure, automotive, construction, and consumer goods. In FY 2023-24, the cumulative production of crude steel was above 140 MT, registering a growth of 11% on y-o-y basis.

Similarly, India's annual steel consumption was ~130 MT for FY 2023-24, recording a growth of 8% over the previous year. The Government's impetus on infrastructure development and the 'Make in India' initiative have played a significant role in boosting metal consumption. Improved volumes coupled with better realisations have helped the metal industry to substantially de-leverage its balance sheets and have paved the way for a fresh CapEx investment cycle.

The discovery of lithium deposits for the first time in the country is likely to fuel industry growth. Further, with the Central Government approving the lithium mining auction proposal, private companies will be able to participate in such tenders. The same is expected to enhance business prospects in the non-ferrous segment as well.

With all these positives, major metal manufacturers are in the process of CapEx expansion, which should augur well for the business.



Bucket Wheel Stacker reclaimer for JSW Dolvi, Maharashtra

International Business

Minerals & Metals has found renewed focus in the Middle East as countries keep funneling investments to new mineral exploration & conversion to metal as part of their long-term strategy. Driven by the need to diversify beyond oil, investments in mega-to-giga infrastructure projects/factories are on the anvil as the GCC region is embarking on an actionable road map to exploit its other mineral resources, led by the Kingdom of Saudi Arabia.

The Middle East is emerging as a major transit centre for setting up low-carbon emission Iron & Steel hubs and is attracting investments by offering low gas prices, lower power tariffs, and flexible policies.

New opportunities are expected in aluminium, gold, phosphate, copper, and new-age minerals as sponsors evaluate the likely approach to embark on setting up new plants, as well as expanding existing facilities to cater to increasing demand.

In Africa, investments in Minerals & Metals continue to be a mainstay, since many of the countries are rich in a wide variety of valuable minerals/resources. However, challenges around the speed and scale of implementation limit the entry of the business to offer complete services.

Product Business

The outlook for the Product business is positive, with the user industry poised for growth, driven by the Government's focus on the development of infrastructure and housing construction activities. The business has been actively pursuing prospects in select international markets

and has successfully secured repeat orders for Surface Miners from African markets, and expects the momentum to continue in the medium-term.

The business has some unique solutions in mining and stockyard equipment, which will be pursued across the African continent and other international markets as well.

The demand for core products (like Crushing Systems, Surface Miners, Material Handling Equipment, High-Speed Rail Equipment, and Port Cranes) is primarily driven by movement in the following industrial sectors:

Cement Sector: The cement segment in India is expected to grow at a CAGR of 5%-6% over the medium-term, with large investments in greenfield and brownfield projects. Major cement players in the country are undertaking ambitious expansion plans to capitalise on this growth potential.

It is estimated that the Indian cement industry is likely to add ~30 MT capacity in FY 2024-25, majorly due to the growth in housing, industrial, commercial and infrastructure projects.

Mining & Steel Sector: The spurt in capacity augmentation of steel plants and continued augmentation of capacities in coal and iron ore to cater to the growing steel and power demand have increased the business potential for Surface Miners and Skid Mounted Coal Crushers. New investments in coal-based thermal power plants have also led to an increase in the business potential for equipment ranges covering crushers, stacker reclaimers, plough feeders, etc.



Freight Handling Facilities for Etihad Rail, UAE

The current year also witnessed increased order inflow for Surface Miners, Apron Feeders, Stacker Reclaimers, Wagon Tippers, Paddle Feeders, and Coal-Crushing Equipment from the above sectors. The momentum is expected to continue in the coming years, with promising growth plans for the mining and steel players.

Construction Sector: Growth in infrastructure projects drives growth in Aggregate Crushing solutions. Enhanced budget allocation for roads and highway projects in FY 2024-25 will further ensure tremendous growth opportunities for Aggregate Crushing solutions.

Port Sector: The port segment in India is expected to experience significant growth due to various Government initiatives aimed at promoting port-led development, like the SagarMala initiative and Maritime India Vision 2030. Steady growth of 7% y-o-y basis is evaluated in container traffic expected till 2030, with Government and private players investing in the expansion of container terminals.

