L&T Technology Services

ENGINEERING
THE CHANGE

OUR VISION

Engineering a **sustainable tomorrow** through technology and innovation

With innovation at our core, we challenge the status quo and continuously leverage technology for scaling the future and inspiring new possibilities for our customers.

As we constantly strive for multi-dimensional growth, we hold ourselves accountable for creating a sustainable world and delivering positive outcomes that transcend business boundaries.

With the ability to engineer change, and with the effective use of technology, we are committed to achieving environmental stewardship, social development, and economic progress for all our stakeholders.
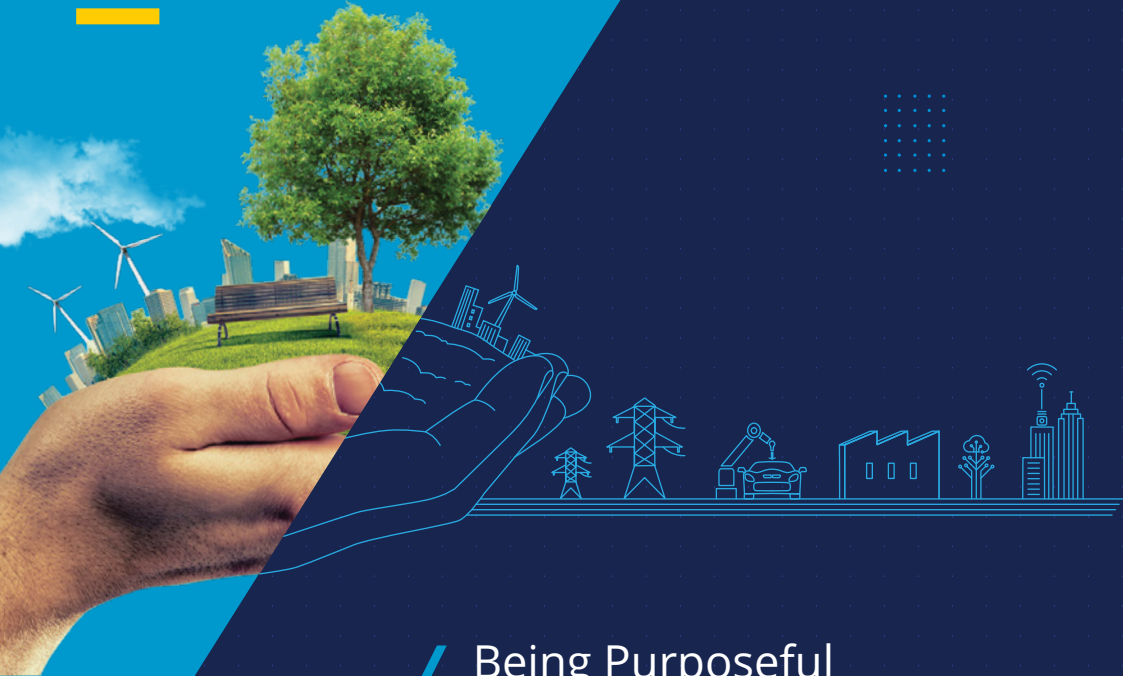
OUR MISSION

Be the **engineering partner of choice** by enabling innovation with world-class technologies, processes, and people – delivering inclusive growth for all stakeholders

At LTTS, we are passionate about creating a better and sustainable world for the future of our customers, people, and communities.

As a technology-led engineering company, we encourage a culture of collaboration and learning. Our innovation DNA and a 'can-do attitude' enable us to engineer the change.

With our people as the driving force, integrity, and fairness as our bedrock, we are committed to constantly innovating to strive for the best solution and customer experience. It is this unyielding passion and unfaltering commitment to excellence that ensures inclusive and sustainable growth.

