



Led by Technology Equipped for Growth



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Technology, by any measure, is a pivotal enabler and a major disruptor in the world in which we live.

It energises processes and systems, enhances day-to-day efficiency, reduces risks and creates value that acts as a force multiplier for economies and businesses.

Breaking up today's jigsaw, it re-configures the parts to form a new reality for the future.

At Larsen & Toubro Limited (L&T), we embrace technology at every step to engineer excellence that endures and empowers people.

We also continue to be at the vanguard of providing our stakeholders a transparent, true-to-life picture of our Company's performance across key business parameters.

A decade ago, we were the first company in the Engineering & Construction space in India to report on our sustainability performance. Now, as one of the early adopters of Integrated Reporting <IR>, we are happy to present a comprehensive picture of our ability to create and augment value in the short, medium and long term.

This Report highlights L&T's objectives and achievements across all capitals.

It demonstrates how, led by technology, we are equipped for sustainable growth.

Group highlights of FY19

₹ 1,768.34 Billion

Order inflow

▲ 15.6%*

₹ 2,934.27 Billion

Order book

▲ 11.5%**

₹ 1,410.07 Billion

Revenue

▲ 17.6%*

₹ 163.25 Billion

EBITDA

▲ 19.7%*

₹ 89.05 Billion

Profit After Taxes (PAT)

▲ 20.8%*

15.35%

Return on equity

▲ 120 basis points*

₹ 317.65 Billion

Green product portfolio

▲ 22%**

2.3 Million

CSR beneficiaries

▲ 7%*

** As on March 31, 2019
* Over FY18

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Message from the Group Chairman

Creating enduring value in an interdependent world



Dear Stakeholders,

India recently concluded the world's largest democratic exercise of its kind, and placed its faith once again in the political dispensation which has prevailed since 2014. We at L&T look forward to a re-empowered government which can ensure stability, drive growth-oriented policies, and build the ecosystem which spurs and sustains development.

Integrated Reporting for an interdependent world

In an interconnected world where business, social, political, governance and environmental factors feed into each other, there is clearly a need for the integration of information about an organisation's performance, its value creation models and prospects. In addition to disclosing data about our Sustainability Performance therefore, we offer a wider, 360 degree perspective which we believe enhances transparency, improves accountability and adds greater value to our stakeholders. This report serves as our annual Communication on Progress (COP) in line with the United Nations Global Compact (UNGC) and Sustainable Development Goals (SDGs). The report also adheres to Global Reporting Initiative (GRI) Standards and is independently verified by a third-party assurance agency.

Excellent financial performance

In the year under review, L&T turned in an excellent performance on all parameters. Order inflows at ₹ 1,768.34 Billion in FY19 registered a strong growth of 16% over FY18. The unexecuted Order Book as on 31st March, 2019 stood at ₹ 2,934.27 Billion which provides strong revenue and growth visibility for the next few years. Revenues in FY19 have clocked in at ₹ 1,410.07 Billion registering a resurgent growth of 18% over FY18. Our PAT touched ₹ 89.05 Billion in FY19 representing a substantial growth of 21% over FY18.

Environmental protection

Our continuing efforts to reduce carbon emission intensity at campuses and project sites are yielding positive results. While these scores rank among the best

in the industry, our commitment to the environment goes further ahead, and we are working continuously to enhance the outcomes we obtain. We are carbon neutral at two of our major campuses – Powai (Mumbai) and Chennai. We continue to be water positive at all our 24 campuses. Since construction and manufacturing necessitates the use of a great deal of natural material, we are continuing our drive to identify, source, test, and procure alternate and recycled substitutes.

Institutionalising safety precepts & practices

Safety has been institutionalised into our way of working at projects, plants and offices. Our 'Zero Harm' culture is gaining ground rapidly, influencing minds, and impacting actions. This has led to continual improvement in the safety performance at our workplaces.

Safety precepts are never static. In a changing work environment, safety rules need to evolve in step with new developments, functions, products and processes. We continue to work in six thrust areas identified as a part of our 'Zero Accident Vision 2021'.

Mitigating risk through sound management

Structured risk management encompassing the entire cycle from identification of risk to review of controls is a vital component of sustainability. In a large, multi-function company like ours, risks are of many kinds. While covering the broad parameters such as financial, legal and accident risk, our approach also includes climate-related risk. Our specialist risk managers are trained and equipped to study likely eventualities and ensure that the steps to mitigate negative outcomes are implemented.

During the year, we were awarded with 'Best Risk Management Framework & Systems' Award from CNBC TV18.

Mapping needs, meeting expectations

Our Community Social Initiatives spring from close and continuous interaction with communities. Several ideas and initiatives therefore have emanated from the community elders themselves and inevitably, after an initial period of hand holding, it is the community itself which takes the lead in pushing the movement forward. We believe this is the most effective way to instill 'ownership' and ensure sustainability of our initiatives. Our thrust is on providing access to drinking water and

sanitation, education, health and skill-building. Close to 2.3 million people across the country have benefitted from L&T's community development efforts. L&T and its 5000-strong team of young employee volunteers or 'L&Teers' will intensify their efforts to scale up and enable communities to find solutions.

Integrated Reports and Sustainability Reports are both progress reports on a collaborative endeavour towards shared goals. I look forward to constructive feedback from you on the journey ahead.

A.M. Naik
Group Chairman

“ In an interconnected world where business, social, political, governance and environmental factors feed into each other, there is clearly a need for the integration of information about an organisation's performance, its value creation model and prospects.

About the Report

Report scope

Now, more than ever, investors and shareholders measure an organisation's performance on factors beyond financials. They analyse an organisation's conversion efficiency across myriad capitals such as financial, manufactured, intellectual, human, natural and social & relationship. This shift in the perspective of the stakeholders led to the publishing of this Integrated Report. It will provide our stakeholders a more cohesive, efficient, relevant and decision-enabling communication, focusing on value creation over the short, medium and long term. As a seasoned sustainability reporter, we have retained all relevant disclosures of a Sustainability Report and added on those prescribed in the International Integrated Reporting <IR> Framework, including a detailed business model, six capitals, governance, risk management, outlook and strategy.

This Integrated Report of Larsen and Toubro Limited (L&T, 'The Company') is published according to the <IR> Framework prescribed by the International Integrated Reporting Council (IIRC). This Report has been prepared in accordance with the GRI Standards: Comprehensive option. It encompasses L&T's environment, economic and social performance between April 1, 2018 and March 31, 2019.

An annual reporting cycle has been maintained for our Sustainability Reports since 2008, which are available on our website at www.Lntsustainability.com. Our first Integrated Report 'Networked for Higher Return on Capitals' was released in 2018. This is our second Integrated Report and the 12th consecutive year of sustainability disclosures. The Company has a mature system for compiling and reporting its sustainability performance. A data-management software certified by GRI is used, along with techniques comprising actual measurement, computation and estimation (specified).

The data, presented in this Report, is verified through systematic internal and external assurances. The data for economic performance has been extracted from L&T's Annual Report 2018-19.

Reporting boundary

This Report is for the Larsen and Toubro standalone and key subsidiary companies. The reporting scope encompasses our manufacturing locations, project sites, offices across India and overseas projects managed from India.

Listed subsidiaries and concession business of Nabha Power Limited, Power Development Limited, TAMCO Malaysia, L&T Infrastructure Development Projects Limited, L&T Special Steel and Heavy Forgings Private Limited (LTSSHF), other non-material subsidiaries and those Subsidiary and Associate (S&A) and Joint Venture (JV) companies whose performance is consolidated at Profit After Taxes (PAT) level, have been excluded from this Report.

Restatement

The changes, if at all, are mentioned on the respective pages as notes.

Queries may be directed to

Dr. K.J. Kamat

Executive Vice President, CSR, Medical Health & Welfare Services

Larsen & Toubro Limited
Saki Vihar Road, Powai Campus, Mumbai 400072, India
sustainability-ehs@larsentoubro.com

Mr. Arnob Mondal

Vice President, Corporate Accounts & Investor Relations

Larsen & Toubro Limited
Saki Vihar Road, Powai Campus, Mumbai 400072, India
integrated.report@larsentoubro.com

Assurance

This Report is externally assured by Bureau Veritas, India. The limited assurance was conducted in accordance with International Standard on Assurance Engagements (ISAE) 3000 and Type 2 Moderate Level of the AA1000 Assurance Standard 2008, covering qualitative and quantitative information. The assurance statement is included in this Report.

[Read more on pg no. 128](#)

Locations reported

- **Corporate locations:** L&T House and Powai at Mumbai, Leadership Development Academy (LDA) – Lonavala, Chennai Head Quarters and Knowledge City, Vadodara
- **Infrastructure business:** Projects, campuses and India-based support processes under our infrastructure business include the businesses of Buildings & Factories, Heavy Civil Infrastructure, Transportation Infrastructure, Power Transmission & Distribution, Water & Effluent Treatment, Smart World & Communication, and Metallurgical & Material Handling
- **L&T Power:** Project sites at Malwa Phase-II and Khargone (Madhya Pradesh), Chhabra (Rajasthan), NPCIL RAPP 7 and 8 (Kota), Darlipali (Odisha), Danda (Uttar Pradesh) and two sites in Bangladesh
- **Heavy Engineering:** Powai, Ranoli and Hazira
- **Defence:** Talegaon, Coimbatore, Visakhapatnam, Bengaluru, Powai, Hazira, shipbuilding facility at Kattupalli near Chennai, Rabale and Vadodara
- **Electrical and Automation:** Powai, Mahape, Ahmednagar, Mysuru and Coimbatore
- **L&T Hydrocarbon Engineering:** Offshore and onshore projects worldwide; offices within India in Powai, Vadodara, Bengaluru and Chennai; and Modular Fabrication Facilities in Hazira, Kattupalli and Sohar (Oman)
- **L&T Valves:** Two manufacturing facilities at Kancheepuram and Coimbatore and one service centre at Jamnagar, Gujarat
- **L&T Realty:** Offices and project sites in India
- **Domestic Marketing Network (DMN):** 17 offices in India

Report icons



Financial capital



Manufactured capital



Intellectual capital



Human capital



Natural capital



Social & Relationship capital

Engineering for a smarter future

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The future is rarely an extrapolation of the times gone by. Tomorrow picks up strands from the past and present to weave a new fabric that can surprise those who did not or would not read the trends. Inspired by our heritage, we leverage our wealth of experience and expertise to stay alert to the transformational impact of time.

Our operations span 30 countries, and our consolidated revenues exceed USD 20 Billion. Creating long-term, sustainable value for all our stakeholders is a key priority for us.



About us

L&T overview

- ▶ Driven by technology and focused on sustainable, holistic growth, L&T has emerged as a USD 20 Billion conglomerate with presence in technology, engineering, procurement, construction, manufacturing and financial services with worldwide operations.

We are engaged in core, high-impact sectors of the economy, addressing critical requirements such as infrastructure, construction, defence, hydrocarbon engineering, heavy engineering, power, shipbuilding, aerospace, electricals & automation, and mining & metallurgy.

For over eight decades, we have progressively honed our integrated capabilities to provide 'design to

deliver' solutions to large customer cross-sections globally. We continue to deliver with a strong customer-focused and world-class quality approach to strengthen our leadership position in crucial intervention areas.

Our manufacturing facilities and offices are located in several countries, leveraging a global supply chain ecosystem. We deliver landmark projects and products, helping clients in 30+ countries, and facilitating long-term progress and economic growth. With a professional DNA, high standards of efficiency and corporate governance, we continue to evolve by seeking innovative ways of engineering to meet new challenges.

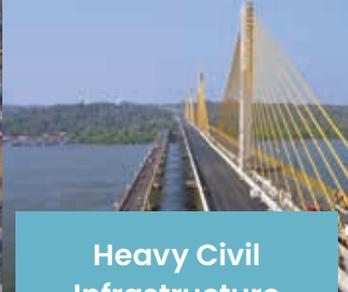
Our businesses

A closer look at our portfolio



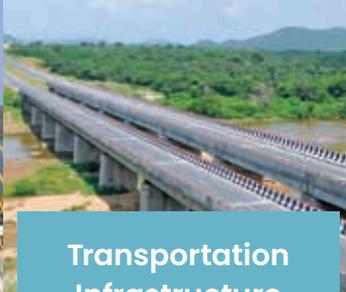
Buildings & Factories

Residential buildings, airports, IT parks, institutional spaces, hospitals, stadiums, hotels, affordable housing complexes, factory buildings



Heavy Civil Infrastructure

Metros, nuclear plants, hydel projects, ports, special bridges, tunnels, defence infrastructure



Transportation Infrastructure

Roads, elevated corridors, runways (airside infrastructure), railway construction, railway electrification & systems, light rail transport



Power Transmission & Distribution

Transmission lines, substations, Underground cable networks, Distribution networks, power quality improvement projects, solar Photovoltaic (PV) plants, battery energy storage systems, mini-/micro-grid projects



Water & Effluent Treatment

Urban and rural water supply, water treatment plants, wastewater treatment and collection network, industrial water and effluent treatment, lift irrigation projects, 'unaccounted for water' projects to monitor water loss



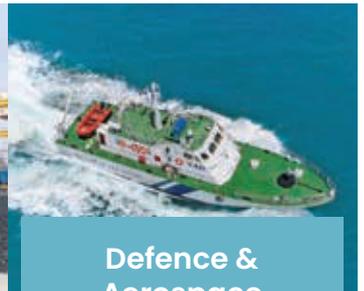
Smart World & Communication

Security solutions, telecommunication and networks, smart infrastructure



Metallurgical & Material Handling

Mineral beneficiation, iron & steel making, aluminium, zinc & copper refiners and smelters, specialty conveyors, stockyard equipment, crushing systems and equipment, surface miners and manufacturing plants



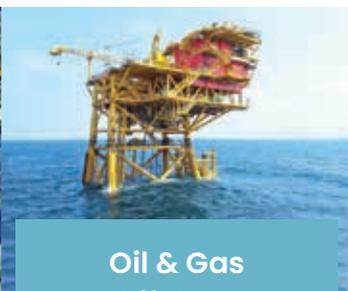
Defence & Aerospace

Guns and armoured systems, missiles and aerospace systems, military communication systems, submarines and underwater platforms, weapon and engineering systems and radar systems



Heavy Engineering

Hydrocracker, ethylene oxide and clean fuel reactors, FCC reactor and regenerator, ammonia and methanol converters, urea reactors, waste heat boiler package, HP heat exchanger, coke drums, nuclear equipment and critical piping



Oil & Gas Offshore

Process complex and wellhead platforms, gas compression modules, subsea pipelines and systems, brownfield projects, living quarters, FPSO modules and jack-up rigs



Oil & Gas Onshore

Upstream oil & gas processing and treatment facilities, petroleum refining projects, fertiliser projects, petrochemical projects, cross-country pipelines and terminals, cryogenic storage tanks and terminals

Vision

- ▶ L&T shall be a professionally-managed Indian multinational, committed to total customer satisfaction and enhancing shareholder value.
- ▶ L&T shall foster a culture of caring, trust and continuous learning while meeting expectations of employees, stakeholders and society.
- ▶ L&T-ites shall be an innovative, entrepreneurial and empowered team constantly creating value and attaining global benchmarks.



Introducing the capitals

Defining our capitals




Financial capital

We focus on efficient allocation of capital across all our businesses and maintaining an optimal mix of equity and debt-based funding. Our aim is to deploy our financial resources prudently and maximise value creation for our investors.

[Read more on pg no. 46](#)




Manufactured capital

We have built best-in-class manufacturing as well as digital capabilities to deliver high-impact projects and equipment spanning multiple sectors. We ensure high level of safety and efficiency across our operations.

[Read more on pg no. 56](#)




Intellectual capital

Innovation for us spans across the three domains of product, process as well as people. We are ceaselessly investing in innovation to remain ahead of the curve in a competitive market. We continue to leverage digitalisation to drive overall efficiency.

[Read more on pg no. 60](#)




Human capital

Our global teams hold the key to achieving high performance benchmarks and the solutions we deliver to stakeholders. The experience and expertise of our people drives L&T's growth and prospects. We recognise their significance, and motivate our go-getters with training and performance rewards, preparing them to be future leaders. A robust framework of people management, created as per the Company's Corporate Human Resource Policy, provides them with ample growth opportunities.

[Read more on pg no. 66](#)




Natural capital

At L&T, we constantly seek new ways to reduce our environmental footprint by following widely acceptable international norms. Our environment protection initiatives focus on reducing the use of natural resources, building efficient infrastructure, cutting emissions and, more importantly, bringing about a behavioural change in stakeholders, to sustain our efforts.

[Read more on pg no. 74](#)




Social & Relationship capital

We engage with all our stakeholders, namely customers, shareholders, investors, suppliers, contractors, employees, government bodies, media and the community in the vicinity of our operations in a transparent manner and have received tremendous trust and support from them.

We play a proactive role in empowering our communities by providing them access to clean water, hygienic surroundings, healthcare facilities, education and skill building, thereby transforming the quality of their lives.

[Read more on pg no. 88](#)

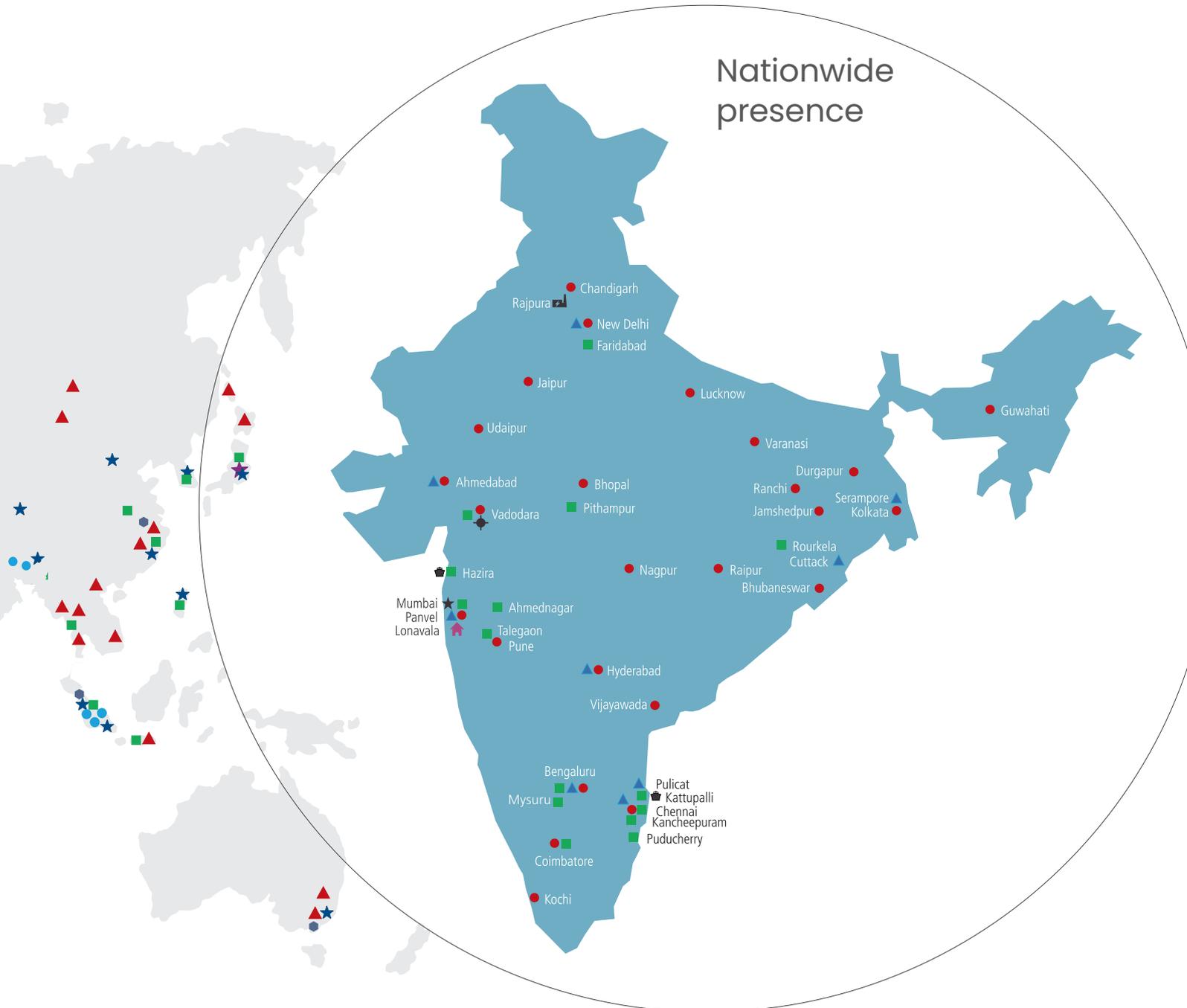
Our presence

Growing global footprint



- ★ OFFICES
- ENGINEERING & CONSTRUCTION PROJECTS
- ▲ PRODUCT & EQUIPMENT SUPPLY
- ◆ MANUFACTURING/FABRICATION FACILITIES
- AGENTS

Note: Map is broadly representative of L&T's presence in markets worldwide.



Nationwide presence

- ★ REGISTERED OFFICE
- CAMPUS+
- 🏭 POWER PLANT
- 🚢 SHIPYARDS
- OFFICES
- ◆ KNOWLEDGE CITY
- 🏠 LEADERSHIP DEVELOPMENT ACADEMY
- ▲ CONSTRUCTION SKILLS TRAINING INSTITUTES*

+ 'Campus' denotes facilities for design and manufacture
 * Part of L&T's Corporate Social Initiatives

This pictorial representation does not purport to be the political map of India.

Our external environment

Leveraging opportunities to fast-track growth

Macro trends and trajectories play a major role in influencing our strategies and perspectives, and we keep a close eye on the big picture to seek opportunities and mitigate challenges.

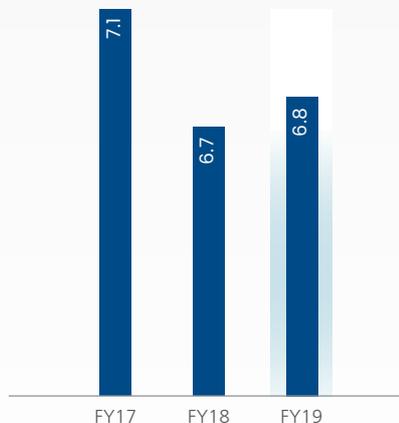


Continued momentum in Indian economy

India continues to be one of the world's most attractively growing economies, consistently maintaining a growth rate of over 6.5% in the preceding few years. The benefits of landmark reforms such as the Goods and Services Tax (GST), drive towards digitalisation and the Insolvency and Bankruptcy Code (IBC) have begun to formalise and strengthen the economy.

Amid expectations of a normal monsoon, low oil prices, continued momentum in private investment and easy flow of bank credit, the economy is likely to grow by 6.9% in FY20 (Source: RBI). This scenario augurs well for infrastructure players, especially conglomerates with a footprint across multiple sectors.

India's GDP growth (%)



Source: CSO, RBI



Recovery in industrial capex

A key highlight of FY19 was the emergence of early signs of a much-awaited revival in private sector capex. This translated into an encouraging pace of new project awards. Concurrently, following the government's thrust on enhancing the ease of doing business in India, project clearances and fund allocations were expedited. Owing to this reality, the execution of existing projects too gathered steam.

Public sector investments driving new orders in

- Rural and urban water supply
- Underground metro systems
- Integrated infrastructure projects
- Sewerage networks and treatment plants
- Infrastructure for crude exploration and refining
- Roads and railway infrastructure
- Rural electrification
- Airports
- Hospitals
- Capacity expansions



Government impetus to the infrastructure sector

Over the preceding five years, the Government of India has stepped up focus on growing the infrastructure sector in the country. A host of initiatives have been implemented across subsectors.

The prominent ones include granting of infrastructure status to affordable housing and healthcare sectors, the development of new and revamp of existing transportation infrastructure (roads, railways, airports and ports), increase in FDI limits in mining, development of smart cities and focus on nuclear energy. Such measures will benefit large infrastructure companies having significant presence in most of these sectors.



Focus on driving digitalisation

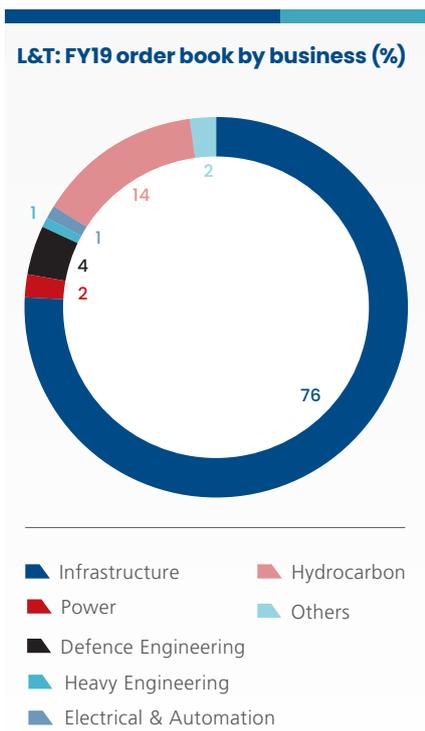
Growing internet penetration, along with government impetus to the cashless economy, are facilitating the drive for Digital India. The launch of the Unified Payments Interface (UPI), Jan Aadhaar, mobile linking of Aadhaar number with Permanent Account Number (PAN) and the availability of free Wi-Fi at public places are some of the initiatives boosting the country's digital economy. The pervasive use of digital technologies and rapid adoption of industry 4.0 systems and processes are likely to be the game changers in all sectors, including infrastructure.

As industries embrace digitalisation and align their business models accordingly, infrastructure companies that have been early adopters of well-networked and smart technologies across their business segments are likely to stay ahead of the curve.

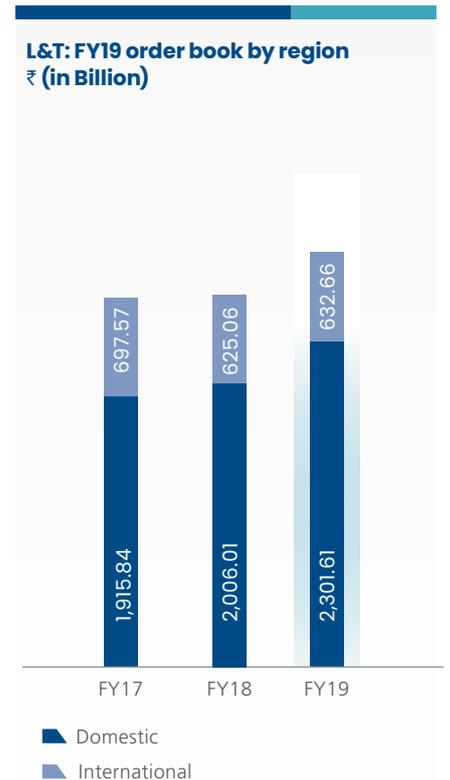


Continued order inflows in most international markets

We are witnessing encouraging signs of capex revival across the Middle East and other economies. Robust investments in infrastructure in regions such as Sri Lanka, Bangladesh, the Middle East and Africa will drive order inflows in the medium term. Demand for power generation, transmission as well as distribution is likely to remain strong in the Middle East, ASEAN countries as well as select geographies like Bangladesh, Sri Lanka, Myanmar, Algeria, Morocco and Egypt. Demand for metals and mining is expected to be driven by the African countries of Zambia and South Africa. The Middle East and Algeria have earmarked significant investments in the oil & gas sector.



- L&T: Digital initiatives**
- Implementing material tracking solution by use of Global Positioning System (GPS), Radio Frequency Identification Device (RFID), barcode and QR codes, combined with mobility solutions and web portals
 - Using data acquisition technologies ranging from Global Navigational Satellite Systems (GNSS) to aerial vehicles (piloted and unmanned), drones, mobile vehicles on land and terrestrial total stations
 - Deploying Internet of Things (IoT), digitalisation and analytics, Artificial Intelligence (AI), Augmented Reality (AR) / Virtual Reality (VR) and geospatial applications



Our marquee projects

Globally acclaimed projects

We continued to deploy best-in-class technology to complete distinct projects around the world.

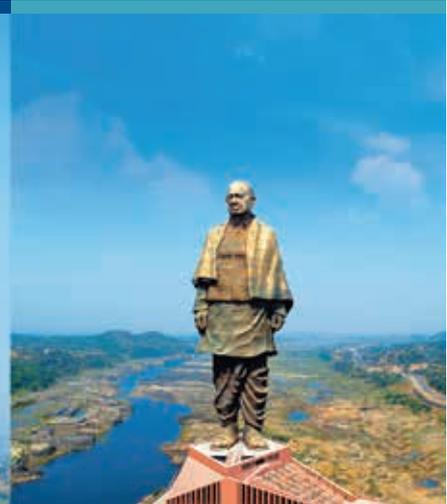
Statue of Unity: The world's tallest statue

The Statue of Unity is constructed in honour of Sardar Vallabhbhai Patel, the Iron Man of India. It is a colossus in every respect. Built in a mere 33 months, it towers 182 m above the shimmering waters of the Narmada river.

182 m 33 months

Height

Construction time



The world's largest high-vacuum pressure chamber

L&T is engaged in the first-ever global experiment in fusion energy – the International Thermonuclear Experimental Reactor (ITER) project. The Company is building the ITER Cryostat – a 30m x 30m high-vacuum pressure chamber – the largest of its kind in the world.



Chandrayaan II: Making history in lunar exploration

Building on over four decades of association with India's space projects, including the first Moon and Mars missions, L&T has provided critical hardware and tracking systems for the ambitious Chandrayaan II project – the first space mission to land a probe on the south polar region of the moon.





The world's largest ethylene oxide reactor

Weighing a whopping 1,500 tonnes, this 10 m diameter tubular reactor represents L&T's ability to set global benchmarks in manufacturing, well before 'Make in India' became a catchphrase. 37 of these giants were manufactured for a petrochemical major in the Middle East.



Hasbah project: Installing a giant on the high seas

L&T has been involved in executing one of Saudi Aramco's most ambitious offshore projects at the Hasbah Field, off the coast of Saudi Arabia. The Company has built and installed Saudi Arabia's heaviest ever integrated gas platform, weighing 7,400 tonnes.



Medigadda Barrage: A record in construction

Stretching 1.6 km across the Godavari river, the Medigadda Barrage was built in a record 24 months, using enough concrete to build 7.4 Burj Khalifa towers and steel equivalent to 20 Eiffel Towers. It also holds the record for the world's largest concrete pour in 72 hours.

1.6 km **33 months**

Length

Construction time

Message from the MD and CEO

Advancing confidently in our sustainability journey



Dear Stakeholders,

This Integrated Report is our second annual issue and provides a holistic, 'big picture' perspective on L&T's performance and prospects, along with a wealth of detail about various elements which constitute the organisation. I believe the more we tell, the more value we add and the easier it is for you to appraise our company's operations and inner dynamics.

Last year, the Company turned in an excellent performance with consolidated turnover crossing ₹ 1,410.07 Billion, an increase of 18% year-on-year. Profit after Tax recorded an unprecedented increase of 21%, and touched ₹ 89.05 Billion. Order inflows at ₹ 1,768.34 Billion in FY19 registered a strong growth of 16% over FY18.

The greener revolution

Five decades ago, with the infusion of technology into agriculture, India reaped the benefits of the celebrated 'Green Revolution'. It is time now for a 'Greener' revolution powered by digital technology. If digital has a hue, it's sure to be green for it ticks all the boxes, viz., reduces waste, enhances safety, accelerates pace and improves accuracy. It is the ultimate green enabler, and L&T is at the forefront of the digital revolution in India. The extensive digital initiatives implemented within L&T are making us a leaner, more efficient and a greener organisation.

On track to sustainability targets

Energy conservation and conservation of any natural resource goes well beyond a cost-saving measure. It's our way of ensuring that the Earth's resources extend to future generations. We continue to adhere to the Sustainability Roadmap that we drew up for ourselves and most of the targets will be achieved ahead of schedule.

Our total indirect energy intensity consumption measured per ₹ Billion over the past three years has reduced by a substantial 20%, primarily because of enhanced energy conservation efforts in our campuses and job shops. Our energy conservation efforts have resulted in cumulative savings of 3,98,666 GJ energy.

Given the nature of our business, the usage of material has a major impact. We have, therefore, taken efforts to source and procure alternate materials, to those typically used in construction. Our cumulative consumption of crushed sand increased by 27% and fly ash increased by 23%.

Green is the way to go

As the experts tell us, no product or project is ever going to be 100% eco-friendly, because all product development will have some impact on the surrounding environment. Given these constraints and challenges therefore, we do our best to reduce and restrict the adverse consequences. We substituted current goods and services with lower emission products and services, essentially as a risk mitigation strategy. Our Green Portfolio constitute products and projects that are energy and water-efficient, low on CO₂ emission, easy to maintain and durable. Across the last three years, green products contributed more than 22% of L&T's consolidated revenue.

We are continuously working to increase the share of 'Green' products & services on our portfolio. The revenues from the Green Product Portfolio is ₹ 317.65 Billion while the order book stands at ₹ 437.63 Billion.

Safety – success is in the details

Safety performance depends on how well we transit from precept to practice, from handbook to habit. SOPs which minimise the margin of human error and minimise risk have been developed for most of our activities. Digitalisation in EHS data management and reporting is improving the safety management across our projects. Virtual Reality (VR) is extensively used for the training workmen, working at heights, on transmission lines, in confined spaces and high-risk areas.

There is an incremental improvement in the safety performance (reduction in fatalities and reportable accidents) with respect to previous year. This year we won the ICC sustainability performance award and CNBC Risk Management Award.

However, the high turnover of migrant labour at project sites and the imperative of inculcating a safety culture among them continues to be a challenge.

Inclusive growth

It is Larsen & Toubro's belief that by weaving commercial interests with developmental goals, we can do a much better job of providing equal growth opportunities to the marginalised, alleviating poverty, strengthening the larger social fabric and caring for the environment. Our approach has always been inclusive, and our people identify themselves with the communities in which we operate.

Our thrust areas for CSR include health, education, skill development and water & sanitation. Our CSR spend last year was more than 2% of average net profit of the previous three years.

While our sustainability scorecard is impressive, we are aiming to do a lot more, a lot faster. I am counting on the support and guidance of all our stakeholders as we stride ahead towards a cleaner, greener and smarter future.

S.N. Subrahmanyam

CEO & Managing Director

■ ■ **Last year, the company turned in an excellent performance with consolidated turnover crossing ₹ 1,410.07 Billion, an increase of 18% year-on-year. Profit after Tax recorded an unprecedented increase of 21%, and touched ₹ 89.05 Billion.**

Integrate to elevate

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Yes, size matters. So does speed, power and quality. But in the end, what matters most is how the various parts mesh – how you put it all together.

At L&T, we ensure that our capabilities across the entire spectrum of 'design to deliver' offer leading-edge value. Our traditional areas of expertise lie in engineering, construction and manufacturing. Now, connecting them all are new-age technologies.



Strategic framework

Blueprint for progress

At L&T, we have a five-year strategic plan, LAKSHYA 2021, which serves as our roadmap for growth and value addition. LAKSHYA 2021 is operational between FY16 and FY21, involving crucial performance parameters to accomplish the greater goal of driving RoE. We have taken progressive strides towards realising our purpose through advancements across all fronts of the LAKSHYA 2021 plan over the last three years (FY17 to FY19).

Strategy formulation

The Company has embedded business strategy formulation in its long-term sustainability plans. Business strategy is evolved every five years through a collaborative and consultative process that also meshes financial parameters as guideposts for different elements of strategic plans.

While five-year business plans and financial targets are embedded as an overarching goal, shorter-term annual goals are framed before the commencement of every financial year which, in turn, get folded into a rolling medium-term plan.

Business portfolio strategy

- The Company focuses on its proven and core competencies of conceptualising, designing, executing and commissioning large, complex infrastructure projects in the areas of Roads & Bridges, Power Transmission & Distribution, Thermal / Hydel / Solar / Nuclear Power Plants, Water & Irrigation Infrastructure, Residential / Commercial / Institutional / Factory Buildings, Real Estate Development, Airports, Metro Rail & Conventional Railways, Offshore & Onshore Hydrocarbon facilities and Metallurgical installations. An integrated Engineering, Procurement & Construction (EPC) business strategy forms the core backbone of the Company's business portfolio.
- The diversified but cyclical nature of the EPC business is counterbalanced through a portfolio of manufacturing and services business. Manufacturing is mainly concentrated around electrical products and systems (made-to-stock and made-to-order), heavy custom-built equipment catering to process industries and nuclear



Schematics of business portfolio strategy

power, Defence & Aerospace equipment manufacturing (including fabrication and systems integration), material handling equipment and industrial products & machinery. Services business caters to sectors of Information Technology, Engineering R&D and Financial Services.

- As part of its strategy to sustain and grow in a dynamic and changing environment, the Company also incubates new-age businesses such as design and implementation of the Smart City infrastructure (including city surveillance, intelligent traffic management systems, smart electric metering, transport and logistics management, and communication networks) and has recently formed a new (emerging) business vertical named L&T-Nxt, which is focusing on technologies such as AI (Artificial Intelligence), Analytics, IoT, Cyber Security, Geospatial and Augmented Reality/Virtual Reality (AR/VR).
- The business portfolio spans domestic and international markets in line with the strategy of having a well-balanced geographically diversified business.



Strategic thrust and direction

At the core of the Company's strategy is the overarching aim to maintain and enhance the RoE. The RoE improvement strategy encompasses strategic, tactical and operational elements such as:

- Focusing on timely and cost-effective execution of the Company's unexecuted order book while ensuring adequate backfill through order acquisitions **(S1)**
- Ensuring translation of healthy margin profile in the order book into financial statements through execution, operational excellence initiatives and digitalisation initiatives **(S2)**
- Incubating new businesses to tap future growth opportunities **(S3)**
- Maintaining an optimal mix between domestic and international business **(S4)**
- Ensuring efficient and optimal utilisation of assets and facilities **(S5)**
- Minimising capex and working capital levels **(S6)**
- Value monetisation in an appropriate manner **(S7)**
- Maintaining and enhancing shareholder payouts **(S8)**
- Optimising financial leverage **(S9)**

Resource allocation

The Company has a well laid-out plan of resource allocation to meet its strategic goals. These include:

- Maintaining adequate liquidity on the balance sheet to exploit growth opportunities and fund emerging businesses such as Smart City Infrastructure, Nuclear Power and Defence Equipment Manufacturing
- Prudent allocation of resources (capex and working capital) to fund growth in businesses
- Attracting and retaining a robust and thriving talent pool through employee engagement programmes, monetary and non-monetary incentives, and leadership development initiatives; offering professional development opportunities and fostering a conducive organisation environment. The Company has evolved a series of structured HR policies to enable this resource allocation.
- Long-term lasting engagements with labour sub-contractors to ensure a steady augmentation of resources at project sites
- Maintaining strong financial health to facilitate raising of resources from capital markets as and when required
- Ensuring judicious allocation of manpower and monetary resources to company-wide sustainability and growth initiatives such as CSR, digitalisation and operational excellence programmes

Strategic framework (contd.)

Progressing along the Sustainability Roadmap (2016–2021)

L&T's Sustainability Roadmap 2021 converges with its business plan, LAKSHYA 2021, generating constructive outcomes through various digitalisation initiatives.

At L&T, we are among the early movers to have set sustainability performance targets, exceeding regulatory compliance. We are still in the process of accomplishing these targets, which commenced in 2016 and were titled 'Sustainability Roadmap 2021'. This is the third sustainability plan that we have drawn up, following the successful completion of preceding sustainability target plans. Our aim is to progressively evolve a structured plan, while setting measurable targets following in-depth consultation with our stakeholder fraternity.



Carbon emission

Target

Reduce direct Greenhouse Gas (GHG) emission intensity by 5% (tCO₂/₹ Billion)

Status

Our direct GHG emission intensity increased by 13% with respect to FY16. This is because of increase in the coverage of project sites.

