L&T Technology Services

www.LTTS.com

ENGINEERING **THE CHANGE**



FOREWORD

Driven by digital disruptions, market dynamics are changing at an unprecedented pace. Smart transitions, cognitive learning, speed of innovation, and technology of everything have become imperative for success.

L&T Technology Services is pushing the frontiers of technology and creating new possibilities to engineer the change for a smarter world.



WE ARE THE ONLY INDIAN PURE PLAY ENGINEERING R&D COMPANY

OUR VISION

- To be the technology explorers, engineering better products, services, and life.
- To be amongst the top 10 global engineering services companies in the world.

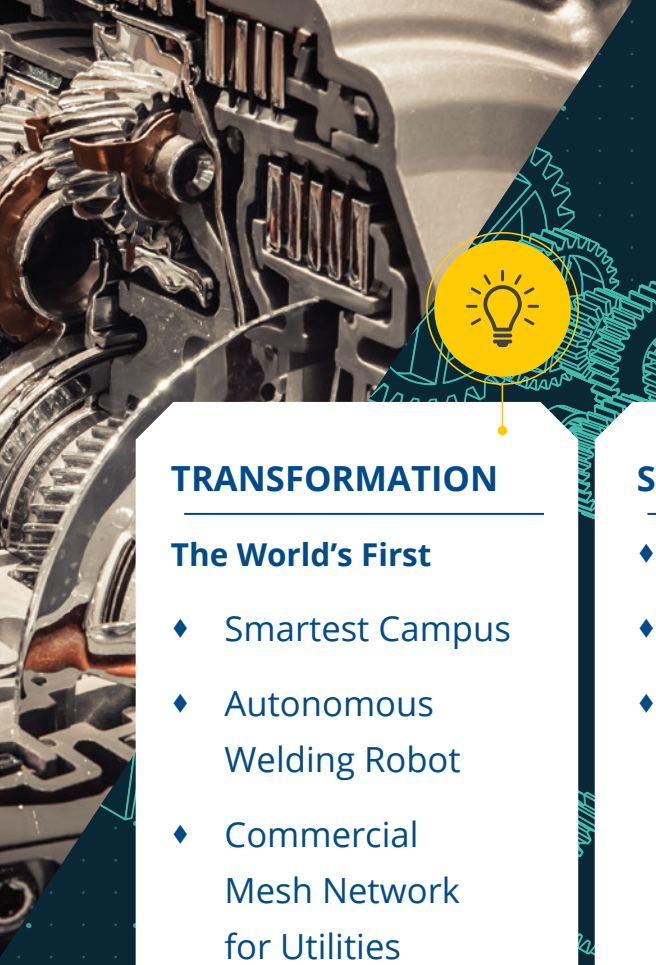
OUR MISSION

- We aim to be the best, lead the curve, nurture brilliance, obsess about customer delight, and become the only partner of choice for our stakeholders.

OUR VALUES

- Ethical conduct and respect for individual and diversified global talent.
- Social harmony and peaceful existence.





TRANSFORMATION

The World's First

- Smartest Campus
- Autonomous Welding Robot
- Commercial Mesh Network for Utilities

SPEED

- **399** Patents
- **49** R&D Labs
- **30+** Digital Frameworks

SKILLS

- Leading Player in Embedded Applications
- **3500+** Engineers in Digital Technologies
- **33%** Share of Digital Revenues

