



WORLD FULL OF POSSIBILITIES

Albert Einstein said, "The important thing is not to stop questioning. Curiosity has its own reason for existing." At L&T Technology Services we believe in curiosity – the need to seek answers to questions that can shape the future. We have that urge to know and explore – because when you are curious great things can happen.

With engineering excellence in our DNA, inherited from the 75-year heritage of our parent company Larsen & Toubro, we are leaders in the Engineering R&D Services helping 200+ customers globally.

Established presence in 16 countries, 12 Global Delivery Centers, and 27 Sales Offices always keeps us connected to our customers. Our 10,000+ engineering specialists solve business problems for 52 Fortune 500 companies globally and have 39 own & 137 co-authored patents. With us, you never stop innovating.

Our course as technology explorers is set; engineering possibilities for better products, services, and life.

2009

INDUSTRY FOCUS

- // Embedded Systems and Global Engineering Services merged to form L&T Integrated Engineering Services (IES)
- // ODC set up for Leading Swedish Truck Mfg. Co.
- // ODC set up for Leading Korean Android Phone Mfg. Co.
- // Mechanical, Hardware Labs set up

- // Zinnov rating for Industrial Automation in the Leadership zone
- // ODC set up for Leading Finnish
- // Marine Engines Co. Test Labs set up

2011

TECHNOLOGY DIVERSIFICATION

- // PLM Practice started
- // Tear Down Labs set up
- // Zinnov leadership maintained

2010

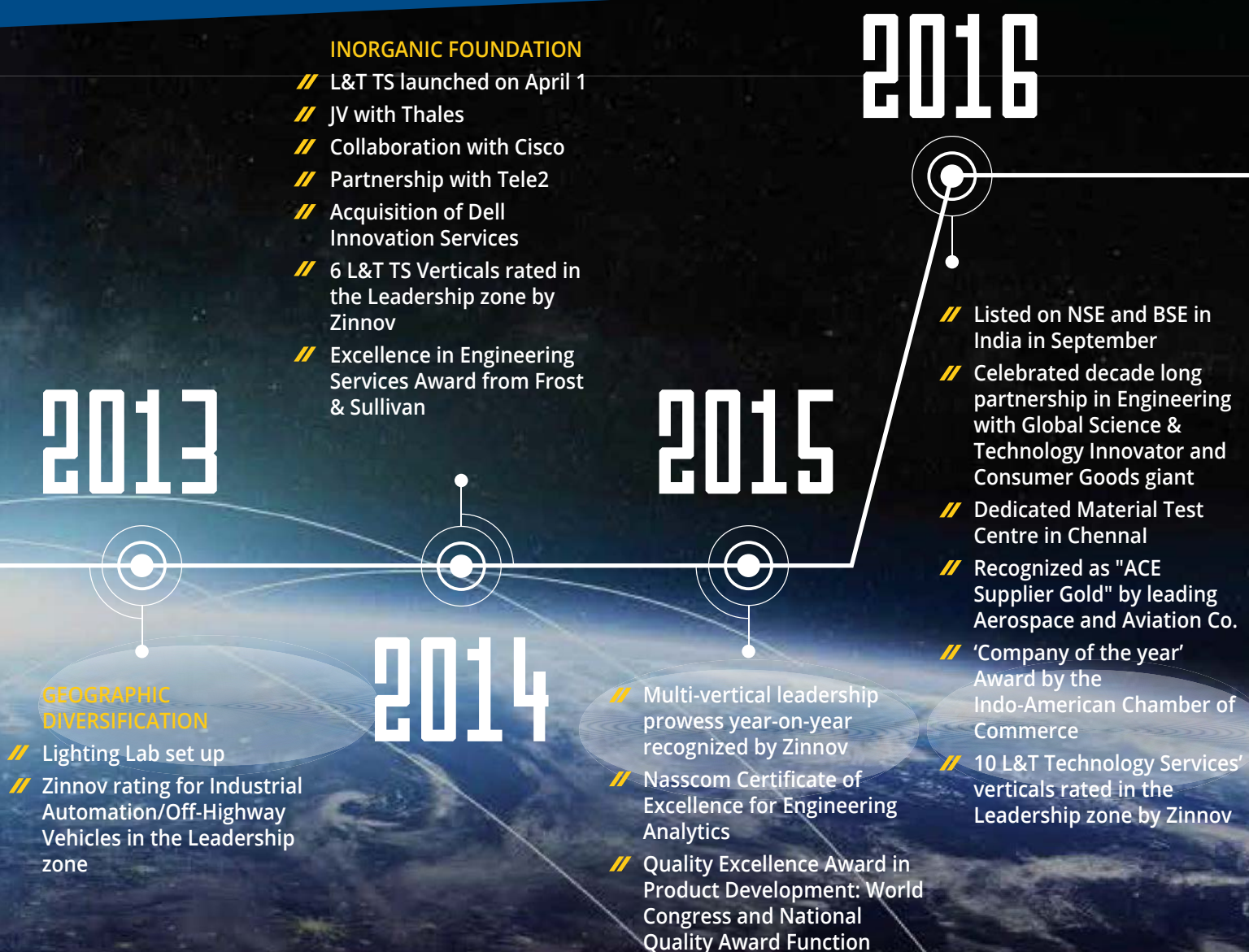
- // Product Engg. Services Group of L&T Infotech acquired by L&T IES
- // ODC set up for Leading Dutch FMCG Co.
- // ODC set up for Leading Japanese Auto Tier 1 Co.
- // Innovation Lab set up
- // Zinnov leadership maintained