Our total GHG emissions decreased by 7.1% with respect to FY16. This is because we adopted renewable energy sources and efficiency enhancement measures at our manufacturing locations, campuses and offices.



Energy consumption

Target

Reduce total energy consumption intensity by 5% (GJ/₹ Billion)

Status

Decreased by 3.3% with respect to FY17.



Safety

Target

Work towards the goal of achieving zero accidents

Status

With digital initiatives in place and active involvement of the workforce, our safety performance has improved across our businesses. Our frequency rate of accidents has reduced by 44% with respect to FY16.



Material management

Target

Increase recycling and use of recycled material by 5%

Status

In FY19, we utilised 6,747 tonnes of recycled steel and 289 tonnes of recycled zinc in our operations.



Energy conservation

Target

Increase energy conservation by 10% annually

Status

Our energy conservation increased by 18% y-o-y.



Water conservation

Target

Reduce water consumption intensity by 10%

Status

12.45% reduction in domestic specific water consumption (m³/workforce) was achieved, as compared to FY16.

Target

Increase water conservation and recycling by 5%

Status

In FY19, 75% of total waste water generated was recycled and reused, which is less than last year's recycle and reuse percentage.



Green portfolio

Target

Maintain green products and services portfolio at 25% of consolidated revenues

Status

Green portfolio contributed 22% to our consolidated revenues in FY19.



Corporate Social Responsibility

Target

Reach 3 Million CSR beneficiaries

Status

Reached out to 2.3 Million beneficiaries in FY19 with an increase of 10% with respect to FY18.

Target

Increase employee volunteering base to 5,000

Status

Employee volunteering base comprised 5,032 employees in FY19 versus 4,612 employees in FY18.

OUR VALUE CREATION MODEL

INPUTS

Financial capital

Order book	₹ 2,934.27 Bn**
Net current assets	₹ 323.95 Bn**
Net fixed assets	₹ 351.13 Bn**
Gross debt-equity ratio	1.81**

➔ Read more on pg no. 46

Manufactured capital

Project sites	950*
No. of offices/ manufacturing locations	59**
Safe man-hours	1,352 Mn*
Materials consumed	₹ 509,208 Mn*

➔ Read more on pg no. 56

Intellectual capital

R&D spend	₹ 2,243 Mn*▲
Patents filed	986*
R&D engineers	3,060**
Active consortiums	19**

➔ Read more on pg no. 60

Human capital

Permanent employees	50,958**
Engineers	30,761**
Contract labourers	332,366**
Total staff cost	₹ 181 Bn*

➔ Read more on pg no. 66

Social & Relationship capital

CSR spend	₹ 1,667 Mn*
CSR partners	100+**▲
New suppliers and contractors	5,206*
MSME suppliers	3,951**

➔ Read more on pg no. 88

Natural capital

Specific water consumption	28 m ³ / workforce*
Specific energy consumption intensity per ₹ Billion revenue	6,646 GJ*
Spend on environment	₹ 147.6 Mn*
Green portfolio	₹ 317.65 Bn **▲

➔ Read more on pg no. 74

Business horizontalts



Business portfolio

Infrastructure

- Buildings & Factories
- Heavy Civil Infrastructure
- Transportation Infrastructure
- Power Transmission & Distribution
- Water & Effluent Treatment
- Smart World & Communication
- Metallurgical & Material Handling

Power

- Manufacture of energy-efficient supercritical boilers and turbines (in collaboration with Mitsubishi Hitachi Power Systems)
- EPC projects for supercritical coal-fired power plants
- EPC projects for gas-fired power plants
- Emission control equipment (electrostatic precipitators, flue gas desulphurisers and selective catalytic reduction systems)

Hydrocarbon

- Offshore platforms for shallow water and deep sea oil and gas extraction, production and processing; subsea pipeline laying
- EPC projects for refineries and petrochemical complexes
- EPC projects for fertiliser plants
- Pipeline projects

Others

- Switchgear components
- Custom built LV/MV switchboards
- Control & automation products
- Construction & mining equipments
- Industrial valves
- Realty
- Shipbuilding (Indian navy and coast guard) and equipment for army (defence electronics)

➔ Read more on pg nos. 100-115



Vision

➔ Read more on pg no. 10



Risks and opportunities

➔ Read more on pg nos. 42, 14



Stakeholder engagement

➔ Read more on pg no. 30

** As on March 31, 2019

* During FY19

▲ At Standalone (Larsen & Toubro Limited) entity level.

All other information is at group level.

Detailed GRI mapping is available on pg nos. 120-126

OUTPUTS

OUTCOMES

SDGs IMPACTED

Financial capital	Turnover	₹ 1,410.07 Bn*	<ul style="list-style-type: none"> • Consistent financial performance • Superior value to shareholders • Trusted by marquee, reputed institutional investors 	
	PAT	₹ 89.05 Bn*		
	Dividend pay-out	₹ 27.59 Bn*▲		
	Return on equity	15.35%*		
Manufactured capital	Linear infrastructure created	<ul style="list-style-type: none"> •Roads 2,429 lane km* •Railways 152 track km* •Transmission lines 15,696 km* •Water pipelines 22,937 km* 	<ul style="list-style-type: none"> • Creation of best-in-class infrastructure assets across businesses • Setting new standards across businesses • Deploying technology to optimise overall efficiencies 	
	Building infrastructure created	41.6 Mn. sq. ft.*		
	Water treatment solutions	5,332 MLD*		
	Factory output	279,786 MT*		
	Electrical & Automation products	44,116,568**		
	Patents granted	148**		<ul style="list-style-type: none"> • Significant number of patents granted • Rapid growth in new and emerging businesses • Thriving team of expert R&D professionals
	Value engineering projects	2,167*		
Revenue from new/emerging businesses	₹ 19,000 Mn*			
Employees covered under leadership development programmes	246*			
Human capital	Revenue per employee	₹ 28 Mn*	<ul style="list-style-type: none"> • High levels of employee retention • Among the best companies to work for • Strong employer brand equity • A thriving, upskilled and expert workforce 	
	Total training hours imparted	> 5 Mn man-hours*▲		
	Median age of staff	32 Years**▲		
	Staff with tenure >10 years	25%**▲		
Social & Relationship capital	CSR beneficiaries	2.3 Mn*▲	<ul style="list-style-type: none"> • Significant participant in uplifting the communities around us • Long-standing, trusted relationships with vendors, dealers, suppliers and sub-contractors • Contributing to nation-building • High emphasis on training employees 	
	Vendors/dealers/sub-contractors trained	709*		
	Contribution to exchequer	₹ 106.93 Bn*		
	Total safety training	4.1 Mn man-hours*		
Natural capital	Water positive	24 campuses**	<ul style="list-style-type: none"> • Reducing our carbon footprint • Driving better utilisation of scarce resources such as water and energy • One of the prominent recyclers of steel and zinc 	
	GHG emission intensity per ₹ Billion revenue	618 tCO₂ *		
	Savings in energy (cumulative)	110 Mn Units*		
	Material reused/recycled (cumulative)	<ul style="list-style-type: none"> • Steel 6,747 tonnes* • Zinc 289 tonnes* 		

Financial capital



Manufactured capital



Intellectual capital



Human capital



Social & Relationship capital



Natural capital



Capital trade-offs

Delivering with resource prudence

Strategies		S1	S2	S3	S4
		Focusing on timely and cost-effective execution of the Company's unexecuted order book while ensuring adequate backfill through order acquisitions	Ensuring translation of healthy margin profile in the order book into financial statements through execution, operational excellence initiatives and digitalisation initiatives	Incubating new businesses to tap future growth opportunities	Maintaining an optimal mix between domestic and international business
Capitals					
 Financial capital		●	●	●	●
 Manufactured capital		●	●	●	●
 Intellectual capital		●	●	●	●
 Human capital		●	●	●	●
 Natural capital		●	●	●	●
 Social & Relationship capital		●	●	●	●
Remarks on trade-offs					
		<p>The execution of the order book contributes directly to our revenue, thereby positively impacting our financial capital.</p> <p>Our operations that range from infrastructure to hydrocarbons, result in the creation of manufactured capital for various stakeholders. However, our resource-intensive operations may utilise natural capital. We aim to set off the negative impact of the same by optimising our resource utilisation and contributing back to the environment.</p> <p>Timely execution of orders enhances our reputation among the stakeholder fraternity.</p>	<p>We create sustainable stakeholder value by maintaining steady margins and profitability.</p> <p>Additionally, we invest in various initiatives to enhance value creation across manufactured capital.</p> <p>Our digital and other intellectual properties drive cost efficiencies, augmenting our overall margins.</p> <p>We also proactively meet our obligations towards our shareholders.</p> <p>Healthy margin profile enables proper risk-reward sharing with employees.</p>	<p>Such decisions entail upfront investments and may have a short-term bearing on our financials and lead to the growth of our assets.</p> <p>Our intellectual capabilities help us bag new projects and/or establish new businesses.</p> <p>They also bring new stakeholders into our universe.</p> <p>New businesses ensure long-term sustainability of business in a dynamic / changing world.</p>	<p>Enables diversification of geographical risks.</p> <p>Enables us to attract and retain the best professionals in the domestic and international markets.</p> <p>Helps establish ourselves as a truly global organisation, while retaining and growing our share in the home market.</p> <p>Facilitates growth of the organisation.</p>

● Positive impact
 ● Neutral impact
 ● Negative impact

Stakeholder engagement

Delivering value to our key stakeholders

Continuous and consistent dialogue with our stakeholder groups is crucial to our prospects, since it enables us to create long-term sustainable value and helps us stay connected with evolving ground realities. We engage with stakeholders, identify their concerns and create value for them.

Stakeholders	Engagement modes	Concern areas	Our response
Shareholders and investors	<ul style="list-style-type: none"> Quarterly calls, financial reports and presentations Annual General Meeting (AGM) Annual Reports Business Responsibility Report (BRR) and Integrated Report (IR) Regular announcements and filings with stock exchanges 	<ul style="list-style-type: none"> Business performance Improved Return On Investment (ROI) Effective financial and non-financial risk controls Fair business practices 	<ul style="list-style-type: none"> Transparency of business plans to investors Uninterrupted dividend Showcasing performance on non-financial disclosures in IR and BRR Reporting on Dow Jones Sustainability Indices (DJSI) and Carbon Disclosure Project (CDP)
Customers	<ul style="list-style-type: none"> Regular customer meets Workshops and conferences Exhibitions and trade fairs Advertising campaigns Bulletins and news One-on-one interactions Periodic reviews Annual review, especially for customers Customer satisfaction surveys Feedback forms 	<ul style="list-style-type: none"> Timely completion of projects Confidentiality Competitive contract price bid Innovation and state-of-the-art engineering techniques High safety standards Transparency in energy, water and GHG emissions performance 	<ul style="list-style-type: none"> On-time project completion Deeper 'customer connect' at multiple levels Customer satisfaction survey Tighter project monitoring and control Increased after-sales support Regular monitoring of project KPIs – safety, water, material management, energy and GHG emissions, among others
Employees	<ul style="list-style-type: none"> Internal magazines highlighting achievements of employees and teams Regular email communication around new contracts bagged and updates on major projects Town halls, departmental meetings, success story competition HR connect sessions where employees voice their ideas and concerns Enterprise-wide employee portal called 'L&T Scape' Annual Engagement Survey Leadership Development Academy 	<ul style="list-style-type: none"> Career growth Employee benefits Skill development Effective/high-quality training programmes 	<ul style="list-style-type: none"> Attracting and retaining talent Promoting employee wellness Functional and soft-skill development programmes Leadership development programme to hone leadership skills Continuous improvement in programmes for structured learning and workforce development



Stakeholders	Engagement modes	Concern areas	Our response
Suppliers/ contractors	<ul style="list-style-type: none"> • Periodic partner meets • E-tendering and E-procuring • Supplier meets 	<ul style="list-style-type: none"> • Timely payments • Repeat orders • Price reduction • Different purchase processes by businesses as per the project/ establishment's requirements 	<ul style="list-style-type: none"> • Regular visits to suppliers' and contractors' facilities • Cost-effective price negotiations • Combined Environmental & Social Code of Conduct (CoC) for suppliers as part of the supplier agreements • Screening, assessment and audits related to quality and EHS aspects are conducted, providing support to implement resource conservation initiatives at select suppliers' premises
Community	<ul style="list-style-type: none"> • CSR initiatives • Volunteering activities • Quarterly review of our integrated community development projects • Continuous engagement with village panchayats and local authorities 	<ul style="list-style-type: none"> • Expectation of livelihood creation • Improvement in overall living standards • Water and sanitation • Development of community infrastructure 	<ul style="list-style-type: none"> • Ten Construction Skills Training Institutes (CSTIs) impart training in formwork, carpentry, bar-bending, steel-fixing, masonry, construction, electrician skills, welding and CCTV installation training • Education, health and skill development for communities around L&T establishments and project sites • Access to drinking water and sanitation in water-stressed regions • Implementing Integrated Community Development Programmes
Government	<ul style="list-style-type: none"> • Regular interaction with regulators and local governments • Member of important industry associations • Active participation in policy formulation and economic forums 	<ul style="list-style-type: none"> • Any inefficiency while practising fair and ethical business trade in all spheres – economic, environment and social 	<ul style="list-style-type: none"> • Continuous improvement to ensure transparency in the triple bottom-line (people, planet and profit) disclosures through various mandatory and non-mandatory reports such as BRR, DJSI and CDP
Media	<ul style="list-style-type: none"> • Regular press meets • Periodic media visits 	<ul style="list-style-type: none"> • Expectation of transparent stakeholder communication 	<ul style="list-style-type: none"> • Regular media updates • Sharing critical information through press releases and feeds to social media (LinkedIn, Facebook and L&T website) • Media briefings and presentations • Economic, environmental and social disclosures in the public domain

Materiality assessment

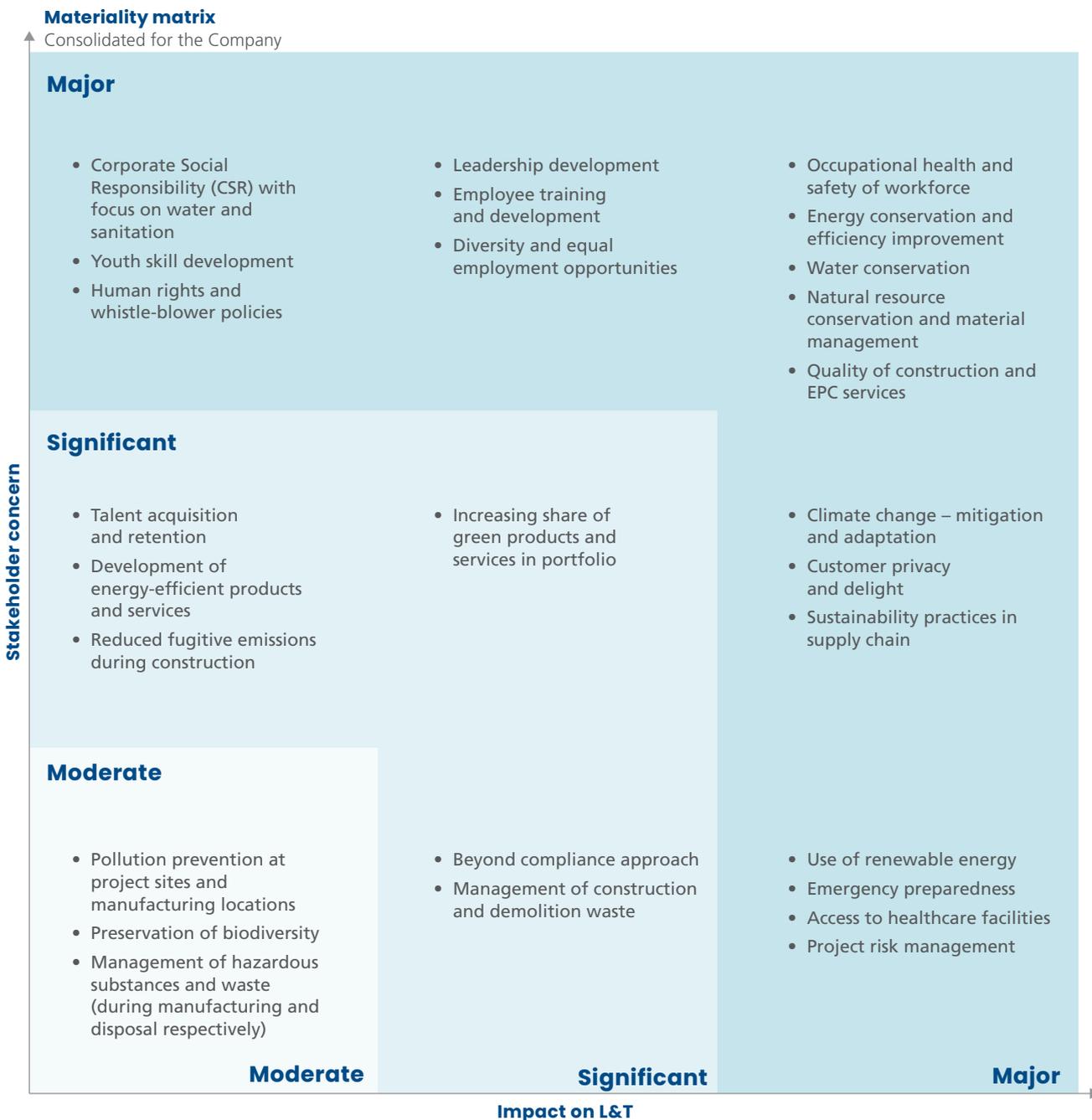
Identifying material issues and addressing stakeholder concerns

We conduct materiality assessment for identification of sustainability issues that have the potential to impact our business and/or our stakeholders. It is a continuous and dynamic process of incorporating stakeholder inputs, compiled through regular interaction.

Materiality assessment is conducted across each business and the outcome is condensed into a list of topics, which are critical for the Company. This year, in our quest to find the most critical material issues, we conducted the materiality issues perception survey of the senior management.

Materiality assessment inputs

- Focus on significant sustainability challenges
- Strategic sustainability roadmap development
- Structured internal assessment of our risks and opportunities
- Feedback from customers, supply chain and employees
- Business strategy and market insights
- Parameters as evaluated by third party



Description of material issues

Focus issue	Relevance of topic, boundary and limitations to the boundary (if any)	Capitals impacted
Occupational health and safety of employees and contractors, and emergency preparedness	We strive to provide an accident-free workplace to our people and comply with relevant regulatory requirements for this purpose. Our preventive measures are built around the philosophy of embracing safety as a 'way of life'.	
Project risk management, quality of construction and EPC services	We are predominantly in the 'projects' business and face challenges like land acquisition and Right of Way (ROW), clearances from government agencies, working in difficult/harsh weather conditions/terrains, skilled manpower availability, among others. This makes it critical to manage project risks, and maintain construction quality and delivery of projects.	
Water conservation	Water is critical for our business and we are committed to using it prudently. Accordingly, we have turned our facilities 'zero wastewater discharged' and 'water positive'.	
Natural resource conservation and material management	Our business essentially depends on natural resources such as sand, aggregates and cement, including ferrous and non-ferrous materials. The judicious utilisation of such resources accelerates our efforts towards resource efficiency and cleaner production, while improving productivity and profitability.	
Climate change mitigation, adaptation and use of renewable energy	We believe, business sustainability and competitiveness are ultimately linked to the low-carbon economy. Progressively, we continue to invest in products and processes that promote sustainable, growth-enhancing energy efficiency, developing low-carbon technologies for infrastructure development, using renewable energy at our campuses and project sites, and widening our green cover.	
Employee training and development, and leadership development	Training continues to be a necessary growth ingredient. We execute complex and mega projects, not always manageable by others. We also operate in niche infrastructure development, making employee capability enhancement and development a critical factor. We nurture talent, enhance productivity and efficiencies, and build a robust leadership pipeline.	
Talent acquisition and retention	Our intervention requires expertise and high engineering skills, and we are proactive in engaging and retaining the best talent.	
Customer privacy and satisfaction	We rely on sensitive customer information and hence, customer confidentiality remains paramount. Innovation in our products and services helps us serve larger market segments and repeat orders are a testimony to client satisfaction.	
Corporate social responsibility	Continuous community engagement is critical for building a sustainable business. Under 'Building India's Social Infrastructure', we provide opportunities to the underprivileged sections of society. The Companies Act 2013 helps make our citizenship initiatives robust by including thrust areas such as water and sanitation, health, education and skill development.	
Energy conservation and efficiency improvement	Depleting energy sources is detrimental to long-term business objectives. Growing energy savings translate to reduced power cost and fuel, and thus less operational cost and enhanced profitability.	
Sustainability of the supply chain	Suppliers are our strategic partners for our timely performance. Implementing sustainability practices in the supply chain helps improve their economic, environmental and social performance. Significant supplies at our project sites are from the local suppliers.	
Human rights	We ensure that employees are sensitised to human rights. This practice extends to our sub-contractors as part of the contract documents. Our subsidiary and associate companies are encouraged to follow our Corporate Human Resource Policy.	
Increasing share of our green portfolio	We are working with the principles of sustainable development and offer dedicated and select green products and services to customers.	
Diversity and equal opportunity	As a firm believer in meritocracy, we provide equal opportunities, with a diversified workforce, across our operations worldwide.	



Governance

Driving our overarching purpose and values

Commitment to values

Corporate governance is integral to our core purpose and values. The essential philosophy is underpinned by a rich legacy of transparent governance and disclosure practices, respect for human values and individual dignity, and adherence to the norms of ethical and professional conduct.

We are a professionally managed organisation and committed to customer satisfaction and enhancement of stakeholder value. Stakeholder accountability helps ensure transparency in our operations and fairness in our business processes. Our governance principles promote fairness, integrity, transparency and accountability through our vision and policies. This is also extended to our subsidiaries and associate companies.

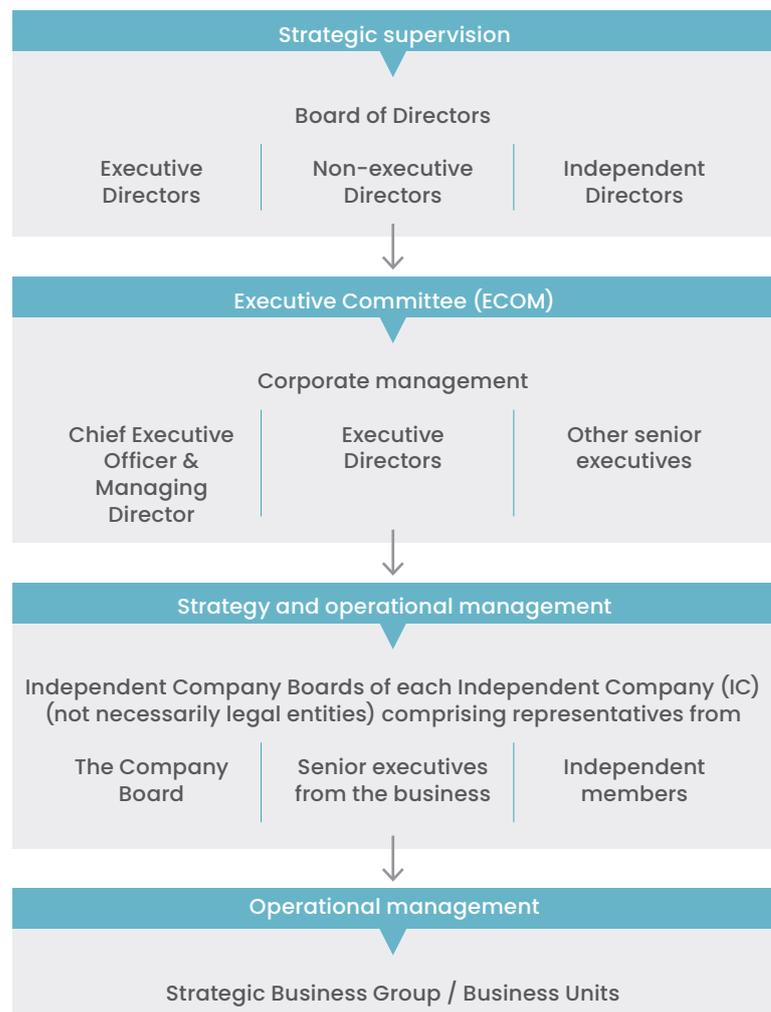
Governance architecture

Sound corporate governance is critical to enhance and retain investor trust and we seek to ensure that our performance goals are accomplished accordingly. We have set up adequate systems and procedures to ensure that our Board of Directors is well informed and equipped to fulfil our overall responsibilities, and provide the management with the strategic direction necessary to create long-term shareholder value.

Our ethical and transparent governance principles go beyond what is mandated by law, and help build trust with shareholders, employees, customers, suppliers and other stakeholders. We leverage resources, converting opportunities into achievements through empowerment and motivation. The result is impressive growth and development of human resources, which facilitate organisational sustainability.

Our governance structure helps enhance shareholder accountability, while ensuring timely and accurate disclosures of all material matters. The four-layer approach comprises:

Governance structure



The four-tier governance structure helps ensure greater management accountability and credibility, and facilitates enhanced business autonomy, performance discipline and development of business leaders, leading to increased public confidence.

At the apex level, we have the Board of Directors to supervise management initiatives. The Board's composition conforms to the provisions of the Companies Act 2013 and Regulation 17 of the SEBI (Listing Obligations & Disclosure Requirements) Regulations 2015.

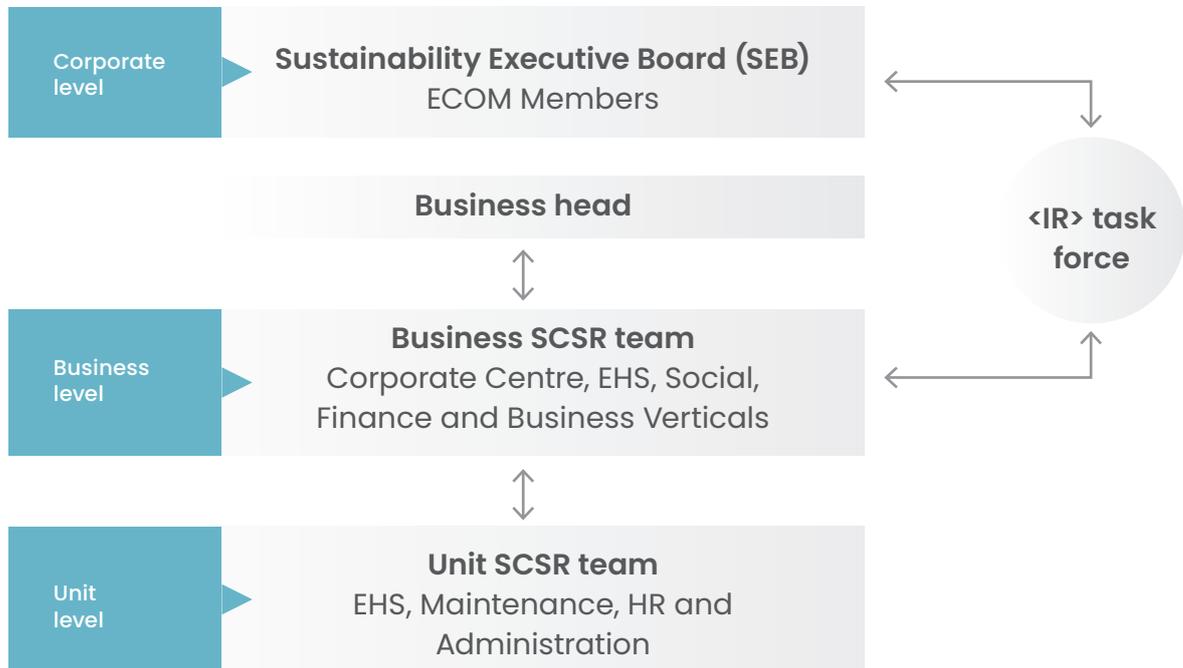
The Board of Directors constitutes five Board Committees, i.e., Audit Committee, Nomination and Remuneration Committee, Stakeholders' Relationship Committee, Corporate Social Responsibility Committee and Risk Management Committee. The terms of reference of

the Board Committees are governed by relevant legislation and/or determined by the Board at regular intervals. The Board is responsible for constituting, assigning and co-opting members of the committees. More relevant details are provided in the Annual Report 2018-2019, available on our website at www.Larsentoubro.com

Corruption and anti-competitive behaviour

We remain committed to behaviour that is in consonance with the principles of ethical and fair business practices. We will not be party to any act or measure that compromises or is likely to compromise our values. No incidences of corruption were reported during the reporting year. We also comply with relevant statutory requirements, including anti-competitive behaviour.

Integrated Reporting <IR>, Sustainability and CSR (SCSR) structure



L&T's sustainability structure comprises teams at the corporate level, business level and unit level. At the corporate level, the Sustainability Executive Board (SEB) consists of the Company's Executive Committee (ECOM) members. They oversee the functioning of the structure, provide guidance and review performance. The SEB is also responsible for formulating its sustainability policy and devising a viable future roadmap.

We recognise environment and social challenges associated with our operations at our facilities and project sites. We have developed a structured approach for early stage identification, understanding and the mitigation of such impacts.

The team develops, drives and implements the sustainability roadmap of the L&T Group. Besides, business and unit-level SCSR teams are responsible for implementing targets and various initiatives of the respective businesses and units, as per the strategy. The teams are authorised to strategise the sustainability agenda, based on material issues. This top-down and bottom-up approach enables the Group to overcome challenges of individual businesses and that of the Company.

Commitment to external initiatives

We support, follow and demonstrate our commitment to the following initiatives:

- Global Reporting Initiative (GRI) standards
- United Nations Global Compact Network India (GCNI)
- Applicable International Labour Organization (ILO) conventions
- The National Voluntary Guidelines (NVG), India
- Sustainable Development Goals (SDGs)
- Other United Nations (UN) directives that comprise:
 - Statutory and regulatory compliance
 - Business ethics
 - Fair and equal opportunity to all employees
 - Employee development through training
 - Labour camps at construction sites
 - Medical facilities at units, offices and project sites
 - Steps to measure, monitor and conserve materials and energy

ISO certifications

Our businesses are covered under international certifications such as ISO 14001:2015 (Environment Management System) and OHSAS 18001:2007 standards. All of them have already started working towards meeting the recently issued standard of ISO 45001:2018 (Health and Safety Management System) and are likely to get the certification in the near future. Some businesses of the organisation is under the coverage of more stringent requirements of the oil & gas industry's standards and maritime standards, among others and hence, may not require these certifications.

The <IR> task force comprises sustainability coordinators from businesses, and members drawn from corporate functions like investor relations, corporate secretarial and corporate brand management and communications. The corporate sustainability team is part of the <IR> task force.

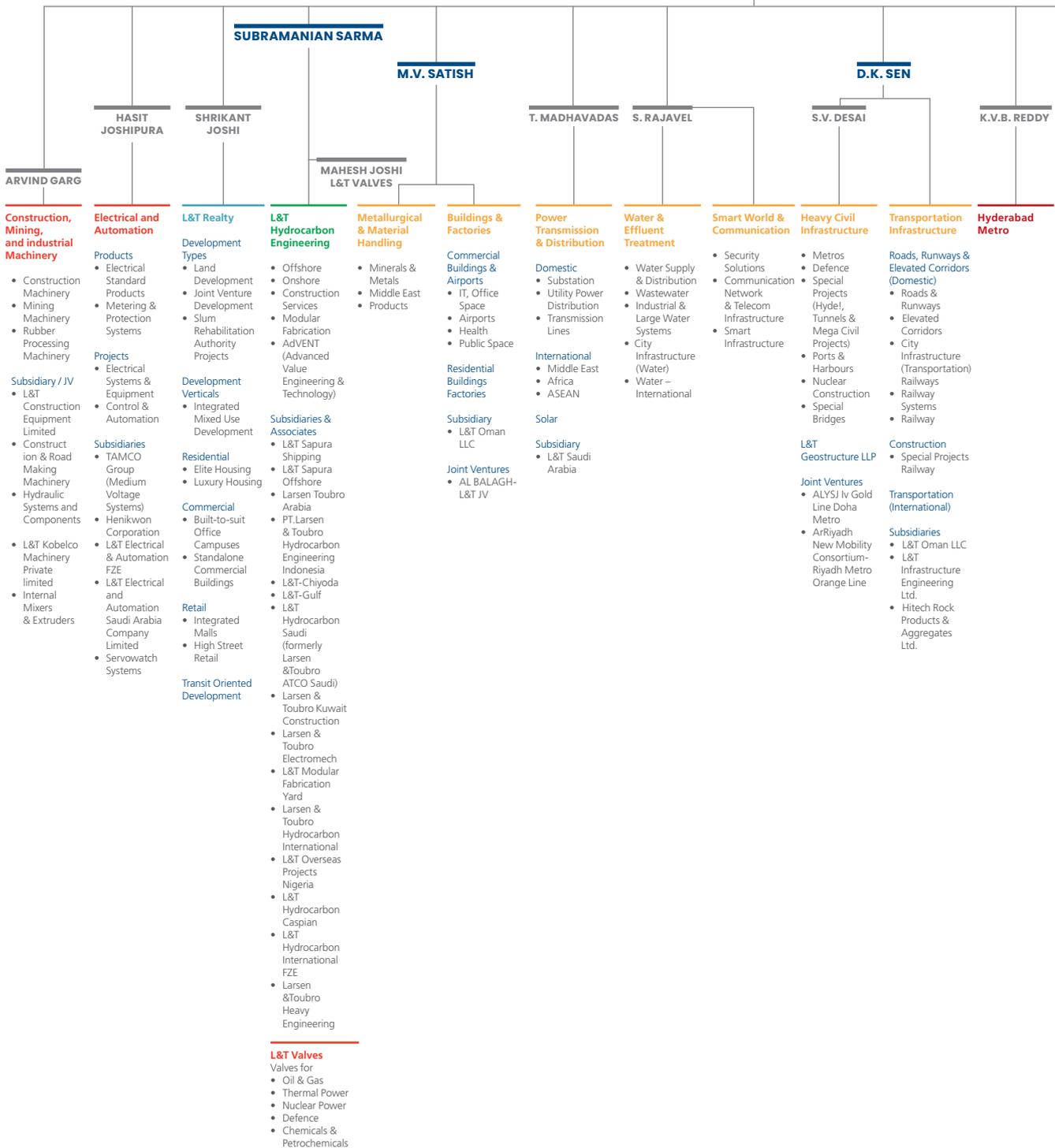
Governance (contd.)

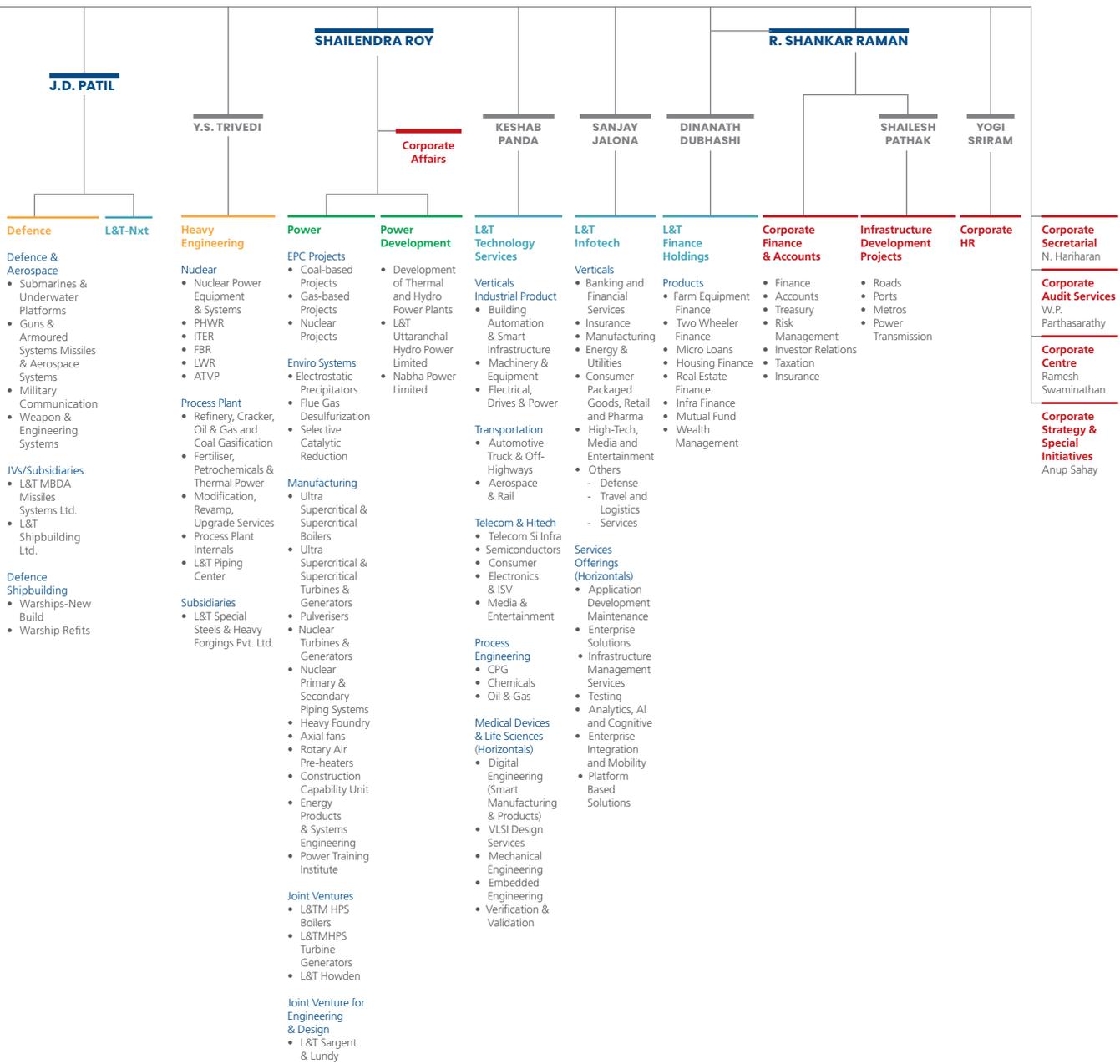
Visionary guidance and leadership

Chairman and Board of Directors

CEO and MD

S.N. Subrahmanyam





Manufacturing
 Construction
 EPC Projects
 Services
 Others
 As on June 1, 2019

Governance (contd.)

Messages from the senior leadership team



Mr. R. Shankar Raman

Whole-time Director and
Chief Financial Officer



Mr. Subramanian Sarma

CEO and Managing Director
L&T Hydrocarbon Engineering

Reinforcing a sustainable growth model

L&T has traditionally been among the early adopters and implementers of technologies which lead to sustainable solutions. These have included mass rapid transit systems that reduce the carbon trail in cities and provide the option of a 'greener' commute, a power generation mode which guzzles less water and fuel; more efficient systems to process and distribute water, and large buildings that are sparing in the use of natural resources, both in the course of construction and during occupation.

I believe technology, appropriately chosen, can help us resolve the dilemma of growth vis-à-vis the environment. It is inevitable that the world is going to need and use more and more energy in one form or the other. How else do we meet our growth targets and ensure higher living standards for our aspiring population? The key, therefore, is to locate and tap technologies which are geared for greater efficiency, i.e., can extract more from less. These are the technologies which can accelerate our pursuit of an environment-friendly future – for ourselves and for the industries we serve.

In addition to our more mainstream green initiatives, we see a new opportunity horizon in digital. While conventional wisdom has it that companies in the E&C space have limited use for digitisation, we are demonstrating the exact opposite. We are rapidly digitising entire swathes of our processes and are extending our reach into untapped processes. While much has already been achieved, this is just the tip of the iceberg, and the possibilities going forward are transformational.