69
Fortune 500 Companies as Customers

51
Clients from Global 100 R&D Spenders

90%
Repeat Business

15,000+
EMPLOYEES ACROSS THE GLOBE

244+
GLOBAL CLIENTS

17
GLOBAL DESIGN CENTERS

399
PATENTS

28
GLOBAL SALES OFFICES

ORCHESTRATING THE FUTURE IN THIS DIGITALLY ENABLED DYNAMIC WORLD

5X Growth

by Digital Leaders

Source: McKinsey Digital Quotient®, Capital IQ

36% Prefer Personalization

Creating a Market-of-One

Source: The Deloitte Consumer Review

22% Faster Time to Market

Through Digital Business Models

Source: BCG Research

20.4 Billion Connected Things

Poised to Change the World as We Know It by 2020

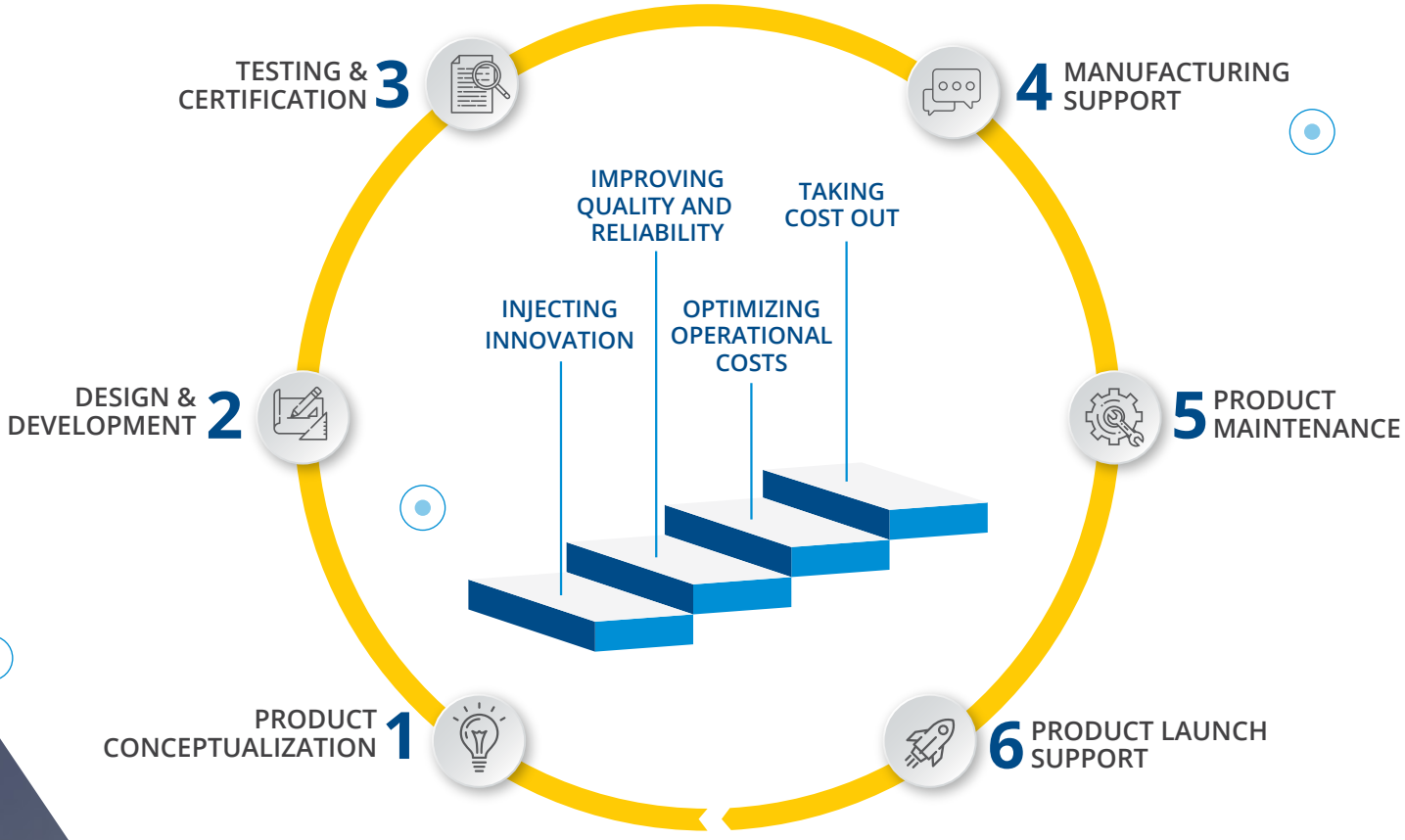
Source: Gartner Research

73% Value Sustainability

Increasing the Need to Create Eco-Friendly Products and Services

Source: Nielsen Research

SUPPORTING END TO END
PRODUCT LIFECYCLE



L&T TECHNOLOGY SERVICES



TRANSFORMING INDUSTRIES THROUGH CROSS-POLLINNOVATION AND STRATEGIC COLLABORATIONS

Dedicated innovation labs, powered by hundreds of specialists, create solutions across multiple industries.