2012

A 75-year heritage of excellence

Founded in 1938 by Danish engineers Henning Holck-Larsen and Soren Kristian Toubro, L&T is a major technology, engineering, construction, manufacturing and financial services conglomerate featured in the Forbes List of World's Most Powerful Companies 2014. Larsen and Toubro, which was recognized as the eighth most valuable brand in India in 2015 is associated

with strong global engineering capabilities, quality of service and reliability.



“We nurture the need to know and explore because when you are curious great things can happen. You have fun exploring concepts, products, possibilities, and deliver better solutions.”

ALLIANCES



Our Culture of Innovation has enabled us to grow and retain our customer relationships and successfully achieve process and productivity improvement for customers.

Deeply passionate and perennially curious, the need to create is a true phenomenon at L&T Technology Services. Innovation as a practice dominates both our value-centric and customer-centric approach to solutions. We continuously innovate to make engineering solutions leaner and less complex.

Our presence across multiple industry segments enables cross-pollination of ideas that lead to product, process, and technology innovations. This innovation culture is further nurtured through investments in a dedicated innovation lab to incubate ideas and transform them into reality. We understand the role of continuous improvement and thus make innovation a practice to deliver distinguished engineering solutions.

We focus on innovation driven technology leadership and have set up research and test laboratories that are specific to industry verticals. Our 31 laboratories replicate our customers' work environment.

We also work closely with international and national scientific institutions to continually source ideas for engineering solutions. Our events such as Tech Panorama, an initiative by the Technology Solutions and Innovation Centre within our company, serves as a platform for our employees to showcase their skill and demonstrate ideas. In 2016, over 8000 employees participated & over 2534 technical abstracts were submitted.

- 
- // 100+ people in our Innovation Lab creating solutions across Transportation, Industrial Automation, Consumer and Medical Devices domains
 - // Several design accelerator tools developed like hydraulic design, valve design and many more
 - // Investments made in several labs, like Innovation Lab - White Goods Lab - Drives Lab - Office Equipment Lab - Machinery Lab - IoT Lab for application in Transportation & Industrial Automation - Optics Luminaire Test Lab

Our comprehensive Quality Management System (QMS) provides a robust framework for global delivery. It factors in the varied nature of our engagements across industries and domains including engineering solutions for CAD/CAM/CAE/PDM and other customization services, plant engineering solutions, design and engineering services, product engineering and application software services, independent testing & test automation services, and test systems development.

Our process improvement initiatives are driven with the help of a measurement framework and the support of our compliance testing labs across various industry verticals. Process performance models govern our key delivery processes, which helps us predict performance and proactively take actions on our projects. An independent and dedicated quality team, supported by senior management, is focused on driving the quality movement throughout the organization. A cross-functional task force focuses on continuously improving the efficacy of our quality systems.

