

DIGITAL FACTORY - AUTOMOTIVE BATTERY MANUFACTURER CASE STUDY

ITC Infotech, one of the pioneers in smart factory solutions, has created and integrated smart factory solutions for automotive electric vehicle battery OEM.





Problem Statement

- Build Automated Smart factory to optimize inventory, improve efficiency, meet traceability regulations
- Command Center to monitor and control plants globally



Solution

- Designed and implemented a ground up MES – MOM platform and deployed at multiple sites
- Factory automation for high-speed line
- Implemented a highly integrated and closed loop solution connecting AGVs, Robots, machines, Automated warehouse with ERP / PLM systems
- Solution has a Total Productive Maintenance



Outcome

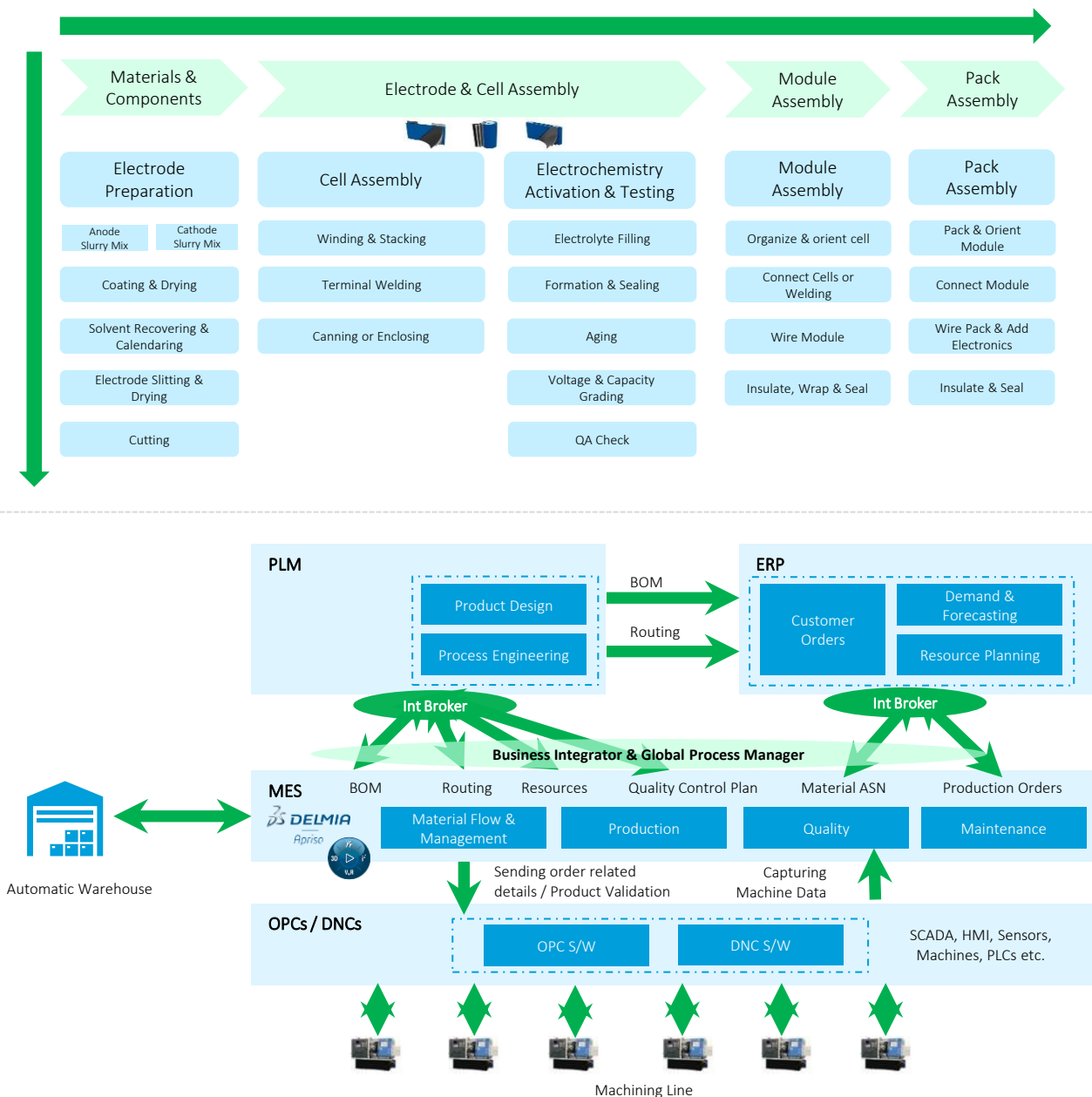
- Reduction of NVA by 12%
- Improvement in machine efficiency 3%
- Robust end-to-end traceability
- Reduction in inventory cost by 4%

The ITC Infotech solution includes the end-to-end process of battery manufacturing for various types of batteries like Prismatic, Pouch, and Cylindrical. This covers step-by-step process routing, material consumption within the shopfloor, and tracing of the WIP and Finished Goods (FG) up to shipping. The solution is tightly integrated with ERP systems (like SAP, PeopleSoft, JD Edwards, etc.) along with integration with PLM (Windchill, 3DEXperience, and Teamcenter).