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, Smart Manufacturing Lab, Optics Lab, Power Electronics Lab, Tear Down Lab

FOCUSING ON COMPREHENSIVE QUALITY MANAGEMENT

- Appraised at Maturity Level 5 on the Capability Maturity Model Integration (CMMI) – DEV, v1.3
- AS9100D Certified Aerospace Practices
- ISO 13485:2016 Certified Medical Devices
- ISO 9001:2015 Certified Delivery Centers
- ITAR Compliant State-of-the-art Facilities in the US and INDIA
- ISO/IEC 27001:2013 – Certification for Design and Development



ENGINEERING THE CHANGE ACROSS INDUSTRIES

AEROSPACE ENGINEERING

- Aerostructures | Aero Systems
  Aero Engines | Avionics
- Aftermarket Service
- ATE & Test Engineering
- Electronics Engineering
- Mechanical & Structural Engineering
- Software Engineering
- Testing and Validation Services
- Inflight Entertainment
- Drones

AUTOMOTIVE

- Autonomous Driving
- Electrification
- Design & Development
- Software Implementation
- Product Conceptualization
- Testing and Validation Services
- Manufacturing Engineering
- Value Engineering &
  Product Sustenance

CONSUMER ELECTRONICS

- Mobility
- Ruggedization
- Wearables
- Security

MEDICAL DEVICES

- Connected Healthcare
- Remote Diagnostics
- Hybrid Imaging
- Code of Federal Regulations
  (CFR) Part 11 Compliance

INDUSTRIAL PRODUCTS

- Smart Buildings
- Automation
- Machine Vision
- Industrial Protocols
- High Power Density



MEDIA AND ENTERTAINMENT

- OTT
- Android TV
- Smart Home
- On-demand TV
- Voice Recognition
- Media Personalization

PLANT ENGINEERING

- Industry 4.0
- Smart Manufacturing
- Plant Digitalization
- Design & Engineering
- Greenfield & Brownfield Consulting
- Operational Maintenance

SEMICONDUCTORS

- VLSI
- Platform Software
- Board Design
- Chip Qualification

RAIL TRANSPORTATION

- Digitalization and Train Control
- System Assurance and RAMS [Reliability, Availability, Maintainability, and Safety]
- Train Design and Innovation
- Rail Signaling

TRUCKS AND OFF-HIGHWAY VEHICLES

- Sustenance Engineering
- Model-Based Software Development
- AUTOSAR and Functional Safety
- Hybridization
- Electrification
- Predictive Maintenance & E-Servicing
- Real-Time Fleet Tracking

TELECOMMUNICATIONS

- 5G
- NB-IoT
- Software Defined Networking (SDN)/ Network Function Virtualization (NFV)
- Automated Testing

INVESTING IN BEST-OF-THE-BREED TECHNOLOGIES

EMBEDDED SYSTEM AND APPLICATIONS

- More than 70 successful tape-outs of up to 28nm, including low-power designs
- Unique multi-location test automation solution to enable parallel execution of test cases and reduce cycle time by 50%
- In house FD-LTE lab with live radiating network



MECHANICAL ENGINEERING

- 40+ customized domain-specific capabilities encompassing idea generation, implementation, and diffusion as well as product development and aftermarket support
- Proven track record of minimizing costs and cycle times
- Highly skilled engineers, advanced processes, and top-of-the-line systems and tools

SMART MANUFACTURING SERVICES

- PLC, DCS, SCADA, and MES based automation for manufacturing processes and operations
- Integrated Manufacturing and Asset Management Services
- Mobility, Augmented Reality, and Advanced Analytics applications

