

ENGINEERING THE CHANGE

LTTS IN A SNAPSHOT

L&T Technology Services is a leading global pure play ER&D services company

- 
306 Global Clients
- 
16,000+ Employees
- 
650 Patents
- 
53 Of Global 100 R&D Spenders as clients
- 
69 R&D Innovation Labs
- 
17 Global Design Centers
- 
TOP 25 Best Employers Globally
- 
25+ Countries



*Data as of March 31, 2021

WHAT WE DO

LTTS lives and breathes engineering



OUR UNIQUE DIFFERENTIATORS



INFRASTRUCTURE

69 R&D Labs for product design, engineering, tear-down, compliance, power electronics & digital



CROSS-POLLINATION

Our multi-vertical expertise enables us to take best practices from adjacent industries and adapt them to your business



SOLUTIONS & ACCELERATORS

Ready-to-use solutions & accelerators for product design, analytics, cybersecurity, AI, test automation, and smart workplaces



DIGITAL ENGINEERING

Cloud
DevOps
Analytics
Cybersecurity

Microservices
AR/VR
Industry 4.0



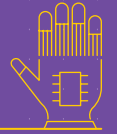
ACROSS MULTIPLE INDUSTRIES

7 of top 10



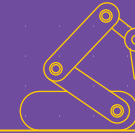
Plant Engineering

8 of top 10



Hi-Tech

7 of top 10



Industrial Products

8 of top 10



Transportation

4 of top 5



Media & Entertainment

3 of top 5



Medical & Lifesciences



OUR PROVEN PLATFORMS & SOLUTIONS

INTEGRATED SMART BUILDING EXPERIENCE PLATFORM



DEVICE TO CLOUD CONNECTIVITY



INDUSTRIAL ENGINEERING AI TOOL



MULTI PLATFORM, MULTI DEVICE REMOTE TEST AUTOMATION



PREDICTIVE ANALYTICS & CONDITION MONITORING OF ROTATORY EQUIPMENT



LTTTS has developed a broad portfolio of proprietary technologies & platforms, including UBIQWISE, VISIT, WAGES, InspectAR, etc., to help clients accelerate implementations and realize the benefits of Industry 4.0.



IoT Platforms Leadership Award Integrated MCare



COMBINED WITH OUR ABILITY TO COLLABORATE

What LTTTS did?

Embedded System | Mechanical Design | Software | Testing

Intelligent Building Platform | Connectivity | System Integration

Sensorization | Device to Cloud Connectivity

What we achieved together



Ruggedized Tablet



Smartest Campus in the World



Remote Asset Monitoring

What partners did?

Certification | Proto Manufacturing | Procurement | PCB Fabrication

Sensors | Cloud Platforms | Machine Learning | Building Facility

Monitoring Software & Dashboard Data Analytics



AND BUILD PARTNERSHIPS

Continuously keeping ourselves abreast on technology, standards & industry trends to provide **cutting edge solutions to our customers**

Creating End to End Business solutions by leveraging the **ecosystem of partners**