Our Quality Management System provides a robust framework for global delivery



Certifications:

- ISO 9001:2008 certified delivery centres: Only companies that demonstrate its ability to consistently provide product that meets customer and applicable statutory and regulatory requirements get this certification.
- Our Aerospace and Medical Devices practices are AS 9100C and ISO 13485:2003 certified. The certification upholds the quality and system requirements that L&T Technology Services incorporates in its management systems.
- Embedded systems and software activities are assessed at Maturity Level 5 of SEI's CMMi® Development Ver. 1.3. – signifying high standard of consistency in performance and delivery.
- We have bagged the Quality Excellence Award for Planning, Processes & Systems at the World Quality Congress in 2014/15

L&T Technology Services offers holistic solutions to its customers. We offer services that span across the entire lifecycle from conceptualization to implementation within the product and

manufacturing domains, including consulting, design, development, testing, maintenance, go-to-market and aftermarket services.

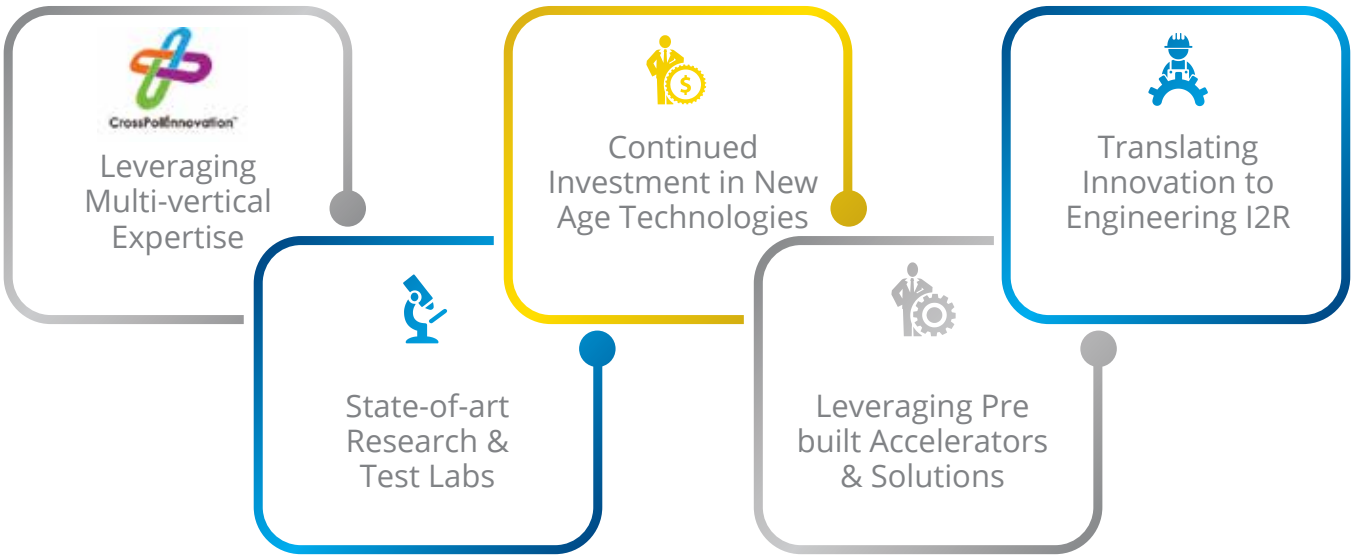


94.6% of our customers in FY 2016 were repeat business customers from existing accounts.

What makes us unique

Our size and scale, multi-domain presence, specialization, practice maturity, and focus on innovation and IP, combined with our ability to

handle innovative and complex projects, provides us with a competitive advantage over other players in the ER&D space.