Technology assists us on the social front too. Our social outreach is helping members of targeted communities discover for themselves ways to reap the benefits of growth, while reducing waste, improve sanitation, and lead a healthier lifestyle.

In the journey ahead, we will continue to leverage the most suitable technologies for a sustainable future.

Enhancing robust execution

FY19 has been yet another successful year for L&T Hydrocarbon Engineering (LTHE) wherein the business has demonstrated strong performance on various fronts despite continued volatility in the market.

Over the year, we continued to receive a steady inflow of new orders from our core markets in India and the Middle East and won a breakthrough mega EPC order in Algeria – expanding our geographic and strategic footprint to the North African region.

Along with our traditional EPC business, we continued to seek opportunities to diversify our portfolio to include related and allied market segments. This exercise has started bearing fruit with the awarding of major orders to supply integrated Onshore Process Modules for refinery projects in East Asia. In India, we are seeking to address new opportunities in biofuels, renewables and waste-to-value sectors in tandem with Government of India's policy thrust in these areas.

The business also continued its robust execution performance by delivering a dozen projects successfully and safely to both domestic and international customers, with another twenty projects under various stages of completion. LTHE was also ranked 'First' in the Top 30 EPC Contractors list of 2019, published by the Oil and Gas Middle East magazine.

While an operational excellence programme, launched nearly three years ago, has improved the business' competitiveness, the focus is now firmly on its digital transformation to raise productivity and performance to the next level.

We are justly proud of our successes in recent years, but we remain acutely conscious of the larger community we reside in and the challenges faced by the underprivileged and disadvantaged sections of society. We wholeheartedly espouse the L&T Group's credo of 'Building India's Social Infrastructure' and are committed to various CSR projects focusing on education, skill building, health & hygiene, and water & sanitation – thereby helping create a better India in every respect.



Mr. Shailendra Roy
Whole-time Director and
Senior Executive
Vice President (*Power*)



Mr. M.V. Satish
Whole-time Director and
Senior Executive Vice President
(*Buildings, Minerals & Metals*)

Growing profitably and responsibly

Businesses are expected to enhance profitability and expand market share, and at the same time, should respect the environment, employees and future generations. It is a tightrope act in which sustainability helps companies maintain the balance.

Our focus across work locations on the efficient use of energy has resulted in the deployment of more energy-efficient equipment and processes. We are moving towards a definitive improvement in procurement management by involving our suppliers or partners in supply chain sustainability practices. All these initiatives are in line with our continuing efforts to become a more responsible corporate citizen.

Our environment-friendly offerings such as flue gas desulphurisation and selective catalytic reduction technologies provide our customers with greener products that enable them to minimise the negative impact of their operations on the environment.

We believe that the commitment to sustainability and the triple bottom-line of profit, people and planet will ensure our global competitiveness and promote inclusive growth. Keeping this in mind, we intend to accelerate the process of full integration of our sustainability initiatives with our business strategy at the earliest.

Delivering value through all-inclusive growth

The construction industry makes an enormous impact not just for its clients, providing infrastructure and businesses, but also on the community within which the buildings are located. Though India is one of the fastest growing economies, socio-economic problems are still omnipresent and the government has limited resources to tackle these challenges.

L&T has always supported Corporate Social Responsibility initiatives. Along with sustained economic performance, environmental and social stewardship is also a key factor for all-inclusive business growth. Our focus has always been to contribute to the sustainable development of society and environment, and to make our planet a better place for future generations.

As a market leader in the construction industry, L&T remains committed to mitigating the climate change impacts in the environment due to construction. Climate change has the potential to bring extreme weather events, and as we operate internationally, this may pose physical challenges to our construction and manufacturing businesses. Therefore, reduction of emission targets is set from the mapping of carbon footprint analysed throughout the organisation.

With our green portfolio, we continue to deliver engineering and design solutions focused on sustainability and infrastructure with low environmental impacts. These include technology solutions with lower carbon emissions, less water consumption, lesser air pollution, energy efficiency improvement, clean energy and resource conservation. The majority of our projects use concrete with a fly ash / Ground Granulated Blast Furnace Slag (GGBS) content, replacing the virgin cement. Till date, we have constructed 65 green buildings, including 6 this year, covering 90 mn. sq. ft. built-up area.

Green materials are easier to recycle, leading to cost savings for firms and lesser environmental impacts, thereby benefitting everyone. Construction debris disposal is streamlined through the use of materials that are quickly and efficiently recycled. At L&T, we have reused concrete waste by installing re-cycle plants at various sites. In addition, a huge amount of water is saved using chemical admixtures at almost every site. With use of digitalisation, paper usage has gone down considerably at our construction sites too.

L&T's CSR policy is at the core of our daily operations and guides our future progress. We believe in all-inclusive growth. It is in our DNA to be a trailblazer and we must maintain a broad and forward-looking perspective in order to foresee our customers' needs and predict further economic and social change. We will continue to develop and find ways to improve our sustainability performance in the years to come.

Governance (contd.)

Messages from the senior leadership team



Mr. D.K. Sen

Whole-time Director and Senior Executive Vice President (Infrastructure)



Mr. Jayant D. Patil

Whole-time Director and Senior Executive Vice President (Defence, L&T-Nxt)

Building enduring solutions

Infrastructure drives economic growth by facilitating manufacturing, services and trade. L&T as a 'Builder of Nations' will play a lead role as India journeys towards becoming a five trillion-dollar economy in the next few years.

We are conscious of the need and our responsibility to build sustainable infrastructure on a planet strained by climate change and diminishing natural resources.

Digitalisation offers us a huge opportunity to reduce consumption and wastage of our natural resources. Our operational excellence initiatives are, therefore, centered around this theme. Our digital solutions for monitoring plant and machinery asset utilisation have resulted in a substantial reduction in the consumption of fossil fuels like diesel. Usage of IoT-enabled construction machinery like 3D pavers improve quality and efficiency, thereby reducing rework and wastage of resources.

We are increasing the consumption of alternate materials in our operations, to name a few, the use of industry by-products like fly-ash and GGBS to partially replace natural resources like sand and cement as well as the use of manufactured sand instead of river sand, including using by-products from our quarrying operations. We are also using plastic waste to reduce bitumen consumption.

Our Engineering Development and Research Centres (EDRCs) continue to work with our stakeholders on design engineering opportunities, which result in more efficient designs from the perspectives of ease of construction as well as quantity optimisation. Reuse of materials, such as concrete and asphalt, reduces the need for concrete and asphalt manufacturing, reduce GHG emissions, and reduces waste disposal costs and emissions, this is another area which our EDRC team is working on.

Our people are our biggest assets we have created several initiatives to up-skill our workforce. Our CSTIs have also played a significant role to develop local skills and labor in the communities we operate in. This will give career opportunities to school drop outs and to those who could not afford formal education.

We commit ourselves to construct infrastructure, that is enduring and uses processes that are resource efficient and environmentally sound throughout its life cycle, from design and construction to operations and maintenance.

Advancing with a nation-first approach

L&T Defence is a manifestation of L&T's ethos of 'Nation First'. Our actions and plans over the past few decades are built on an underlying commitment to build a strong and secure nation – by providing the Indian Armed Forces with the defence solutions required to maintain peace.

L&T has developed over 250 products/systems/technologies through partnerships with Defence Research and Development Organisation (DRDO) and sustained in-house R&D investments, making it India's largest private sector defence company. We see ourselves as equally committed to empowering national defence, as we are to preserving our triple bottom-line.

Our business model relies on in-house human capital for core technology development, design and engineering, while our business partners, primarily MSMEs/SMEs from the pool of supply chain eco-system developed by L&T over years, are engaged in manufacturing and production activities. This model not only enhances the multiplier effect to the economy, but also creates skill development in the tierised industry.

Our performance on EHS indices, especially our safety track record across work centres, customer locations and business partners' premises has been exemplary. L&T Defence's work centres continue to focus on shifting to renewable energy sources while concurrently identifying avenues for energy conservation and resource optimisation. Our campuses nurture 'green' belts with drip irrigation and watering schedules targeting water conservation, while areas adopted outside our campuses have also been afforested and transformed into havens for local flora and fauna.

Our focus on delivering inclusive growth through CSR initiatives continues. In the past year, we have developed model schools and Skill Training Centres, and implemented skill-building initiatives through a Technical Apprenticeship Scheme (TAS) programme in and around select campuses. Collectively, these initiatives help create a sustainable ecosystem and a better tomorrow for all our stakeholders.



Dr. Hasit Joshipura

Member – Executive Committee,
Senior Vice President and Head
Electrical & Automation

Powering sustainable growth through innovation

L&T's Electrical & Automation business (L&T E&A) has exhibited above-par growth in FY19 and is well poised to achieve Lakshya 2021 numbers in the face of very challenging market conditions.

It has become clear that business growth is inextricably linked to addressing the global challenges related to issues like resource scarcity, water shortages and climate change, among others. Backed by government policies on reducing the country's carbon footprint, L&T E&A's growth strategy is sustainability-focused, and is aligned with the relevant SDGs. Integrated Reporting with disclosure on value creation on all the six capitals has taken this journey further.

Innovation plays a key role in the business' growth plans. Over 2000 employees work on implementing value engineering projects, achieving resource frugality, cost savings and a competitive advantage - while minimising environmental impact.

Operational efficiency is being increasingly powered by automation and robotics, enhancing production levels, without increasing our carbon footprint. Greater use of renewable energy coupled with energy efficient systems and solutions, and a variety of water conservation initiatives has reduced both energy consumption and water intensity numbers. Moreover, an ever-expanding green products portfolio, including solutions for the solar power industry helps our clients enhance their sustainability quotient.

The business places a premium on building strong relationships with its stakeholders, including suppliers and channel partners, through relationship building programs and knowledge sharing initiatives. The communities around our facilities have benefited from our school adoption programs, endorsed by the students, parents and local education authorities alike, ensuring their sustainability.

L&T E&A continually strives to unlock meaningful value, by building a culture of integrated thinking into all operations. It is fully committed to providing products, systems and solutions which meet the changing market requirements while ensuring sustainability of the environment and the challenges related to this, that society now faces.

Risk management framework

Future-proofing the business sustainably

At L&T, we operate in a dynamic business scenario and believe that potential and emerging risks need to be properly assessed and mitigation measures formulated, constantly reviewed, upgraded and institutionalised.

This process is properly integrated with our business. Steered by our overarching corporate risk-management framework, each business vertical has put in place a risk-management policy, structure and procedures to address the unique nature of the business. Our risk-management processes ensure that we accept risks according to the boundary conditions, based on our evolving risk appetite.

Risk management architecture

The Board’s Audit Committee and a Board-appointed Apex Risk Management Committee (ARMC) help strengthen the resilience of the risk-management processes. Business level risks are discussed in detail in the respective management/business Board meetings. The ARMC is regularly informed on the critical risks impacting the Company for continuous review and guidance. The mitigation plans are drawn up and implemented appropriately with our overall Enterprise Risk Management framework.

We have evolved robust risk-management processes for project businesses, which constitute the Group’s larger portfolio. The crucial stages especially covered by risk reviews comprise:

- Country clearance in case of venturing into a new country
- Pre-bid proposal clearance, execution risk reviews and project close-out reviews

Based on an authorisation matrix as determined by the Risk Management Committee, the pre-bid proposals are reviewed and cleared for submitting the bid. The execution risk reviews of projects are held periodically for tracking project performance, with an emphasis on risk identification and their mitigation. An evaluation of the effectiveness of mitigation measures is periodically conducted. Close-out risk reviews are held to capture key learnings from projects and what went right/wrong analysis. This helps to factor in the learnings in future bids.

We emphasise on critical learning and have initiated several measures to strengthen the organisation’s risk awareness. These include workshops, knowledge sessions and training content deployed on online learning platforms.

Risks	Mitigation measures	Capitals impacted
<p>Geopolitical risks</p> <p>We evaluate and address the geopolitical risks such as sanctions, trade barriers, protectionist policies and conflicts in the Middle East.</p>	<p>We develop appropriate mitigation strategies addressing geographic concentration, strategic sourcing options, regular monitoring of international sanctions and other economic measures.</p>	
<p>Underperformance in key sectors</p> <p>Growth in key sectors such as Power, Nuclear, Defence and Metals & Minerals continued to be jeopardised by multiple constraints such as sluggish pace of decision-making, lack of investment, impetus on renewables, financial stress of players, delays in environmental clearances, and lingering impacts of mining ban, among others.</p>	<p>A diversified conglomerate helps mitigate the risk of such slowdown in some sectors as we see compensating growth in certain other sectors.</p> <p>Government initiatives in infrastructure sectors, namely roads, railways, airports and water, including international orders in oil & gas, provide growth opportunities in the near future.</p>	

Risks	Mitigation measures	Capitals impacted
<p>Worsening terms of trade (competition, timelines)</p> <p>Competition from foreign and domestic players has considerably increased in the past few years.</p> <p>Customers have found it easier to impose less attractive commercial terms and also shrink project duration.</p>	<p>Our EPC business derives its competitive strength from its excellence in executing projects of varying sizes, reputation for quality, technology, cost-effectiveness and project management expertise. This helps sharpen our competitive advantage.</p>	
<p>Reputation and brand</p> <p>The Company's inability to combat unforeseen challenges and/or difficult macro scenarios could jeopardise its reputation and brand.</p>	<p>We address the potential risk of erosion of reputation and brand value through a robust corporate governance framework.</p> <p>We have put a compliance policy in place, mandating adherence to the CoC and internal controls, complemented by regular knowledge sharing across the organisation.</p>	
<p>Data security</p> <p>In the emerging global inter-connected business environment, cyber security has become a key concern for governments, businesses and society in general.</p>	<p>Recognising the significance of this aspect, we have undertaken multiple steps to strengthen our cyber security posture.</p> <p>These include enterprise-wide cyber security framework design and rollout, awareness campaigns to educate teams across hierarchies and technology implementations to enforce detective and preventive controls.</p>	
<p>Execution challenges</p> <p>We encounter diverse execution challenges such as geological surprises, availability of work force, land acquisition and Right Of Way (ROW), pending approvals and clearances from government agencies, and working in difficult weather conditions, among others.</p>	<p>We closely analyse crucial risks for each project to drive timely mitigation.</p>	
<p>Counter-party risks</p> <p>We partner different contractors (JV / consortium projects) across businesses, based on technical requirements / local market conditions.</p> <p>Our partner's performance and financial strength remain crucial for the project's success and sustainability.</p>	<p>Learnings from preceding projects are incorporated in the inter-se agreement with the partners and clauses on liability of each partner are carefully drafted after a legal due diligence.</p>	
<p>Working capital challenges</p> <p>Project slowdowns and adverse contractual payment terms lead to increased working capital requirements.</p>	<p>We continue to strengthen the process for close monitoring of cashflows at the project level. We ensure regular follow-up for delay in payments by clients and have ensured improvement in working capital levels.</p>	
<p>Claim management</p> <p>Longer-than-expected delays in receiving pending payments and claims can impact our short-term financials.</p>	<p>We maintain a strong documentation and follow-up with clients/sub-contractors/vendors for any claim that is submitted. Legal teams are consulted periodically to ensure a robust process of claims management.</p>	

Outlook

Over the years, risk governance continues to be a catalyst of business value creation and not just a process to comply with. The benefits help us leverage emerging opportunities, both nationally and internationally, while at the same time growing the technology focus and delivering sustainable value. Our objective is to promote a culture of appropriate risk management and convert the risks into viable opportunities.



Integrated to deliver

- 46 **Financial capital**
- 56 **Manufactured capital**
- 60 **Intellectual capital**
- 66 **Human capital**
- 74 **Natural capital**
- 88 **Social & Relationship capital**





In an age of constraints – of limited resources, of uncertainties and of multiple moving parts – the key to remaining competitive is the ability to orchestrate and optimise all capitals. Our strategies for the near and long term are built around ensuring synergy within all elements of a business, and between businesses. The demarcation of various capitals employed offers us the opportunity to demonstrate the gainful interconnection and interaction between them all.





Financial capital

We focus on efficient allocation of capital across all our businesses and maintaining an optimal mix of equity and debt-based funding. Our aim is to deploy our financial resources prudently and maximise value creation for our investors.



INPUTS

₹ 2,934.27
Billion**

Order book

₹ 323.95
Billion**

Net current assets

₹ 351.13
Billion**

Net fixed assets

1.81**

Gross debt to equity ratio

OUTPUTS

₹ 1,410.07
Billion*

Turnover

₹ 89.05
Billion*

PAT

₹ 27.59
Billion*

Dividend payout
[including Dividend
Distribution Tax (DDT)]

15.35%*

RoE

* During FY19
** As on March 31, 2019

During FY19, we performed encouragingly on key financial performance parameters with a remarkable 20.83% y-o-y growth in Group PAT at ₹ 89.05 Billion. We bagged ₹ 1,768.34 Billion worth of new orders, recording a 15.6% growth. Our Group revenues stood at ₹ 1,410.07 Billion with a 17.6% growth in FY19, while the order book stood at ₹ 2,934.27 Billion, providing greater revenue visibility for FY20. The Board recommended dividend of ₹ 18 per share. We continue to widen and deepen our impact across the nation's critical sectors, especially infrastructure.

Our intrinsic capabilities enable us to gain from large-scale and strategic national programmes like 'Make in India' and 'Digital India'. We will continue to leverage our certified manufacturing capabilities at the apex of the technology spectrum, to build complex equipment and systems for diverse sectors such as defence, aerospace, thermal and nuclear energy.

Digital technologies are fundamentally transforming our way of life, and we embrace and emphasise digitalisation by identifying it as a core theme in strategic plan. We are now scaling up automation in the construction business, which we will gradually configure within our other businesses to enhance efficiency and profitability.

We are actively pursuing select international business opportunities to diversify our portfolio and progressively minimise the risk of geographic concentration. We have established our presence within the Gulf Cooperation Council (GCC) countries, predominantly in the infrastructure and hydrocarbon sectors, and are considering prospects in North Africa, East Africa and certain countries of East Asia, like Myanmar, Malaysia and Vietnam. The unexecuted order book from international markets stood at ₹ 632.66 Billion, which contributes 21.6% to the total unexecuted order book.

Key highlights of FY19

▲ **15.6%***

Fresh orders

₹ **2,934 Bn****

Total unexecuted order book

▲ **17.6%***

Group revenue

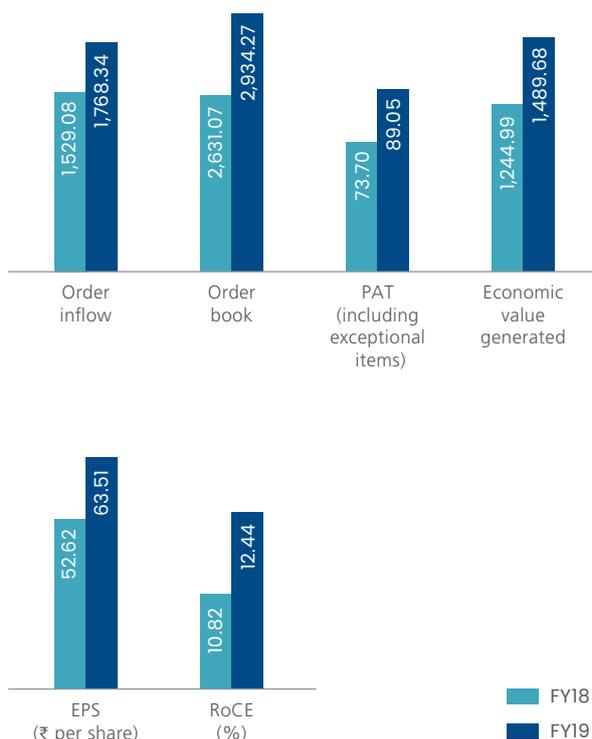
▲ **20.8%***

Group PAT

* Over FY18

** As on March 31, 2019

Financial highlights ₹ (in Billion)



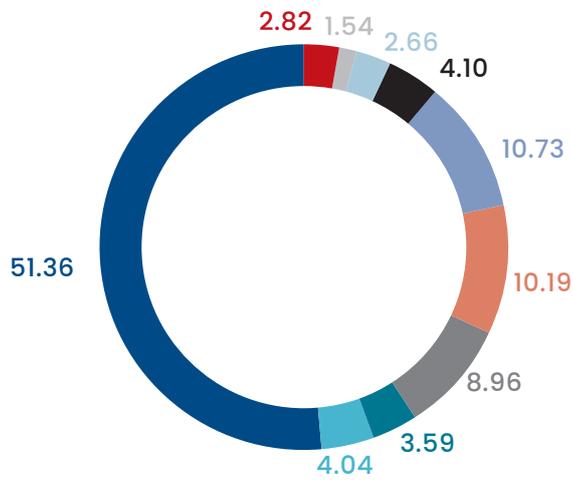
Liquidity and capital resources ₹ (in Billion)

	FY19	FY18
Cash and cash equivalents at the beginning of the period	67.9	35.5
Add: Net cash provided / (used) by:		
• Operating activities	91.4	64.3
• Investing activities	(110.0)	39.1
• Financing activities*	15.9	(70.9)
Cash and cash equivalents at the end of the period	65.2	67.9

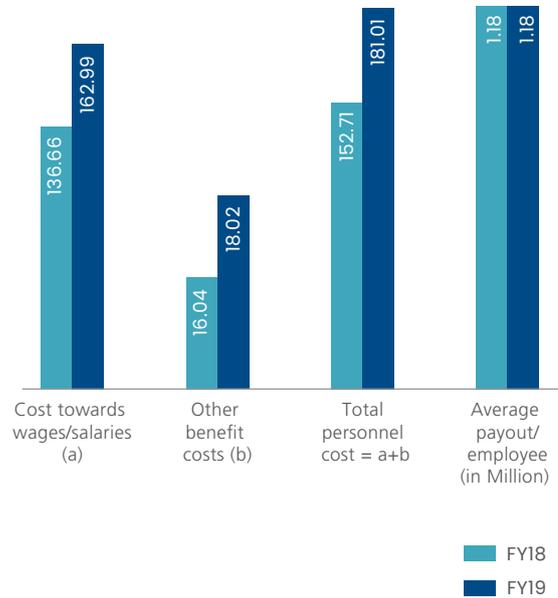
No significant financial assistance was obtained from the government in the reporting year

* Disbursements towards financing activities included under cash flow from operating activities in statutory financial statements

Sales composition (%)



Employee cost and benefits ₹ (in Billion)



Economic value generated

₹ (in Billion)

Particulars		FY19	FY18
Generated (A)	Total income	1,489.68	1,244.99
Distributed (B)	Manufacturing, construction and operating expenses	1,084.99	927.58
	Employee wages and benefits	181.01	152.71
	Payments to providers of capital:		
	• Interest	18.06	15.39
	• Dividend	25.25	22.43
	• Minority shareholders	13.11	6.35
	Payment to exchequer	106.93	72.04
	Community investments (CSR spend)	1.67	1.20
Retained	(A)-(B)	58.66	47.29

Case study I

Delivering day-to-day excellence



L&T E&A's operational excellence programme is known as ELITE or E&A's Lean Initiative Towards Excellence. It is a comprehensive programme that provides a framework to guide the continuous improvement of projects throughout the organisation. The initiative converges different improvement methodologies to accomplish higher excellence benchmarks.

The major challenges faced by any organisation in today's competitive market are producing quality products with minimal costs and being flexible to meet the customer's delivery requirements. ELITE is aligned along these lines of quality, cost and delivery.

Interventions

To track the progress in each strategic business unit or product line, a composite ELITE score is defined. It is calculated every month and shared with the leadership team.

A Steering Committee meeting for Independent Companies is conducted. It is chaired by the Senior Vice President and Head – E&A, where the progress of ELITE at each business unit is reviewed. The meeting also acts as a peer learning forum, where line managers present important projects, which are being implemented in their respective lines.

We continue to organise training and awareness programmes to ensure that our team has basic knowledge and insight of the methodologies in a continuous improvement journey.

We celebrate ELITE Day every month. Teams from all business units participate in the Lean, Six Sigma and Value Engineering competitions, and the best project is felicitated with an award.

Impact

ELITE, at its core, helps shape the culture that drives our go-getters to embrace challenges and shoulder additional responsibilities. It is their way of life. Other than generating profitability for the organisation, it is also helping key stakeholders and society reduce material consumption and wastage.

Part of a value engineering project, we developed an in-house communication module to reduce operational costs and material consumption. We could reduce costs by 66%, amounting to a net annual saving of ₹ 140.9 Million.

The operational excellence programme helped optimise the use of resources and generated desired outcomes in a predefined timeframe and budget, setting a new performance benchmark.

2,140

Completed projects

1,503

Employees involved

₹ 944.8 Million

Saved through value engineering

Consolidated balance sheet as at March 31, 2019

₹ (in Billion)

Particulars	FY19	FY18
ASSETS		
Non-current assets		
Property, plant and equipment	108.90	106.42
Capital work-in-progress	24.84	21.43
Investment property	42.55	43.46
Goodwill	18.27	15.62
Other intangible assets	42.23	20.31
Intangible assets under development	114.36	113.00
Financial assets		
Investments in joint ventures and associates	26.42	24.82
Other investments	45.32	33.65
Loans	18.62	17.94
Loans towards financing activities	577.89	544.59
Other financial assets	11.44	6.14
	679.69	627.15
Deferred tax assets (net)	34.19	27.55
Other non-current assets	56.49	47.54
Current assets		
Inventories	64.14	48.48
Financial assets		
Investments	139.46	94.64
Trade receivables	370.38	331.17
Cash and cash equivalents	65.09	68.34
Other bank balances	52.17	11.98
Loans	6.27	5.60
Loans towards financing activities	425.31	320.05
Other financial assets	20.06	41.94
	1078.74	873.73
Other current assets	526.88	478.97
Group(s) of assets classified as held for sale	0.07	15.12
TOTAL ASSETS	2791.34	2438.77
EQUITY AND LIABILITIES		
Equity		
Equity share capital	2.81	2.80
Other equity	620.94	546.23
Equity attributable to owners of the Company	623.75	549.04
Non-controlling interest	68.26	52.01
Liabilities		
Non-current liabilities		
Financial liabilities		
Borrowings	741.21	729.15
Other financial liabilities	3.54	3.54
	744.76	732.69
Provisions	5.57	5.23
Deferred tax liabilities (net)	3.11	6.38
Other non-current liabilities	0.0055	0.68

₹ (in Billion)

Particulars	FY19	FY18
Current liabilities		
Financial liabilities		
Borrowings	292.24	193.32
Current maturities of long-term borrowings	222.11	152.77
Trade payables		
Due to micro enterprises and small enterprises	2.61	1.76
Due to others	427.34	376.21
Other financial liabilities	48.15	50.32
	992.44	774.39
Other current liabilities	311.67	270.96
Provisions	30.38	25.25
Current tax liabilities (net)	11.37	7.53
Liabilities associated with group(s) of assets classified as held for sale	0.03	14.62
TOTAL EQUITY AND LIABILITIES	2791.34	2438.77
CONTINGENT LIABILITIES		
COMMITMENTS (capital and others)		
NOTES FORMING PART OF THE FINANCIAL STATEMENTS		

In terms of our report attached
For DELOITTE HASKINS & SELLS LLP
Chartered Accountants
Firm's Registration No.117366W/W-100018
by the hand of

S.N. SUBRAHMANYAN
Chief Executive Officer & Managing Director
(DIN 02255382)

SANJIV V. PILGAONKAR
Partner
Membership No. 39826

R. SHANKAR RAMAN
Chief Financial Officer &
Whole-time Director
(DIN 00019798)

M.M. CHITALE
(DIN 00101004)

SUBODH BHARGAVA
(DIN 00035672)

SUNITA SHARMA
(DIN 02949529)

N. HARIHARAN
Company Secretary
M. No. A3471

VIKRAM SINGH MEHTA
(DIN 00041197)

SANJEEV AGA
(DIN 00022065)

N. KUMAR
(DIN 00007848)

Directors

Mumbai, May 10, 2019

The Consolidated Balance Sheet, Consolidated Statement of Profit and Loss and Consolidated Statement of Cash Flows reported in ₹ Billion are derived by converting respective audited statements in ₹ Crore.

Consolidated statement of profit and loss for the year ended March 31, 2019

₹ (in Billion)

Particulars	FY19	FY18
INCOME		
Revenue from operations	1410.07	1198.62
Other income	18.52	13.42
Total income	1428.59	1212.04
EXPENSES		
Manufacturing, construction and operating expenses		
Cost of raw materials, components consumed	170.03	152.45
Excise duty	-	1.79
Construction materials consumed	310.60	240.56
Purchase of stock-in-trade	18.00	15.75
Stores, spares and tools consumed	28.59	23.79
Sub-contracting charges	263.47	246.39
Changes in inventories of finished goods, work-in-progress and stock-in-trade	(8.68)	(13.15)
Other manufacturing, construction and operating expenses	136.95	105.41
Finance cost of financial services business and finance lease activity	73.86	60.20
	992.81	833.18
Employee benefits expense	181.01	152.71
Sales, administration and other expenses	73.02	76.37
Finance costs	18.06	15.39
Depreciation, amortisation, impairment and obsolescence	20.84	19.29
	1285.74	1096.93
Less: Overheads capitalised	0.02	0.05
Total expenses	1285.72	1096.88
Profit before exceptional items and tax	142.86	115.16
Exceptional items	2.95	1.23
Profit before tax	145.81	116.39
Tax expense		
Current tax	46.93	37.32
Deferred tax (net)	(3.50)	(5.33)
	43.43	31.99
Profit After Taxes (PAT)	102.38	84.40
Share in profit / (loss) of joint ventures / associates (net)	(0.21)	(4.36)
Profit for the year	102.17	80.04
Other comprehensive income		
A Items that will not be reclassified to profit or loss		
Equity instruments through other comprehensive income tax on equity instruments through other comprehensive income	0.24	-
Gain/(loss) on remeasurements of the net defined benefit plans	(0.30)	0.35
Income tax (expenses)/income on re-measurements of the net defined benefit plans	0.11	(0.05)
Remeasurement of the net defined benefit plans [net of tax]	(0.19)	0.29

₹ (in Billion)

Particulars	FY19	FY18
B Items that will be reclassified to profit or loss		
Debt instruments through other comprehensive income	(0.63)	(0.45)
Income tax (expenses)/income on debt instruments through other comprehensive income	0.08	(0.02)
	(0.55)	(0.48)
Foreign currency translation reserve	(0.17)	0.98
Income tax (expenses)/income on foreign currency translation reserve	(0.03)	0.00
	(0.20)	0.98
Effective portion of gains/(losses) on hedging instruments in a cash flow hedge	(2.83)	0.91
Income tax (expenses)/income on effective portion of gains and losses on hedging instruments in a cash flow hedge	1.07	(0.08)
	(1.76)	0.83
Cost of hedge reserve	0.27	0.01
Income tax (expenses)/income on cost of hedging reserve	(0.09)	(0.01)
Cost of hedge reserve (net of tax)	0.17	0.01
	(2.30)	1.63
Total comprehensive income for the year	99.87	81.68
Profit for the year attributable to		
Owners of the Company	89.05	73.70
Non-controlling interests	13.11	6.35
	102.17	80.04
Other comprehensive income for the year attributable to		
Owners of the Company	(2.74)	1.62
Non-controlling interests	0.44	0.01
	(2.30)	1.63
Total comprehensive income for the year attributable to		
Owners of the Company	86.31	75.32
Non-controlling interests	13.56	6.36
	99.87	81.68
Basic earnings per equity share (₹)	63.51	52.62
Diluted earnings per equity share (₹)	63.40	52.49
Face value per equity share (₹)	2.00	2.00
NOTES FORMING PART OF THE FINANCIAL STATEMENTS		

In terms of our report attached
For DELOITTE HASKINS & SELLS LLP
Chartered Accountants
Firm's Registration No.117366W/W-100018
by the hand of

S.N. SUBRAHMANYAN
Chief Executive Officer & Managing Director
(DIN 02255382)

SANJIV V. PILGAONKAR
Partner
Membership No. 39826

R. SHANKAR RAMAN
Chief Financial Officer &
Whole-time Director
(DIN 00019798)

M.M. CHITALE
(DIN 00101004)

SUBODH BHARGAVA
(DIN 00035672)

SUNITA SHARMA
(DIN 02949529)

N. HARIHARAN
Company Secretary
M. No. A3471

VIKRAM SINGH MEHTA
(DIN 00041197)

SANJEEV AGA
(DIN 00022065)

N. KUMAR
(DIN 00007848)

Directors

Mumbai, May 10, 2019

The Consolidated Balance Sheet, Consolidated Statement of Profit and Loss and Consolidated Statement of Cash Flows reported in ₹ Billion are derived by converting respective audited statements in ₹ Crore.

Statement of cash flow for the year ended March 31, 2019

₹ (in Billion)

Particulars	FY19	FY18
A. Cash flow from operating activities		
Profit before tax (excluding non-controlling interest and exceptional items)	142.86	115.16
Adjustments for		
Dividend received	(2.37)	(27.48)
Depreciation, amortisation, impairment and obsolescence	20.84	19.29
Exchange difference on items grouped under financing/investing activities	(1.01)	(0.31)
Effect of exchange rate changes on cash and cash equivalents	0.50	(0.54)
Expenditure on buy back of shares	0.17	-
Finance costs	18.06	15.39
Interest income	(9.01)	(6.66)
(Profit)/loss on sale of property, plant and equipment and investment property (net)	(5.91)	(6.86)
(Profit)/loss on sale/fair valuation of investments (net)	(0.65)	22.18
(Profit)/loss on sale of subsidiary classified under developmental projects segment	(4.16)	-
(Gain)/loss on derivatives at fair value through profit or loss	0.22	1.26
Employee stock option-discount forming part of employee benefits expense	1.58	1.11
Bad debt written back	-	-
Gain on settlement of debt	-	(0.06)
Operating profit before working capital changes	161.12	132.48
Adjustments for		
(Increase)/decrease in trade and other receivables	(93.95)	(145.01)
(Increase)/decrease in inventories	3.31	(6.42)
Increase/(decrease) in trade and other payables	66.72	117.27
Cash generated from operations before financing activities	137.20	98.32
(Increase)/decrease in loans and advances towards financing activities	(138.55)	(164.59)
Cash generated from operations	(1.35)	(66.28)
Direct taxes refund/(paid) [net]	(45.82)	(34.03)
Net cash (used in)/from operating activities	(47.17)	(100.31)
B. Cash flow from investing activities		
Expenditure on acquisition of fixed assets	(42.83)	(28.77)
Sale of fixed assets (including advance received)	8.08	8.62
Purchase of non-current investments	(18.63)	(11.65)
Sale of non-current investments	6.53	4.29
(Purchase)/sale of current investments (net)	(30.33)	25.51
Change in other bank balance and cash not available for immediate use	(39.88)	4.85
Deposits/loans given to associates, joint ventures and third parties	(0.94)	(6.22)
Deposits/loans repaid by associates, joint ventures and third parties	0.44	2.30
Interest received	7.31	5.29
Dividend received from joint ventures/associates	0.19	0.01
Dividend received from other investments	2.37	27.48
Settlement of derivative contracts related to current investments	(0.22)	(1.26)
Consideration received on disposal of subsidiaries (including advance received)	0.67	10.48
Consideration paid on acquisition of subsidiaries	(3.10)	(2.14)
Cash & cash equivalents acquired pursuant to acquisition of subsidiaries	0.33	0.50
Cash & cash equivalents discharged pursuant to disposal of subsidiaries	-	(0.16)
Net cash (used in)/from investing activities	(109.99)	39.15

₹ (in Billion)

Particulars	FY19	FY18
C. Cash flow from financing activities		
Proceeds from issue of share capital (including share application money) [net]	0.11	0.50
Proceeds from non-current borrowings [Note 62]	241.82	469.03
Repayment of non-current borrowings [Note 62]	(140.81)	(369.64)
Proceeds from other borrowings (net) [Note 62]	77.65	26.80
Payment (to)/from non-controlling interest (net)- including sale proceeds on divestment of part stake in subsidiary companies	28.85	14.13
Settlement of derivative contracts related to borrowings	3.09	1.49
Dividends paid	(22.43)	(19.61)
Additional tax on dividend	(4.04)	(4.29)
Interest paid (including cash flows on account of interest rate swaps)	(29.82)	(24.71)
Net cash (used in)/from financing activities	154.41	93.70
Net (decrease)/increase in cash and cash equivalents (A + B + C)	(2.75)	32.54
Cash and cash equivalents at beginning of the year	67.99	35.45
Cash and cash equivalents at end of the year	65.23	67.99

Notes:

- Statement of Cash Flow has been prepared under the indirect method as set out in the Indian Accounting Standard (Ind AS) 7 'Statement of Cash Flow' as specified in the Companies (Indian Accounting Standards) Rules 2015.
- Purchase & Sale of fixed assets represents additions & deletions to property, plant and equipment, investment property and intangible assets adjusted for movement of (a) capital work in progress for property, plant and equipment and investment property and (b) Intangible assets under development during the year.
- Cash and cash equivalents included in the Statement of Cash Flow comprise the following :

Particulars	FY19	FY18
(a) Cash and cash equivalents disclosed under current assets [Note 14]	65.10	68.34
(b) Other bank balances disclosed under current assets [Note 15]	52.16	11.98
(c) Cash and bank balances disclosed under non-current assets [Note 9]	2.90	3.20
Total cash and cash equivalents as per balance sheet	120.16	83.53
Add : (i) Unrealised exchange (gain)/loss on Cash and cash equivalents	0.14	(0.36)
Less : (ii) Other bank balances disclosed under current assets [Note 15]	52.16	11.98
Less : (iii) Cash and bank balances disclosed under non-current assets [Note 9]	2.90	3.20
Total cash and cash equivalents as per Statement of Cash Flow	65.23	67.98

- Previous year's figures have been regrouped/reclassified wherever applicable.

In terms of our report attached

For DELOITTE HASKINS & SELLS LLP

Chartered Accountants

Firm's Registration No.117366W/W-100018

by the hand of

SANJIV V. PILGAONKAR

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Directors

Mumbai, May 10, 2019

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Manufactured capital

We have built best-in-class manufacturing as well as digital capabilities to deliver high-impact projects and equipments spanning multiple sectors. We ensure high level of safety and efficiency across our operations.

Our footprint is vast, with state-of-the-art facilities that demonstrate our integrated capabilities. Moreover, our ethos is to operate in the most sustainable manner possible, while helping safeguard the environment and the country's natural resources. Our business architecture helps create value by allowing flexibility, responsiveness and innovation. The outcome is an impressive array of high-quality products and services, delivered at competitive prices, maximising sustainable stakeholder returns.

INPUTS

950*

Project sites

59**

Offices / manufacturing locations

1,352
Million*

Safe man-hours

₹ 509,208*
Million

Material consumed

OUTPUTS

Linear infrastructure created

Roads

2,429*
Lane km

Railways

152*
Track km

Transmission lines

15,696*
Km

Water pipelines

22,937*
Km

41.6* Mn sq. ft.
Building infrastructure created

5,332* MLD
Water treatment solutions

279,786* MT
Factory output

44,116,568**
Electrical & Automation products

* During FY19

** As on March 31, 2019

Our campuses and manufacturing & fabrication facilities

Hazira Manufacturing Complex, Surat

Our globally benchmarked, state-of-the-art, fully integrated manufacturing facility has mega construction capabilities and captive 'Load-on' and 'RO-RO' jetties, enabling us to deliver complex equipment to customers across geographies. The globally benchmarked equipment manufactured at this facility includes the world's largest ethylene oxide reactor, the biggest coke drum and the largest coal gasifier, among others.

The Hazira Manufacturing Complex has one of the world's largest nuclear-grade forging facilities, large-scale material handling capabilities, and a shipbuilding facility for high-tech vessels.