OUR VALUES

At LTTS, everyone is an
Engineer at Heart

- Passion For Engineering
- Curious About Everything
- Fearlessly Creative
- Frugal Mindset
- Collaborative

/ Being Purposeful

/ Ethics & Integrity

/ Caring

/ A Culture of Learning

/ Results with Accountability
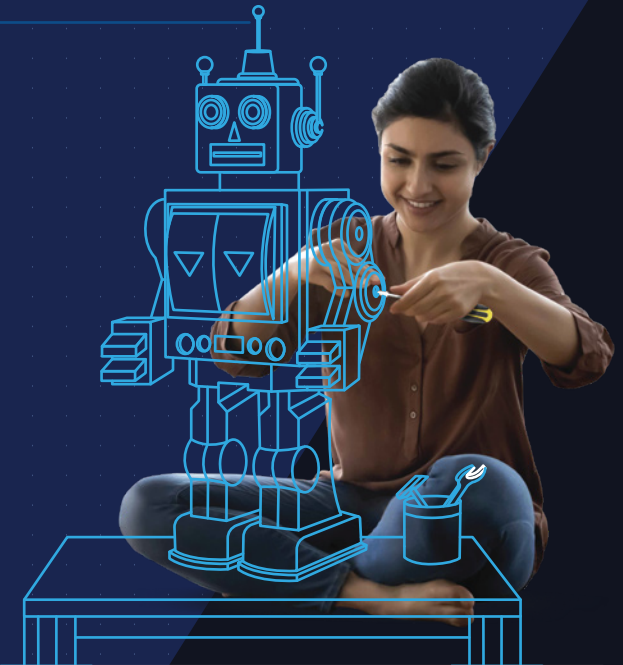
LTTS IN A SNAPSHOT

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

364
Global Clients

23,300
Employees

1249
Patents

57
Of Global 100 R&D Spenders as clients

105 R&D Innovation Labs

22 Global Design Centers

TOP 25
Best Employers Globally

25+
Countries

*Data as of December 31, 2023.

WHAT WE DO

Technology Partner For Sustainable Tomorrow

ER&D Services for

CONSULTING

- Industry 4.0
- Sustainability
- Manufacturing Consulting
- Product Consulting
- Operations Consulting
- Digital Architecture
- Digital Thread & PLM

PRODUCT

- System Design
- Mechanical Design
- Software
- Hardware
- Testing & Validation
- Video / Media Engineering
- Digital Twin

MANUFACTURING

- Plant Engineering
- Digital PLM
- Enterprise Manufacturing Management
- Integrated Asset Management
- Digital Factory Modelling & Simulation
- Rapid Prototyping

OPERATIONS

- After Market
- Agile Supply Chain
- Asset Care
- Connected Product Support
- Engineering Information Management
- Intelligent Building Management
- System Integration

OUR DIFFERENTIATORS

INFRASTRUCTURE

105 Innovation Labs for product design, engineering, tear-down, compliance, power electronics & digital

CROSS-POLLINNOVATION

Our multi-domain & 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

NexGen Comms	IIoT
Analytics/ AI/ ML	Security
Cloud Engineering	UX
DevOps	

ACROSS MULTIPLE INDUSTRIES

8 of top 10
Transportation
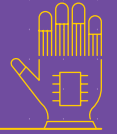
8 of top 10
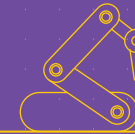**Hi-Tech and Telecom**

