



Brochure

Powering Industry 4.0 Solutions with IIoT

Build industrialized application and processes on cloud
LTIMindtree's suite

Overview

LTIMindtree is revolutionizing the manufacturing industry by combining advanced technologies with Industry 4.0 practices to create a robust value chain of things, data, process, and people. The aim is to deliver digital transformation that will offer a comprehensive, interlinked, and holistic approach to manufacturing by bridging the gap between physical and digital world, ultimately leading to better collaboration and access at multiple levels.

As a Launch Partner for AWS IoT SiteWise Edge and recognized as Innovator in Avasant's IoT Services RadarView™ Report 2021, LTIMindtree has successfully delivered smart manufacturing, connected product and intelligent enterprise solutions, which have transformed business models of our clients and end-customers. Our uniquely developed accelerators and partnership ecosystem with leading technology companies has enabled LTIMindtree to deploy IoT solutions at an accelerated pace and realize faster ROI for clients and customers.

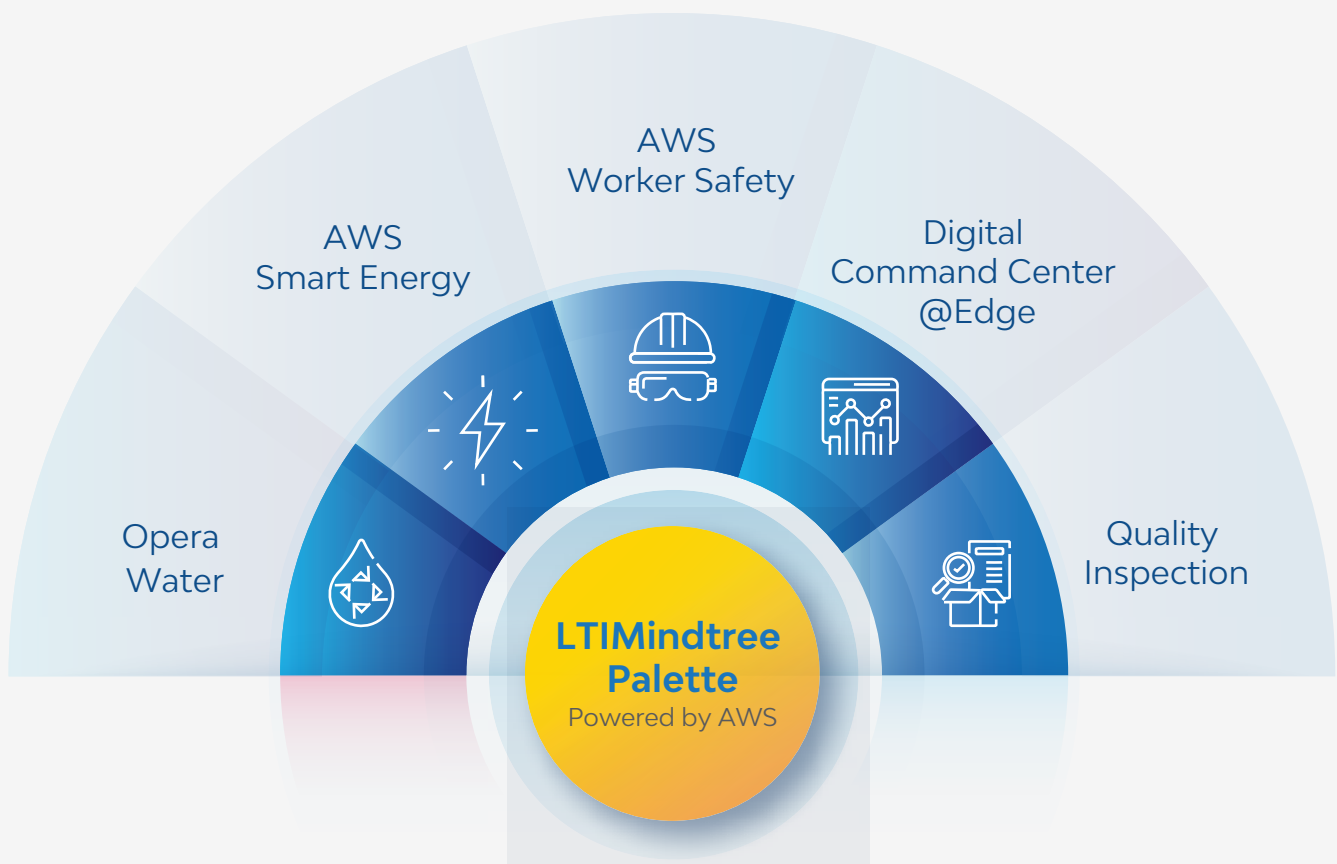
We engage with business and IT stakeholders in a design thinking workshop to empathize and to define their challenges. Once the use cases are finalized, a dedicated team of highly experienced domain & technology experts integrate digital enterprise portfolio of Industry 4.0 solutions with the current technology landscape.

Our solutions power IT-OT convergence, offering ready to deploy industry grade IoT solutions with device and data management, and pre-configured purpose-built industry use cases.