L&T Hydrocarbon Engineering (LTHE) - Modular Fabrication Facilities (MFF)

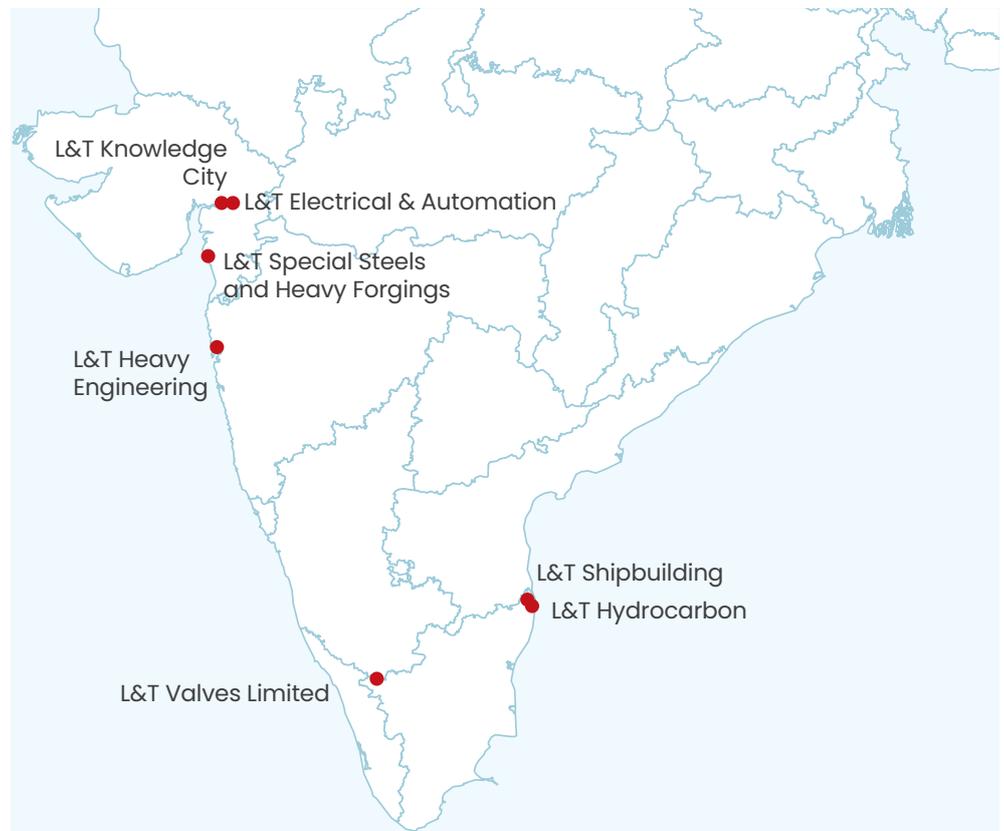
Our world-class MFFs are strategically located at Hazira on the West coast, Kattupalli in the East and Sohar in Oman. The yards offer round-the-year delivery capability with robust Quality, Health, Safety and Environment (QHSE) performance. The facilities are accredited with global certifications, pre-qualifications from all major oil & gas customers and are supported by state-of-the-art equipment to deliver complex modules and structures, duly tested / pre-commissioned right at the facilities.

Powai, Mumbai

It is the first manufacturing plant of L&T Heavy Engineering, manufacturing heat transfer equipment and aerospace motor segments that remain an industry benchmark even today.

Ranoli, Gujarat

This specialised facility manufactures equipment and internal assemblies for process plant industries using exotic materials like titanium, stainless and high-alloy steels, and composites.



L&T Knowledge City, Vadodara

Vadodara is home to L&T Knowledge City, hub of several key businesses of the L&T Group. The power business conducts its operations from the facility, along with L&T Hydrocarbon Engineering, L&T Technology Services and the engineering JV, L&T Sargent & Lundy.

L&T Chennai Campus

This campus serves as the headquarter for L&T Construction; it houses offices for Building and Factories, Power Transmission & Distribution, Water & Effluent Treatment, Smart World & Communication and Heavy Civil Infrastructure.

L&T Valves

The state-of-the-art manufacturing facilities of L&T Valves are located at Coimbatore, Kancheepuram and Sriperumbudur in Tamil Nadu. Its quality management system complies with ISO 9001 and API Spec Q1. The Environment Management System and

Occupational Health and Safety Management System meet the requirements of ISO 14001 and OHSAS 18001, respectively.

Electrical & Automation

Our in-house design and development capabilities of the E&A business are rated among the best in the industry. The manufacturing facilities are in Navi Mumbai, Ahmednagar, Vadodara, Coimbatore and Mysuru. We have overseas factories in Saudi Arabia, Jebel Ali (Dubai, UAE), Kuwait, Malaysia, Indonesia and the UK.

Our high-precision in-house tool manufacturing facilities ensure quality production, while Switchgear Training Centres impart good electrical practices to industry professionals. Our facilities at Powai, Ahmednagar, Mysuru, Coimbatore and Vadodara are approved by the Department of Scientific & Industrial Research, the Ministry of Science & Technology.

Other facilities

We have a state-of-the-art shipyard at Kattupalli near Chennai in Tamil Nadu. Its shiplift, designed and manufactured in-house, ensures quick turnaround of vessels. The systems at the yard conform to standards such as ISO 9001 QMS, EMS 14001 and OHSAS 18001.

Case study I

Enhancing productivity through creative engineering



Sardar Patel Stadium in Ahmedabad, Gujarat

With a seating capacity of 1,10,000, the Sardar Patel Gujarat Stadium in Motera, Gujarat, is set to be the world's largest cricket arena. At present, the Melbourne Cricket Ground is the world's biggest cricket stadium with 1,00,024 total seating capacity.

Challenges

The ambitious project will predominantly use the precast construction method. While on the one hand, this method will accelerate the time to complete construction, on the other, it presents a few challenges pertaining to space constraints as well as production cycle time.

Our mandate was to produce, stack and erect heavy precast elements (8,500+) and use heavy cranes and machinery in the process. Among the different shapes and sizes of these elements, there are two crucial Y-shaped ('GY' and 'HY') asymmetrical reinforced concrete columns that were initially designed and planned to be cast as discrete components, resulting in higher cycle times.

Our interventions

We meticulously studied different alternatives to resolve the challenges of time and space, crafting our own creative engineering solutions. This involved casting the GY and HY columns as solitary elements, rather than as a sum of discrete parts. Accordingly, we aligned the site logistics to accommodate in the existing precast yard the reinforcing bar (rebar) cage preparation and the concreting works for these larger elements.

The GY and HY columns weighed 120 tonnes and 250 tonnes, respectively. We made special lifting arrangements such as lifting clamps with trunnion support, 'C' links and multi-tier spreader beams – driving significant cost savings and enhancing on-site safety.

Our achievements

- Reduced overall cycle time for GY column by 42%, or five days, and HY column by 38%, or seven days
- Realised ₹ 19.5 Million in cost savings
- Limited structural connections to 73 vis-à-vis the previous 178, achieving a closer approximation of a monolithic assembly

Initiatives



Strengthening indigenous manufacturing for greater self-reliance

We sought to employ an air balancer at the defence facility in Hazira, to haul medium-to-heavy-duty loads from suspension points with maximum precision. Our technology partner recommended an overseas supplier from whom we could import the system. However, we worked with a local supplier to design and develop an indigenous air balancer, like the suggested system. The indigenous system was developed at just 40% of the cost of an imported system, saving ₹ 1.53 Million.



Pushing the innovation envelope for higher process efficiency

At the Kattupalli shipyard of the Defence business, we devised an innovative concept to optimise the re-drilling of a spud pipe hole. The solution will help serve multiple purposes:

- Adhere to the delivery schedule
- Outsource cost reduction
- Augment operations safety
- Achieve required quality

Overall, our cost savings by adopting this approach touched ₹ 4.3 Million.



Advancing automation for higher productivity and quality

We adopted multiple initiatives at the Hydrocarbon Engineering business' fabrication facility at Hazira to improve the productivity and quality of welding automation, while fabricating offshore structures. The efforts bore fruit, beginning with a project for the Oil and Natural Gas Corporation (ONGC).

We significantly enhanced total welding automation, saving 8,830 person-days and reducing the cost by 28%. This also resulted in improved productivity from 5.45 kg per day to 9.11 kg per day in jacket fabrication. In topside fabrication, the total welding automation achieved was 78%, saving 3,357 person-days, reducing costs by 31% and enhancing productivity from 5.76 kg per day to 9.12 kg per day.



Leveraging advanced technology for future-ready construction

L&T Constructions' Buildings & Factories vertical has implemented a RFID to track precast elements during construction, for a new dry dock project in Cochin.

This helped to:

- Save time vis-à-vis tracking and inventorying precast material
- Increase accuracy of inventorying and eliminate human error
- Enable real-time visibility and quantify progress



Lending greater support to deep excavation

The soil at the Cochin Shipyard Ltd. dry dock project was in a poor state, representing a mix of different soil profiles (filled-up soil, loose sand, dense clay, medium dense clay, and so on). The dry dock project comprises up to 5,000 in-situ pile casts. In constructing these many casts and drilling the piles without the soil collapsing into the pile bore holes, we traditionally use Bentonite slurry. The Heavy Civil Infrastructure business replaced Bentonite with polymers after considering the following benefits:

- Polymer is highly reusable compared with Bentonite slurry, reducing construction cost
- It is recyclable and biodegradable
- It is non-polluting owing to eco-friendly chemical composition
- It is easier and safer to work with

Additionally, with polymer, we gained land from client to dispose and recycle at zero cost, unlike Bentonite disposal which required us to rent additional land, adding to operating costs.



Mobilising lightweight innovations

Conventional tetrapod lifting for the base shutter in a casting yard comprises lifting hooks and stools. However, we proposed an alternative arrangement leveraging friction at our Hydro Technical Structures project at the Kudankulam Nuclear Power Plant in Tamil Nadu. This eliminated the requirement for stools and bottom supports in the mould. The new arrangement weighs only 95 kg for a 3 MT tetrapod and 600 kg for a 20 MT tetrapod, as opposed to the older hook-based mechanism that weighed as much as ~2,250 MT of mild steel rods. Additionally, the new system is structurally more efficient in its steel consumption and can be scaled up in future projects for different weights and sizes of tetrapods.



Intellectual capital

Innovation for us spans across the three domains of product, processes as well as people. We are ceaselessly investing in innovation to remain ahead of the curve in a competitive market scenario. We are among the early adapters of digitalisation and continue to leverage the same to enhance productivity and efficiency across all our processes

INPUTS

₹ 2,243*
Million

R&D spend

986*

Patents filed

3,060**

R&D engineers

19**

Active consortiums

OUTPUTS

148**

Patents granted

2,167*

Value engineering projects

₹ 19,000*
Million

Revenue from
new/emerging businesses

246*

Employees covered
under leadership
development
programmes

The high-impact projects that we execute are of national significance in India and other parts of the world. Our operations are large scale and demand huge responsibility and ownership on the part of our teams, both individually and collectively at every stage of the project life cycle. Therefore, we undertake measures to look after our stakeholders' health and safety.

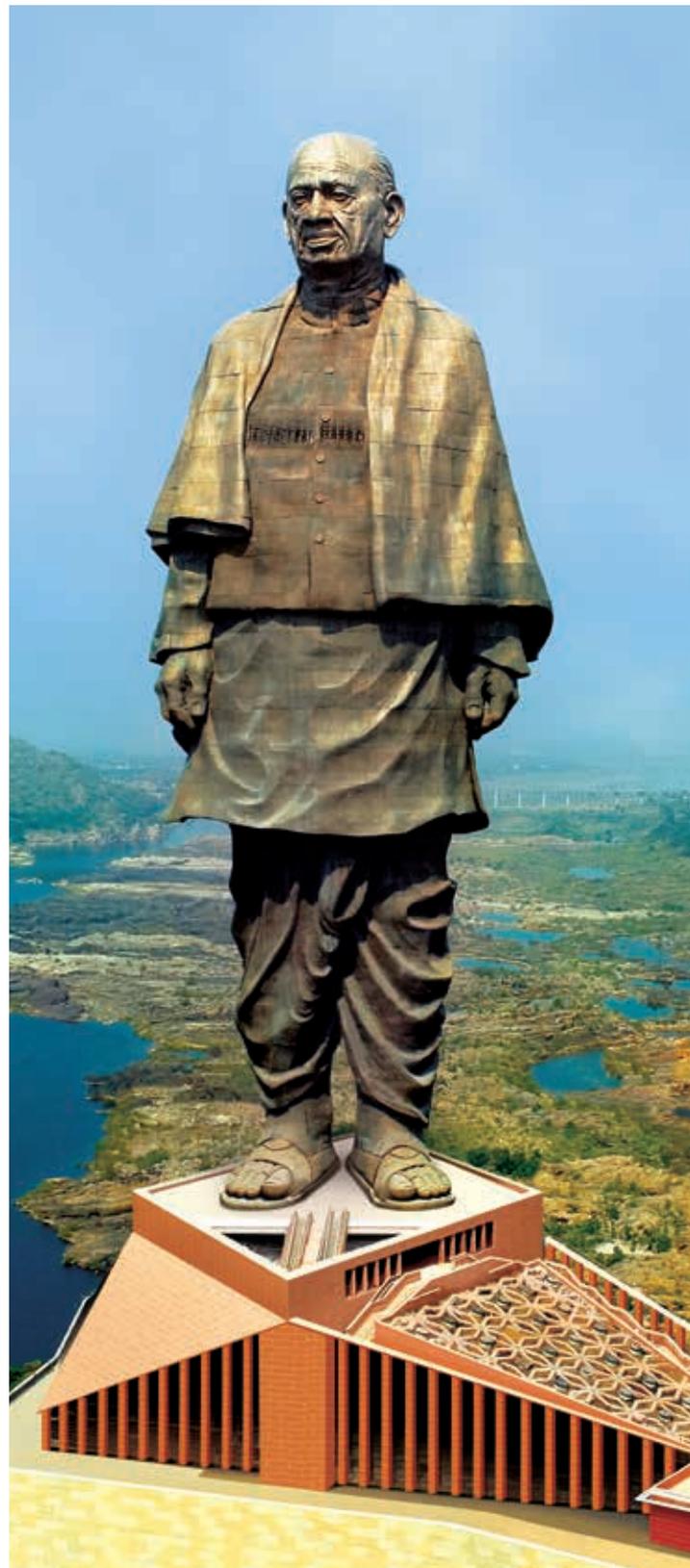
Our manufacturing facilities and project sites have a comprehensive EHS management system to identify, manage and mitigate risks. In addition, we extend our environmental and social practices to the supply chain and are committed to implement our combined CoC, which is integral to the suppliers' agreements.

Infrastructure

Landmark projects during FY19

- Statue of Unity, Gujarat
- Kannur International Airport
- ITC Kapurthala
- Duqm Airport, Oman
- Delhi Metro packages CC77 (Escorts Mujesar – Ballabhgarh Section of Violet Line) and CC27 (Hauz Khas – Vasant Vihar Section of Magenta Line) of Daily Metro Rail Corporation (DMRC)
- Lucknow Metro Elevated Package LKCC07 (KD Singh Babu – Munshipulia Section of North – South Line)
- Chennai Metro Underground Stations CMRL UG 02 (LIC, Thousand Lights and Government Estate Stations) and UG 03 (Nandanam, AGDMS, Saidapet and Teynampet stations)
- Mandovi cable-staged bridge in Panaji, Goa
- Several key 400 kV and 765 kV substation projects, including those at Tughlakabad, Tumkur, Baripada and Gwalior
- Transmission corridors, exceeding 3,000 km
- 220 kV Drass transmission line in Jammu & Kashmir
- 765 kV Jharsuguda – Angul transmission line for Power Grid Corporation of India Limited (PGCIL)
- ISP Kalisindh Project – Phase I and Parwati Project – Phase I from Narmada Valley Development Authority, Madhya Pradesh
- Athikadavu Avinashi Irrigation Project from Water Resource Department, Tamil Nadu
- Multi Village Rural Water Supply Scheme to Satna Bansagar from Madhya Pradesh Jal Nigam
- Coimbatore and Vellore Sewerage Schemes, Tamil Nadu
- Garwah Lift Irrigation Scheme from the Water Resource Department, Government of Jharkhand
- Industrial Area Sewage Treatment Works from ASHGAL, Qatar
- Drinking Water Supply Projects in Srikakulam and East Godavari District from Andhra Pradesh Drinking Water Supply Corporation
- Ranchi Smart Infrastructure Project from Jharkhand Urban Infrastructure Development Company Limited
- Coke Oven Batteries A&B, JSW, Dolvi
- Alumina Refinery, EGA, Abu Dhabi
- Pipe Mill Project, Al Gharbia Pipe Company LLC, Abu Dhabi

Our E&A division acquired 143 patents, 309 designs, 189 trademarks and 12 copyrights.





Power

Major achievements during FY19

- Achieved commercial operations date for the first unit in a project in Madhya Pradesh
- Accomplished the completion of Performance Guarantee test in a project in Rajasthan
- Gas Turbine Generator synchronisation for a Bangladesh gas-based power plant project within the contractual period
- First 1,000 MW turbines to be manufactured in India by L&T-MHPS Turbine Generator (2 x 1,000 MW turbines)

Heavy Engineering

Orders received during FY19

- Multiple orders in the oil & gas sector for critical reactors, coke drums, slug catchers, LNG equipment and ethylene oxide reactors, primarily for projects in the Middle East, China and the US

Major projects under execution

- Atmospheric Residue Desulfurisation (ARDS) reactors for ADNOC Refinery in the UAE
- Steam generators for Gorakhpur Haryana Anu Vidyut Pariyojana (GHAVP) Unit 1 and 2 for Nuclear Power Corporation of India Limited (NPCIL)
- Hydrocracker Unit Reactors in Duqm, Oman



Defence & Aerospace

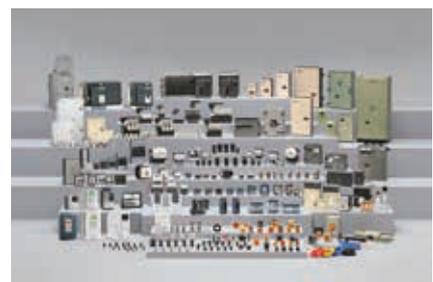
Major achievements during FY19

- Delivery and commissioning of the first Indian Weapon System for a foreign navy
- Dedication to the nation of L&T's Armoured Systems Complex at Hazira by the Honourable Prime Minister in the presence of the Honourable Defence Minister
- Significant weapons systems delivered included K-9 Vajra Howitzers, Pinaka MRLS, BM21, Akash Air Defence Systems – many of which were displayed at the Republic Day Parade
- Delivery of multiple weapon launch systems (land and naval), engineering systems and missile systems to the Indian Armed forces
- Announcement on operationalisation of deterrence patrol by the INS Arihant by our Honourable Prime Minister is a testimony to the platform's build quality
- Handover of three Offshore Patrol Vessels (OPVs) to the Indian Coast Guard – all ahead of schedule
- Benchmark-setting delivery: OPV-1 was the first first-in-class ship since 1963 to be delivered within the contracted schedule
- Ahead-of-schedule deliveries of Interceptor Boats to the Indian Coast Guard (8 boats in FY19)

Electrical & Automation

Major achievements during FY19

- Electrical Standard Products business showcased 20% healthy New Product Intensity (NPI) index powered by focused R&D activities
- Electrical Systems & Equipment business
 - Breakthrough in Africa for businesses with an order from the Dangote Group
 - Ahmednagar Switchgear Works factory became the first Indian factory approved by global wind majors





Hydrocarbon Engineering

Major achievements during FY19

- The offshore vertical handed over three wellhead platforms ahead of schedule to ONGC for its Neelam Redevelopment Project
- Completed Transportation & Installation for Daman Development Project and achieved substantial completion for ONGC's pipeline replacement project
- Gathering Centre, GC-30, in North Kuwait for Kuwait Oil Company
- Completed the Safaniya 4 Deck project and upgraded 17 tower cranes for Saudi Aramco
- SNDC-2 and KDC-2 projects for PDO, Oman
- Off-gas treatment (urea plant) was successfully commissioned for GSFC
- Mechanical completion of a melamine plant for GSFC
- Mechanical completion for IOCL Haldia's Coke Drum System Package (CDSP)
- Launched Hasbah II Tie-in Platform – the heaviest gas platform in Saudi Aramco's history
- Supplied fabricated and modularised CCR, NHT, MHC Heaters to JNK Korea for Dangote Oil Refining Company Limited, Nigeria



Driving our digital outreach

Major digital initiatives during FY19

- Started to enable accurate analysis of stock at site for digital stores
- Installation of LED TV to improve communication regarding safety
- HSE Induction Film was developed for clients and visitors; Digitalisation Programme to improve the effectiveness of HSE Induction Training
- EHS team developed and implemented state-of-the-art VR-based safety induction modules on 'Critical to Safety' themes
- RFID used for tracking of precast elements during construction

- SafeArmZ mobile app was developed to increase compliance to EHS norms across all geographies
- Pioneered robotics in the construction space. At a few sites, robotic internal plastering and painting is being attempted, which is 30 times more efficient than manual application.
- The business is also a leader in productivity monitoring using RFID tags interlinked with biometrics. It has successfully employed visual analytics and AI in weighbridge solutions.
- Solutions for project monitoring through Procube (mobile and web-based application)
- Access to geospatial solutions through user-friendly portals for mapping topography, road layouts, project ROW, land status, obstruction management and linear progress monitoring, which are helping project teams to plan and execute better with a higher degree of project progress visualisation
- 3D Machine Control System, deployed on motor graders, for automated control of its complex operation, doubling productivity and lowering human intervention
- New-age digital solutions such as QT and the AI Chat Bot on highway engineering guidelines on quality specifications
- Extensive use of Building Information Modelling (BIM) across the whole life cycle of projects, project management tools, AR-/VR-based training modules and geospatial drones
- Digital initiatives implemented include concrete management system, boulder/aggregate management system, bid preparatory system, digital monitoring of workmen and plant and machinery, and digitalised EHS audit reports
- Sales Force Automation solutions by Electrical and Automation business
- Hydrocarbon Engineering business has launched digital fabrication and construction initiatives to improve productivity

Other key achievements

- 16,722 m³ of cement was poured on December 22, 2018 at the Medigadda Barrage project in Telangana
- 10 m formwork was designed and implemented at the Medigadda Barrage project
- Reverse circulation drilling rig deployed for the first time in India in Mumbai Trans Harbour Link Project
- Balanced Cantilever bridge was constructed over Gomti river in record 8 months for Lucknow Metro project, despite various adversities
- Mumbai Metro project achieved the first major breakthrough in tunneling on September 24, 2018 in Metro Line 3

Case study I

Transforming Nagpur into a 'smarter' city



Nagpur remains one of the chosen cities under the Smart City Mission of the Ministry of Urban Development, Government of India. The Nagpur Smart and Sustainable City Development Corporation Limited (NSSCDCL) wants Nagpur to evolve into an eco-friendly, education city, enabling integrations across governments, businesses, people and spaces to formulate a more prosperous and inclusive ecosystem.

At L&T Construction, we partnered with the Nagpur Municipal Corporation (NMC) to convert the city into India's first integrated smart city.

Objective

The objective was to enhance the city's overall quality of life, encompassing connectivity, security, smart waste management, Wi-Fi zones and variable messaging signboards, among others.

The entire solutions spectrum was meant to be showcased, along a 6 km long smart strip that will be monitored by L&T's state-of-the-art Command and Control Centre.

Interventions

We teamed up with the Maharashtra police force to obtain approvals from concerned authorities, before commencing work. We are procuring several components and technologies strengthening the Smart City initiative such as video management software, facial recognition system software licence, smart parking information system and e-challan application, among others. Besides, we adopted precautionary measures to ensure the safety of citizens, while monitoring delivery, execution, post execution, restoration and so on.

We have installed drones and software for effective monitoring of operations, while online EHS systems are being developed to oversee absolute compliance.

Impact

Nagpur has assumed the first position in the index of Smart City Rankings, being the first integrated safe and smart city, according to the government website. The initiative has won several accolades both nationally and internationally.

The city managed a critical flood situation, putting in place a fully functional public announcement and variable messaging system to broadcast social messages.

Besides, the CCTV surveillance system has become an efficient tool in defending law and order in Nagpur, enforcing traffic discipline, supporting crime investigations and monitoring citizen safety.

We will continue to co-create a services ecosystem to efficiently utilise existing resources and enable a better quality of life.

Initiative

**Catalysing integrated urban efficiencies**

Integration of critical services are essential for a rapidly developing economy and an aspiring society, poised to take on the next phase of capacity utilisation. The Water and Effluent Treatment (WET) initiative offered comprehensive, centralised urban infrastructure services to the Government of India's Smart City drive in Hyderabad.

We are also targeting quicker decision-making by optimising urban functional verticals and integrating overall urban efficiencies. Also, we are exploring evidence-based enforcement of discipline, advanced analytics and effective real-time response and investigation, among other domains.

The Water and Effluent Treatment (WET) initiative offered comprehensive, centralised urban infrastructure services to the Government of India's Smart City drive in Hyderabad.

Case study II

Fast-tracking a future-ready cityscape



Through the Smart City project collaboration with the local administration in Prayagraj, Uttar Pradesh, we envisioned greater efficiency in citywide operations, facilitating high-quality crowd management solutions and a unified view of circumstances.

India's Kumbh Mela is the world's largest religious congregation and takes place every third year at each of the four historic cities: Haridwar, Prayagraj, Nashik and Ujjain. The Smart World and Communication (SWC) business in Prayagraj, set up an Integrated Command and Control Centre (ICCC) to monitor and control the movements of over 200 Million pilgrims, ensuring an incident-free event.

Interventions

We laid out a 350 km optical fibre cable network for last-mile connectivity, while also installing surveillance cameras, viewing centres, intelligent traffic signals and solid waste management solutions to ensure the city remains clean and well managed. The ICCC helped with smart video management and key multi-domain analytics such as automatic number plate recognition, red light violation detection and facial recognition, among other smart elements.

The ICCC was used to monitor the Kumbh Mela crowd density and ascertain that it was higher than what the location could permit, thereby helping the field police extend support to the distressed who reached out to the dedicated helpline number.

Impact

We ensured collaborative oversight, organising vast data volumes to accelerate faster decision-making and real-time intelligent solutions on the one hand, and zero harm to citizens on the other.

This was a daunting task, as we were required to integrate all components within a stringent timeline, across a largely uncontrolled operating environment. The SWC business turned around the project in less than 5 months since receiving it.

Prayagraj, today, is North India's first integrated smart city to be commissioned and operational, with a data centre and two command centres, a 24x7 emergency and civic contact centre, and fully equipped dashboards.

Initiative



Achieving a holistic ecological balance

We encourage the broad-based adoption of workplace practices that optimise our environment footprint. We recognised the requirement for uniform EHS awareness and compliance across our diverse operational geographies. Within our SWC business, EHS implementation has assumed a crucial role.

For this purpose, we developed and pilot-tested a mobile application ('SafeArmZ'). The app facilitates efficient utilisation of natural resources and addresses operations and employee maintenance expenses.

Our EHS awareness and compliance saved 2,54,157 sheets of paper, accounting for ~30 trees annually. The SafeArmZ application enabled the saving of 8,340 person-days through increased productivity and higher transparency. We also generated ₹ 481,190 Million in cost savings and won the copyrights certificate awarded by the Government of India.



Human capital

Our global teams hold the key to achieving high performance benchmarks and the solutions we deliver to stakeholders.

The experience and expertise of our people drive L&T's growth and prospects. We recognise their significance, motivate our go-getters with training as well as performance rewards, and make them future leaders.

A robust framework of people management, created as per the Company's Corporate Human Resource Policy, provides our employees with ample growth opportunities.

We value the contribution of our people, and our work culture is supported by the robust pillars of learning, meritocracy, caring and openness to steadily upskill our teams to compete in a dynamic operating environment.

Our growing talent pool enjoys access to a world of endless possibilities, which help them seek new challenges and grow personally and professionally. The efficacy of our people practices can be seen in the metrics listed here.

INPUTS

50,958**

Permanent employees

30,761**

Engineers

332,366**

Contract labourers

₹181
Billion*

Total staff cost

OUTPUTS

₹28
Million*

Revenue per employee

>5
Million*

Training hours imparted

32
Years**

Median age of staff

25%**
Staff with >10 years of tenure

* During FY19
** As on March 31, 2019

Shaping new-age innovative learning

Our empowered go-getters turn our strategy into action, strengthening a rich tradition of creativity and innovation, and generating sustainable stakeholder value.

We continue to invest in advanced training modules and use state-of-the-art technology to provide learning solutions in our major competence areas. Training courses are developed to ensure that the content elevates the knowledge quotient of participants, sharpens their skills and matches our strategic requirements.



Widely acclaimed for its people development initiatives, L&T is often reinterpreted as ‘Learning & Training’.

From virtual interactive modules to e-learning and classroom trainings, we offer a broad spectrum of interventions to enhance our team’s potential.

GRI 404-2, GRI 412-2



Orientation

An entry-level programme to ensure a smooth transition of new entrants from the world of academia into that of the corporate world.



External training programmes

We conduct these programmes with external agencies, to address specific technical skill gaps.



Theme-based programmes

We undertake need-based interventions that spread awareness and knowledge about a system, model or a process. The programmes also include training for employees due for retirement.



Performance-oriented development

We support performance improvement through on-the-job-training with opportunities to partake in external and internal competitions, programmes and seminars.



Certified courses on safety

National Examination Board in Occupational Safety and Health (NEBOSH) and Institution of Occupational Safety and Health (IOSH) courses instil and sustain a strong safety consciousness across our businesses.



Core development programmes

This intervention develops and grooms talent in general management and equips trainees to address higher level responsibilities.



Centre of excellence

This is a structured intervention that helps provide end-to-end consulting on various business initiatives of operational excellence.



L&T is the first Indian corporate to be accredited as a ‘course provider’ by NEBOSH, UK, for delivering the International General Certificate and by IOSH, UK, for delivering their course on safety management.

Each business conducts need-based training programmes to upskill workers in their respective disciplines. We are also strengthening institutional learning through the development of captive training facilities such as Power Training Institute; Engineering Design & Research Centres; Switchgear Training Centres in Pune, Lucknow, Vadodara, Delhi, Kolkata and Coonoor; as well as a Safety Innovation School at Hazira, near Surat.

A dynamic learning environment

We fortify our talent pool by personalising the training experience of our tech-savvy millennial employees with ATLNext. An extension of our Any Time Learning (ATL) online portal, it is a radically new digital learning platform. Based on AI and machine learning, the smart platform empowers us with actionable data-driven insights to upskill our employees, helping our people enhance competencies. The ATLNext ecosystem is further enhanced with the integration of a variety of rich learning resources (behavioural, technical and functional) for easy access by our teams.

Cadre-wise distribution of training (hours/employee)

	FY19	FY18
Covenanted	19.9	15.5
Executive	23.9	20.2
Supervisor	20.4	14.5
Union	10	11
Graduate Engineer Trainee	480	480

We have set up a unique Leadership Development Academy (LDA) at Lonavala as a corporate university, collaborating with the world's most esteemed institutions to provide global exposure to its students. Recognised by Symbiosis International University as a 'Research Centre', LDA enables scholars to pursue their PhD programmes.

The state-of-the-art campus helps nurture tomorrow's leaders and global corporate entrepreneurs so that they can fulfil their ambitions and provide thought leadership. Of other external programmes, the 'Build India' scholarship is noteworthy. An industry-academia collaboration, the campus offers an excellent opportunity for engineering students to pursue a Masters of Technology in Construction.

Leadership pipeline development

Our leadership development programmes are conducted in collaboration with reputed Indian and international business schools. The Company has a unique, seven-step leadership pipeline development process that has been meticulously structured.

Management education programme

An exclusive L&T and Indian Institute of Management (IIM), Ahmedabad collaborative programme, designed to groom young leaders in the discipline of general management.

Leadership development programme

Designed for middle management, it focuses on the field and forum principles, and helps high-performing executives assume leadership responsibilities.

Global leadership development programme

Customised and facilitated by the University of Michigan's Stephen M. Ross School of Business, the programme focuses on developing leadership skills for effectively competing in the global context.

Transforming L&T into a global corporation

Conducted in association with INSEAD, France and designed for top management executives, the programme covers strategic choices, including mergers and acquisitions, and risk management and leadership attitudes, from a global perspective.

Global CEOs programme

Conducted by professors from Harvard Business School, it is targeted at leaders handpicked for future roles such as CEOs, business heads, Board members and business leaders.

International executive education

Enterprise leaders are nominated for Advanced Management Programmes (AMPs) offered by select globally renowned business schools such as London Business School and INSEAD, among others.

Mentoring

A systematic internal mentoring process by the Chairman, and the CEO and MD is instituted for the senior executives of the Company.

Enhancing performance through deep engagement

To succeed in a dynamic operating landscape, it is essential to have a cohesive team, capable and empowered to respond to emerging challenges effectively. At L&T, we provide extensive learning and development opportunities to foster an intelligent and energetic workforce that demonstrates capabilities, both at an individual and team level. We also proactively encourage communication during work hours and also during social gatherings and group-wide events. Some of the employee engagement initiatives comprise:

Core Development Programmes

Supervisory Development Programme, Executive Development Programme, Management Development Programme (for individuals and teams to achieve operational excellence)

Strategic Finance Leadership Programme

Conducted in association with the Wharton School to develop Finance & Accounting heads as co-pilots for businesses

Annual Book Festival

Book sales, author speaking sessions, contests and workshops

iCALL

Telephonic professional counselling initiative in association with the Tata Institute of Social Sciences, Mumbai, as part of our employee wellness agenda

Workshops, webinars and more

To share new technologies and trends with a wider set of L&T-ites

We recognise that transparent dialogue and respectful partnerships with employees help craft useful solutions. In 2018, the voice of our people was captured in a survey that we conducted together with the Great Place To Work (GPTW) Institute. We reached out to ~44,000 team members to invite their opinions on different facets of their life at L&T, from work culture to development opportunities and more. The response rate was recorded upwards of 90%. Our business verticals are currently working on identifying key action areas, based on the survey.

According to the survey, 15 people practices were audited by the GPTW Institute panel to ascertain how our practices measure up to the people practices of India's 'Best Employers'. The benchmarks are then cascaded across the organisation to drive better performance management.

We conduct regular performance audits and our permanent employees go through a structured annual performance and career development review. The insights, gained

from this review, determine our annual training calendar.

Our compensation structure is subjected to continual review to ensure it remains relevant with changing times to attract and retain our present and future talent pool. We provide our employees with standard benefits such as insurance, healthcare, maternity leave, post-retirement medical benefits, gratuity, pension, leave encashment and provident fund.

Our objective is to go beyond statutory provisions and offer additional benefits such as crèche allowance, scholarships and rewards to employees' children, education for children of deceased or permanently incapacitated employees, annual health check-ups, holiday homes and medical insurance. To help rehabilitate the differently-abled children of our employees, we reimburse their medical treatment and therapy expenses. We also cover special educator requirements and surgical interventions.



In 2018, the voice of our people was captured in a survey that we conducted together with the Great Place To Work (GPTW) Institute. We reached out to ~44,000 team members to invite their opinions on different facets of our operations.

Doing the right things in the right way

Our invaluable tenets comprise individual dignity, respect for human rights and professional conduct to sustain and grow a value-accretive and cohesive organisation. We are committed to operating ethically in consonance with the United Nations (UN) Universal Declaration of Human Rights, the 10 UN Global Compact (UNGC) principles and the applicable International Labour Organization (ILO) Core Conventions on Labour Standards. We adhere to various applicable regional and national laws as well as regulatory stipulations.

Our CoC defines and articulates our strong emphasis on human rights and practices, along with our policies and systems for effective implementation. The policies encompass topics such as the prohibition of child labour and forced or compulsory labour and non-discrimination. We respect the right of all employees to form and join a union. All unionised employees are covered under our collective bargaining agreement. It is pertinent to mention in this context that according to the Industrial Disputes Act, the minimum notice period for operational changes is mandated as 21 days.

Our investment and contract documents with sub-contractors contain human rights clauses. It is mandatory for all new

suppliers and vendors to sign a combined CoC as a pre-registration requirement. This encompasses financial, environmental and social aspects, including human rights, wages and good labour practices.

So far, more than 22,000 suppliers and vendors have signed the combined CoC. We lay emphasis on strict adherence to these clauses within our premises and project sites. We have put in place a robust grievance-handling mechanism to address concerns related to our labour practices and human rights. Besides, we also conduct the assessment of significant suppliers and contractors to comply with the combined CoC.

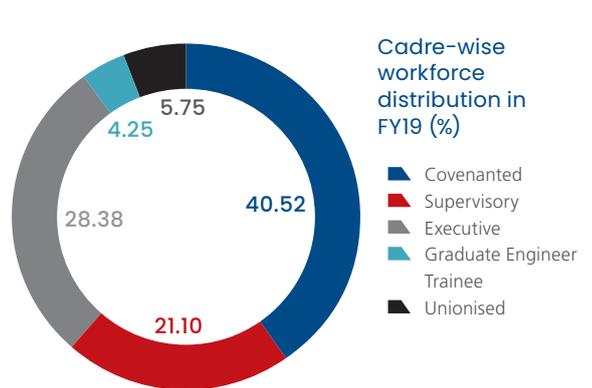
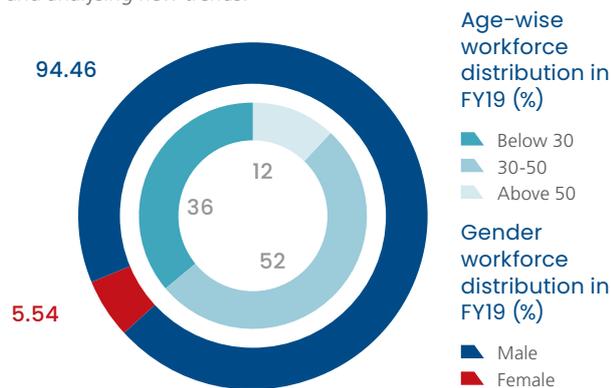
Our security personnel are regularly appraised, and there were no recorded grievances related to security personnel's breach of human rights at our operations. During the reporting period, there were no significant fines or non-monetary sanctions for non-compliance pertaining to human rights or labour practices; no cases of child labour, forced or compulsory labour or discrimination; and no violations involving the rights of indigenous people.

An abiding commitment to diversity and inclusion

We focus on strengthening the diversity of our talent pool vis-à-vis race, gender, nationality, caste, age, physical ability and religion. A diverse group evolves refreshing ideas, and is better attuned to questioning and disrupting the status quo and attempting creative problem-solving. Diversity also fosters a wider network for observing and analysing new trends.



We are an equal opportunities employer, and the male to female remuneration ratio is at 1:1.



No cases of discrimination were reported during the year. Our Board members are Indian nationals, above the age of 50, with one female member. Women employees are entitled to maternity leave. Our average return to work rate after maternity leave stands at 80% for the past three years.

'Renew' represents a sound platform to help female professionals rejoin their career following a brief maternity and child-rearing break. We have put in place a redressal mechanism to handle complaints from female employees, and this is covered under the Protection of Women's Rights at Workplace policy. We have constituted Apex and Regional Complaints Committees to address specific cases of sexual harassment at the workplace, if any.

	New Joinees in FY19	Attrition in FY19
Male	8,378	5,988
Female	535	424
< 30	5,373	2,644
30-50	3,287	3,298
> 50	253	470

Occupational health and safety

L&T is committed to providing a safe and healthy workplace across campuses and project sites. Our endeavour is to ensure that every task or assignment is performed safely with speed and precision.

At L&T, we have been steadfast in our efforts to maintain a secure and healthy work environment across campuses and project sites. Our objective is to ascertain that each assignment is performed safely, swiftly and accurately. We have formulated an organised procedure to consistently enhance our safety performance. Our safety systems are cognisant of contractors working within our premises, and our suppliers are motivated to arrange safety management processes at their locations.