2014

- // Excellence in Engineering Services Award from Frost & Sullivan
- // Quality Excellence Award in Planning, Process and Systems endorsed by the World Quality Congress
- // Ranked “high” by ARC Advisory Group for our deep capabilities in consumer IoT, industrial-internet of things, and smart manufacturing

2015

- // Rated one of the most mature practices for Industrial Products by Zinnov for the second year in a row
- // Rated in the “leadership zone” in 8 industry verticals by Zinnov
- // Quality Excellence Award in Product Development endorsed by the World Quality Congress
- // EMC Transformers Award

2016

- // Dataquest Business Technology Award for Analytics
- // Golden Globe Tigers Award for Excellence in Training and Development for Best Organizational Development Program
- // Green Office Space of the Year
- // Company of the Year from the Indo-American Chamber of Commerce



Success Story

- // **Created one-of-its kind microscope** – a licensed algorithm to customers with a one-time charge. Patented it for ‘high speed focus’.
- // Surgical procedure cost reduced by 50% by creating a **reusable linear surgical stapler** for a leading surgical device OEM
- // **World’s 1st dual touch-screen Android Smartphone** that won Best of CES 2015 Award and Critics Choice Award in NYT
- // **Analog power supply** for a nuclear reactor with Reliability Compliance as per Nuclear standards

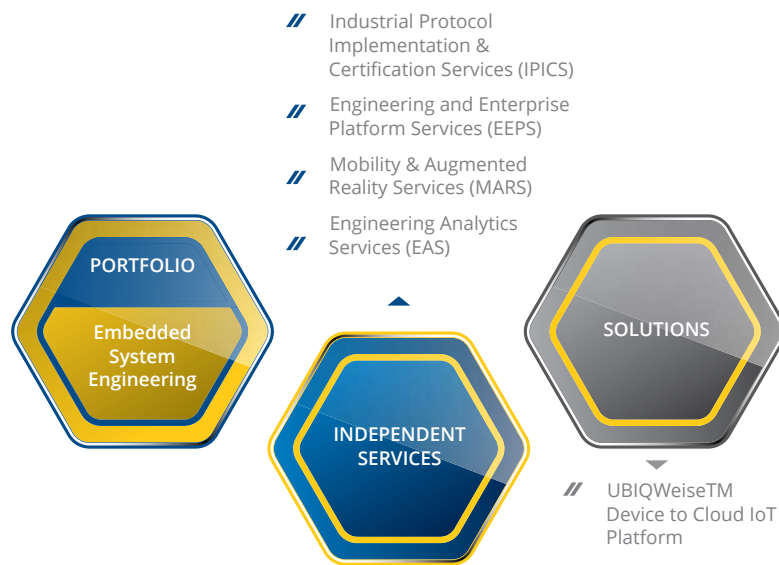
DIGITAL ENGINEERING

The network of physical objects embedded with software, sensors and network connectivity is growing by the day. These smart products create fascinating customer experiences while enhancing overall equipment effectiveness, availability and quality. We also see intelligence built in the entire lifecycle of design, engineering, planning, production, warehousing and distribution of

products. It provides seamless integration of physical and virtual worlds across the manufacturing eco-system.

We provide digital technologies to create Smart Products & Smart Services, run production with Smart Manufacturing and manage processes with Smart Operations.

PORTFOLIO: Smart Products & Services



PORTFOLIO: Smart Manufacturing Services



TRANSPORTATION

Over 20 patents, 15 years of proven product engineering experience and 600 skilled engineers enable us to deliver superior transportation solutions. Our transportation segment contributed to 29.9% of our consolidated revenue for FY 2016. We help OEMs and Tier 1 suppliers focus on innovative designs to drive compliance, reduce engineering cycle time and manufacturing costs, and create 'Glocal' designs that satisfy diverse customers.

We offer end-to-end services from concept to detailed design through manufacturing and sourcing support for:

- /// **Aerospace** - Structural design, electrical and avionics systems, including both flight control systems and display systems, and unmanned aerial vehicles
- /// **Automotive** - ER&D mechanical, embedded and software engineering services in the areas of body control modules, automated driver assistance systems, telematics and infotainment
- /// **Commercial Vehicles** - Design and development work for body design and product localisation, including field support
- /// **Off Highway and Polymer** - New product development, value engineering and M2M connectivity
- /// **Railways** - Solutions to rail sector in core domain areas i.e. Rolling stock, Signaling & Telecom, Rail Electrification and CAB Simulator.

Ranked in the
"Leadership Zone" for
Automotive and
Aerospace industry
segments by Zinnov's
GSPR rating 2016.

