



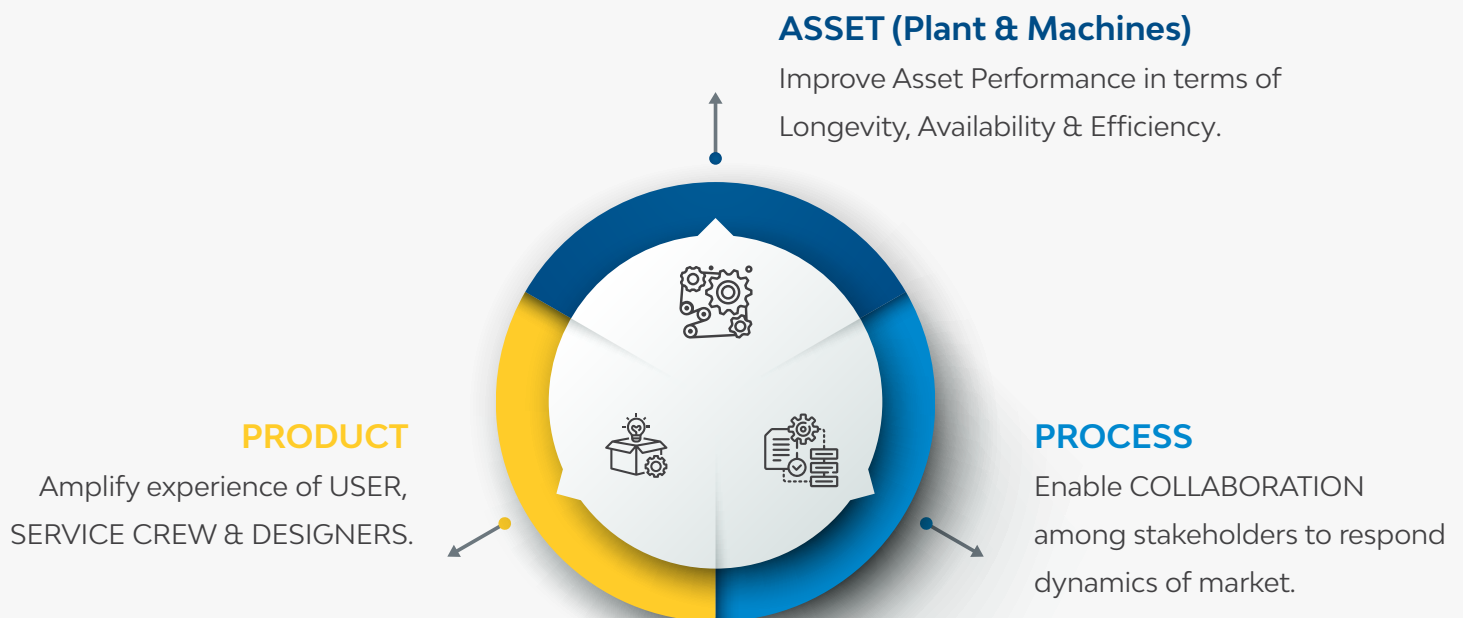
LTIMindtree's Digital Twin Solution

More than three decades, industries are enriching their technology platform & applications in area of ERP, CRM, Factory Automation and so on to utilize resources better, speed up business processes and improve quality of product & services. Data generated by these systems has been huge and always excited industries to unearth potential in form of business intelligence to improve performance better & better. However, best use of business intelligence is remained limited to a few in organizations.

With the advent of Industry 4.0 which focuses on real time connected ecosystem, it has become pertinent to improve collaboration among business functions quickly to respond any change in industry value chain. Digital Twin fulfill this need of collaboration by bringing new age technologies like cloud, IoT, AR/VR, 3D drawing solutions, simulation software and so on together. Initially digital twin was introduced for digital representation of a physical product deployed on field so that product related data is captured & presented in such a way that functions associated with product development, quality, field services collaborate better. Over a period, product digital twin extended to plant assets and process level to provide virtual representation of every moment of plant, process and people connected to deliver a SKU.