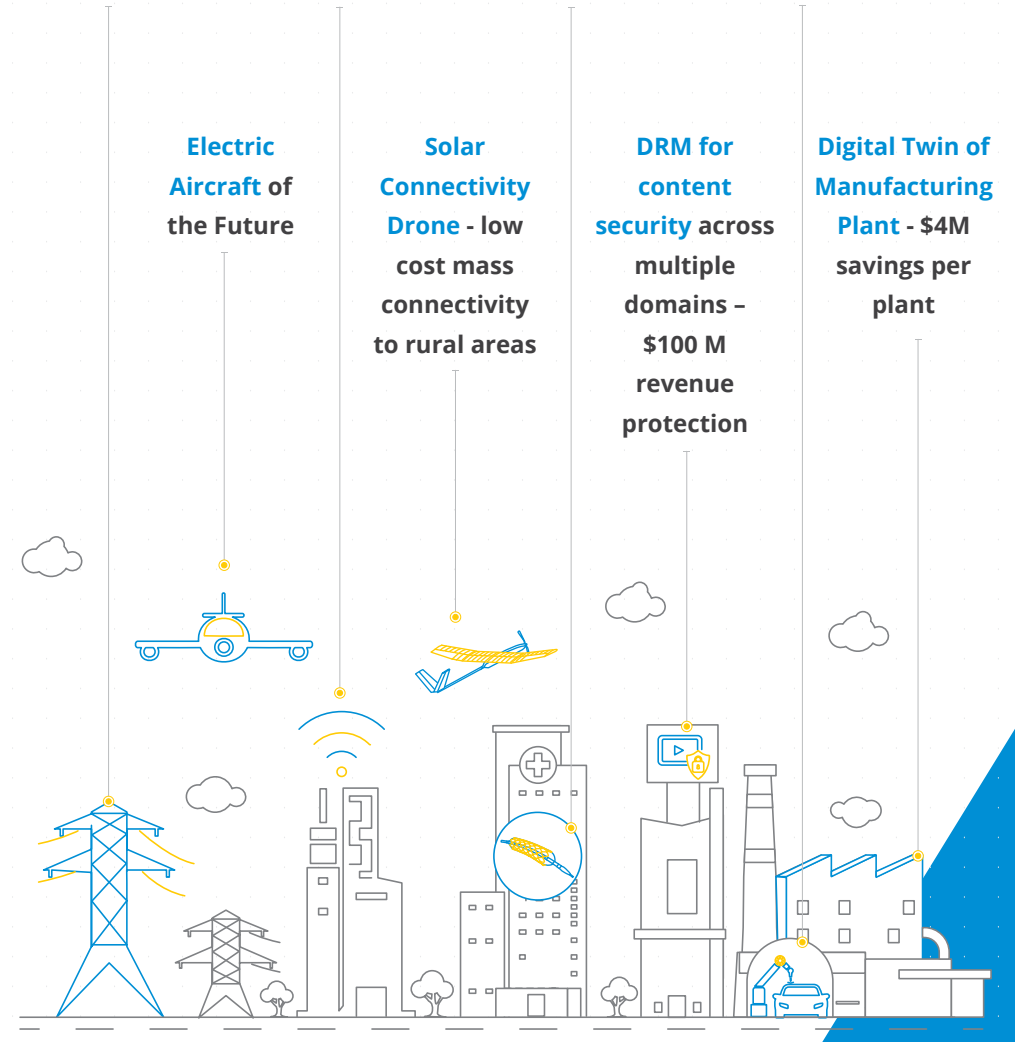
HELPS US ENGINEER PARADIGM SHIFTS

World's 1st Commercial Mesh Network for Grids

Architecting the Smartest Campus in the world

World's 1st 40 atm rated Angioplasty Device

World's 1st Autonomous Welding Robot





WE CATER TO THE ENGINEERING NEEDS OF THE ENTIRE SPECTRUM



DISRUPTIVE

- ◆ Vendor Developed IP
- ◆ Minimalistic Development Cycle
- ◆ Guarded Development



ADAPTIVE TECHNOLOGY

- ◆ Reduce time for development



CONVENTIONAL TECHNOLOGY

- ◆ Complete Program Ownership
- ◆ Sustain & Maintain

AND BRING THE BEST OF A START-UP & LARGE ORGANIZATION

LONGEVITY

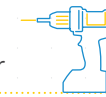
Decade Long Engineering Engagements

- ◆ 10 Year Engagements with 32 of the Global Top 100 ER&D Spenders
- ◆ Engineered 100 Patents & delivered >\$100M cost savings
- ◆ 42% of our revenue comes from 10+ year engagements
- ◆ 60% of our Top 25 largest customers have been with us for 10+ years
- ◆ Long term engagements across all industries