INDUSTRIAL PRODUCTS



// Ranked in the “Leadership Zone” by Zinnov's GSPR rating 2016 for Energy and Utilities, Industrial Automation, and Construction and Heavy Machinery. //

We are the preferred engineering partners for 60+ global customers and help them beat obsolescence, rationalize costs, and improve product quality, reliability and sustainability. Our Industrial Products segment contributed to 25.3% of our consolidated revenue for FY 2016. Our 80+ SAVE authorized Associated Value Specialists have co-authored 80+ patents with our clients.

We offer end-to-end product design, development, verification, validation and certification services for:

- // **Building, Home, and Office Products** - Intelligent building energy management systems (“iBEMS™”), lighting and accessories, heating, ventilation, and air conditioning (“HVAC”), safety, security and access control solutions, elevators and escalators, kitchen appliances and office equipment

- // **Energy** - Conventional and non-conventional power generation, transmission, distribution equipment and utilities equipment

- // **Machinery** - Precision, processing, packaging and power and tool machines with expertise in M2M connectivity, predictive machine health monitoring, diagnostics, machine performance analysis, asset/inventory tracking and digital oil fields

Our services also include sustenance, maintenance and value engineering of existing products.

TELECOM, CONSUMER ELECTRONICS AND SEMICONDUCTOR

Our proven product engineering experience, impeccable track record in complex multi-site program management, strong ecosystem partnership and innovative business models makes us the preferred partners to OEMs. Our Telecom, Consumer Electronics & Semiconductor segment contributed to 19.8% of our consolidated revenue for FY 2016. We help clients drive efficiencies through process optimization and leverage best-of-breed software toolsets.

We integrate manufacturing, business operations, engineering, quality and global supplier networks leading to high operational excellence for:

/// **Consumer Electronics** - Mobile device and tablet manufacturers, set top box and gateway manufacturers, and smart home and wearable device manufacturers

/// **Semiconductors** - Application-specific integrated circuit ("ASIC") design and verification, embedded software for chip and related validation services, reference board design and radio-frequency ("RF") design

/// **Telecom** - Product development for network equipment manufacturers including development of protocol stacks and network management systems along with their maintenance and support

/// Ranked in the "Leadership Zone"
for Telecom, Consumer Electronics
and Semiconductor Industry by
Zinnov's GSPR rating 2016



PROCESS INDUSTRY

With a global footprint and experienced resources, we support plant operations at every level and help achieve regulatory compliances. Our Process Industry segment contributed to 18.7% of our consolidated revenue for FY 2016. Our unique 'Collaborate, Innovate and Create' (CINC) approach helps us keep the plants of our OEM customers agile and productive. With strategic alliances with various leading product vendors and cutting edge innovation in business processes, our solutions are highly cost-effective. We have been ranked in the "leadership zone" by Zinnov's GSPR rating 2015.

Our end-to-end solution capability and expertise in the processes help OEMs to open plants on time and reduce cycle time for production in:

- // **FMCG and CPG** - Process design, basic and detailed design, development, refurbishment and support services, smart factory solutions, capex cost engineering, mechanical, civil, electrical engineering services, for brownfield as well as greenfield manufacturing plants
- // **Chemicals** - Process design and development services, basic and detailed design services mainly for brownfield projects
- // **Oil and Gas** - Asset optimization, performance management and sustenance services for our customers



MEDICAL DEVICES

With over 20 years of medical product design and development expertise, and with 200 highly skilled engineers, we create futuristic devices for preventive and proactive patient care. Our Medical Devices segment contributed to 6.3% of our consolidated revenue for FY 2016. We help device manufacturers achieve product development goals with lowest spend by leveraging our investments in labs, CoEs and partnerships with various ecosystem stakeholders. Our processes are compliant with all regulatory frameworks, securing faster approvals to reach markets on time. We design products for global markets and customize to suit local needs.

We combine technology expertise in cloud, mobility, analytics and product engineering with

domain knowledge of clinical processes, patient preferences and regulatory requirements, to create futuristic devices that help administer impeccable patient care that is more preventive and proactive, in segments like Diagnostics, Musculoskeletal, Patient Care, and Surgical.