7 of top 10
Plant Engineering

3 of top 5
Medical & Lifesciences

7 of top 10
Industrial Products

OUR PROVEN PLATFORMS & SOLUTIONS

E-MOBILITY PLATFORM FOR NEXT-GEN ELECTRIC VEHICLES

eVOLTTS

AI BASED CHEST X-RAY RADIOLOGY SUITE

Chest-rAi™

INDUSTRIAL ENGINEERING AI TOOL

AiKno

INTEGRATED SMART BUILDING EXPERIENCE PLATFORM

i-BEMS Intelligent Buildings

DIGITAL SIGNAGE SOLUTION FOR IMMERSIVE VISUAL EXPERIENCES

FlyBoard

MULTI PLATFORM, MULTI DEVICE REMOTE TEST AUTOMATION

COGMATION

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

HFS Research

Big Innovation Awards, USA for Chest rAI™ and i-BEMS

BIG INNOVATION 2021

COMBINED WITH OUR ABILITY TO COLLABORATE

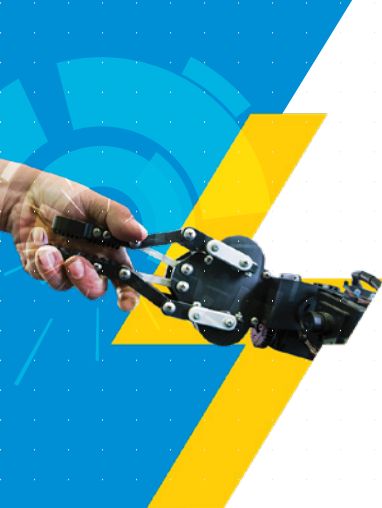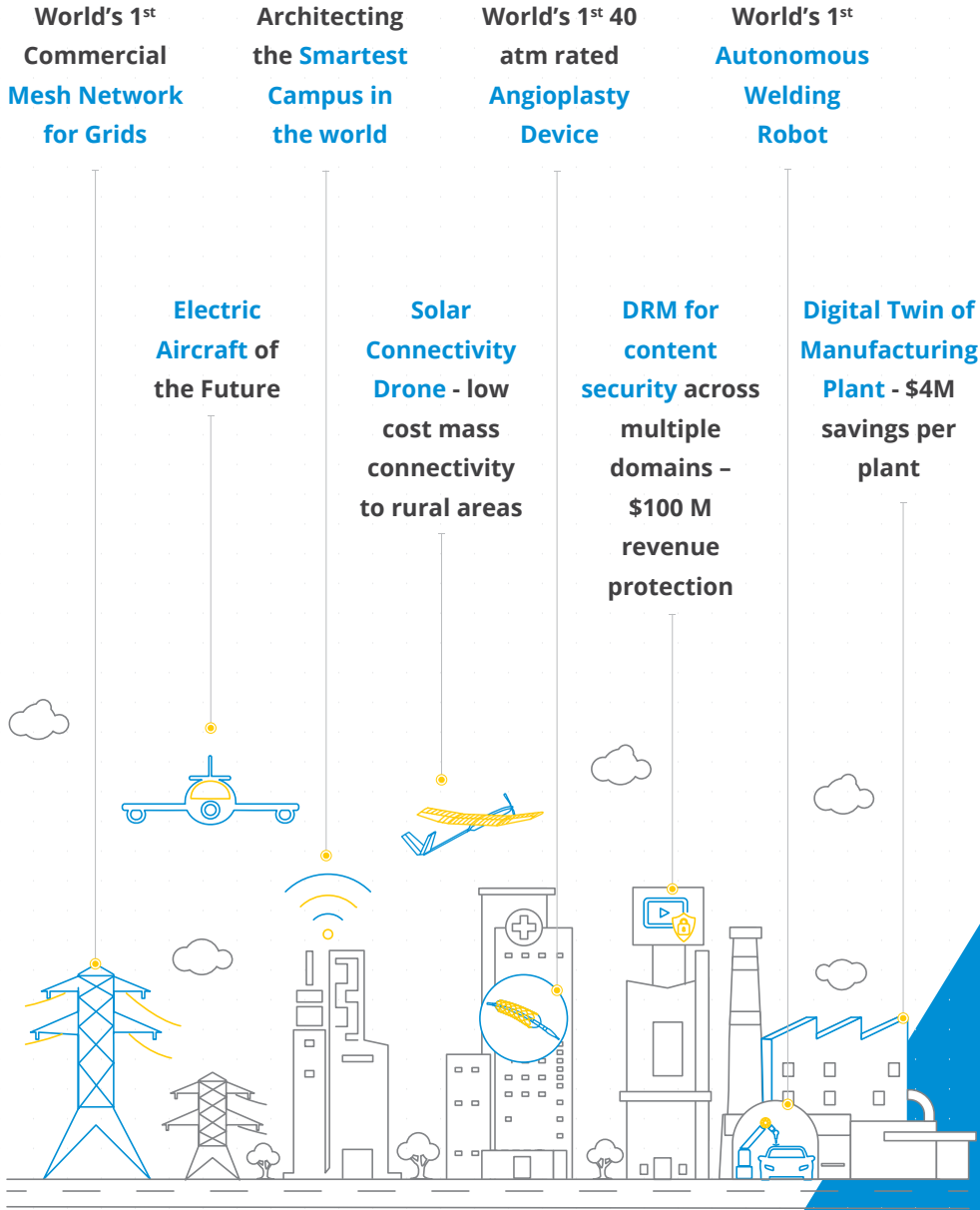| **What LTTS did?**	Embedded System | Mechanical Design| Software | Testing	Intelligent Building Platform | Connectivity | System Integration	Sensorization | Device to Cloud Connectivity
What we achieved together	Ruggedized Tablet	Smartest Campus in the World	Remote Asset Monitoring
What partners did?	Certification | Proto Manufacturing | Procurement | PCB Fabrication	Sensors | Cloud Platforms | Machine Learning | Building Facility	Monitoring Software & Dashboard Data Analytics
	PICMG, TÜV ISO 14001:2004, TE connectivity	enlighted A Siemens Company, intel, VERGESENSE, Microsoft, Quercus smart detection	hadoop, µTCA®