The Corporate EHS Policy and management processes across businesses underline our efforts towards administering an accident-free workplace. The policy's relevance is evaluated periodically by our senior management.

Our businesses are run in accordance with international certifications such as ISO 14001:2015 (Environment Management System) and OHSAS 18001:2007 standards. Most of them have already begun complying with the recently issued standard of ISO 45001:2018 (Health and Safety Management System) and are expected to receive certification in the near future. Some of our businesses are governed under more stringent standards laid down by the oil & gas and maritime industries, among others, and hence may not require these certifications. All our workers and employees are covered under these certifications.

Our objective

We dedicate the highest degree of precedence to effective implementation of health and safety practices in line with our 'Zero Accident Vision 2021'. Our objective is to achieve a safer work environment for our employees, contractors and customers through firm implementation of rigorous systems and processes.

Safety culture

The corporate EHS Policy is implemented using a corporate EHS framework, which has enlisted guidelines and procedures. Each employee contributes to the formulation of our organisational safety culture. Our zealous EHS teams, across businesses and project sites, work in collaboration with the project site teams, to implement the highest safety practices. The teams are also responsible for business-specific EHS programme implementation.

Some of our programmes include a safety induction training before work commencement and functional safety training sessions. Our safety performance undergoes monthly and quarterly evaluations at the Company's Board level, to ensure constant progress.

The security and welfare of contract workers at our project sites is vital to us. Our sub-contractors are assessed on their safety infrastructure, processes and strengths before being assigned a job. Contract labourers are also expected to abide by our policies and practices. Regular refresher training sessions and capacity building programmes help refine the understanding of our safety requirements among workers. Additionally, our senior management conducts intermittent site visits and audits to aid in improving EHS performance.

Safety committees that arrange regular meetings are institutionalised at various manufacturing and project locations and include senior management representatives and union members. Additionally, unionised employees also form a part of these safety committees at our manufacturing locations.

These committees are instrumental in helping L&T reach the 'Zero Accident Vision 2021' we hope to achieve. Specific clauses related to health and safety are also incorporated in the collective bargaining agreement.

EHS Council

EHS is a critical facet of organisational sustainability and remains integral to our business philosophy. To make EHS processes more robust and institutionalise best practices, the EHS Council was constituted this year, comprising all our businesses.

The Council's objectives are:

- Creating better awareness among members on various EHS aspects
- Learning from each other and sharing best practices across businesses and verticals
- Standardising safety gadgets and equipment, along with effective deployment
- Building a strong, organisation-wide EHS structure, along with processes and management systems to manage risks
- Enabling the members to effectively manage EHS issues of their respective businesses by means of regular audit and implementation of corrective and preventive actions.

At construction project sites, especially those sites having very high ambient temperature, work schedules are altered to avoid exposure of workmen to work during mid-noon to reduce dehydration risks or heat strokes. Similarly, at fabrication yards and workshops with very high noise levels, we ensure that noise levels are maintained below permissible limits, proper noise barriers/absorbers are installed, and workmen are provided with hearing protection (ear plugs and ear muffs).



Driving digitalisation in safety initiatives

Digitalisation is extensively used across businesses as a key enabler to improve safety performance. It is used to create e-learning modules at project sites, and devise VR-based training modules. It also plays a key role in designing safety cards for reporting unsafe acts/conditions, incident investigation, safety inspection, improved Safe Operating Procedures (SOPs) to reflect changing work methods, and EHS suggestion systems, to name a few.

All our businesses have implemented initiatives for digitalisation of safety. Some salient ones are:

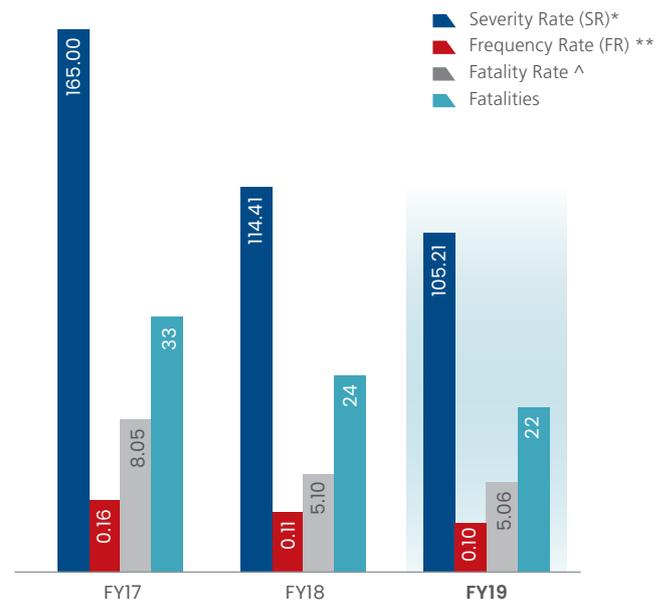
- Implemented nine VR modules in nine languages for Transmission Line (TL) and Sub Station (SS) Business Units for workmen.
- 4 HTC Vive VR interactive training modules were developed in English and Hindi for frontline supervisors and staff at sites.
- EHS mobile application: 10 modules were developed, including an EHS Observation Log to identify unsafe acts and conditions, and actions taken.

In addition, extensive mechanisation and enhanced training on behaviour-based safety programmes are conducted across businesses. Cross-functional safety audits are conducted along with training-the-trainer programmes to build site-based safety capabilities. To spread safety awareness, theme-based campaigns are conducted on important dates like:

- L&T Safety Day 2018: Let’s work towards an accident-free workplace
- Fire Service Week 2019: Prevent fires, prepare yourself, promote safety
- National Safety Week: Reinforce positive behaviour at the workplace to achieve safety and health goals

In the Construction business, an innovative programme has been developed to groom fresh diploma engineers to take up the role of EHS professionals.

Safety dashboard (at L&T level)



* Severity Rate (SR): Number of man-days lost per million man-hours worked
 ** Frequency Rate (FR): Number of reportable accidents per million man-hours worked
 ^ Fatality Rate: Number of fatalities per 100,000 work force

Case study I

Safety is our 24x7 priority

To strengthen the adoption of our 'people first' approach, the MFF Hazira travels the extra mile. We implement safety measures for both our contract workforce and supervisors. These precautions focus on promoting healthy operational practices within each contractor's area of operation.

Challenge

The unskilled contract workforce often becomes victim to dangerous and life-threatening mishaps that lead to disruption in operations, environmental degradation and even casualties.

Interventions

Communication

- Shared the reframed Contractor Safety Management System Manual to include major HSE requirements
- A Tool Box Talk (TBT) schedule was put in place to inform workers of any project-specific alterations
- Bilingual displays are being put up on the shop floor

Safety culture and motivation

- Instituted a culture of continuous evaluation, recognition and adherence to work ethic and safety suggestions
- Appointed area-wise supervisors and safety marshals, who further drive down safety consciousness among workers

Training and competence

- Safety training programmes – both internal and external – are a part of our organisation's mandate to ensure sustainable operations
- We hand over training passports to contractors who attend the programme and are HSE compliant
- We are evaluating training effectiveness to gauge their productivity

Audits and inspection

- Instilled accountability and ownership among the persons-in-charge through Behaviour Based Safety (BBS) inspections
- Introduced a set of zone-wise and activity-wise hazard hunts to check for possible perils
- Continue to ensure round-the-clock attention to all procedures

Miscellaneous contractors

- Identified miscellaneous contractors and are incorporating them in our records following an evaluation
- Organising sessions with Non-Destructive Testing (NDT) contractors and Material Handling Equipment (MHE) suppliers to engage with them and incentivise a greater degree of MHE compliance

Impact

We accomplished greater HSE compliance across the board. Most reckless acts and circumstances were reported and acted on, bringing the number of accidents down comparatively.

- Drop in first-aid cases from 10 in 2015 to 5 in 2018
- Drop in near misses from 256 in 2015 to 34 in 2018
- Rise in inspection audits from 1,423 in 2015 to 11,684 in 2018
- Achieved 27.55 Million lost-time injury-free safe person-hours and 815 safe person-days
- Won the Certificate of Merit from Frost & Sullivan in the category of Safety
- Further opportunities for better contractor management are being actively discussed

Case study II

Simplified operations are safer in the long run

Our 40,000 MTPA Gujarat State Fertilisers and Chemicals (GSFC) Melamine project team is now in its final phase of Commissioning and Startup (CSU). The phase of transition, from construction to commissioning and then operationalising the project, came with a specific set of HSE challenges and risks.

Challenges

Since construction lasted for three years, we had sufficient time to train all relevant personnel in safety measures and risk mitigation. CSU, on the other hand, lasts a relatively short span of time, which may lead to oversight that only prevents extreme events (related to high temperature, high pressure and toxic substances) and neglects comprehensive HSE compliance. Also, a second part of the problem was to sensibly reach even frontline workers through messaging that is easy to understand and implement.

Interventions

- Instituted a structured, sensitisation campaign titled 'Safe Startup, My Responsibility', inspired by the pioneering safety measures of the 1900s that used banners, slogans and posters to drive a sense of ownership among team members.
- Executed a five-day campaign a week before the CSU phase commenced, based on the solid fulcrum of fool-proof planning, supported by a simple, innovative and cost-effective approach.
- Agreed upon five HSE themes for five days and colour coded each theme:
 - **Red Day:** Fire and emergency preparedness
 - **Blue Day:** Occupational health risk and controls
 - **Green Day:** Environment aspects
 - **Yellow Day:** Importance of Permit To Work (PTW) during start-up
 - **Brown Day:** My duties for safe start-up

Moreover, we designed and developed bilingual posters, demonstrations, case studies, group discussions and questionnaires to educate both the frontline and supervisory team on CSU processes and specific operational risks.

Impact

- Mobilised frontline and supervisory workforce and equipped them adequately with the knowledge of HSE risks and corresponding mitigation measures
- Safety consciousness was further augmented to enhance workforce competency and help achieve 7 Million safe person-hours.
- Scaled up for implementation in all such future EPC projects, whether domestic or international, improving our general HSE culture

Initiatives

Constant learning takes us farther

The Defence business at Kattupalli promotes a culture of continuous learning and improvement and reinforces existing HR policies.

We launched special programmes, namely Vision Inspiring Synergy for Team Actualisation (VISTA), Synergy and Teamwork for Enhancing Performance (STEP), Leadership Exploration and Development Workshop (LEAD), the Gyaan-Shakthi Initiative and the Gyaan-Tarang Initiative.

These measures facilitated our strategic initiatives – Enterprise Resource Planning (ERP), BBS and project-specific interventions concerning aspects of safety, quality, productivity, delivery, cost saving and staff morale – attaining their full potential.

Our intensive training workshops have stimulated the personal and professional development of our teams, helping us earn recognition as the 'Best Employer Brand 2018' for 'Continuous Innovation in HR Strategy at Work' at the World HRD Congress.



We launched special programmes, namely Vision Inspiring Synergy for Team Actualisation (VISTA), Synergy and Teamwork for Enhancing Performance (STEP), Leadership Exploration and Development Workshop (LEAD), the Gyaan-Shakthi Initiative and the Gyaan-Tarang Initiative.

Compliance for us is a broad spectrum

At the MFF of the Hydrocarbon Engineering business in Hazira, we constantly educate our employees and contractor workforce in the domain of HSE compliance procedures to remain one step ahead.

However, we recognise the need for the transmission mode to be devised in keeping with the target receiver and to this end, we have developed a film to initiate external stakeholders into HSE guidelines.

A digital induction training programme has facilitated the improvement and outreach of our measures. This can be further implemented across other facilities with a wider scope, that is, with the introduction of safer steps across other operational aspects such as rigging and hot work.



At the MFF of the Hydrocarbon Engineering business in Hazira, we constantly educate our employees and contractor workforce in the domain of HSE compliance procedures to remain one step ahead.



Creativity helps engage and educate

Across our project sites, we have put in place EHS teams, who ideate creative modules through which safety induction can be made more relevant and appealing. We expect to tackle the most critical safety concerns by means of such learning modules.

Incorporated within the scope of one such state-of-the-art VR-based safety induction is Immersive Learning and Realistic Learning. This includes in-house story or dialogue scripting, alongside on-site video shoots, with help from our digital team and external agencies.

We developed 20 two-minute long safety training videos on 10 themes and in five languages, namely English, Hindi, Tamil, Telugu and Bangla, displayed via an audio-video platform. Subsequently, they were introduced at our sites to make our workforce more aware of possible hazards.

Realistic Learning involved personnel and contractor workforce to sensitise them about relevant risks and corresponding safety measures. Actors demonstrated erroneous measures that lead to mishaps, which can be easily avoided to ensure safer outcomes. These measures achieved greater workforce engagement and influenced mindsets towards the adoption of safer work practices.



We developed 20 two-minute long safety training videos on 10 themes and in five languages, namely English, Hindi, Tamil, Telugu and Bangla, displayed via an audio-visual platform.

Perpetual communication is critical

We believe, communication is a ceaseless process that must be promoted and meticulously nurtured. At the MFF of the Hydrocarbon Engineering business in Hazira, we installed Light Emitting Diode (LED) television sets. This initiative was conducted at three locations to demonstrate our appreciation and gratitude in HSE implementation, quality and production.

Additionally, we use these screens to display HSE as well as production and quality statistics, and share with all workers important messages related to HSE. Large-scale 'Tool Box Talks', instructions from the senior management team, information on VIPs/clients and training videos are also disseminated through 'video walls'. We expect LED screens with suitable communication to eliminate inconsistencies and enable uniformity of messaging across all levels.



We use LED screens to display HSE as well as production and quality statistics, and share with all workers important messages related to HSE.

Raising the productivity bar

We take access to safe food for workers and on-site personnel seriously and are striving to gain customer confidence in our ability to manage food safely. To ensure that our people can consume food with the highest quality standards, L&T Hydrocarbon Engineering business adopted an ISO 22000-certified caterer for the onshore project at Haliba, UAE. This is a critical step to protect and nourish our workers' health, so they can realise their full potential for productivity.



To ensure that our people can consume food with highest quality standards, L&T Hydrocarbon Engineering business adopted an ISO 22000-certified caterer for the onshore project at Haliba, UAE.





Natural capital

At L&T, we constantly seek new ways to reduce our environmental footprint by following widely acceptable international norms. Our environment protection initiatives focus on reducing the use of natural resources, building efficient infrastructure, cutting emissions, and more importantly, bringing about a behavioural change in stakeholders, to sustain our efforts.

L&T's Corporate EHS Policy defines our business philosophy on environment management. We have a team of dedicated EHS managers at our facilities and project sites to implement policy initiatives. We regularly train our workforce on aspects of environment conservation to ensure smooth implementation.

In FY19, a total expenditure of about ₹ 147 Million was incurred on the environmental pollution control and management measures.

INPUTS

28 m³ /
workforce*

Specific water consumption

6,646 GJ*

Specific energy consumption
intensity per ₹ Billion revenue

₹ 147.6 Million*

Spend on environment

₹ 317.65 Billion**

Green portfolio

OUTPUTS

24
campuses**

Water positive

618 tCO₂*

GHG emission Intensity
per ₹ Billion revenue

110 Million units*

(Cumulative)
Savings in energy

6,747 tonnes* (Steel)

289 tonnes* (Zinc)

(Cumulative)
Material reused and recycled

* During FY19
** As on March 31, 2019

Key highlights of FY19

Energy conservation



110 Mn units (kWh)
Of energy saved

>90,500 MT
Of CO₂ emissions at our facilities avoided

Renewable energy



42 Mn units (kWh)
Of renewable energy used in our campuses

>9.3%
Of the total electricity mix

Material management



33,906 MT
Of steel recycled (cumulatively)

1,015 MT
Of zinc recycled (cumulatively)

Green buildings



17 green buildings

Constructed as our office spaces, including a green factory

Water positivity



24
L&T campuses in India have turned water positive by water recycling

Zero
Discharge and high water harvesting in the vicinity of our campuses

Water conservation



12.45% (m³/workforce)
Of domestic specific water consumption reduced over FY16

Green portfolio: Products and services

We developed our green portfolio to deliver engineering and design solutions focused on sustainability. This includes technology solutions that are low on carbon emission, water consumption and air pollution to improve energy efficiency with clean energy and resource conservation. As the world takes the path towards low-carbon economy to implement climate change mitigation and adaption strategies, it is essential to create green infrastructure that reduces GHG emissions. Our green portfolio offers infrastructure that has low impact on the environment and focuses on public well-being.



Our green portfolio includes:

Renewable energy systems

- Solar power plants
- Hydro power plants
- Our 'Water to Wire' solutions

Energy efficiency

Efficient Power Transmission and Distribution System

L&T offers highly-efficient Power Transmission and Distribution Systems (PTDS), designed to reduce pilferage as well as transmission and distribution losses. This saves 20-40% of electricity and reduces CO₂ emissions significantly. PTDS includes transmission lines; underground cable networks; substations; distribution networks; and electrical, instrumentation and communication solutions.

Energy-efficient equipment

L&T's E&A business offers a range of eco-friendly products, systems and services for industrial, commercial and residential applications.

Products: Low-watt loss fuses, AC drives, soft starters and power factor improvement capacitors

Systems: Industrial and building automation solutions and smart metering systems

Software functions: Energy performance analysis and integrated energy management systems

CO₂ emission reduction

Metro and mono rail

Mass Rapid Transit (MRT) systems provide enhanced connectivity, reducing the number of vehicles on the road, which in turn, reduces pollution and maximises resource efficiency.

Green buildings

We construct certified green buildings, which consume less energy and water, utilise recycled material and locally source most of the construction material.

“ Our green portfolio includes technology solutions that are low on carbon emission, water consumption and air pollution, to improve energy efficiency with clean energy and resource conservation.



Water and resource conservation

Water treatment and distribution infrastructure

L&T constructs bulk distribution and water treatment systems, wastewater treatment plants, effluent treatment and recycling plants as well as lift irrigation systems.

Supercritical and ultra-supercritical thermal power plants and equipment

Supercritical technology aids energy efficiency with lower fuel and water consumption, emitting lesser GHGs. Its land requirement and operating and maintenance expenses over the project life cycle are also lower.

Coal gasifiers

Coal gasification technology offered is used to produce synthesis gas, an economical alternative to natural gas. Synthesis gas-based plants use coal economically, thereby lowering CO₂ emissions.

Green portfolio performance

Our green product and services portfolio has shown a stellar growth and is now valued at ₹ 317.65 Billion. This constitutes 22% of our consolidated revenues and 35% of our standalone revenues.

Our green products and services portfolio has shown a stellar growth and is now valued at ₹ 317.65 Billion.

22%

Contribution to consolidated revenues

35%

Contribution to standalone revenues

Green buildings

17

Green buildings

1

Green factory

2.6 Mn sq. ft.

Of green building area within our campuses

U.S. Green Building Council (USGBC): LEED Platinum



Technology Block, Hazira



Administrative Building, Kattupalli



Office Complex, Talegaon



SBU Block (2nd Floor), Hazira



Administrative Building, LTSSHF, Hazira



Office Building, Coimbatore

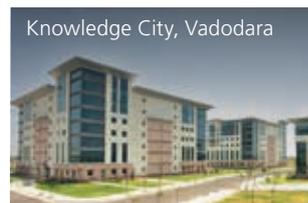
USGBC: LEED Gold



Office Complex, Ahmednagar



Unnati Building at C&A, Mahape (Navi Mumbai)



Knowledge City, Vadodara



North Block II, Mumbai



Learning Centre – LDA, Lonavala



East Block 2, Knowledge City, Vadodara

USGBC: LEED Silver



Green Factory, Vadodara



EDRC, Chennai



L&T TC II, Chennai



L&T TC III, Chennai



Administrative Building, Vadodara

USGBC: LEED Certified



Energy

We make conscious attempts to conserve fossil fuels by increasing our share of renewable energy consumption. A team of dedicated in-house Bureau of Energy Efficiency (BEE) certified energy managers and auditors helps us manage energy at our manufacturing facilities. We have initiated energy audits at our major project sites.

Indirect energy intensity declined by 20% with respect to FY16, primarily because of sourcing of renewable electricity at our campuses and increase in energy conservation activities.

In FY19, our total energy consumption was 9,495,124 GJ. The Company's direct energy consumption was 7,866,065 GJ and indirect energy consumption was 1,629,059 GJ. Our energy consumption covering transport facilities provided to employees was 332,485 GJ.

Our total energy intensity increased by 5.4% with respect to FY16, because we expanded our collection procedure and gathered energy data from 700+ project sites, many of which are remotely located and depend on Diesel Generator (DG) sets for their energy requirements.

Indirect energy intensity declined by 20% with respect to FY16, primarily because of sourcing of renewable electricity at our campuses and increase in energy conservation activities. Moreover our energy consumption depends on phases of project execution. We will continue to adopt the measures recommended for energy management across campuses and project sites.

Renewable energy

Our continued quest is to increase the share of renewable energy in our business operations. We generate renewable energy at 18 of our campuses. Eight of our campuses source wind power and one campus sources solar power.

L&T renewable energy consumption

Our campuses utilised 42 Million units from renewable electricity sources, which constitute 9.3% of our total grid electricity mix.

During the year, we utilised 4.4 Million units of solar energy by harnessing it at our campus and sourcing from the grid.

Energy conservation

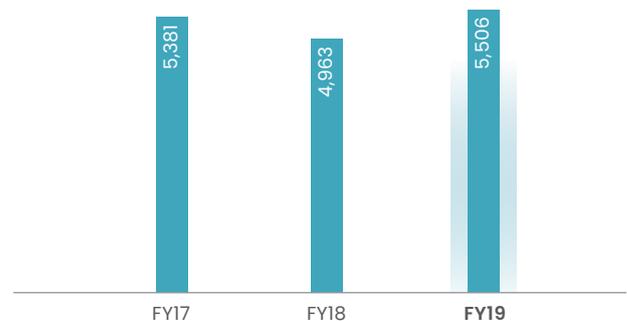
With a strong focus on energy conservation, we developed a corporate target of increasing energy conservation measures y-o-y by 10%. Cumulatively, we saved energy equivalent to 110 Million units, avoiding 90,500 tonnes of CO₂ equivalent emissions.

Energy conservation interventions	(GJ/year)
Process redesign	29,245
Optimisation and operational control efficiency	4,199
Conversion and retrofitting of equipment	12,063
Change to CFL and LED lamps	4,742
Change in personal behaviour and auto-shutting of lights when not in use	3,388
Total	53,640

Cumulative energy conserved (GJ)



Direct energy intensity (GJ/₹ Billion)



Indirect energy intensity (GJ/₹ Billion)



Emissions

GHG

In the global agenda of combating climate change, industries will play a key role by transforming their processes and systems. At L&T, we consciously recognise our responsibility to make efforts to reduce our GHG emissions.

Sources of GHG emissions in our operations

573,383 tCO₂e

Direct GHG emissions (Scope 1)

308,944 tCO₂e

Indirect GHG emissions (Scope 2)

1,836,705 tCO₂e

3 Emissions (partially reported) (Scope 3)

Scope 1 emissions

Consumption of fuels like petrol, high-speed diesel, furnace oil, natural gas, LPG, CNG and acetylene.

Note: The energy, GHG emissions and water consumption intensity have been derived according to the Scope of Reporting (refer pg no. 4). Calculation methodologies are as per ISO 14064-1 standard and the global warming potential used in these calculations is taken from the Intergovernmental Panel on Climate Change (IPCC) and the World Business Council for Sustainable Development (WBCSG) GHG protocol.

Scope 2 emissions

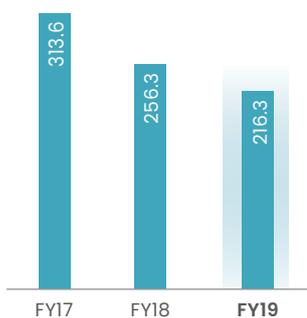
Utilisation of grid electricity supplied by state electricity supply boards.

Scope 3 emissions

Business travel, employee commute provided by the organisation and waste generation in operations.

Note: We are also capturing a part of the Scope 3 emissions from upstream and downstream transportation, emissions from purchased goods and services. Besides, we are expanding the inventory of Scope 3 emissions to make the data more inclusive. Emissions from leased assets (upstream) and investments are included in the Company's Scope 1 and Scope 2 emissions. Initiatives such as technology change, switching to renewable energy and improving energy efficiency enable us to reduce our Scope 1 and Scope 2 GHG emissions.

Indirect GHG emission intensity (tCO₂/₹ Billion)



Direct GHG emission intensity (tCO₂/₹ Billion)

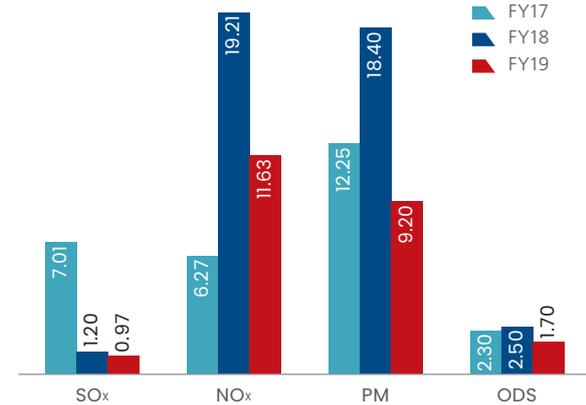


Air emissions

We monitor air emissions at our campuses and project sites, and undertake necessary measures to control them efficiently.

Our monitoring systems ensure that our emissions are within the permissible regulatory limits. In line with applicable regulations, we are phasing out the use of Ozone Depleting Substances (ODS).

SO_x, NO_x, Particulate Matter (PM) and ODS emissions (tonnes)



Water

We believe it is our responsibility to conserve water. For this purpose, we have undertaken various steps to reduce our water consumption, despite being in the water-intensive construction industry.

Our 24 campuses remained water positive in FY19. They have also achieved the 'zero water discharge' status. Our entire recycled water is used for gardening and flushing purposes. We have also constructed rainwater harvesting structures in areas of our operations.

Water consumption

Source	(m ³ /year)		
	FY19	FY18	FY17
River/Lake	2,322,689	2,466,680	2,729,343
Municipal	1,521,175	1,235,058	1,300,086
Rain water	18,140	409,000	411,313
Groundwater	2,698,213	3,029,986	2,395,844
Others	4,169,858	2,053,700	2,498,674
Total	10,730,075	9,194,424	9,335,260

Of all the wastewater generated in our operations, 75.8% was recycled.

Specific domestic water consumption (m³/employee)



Waste and spills

We handle hazardous and non-hazardous waste, and abide by relevant norms to dispose our waste. Over the years, we have steadily institutionalised appropriate measures to handle oil spills and continually report on waste and spills in accordance with ISO 14001 and OHSAS 18001.

Periodic internal and external assessments are conducted to ensure compliance with applicable regulations.

Waste generated (tonnes)

2,197

Hazardous waste

44,711

Non-hazardous waste

Our waste management strategies

- Hazardous waste (oil, oil-soaked cotton, used chemical / paint / oil containers and batteries, among others) is disposed through government-approved recyclers/re-refiners/re-processors
- Electronic waste (e-waste) is disposed through authorised vendors according to statutory requirements
- Biomedical waste generated at dispensaries and health centres is disposed according to statutory requirements, and responsible disposal is ensured
- The Company does not import, export, transport or treat any hazardous waste covered under the Basel Convention

Compliance

Our campuses and project sites seek necessary approvals from local authorities before commencing operations. Compliance is ensured with respect to our various statutes, rules and regulations. Our System Compliance Report is reviewed at all units and regional offices, and submitted to the Corporate Secretarial department across quarters. During the year, there were no incidences of non-compliance, and no fines were imposed during the reporting period.

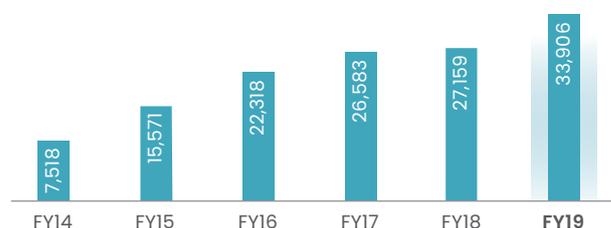
Material management

Our principal material consumption is ferrous, cement and sand. We make feasible efforts to reduce our material consumption, while ensuring quality. At our production facilities, we recycle our steel and zinc. However, we are a project-based Company and most customer specifications insist on virgin material. Hence, the scope of using recycled material is limited. At our construction sites, we make use of fly ash and granular blast furnace slag to blend cement.

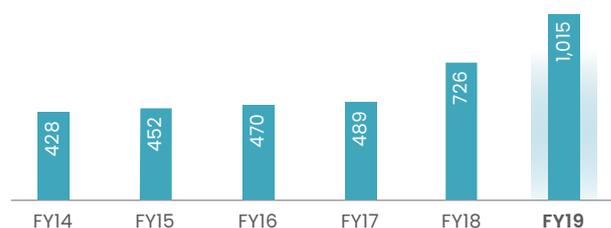
Material consumption (partially reported) (tonnes)

Material	Consumption
Ferrous	1,180,297
Non-ferrous	434,336
Hazardous chemicals	56,913
Oils and lubricants	39,123
Hazardous gases	6,726
Packaging material	8,855
Cement and sand	9,567,705

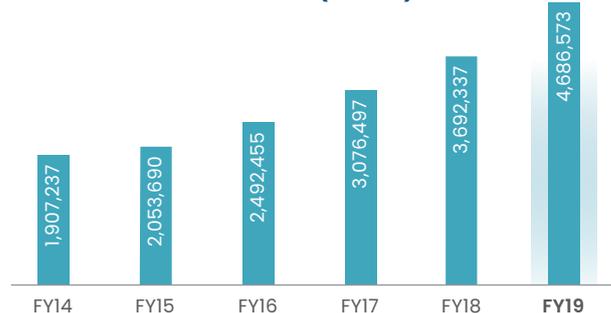
Recycled steel – cumulative (tonnes)



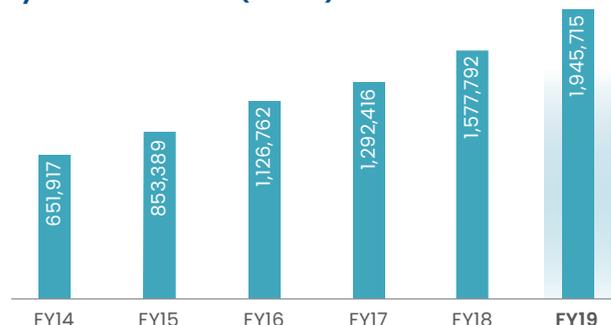
Recycled zinc – cumulative (tonnes)



Crushed sand – cumulative (tonnes)



Fly ash – cumulative (tonnes)



Case study I

Conserving fossil fuel sustainably



Our Modular Fabrication Facility (MFF) at Hazira, with an annual fabrication capacity of 500,000 MT, is one of the largest of its kind in South Asia. It can manufacture several large modules simultaneously.

Challenge

This MFF employed a conventional Heating, Ventilation and Air Conditioning (HVAC) system, involving a gas-fired vapour absorption chiller. It had an estimated capacity of ~150 TR, and consumed natural gas and electric power to the tune of 78,000 Standard Cubic Metre (SCM) and 1,90,000 kWh, annually. It generated an energy bill of ₹ 2.3 Million through natural gas and ₹ 1.5 Million through electricity.

Intervention

We upgraded the HVAC system to a high-performing, fuel-efficient and electrical screw chiller, resulting in enhanced energy savings and reduced cost.

Achievements

- We eliminated the use of natural gas as fuel in the HVAC system
- Even though our electricity consumption marginally increased by 300,000 MJ annually, we conserved natural gas equivalent to 2,200,000 MJ annually
- With an investment of ₹ 4.65 Million, we saved ₹ 1.6 Million annually through this initiative
- This initiative has led to saving of fossil fuel as well

Case study II

Small steps for a larger impact



Lighting control systems, although seemingly inconsequential at the outset, can contribute substantially towards savings. Additionally, such opportunities entail a relatively small investment and taking this into account, we formulated a series of energy-efficient measures at the Knowledge City campus in Vadodara.

Intervention

We replaced conventional lighting fixtures with efficient LED lamps in each office building.

We substituted 70 W lights in 58 3 m poles and 45 W lights in 44 3 m poles, with 23 W LED counterparts in all 102 poles at the campus.

We reduced energy depletion, optimising the working hours of 62 lights in one of our basements at the campus.

Impact

A total of 11,925 conventional luminaires were removed, reducing power load by 471.5 kW and driving annual

savings of ~₹ 12 Million. Inspired by this minor but meaningful step, we conducted a similar initiative at the Armoured Systems Complex in Hazira across test tracks and streetlights, reducing power consumption by more than half and achieving annual savings of ₹ 3.27 Million.

This helped save 40 kWh daily, or 14,600 kWh annually.

These lights, previously operational round the clock, now work only seven hours a day, saving 37 kWh daily, or 13,505 kWh annually, while only the necessary lights run throughout the day. We can replicate the same at our other surrounding basements.

Case study III

Optimising water consumption



Each litre of water that is conserved today will benefit generations to come.

Intervention

Our defence manufacturing facility in Hazira employed traditional watering mechanisms for the garden area, spanning 60,700 sq. m. This practice did not involve an irrigation component, and required 365,000 litres of water every day.

At our defence manufacturing facility in Rabale, we installed waterflow restrictors in all faucets in washbasins. Restrictors, one of the most cost-effective means to minimise water wastage and leakage, are designed to maintain water pressure, while restricting water flow at source.

Impact

We transitioned to a drip irrigation system with sprinklers, reducing daily consumption by 146,000 litres.

We were able to streamline the flow by as much as 50% and save 40,000 litres per month, which amounts to 480,000 litres annually.

Case study IV

Preserving aquatic life



Our Geostructure business at Sahibganj, Jharkhand, is constructing a 270 m long jetty along the Ganges. This is part of the contract awarded to us by the Inland Waterways Authority of India to build a multi-modal terminal in the region.

Challenge

The jetty construction is an offshore piling project that requires the use of high-frequency vibratory hammers. Echolocation in animal species – such as dolphins and bats, involves emitting ultrasound waves into their surrounding environments. The animals then use the echoes of these waves to locate objects. Gangetic river dolphins – an endangered species inhabiting the 6,000 km stretch of the Ganga and Brahmaputra rivers – are essentially blind and catch prey through echolocation, making them critically dependent on their hearing ability for survival. Offshore pile driving activities generate heavy vibrations underwater and impact these dolphins directly.

Intervention

Our conservation programme is a targeted dolphin protection initiative. Our twin objectives involved engineering control to suppress the vibrations from piling and administrative control to prevent the entry of the dolphins into the piling zone. We formulated 'air bubble curtains' and the Dolphin Conservation Committee to serve the respective purposes.

- **Air-bubble curtains** consist of a perforated U-shaped pipe, an air compressor and a compressor pipeline, which are simultaneously lowered into the

river with the pile casing at the required depth. The curtains artificially generate air bubbles in the water around the pile casing, supplying compressed air into the U-shaped pipe. This reduces the dissemination of shocks during pile driving, while diverting the dolphins and other aquatic animals away from the piling zone.

- **The Dolphin Conservation Committee** is entrusted with the responsibility of conserving the dolphins in the vicinity, and takes measures to prevent hazards emanating from our activities. The Committee comprises a chairman, secretary and four members, each of whom oversees specific roles to protect Gangetic dolphins. We intervene by halting the piling work for 20 minutes from the time of dolphin sighting, lowering air bubble curtains into the water. We maintain a separate register, recording each dolphin sighting for future reference.

Achievements

- No harm was caused to aquatic species within the vicinity of our construction site.
- Easy to implement and replicate, we will cascade this project across all our offshore construction activities, protecting the underwater ecosystem and underlining our commitment to sustainably manage our operations.

Initiatives

Increasing luminosity and conserving energy

We initiated the Build-Operate-Transfer (BOT) project with a BEE-recognised Energy Saving Company (ESCO) at the Heavy Engineering facility in Ranoli, to replace high wattage overhead metal halide lamps with energy-saving LED fixtures. LED technology is a sustainable alternative solution to manage energy needs smartly and lower peak electrical demand.

Our contract-based project incurred neither capital expenditure nor operating cost coverage. It targeted a luminous flux of 130-150 per unit area at the shop floor level, versus the current 32-40 per unit area. The contract stipulates a saving-sharing model with an unconditional five-year warranty. Following completion, we will transfer the assets to the ownership of the business at no additional cost. There is a buyback option for the existing metal halide light fittings to eliminate the electronic waste used in these lamps.

The project will largely facilitate real-time monitoring of energy, and an annual survey will be conducted jointly with the EHS department. The savings generated from the contract is ~₹ 0.58 Million and asset cost



avoidance is estimated at ~₹ 2.8 Million. Savings in contract demand can be utilised in other production process.

Every drop counts

Our power plant equipment manufacturing business installed two portable Sewage Treatment Plants (STPs) at two project sites (Khargone and Malwa II). Each portable STP consists of prefabricated parts and skid-mounted pumping systems with interconnected piping. We can easily dismantle the piping, and water pumping and filtration systems following project completion, and reinstall them elsewhere.

The STPs are designed to substantially degrade the biological content of the sewage, which is derived from human and food waste as well as soaps and detergents. The plants treat the settled sewage liquor using aerobic biological processes, ensuring that effluents do not interact with the water that the sewage flows into, thereby minimising its impact on aquatic life. At the site, we use this water for construction and other miscellaneous purposes, viz. water sprinkling for dust suppression, plantation and curing.

Lighting up a shared future

Our Heavy Engineering complex in Hazira is entirely run on power-saving LED lighting systems. We overhauled high wattage conventional fixtures such as high-pressure sodium vapour lamps and metal halide lights in shops and yards and replaced them with LED counterparts.

This has led to substantial savings of ₹ 1.38 Million kWh in electricity and ₹ 8.40 Million (₹ 7.2 Million in shops and ₹ 1.17 Million in yards) annually in costs. We are now scaling this up to the other businesses at Hazira.

Reclaiming waste materials from quarries

We generate core and armour boulders from our quarries and blasting rocks and crushing aggregates at our Hydro Technical Structures project at the Kudankulam Nuclear Power Plant in Tamil Nadu. After removing the core and armour boulders as well as aggregates, we transport the balance waste and reject materials to find use in our embankment works at the Transportation Infrastructure business road project in Nagercoil, Tamil Nadu.



Recycling water to irrigate gardens

We have created a car washing facility for KC Residency employees at the water storage tank above the STP plant. After a car is washed, water is stored in the storage tank connected with STP. Once treated by STP, the water is reused in the garden area at KCR Campus garden. This initiative was earlier used only for washing cars.

144 kl

Of water used for washing cars every year, is now recycled and used to irrigate the gardens (equivalent to 60 cars washed every month)

Biodiversity

Our facilities are located in notified industrial areas. No species listed in the International Union for Conservation of Nature (IUCN) Red List and National Conservation List were found to exist at our campuses. We planted more than 0.5 Million trees in last five years across India, and we continue to nurture a self-sustaining forest at two locations in India through the Miyawaki technique. During FY19, more than 2,50,000 trees were planted by our people in project locations across India. We have planted more than 7,00,000 trees over the last 5 years across India.

We have a tree inventory portal to monitor the number of trees planted across campuses and project sites. It is our constant endeavour to increase the tree cover and create natural carbon sinks. At L&T events and functions, guests are welcomed with Tree Certificates instead of floral bouquets. A sapling is planted and maintained on behalf of the guest, as per the certificate. A guidance document on scientific methods of tree plantation and maintenance has been made available across campuses and project sites.

Contributing to India's movement to combat climate change

L&T's climate change, energy efficiency and renewable energy programmes are aligned with the National Action Plan on Climate Change (NAPCC). The Company's programmes are also in line with the Nationally Determined Contributions (NDCs), ratified by the Government of India during the COP 21 – Paris Agreement.