Our services include certification support and regulatory compliances of medical devices, manufacturing support, product maintenance and aftermarket support. L&T Technology Services is one of the few vendors in the world to offer end-to-end product engineering services to Life Sciences instrument manufacturers



Ranked in the “Leadership Zone
in Medical” by Zinnov* in 2016



EMBEDDED SYSTEMS AND APPLICATIONS

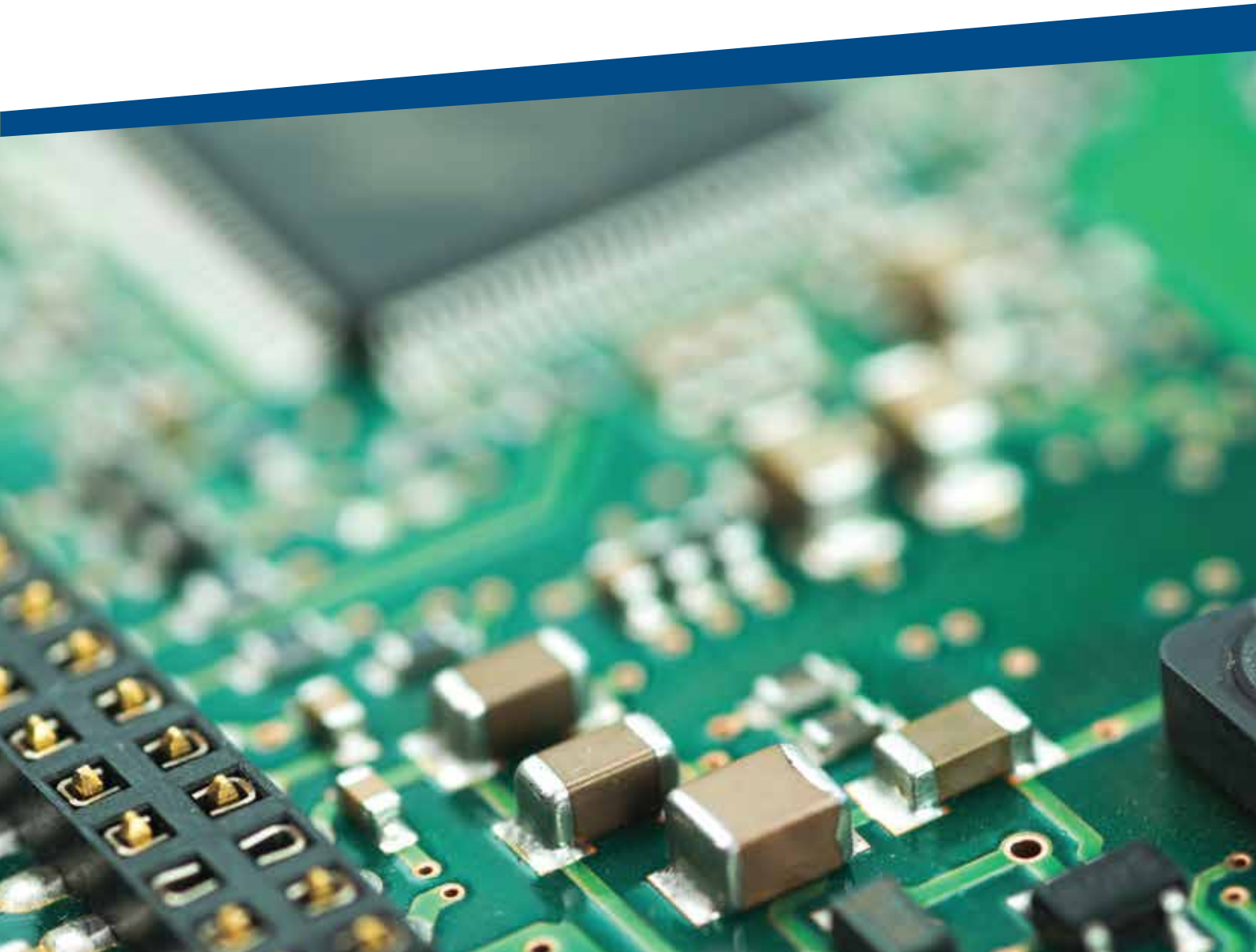
L&T Technology Services partners with semiconductor, OEMs, ODMs, embedded and, software platform providers to deliver end-to-end solutions encompassing software applications, embedded applications, embedded hardware designs, and chip design services.