The business has signed a license agreement with Konecranes, Finland, to manufacture and supply technologically advanced cranes for Indian ports and shipyards. The business has started the supplies of the first order of ELLs (Electric Level Luffing Cranes) for Cochin Shipyard Limited in the current year. With good prospects in the pipeline from all major players in Ports and Shipyards, FY 2024-25 holds good potential for locally manufactured equipment.

Major Achievements

Major Orders Won:

With increased demand and growth in industrial sectors domestically, the following are a few highlights & prestigious orders received:

- ▣ New 5 MTPA Blast Furnace at Dolvi, Maharashtra, for JSW Steel
- ▣ 5 MTPA Steel Melt Shop augmentation at Dolvi, Maharashtra, for JSW Steel
- ▣ Upgradation of Blast Furnace 'G' at Tata Steel, Jamshedpur
- ▣ 160 KTPA Zinc Roaster 6 Package at HZL Debari, Rajasthan
- ▣ A large order from ArcelorMittal Nippon Steel India (AM/NS) for ten Stacker cum Reclaimers
- ▣ Order from Mahanadi Coalfields Limited (MCL) for six Surface Miners
- ▣ Highest-ever orders for twenty Stacker Reclaimers in a year
- ▣ Limestone crushing plant orders from Adani Cement
- ▣ An order for a Crushing Plant from Dalmia Cement
- ▣ First 300T Goliath Gantry Crane from Hindustan Shipyard Limited

Key Projects Commissioned:

- ▣ Inaugurated CHP Dudhichua Phase-III in Madhya Pradesh, 10 MTPA CHP for Bhubaneswari Coal Mining Limited in Odisha, 7.5 MTPA CHP for North Urimari Birsa Coal Mine in Jharkhand, and 15 MTPA Lajkura Projects in Odisha
- ▣ Alumina Refinery Expansion Project at Lanjigarh, Odisha, has been commissioned
- ▣ 1st Slab Caster for Tata Steel at Kalinganagar, Odisha



General Cargo Berth II for Kamarajar Port, Chennai, Tamil Nadu

- ▣ Aluminium refinery expansion for Hindalco at Tikri, Odisha
- ▣ Achieved a historic milestone of the 1000th Apron Feeder supplied to Shree Cement
- ▣ Largest capacity 1100TPH Aggregate Crushing export order supplied to JSW-Fujairah in UAE
- ▣ Three Sets of High-Speed Rail equipment supplied in a record time of 9 months
- ▣ Three Drum Coolers supplied to Hindustan Zinc Limited as a successful import substitute on a repeat basis
- ▣ Mansourah-Massarrah Gold Project in the Kingdom of Saudi Arabia
- ▣ Freight Handling Package for Etihad Rail in UAE

Significant Initiatives:

- ▣ Implemented Wrench Software, a central system which enables live project management
- ▣ Developed in-house Steel Structural Software System for managing 2 lakh metric tonnes of Structural Fabrication & Erection per annum
- ▣ Smart Health Station [An IOMT (Internet of Medical Things)-based Health Station] to enhance health monitoring of employees, including workmen
- ▣ Steel frame Plastic Shutter panels to replace plywood & hardwood to improve productivity and quality besides being environmentally friendly

Outlook

The developed countries in Europe, the USA, and Japan are relocating their steel production capacity to Asian countries due to economic and environmental concerns. India, with huge iron ore reserves, will be the major beneficiary of this diversification strategy, coupled with increased domestic production and consumption needs due to its rapid economic expansion.

Auctioning and privatisation of mines drive more investments in mineral beneficiation & pelletisation of iron ore, which provides value-added and environment-friendly products to Iron & Steel plants both in India and facilitates exports. Iron & Steel capacity expansions by all major Indian companies are on track, buoyed by domestic consumption demand and elevated margins.

Aluminium and Zinc in the non-ferrous sector are witnessing capacity expansions in all the existing plans by the major players like Hindalco, Vedanta, and HZL.

The Minerals and Metals sector in the Middle East is emerging as a major investment destination due to low energy costs and investment-friendly policies and financing options, which coincides with their vision of expansion to non-oil areas. Expansion in freight handling and related infrastructure across the countries in the Middle East is also witnessing increased investments, mainly in the UAE and Oman.