Mission 1

Solar

- Our solar business provides a single-point EPC turnkey solution for solar PV-related projects, offering energy storage solutions
- Our experience ranges from the installation of flat, highly undulated to landfill topologies with specialised technologies, including designing and executing contours for solar PV power plants
- The solar business has diverse module mounting structure types [fixed tilt, seasonal tilt and Horizontal Single Axis Trackers (HSAT)] that facilitate providing optimal solutions
- As grid stability and power conditioning requirements gain significance owing to large-scale renewable integration, standalone and PV integrated storage solutions are becoming accessible

Highlights

- Our business secured orders for the construction of 500+ MW capacity of grid-connected solar PV plants across India
- We received an order for a maiden solar PV + 8 MWhr storage project
- 18 of our establishments are generating onsite solar energy for campus usage



Mission 2

Enhancing energy efficiency

- Through concerted energy conservation projects, over 110 Million units (kWh) of energy was saved, avoiding 90,500+ tonnes of CO₂ emissions at our establishments, cumulatively
- Ahmednagar, Hazira, Kancheepuram, Pithampur and Pondicherry campuses implemented ISO 50001: 2000 (Energy Management Systems)
- Our E&A products and services help customers avail greater energy efficiency and reduce their carbon footprint
- Our Automation Training Centre at Navi Mumbai offers an 'Integrated Automation Training Course' to educate fresh graduates on energy efficiency
- Energy audit of our project sites provides an opportunity to improve energy management and efficiency



Mission 3

Sustainable habitat

- We have 17 green buildings within our campuses and one green factory at Vadodara
- In keeping with the Sustainability Roadmap 2021, our new buildings within our campuses follow green building norms



Mission 4

Water

- In line with our unrelenting efforts towards water conservation and its optimal use, we constructed water harvesting structures at our campuses and within the community
- Our water-positive approach reflects across our 24 campuses in India
- We adopted multiple methods (zero wastewater discharge and rainwater harvesting) across campuses and communities
- Over 12% of the total freshwater consumed at our campuses and project sites is reused/recycled
- Our water business has built 5,332 MLD of water and effluent water treatment facilities
- In FY19, our business constructed 22,937 km of water distribution pipelines in addition to designing 20+ Mn sq. ft. of reservoirs for water collection



Mission 5 Strengthening the Himalayan ecosystem

- We are involved in large-scale tree plantation across our project sites, especially those around the Himalayan region
- We conduct skill-building programmes to enhance the employability of the local youth for project execution
- Health camps / medical camps are periodically conducted at project sites in the region



Mission 6 Green India

- Our green cover exceeds the statutory mandate of 35% of available open land by a sizeable margin
- We planted 750,00+ trees in the preceding five years across India
- We cultivated self-sustaining forests at two locations in India by the Miyawaki technique
- We oversee tree plantation through a data management system
- Guests are welcomed either through planting a sapling or being presented a Tree Certificate
- Tree plantation and maintenance is a part of the Integrated Community Development (ICD) programme, which is our CSR project's inclusive plan and has been adopted across villages in Rajasthan, Maharashtra and Tamil Nadu



Mission 7 Sustainable agriculture

Our water and effluent treatment business rendered 200,000+ hectares fit for irrigation.

Among other noteworthy projects, we are currently undertaking:

- ISP Kalisindh Project – Phase I and Parwati Project – Phase I from Narmada Valley Development Authority, Madhya Pradesh
- Athikadavu Avinashi Irrigation Project from the Water Resource Department, Tamil Nadu
- Garwah Lift Irrigation Scheme from Water Resource Department, Government of Jharkhand

Our achievements and ongoing activities

- Using 200 check dams constructed by our Public Charitable Trust, tribal farmers in Talasari block near Mumbai can grow two crops instead of one, in addition to cultivating vegetables
- At Vidisha, in Madhya Pradesh, we have erected over 39 water reservoirs for farmers. This intervention has resulted in the preservation of 1,159 Million litres of water every year and used for growing crops. These reservoirs are part of individual farmlands, where the soil is fertile, allowing India's best quality wheat to be grown, with two crops being harvested each year
- We focus on augmenting water availability for agriculture at water-stressed locations through our ICD – CSR project
- Our Water & Effluent Treatment (WET) business provides turnkey solutions in lift irrigation and canal rehabilitation
- We offer an assortment of products and solutions for electricity distribution and control in the agriculture sector through our E&A business
- The E&A business trains farmers in the use of motor starters and pump controllers, used widely in agricultural areas across India
- Our E&A business provides solar pumps to allow farmers to reduce their dependency on conventional pumps



Mission 8 Strategic knowledge on climate change

- We participate in institutional and industrial forums, with our employees attending various capacity-building programmes on climate change and green initiatives
- Several in-house functional and technical capacity-building programmes on sustainability and climate change are conducted, including:
 - GRI standards reporting framework
 - Regular training on GHG accounting and management procedures for all businesses
 - Energy management and energy conservation
- Employees enthusiastically partake in celebrating significant events and days such as the World Environment Day, Earth Day, Earth Hour and so on
- Our people also contribute in nature photography competition and environmental quiz contest to expand their climate change knowledge
- Prayag (the induction programme for new employees) covers subjects related to sustainable development and climate change, alongside EHS and human rights





Social & Relationship capital

We engage with all our stakeholders in a transparent manner and have received tremendous trust and support from them. We play a proactive role in empowering our communities by providing them access to clean water, hygienic surroundings, healthcare facilities, education and skill building, thereby helping transform the quality of their lives.

INPUTS

₹ 1,667*
Million
CSR spend

100+**
CSR partners

5,206*
New suppliers,
contractors and
developers registered

3,951**
MSME suppliers

OUTPUTS

2.3 Million*
CSR beneficiaries

709*
Vendors/dealers/
sub-contractors trained

₹ 106.93
Billion*
Contribution to
the exchequer

4.1 Million
man-hours*
Total safety training

* During FY19
** As on March 31, 2019

Building India's social infrastructure

We are conversant with the pressing requirements of local and underprivileged communities and offer suitable solutions to accelerate development. Our key thrust areas are in the domains of water and sanitation, health, education and skill development. Our CSR programme seeks to encourage enduring social change and is based on the theme – 'Building India's Social Infrastructure'.

Our objective is to enhance the quality of life, mitigate social disparities and help individuals achieve their true potential across identified communities.

CSR programme beneficiaries: FY19

Focus areas	Lives impacted
Water and sanitation	192,635
Education	421,946
Health	1,675,000
Skill development	31,133
Total	2,320,714

Drivers of CSR interventions

- L&T's Corporate CSR team:** The team works steadfastly to maximise positive social impact under the guidance provided and the framework approved by the CSR Board Committee. The members formulate, implement and monitor CSR programmes in collaboration with NGOs, which engage with individual causes and support teams at campuses and business offices.
- CSR coordinators and teams at campuses, area offices and sites:** Area offices and campus teams assess needs, identify local issues, monitor the proper implementation of projects and provide assistance in achieving CSR goals.
- Prayas Trust:** Instituted two decades ago, and formerly known as the L&T Ladies Club, the trust is administered principally by female employees and wives of employees, who serve the marginalised sections of society.
- Volunteers:** L&T has a structured employee volunteering programme, L&Tearing, which enables and encourages employees to participate in community development. Over 5,000 volunteers participated (12% of our employee base) in the programme.

Integrated Community Development Programme

Our Integrated Community Development Programme (ICDP) commenced in FY15 to augment water availability across six water-stressed districts in Rajasthan, Maharashtra and Tamil Nadu, covering **20,100 households across 16,844 hectares.**

Highlights of ICDP programme

Interventions	FY19
Self-help Groups (SHGs) formed	281
Veterinary camps	46
Farmers attended farm-field trainings	3,362
Training on subjects	75 sessions conducted
<ul style="list-style-type: none"> Improved Kharif and Rabi cropping Horticulture WADI development Zero-budget natural farming Best practices in grains, pulses, vegetable nursery and fruit orchards Dryland horticulture development Solar fencing Micro irrigation System rice intensification Azolla Green Fodder promotion Scientific dairy management Groundwater management Participatory hydrology management 	
Kitchen gardens	2,198
Children in Balwadis supported	229
Rural seed banks	25
Crop demonstrations	232
Increase in cultivable area	46%
Toilets constructed	1,108
Increase in water storage capacity	87%
Children included in campaign on sanitation	1,198

Infrastructure

Our first priority was to make drinking water accessible, followed by addressing agricultural and sanitation requirements. We erected relevant structures in association with the community.

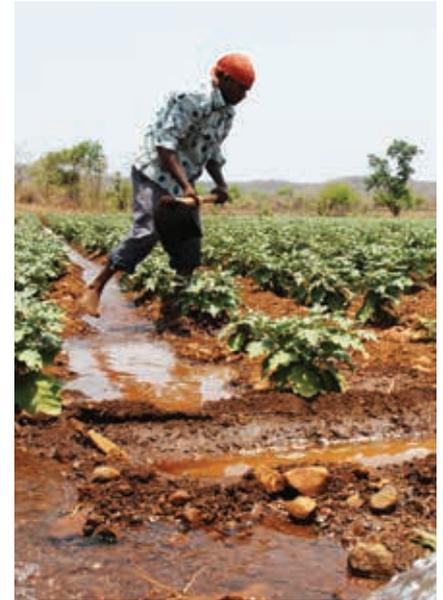
These and other structures increased water levels, along with retaining soil moisture.



Once water was made available, various agro-based livelihood options such as horticulture, dairy management, goat rearing, poultry and so on opened up for the community this year.

Sustainability

The community was educated on the importance and methods of water conservation and towards this end, groups like Village Development Committees (VDCs) with 50% participation from women, and SHGs were established. They maintained the structures built and farmers were trained in contemporary agricultural practices that require minimum water use and zero-budget natural fertilisers that retain enhanced fertility. The community members also devised methods that improved arability.



Sanitation drives

The government's Swachh Bharat Abhiyan encouraged our ongoing, rural sanitation initiatives. We spread awareness on sanitary practices, making toilets and water readily available. With contributions from the community and 'Shram Daan' (volunteering), 1,108 well-designed toilet- cum-bathrooms were constructed, using locally-sourced materials and labour during FY19. Community monitoring committees were formed to ensure villagers abstain from open defecation.



Two gram panchayats, along with 11 revenue villages and 40 hamlets, turned Open Defecation Free (ODF), benefitting 1,108 households.

117

Toilets in 40 schools in FY19

4,076

Families benefitted

2,355

Total household toilets across FY17, FY18 and FY19 financed by L&T

Currently, our project areas have adequate water to drink and cultivate extra crops, along with fodder for livestock and sanitation facilities.

Education

Our education programmes promote India's social upliftment and inclusive development. We have undertaken multiple initiatives to provide infrastructure to schools that lack adequate resources, while striving to improve the quality of instruction received by children.

We continue to strengthen our commitment to educating every child, regardless of his or her social standing. Keeping this in mind, we make schools accessible to children, and prevent dropouts by introducing an engaging curriculum and improving pedagogical approaches. We also acknowledge the need for parents to create an immersive learning environment at home.

During the year under review, our focus was on strengthening physical infrastructure and supplies at schools to provide greater academic support to children and introduce technology-related subjects. We initiated capacity-building programmes for teachers and are currently focusing on widening our interventions across socio-economically deprived government-run schools.



We touched 245,023 beneficiaries through our education projects during the reporting period.





Health

We organise health and welfare campaigns for the underprivileged across urban and remote establishments in India, bringing quality healthcare to patients in the form of permanent health centres or camps that offer free medical care.

Some of our initiatives include:

- 12 community health centres currently operational at Ahmednagar, Chennai, Kattupalli, Coimbatore, Kansbahal, Thane, Lonavala, Surat, Vadodara; along with three in Mumbai.
- Set up artificial kidney dialysis clinics for the underprivileged at six health centres in Mumbai, Thane, Titwala, Vadodara, Surat and Chennai.
- Two mobile vans address the health concerns plaguing marginalised communities in Mumbai's vicinity, Thane and Ahmednagar.
- Specialised health camps address issues pertaining to eye care, anaemia diagnosis and treatment, basic and rubella

vaccination drives, and skin ailments, in addition to geriatric, dental, paediatric and gynaecological care.

- Educational programmes on hygiene, reproductive health and family life for children and adolescents are conducted in government-run remand, corrective homes and shelters for neglected children.
- Our Anti-Retroviral Therapy (ART) centre, Mumbai organises HIV/AIDS awareness camps, and provides medical support with therapy and testing.
- Tuberculosis-related treatment is provided in Mumbai, including individual and OPD check-up, diagnostics, medicinal and dietary support, home visits and counselling.
- Subsidised dialysis services are extended at our kidney dialysis centre in Thane.
- We impart preventive education at our cancer detection camps devoted to women, alongside facilitating early diagnosis of cervical and breast cancer.

During FY19, around 255,000 individuals were made familiar with their medical conditions, and given access to improved healthcare facilities.

Skill development

Skill development is crucial to community development and in our attempt to achieve inclusive growth, vocational training courses and other skill-building activities are offered to unschooled youth. Our CSTIs extend free training (bar bending, formwork carpentry, masonry, scaffolding, welding, electrical wiring and so on) to rural and urban youth.

We conduct training programmes at nine CSTIs operational at Kancheepuram and Pulicat in Tamil Nadu, Panvel in Maharashtra, Pilkhua in Delhi, Jadcherla in Telangana, Cuttack in Odisha, Attibele in Karnataka, Chacharwadi in Gujarat and Serampore in West Bengal.

Industry-oriented training: We have collaborated with 27 Industrial Training Institutes (ITIs) across the country.

Empowering the differently-abled: We offer sensibly crafted training programmes that enhance employability and facilitate financial independence among the differently-abled with 'Project Neev'.

Vocational training for women: Our vocational training programmes impart tailoring, beautifying, home-nursing and food processing skills to the women from underprivileged communities.



28,567 rural and urban youth, women and physically-challenged persons are being trained in skills that will improve their employability.

Relationship capital

Our primary stakeholders include customers, shareholders, investors, suppliers, contractors, employees, government bodies, media and the community surrounding our establishments. Transparency, inclusiveness and trust form the fulcrum upholding our stakeholder engagement framework and we use diverse formal and informal channels of communication to establish dialogue with them.

The Company's Corporate Brand Management & Communications (CBMC) department is the custodian of 'Brand L&T'. It is responsible for brand building and communications for Corporate L&T and its varied businesses and departments. The department holds the dual responsibility of ensuring that L&T speaks with 'one voice' to all stakeholders and supports varied businesses in their marketing and communication initiatives.



Shareholders and investors

Our responsibility to shareholders is reflected in the way we conduct our business. The contribution of shareholders and investors in our growth is deeply valued, and we ensure to deliver positive returns to them.

Every year, we release an Annual Report, Business Responsibility Report, Sustainability Report and Quarterly Financial Reports to provide shareholders with comprehensive information about our performance and capabilities. In 2018, we published an Integrated Report, based on GRI Standards and International Integrated Reporting <IR> Framework in place of the Sustainability Report. Besides, we make presentations to institutional investors and equity analysts on the Company's quarterly performance.

Relevant information is communicated to the National Stock Exchange of India Limited and Bombay Stock Exchange Limited; and our corporate website, www.Larsentoubro.com, also remains up-to-date.

We have in place an efficient grievance handling and redressal framework. Investor queries are handled by our Company Secretary & Compliance Officer through igrc@Larsentoubro.com.

To strengthen our efforts towards environment conservation and in accordance with the circular issued by the Ministry of Corporate Affairs, the Government of India, shareholders were provided the option of receiving documents related to general meetings (including AGM) and audited financial statements, among others, through electronic mail.

Our Sustainability Reports are also available on our interactive website:

sustainabilityreport.Larsentoubro.com



Customers

We engage with our customers through workshops and conferences, exhibitions and trade fairs, product advertising campaigns, corporate print and TV campaigns, bulletins and news, one-on-one interactions and periodic reviews. We release our Annual Review, a snapshot of our capabilities, track record and current business, for the benefit of our customers and stakeholders.

The L&T Infodesk, infodesk@Larsentoubro.com, is a source of information and feedback on the entire spectrum of offerings. The Company provides value-added products and services by adopting sustainable and resource-efficient practices. These practices benefit organisations, clients and the environment, and are a part of L&T's business philosophy. We incorporate EHS considerations, right from the design stage of products and processes. At L&T, we execute projects and processes to meet stringent delivery schedules to ensure satisfaction, while maintaining customer confidentiality. Detailed operating manuals aided by on-the-job training are provided to our clients. This not only helps ensure high standards of safety, but also protects the environment.

We collect customer feedback on a scale of 1 to 10 (10 = Excellent, 1 = Poor) quarterly and this feedback is reviewed during the management review meetings. Corresponding action plans are formulated to improve performance in the areas rated below the average of 8.0.

In all our projects, we enter into a contractual agreement with client, which contains legally vetted human rights clauses.



Suppliers and contractors

We engage regularly with our suppliers, contractors and service providers for business growth. They include raw material vendors, machine suppliers, and contract workers and we engage with them periodically through partner meets. An e-procurement model for paperless buying, our e-tendering system is used for information flow and reverse auctioning.

Our human rights practices forbid child, forced and compulsory labour, and discrimination based on gender, caste and nationality.

The Environmental & Social CoC included in our contract agreements and purchase orders extends best practices to our suppliers, contractors and service providers, thereby encouraging them to contribute in an eco-friendly manner. These practices are extended to our suppliers and contractors. Commitment to environment protection, safer work and resource efficiency practices are extended by L&T to its supply chain. L&T's first step in this direction was formulation of 'Green Supply Chain Policy' Sustainability awareness and training programmes conducted for suppliers and transporters as and when

required. From FY18, the organisation started capturing the carbon footprint of key suppliers on sample basis and encourages its suppliers to measure their environmental and social performance. The objective of this programme is to ensure compliance, improve energy and water conservation as well as resource management by adopting sustainability practices in the supply chain.



Employees

A nurturing environment, conducive to personal well-being and professional growth, form the bedrock of L&T's inherent culture. Our tenets make us a great place to work and are instilled in our engagement framework.

Our vision is aligned with a culture of attention and trust, which translates into an integrated HR programme that maintains transparent interaction between the management and employees.

We believe that employees shape the organisation's character, driving its performance.



Community

Based on our stakeholder engagements, we have developed widespread community thrust areas, viz. water and sanitation, health, education and skill development.

Our ethos is to cater to the welfare of stakeholders, the country and the planet at large – while augmenting productivity through technological leadership.



Government

Local governments are our key stakeholders and across our operational geographies, we abide by the laws of the land.

We habitually interact with regulatory bodies and are familiar with the recent laws and policy initiatives. With several international associations, we participate in national and international policy formulation and economic forums.



Media

The media is regularly informed of any changes at L&T and through consistent media engagement, stakeholders are updated about critical business developments. Four media briefings and two media visits were organised during the year. We deeply abide by all statutory regulations and voluntary codes.

[Read more on pg nos. 30-31](#)

Case study I

Creating a sustainable paradigm for enduring change



The United Nations (UN) observes World Water Day every year on March 22 to advocate the judicious use and consumption of freshwater resources. To celebrate the day, the WET business undertook several concerted and large-scale initiatives in India and Sri Lanka. Mobilising communities spread across locations, we brought to life the theme of the 2019 World Water Day – as declared by the UN – ‘leaving no one behind’. This served as a platform for lasting change.

Intervention

Over 5,000 employee volunteers helped rehabilitate 105 water bodies across 25 Indian cities, as well as one site in Colombo, Sri Lanka. Our volunteers proactively participated in cleaning the ponds, tanks and wells, and strengthening the embankments – all within half a day at each site.

We joined hands with the Environmentalist Foundation of India (EFI) to restore a pond located inside Samuel Nagar in the industrial zone of Manali, Chennai. This is a critical water resource for the region and helps recharge the city’s depleting groundwater aquifers.

Impact

Major cities and townships like New Delhi, Bhopal, Bhubaneswar, Kanpur, Pune, Ranchi, Visakhapatnam and Chennai, among others, benefitted from the clean-up drive. This was achieved because people from all walks of life came together to make the world a better a place for everyone. Our targeted efforts were recognised by the India Book of Records as a ground-breaking milestone in our corporate citizenship journey.

Initiative

Helping talent bloom

Khusboo Jha and Arpana Jha, both teenagers, travelled from a village in Bihar to Mumbai, in 2012, seeking better education opportunities. Unfortunately, the new school failed to meet their expectations. However, they soon chanced upon a study centre run by Angel Xpress Foundation (AXF), an NGO, supported by L&T, which educates underprivileged children.

The study centre helps upskill the students’ arithmetic and grammar skills, using interactive games. The girls showed remarkable improvement in their academic performance, and AXF helped ignite their passion for education and gave them a higher purpose in life.

Case study II

Making teams tomorrow-ready



Overall, our efforts were well received and appreciated by school authorities and students. The upgradation of schools has benefited 2,872 children studying in those schools.

Technology and automation are redefining teaching modules like never before. A stimulating learning environment is enhanced by computers, specialised software, audience response technology, assistive listening devices, networking and audio/visual capabilities, among others. This unveils a participatory learning experience, with extensive student-faculty interactions.

Equipped with best-in-class facilities to avail latest online subject content, lectures and informative videos, smart classrooms provide relevant digital tools across urban and rural schools. This will help implement content standardisation and accelerate digital readiness, cutting across geographic constraints, which, in turn, will prepare them for tomorrow's employment opportunities.

A report by Pratham, one of India's largest non-governmental organisation that focuses on providing quality education to underprivileged children, shows that Tamil Nadu has a low school dropout rate; and yet has a poor quality of state education vis-à-vis other states. Based on a survey of 500+ students studying in rural government schools, we finalised four schools in Tamil Nadu to introduce smart classrooms.

Following the implementation of smart classrooms in these schools, respective principals have reported results that show significant improvement in science learning performance of students. Enquiry-based method of understanding new concepts was especially useful. Overall, our efforts were well received and appreciated by school authorities and students. The upgradation of schools has benefitted 2,872 children studying in those schools.

Initiative

Championing access to affordable healthcare

India still accounts for a large proportion of global tuberculosis cases, and at L&T, we are committed to making a difference. We run a tuberculosis clinic in Koldongri, in the suburbs of Mumbai, in partnership with the Municipal Corporation of Greater Mumbai. The clinic stands out as an effective public-private collaboration that champions access to affordable healthcare.

Patient footfalls are rising in the clinic, despite the availability of municipal health centres and hospitals within their wards. We enlist the services of experienced doctors and counsellors, motivated by the desire to work for the community, mostly free of cost.

Our sustained investments helped examine 28,000 patients in FY19, of whom 234 were put on the WHO-recommended Directly Observed Therapy, Short Course (DOTS) treatment plan at the clinic itself, while 210 were provided counselling. Considering the growing patient footfalls, we provided a gene expert testing facility and technician support to the clinic during FY19.

Case study III

Early beginnings to lifelong learnings



We believe that right stimulation in the early years of a toddler leads to holistic development of their physical, cognitive, socio-emotional, language and creative capabilities. Project Vidya, run by the L&T Public Charitable Trust, aims to embed a strong sense of values in young minds and progressively nurture these values into an indispensable foundation for lifelong learning.

Intervention

- Inculcate preliminary literacy, numeracy and other essential pre-school skills
- Equip mothers with simple training-at-home techniques to complement the child's learning
- Interact with community members and parents – through periodic public events – and motivate them to participate and take ownership of the child's education
- Facilitate existing government facilities in delivering and sustaining quality on-ground services
- Provide instructional support to Anganwadi Sevikas, using contextualised teaching material

Impact

- 2,020 young lives touched in Talasari, Maharashtra
- 170 active mothers' groups
- 64 Anganwadi Sevikas empowered through a capacity-building workshop
- 34 'school readiness' melas and four other related events organised
- Local supervisors, Child Development Project Officer (CDPO) and Block Development Officer (BDO), among other key stakeholders

Initiative**Igniting minds through innovative wall paintings**

During FY19, the CSR arm of L&T Construction designed an innovative project 'Paint-A-Thon', in partnership with a like-minded NGO, to reach out to corporation primary schools. The project involved embellishing the walls of the schools with informative and thought-provoking murals and frescos.

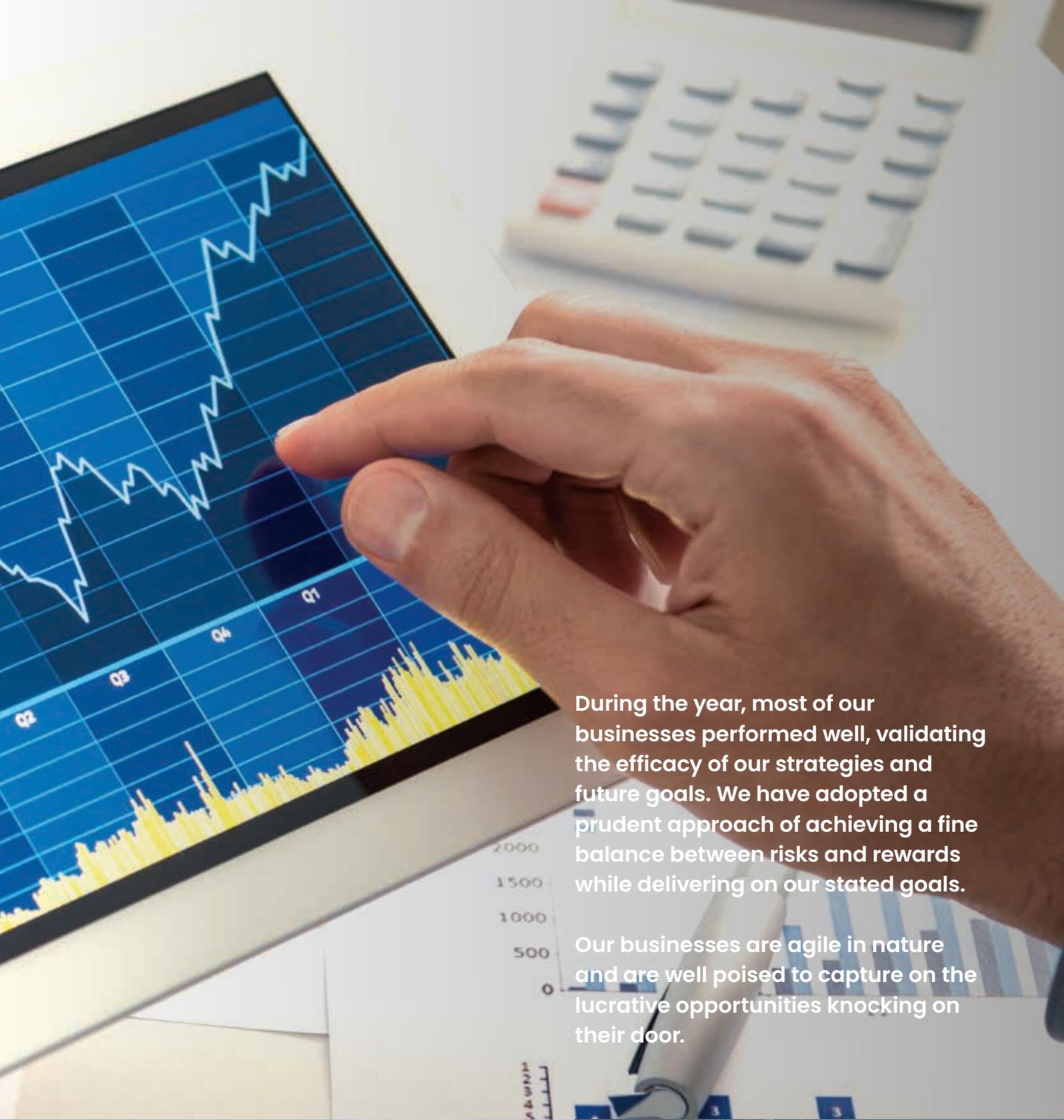
The assembly and meditation sessions, which were previously held at the auditorium, have been moved outside in front of these walls at the insistence of students. The walls have also been a great source of inspiration for the children. Encouragingly, 154 employees volunteered in the project.

All-round growth across businesses

100 Business-wise performance

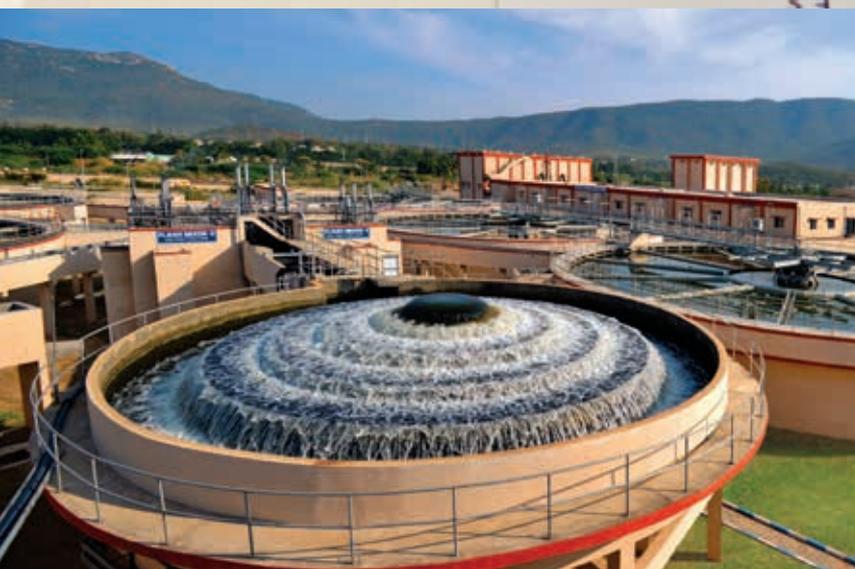
116 Awards and accolades





During the year, most of our businesses performed well, validating the efficacy of our strategies and future goals. We have adopted a prudent approach of achieving a fine balance between risks and rewards while delivering on our stated goals.

Our businesses are agile in nature and are well poised to capture on the lucrative opportunities knocking on their door.



Business-wise performance

Construction

Our Construction business comprises segments such as Buildings & Factories, Transportation Infrastructure, Heavy Civil Infrastructure, Power Transmission & Distribution, Renewable Energy, Water & Effluent Treatment, Smart World & Communication and Metallurgical & Material Handling. Existing and potential risks are relevant for all segments of the Construction business. We craft our risk-mitigation strategies in tune with the evolving industry scenario.

Risks	Mitigation initiatives
Increased competition in the construction industry	<ul style="list-style-type: none"> Operational excellence initiatives for cost and schedule optimisation Value engineering to optimise design cost Strategic bidding
Limited availability of credible sub-contractors, suppliers and vendors	<ul style="list-style-type: none"> Continuous engagement with sub-contractors, suppliers and vendors for their development and upgradation Technical and financial evaluation of suppliers and contractors before the award of contract
Delay in project execution and cost overruns	<ul style="list-style-type: none"> Timely mobilisation of resources Elimination of procedural delays Improvement in internal processes
Limited availability of skilled workforce	<ul style="list-style-type: none"> Upskilling workers through skill-based training Enhancing the skills of rural youth through Company-owned CSTIs
Negative environmental impact	<ul style="list-style-type: none"> Used LED lights and digitalisation at project sites Initiated energy audits at project sites Extensive use of video conferencing and digital practices, saving business travel time, cost and natural resources Enhancing green cover through tree plantation, and maintenance at construction sites and establishments
Limited availability of staff due to remote location of projects	<ul style="list-style-type: none"> Preference is given to local personnel, and their basic requirements are taken care of
Rising construction costs due to escalating labour and material costs	<ul style="list-style-type: none"> Developing and embracing new technologies for increased mechanisation and automation Adopting strategic sourcing practices to add new sources/suppliers and negotiating with current suppliers
Gaining societal consensus	<ul style="list-style-type: none"> Effective implementation of CSR initiatives for water and sanitation, education, skill development and health Need-assessment surveys are conducted prior to the implementation of CSR programmes in key thrust areas

1. Buildings & Factories



Opportunity landscape

- The government's continued focus on affordable housing and infrastructure development
- 'Infrastructure status' accorded to affordable housing
- Relaxation in GST on affordable housing
- Rising airport traffic growth in India
- The government's plan to privatise six major airports
- 'Infrastructure status' accorded to the healthcare sector
- Increased government spending on public health
- Upcoming high-speed railway projects
- Modernisation of railway stations
- Rising momentum at the Ahmedabad-Mumbai high-speed rail and depots
- Government investments in educational institutions like IITs across India
- 'Make in India' campaign driving expansion of automobile, pharma and electronics industries
- Promising opportunities in Sri Lanka, Bangladesh, the Gulf Cooperation Council (GCC) and Africa, as they continue to invest in infrastructure

FY19 performance highlights

Our year's order book includes breakthrough projects for airports and hospitals from esteemed clients. Major orders were secured in the airports segment, including the expansion of international airports such as Delhi, Bengaluru and Hyderabad.

Orders were also secured for engineering, procurement and construction of one of the tallest office structures in Amravati, construction of cancer hospitals at 18 locations in Assam, expansion of IIT Campus at Hyderabad, a commercial complex from a major developer and construction of a botanical garden at Oman.

Key projects commissioned by the business during the year include:

- Statue of Unity, Gujarat
- Kannur International Airport
- ITC Kapurthala
- AP Housing, West Godavari
- Apollo OMR, Chennai
- Duqm Airport, Oman
- Sindhudurg Airport

Significant initiatives

Apart from being the industry frontrunner in the adoption of technology to improve productivity, the business continues to leverage integrated digital tools [Building Information Modelling (BIM), Geographic Information System (GIS) RFID, Light Detection and Ranging (LiDAR) and other technologies] effectively at its project sites.

Outlook

The business continues to execute challenging projects within stringent and rolling deadlines. Energised by a largely favourable market scenario, a healthy order book, amicable customer relationships, a proactive talent pool and a strong focus on making project sites digitised and automated, the business will continue to retain its position as a strong market leader.

Although the macro environment is largely optimistic, there are varied challenges such as increased competition, long duration for procedural matters, slow fund allocation in government-funded jobs, liquidity crunch and the time taken to obtain statutory approvals in private jobs.

2. Transportation Infrastructure

Opportunity landscape

Roads, Runways and Elevated Corridors

- The government is aiming substantial expenditure over the next five years to develop 83,677 km of roads including Bharat Mala Pariyojna
- This includes the Bharatmala Pariyojana worth ₹ 5.4 Trillion
- The Department of Civil Aviation (DCA) envisages that 100 new airports will be built in the country over the next 10-15 years
- The DCA is also working on the cargo policy to boost India's logistics capacity
- The Delhi-Mumbai Industrial Corridor is at an advanced stage
- Several other industrial corridors such as the Amritsar-Delhi-Kolkata Industrial Corridor and the Chennai-Bangalore Industrial Corridor are in the Detailed Project Report (DPR) stages

Railways

- Increase of 8% in spending by the Indian Railways to ₹ 1.58 Trillion for FY20
- The Indian Railways is planning to augment capacity (doubling and tripling) of ~5,000 km in the next three years
- Around 13,500 km of electrification orders are expected to be awarded under 'Mission Electrification' over the next three years

Metro Rails

- India is creating a world-class MRT system as an integral part of community infrastructure development across all metro and major Tier 1 and Tier 2 cities
- Focus on increasing the speed and safety of conventional high-density mixed corridors
- Adoption of European Train Control Systems

FY19 performance highlights

Our transportation business won the largest single domestic order in value for the expansion of Delhi International Airport. The business expanded its customer outreach during the year, securing various orders for highway construction and urban infrastructure development projects.

Our commercial operations commenced at Kannur International Airport in Kerala and Sindhudurg Airport in Maharashtra.

Roads, Runways and Elevated Corridors

Major orders received during the year include:

- 8-lane Mumbai-Nagpur Expressway (57.9 km), Maharashtra
- Construction of utilities and roads for Amaravati Government Complex and Zone 12 A projects
- A Design & Build Systems Package for a Mass Transit System in Dhaka
- Overhead electrification and signalling and telecommunication package in the Eastern Dedicated Freight Corridor 13

Our Roads business was successful in executing various projects, such as the 99 km Manwath-Bheed Road project, the two-lane highway in Maharashtra, and the flyover from Jinjira Bazaar to Batanagar in West Bengal.

Railways

During the year, L&T's Railways business successfully executed various projects, viz. Hospet-Harlapur Railway Construction, Rewari-Manheru Composite project, Singapur-Titlagarh Railway Electrification and Lucknow-Sitapur Gauge Conversion project. It also commissioned the Delhi Sarai Rohilla-Rewari section.

L&T's Mass Transit System business successfully executed various projects, viz. the Delhi Metro U/G Electrification Package CE 08 (50 TKM), the Delhi Metro Track Package CT 11 (43 TKM) and the Lucknow Metro Electrification Package LKE 1 & 2 (51 TKM). In the Dedicated Freight Corridor CTP 1 & 2 project, the business completed the trial run of a full-length goods train on the 664 TKM Rewari-Madar section.



Significant initiatives

We extensively use project management tools (TILOS) for efficient planning of complex mega projects and effective plant and machinery utilisation. Our Railways business is at the vanguard of the implementation of innovative digital initiatives, specific to linear projects. Prominent among them is the 'Central Control System on Track Vehicles Movement', providing real-time tracking of machines and tracklaying/completion status, collision-warning alerts and approaching Level Crossing (LC) gate alerts to the driver and LC gate operator.

The business has initiated measures to optimise costs by reducing external hiring of equipment through optimum resource utilisation across sites. It has also optimised bulk material usage by focusing on wastage control and process optimisation for bulk material reconciliation.

Outlook

Roads, Runways and Elevated Corridors

The development of various industrial corridors identified across the country and the nodes that have been identified in these corridors have led to the announcement of various city infrastructure development projects. Of the various corridors under development, the East Coast Economic Corridor has seen the Amaravati node under rapid development – with L&T currently executing six projects and more phases being planned.

Railways

After the Dedicated Freight Corridor projects, the High-Speed Rail Project is the next big-ticket opportunity. The business is positively looking at the start of the bidding process for the 508-km Mumbai-Ahmedabad High Speed Rail (MAHSR) Corridor. With the enhanced value of the overall project, the L&T-accessible value is also boosted, comprising packages for viaducts, undersea tunnels, stations, maintenance depots, track, electrification and signalling. L&T's Railways business will focus on track, electrification & signalling and telecommunication. It is expected that all tenders for the MAHSR Corridor will be awarded in FY20. Apart from MAHSR Corridor, the conventional projects of the Indian Railways continue to get a big thrust, backed by strong institutional funding from LIC.

The Indian Railways is planning to tackle mainline capacity constraints through capacity augmentation (doubling and tripling) of ~5,000 km in next three years, of which ~2,000 km is likely to be awarded under the EPC concept. Around 13,500 km of electrification is expected to be awarded under 'Mission Electrification' over the next three years. The business looks forward to achieving success in the majority of these opportunities. It intends to participate in the major portion of these projects through EPC tendering.

Metro Rail

The upcoming Regional Rapid Transit System (RRTS) in the NCR region provides significant opportunities in system works. NCRTC is implementing RRTS in three elevated corridors on priority basis:

- Delhi-Ghaziabad-Meerut corridor of 90 km
- Delhi-Gurgaon-Rewari-Alwar corridor of 180 km
- Delhi-Sonapat-Panipat corridor of 111 km

As part of increasing the speed and safety of conventional high-density mixed corridors, there is a significant thrust towards European Train Control Systems (ETCS) – Level 2. In the first phase, the Indian Railways is installing ETCS level 2 on trial basis. This covers 4 sections of 640 RKM. A provision of ₹ 771.92 Billion was made in FY19. The Railways business is exploring opportunities in main line railway funded by the Indian line of credit and multilateral agencies in select countries of South Asia (Sri Lanka and Bangladesh), Africa and the Middle East. All these projects provide good opportunities to the business.