SMART PRODUCTS AND SERVICES

- UBIQWeise 2.0™ platform for quick deployment and no lock-ins
- Deep knowledge in engineering enabling customized processes for design, test, and roll-out across multiple industry verticals
- i-BEMS - Intelligent Building Energy Management System is designed to help save up to 40% of facility energy costs

DELIVERING DISRUPTIVE SOLUTIONS

INTELLIGENT BUILDING ENERGY MANAGEMENT SYSTEM (i-BEMS)

- Reduce building energy usage by up to 15% and ensure return on investment within three years of deployment
- Gain visibility into the operation of those 20% building systems that contribute 80% towards energy consumption

UBIQWeise 2.0

- UBIQWeise 2.0™, L&T Technology Services proprietary cloud IoT platform, is built to empower our customers rapidly customize and seamlessly deploy IoT products. The built-in rules engine supports stream processing to generate business insights in real time

WAGESAPP

- Comprehensive, data-driven utility conservation programs to reduce OPEX
- Benchmark utility consumption across plant locations to identify utility conservation best practices

AiKno™

- Cognitive intelligence framework which combines contextual intelligence and AI, enabling customers to develop a range of digital virtual agents, problem solving applications, and robotic process automations. LTTS' AIKno™ framework was selected as one of the Top 50 use cases in the NASSCOM Artificial Intelligence Game Changer Awards 2018

nBon

- 3GPP Release 14 compliant Cat NB1 reference protocol stack (L1/L2/L3) for IoT low data rate devices
- Designed with low memory and low power footprint enabling Seamless integration with custom target platforms

ServiceIQ

- Extend services and issue reporting capabilities using customized, modular system plug-ins
- Enhance productivity and operating efficiency by mapping and allocating service requests based on the field agent's location

COGMATION

- LTTS' Cogmation is an in-house Test Automation Framework developed for multiplatform and multidevice automation. It integrates various test components, based on the unique device and platform configurations, and provides results powered by internal validation algorithms. Cogmation comes pre-bundled with an A-V analysis tool.

STAYING A STEP AHEAD OF THE WAVE OF DISRUPTION

WE ARE INVESTING IN THE FUTURE ENGINEERING FOR A SMARTER WORLD

PRE-2009

Focused on reducing the unit factor cost thus enabling customers to increase profit margins

2009-2012

Built synergy across multiple business units to deliver consistent and best-in-class processes

2012-2015

Invested in solutions and acquisitions to enhance performance, agility, and capabilities

2015-2017

Transitioned into the role of a business enabler for customers with improved operational and organizational structure

NEXT STAGE

It's time to engineer the change, redefine business models, and transform products into services



AND CREATING
IMPACT THAT MATTERS

399 PATENTS AND COUNTING

- 288 are co-authored with customers and 111 are held singularly by us.

SPARK - INNOVATION MANAGEMENT PLATFORM

- Accelerates the project team's ability to solve problems creatively
- Reduces redundancy by checking for IP, plagiarism, and infringement

TECHgium®

ENGINEERING INNOVATORS FOR TOMORROW

- **19000** Students
- **500+** Faculty
- **270** Institutes Participating
- **68** Innovative PoCs
- **2000+** Concepts Submitted

TECHPANORAMA™

A cross-pollination initiative, TechPanorama™ serves as a platform for our employees to showcase their creative skills and demonstrate ideas for new solutions, processes, and technologies.



RECOGNIZED BY THE INDUSTRY LEADERS

"Company of the Year" & "Green Office Space of the Year" award by Indo-American Chamber of Commerce & the American Consulate General

Awarded the Golden Peacock National Quality Award & Golden Peacock Innovative Product & Service Award

LTTS in the Winners Circle for Embedded & Semiconductor Engg. Services and Automotive Engineering Services

LTTS was recognized among the top 5 global organizations for social media marketing by the US-based CFX Faxies, a premiere US awards agency

LTTS wins Businessworld magazine's 3rd HR Excellence Awards

Rated as one of the most Innovative Indian Companies

Zinnov positions LTTS in Leadership Zone for IoT across 10 verticals

Global Engineering Productivity Improvement Award & Gold Supplier awarded by UTC

LTTS positioned as a leader in the IoT-Neat survey

RECOGNIZED BY THE INDUSTRY LEADERS

Gartner

Recognized by Gartner among “Key vendors in the IoT embedded space”