SPEED & INNOVATION

650 Patents & Counting

Gyroscrewdriver



Commercial Mesh Network



Dual-Screen Smartphone



Angioplasty Device



Autonomous Welding Robot

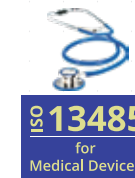


Solar Connectivity Drone



World's 1st

MATURE PROCESSES



R&D LABS AS A SERVICE



EMI/EMC LAB



RADIO FREQUENCY LAB



OPTICS LAB



THINK STUDIO



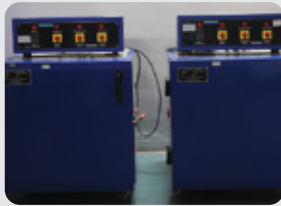
**POWER ELECTRONICS
DESIGN CENTER**



**POWER EQUIPMENT
TEST FACILITY**



ACOUSTICS LAB



ENVIRONMENTAL TESTING



DRY LAB



MATERIAL TESTING CENTER



TEAR DOWN LAB



**HARDWARE & TEST
EQUIPMENT ENGINEERING**



WET LAB



MICROSCOPY LAB



**5G TELCO CLOUD
ENGINEERING**



WELDING STUDIO



IoT INNOVATION HUB



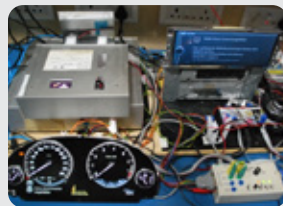
AR/VR INNOVATION HUB



5G TESTING AS A SERVICE



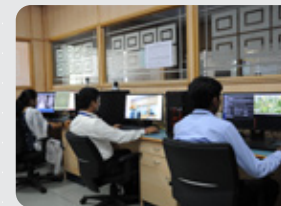
ELECTRICAL VEHICLES



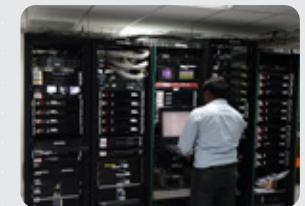
**TRANSPORT INSTRUMENT
CLUSTER**



**DIGITAL PLM
DESIGN CENTER**



**MACHINE VISION
& IMAGING**



**INTEGRATED VIDEO
PROCESSING LAB**

HOW THE INDUSTRY RECOGNIZES US



Most Innovative Tech Company
of the Year 2020



Most Exemplary Employer
(COVID Response Category)



Awarded the Gold Stevie® for Brand
Experience of the Year 2020



Brandon Hall HCM Award 2020 for Excellence
in Best Advance in Employee Engagement



LTTS' Chest rAI & i-BEMS recognized
with the 2021 BIG Innovation Award



India Digital Enabler Awards 2020 in
"Best Technology for Healthcare"



Frost & Sullivan Global Customer Value
Leadership Award 2020 for i-BEMS



"Highly Commended" by 2020
Transform Awards Nordics



Best Company for Excellence & Innovation
in Digital Engineering Services by Dataquest

AND HOW WE GIVE BACK



EDUCATION & SKILL DEVELOPMENT



WATER CONSERVATION



HEALTHCARE FOR THE NEEDY



ENVIRONMENTAL RESTORATION

Food & Health



Awareness



10k Charity Run

TeachFirst



WHAT ANALYTS SAY

Rated as **expansive & established leaders** by all engineering rating studies



Industry 4.0
 Connected Worker
 Connected Logistics
 Connected Assets
 Connected Products
 IoT- Public Infra
 IoT- Energy & Utilities
 Content Security
 OTT Video
 IoT Telecom



Manufacturing IoT
 Plant Cybersecurity
 Augmented Reality
 Visual Analytics
 Plant Engineering
 Industry 4.0



Digital Manufacturing Services



Chemical and O&G Engineering
 Lifesciences & CPG Engineering
 Automotive Product Engineering
 Automotive Mfg Engineering
 Aerospace – Product & Mfg Engineering
 Digital Oil Field



Business & Industrial IoT Engineering



Automotive Engineering
 Embedded Engineering



Consumer IoT
 Industrial IoT
 Control Systems
 PLM O&G



A CLOSER LOOK AT OUR INDUSTRY OFFERINGS

INDUSTRIAL PRODUCTS

WHO WE SERVE

- ◆ Industrial Machinery
- ◆ Oil & Gas
- ◆ Renewable Energy
- ◆ Power Electronics
- ◆ Building Solutions
- ◆ Automation
- ◆ Test & Measurement
- ◆ Special Machine Tools
- ◆ Lighting Engineering

AWARD WINNING PRODUCTS



EMERGENCY LUMINAIRE

Best of Category
Design Excellence
Awards in LIGHTFAIR®
International 2018



VIBRATION METER

Danaher Golden
Innovative
Award



GRID TIED SOLAR INVERTER

Solar Industry
Award



POWER DRIVE

Plant Engineering
Product of the
Year Gold Award

SUCCESS STORIES

- ◆ World's 1st Motion Activated Screwdriver
- ◆ World's 1st Autonomous Welding Robot
- ◆ Smartest Campus in the World
- ◆ Patented Multi-voltage Booster Technology for Welding Power Source
- ◆ Patented Portable Vibration Analyser
- ◆ High Power DC-DC Converter
- ◆ Grid Tied Solar Inverter
- ◆ Machine Vision System with Patented Technology for Leak Detection