3. Heavy Civil Infrastructure



Opportunity landscape

- Increased pace of infrastructure project awards, particularly from the transportation and urban infrastructure segment
- Multiple reform measures in the infrastructure sector
- Upcoming metro rail projects, coupled with decongestion projects like RRTS
- Upcoming river-linking projects
- The 'Sagarmala Project' focuses on the upgradation and development of new ports
- Upcoming road and railway tunnel projects in Maharashtra, Jammu & Kashmir and Uttarakhand
- The government's focus on increasing the nuclear power capacity of the country

FY19 performance highlights

Orders won

- Mumbai coastal road project
- Construction of Thane Creek Bridge connecting Mumbai to Navi Mumbai
- Underground metro packages in Phase 2 of Bengaluru metro

Projects completed

- Delhi Metro packages CC77 (Escorts Mujesar-Ballabgharh section of Violet Line) and CC27 (Hauz Khas-Vasant Vihar section of Magenta Line) of DMRC
- Lucknow Metro Elevated Package LKCC07 (KD Singh Babu-Munshipulia section of North-South Line)
- Chennai Metro Underground Stations CMRL UG 02 (LIC, Thousand Lights and Government Estate Stations)
- UG 03 (Nandanam, AGDMS, Saidapet and Teynampet Stations)
- Mandovi Bridge in Panaji, Goa

Other key achievements

- At the Medigadda Barrage Project in Telangana:
 - 16,722 m³ of cement was poured on a single day (December 22, 2018)
 - A 10 m formwork was designed and implemented
- 10 m height shutter erected – the first of its kind done by L&T Construction
- Reverse circulation drilling rig was deployed for the first time in Mumbai Trans Harbour Link Project
- Balanced cantilever bridge over Gomathi was constructed in a record eight months for Lucknow
- Mumbai Metro project achieved the first breakthrough in tunnelling, September 24, 2018 in metro line 3

Outlook

- Metro project packages that are expected in FY20 are Delhi Metro Phase 4, Chennai Metro Phase 2, Kanpur Metro, Mumbai Metro, Agra Metro and Meerut Metro, among others
- The Mumbai-Ahmedabad High-Speed Rail Project is expected to begin shortly. It consists of various packages and notices inviting tender for C2 package underground tunnelling and stations as well as C4 package – viaduct and station, was released recently. Feasibility studies for other High-Speed Rail routes are also in progress
- River-linking projects provide major business opportunities in the coming years. The business foresees future opportunities in ports. Opportunities are expected for marine infrastructure projects involving dry-docks and marine intake structures

New opportunities are emerging for road and railway tunnel projects as well as nuclear power businesses. The business is expecting the government to move forward with a proposal for 10 Pressurised Heavy-water Reactors (PHWRs).



4. Water & Effluent Treatment

Opportunity landscape

- Significant resources are being directed towards augmentation of basic water supply and distribution infrastructure across the country in view of the widespread and alarming drop in water tables
- Waste water projects by way of Sewage Treatment Plants and Effluent Treatment Plants have emerged as a major business opportunity
- Lift irrigation projects, which are being planned to protect farmers from the vagaries of erratic monsoon, present a healthy business potential
- Other domestic prospects include desalination plants and river interlinking projects currently being planned
- Significant water infrastructure investments are being targeted in Oman, Qatar and the UAE

FY19 performance highlights

The business won several repeat orders, and added six new customers.

The orders won came from a diversified portfolio of rural and urban water supply schemes, water management, integrated infrastructure development, lift irrigation schemes, effluent treatment plants and underground sewerage schemes. These include:

- ISP Kalisindh Project – Phase I and Parwati Project – Phase I from Narmada Valley Development Authority, Madhya Pradesh
- Athikadavu Avinashi Irrigation Project from Water Resource Department, Tamil Nadu
- Multi Village Rural Water Supply Scheme to Satna Bansagar from Madhya Pradesh Jal Nigam
- Coimbatore and Vellore Sewerage Schemes, Tamil Nadu
- Garwah Lift Irrigation Scheme from Water Resource Department, Government of Jharkhand 33
- Industrial Area Sewage Treatment Works from Ashgal, Qatar
- Drinking Water Supply Projects in Srikakulam and East Godavari District from Andhra Pradesh Drinking Water Supply Corporation
- Ranchi Smart Infrastructure Project from Jharkhand Urban Infrastructure Development Company Limited

Significant initiatives

With its continuous efforts, L&T has sustained its position as a market leader. The business is reaping the benefits of implementing various unique initiatives and exceeding customer expectations.

Key initiatives included

- Formation of an R&D Cell and Incubation Centre with technology experts for innovation and growth of the business
- Deployment of Business Development Managers to strategic domestic and international locations, targeting geographic expansion
- Embracing digital facilitators, by using custom-made apps designed to ease day-to-day operations, e.g. the Locate Measure Navigate on Phone (LMNoP+) app used for offline positioning and tracking
- Addressing and finding workable and innovative solutions for the key challenges envisaged by the business during the BEST (Business Excellence for Sustainable Transformation) Conclave
- Formation of a dedicated team to focus on developing solutions using AI and Machine Learning
- Introduced Productivity Excellence – Analysis & Realisation League (PEARL) to monitor the productivity of the project sites in a competitive manner

Outlook

On the domestic front, water infrastructure will continue being integral to the sustenance and the well-being of the general populace. Consequently, the thrust to improve the water infrastructure in India will continue.

The general elections held in Q1 of FY20 resulted into an encouraging outcome wherein the existing government got a decisive mandate to continue on its reforms-based journey for the next five years. With the event behind us, uncertainty around the continuation of policies is largely eliminated.

Challenging competition is foreseen, as the business environment is populated by geographically restricted but entrenched domestic players as well as multinational companies focused on expansion into the Indian market.

The business is focusing on consolidating in the Middle East and is planning to enter a few select countries in East Africa and the ASEAN region.

5. Power Transmission & Distribution

Opportunity landscape

- Multi-dimensional opportunities in urban power infrastructure around underground cable networks and advanced metering facilities
- Rapid adoption of Extra High Voltage (EHV) cabling projects and grid integration of renewable energy, among others
- Strong prospects of the solar power market
- Government of India schemes such as Kisan Urja Suraksha evam Utthaan Mahabhiyan (KUSUM), aim at solarising the agriculture sector
- Emerging areas like floatovoltaics and hybrid projects hold promise
- Growing need for advanced battery energy storage solutions
- In the Middle East, infrastructure development will be driven by mega events like Dubai EXPO 2020, FIFA 2022 and grand plans such as Saudi Vision 2030, and Qatar National Vision 2030
- Power distribution growth is expected to be fuelled by GCC grid formation, upgradation to higher voltage levels, integration of renewable energy sources to the existing power grid and interconnection of transmission networks
- Rising power demand in ASEAN countries to boost investments in grid interconnection, grid development and strengthening

FY19 performance highlights

Projects completed and commissioned

- Several key 400 kV and 765 kV substation projects, including those at Tughlakabad, Tumkur, Baripada and Gwalior
- Transmission corridors exceeding 3,000 km
- 220 kV Drass transmission line in Jammu & Kashmir
- 765 kV Jharsuguda-Angul transmission line for PGCIL
- 400 kV Khandwa-Pithampur-Bhatnagar corridor in Madhya Pradesh
- 400 kV Yermarus-Bellary transmission line in Karnataka
- A major part of a large-scale Battery Energy Storage Systems (BESS) project in Andaman Islands
- 28 substations and 1,400+ km of overhead and underground transmission corridors in the Middle East

Orders won

- Power Supply System – involving receiving substations and the EHV cable feeders from grid substations – for Bengaluru, Mumbai and Dhaka Metro projects
- 765 kV and 400 kV transmission lines from a reputed Tariff-based Competitive Bidding (TBCB) player
- Electrical Main Plant package for Kudankulam Nuclear Power Project expansion
- Construction of 500+ MW capacity of grid-connected solar PV plants across India
- Various solar PV EPC orders
- The first-of-its-kind solar PV+ 8 MWhr storage project
- 220 kV transmission system in Africa, marking its entry into the substation and transmission line sectors in the African market
- Many orders for developing 132 kV substations and 132 kV cable sections in the UAE
- A major power system revamp order of USD 100 Million+ from an oil & gas customer in Algeria 27



The business has augmented its capabilities for building digital substations, linear solar plants and certain packaged solutions for solar applications.

Significant initiatives

The tower-component manufacturing capacity has been augmented to cater to the demand of adjacent segments and more countries. Several operational excellence initiatives are being pursued in the areas of on-time delivery, profitability enhancement, working capital management and risk management. A unique setup has been operationalised for integrated, real-time scheduling and monitoring of projects to aid the site team for improved project delivery.



“ The overall outlook for the Power Transmission & Distribution (PT&D) sector remains promising on both the domestic and the international fronts. The business looks forward to maintaining its leading position in established markets and gaining significantly in new growth areas and target countries, ably supported by its initiatives in cost leadership, technology adoption and delivery excellence.

Outlook

- Urban power infrastructure is expected to get a makeover with underground cable networks, advanced metering facilities, etc. aiming to improve power reliability, make the network disaster-resilient and improve the aesthetics of tourist and heritage cities
- As the power transmission/transformation capacities to cater to the growing demand of urban centres increase, new opportunities will arise for EHV cabling projects in large cities. Grid integration of intermittent renewable energy and the emerging prospects of distributed generation require investments in power quality devices such as Statistic Compensator (STATCOM) and Static Var Compensator (SVC) to ensure voltage stability, reactive power compensation and reduction of harmonics
- The power supply system prospects for various metro projects are visible, especially in the Central and Western parts of the country. With an established presence in Nepal and Bangladesh, the business is better positioned to exploit the upcoming transmission line and substation opportunities in those countries
- The private Power Purchase Agreement (PPA) market in select states is expected to pick up based on encouraging open-access policies and growing solar power viability. Clarity emerging on GST and duties will help the sector, with addition of more than 10 GW of solar capacity in the coming year
- Advanced battery energy storage solutions will see a rise due to grid stability requirements and the need to electrify rural households. Upcoming state solar policies focusing on rooftop projects with net metering schemes will enhance the prospects for the rooftop segment

- With a strong domestic solar portfolio backed by experience and expertise, the solar business is geared to enter international markets, as there are many renewable-energy opportunities in countries with an established presence in the Transmission & Distribution (T&D) sector

International

- In the Middle East, the business is cautiously optimistic in its outlook as oil prices are hovering in the lower ranges, commodity prices are fluctuating, fierce competition is faced and changes are being introduced in the customer organisation / bid process, e.g., the newly formed Department of Energy in Abu Dhabi)
- The business is concentrating on key African economies that have a clear road map to build a transmission & distribution network to meet increasing demand. Grid strengthening, regional interconnection and rural electrification opportunities are being pursued in select countries. Renewable generation is another area that holds potential. The footholds gained in Algeria, Morocco and Egypt have grown stronger and the T&D space in these economies is vibrant with many opportunities
- With an increasing share in Thailand and Malaysia, the business expects to exploit potential in Myanmar and other countries of the region. With only 35% of the country connected to an overloaded grid, significant opportunities are seen in Myanmar, especially through bilateral/multilateral funding

6. Metallurgical & Material Handling

Opportunity landscape

- Demand for steel, copper, aluminium and zinc will continue to be driven by the government's emphasis on infrastructure – urbanisation, roads and highways, housing and dedicated freight corridors, the auction of mine and mine linkages, the Sagarmala initiative combined with synergised policy implementation between the State and the Centre, and the rise in automotive production
- Increase in the FDI limit in mining and exploration of metal and non-metal ores to 100% under the automatic route will boost the sector's prospects
- Key opportunities are emerging in the GCC (especially Saudi Arabia), Egypt, Zambia and South Africa for alumina, zinc and copper smelters, pellet beneficiation and speciality areas such as port-handling and freight-handling packages

FY19 performance highlights

With the limited opportunities available during the current year, the business has managed to stay ahead of its competitors.

Major orders booked are Lead-Zinc Beneficiation at RD Mines from Hindustan Zinc Limited, Alumina Refinery Expansion at Rayagada from Utkal Alumina International Limited and an Ash Handling Package at Patratu from BHEL. Orders were also received for various products (sand plants, surface miners, crushers and material handling equipment).

Marquee projects commissioned / at an advanced stage of completion in FY19:

- Coke Oven Batteries A&B, JSW, Dolvi
- Blast Furnace 8, SAIL, Bhilai
- Coke Dry Quenching (CDQ) unit 11, Tata, Jamshedpur
- Pet Coke Handling, IOCL, Paradip
- Coal Handling Plant, NCL, Nigahi/Khadia
- Coal Handling Plant, RRVUNL, Chhabra
- Alumina Refinery, EGA, Abu Dhabi
- Pipe Mill Project, Al Gharbia Pipe Company LLC, Abu Dhabi

Significant initiatives

The business has strategic alliances with leading global technology experts to offer comprehensive EPC solutions across various sectors. During the year, the business forged key alliances with companies such as Rio Tinto, Thyssenkrupp and China Power for alumina smelter and speciality areas.

On the products side, the business has augmented its capability for in-house manufacturing of ship unloaders, with engineering and design support from foreign technologists.

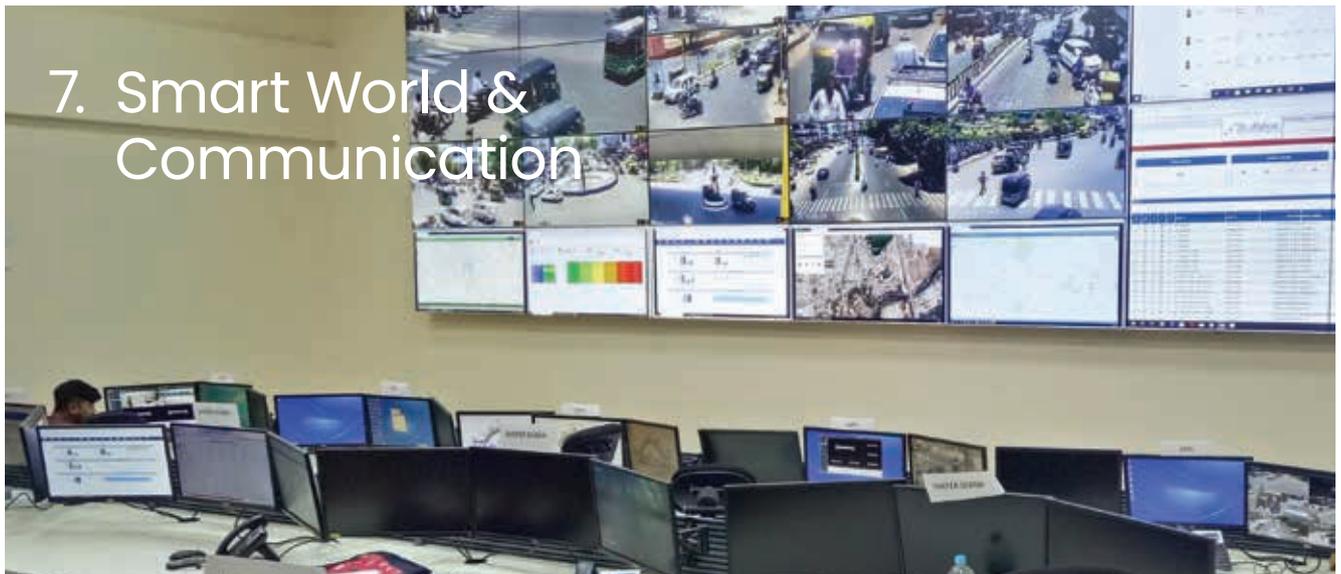
The business is developing real-time monitoring systems for stockyard machines and wagon unloading systems through IoT and linked customised dashboards for optimum utility of the system for customers. Digital AI weightment systems have been introduced at the Company's Kancheepuram Works.

Outlook

In FY20, prospects are envisaged in the domestic cement sector, with capacity additions/augmentation being planned by major players to order core equipment and products. The steel sector is expected to witness moderate brownfield expansion, with a thrust on debottlenecking plant capacity and asset synchronisation to achieve higher operational efficiencies of the newly acquired assets.

Steady growth in the product business is expected, owing to medium-to-high growth in core industrial sectors, particularly cement, coal mines and construction. Sand mining from river beds is banned due to environmental reasons, and consequently, the user-friendly sand manufacturing machine will find extensive use in construction. The business has already established a leadership position.

However, some amount of negative impact is expected to arise from customer preference for the Engineering, Procurement, Construction Management (EPCM) option rather than the EPC route for big projects in the international segment.



7. Smart World & Communication

Opportunity landscape

- The government's interest in the security and surveillance segment for 2020 remains a high priority
- To enhance homeland security, Police Modernisation has been provided a budget outlay of over ₹ 30 Billion
- City surveillance / Intelligent Traffic Management System projects are expected to come up in Delhi, Chennai, and Bengaluru
- Perimeter protection projects to protect the critical infrastructure of the nation and surveillance at railway stations and in coaches are expected to take off in FY20
- The government's Smart Cities mission is expected to see ICT projects roll out in at least 25 smart cities with an outlay of ₹ 50 Billion
- The government has plans to convert 100,000 villages into digital villages over the next five years
- The government has proposed to set up 500,000 Wi-Fi hotspots, which will provide broadband access to 50 Million rural citizens and provided ₹ 60 Billion in FY20 for the creation and augmentation of telecom infrastructure

FY19 performance highlights

The business received several major orders, as follows:

- Integrated Command & Control Centre (ICCC) for Prayagraj Smart City
- Intelligent City Management System for Panaji Smart City
- City Network, City Wi-Fi, Smart Kiosk and Variable Message Display for Pimpri Chinchwad Smart City
- Common Cloud Based DC and DR, Citizen Application, and E-Governance Application along with ICCC for Tamil Nadu 10 Smart City
- Pan-city Information & Communication Technology (ICT) Solution for Tirupati Smart City
- Supply and maintenance of hi-tech labs for high schools in Tamil Nadu under the E-Siksha project
- Installation and maintenance of security cameras for surveillance add-on for Mumbai city
- Communication System of Bengaluru Metro
- Establishing IP Multi-protocol Label Switching (IP MPLS) network infrastructure in Andhra Pradesh and implementation and integration of Element Management System (EMS), Network Operations Centre (NOC), Network Management System (NMS) and related infrastructure in Telangana (T-Fibre)

During the year, the business successfully commissioned several Smart City projects in Nagpur, Pune, Vizag, Raipur and Prayagraj Phase 1. It entered the O&M phase during the year. The highlight of FY19 was project management of the world's largest religious gathering, the Kumbh Mela at Prayagraj, Uttar Pradesh, with successful implementation and monitoring using AI for crowd management.

The business successfully commissioned the Smart Metering project, under Energy Efficiency Services Limited (EESL), for the New Delhi Municipal Corporation (NMDC), thus enabling NMDC become the first distribution company (DISCOM) in India to implement a 100% smart metering solution.

Significant initiatives

The business has undertaken the following initiatives in the areas of tendering, technology, supply chain management and operational efficiency improvement:

- Upselling during the operation and maintenance phase
- Establishing price discovery mechanisms such as zero-level costing, historical benchmarks, market intelligence and XaaS Costing Model
- Strategic initiatives in areas like the IoT, AI, cyber security and geospatial
- Centralised and dedicated support for all operational projects for maintenance of Service-level Agreements (SLAs) with contractual tie-ups with the Original Equipment Manufacturers (OEMs)
- Setting up a Technology Excellence Centre on the campus of the business to foster innovation in its segment; it is geared to play a crucial part in the roll-out of emerging technology interventions

Outlook

- FY20 looks promising for the business as more initiatives are being taken to make cities smart and safe, as well as digital initiatives in social sectors like E-Shiksha and 'smart villages' that are connected
- The network spectrum for strengthening communication for the Indian Armed Forces is in the finalisation stage
- The IoT solutions implemented in the smart cities and the benefits derived from these systems to the urban citizens will be extended to the rural population
- With the government's Smart Meter National Programme to cut Aggregate Technical & Commercial (AT&C) losses to below 12% by 2022, a special thrust on the roll-out of smart meter infrastructure is expected across multiple states
- With the government's continuous interest in this sector and increased budgetary allocation y-o-y, the sector remains lucrative for investment, though faced with stiff competition. However, L&T, with its experienced team and previous experience in executing complex technological projects, has an advantage in the market, and remains positive for FY20

Power



Risks	Mitigation initiatives
Protectionism in overseas geographies (norms related to local content, local hiring, etc.)	<ul style="list-style-type: none"> Entry into consortiums with established IPPs / EPC contractors / local players to enable entry into specific overseas geographies
Limited domestic opportunities (especially in gas), and delays in finalisation of projects in coal	<ul style="list-style-type: none"> Target increased exports through strategic tie-ups Entry into selected overseas geographies for providing gas EPC and engineering services
Intense competition / aggressive bidding	<ul style="list-style-type: none"> Implementing cost reduction and execution excellence initiatives to enhance competitiveness
Declining share of coal-based generation in overall energy mix (owing to increased thrust on renewables)	<ul style="list-style-type: none"> Advocate importance of the coal sector in ensuring grid stability and meeting 24x7 steady and quality power demand, especially in core sector industries

Opportunity landscape

- Coal-fired stations will continue to be in demand as they ensure stable power, provide peaking power requirements and ensure a balanced grid
- The government has an ambitious plan to increase the nuclear power production to 23 GW by 2031 from the current level of 7 GW
- Significant potential in the markets of Bangladesh, Sri Lanka, Myanmar and GCC countries
- The government’s mandate to retrofit all old plants with new emission control equipments is leading to increased opportunities in Flue Gas Desulphurisation (FGD) and Selective Catalytic Reduction (SCR)

FY19 performance highlights

- These are the major achievements during the year:
- Achieved commercial operations date for the first unit in a project in Madhya Pradesh
 - Completed the performance guarantee test for a project in Rajasthan
 - Synchronised gas turbine generator for a Bangladesh gas-based power plant project within the contractual period
 - First 1,000 MW turbines were manufactured in India by L&T-MHPS turbine generator (2 x 1,000 MW turbines)
 - Won award for significant productivity improvement at the IMTMA Ace Microsmatic Productivity Championship
 - The business bagged four contracts from NTPC for FGD and export orders (L&T-MHPS Boilers); a strong order book ensured that the Hazira factory operated at almost full utilisation

Significant initiatives

During the year, the business undertook multiple initiatives like the implementation of the business excellence model, cost optimisation and vendor profiling.

With the help of leading consultants, our business focuses on reducing direct and indirect costs to strive for cost leadership.

Outlook

- Looking ahead, the business is confident of a revival of capacity addition in the thermal power sector to match the projected rise in demand for power, in line with the projected economic growth in the country. The business anticipates growth in power demand, which would require capacity addition and enhancement in the areas of generation, transmission and distribution
- Due to anticipated demand, the business sees a market opportunity of around 7 GW in the next year for coal-based thermal power plant orders. The business sees around 40 GW of ordering in FGD systems in the next year, and opportunities in the replacement market
- The business sees large-value opportunities in this segment. It is gearing up in terms of manufacturing capability and procuring the requisite technology to produce turbines of 700 MW capacity relating to PHWR nuclear power plants
- The business is also taking the necessary steps to become a serious player to undertake Steam Turbine and Generator (STG) island contracts in PHWR nuclear-based power plants. Gas-based plants are not expected to revive in India soon
- The business continues to focus on markets outside India for gas-based power plants. The target countries are Bangladesh, Sri Lanka, Myanmar and GCC countries. The business has taken steps to strengthen its presence in the Middle East to exploit available opportunities in this sector. The L&T-MHPS Boiler JV is looking forward to cash in on upcoming opportunities in the domestic market, and will continue to explore business opportunities in the international market for direct export orders. In addition, the Company is looking forward to gaining a foothold in the Selective Catalytic Reduction System market in India, which is likely to open up in the second half of FY20

Heavy Engineering

Risks

Reliability and delivery performance

Energy, water and waste management

Mitigation initiatives

- Focus on reduction of cycle time
- Sustained efforts for on-time delivery
- Continuous monitoring of energy/water conservation, consumption and GHG emissions at our campuses to identify improvement areas
- Spreading awareness of SDGs across locations

Opportunity landscape

- The domestic refinery sector is likely to show a revival of the capex cycle from oil Public Sector Units (PSUs) (IOCL, HPCL, CPCL and BPCL).
- Emergence of new refineries (RRPL, Ratnagiri and HRRL, Barmer) and overall business expansion due to FDI inflows will provide avenues for the equipment business in the next couple of years
- In the fertiliser sector, major opportunities are expected from Talcher Fertilisers Limited
- Upgradation of refineries and petrochemical complexes in international markets provides business opportunities for supply of relevant equipment
- The government's plans to set up 10 indigenous nuclear power plants of 700 MWe is yielding business opportunity

FY19 performance highlights

Major achievements

During the year, the business experienced a spurt in order inflows with major orders received in the oil & gas sector for critical reactors, coke drums, slug catchers, LNG equipment, ethylene oxide reactors, primarily for projects in the Middle East, China and the USA. The LTSSHF JV received an order for the supply of steam generator forgings for six units to be set up in 'fleet' mode.

The major projects under execution are Atmospheric Residue Desulfurisation (ARDS) reactors for ADNOC Refinery in the UAE, steam generators for Gorakhpur Haryana Anu Vidyut Pariyojana (GHAVP) Unit 1 and 2 for NPCIL and the Hydrocracker Unit Reactors in Duqm, Oman.

Significant initiatives

The business continues to focus on operational excellence initiatives to deal with the challenging market scenario and to enhance its competitiveness further. Major initiatives include: On Time Delivery, First Time Right Work Culture, Talent Management and Organisational Excellence. These initiatives have contributed to significant improvement in increasing our speed in manufacturing and have enhanced our capabilities further.

Outlook

The signs of a global economic slowdown could have some bearing on the demand for heavy engineering equipment in the first half of FY20. Customers are increasingly adopting strategies like reverse auction and qualifying new suppliers. The result is growing competitive intensity. On the domestic front, companies are striving to build references through technology tie-ups with European and Japanese manufacturers.

“ **The second half of FY20 is likely to provide nuclear fleet procurement opportunities (700 MWe PHWR projects).** ”

Defence & Aerospace

Risks

Overwhelming dependence on a single customer, namely, the Government of India

Completely dependent on policy action for future sustainability of the business

Mitigation initiatives

- Identify and capture opportunities in international markets
- Play an active role in policy advocacy
- Make steady investments in R&D

Opportunity landscape

Defence

- The Defence Production Policy is awaiting the government's final clearance and has set clear targets for the quantum of defence production, both domestic and exports, by 2025
- The private sector has been allowed to compete for over 50% of the programmes categorised as indigenous acquisition – a major change compared to the preceding five years, when it was below 5%

Aerospace

- The Indian Space Research Organisation (ISRO) Gaganyaan 2022 plans to provide a wide range of opportunities
- ISRO is looking to involve the industry in Launch Vehicle Integration

FY19 performance highlights

Major achievements

- Delivery and commissioning of the first Indian Weapon System for a foreign navy is a significant breakthrough for L&T 57
- Dedication to the nation — L&T's Armoured Systems Complex at Hazira by the Honourable Prime Minister in the presence of the Honourable Defence Minister
- Significant weapons systems delivered included K-9 Vajra Howitzers, Pinaka MRLS, BM21, Akash Air Defence Systems – many of which were displayed at the Republic Day Parade
- Delivery of multiple weapon launch systems (land and naval), engineering systems and missile systems to the Indian Armed Forces
- Announcement on operationalisation of deterrence patrol by the INS Arihant by our Honourable Prime Minister – testimony to the platform's build quality
- Handover of three Offshore Patrol Vessels (OPVs) to Indian Coast Guard – all ahead of schedule
- Benchmark-setting delivery – OPV-1 was the first-in-class ship since 1963 to be delivered within the contracted schedule
- Ahead-of-schedule deliveries of Interceptor Boats (IBs) to Indian Coast Guards (eight boats in FY19) new orders
- Supply of 10 m short-span bridges received from the Ministry of Defence (MoD)
- Order from MBDA France for MICA missile rear section and launcher integration

Significant initiatives

In addition to the focus on defence manufacturing to serve the Indian Armed Forces, direct exports are targeted as an additional growth engine.

We have been working closely with DPSUs, over the years, and the relationship was elevated to the next level by signing Memorandum of Understanding (MoU) with BEL and BEML. This will make it easier for L&T and the partners to target specific programmes and explore emerging opportunities in domestic and international markets. The business is also working on strengthening partnerships to explore and target emerging markets. During the year, a new facility for production of Howitzers armoured systems was created in L&T's Hazira Complex with

'Industry 4.0' setup. The business, in its association with the Defence Research and Development Organisation (DRDO) in the development of indigenous systems, made marked contributions to 17 of the 20 systems for which the DRDO conducted successful launch trials during the year, by supplying critical systems such as launchers, fire control systems, stabilisation systems and missile airframes.

Outlook

Defence

The policy explicitly lists 13 segments for which indigenous capability will be built, and imports will be disallowed. It, therefore, befits the industry to develop capabilities and capacities over the medium to long term. The Company continues to focus on capability and capacity building in many of these segments and has a proven track record in many of them.

The defence production market demonstrates the promise of a significant pick-up in the medium to long term as the government implements some of the policy initiatives still in the pipeline. The Indian Navy's aggressive fleet expansion plan, combined with the 'Make in India' initiative of the government, provides wider opportunities to Indian shipyards for the construction of warships and submarines for defence forces.

Aerospace

The ISRO has started working on its ambitious plan of Gaganyaan 2022 and has also initiated actions to involve the industry in Launch Vehicle Integration, which is likely to create sizeable opportunities. In line with this, L&T and HAL have signed a consortium agreement to produce the complete launch vehicle for ISRO. The strategic partnership policy has been created to bring in private sector participation in addition to the production lines of the DPSUs for manufacturing defence platforms within the country. During the year, two programmes have been approved for procurement under Strategic Partnerships (SP), viz. Naval Utility Helicopters (NUH) and Programme 75(I) for construction of Conventional AIP Submarines indigenously. Having been a vital contributor for indigenous production with experience across segments, L&T is well placed to be a strategic partner to the Government of India and indigenously build platforms that were earlier fully imported or assembled with dominating import content.

Electrical & Automation

Risks	Mitigation initiatives
Low profitability	<ul style="list-style-type: none"> Operational excellence initiatives for cost optimisation Continued organisation-wide emphasis on value engineering, lean manufacturing and procurement optimisation Product design initiatives to optimise material consumption
Technology obsolescence	<ul style="list-style-type: none"> Investment in R&D and generation of new Intellectual Property Rights (IPR) Resources deployed to identify and develop potential new technologies for the future
Delay in speed-to-market	<ul style="list-style-type: none"> Restructuring and improving processes for faster introduction of new products
Aggressive competition	<ul style="list-style-type: none"> Focus on innovation, brand strength and increasing market share

Opportunity landscape

- Government programmes like UDAY, Smart Cities, Smart Grid, Pradhan Mantri Krishi Sinchayee Yojana, Pradhan Mantri Kisan Samman Nidhi Yojana, Digital Villages, India's Electric Vehicles Mission and increased focus on renewable energy will provide new opportunities for the business
- High impetus on renewable energy in the GCC region, creation of new urban infrastructure and an increased focus on automation across sectors, notably in oil & gas sector
- Africa is another market holding strong prospects

FY19 performance highlights

Grants for 34 patents, 33 trademarks and 26 design applications in India, as well as 3 foreign patent grants (one each in China, Malaysia and Europe)

- Electrical Standard Products business
 - 20% Healthy New Product Intensity (NPI) index powered by focused R&D initiatives
- Electrical Systems & Equipment business
 - Breakthrough in Africa for business with an order from the Dangote Group
 - Attained success with wind players
 - Ahmednagar Switchgear Works factory has become the first Indian factory approved by global wind majors

Significant initiatives

Multiple value engineering and procurement optimisation measures have helped generate operational cost efficiencies and savings across the business. A few, key vertical-specific initiatives include:

Electrical Standard Products

- Total Quality Management (TQM) remained a key focus area for business. It has applied for the coveted Deming Prize – the highest quality award – which will help the business garner further opportunities from international markets
- New products introduced included MCCBs and variants of Omega ACBs for new emerging markets, contactors 63 for power quality control, the ENGEM range of wiring accessories, products for the agriculture segments, among others

Metering and Protection Systems

Ongoing implementation of operational excellence initiatives such as value engineering, lean manufacturing, 5S, among others have helped achieve cost efficiencies and remain competitive.

Switchboard business

By shifting its low-voltage switchboard manufacturing operations from Ahmednagar to Coimbatore, the business has increased its manufacturing capacity for medium-voltage products.

Electrical Systems & Equipment

- Introduced a range of new products for the utilities segment, i.e. feeder pillars, Compact Sub Stations (CSS) and Front Ring Main Unit (RMU) with Feeder Remote Terminal Unit (FRTU)
- New products for infrastructure projects (metros, airports, smart cities and high-end residential complexes) in global markets: Sub-Main Distribution Board (SMDB) and GIS for the wind segment

Control and Automation

- Successfully developed its in-house AC drives of Series 690V and MV range, reducing imports dependence
- Upgradation of the in-house developed SCADA i-Visionmax®, which is gaining increased market acceptance

Outlook

Significant opportunities will be provided to the business by new infrastructure, public transport systems, airports and support to renewable energy.

Opportunities in the GCC region will emerge from the impetus to large renewable energy projects, the creation of new urban infrastructure and an increased focus on automation across sectors, notably in oil & gas. Growth in Africa is also expected to increase and the presence of the business in select geographies will be beneficial.

During the early part of FY19, L&T entered into a definitive agreement with Schneider Electric, a French multinational company, to divest its Electrical and Automation business in line with the Company's policy to exit non-core businesses, subject to regulatory approvals. The Competition Commission of India in its letter dated April 18, 2019 granted approval, subject to certain amendments, details of which are awaited.

Hydrocarbon Engineering

Risks

Mitigation initiatives

Limited domestic opportunities

- Explore international opportunities

Financial and operational risks with strategic partners

- Financial due diligence is pursued
- Investigation into the background and reputation of prospective partners
- Learnings from past projects are incorporated to strengthen the 'inter-se agreement'

Aggressive bidding by competitors

- Enhanced pre-bid engineering
- Cost optimisation through cost controls and value-added solutions
- Differentiate from competitors by bringing in more value and focus on on-time projects delivery

Cost overruns

- Operational excellence initiatives to reduce/eliminate schedule overruns
- Change orders in contract clauses to cover changes due to extended scope or delays
- Fixed purchase price contracts with vendors
- Long-term contracts with suppliers to limit the impact of unforeseen events and limit price fluctuations of the relevant commodity

Opportunity landscape

- India's oil demand is growing at 4.5% CAGR. The gas energy mix is likely to shift from the current 6.5% level to about 15% by 2022
- India is planning to double its annual gas production to 60 BCM by 2022
- The Government of India is incentivising Enhanced Oil Recovery (EOR) projects
- India plans to enhance its refining capacity from about 248 MTPA to about 438 MTPA by 2030
- The government is keen on India becoming a gas-based economy, providing significant opportunities for LNG import terminals and gas pipelines
- GCC region and Algeria will see higher gas outlays, downstream and petrochemical projects
- Saudi Aramco plans to invest over USD 140 Billion in oil, gas and petrochemical projects over the next five to six years
- The UAE is planning to spend USD 36 Billion over the next five years, with a focus on gas production
- Kuwait is diversifying into the petrochemicals segment and has announced a USD 115 Billion investment plan
- Qatar is planning to invest USD 5 Billion in the offshore sector to increase its LNG liquefaction capacity to 100 MTPA
- Algeria has plans to invest about USD 55 Billion in the next five years

FY19 performance highlights

Major achievements

Offshore

Projects completed

During the year, the offshore vertical handed over three wellhead platforms ahead of schedule to ONGC for their Neelam Redevelopment Project. The balance process platform, along with an associated bridge, is progressing on schedule. The Company also completed Transportation & Installation (T&I) for Daman Development Project and achieved substantial completion for ONGC's Pipeline Replacement Project-4 (PRP4). It also completed the Safaniya 4 Deck project and upgraded 17 Tower Cranes for Saudi Aramco.

Orders won

- EPCI contract in consortium with Subsea7 for three oil production deck manifolds and subsea pipelines in the Zuluf and Berri Fields of Saudi Aramco

- Contract in consortium with Baker Hughes and McDermott International for ONGC's largest deepwater oil & gas project, the development of block DWN-98/2 in the Krishna Godavari basin
- EPCI contract from ONGC for development of Cluster 8 marginal field involving three wellhead platforms, 1 bridge-connected wellhead-cum-riser platform, a ~59 km pipeline, 3 clamp-on structures and modification of two platforms

Onshore

Projects completed

- Gathering Centre, GC-30, in North Kuwait for Kuwait Oil Company
- SNDC-2 and KDC-2 projects for PDO, Oman
- Off-gas treatment (urea plant) was successfully commissioned for GSFC
- Mechanical completion of a melamine plant for GSFC
- Mechanical completion for IOCL Haldia's Coke Drum System Package (CDSP)



Orders won

- Two fertiliser plants of 2,200 TPD ammonia and 3,850 TPD urea at Barauni (Bihar) and Sindri (Jharkhand) on EPC basis in consortium with TechnipFMC from Hindustan Urvarak and Rasayan Limited (HURL) – a major breakthrough in the fertiliser segment, offering complete ammonia plants
- Seven cracker furnaces of 1,200 KTPA Dual Feed Cracker Unit (DFCU) on EPC basis from HPCL-Mittal Energy
- EPC order from IOCL for 357 KTPA Mono Ethylene Glycol (MEG) Plant and a 180 KTPA Ethylene Recovery Unit (ERU) under LSTK-1 Package
- EPC contract from KOC for installation of New Strategic Gas Export Pipelines, 48" diameter, spanning 145 km from North Kuwait to Mina Al Ahmadi Refinery
- First breakthrough project in Algeria – EPC contract from Sonatrach for South West Gas Fields Development Project

Construction services

Projects completed

Successful commissioning of ROG, PCG DTA, PX-04, MEG, LDPE and ECSP plants for Reliance Industries Limited, Jamnagar

Orders won

- Pipeline and associated works in the south-eastern region of India from IOCL
- Upgradation of facilities of Mangala Terminal at Barmer for Vedanta
- Additional scope in existing contracts

Modular fabrication

Projects completed

- Launching of Hasbah II Tie-in Platform (TP-II) – the heaviest gas platform in Saudi Aramco's history
- Supply of fabricated and modularised CCR, NHT, MHC Heaters to JNK Korea for Dangote Oil Refining Company Limited, Nigeria

Orders won

- A breakthrough order from an international customer for process and pipe-rack modules
- EPCM contract for an ethanol production unit from the off-gas of IOCL's Panipat refinery
- Various projects from BASF Corporation, BHEL, Cairn Oil & Gas, IOCL, Coromandel Fertilizers, Gujarat Chemical Port Terminal Company Limited, ONGC, SKI Carbon Black, Gujarat Alkalies & Chemicals Limited and others

Significant initiatives

The business has a vision: to 'Revolutionise the Hydrocarbon Industry'. Its credo is 'Execution Par Excellence'.

The Company lays continued emphasis on sharper bidding to enhance its market share and execute projects within time and cost to protect bid margins. The business continued its journey with

its Operational Excellence initiative, which aims to achieve refined cost structures, align operations for timely project deliveries and optimise fund deployment. This initiative has yielded results for the Company, reflecting in enhanced cost-competitiveness in its bids and further improvement in its bottom-line for projects under execution. The business has now embarked on an initiative for cost-reduction through design value improvement.

Its capability-building initiative has led to significant progress in terms of building portfolio and project leadership as well as functional group development. This initiative aims to build globally benchmarked project leadership teams to execute large international projects and develop and institutionalise an international project capability development engine.