NEXT-GEN PARTNERSHIPS FOR NEXT-GEN SOLUTIONS

Google Cloud · Rockwell Automation · Ansys · aras · AVEVA · SIEMENS · aspentech · aws

R&D PARTNERSHIP	PRODUCTS PARTNERSHIP	CERTIFICATION & STANDARDS	TECHNOLOGY & SOLUTIONS
BROADCOM	DASSAULT SYSTEMES	AUTOSAR	ThingWorx
vmware	vmware	ETSI	SRT
ptc	amazon alexa	THE LINUX FOUNDATION	TELE2
RDK	TEXAS INSTRUMENTS Design Network	ThingWorx	ORACLE
ONF	NRX AssetHub	ONF	freescale semiconductor
THE LINUX FOUNDATION	INTERGRAPH	dlna	CISCO
ERDA infor	Microsoft	ORACLE	TEXAS INSTRUMENTS Design Network
	freescale semiconductor	SRT	splunk
			intel
			skywise
			intel
			Bentley

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

Electric Aircraft of the Future

Solar Connectivity Drone - low cost mass connectivity to rural areas

DRM for content security across multiple domains – $100 M revenue protection

Digital Twin of Manufacturing Plant - $4M savings per plant

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	1249 Patents & Counting

Mesh Network For Grids
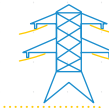
Most Intelligent Campus

Dual Touchscreen Android Smartphone

World's 1st

Most Efficient Ai Based Radiology Assist Solution
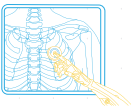
Electrified Off Highway Vehicle

MATURE PROCESSES

CMMI LEVEL 5 SM

ISO 9001:2015 CERTIFIED COMPANY

AS9100 REV. D

ISO 13485 for Medical Devices

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

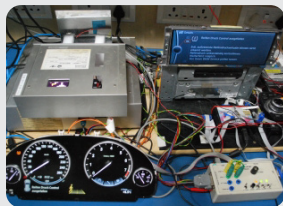**MICROSCOPY LAB**

NEXSENS LAB

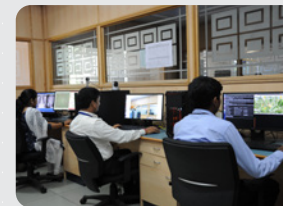**WELDING STUDIO**

IoT INNOVATION HUB

AR/VR INNOVATION HUB

5G LAB

ELECTRIC VEHICLE (EV) LAB

TRANSPORT INSTRUMENT CLUSTER

DIGITAL PLM DESIGN CENTER

MACHINE VISION & IMAGING

INTEGRATED VIDEO PROCESSING LAB

HOW THE INDUSTRY RECOGNIZES US

Recognized as a **Great Place to Work®** in India for the second time in a row and also certified in Poland for the first time ever

LTTS won the **best-in-class ER&D organization** in the 3rd Edition of NASSCOM Spotlight Awards

13th Aegis Graham Bell Award for **Innovation in EV Charging Infrastructure**

Recognized By BW Recycling For **Recycling Plastic Waste** To Create Useful Products

TOP 25 **Innovative Companies** In India

Big Innovation Award For Innovation in **IoT for Edge Management Framework (EDGYneer)**

Recognized with ASSOCHAM CSR & Sustainability Excellence Award 2022 in the **Healthcare category**