The solution helps create a digital twin of the production setup which cuts across all levels of ISA 95 architecture

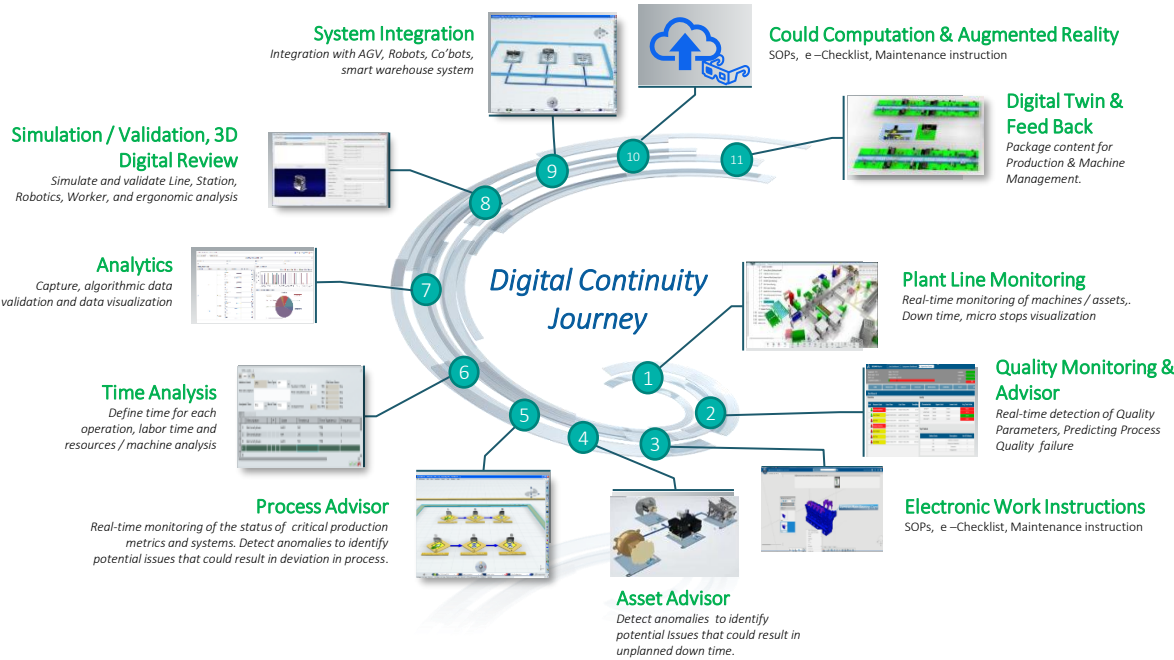
Our solution provides a real time dashboard of shop floor operations. Predictive analytics enables prediction potential failures in the process, systems, people, and machines.

Solution predicts failures before they occur and prevents breakdowns on the shop floor, minimizing disruptions.



The solution has been designed based on the LEAN concept and can evolve and accommodate the new changes and requirements for the future—a snapshot is depicted in the diagram below.

Solutions include monitoring to prediction and then acting independently so that unnecessary interruption can be avoided, and shopfloor can continue to produce more.