Through its Perspective Plan 2026, the Company lays strategic thrust on new business segments like offshore wind energy and is gearing up for emerging waste-to-value projects.

Outlook

- The Government of India aims to increase the use of biofuels/ alternative fuels to reduce its oil import bill by 10% by 2022 and plans to build 2-G ethanol plants using agricultural residue. The Company is well poised to undertake the execution of these 2-G ethanol plants and is gearing up for other waste-to-value projects
- During the year, 55 oil & gas exploration areas were awarded under the first round of Open Acreage Licensing Policy (OALP). The Government has auctioned an additional 14 blocks in the second round and 23 blocks in the third round. ONGC is also planning to invest USD 3 Billion to explore ultra-deep-water fields in Cluster 3 on India's east coast

International

- Strong investments by GCC and the Middle East countries will provide significant business opportunities for the Company in the region
- The recent breakthrough in Algeria will open up significant opportunities for the Company to leverage its modular fabrication capabilities
- Shale gas/oil will continue to drive petrochemical and LNG liquefaction investments in the US, offering opportunities for high-value engineering and modular fabrication services
- The business will accomplish this by virtue of its customer focus and responsiveness, sustenance of experienced and highly skilled human resources, world-class quality and HSE practices, a culture of excellence, distinctiveness in corporate governance, extensive IT-enabled processes, digitalisation and state-of-the-art IT security practices

Awards and accolades

Recognised for delivering holistic excellence

Larsen & Toubro

- ICC Sustainability Best Practices Award 2018
- CNBC Risk Management Award 2018
- Highest rating of '4 Good' in The Economic Times '2 Good 4 Good' CSR Rating Scheme
- Taqdeer Award from Government of Dubai for excellence in labour welfare practices

Individual businesses

Buildings & Factories

- Six British Sword of Honor Awards
- Five-star Certification
The British Safety Council for third time in a row
- 14 projects won Gold Awards
- One project won a Silver Award
The Royal Society For Prevention of Accidents (RoSPA)
- Eight projects won at National Infrastructure & Construction Awards 2018
Construction Week Award 2018
- A MEED Quality Award for 2018 in Oman
- MACE Global – Health, Safety & Wellbeing Award – 2018
For outstanding safety performance on site

Transport Infrastructure

- OPGC-MGR Railway Corridor project won the prestigious 'Shreshtha Suraksha Puraskar' (Silver Trophy) in the construction sector for 2018

Power Transmission & Distribution

- Best Performing Power T&D Organisation Award
Central Board of Irrigation & Power
- Outstanding Contribution to 100% Electrification of Bihar

Water & Effluent Treatment

- Golden Peacock National Quality Award for 2019

Smart World & Communications

- E-governance Initiative of the Year for Prayagraj Smart City project
Federation of Indian Chambers of Commerce and Industry

Hydrocarbon Engineering

- Golden Peacock Environment Management Award for 2018
- Challenger's Award – Mega Large Business in Engineering Sector
The Sustainability 4.0 Awards 2018 co-hosted by Frost & Sullivan and the Energy and Resource Institute



Recognised for nation-building

Our esteemed Group Chairman, Mr. A. M. Naik, was conferred one of India's highest civilian awards, the Padma Vibhushan by the Honourable President of India Shri Ram Nath Kovind on January 26, 2019. Mr. Naik embodies the values of professionalism, entrepreneurship and a passionate commitment to nation-building, and is widely acclaimed as one of the world's best performing business leaders.



For me, the Padma Vibhushan is an acknowledgement of the contribution made to the nation, industry and society by Larsen & Toubro – the Company I am proud to have served for over five decades and led for the last two."

Sustainable Development Goals (SDGs)

SDGs define global priorities and aspirations for 2030, with objectives to achieve conservation and ecological balance.

The following demonstrate our alignment with SDGs and our initiatives against climate change mitigation, environmental conservation and corporate social responsibility.

Goals	Initiatives	Section Reference
 <p>Goal 1: End poverty in all its forms</p>	<ul style="list-style-type: none"> • Vocational, life-skills training and job placements for skilled youth • Encouraging entrepreneurship • Farm field schools • Increased agriculture income and multi-cropping due to water adequacy • Created agro-based livelihood, increasing household incomes 	88
 <p>Goal 2: End hunger, achieve food security, improve nutrition and sustainable agriculture</p>	<ul style="list-style-type: none"> • Encouraging sustainable agricultural practices by use of zero budget natural farming, drip irrigation, indigenous pesticides, seed treatment, balanced dose of fertilisers, discouraging plantation of water-intensive crops, and introducing horticulture • Kitchen gardens • Nutrition awareness campaign and counselling for women, pre-school teachers and school children from the community • Daily distribution of multi-vitamins/milk at Anganwadis / schools • Livestock management and training in dairy and poultry business 	88
 <p>Goal 3: Ensure healthy lives and promote wellbeing of people of all ages</p>	<ul style="list-style-type: none"> • Multi-specialty community health centres providing access to maternal, family welfare, pediatric and general healthcare • Mobile health vans and camps for school children, women and elderly from underprivileged communities • Health awareness for adolescents • Care and counselling programmes for differently-abled children • Blood donation camps • Training of frontline healthcare workers • Integration with national health programmes and welfare teams at the workplace 	88
 <p>Goal 4: Ensure inclusive and quality education, and promote lifelong learning opportunities for all</p>	<ul style="list-style-type: none"> • Technology enabled education (e-learning facilities) in Government schools • Introducing and strengthening STEM (Science, Technology, Engineering and Math) Education programme in government schools to unlock scientific and technological potential of children and encourage their curiosity, scientific vigour and creativity. • Promoting girl child education • Life skills and extra-curricular activities for overall development of students • Community-based learning centres with parent involvement to prevent dropouts and prepare children for board exams • Prepare indigenous students for admission to various public schools • Teacher training programme to impart effective pedagogy • Science-on-wheels, miniature science centres and laboratories to develop interest in scientific subjects • School infrastructure development, enhancing curriculum and impacting classroom learning through nurturing talent 	88
 <p>Goal 5: Achieve gender equality and empower all women and girls</p>	<ul style="list-style-type: none"> • Awareness on women's health and menstrual hygiene • Toilet facilities in schools for girls • Creating livelihood opportunities and encouraging entrepreneurship among women through skill development, vocational training programmes and market linkages • Drudgery reduction activities • Formation of women's SHGs, ensuring participation in development and school management committees across villages 	88



Goal 6. Ensure availability and sustainable water management and sanitation for all

- Achieving water adequacy for drinking, sanitation and agriculture through watershed projects, as part of ICD programmes
- Sanitation awareness campaigns followed with construction of toilets, to make rural India 'open defecation-free'
- Supporting Swachh Bharat Abhiyan
- Creating water bodies for communities
- Developing community-based groups like Village Development Committees, Farmers groups for maintaining the water structures and ensuring the villages remain open defecation free
- Demonstration of rainwater harvesting system in schools and households
- Training farmer groups to measure water levels and in GIS based water management

88



Goal 7. Ensure access to affordable, reliable, sustainable energy for all

- Providing solar lamps to the underprivileged communities and off-grid solar system with back-up for communities and schools
- Increasing renewable energy use within campuses and project sites
- Green products and services portfolio for customers
- Demonstration of solar agricultural fences in villages

88, 74



Goal 8. Promote inclusive and sustainable economic growth, full and productive employment and decent work for all

- Employable skill training and placements for youth from underprivileged communities, physically and mentally challenged persons
- Transform fresh ITI candidates to multi-skilled workers
- Certified computer courses for students
- Television and digital media workshops for youth empowerment
- Empowering workforce through learning, development and welfare initiatives
- Skilling youth through training institutes
- Training rural youth in ethno veterinary care

66, 88



Goal 9. Build resilient infrastructure, promote inclusive and sustainable industrialisation and foster innovation

- Embolden automation with focus on application for patents / Intellectual Property Rights (IPR) to inspire innovation
- Resilient infrastructure creation and sustainable industrialisation for our clients, through our offerings – green products and service portfolio
- Focus on 'Make in India' initiatives to create employment opportunities and import substitution

60, 74



Goal 10. Reduce inequality within and among countries

- Merit-based hiring with emphasis on equal opportunities
- Established policies to empower employees irrespective of gender, age, disability, race and religion
- Encouraging participation of vulnerable groups like women and the deprived, in rural development committees
- Fairness in distribution of resources within villages under ICDP to circulate the benefit to the most needy and vulnerable in the community.

64, 88



Goal 11. Make cities and human settlements inclusive, safe, resilient and sustainable

- Create comprehensive and smart technology solutions for critical infrastructure, spanning airports, power plants, metro rails and IT parks
- Offer specialised turnkey GIS-based network management solutions for city surveillance, traffic monitoring and analysis
- Road barriers and guards to control traffic areas at project sites, especially busy junctions in the city, along with road safety awareness campaigns
- Garden maintenance in cities and flood relief interventions
- ICD Programme for water-stressed rural settlements

14, 56, 60

 <p>Goal 12. Ensure sustainable consumption and production patterns</p>	<ul style="list-style-type: none"> • Implement material conservation initiatives, energy efficiency advancement projects and sustainable production practices • Our cumulative energy conservation over the years is more than 400,000 GJ. • We proactively utilise Flash Granular Blast Furnace Slag and Crushed sand in our construction projects and recycled steel wherever permissible. 	74
 <p>Goal 13. Take urgent action to combat climate change and its impacts</p>	<ul style="list-style-type: none"> • Climate change mitigation and adaptation initiatives: GHG intensity reduction projects, promoting the use of renewable energy, green buildings and tree plantation • Measurable targets for reducing energy and carbon intensity at campuses and project sites • Carbon footprint mapping at the organisational level • Alignment with NAPCC, Government of India 	74
 <p>Goal 14. Conserve the oceans, seas and marine resources for sustainable development</p>	<ul style="list-style-type: none"> • Evaluate business process risk to ensure that negative impacts are avoided/minimised/controlled 	74
 <p>Goal 15. Protect, restore and promote sustainable use of terrestrial ecosystems, manage forests, combat desertification, and halt land degradation and biodiversity loss</p>	<ul style="list-style-type: none"> • Building soil conservation to prevent soil erosion in the ICD programme • Rainwater harvesting in schools • Lake clean-up and reserve forest clean-up drives alongside de-silting of water bodies • Planted 700,000+ saplings in last five years and 150,000+ fully-grown trees are nurtured across major campuses • In-house guidelines on scientific tree plantation and maintenance • Felicitation of guests with a Tree Certificate, instead of a floral bouquet • Optimising the use of natural resources 	74
 <p>Goal 16. Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective as well as accountable institutions at all levels</p>	<ul style="list-style-type: none"> • Associating with industry forums and Government bodies for promoting sustainable development 	30-31
 <p>Goal 17. Strengthen the means of implementation and revitalise global associations for sustainable development</p>	<ul style="list-style-type: none"> • Collaboration and partnership with state and national governments, NGOs and ITIs. • In keeping with the United Nations Global Compact, and following GRI Standards for sustainability reporting • Skill-building programme in the Middle East • Sharing best practices with stakeholders 	88, 120

GRI Standards Content Index

"In Accordance – Comprehensive"



GRI standard	Disclosure number	Page number, URL and/or direct answer	Reason for omission	External assurance
GRI 101: FOUNDATION 2016				
GRI 102: GENERAL DISCLOSURES 2016				
1. Organisational profile	102-1	8	-	Yes
	102-2	8-9	-	Yes
	102-3	Back Cover	-	Yes
	102-4	12-13	-	Yes
	102-5	Annual Report 2018-19, page no. 7; non-promoter driven, publicly listed organisation.*	-	Yes
	102-6	8, 12-13	-	Yes
	102-7	26-27, 46, 47, 48,12-13, 66, 9	-	Yes
	102-8	69	-	Yes
	102-9	32, 33, 61, 88, 90, 94	-	Yes
	102-10	4; Ours is a project based business and many of the locations keep changing. Our supplies of the local resources depend on the geographies at which we are working.	-	Yes
	102-11	34-35, 42-43	-	Yes
	102-12	35	-	Yes
	102-13	35	-	Yes
2. Strategy	102-14	2-3, 18-19, 38-41	-	Yes
	102-15	42-43, 110-115	-	Yes
3. Ethics and integrity	102-16	34	-	Yes
	102-17	34	-	Yes

For the GRI Content Index Service, GRI Services reviewed that the GRI content index is clearly presented and the references for all disclosures included align with the appropriate sections in the body of the report.

* Please access the relevant pages on: <http://investors.larsentoubro.com/upload/AnnualRep/FY2019AnnualRepFull%20Annual%20Report%202018-19.pdf>
GRI Disclosure 102-55

GRI standard	Disclosure number	Page number, URL and/or direct answer	Reason for omission	External assurance
4. Governance	102-18	34-37	-	Yes
	102-19	34, 36-37	-	Yes
	102-20	34-35	-	Yes
	102-21	30-31, 93-94	-	Yes
	102-22	34-35	-	Yes
	102-23	36-37	-	Yes
	102-24	34-35, 37, Annual Report 2018-19, page no. 90-94*	-	Yes
	102-25	34-35, 93	-	Yes
	102-26	34, 36-37	-	Yes
	102-27	34, 36-37	-	Yes
	102-28	Annual Report 2018-19, page no. 90 (nomination and remuneration committee)*	-	Yes
	102-29	34, 35, 42, 43	-	Yes
	102-30	32-33	-	Yes
	102-31	24-25, 35	-	Yes
	102-32	4, 35	-	Yes
	102-33	34	-	Yes
	102-34	Annual Report 2018-19, page no. 86 (Information to the Board)*	-	Yes
	102-35	Annual Report 2018-19, page no. 91-92 (Remuneration Policy)*	-	Yes
	102-36	Annual Report 2018-19, page no. 90-92 (Nomination and Remuneration Committee)*	-	Yes
	102-37	Annual Report 2018-19, page no. 91-92 (Remuneration Policy)*	-	Yes
102-38	Annual Report 2018-19, page no. 121-122 (annexure D to the board)*	-	Yes	
102-39	Annual report 2018-19, page 122*	-	Yes	
5. Stakeholder engagement	102-40	30-31	-	Yes
	102-41	68-69	-	Yes
	102-42	30-31	-	Yes
	102-43	30-31	-	Yes
	102-44	30-31	-	Yes

* Please access the relevant pages on: <http://investors.larsentoubro.com/upload/AnnualRep/FY2019AnnualRepFull%20Annual%20Report%202018-19.pdf>

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"In Accordance – Comprehensive"

GRI standard	Disclosure number	Page number, URL and/or direct answer	Reason for omission	External assurance
6. Reporting practice	102-45	4-5, 50-55	-	Yes
	102-46	4	-	Yes
	102-47	32-33	-	Yes
	102-48	4	-	Yes
	102-49	4	-	Yes
	102-50	4	-	Yes
	102-51	4	-	Yes
	102-52	4	-	Yes
	102-53	4	-	Yes
	102-54	4	-	Yes
	102-55	120-126	-	Yes
	102-56	129-132	-	Yes
MATERIAL TOPICS				
GRI 103: Management Approach 2016	103-1 (GRI 201: Economic Performance, GRI 202: Market Presence, GRI 203: Indirect Economic Impacts, GRI 204: Procurement Practices, GRI 205: Anti-corruption, GRI 206: Anti-competitive Behavior)	32-33, 46-49, 93-97	-	Yes
	103-2 (GRI 201: Economic Performance, GRI 202: Market Presence, GRI 203: Indirect Economic Impacts, GRI 204: Procurement Practices, GRI 205: Anti - corruption, GRI 206: Anti-competitive Behavior)	32-33, 46-49, 89-92	-	Yes
	103-3 (GRI 201: Economic Performance, GRI 202: Market Presence, GRI 203: Indirect Economic Impacts, GRI 204: Procurement Practices, GRI 205: Anti-corruption, GRI 206: Anti-competitive Behavior)	32-33, 46-49; The evaluation is based on our materiality assessment	-	Yes
GRI 200: ECONOMIC				
GRI 201: Economic Performance 2016	201-1	47-48	-	Yes
	201-2	86-87	-	Yes
	201-3	32-33, 52-54, 68-69	-	Yes
	201-4	46-55	-	Yes
GRI 202: Market Presence 2016	202-1	12-13, 47	-	Yes
	202-2	12-13, 47, 69	-	Yes
GRI 203: Indirect Economic Impacts 2016	203-1	100, 115	-	Yes
	203-2	48, 89	-	Yes

GRI standard	Disclosure number	Page number, URL and/or direct answer	Reason for omission	External assurance
GRI 204: Procurement Practices 2016	204-1	32-33, 61, 69, 88, 96	-	Yes
GRI 205: Anti - corruption 2016	205-1	Annual Report 2018-19, page 25-26*	-	Yes
	205-2	Annual Report 2018-19, page 25-26*	-	Yes
	205-3	Annual Report 2018-19, page 25-26*	-	Yes
GRI 206: Anti - competitive Behavior 2016	206-1	34	-	Yes
MATERIAL TOPICS				
GRI 103: Management Approach 2016	103-1 (GRI 301: Materials, GRI 302: Energy, GRI 303: Water, GRI 304: Biodiversity, GRI 305: Emissions, GRI 306: Effluents and Waste, GRI 307: Environmental Compliance, GRI 308: Supplier Environmental Assessment)	32-33, 76-87	-	Yes
	103-2 (GRI 301: Materials, GRI 302: Energy, GRI 303: Water, GRI 304: Biodiversity, GRI 305: Emissions, GRI 306: Effluents and Waste, GRI 307: Environmental Compliance, GRI 308: Supplier Environmental Assessment)	76-87	-	Yes
	103-3 (GRI 301: Materials, GRI 302: Energy, GRI 303: Water, GRI 304: Biodiversity, GRI 305: Emissions, GRI 306: Effluents and Waste, GRI 307: Environmental Compliance, GRI 308: Supplier Environmental Assessment)	32-33, 35, 76-87	-	Yes
GRI 300: ENVIRONMENT				
GRI 301: Materials 2016	301-1	75, 81	-	Yes
	301-2	75, 81	-	Yes
	301-3	-	Not applicable; Since we are a technology and engineering company there are no packaging or product recall related issues	Yes
GRI 302: Energy 2016	302-1	75, 79	-	Yes
	302-2	75, 79	-	Yes
	302-3	75, 79	-	Yes
	302-4	79	-	Yes
	302-5	24-25, 32-33, 76-77, 79	-	Yes

* Please access the relevant pages on: <http://investors.larsentoubro.com/upload/AnnualRep/FY2019AnnualRepFull%20Annual%20Report%202018-19.pdf>

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GRI standard	Disclosure number	Page number, URL and/or direct answer	Reason for omission	External assurance
GRI 303: Water 2016	303-1	24-25, 74-75, 80	-	Yes
	303-2	74-75, 80, 84	-	Yes
	303-3	24-25, 74-75, 80	-	Yes
GRI 304: Biodiversity 2016	304-1	84, 87	-	Yes
	304-2	84	-	Yes
	304-3	87	-	Yes
	304-4	85	-	Yes
GRI 305: Emissions 2016	305-1	24, 32-33, 80	-	Yes
	305-2	24-25, 32-33, 79, 80	-	Yes
	305-3	24-25, 32-33, 80	-	Yes
	305-4	24-25, 80	-	Yes
	305-5	24-25, 80	-	Yes
	305-6	80	-	Yes
	305-7	80	-	Yes
GRI 306: Effluents and Waste 2016	306-1	80	-	Yes
	306-2	81	-	Yes
	306-3	81	-	Yes
	306-4	81	-	Yes
	306-5	81, 95	-	Yes
GRI 307: Environmental Compliance 2016	307-1	81	-	Yes
GRI 308: Supplier Environmental Assessment 2016	308-1	31-33, 61, 69	-	Yes
	308-2	32, 33; nothing of this sort came to notice in 2018-19	-	Yes
MATERIAL TOPICS				
GRI 103: Management Approach 2016	103-1 (GRI 401: Employment, GRI 402: Labor / Management Relations, GRI 403: Occupational Health and Safety, GRI 404: Training and Education, GRI 405: Diversity and Equal Opportunity, GRI 406: Non-discrimination, GRI 407: Freedom of Association and Collective Bargaining, GRI 408: Child Labor, GRI 409: Forced or Compulsory Labor, GRI 410: Security Practices, GRI 411: Rights of Indigenous Peoples, GRI 412: Human Rights Assessment, GRI 413: Local Communities, GRI 414: Supplier Social Assessment, GRI 415: Public Policy, GRI 416: Customer Health Safety, GRI 417: Marketing and Labeling, GRI 418: Customer Privacy, GRI 419: Socioeconomic Compliance)	32-33, 35, 67, 69-71, 73, 92-97	-	Yes

GRI standard	Disclosure number	Page number, URL and/or direct answer	Reason for omission	External assurance
	103-2 (GRI 401: Employment, GRI 402: Labor/Management Relations, GRI 403: Occupational Health and Safety, GRI 404: Training and Education, GRI 405: Diversity and Equal Opportunity, GRI 406: Non-discrimination, GRI 407: Freedom of Association and Collective Bargaining, GRI 408: Child Labor, GRI 409: Forced or Compulsory Labor, GRI 410: Security Practices, GRI 411: Rights of Indigenous Peoples, GRI 412: Human Rights Assessment, GRI 413: Local Communities, GRI 414: Supplier Social Assessment, GRI 415: Public Policy, GRI 416: Customer Health Safety, GRI 417: Marketing and Labeling, GRI 418: Customer Privacy, GRI 419: Socioeconomic Compliance)	34-35, 67, 69-71, 92-97	-	Yes
	103-3 (GRI 401: Employment, GRI 402: Labor/Management Relations, GRI 403: Occupational Health and Safety, GRI 404: Training and Education, GRI 405: Diversity and Equal Opportunity, GRI 406: Non-discrimination, GRI 407: Freedom of Association and Collective Bargaining, GRI 408: Child Labor, GRI 409: Forced or Compulsory Labor, GRI 410: Security Practices, GRI 411: Rights of Indigenous Peoples, GRI 412: Human Rights Assessment, GRI 413: Local Communities, GRI 414: Supplier Social Assessment, GRI 415: Public Policy, GRI 416: Customer Health Safety, GRI 417: Marketing and Labeling, GRI 418: Customer Privacy, GRI 419: Socioeconomic Compliance)	35, 92-97	-	Yes
GRI 400: SOCIAL				
GRI 401: Employment 2016	401-1	68, 69	-	Yes
	401-2	68, 69	-	Yes
	401-3	68, 69	-	Yes
GRI 402: Labour/ Management Relations 2016	402-1	26-27, 32-33, 66-68, 70-72, 88		
GRI 403: Occupational Health and Safety 2018	403-1	32-33, 69-70	-	Yes
	403-2	70-73	-	Yes
	403-3	71-72	-	Yes
	403-4	70	-	Yes
	403-5	70, 72, 88	-	Yes
	403-6	70	-	Yes
	403-7	70-71	-	Yes
	403-8	70-71	-	Yes
	403-9	70-71	-	Yes
	403-10	70-71	-	Yes

GRI Standards Content Index

“In Accordance – Comprehensive”

GRI standard	Disclosure number	Page number, URL and/or direct answer	Reason for omission	External assurance
GRI 404: Training and Education 2016	404-1	66-68	-	Yes
	404-2	66-68	-	Yes
	404-3	68	-	Yes
GRI 405: Diversity and Equal Opportunity 2016	405-1	69	-	Yes
	405-2	69	-	Yes
GRI 406: Non-discrimination 2016	406-1	69	-	Yes
GRI 407: Freedom of Association and Collective Bargaining 2016	407-1	69	-	Yes
GRI 408: Child Labour 2016	408-1	69	-	Yes
GRI 409: Forced or Compulsory Labour 2016	409-1	69, 94	-	Yes
GRI 410: Security Practices 2016	410-1	69	-	Yes
GRI 411: Rights of Indigenous Peoples 2016	411-1	69	-	Yes
GRI 412: Human Rights Assessment 2016	412-1	31-32, 69, 94	-	Yes
	412-2	31-32, 69	-	Yes
	412-3	69, 94	-	Yes
GRI 413: Local Communities 2016	413-1	88-92	-	Yes
	413-2	31-32, 88-92	-	Yes
GRI 414: Supplier Social Assessment 2016	414-1	69, 94	-	Yes
	414-2	31-33, 69, 94	-	Yes
GRI 415: Public Policy 2016	415-1	34, 35, 48, Annual Report 2018-19, page 33, 34, 410*	-	Yes
GRI 416: Customer Health and Safety 2016	416-1	61,76-78, 94; Since we are an engineering and construction company, our product or services do not have direct impact on customer health and safety, however, through our focus on developing green portfolio, we ensure public well being. Please find further details on [#]	-	Yes
	416-2		-	Yes
GRI 417: Marketing and Labeling 2016	417-1	61, 94	-	Yes
	417-2	There were no incidence of non-compliance concerning products, service, information, labeling and marketing communication. [#]	-	Yes
	417-3		-	Yes
GRI 418: Customer Privacy 2016	418-1	32, 33, 94	-	Yes
GRI 419: Socio-economic Compliance 2016	419-1	69-81, 94, Annual Report 2018-19, page no. 25-26*	-	Yes

* Please access the relevant pages on: <http://investors.larsentoubro.com/upload/AnnualRep/FY2019AnnualRepFull%20Annual%20Report%202018-19.pdf>
[#] The information for GRI Disclosure 416-1 and 416-2 is common, similarly for GRI Disclosure 417-2 and 417-3 also the information is common.

United Nations Global Compact

Communication on progress

UNGC principle	Category	Description	Page number
Principle 1	Human Rights	Businesses should support and respect the protection of internationally proclaimed human rights.	33, 69, 94
Principle 2	Human Rights	Businesses should make sure that they are not complicit in human rights abuses.	33, 69, 94
Principle 3	Labour	Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining.	68, 69
Principle 4	Labour	Businesses should uphold the elimination of all forms of forced and compulsory labour.	69
Principle 5	Labour	Businesses should uphold the effective abolition of child labour.	69
Principle 6	Labour	Businesses should uphold the elimination of discrimination in respect of employment and occupation.	68, 69, 70, 71
Principle 7	Environment	Businesses should support a precautionary approach to environmental challenges.	74-87
Principle 8	Environment	Businesses should undertake initiatives to promote greater environmental responsibility.	74-87
Principle 9	Environment	Businesses should encourage the development and diffusion of environmentally friendly technologies.	74-87
Principle 10	Anti-Corruption	Businesses should work against corruption in all its forms, including extortion and bribery.	34

Independent Assurance Statement



Introduction and objectives of work

BUREAU VERITAS has been engaged by **Larsen & Toubro Limited (L&T)** to conduct an independent assurance of its **Integrated Report** ("the report") for the year **2018-19**. This Assurance Statement applies to the related information included within the scope of work described below.

This information and its presentation in the Integrated Report 2018-19 are the sole responsibility of the management of L&T. Bureau Veritas was not involved in the drafting of the Report. Our sole responsibility was to provide independent assurance on its content.

Scope of work

The assurance process was conducted based on the requirements of the International Standard for Assurance Engagements (ISAE 3000) for 'Limited' assurance and the AA 1000 Assurance Standard¹ for 'Type 2 Moderate' assurance. The scope of work included:

- Data and information included in Integrated Report 2017-18 for the reporting period 1st April 2018 to 31st March 2019;
- Appropriateness and robustness of underlying reporting systems and processes, used to collect, analyse and review the information reported;

Methodology

As part of its independent assurance, Bureau Veritas undertook the following activities:

1. Visited selected locations of **L&T** and interviewed relevant personnel of **L&T**:
 - Heavy Engineering, Hazira
 - Heavy Engineering, Powai and Ranoli (by video-conferencing from Mumbai)
 - Defence, Hazira, Talegaon, Coimbatore (by video-conferencing from Mumbai)
 - L&T Hydrocarbon MFF, Hazira
 - L&T Hydrocarbon Engineering, Domestic Projects, Mumbai
 - L&T Hydrocarbon Engineering, Construction, Mumbai
 - L&T Hydrocarbon Engineering, Offshore
 - Buildings & Factories, Chennai
 - Heavy Civil Infrastructure, Chennai
 - Power Transmission & Distribution, Chennai
 - Smart World Communication, Chennai
 - Water & Effluent Treatment, Chennai
 - Minerals and Material Handling (by video-conferencing from Mumbai)
 - Power & Knowledge City, Vadodara
 - Electrical & Automation, Vadodara
 - Electrical & Automation, Ahmednagar
 - Transportation Infrastructure, Mumbai
 - Shipbuilding, Kattupalli (by video-conferencing from Mumbai)
 - L&T Valves (by video-conferencing from Mumbai)
 - L&T Realty, Mumbai
 - DMN, Mumbai

The assurance process involved carrying out an assessment by assessors from Bureau Veritas with experience in Environment, Health, Safety, Social Accountability and Sustainability. We interviewed Project and Plant Operations & Maintenance, managerial and supervisory personnel at various locations. The Sustainability & CSR team of L&T at Powai was also interviewed.

¹ Published by Accountability: The Institute of Social and Ethical Accountability <http://www.accountability.org.uk> (AA 1000 AS 2008 is the latest version of the assurance standard with 2018 addendum).

Independent Assurance Statement

2. L&T had submitted performance data on reported GRI Standards. The data pertaining to each location visited was audited by Bureau Veritas through the process above described. The credibility of the reported data was confirmed by Bureau Veritas assessors through a comparison with data management platforms maintained by L&T such as SoFi, ERP, EIP, MIS & HR portals. Where necessary, relevant documentary records were also reviewed to confirm data trails up to reporting.
3. The data was audited on a sampling basis. It was confirmed that the same verified data for all locations went into preparation of the final data within the Integrated Report 2018-19.
4. Bureau Veritas reviewed stakeholder engagement activities that had been undertaken by L&T prior to the preparation of the Integrated Report. The Stakeholder Engagement process was reviewed. Various records of the stakeholder engagement activities were reviewed to confirm how aspects material to L&T stakeholders had been determined.

Our work was conducted against Bureau Veritas' standard procedures and guidelines for external assurance of Integrated Report, based on current best practices in the independent assurance.

Reporting boundary

The reporting boundary of L&T's Integrated Report 2018-19 covers only the business activities of **Larsen & Toubro Ltd.** (standalone) and two of its main subsidiaries, viz., **L&T Hydrocarbon Engineering Ltd.** and **L&T Valves** and the assurance provided by us is limited to L&T's business operations within the reporting boundary during the reporting period.

Reporting criteria

1. The reporting criteria for L&T's Integrated Report 2018-19 is the **International Integrated Reporting Council (IIRC) <IR> Framework²**.
2. The reporting criteria for the Integrated Report 2018-19 is also the **Global Reporting Initiative (GRI) Standards³**:
 - GRI 101 Foundation Standard
 - GRI 102 General Disclosures Standard
 - GRI 103 Management Approach Standard
 - GRI 200 Economic Disclosures Standards Series
 - GRI 300 Environment Disclosures Standards Series
 - GRI 400 Social Disclosures Standards Series

Evaluation against the defined reporting criteria

Bureau Veritas undertook an evaluation of the L&T Integrated Report 2018-19 against the **International Integrated Reporting Council (IIRC) <IR> Framework** and the current versions of the **GRI Standards**. This included:

1. The report was evaluated against the 7 guiding principles of the <IR> Framework:
 - a. Strategic Focus and future orientation
 - b. Connectivity of information
 - c. Stakeholder relationships
 - d. Materiality
 - e. Conciseness
 - f. Reliability and Completeness
 - g. Consistency and Comparability
2. The report content was evaluated against the 8 content elements defined in the <IR> Framework:
 - a. Organisational overview and external environment
 - b. Governance
 - c. Business model
 - d. Risks and Opportunities
 - e. Strategy and resource allocation
 - f. Performance
 - g. Outlook
 - h. Basis of presentation

² The <IR> Framework is published by IIRC and can be downloaded from <http://integratedreporting.org/the-iirc-2/> ³ The GRI Standards are issued by the Global Sustainability Standards Board (GSSB) and can be downloaded at www.globalreporting.org/standards.

³ The report was also evaluated for conformance to the current versions of the GRI Standards by cross-checking the GRI index table in the report against all the reference documents to provide an opinion on the self-declared GRI reporting option.

Independent Assurance Statement

3. Based on our work, it is our opinion that the Integrated Report 2018-19 is aligned with the above mentioned 8 guiding principles and 7 content elements of the <IR> Framework and meets the self-declared 'In accordance–Comprehensive' reporting option of the GRI Sustainability Reporting Standards including appropriate consideration of the reporting principles and necessary indicators.

Our findings

We summarise our key findings on the disclosures made by L&T regarding the various capitals impacted as a result of its business activities during the reporting period.

Financial Capital

The company's financial performance resulted in economic growth. Group revenues and Profit After Taxes (PAT) have registered increases of 17.6% and 20.8% over the preceding financial year. The company's current order book position seems to indicate revenue opportunities for the future year also.

Human Capital

The company has policies in place to develop the capabilities of its employees and reports more than 5 Million in training hours spent.

Manufactured Capital

The business activities of the company have resulted in the creation of infrastructure such as road length of 2429 km, railway tracks of 152 km, electricity transmission lines of 15,696 km and water pipelines of 22,937 km. The other products manufactured by the company also have added to its manufactured capital base.

Intellectual Capital

L&T has invested in R&D activities. The Electrical & Automation Division has acquired numerous patents, designs, trademarks and copyrights. It has also invested in value engineering projects.

Social & Relationship Capital

The CSR initiatives in education, health, water, sanitation have impacted the lives and livelihoods of a large number of intended beneficiaries. Engagement with shareholders, investors, employees, customers, suppliers & contractors, media, government bodies and communities was in evidence as an on-going activity.

Natural Capital

Various initiatives were found to be taken for the conservation of natural resources and reducing impacts on the environment, such as energy savings, recycling of materials, water conservation and reduction of GHG emissions. The company has a green products and services portfolio.

Our assessment was directed at arriving at an understanding of L&T's business model, its internal processes and framework and resulting outputs and their impact on the six capitals hereinabove described.

Our opinion

On the basis of our methodology and the activities described above, it is our opinion that:

- Nothing has come to our attention to indicate that the reviewed statements within the scope of our verification are inaccurate and the information included therein is not fairly stated;
- We have not come across anything that indicates that the information and data included in L&T's Integrated Report is not accurate, not reliable or not free from material mistake or misstatement;
- There is no instance to indicate that the Report has not provided a fair representation of L&T's activities over the reporting period;
- The information within the Report is presented in a clear, understandable and accessible manner, and allows readers to form a balanced opinion over L&T's performance and status during the reporting period (F.Y. 2018-19);
- L&T has established appropriate systems for the collection, aggregation and analysis of relevant information;
- L&T has processes in place for consulting and engaging with its key stakeholders;
- The report provides a basis to understand the value creation by L&T in terms of the various capitals used by its business model and the resulting output and their effects on the capitals.

Limitations and Exclusions

Excluded from the scope of our work is any assurance of information relating to:

- Activities outside the defined assurance period stated hereinabove;
- Positional statements (expressions of opinion, belief, aim or future intention) by L&T and statements of future commitment;
- Competitive claims in L&T's report of being "first in India", "first time in India", "first of its kind", "first in the industry" and such other claims;
- Claims of campus 'carbon neutrality', "water positivity" or 'zero waste water discharge" in the report;
- The number of people claimed by the report to have benefited from L&T's community development efforts;
- Our assurance does not extend to the activities and operations of L&T outside of the scope and geographical boundaries mentioned in the report as well as the operations undertaken by any other remaining subsidiaries or joint ventures of the Company;
- Our assurance on the financial indicators and financial performance of L&T during the reporting period is drawn from and is based entirely on the performance reported in the audited annual accounts⁴ of L&T for F.Y. 2018-19 and we have not conducted any separate assessment for the same.

Independent Assurance Statement

This independent statement should not be relied upon to detect all errors, omissions or misstatements that may exist within the Report.

Statement of independence, impartiality and competence

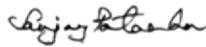
Bureau Veritas is an independent professional services company that specialises in Quality, Health, Safety, Social and Environmental management with almost 180 years history in providing independent assurance services.

Bureau Veritas has implemented a Code of Ethics across the business to maintain high ethical standards among staff in their day to day business activities. We are particularly vigilant in the prevention of conflicts of interest.

No member of the assurance team has a business relationship with L&T, its Directors or Managers beyond that required of this assignment. We have conducted this verification independently and there has been no conflict of interest.

The assurance team has extensive experience in conducting assurance over environmental, social, ethical and health & safety information, systems and processes an excellent understanding of Bureau Veritas standard methodology for the Assurance of Integrated Reports.

⁴ The Annual accounts of Larsen & Toubro Ltd. which contains information on L&T's financial performance for the financial year 2018-19 can be accessed at the web site <http://investors.larsentoubro.com/upload/AnnualRep/FY2019AnnualRepL&T-Annual-Report-2019.pdf>



Sanjay Patankar
Lead Assuror
Sustainability Scheme Lead - ICC
Bureau Veritas (India) Pvt. Ltd.



Rupam Baruah
Technical Reviewer
General Manager (East Region)
Bureau Veritas (India) Pvt. Ltd.

Date: 25 August 2019
Place: Mumbai





Feedback on Integrated Report 2019

Thank you for your interest in L&T's Integrated Report 2018. Your feedback is important to us as it helps to improve our reporting on sustainability performance. Please do spend a few minutes to give us your feedback on this report. It will help us make it even more engaging and relevant to your needs.

1. Which of the following describes your affiliation with L&T ?

- Employee Customer Vendor/Supplier Regulatory Agency
- Other, Please specify

2. Your rating of the entire report

- Excellent Good Fair Poor

2.1 If you ticked 'Excellent' or 'Good', what did we do well? (Choose relevant options)

- Navigation Design & Layout Readability Comparability
- Clarity in representation Completeness

2.2 If you ticked 'Fair' or 'Poor', what do we need to improve most? (Choose relevant options)

- Navigation Design & Layout Readability Comparability
- Clarity in representation Completeness Flow of information

3. How would you rate individual sections in depth and coverage?

3.1 Stakeholder inclusiveness (Prioritisation and engagement of stakeholders)

- Depth Appropriate Too detailed Too brief
- Coverage Appropriate Too broad Too narrow

3.2 People Performance

- Depth Appropriate Too detailed Too brief
- Coverage Appropriate Too broad Too narrow

3.3 Economic Performance

- Depth Appropriate Too detailed Too brief
- Coverage Appropriate Too broad Too narrow

3.4 Environmental Performance

- Depth Appropriate Too detailed Too brief
- Coverage Appropriate Too broad Too narrow

Feedback on Integrated Report 2019

3.5 Social Performance

- Depth Appropriate Too detailed Too brief
- Coverage Appropriate Too broad Too narrow

3.6 Product Stewardship

- Depth Appropriate Too detailed Too brief
- Coverage Appropriate Too broad Too narrow

3.7 Case Studies

- Depth Appropriate Too detailed Too brief
- Coverage Appropriate Too broad Too narrow

4. How would you rate L&T's Integrated Report as compared to our peers ?

- Excellent Good Fair Poor

5. Any other comments/suggestions (inclusions/exclusions).

Please provide your contact details for updates.

Name _____ Company: _____

Address: _____

Phone: _____ Fax: _____ Email: _____

Fax/Email your responses to:

Dr. K.J. Kamat

Executive Vice President, CSR, Medical Health & Welfare Services

Email: sustainability-ehs@larsentoubro.com

Fax no: 091-22-6705 1001

Mr. Arnob Mondal

Vice President, Corporate Accounts & Investor Relation

Email: integrated.report@larsentoubro.com

Mailing address: **Corporate Infrastructure & Administrative Services, Larsen & Toubro Limited**, Saki-Vihar Road, Powai, Mumbai – 400 072, India.



Reg. Office: L&T House, Ballard Estate, Mumbai - 400 001 | www.larsentoubro.com