We leverage our strong domain expertise in different industries, our core embedded and application competencies, our partnerships, and our parent organization's legacy in engineering to deliver cutting edge innovation for our clients.

Our solution accelerators, ready to use

frameworks, and platform solutions help our clients be first to market, win more customers, and grow substantial market share.

- // Embedded Systems & Platform Software
- // VLSI Design
- // Testing Services
- // Application Software



ENGINEERING PROCESS SERVICES

We help R&D heavy industries optimize R&D spends without compromising on the outcome. By partnering with L&T Technology Services, OEMs can achieve higher return on investment while ensuring compliance with quality and regulatory requirements. We provide tailored solutions for specific needs and business models with capability to handle multi-year, multi-portfolio, SLA driven integrated engagements

To ensure the highest levels of information security, we have established a robust Information Security Management System (ISMS) that integrates process, people, and technology. Our multi-tier governance model provides round the clock support for project monitoring and reporting.

- // Sales Support
- // Engineering Support
- // Sourcing
- // Technical Publications



MECHANICAL ENGINEERING

With 40+ plus domain specific competencies available to support product development program of customers, 3000+ mechanical engineers, and 150+ co-authored patents, we help OEMs harness new technologies, drive innovation and conquer more customers and markets in lesser time and cost.

With a proven product engineering experience, key relationships with major OEM partner organizations, and skilled talent pool we offer end-to-end product design and development services to deliver futuristic solutions.

We deliver NPD projects of any complexity and size. We also specialize in Value Engineering and

Tear Down Engineering. With a strong ecosystem of vendors, we assist in realizing the product design into a precision prototype and even a high quality industrial design validation mock-up model.

- // Asset Management Services
- // Computer Aided Engineering (CAE)
- // Manufacturing Engineering Services (MES)
- // Mechanical Design Services (MDS)

ENGINEERING ANALYTICS

Our Engineering Analytics suite analyses product, market, and consumer data to accelerate growth, increase profitability, drive quality and efficiency and minimize risks for our clients.

- // Data Analytics
- // Descriptive Analytics
- // Predictive Analytics
- // Prescriptive Analytics

// Leaders in 10 verticals
for engineering services
as ranked by Zinnov //

IOT AND M2M

We explore futuristic IoT solutions with our OEM and Industrial customers across the lifecycle. This includes developing IoT ready hardware to engineering the IoT Platform, integrating it to enterprise or cloud, and developing or commissioning business ready applications. Our research and development initiatives include IoT solutions, specifically in the smart manufacturing, smart home and smart healthcare domain. We have capitalized on key growth trends by continuing to invest in Smart products, Smart services and Smart operations. Our research and development activities and initiatives include IoT solutions, specifically in the smart manufacturing, smart home and smart healthcare domain.

We are ranked "high" by ARC Advisory Group for our deep capabilities in consumer IoT, industrial-internet-of things, and smart manufacturing.

We leverage our innovative suite of IoT/M2M solution accelerators and frameworks, tools and services along with strategic partnerships with sensor, module and gateway providers and platform and application enablers to accelerate new solution development and deployment across the value chain with better RoI.

We help customers develop remote monitoring, telemetry, asset tracking, fleet management, enterprise mobility, automation, and control applications across industries.

- // IoT and M2M Consulting Services
- // IoT Applications
- // IoT Platforms
- // IoT Ready Hardware
- // IV&V services for IoT/M2M Applications

// Global IoT Solutions
Centre to explore
futuristic IoT solutions //

POWER ELECTRONICS

We are market leaders in providing comprehensive design solutions for Energy and Utilities right from power generation to transmission and distribution. Iterative & agile techniques, solution accelerators, ready frameworks, concept to aftermarket support, and comprehensive electrical test infrastructure makes us the preferred technology partner for clean and efficient energy generation.

We have a rich pool of 350+ engineers specializing in power electronics, supported by world-class labs and testing infrastructure and readymade solutions for reduced time to market.