LTTS wins **Golden Peacock Corporate Social Responsibility Award**

AND HOW WE GIVE BACK

EDUCATION & SKILL DEVELOPMENT

WATER CONSERVATION

HEALTHCARE FOR THE NEEDY
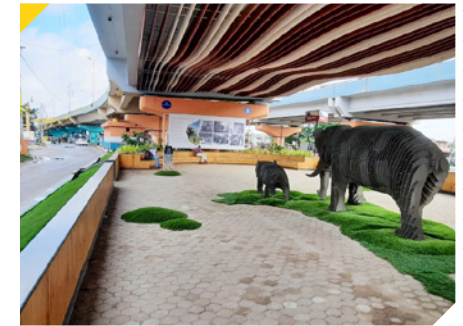
ENVIRONMENTAL RESTORATION

Food & Health

Awareness

10k Charity Run

TeachFirst

WHAT ANALYTS SAY

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

ER&D Services

ER&D Services Rating 2021

Digital Engineering Services Rating 2021

AI Engineering Ratings 2021

Aerospace ER&D Ratings 2021

ER&D Services-US Ratings 2021

ER&D Services-Germany Ratings 2021

Automotive Ratings 2021

ADAS Ratings 2021

Telematics Ratings 2021

Medical Devices Ratings 2021

Telehealth Ratings 2021

Semiconductor ER&D Ratings 2021

Telecommunication ER&D Ratings 2021

OTT Ratings 2021

Industrial Rating 2021

Digital Thread Ratings 2021

IoT Services

IoT Services Ratings 2021

Public Infrastructure Ratings 2021

Telehealth Ratings 2021

Digital Thread Ratings 2021

Digital Manufacturing Servcies

Overall

Next-Gen Services Capability

Monitoring and Security Capability

Life Science Digital Services

MedTech Digital Transformation Services - Europe

MedTech Digital Transformation Services - US

Manufacturing industry Services

Digital Engineering – Transportation, US

Digital Engineering – Hi-Tech, US

Digital Engineering – Industrial, US

Digital Engineering – Transportation, Europe

Digital Engineering – Industrial, Europe

Internet of Things- Services & Solutions

IT/OT Tech Data Convergence

IoT Consulting and Services

AI on the Edge

IoT Endpoint Security

IoT Consulting and Services US

Managed IoT Services US

Connected Mobility Consulting and Services US

ACES

Services

Semiconductor

Semiconductor Engineering Services

PEAK Matrix® Assessment 2021

A CLOSER LOOK AT OUR INDUSTRY OFFERINGS

SOFTWARE & PLATFORMS

WHO WE SERVE

- Hyperscalers
- Vertical ISVs
- OT Cybersecurity Solution Providers
- OT Tool Solution Providers
- Data & Platforms Solution Providers

WHAT WE DO

- Consult
- Create
- Collaborate
- Verify & Validate

SUCCESS STORIES

- Digital Transformation Resulting in 20% Infrastructure Cost Savings
- Engineering Productivity with Remote Asset Monitoring for 30,000 Heavy Industry Assets
- World's 1st Airway Clearance System with Bluetooth Connectivity
- Driving Sustainable Energy Efficiency via LTTS's IIoT Solution

INDUSTRIAL PRODUCTS

WHO WE SERVE

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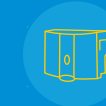- Lighting Engineering

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

- Therapeutic
- Diagnostic
- IVD & Lifesciences
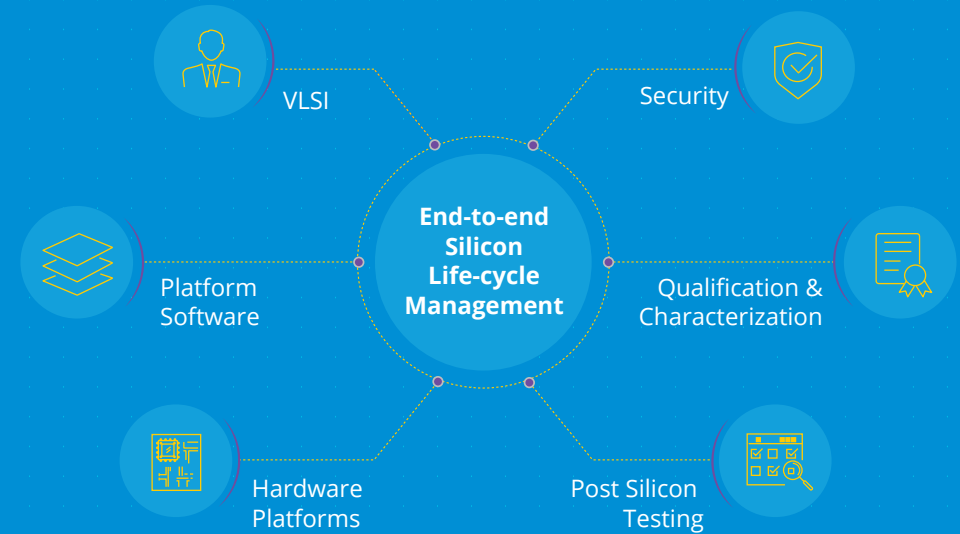- Musculoskeletal & Surgical
- Pharmaceutical