LTIMindtree's Digital Twin Solution

At LTIMindtree, we are investing in designing and deploying Industry 4.0 solutions to bridge the gap between physical and digital world. LTIMindtree provides digital twin framework which covers product, plant assets and process.



LTIMindtree's Digital Twin Solution

- **Empower every single industry persona** to take decision, participate and collaborate.
- **Maximize existing investment** in foundational IT landscape like PLM, ERP, MES, SCADA.
- **Fusion of advance technologies** such Cloud, IoT AR/VR with foundational IT landscape.
- **Provide Right Data** in Right Format at Right Time to Right Persona to improve moral.
- **Flexibility to choose technology** to achieve best ROI while building digital twin.

Approach

LTIMindtree brings step by step approach to build digital twin. Every step represents a minimum viable product (MVP) with business outcome attached to it and subsequent steps are logically connected across business process and functions to improve it further.

- Digital twin whether it relates to plant assets, process or products, physical thing is always at center-stage. Our solution offers foundational blocks in form of Asset Twins to accelerate process of building digital twin. Asset twins ease the process of transforming physical thing to digital by orchestrating data related to physical properties it holds, and business process it goes through.
- Solution offers Integration Framework to accelerate integration of data from disparate sources like SCADA, Historian, PLM, ERP, EAM systems. Once an Asset Twin of a type is onboarded, assets with same properties are ready to onboard with minimum efforts.
- Industry 4.0 Maturity Assessment of plants & process helps understand readiness and foresee risk during implementation phase. Assessment provides blueprint of outcome centric logically linked MVPs which related to Real World Operation Scenarios. Based on scenario needs, Asset Twins are onboarded which are backbone of these scenarios.
- Real world Operations Scenarios provides 360-degree view of “Now” moment. This data further facilitates Simulation View for scenarios to support supply chain dynamics, production & logistics planning, asset maintenance strategy. Cognizant of ESG goals of organization, simulated scenario also provides Energy Efficiency View. Finally, Performance View gives root cause analysis to improve better and better.
- OT data is voluminous & high velocity in nature. No matter how rich analytical or simulation model one deploys, if OT data quality is bad, desired outcome will always be distant dream. LTIMindtree’s solutions help to identify bad data in stream, generate alerts and perform imputation for desired results.
- Success of digital twin project depends on adoption by users. User adaption is function of giving Asset Twin an Industry Persona Touch. Experience of MES & Factory automation solution delivery at global scale to its credit, LTIMindtree brings knowledge at micro level to deliver real world scenarios as well as meet end user expectations to ensure quicker adaption by users
- LTIMindtree brings partnership with leading Cloud, IoT platform & Operation Technology provider such as Microsoft, AWS, PTC Thingworx, Aveva, Honeywell, Siemens, Rockwell. Partnership ecosystem ensures latest technology and accelerators are available to build digital twin.

Experience

Customer Success Stories across manufacturing industry segments



Intelligent power system management

Improve machine & worker productivity

Industry 4.0 assessment through value discovery workshops. Roll out of integrated visibility of work stream. Granular level root cause analysis to identify bad actors.



Industrial machineries for flow control

Enrich aftermarket service experience

Leveraged pump process & health data to monitor efficiency. Built widgets like performance curves, co-relation analysis and vibration analysis to decide maintenance strategy. Advise customer for better spare management through data driven insights.



Battery Manufacturer

Better collaboration through IT-OT data orchestration to deliver Battery 360 view.

Maximize IT & OT data to improve visibility across operations. Combination of Cloud & edge device to enable virtual collaboration among shop floor & board room. Persona centric views to improve active participation and quick adaption.



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.

LTIMindtree Limited is a subsidiary of Larsen & Toubro Limited