- // Full Product Development
- // Power & Control Hardware
- // Thermal Packaging

LABS

We have a wide range of technology labs, industry specific labs and compliance testing labs. Our labs enable us to add value to the solutions we provide

to our customers by providing support in new technologies, verification, validation, certification and regulatory compliance.

Industry specific labs

- // Auto Lab
- // Medical Lab
- // Industrial Products Lab
- // TCES Solutions Lab
- // Compliance Testing Labs
- // Material Testing Lab
- // Wet Lab
- // EMI/EMC Lab
- // RF Lab
- // Applied Physical Metrology Lab
- // Mixed Signal Hardware Lab

Technology Labs

- // IoT Lab
- // Innovation Lab
- // Smart Manufacturing Lab
- // Optics Lab
- // Power Electronics Lab
- // Tear Down Lab



“ The important thing is not to stop questioning. Curiosity has its own reason for existing.”

- “ **Culture of Innovation:** Our culture of innovation is nourished and enriched by our employees through various engagements year after year – right from presenting white papers to building and inventing products and services. Through our Proofs of Concepts (“POCs”) initiative, we demonstrate the viability of a design concept, set up labs and develop new Centres of Excellence. We currently have 31 labs across India alone
- “ **Entrepreneurship:** An innovative, creative, do-it-yourself environment clearly describes L&T Technology Services workforce. Empowered to run the business as an entrepreneur, our business and function heads constantly demonstrate the fruitfulness of striving in such an encouraging milieu
- “ **Collaboration:** We work closely with international and national scientific institutions to continually source ideas for engineering solutions. Collaborations have enhanced our product platform and service

offerings to our global customers – one of our successful collaborations is the global IoT Solutions Centre with Cisco

- “ **Organization change:** Our flexible approach and readiness to change management enables us to perceive the ever-shifting market and customer demands with ease
- “ **Learning and Leadership development:** We have pioneered growth and fostered a culture of innovation, entrepreneurship and teamwork. Our focused L&D programs include role based and competency based development, cross-skilling and up-skilling programs to stay market ready and ahead of trends
- “ **Employee engagement:** L&T Technology Services has taken the lead and awards for being one of the best places to work for
- “ **Diversity:** Our “Wings” campaign fosters a culture that maximizes empowerment of our female employees and their inclusion to drive innovation and business growth

/// **Corporate Social Responsibility:** As a responsible Corporate Citizen, L&T Technology Services contributes towards inclusive growth by empowering communities and accelerating development. We run several successful CSR initiatives across various areas like water, education, health, skill development and innovation and technology. We have a MOU with LabourNet to train underprivileged men and women in the Chennai suburbs as automotive technicians, home appliance repairmen, beauty therapists and leather stitching workmen. We have planned for similar vocational centres to be developed at Mysore, Bengaluru, Mumbai and Vadodara



L&T TECHNOLOGY SERVICES

The important thing is not to stop questioning. Curiosity has its own reason for existing," said Albert Einstein.

We couldn't agree more...

That's what we do:

IMAGINE: Possibilities for enriched products, services and life...

EXPLORE: Ingenious and innovative ways for a sustainable future

DELIVER: Top quality solutions leveraging the 75-year old rich legacy and engineering heritage of our parent company Larsen & Toubro

We offer design and development solutions throughout the entire product development chain across various industries such as Industrial Products, Medical Devices, Transportation, Telecom, Consumer Electronics and Semiconductors and Process Engineering, besides Mechanical Engineering Services, Embedded System Services, Product Life Cycle Management (PLM), Engineering Analytics and Power Electronics and Machine-to-Machine (M2M) and the Internet of Things (IoT).

Today, 39 own and 137 co-authored patents later, our 8000+ engineering specialists continue to solve business problems for 170+ customers, 50+ Fortune 500 companies, including 43 of top 100 global ER&D spenders. With presence in 16 countries, 12 Global Delivery Centers and 27 Sales Offices, we continue to dominate the Engineering, Research and Development (ER&D) space, globally.



L&T Technology Services

Registered office

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Corporate office

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Geographical Presence

India, North America, Europe, the Middle East and Asia