GROUND TRANSPORT

AUTOMOTIVE

- ◆ Infotainment & Driver Information Systems
- ◆ Connected Cars
- ◆ Body Electronics & Comfort Systems
- ◆ ADAS & Autonomous Drive
- ◆ Powertrain and Alternate Propulsion Systems
- ◆ Body Engineering & Safety Restraints

TRUCK & OFF HIGHWAY

Product Engineering, Manufacturing Engineering & Digital Engineering across all product lines



SUCCESS STORIES

- ◆ Android Based Infotainment Cluster for Automotive OEMs
- ◆ Integrated Radar & Camera Development for Automotive Tier-1 Supplier
- ◆ Remote Tracking & Monitoring for Heavy Construction Equipment & Mixed Fleet
- ◆ Optimizing Cost of Lifting System of Lawn Tractor Through Redesign
- ◆ 3D Modeling & Simulation of Automotive Manufacturing Plant
- ◆ Competitive Benchmarking of Tower Crane for the India Market

AEROSPACE & RAIL

AEROSPACE - WHAT WE DO

Aero Structures



Aero Systems



Avionics



Aero Engines



In-flight Entertainment



Drone Solutions and Services



Test Equipment



Air Traffic Mgmt.

RAIL - WHAT WE DO



Train Design & Controls



Rail Signaling



Safety & Reliability (RAMS)

SUCCESS STORIES

- ◆ Next-gen Aircraft Propulsion System
- ◆ Advanced Seatback IFEC System
- ◆ Optimization of Horizontal Stabilizer for an Aerospace Major
- ◆ Model Based Engineering for Aircraft Heater Module
- ◆ Parabolic Aluminized Reflector (PAR) Lighting
- ◆ Development of a Safe & Reliable Railway Brake Controller
- ◆ Foolproof independent checking & standard setting for a Light Rail Transit System



MEDICAL DEVICES & LIFESCIENCES

WHO WE SERVE

- ◆ Surgical
- ◆ Therapeutic
- ◆ Diagnostic
- ◆ Patient Monitoring
- ◆ Wearables
- ◆ Supplies



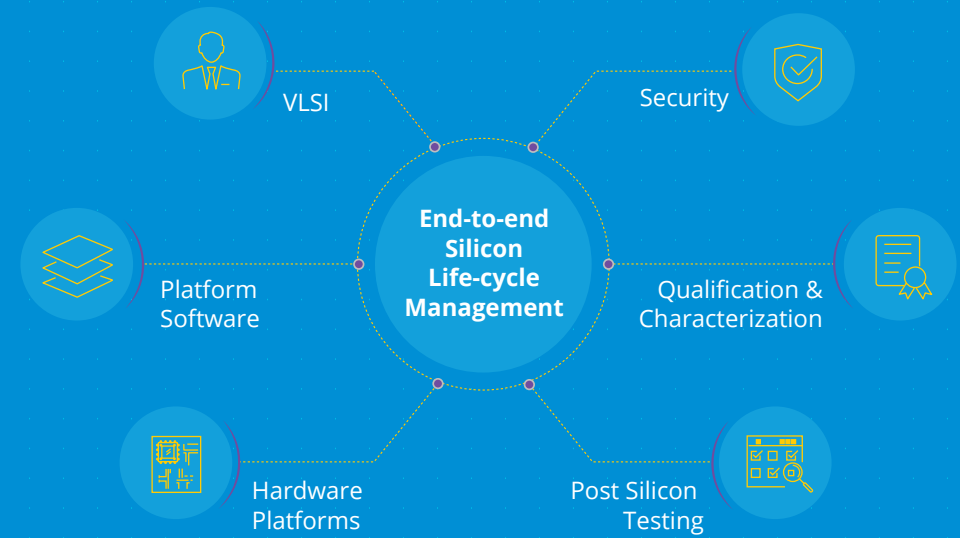
WHAT WE DO

- Digital Engineering
- Product Engineering
- Manufacturing Services
- Field Services
- Quality Assurance & Regulatory Assurance