LTIMindtree Palette

Powered by AWS

LTIMindtree Palette is a gamut of solutions powered by AWS IoT technology stack. It efficiently collects machine data across systems and stores it in industrial datalakes helping you to democratize and analyze the data to extract actionable insights. Being the strategic digital transformation partner for global manufacturing organizations, LTIMindtree has implemented Industry 4.0 solutions across multiple industry verticals like Life sciences, Energy and, Utilities.



Opera Water

Overview

The solution enables operational efficiency in water treatment plants by providing the ability to reliably supply water to distribution network. This is done by accurately forecasting the availability of treated water to suffice the demand, provide insights to optimize plant output, and to reduce maintenance expenses by performing real-time asset condition monitoring.

LTIMindtree Solutions

- ✓ Providing integrated view of all pump stations for real-time monitoring
- ✓ Operation performance scenarios, specific to water supply management
- ✓ Consumption analytics of Chlorine, Alum, Energy consumption
- ✓ Integration with sensors at pump stations, treatment plants, storage tanks, pipelines and water meters
- ✓ Asset Performance Management for predictive maintenance of pumps

Business Benefits

- ✓ **100% visibility of water network**
- ✓ **30-40% improvement in SLA compliance** - water pressure in line, quality, non-revenue water
- ✓ Energy and chemical consumption analysis leads to **5-10% cost reduction**
- ✓ **Increased availability of assets** and reduction in NRW (Non-Revenue Water)
- ✓ **Reduced maintenance cost by real-time condition monitoring and predictive maintenance** of pumps, compressor, motors and filtration equipment



AWS Smart Energy

Overview

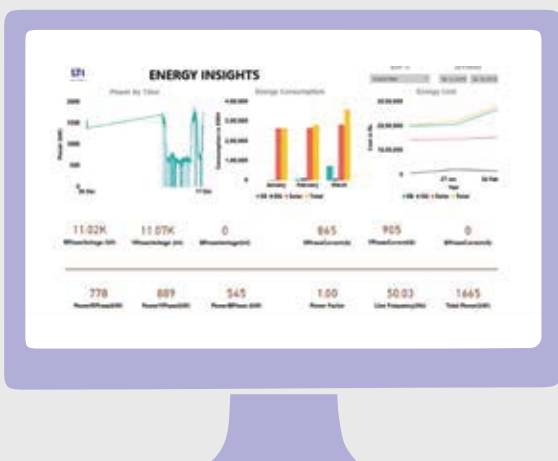
The solution helps in getting real-time view of energy consumption across plant infrastructure using smart energy meters and insights on efficiency of each plant component. It also helps in analyzing energy data seamlessly with better visualization and graphical trend charts to help identify opportunities to improve equipment efficiency and reduce energy consumption.

LTIMindtree Solutions

- ✔ Cloud-based, real-time energy monitoring solution to provide energy insights and demand forecasting, thereby helping save energy.
- ✔ Analyze causes of under-performance asset, gap analysis between consumption and baselined KPIS, efficiency improvement areas.
- ✔ Interactive dashboard to provide a single view of a plant's performance in terms of energy consumption and equipment performance.
- ✔ Forecast energy consumption based on historical data and environmental conditions.

Business Benefits

- ✔ Complete energy profiling for identifying areas for energy saving.
- ✔ **Potential savings of 20 - 25% on energy cost per annum.**
- ✔ **Improved efficiency and cost optimization** by monitoring energy usage across production lines and with benchmarks.
- ✔ **Effective decision making** on what size machinery is best-fit for better power optimization.



AWS Worker Safety

Overview

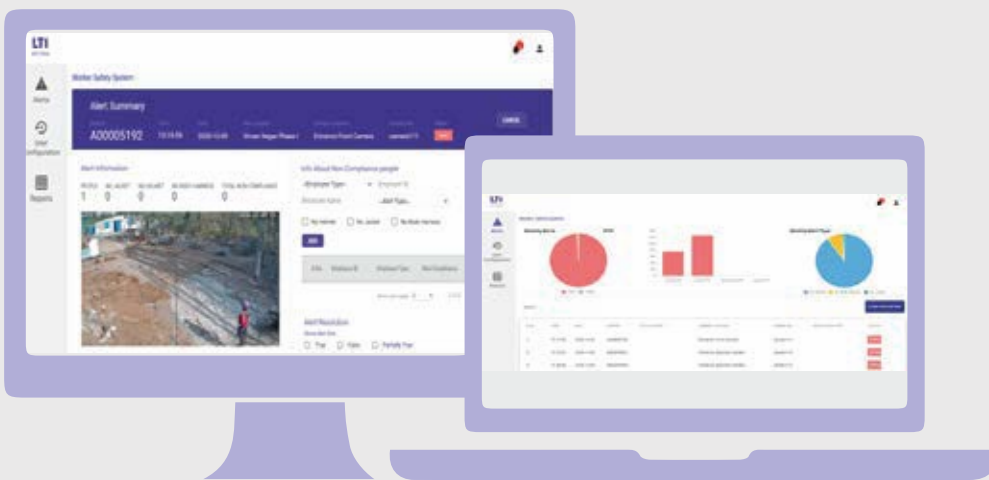
The solution helps in detecting human personnel movement in secure areas, by integrating with the existing IP cameras used in surveillance and providing necessary alerts and a single dashboard using AWS Computer Vision capabilities at edge.