WHAT WE DO

- Device Engineering
- Digital Health Solutions
- 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

VLSI

Security

Platform Software

End-to-end Silicon Life-cycle Management

Qualification & Characterization

Hardware Platforms

Post Silicon Testing

SUCCESS STORIES

- **Turnkey System on Chip / ASIC Design:**
  Image Processing Chip for Industrial Camera Applications
  Laptop/PC AI SoC – Ultra Low Power Companion Chip
  Mobile Phone Application Chips – SSD Controller
  Low Power AR/VR SoC for Media & Entertainment Applications

- **System Design and Validation:**
  Data Center Products – Design and Validation
  Automotive Infotainment Products
  Networking Products
  IoT Products
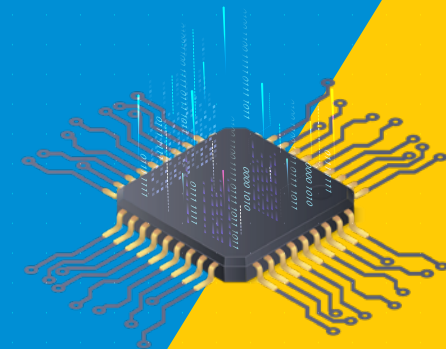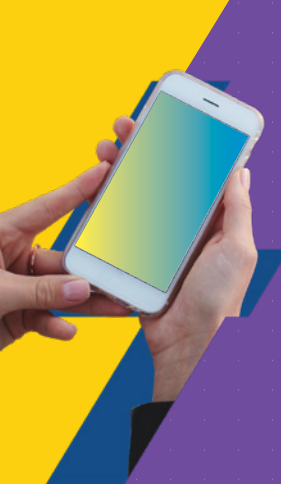
CONSUMER ELECTRONICS

- Personal Devices
- Enterprise Devices
- Accessories and Console
- Wearables
- Consumer IoT & Retail

WHAT WE DO

Testing And Certification

Android/Linux Platform Bringup

Application UI/ UX & Customization

Connectivity Support

Peripheral and Sensor Integration

Maintenance and Upgrades

SUCCESS STORIES

- World's 1st Dual Touch Screen Smartphone
- World's 1st Wearable Support Network
- Design and Proto Manufacturing of Ruggedized, Smart Public Safety Device
- Cloud based Smart Home Automation Experience

TELECOMMUNICATIONS

WHO WE SERVE

Communication Service Providers (CSP)

Mobile Network Operators (MNO)

Original Equipment Manufacturer (OEM)

WHAT WE DO

Network Orchestration & Virtualization (SDN/NFV)
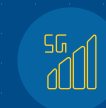
IoT Service & Platform Enablement

Telco Cloud Engineering

Global Field Testing and Automation

5G - Chip to Cloud Deployment

5G - Lab as a Service

KEY DIFFERENTIATORS

- End-to-End Product Design & Development
- Private LTE/5G Network in Lab
- 5G Automation Framework
- Acceleration-as-a-Service & Monetization Solutions
- ORAN based Open Sourced 5G Lab
- 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 Maintainence
- 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

- Oil & Gas
- 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

- Turnkey Wastewater Management services for global F&B major in USA
- Enabled expansion project for global polymer major during pandemic
- EPCM Services for Chemical Major in Europe
- EPCM services for tire plant in India
- Engineering for Edible oil refinery in South Africa
- Engineering plant safety with machine guarding solutions for HPC major in US
- OPEX reduction using ZLD concept enabling 42% recycled water reuse for tire manufacturer
- Engineering for Greenfield projects in India for global F&B major

L&T Technology Services

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