SUCCESS STORIES

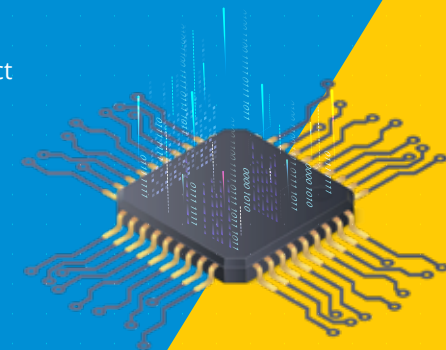
- ◆ Disposable and Single Hand Operated World's 1st Drug Patch Applicator
- ◆ World's Leading Smart Inhaler
- ◆ 3D Printing for Customized Knee Implants
- ◆ World's 1st Medical Device to Produce 40 atm Pressure
- ◆ World's 1st Airway Clearance System with Bluetooth® Connectivity
- ◆ Integrated Reusable Vessel Sealing & Cutting Device for Emerging Markets
- ◆ Automated Blood Cell Counter with Precision of >99% and Consumption of 2% Less Blood

SEMICONDUCTORS



SUCCESS STORIES

- ◆ World's 1st Solar Connectivity Drone
- ◆ Image Processing SoC
5 Million Gates, 40+ Image Processing Algorithms
- ◆ Chips with 3D Imaging Capability for Home Automation
- ◆ Touchless Interactions
Advanced Sensing Using Miniature Radar to Detect Touchless Gesture Interactions
- ◆ Ruggedized SBCs
Industrial Grade Operation from -40C to +85C



CONSUMER ELECTRONICS



WHO WE SERVE



Consumer IoT & Retail



Enterprise Devices



Personal Devices

SUCCESS STORIES

- ◆ World's 1st Dual Touch-Screen Smartphone
- ◆ The Smartest & Safest Beginner Phone in the World!
- ◆ Ruggedized, Smart Public Safety Device
- ◆ Body Camera for Public Safety Personnel
- ◆ World's 1st Wearable Support Network
- ◆ Smart Thermostats for Home Automation
- ◆ Smart Welding Using Wearable Technology
- ◆ High-end Luxury Smart Watch

TELECOMMUNICATIONS

WHO WE SERVE



Communication Service Providers



Networking & Technology System Providers

WHAT WE DO



SDN/NFV



IoT Service & Platform Enablement



Telco Cloud & Network Analytics



Simulations & Automated Testing



Global Field Testing



NB IoT Chips



5G - Orchestration & Virtualization

KEY DIFFERENTIATORS

- ◆ End-to-End Product Design & Development
- ◆ Private LTE Network in Lab
- ◆ 5G Automation Framework
- ◆ Acceleration-as-a-Service & Monetization Solutions
- ◆ Migration Tools – Legacy to Web Technologies
- ◆ Test Factory - Tools, IP & Frameworks



MEDIA & ENTERTAINMENT



WHO WE SERVE

- Operators (Cable, DTH, IPTV)
- OEMs
- OTT Players
- Software Players

WHAT WE DO

- Product Engineering
- Product Conceptualization
- Design & Development
- Testing & Certification
- Manufacturing Support
- Product Maintenance
- Value Engineering

PROPRIETARY SOLUTIONS

- ◆ Cogmation Test Automation Framework
- ◆ RDK Emulator Tool
- ◆ Cloud EPG & Recommendation Engine
- ◆ STB Log Analytics
- ◆ FlyBoard - Next-gen Digital Signage Solution

PLANT ENGINEERING

WHO WE SERVE

- ◆ Energy & Utilities
- ◆ Chemicals
- ◆ Home & Personal Care
- ◆ Food, Beverages & Dairy
- ◆ Pharmaceuticals
- ◆ Discrete Manufacturing

WHAT WE DO

- EPCM & PMC
- Operation & Maintenance
- Engineering Design
- Decommissioning Support
- Consulting Services
- Asset Management Services

SUCCESS STORIES

- ◆ Dedicated Design Center for a Chemical Major, USA
- ◆ Global Standards Harmonization Program for a Chemical Major, EU
- ◆ Energy Audit Resulting in Considerable Savings for a Major CPG Customer
- ◆ Engineering a Greenfield Facility for a Leading Specialty Chemicals Company in the Middle East
- ◆ 3D Solutions for Digitalization of a Manufacturing Plant
- ◆ Greenfield Solutions for a Metals & Minerals Major
- ◆ EPCM Services for a Globally Leading F&B Manufacturer





 **L&T Technology Services**

 **ENGINEERING THE CHANGE** 

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