Received The Golden Globe Tigers Award for Excellence in Training & Development

Quality Excellence Award in Product Development at the World Quality Congress Function

EMC²

IT: EMC Transformation Award & “Dataquest Business Technology Award” in the Analytics category

DAIMLER

Innovation Award from Daimler

NASSCOM®

LTTS wins Digital Skills Award for transformation program for digital re-skilling



LTTS wins World Quality Congress Award for Quality Excellence in Planning, Processes & Systems

VARINDIA

LTTS named as Best Design and Engineering Company in the Infotech Forum Awards 2019



LTTS conferred with Performance Excellence award by Honda in 2019



WHAT OUR CUSTOMERS SAY

REINFORCING #EngineeringTheChange



DOMINIK SCHNEITER
VP, R&D,
WINTERTHUR GAS AND DIESEL

BY BRINGING **TRANSFORMATIVE IDEAS FROM OTHER** INDUSTRIES, L&T TECHNOLOGY SERVICES' INNOVATIONS HELPED US REDUCE **LEAD TIME TO MARKET** AND SAVE OVER **$1 MILLION** EVERY YEAR.

WORLD CLASS **ENGINEERING, CROSS VERTICAL** INDUSTRY EXPERTISE, STATE-OF-THE-ART **INFRASTRUCTURE** AND **RAPID TURNAROUND** CAPABILITIES MAKE LTTS OUR KEY **STRATEGIC PARTNER.**



SUJEET CHAND
CTO,
ROCKWELL AUTOMATION



EMMANUEL DE ROQUEFEUIL
Country Director,
THALES

OUR **PARTNERSHIP** REPRESENTS THE COMING **TOGETHER** OF TWO **GLOBAL** COMPANIES!



HIROAKI IWAMITSU
Managing Executive Officer,
KOBELCO

WE WORK WITH LTTS TO BUILD ADVANCED TECHNOLOGICAL CAPABILITIES IN AREAS SUCH AS **IoT, AUTOMATION** AND **REMOTE SENSING**. LTTS IS NOT JUST AN ENGINEERING COMPANY, BUT THE **BEST TECHNOLOGY PARTNER** WE HAVE!

WITH **ENGINEERING FOCUS FIRST**, L&T TECHNOLOGY SERVICES HAS BEEN ABLE TO DELIVER **NEW INNOVATIVE PRODUCTS.** THEY ALWAYS COME UP WITH RESOURCES AND SOLUTIONS THAT ARE **BEYOND OUR EXPECTATIONS.**



MIKE MCDONALD
Director Engineering,
AEI



VIKRAM BHATT
Film Producer & Director

LTTS AND **VBontheWeb** SEE A **GREAT FUTURE** TOGETHER. WE ARE IN THE **BEST HANDS** AS FAR AS **TECHNOLOGY** IS CONCERNED!

LET'S ENGINEER THE BLUEPRINT OF TOMORROW
LET'S ENGINEER THE CHANGE

POWERING THE SMART CITIES
Using Digital Engineering

Smart mesh for grids improved power distribution, reduced theft, and minimized downtime for a North American Utility Partner

INNOVATING FOR TOMORROW
Using Pervasive Technologies

Helped a major European OEM create the next generation of electric and hybrid vehicles

CREATING CONNECTED PLANTS
Using Smart Manufacturing & Operations

Enabled critical process monitoring and remote surveillance of plant assets with intelligent automation solutions

MAKING MACHINES INTELLIGENT
Using Perceptual Engineering

Developed a welding machine that learns machine usage patterns to improve productivity





NOTES



Headquarters Offices Delivery Centre

India | USA | Canada | Germany | Belgium | Denmark | Finland | France | Italy | Israel
Netherlands | Norway | Poland | Swedan | United Kingdom | UAE
Japan | South Korea | Singapore | Malaysia | South Africa | Australia

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