LTIMindtree Solutions

- ✔ Edge-based solution to analyze the videos feed through IP cameras at the site area.
- ✔ Integrate existing surveillance cameras and providing real-time safety non-compliance alerts on a single dashboard using AWS Computer Vision technology.
- ✔ Data sent to cloud for improving model efficiency by further training and redeploy at edge using AWS SageMaker Neo.
- ✔ Template-based solution that can be rolled out across multiple sites with a quick turnaround time.

Business Benefits

- ✔ **100% compliance with safety protocols with detection and alerts.**
- ✔ Minimize safety related incidents involving non-compliance with safety protocols.
- ✔ **100% documentation and reporting** of non-compliance incidents for audit and training.
- ✔ **Raising awareness and building a safety culture among employees.**



Digital Command Center

Overview

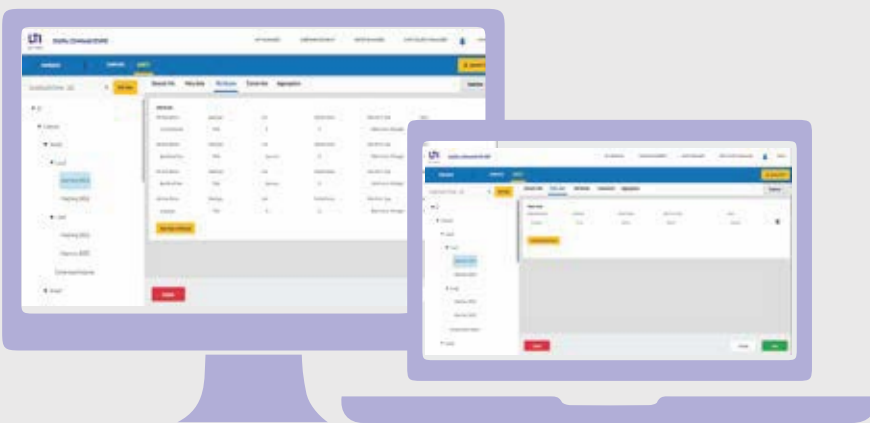
Digital Command Center @Edge is an Intelligent Manufacturing solution, with its unique value offering of edge analytics, coupled with AI providing actionable insights by collating and smartly integrating data from the shop-floor systems to help supervisors make data-driven decisions. This integrated platform offers three key solutions - Asset and Application Monitoring, Business KPI Monitoring, Incident Monitoring.

LTIMindtree Solutions

- ✓ Edge-based solution for providing connectivity to OT systems in brownfield setup with minimum disruption to existing landscape.
- ✓ Hardware and platform-agnostic solution with support on Windows and Linux OS.
- ✓ Edge and rule analytics including event and alarm management.
- ✓ Monitor critical Asset, Application, Database & Service parameters. Business KPIs of a production line i.e., Asset uptime, Scrap, Cycle Time, OEE.
- ✓ Support for most common industrial and field protocols with connectivity to cloud layer via multiple interface options.

Business Benefits

- ✓ **Real-time visibility of asset condition and business KPIs.**
- ✓ **Improve asset uptime and reduced business disruptions** by proactive maintenance intervention.
- ✓ **10 to 15% reduction** in inventory handling cost.
- ✓ **Unified view of assets, applications, and business KPIs.**
- ✓ **Automated incidence register to track all issues.**



Quality Inspection

Overview

Quality Inspection solution will automate the quality inspection operation and will save manhours, which can be deployed to more critical operations. The automation is achieved with integration of optical configuration and machine learning models to make decision on-the-go. The solution will reduce the time for inspection, eliminate manual errors and improve efficiency of inspection process.

LTIMindtree Solutions

- ✔ Real-time inspection with quick response time
- ✔ Cloud-based solution
- ✔ Incident analysis
- ✔ Rule-based alerts no manual intervention

Business Benefits

- ✔ **100% defect detection & quality conformity**
- ✔ **Eliminate manual errors**
- ✔ **No delay for corrective actions**





LTIMindtree is a global technology consulting and digital solutions company that enables enterprises across industries to reimagine business models, accelerate innovation, and maximize growth by harnessing digital technologies. As a digital transformation partner to more than 700+ clients, LTIMindtree brings extensive domain and technology expertise to help drive superior competitive differentiation, customer experiences, and business outcomes in a converging world. Powered by nearly 90,000 talented and entrepreneurial professionals across more than 30 countries, LTIMindtree — a Larsen & Toubro Group company — combines the industry-acclaimed strengths of erstwhile Larsen and Toubro Infotech and Mindtree in solving the most complex business challenges and delivering transformation at scale. For more information, please visit www.ltimindtree.com.