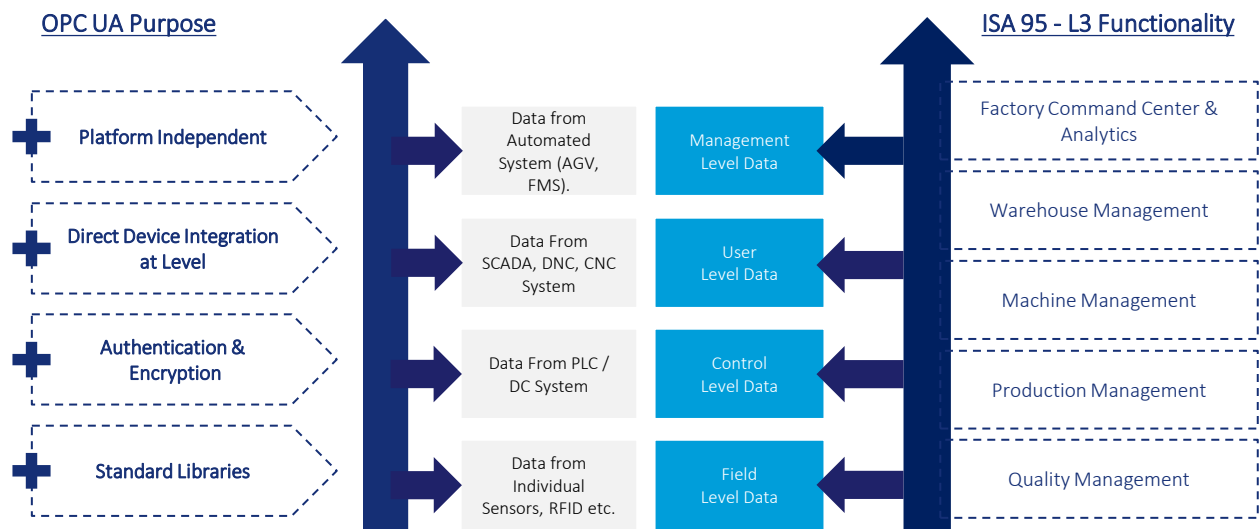


ITC Infotech solution provides the whole gamut of functionality required for an automotive battery manufacturer and has been validated and implemented globally.

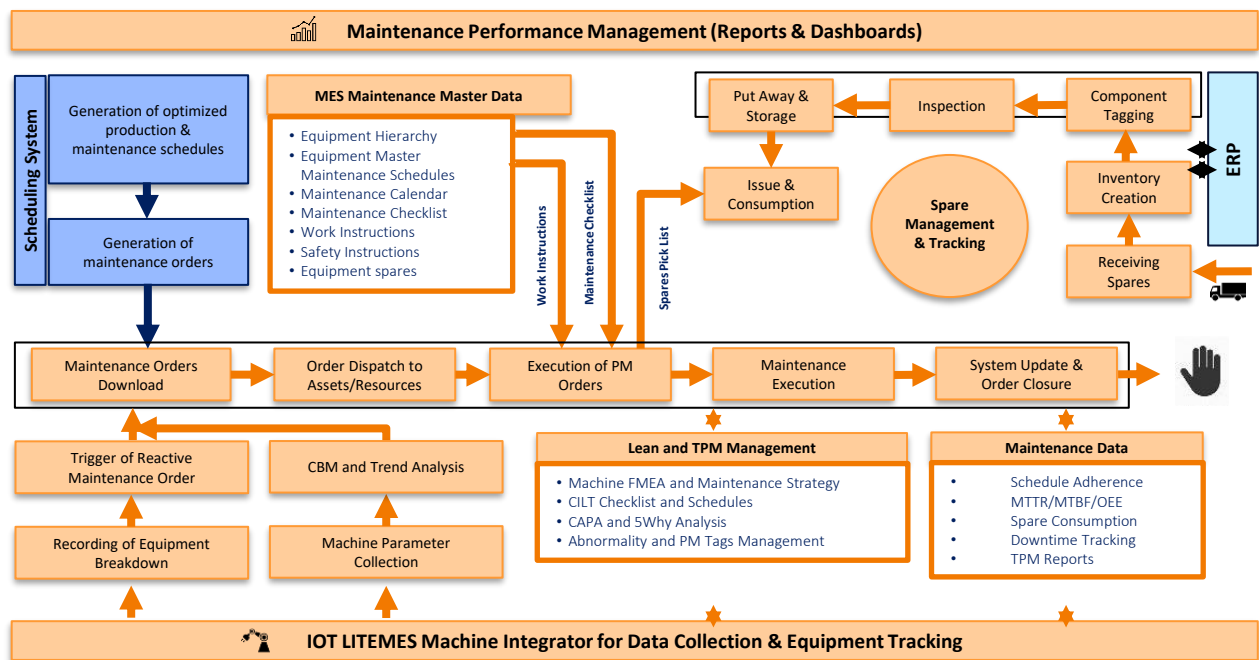
Solution has been designed in a modular fashion to enable easier integration and complying to ISA 95 or VDI 5600 standards.

Real-Time Shop floor KPIs, Dashboards, Manufacturing BI Analytics				
Changeover Management		Box/ Pallet Management FG		Machine Integration
Part List Verification Vs BOM	Closed Loop Quality	Machine Maintenance	Material Movements	OT Integration
Rework Management	WIP Scrap	Machine Downtime Management	Inventory Counting & Reconciliation	Integration with other third- Party system
TAKT & Cycle Time	NCR Management	Machine Shop Floor Data	Real-Time WIP Tracking	Automatic Warehouse
Recipe Management	Containment Management	Spare Parts Management	Picking & Strategies	AGV Integration
ANDON & Alert Management	Marking Management	Skill Management	RM/FG Scrap	PLM Integration
Data Collection & Display	Genealogy & Traceability	Real-Time alert Monitoring	Material Synchronization	Label Printer & HHT Integration
Order Broadcasting & Execution	Test Result Collection	Machine Flow	Line Side Receiving Execution	ERP Integration
Production	Quality	Machine & Labor	Warehouse	Integration

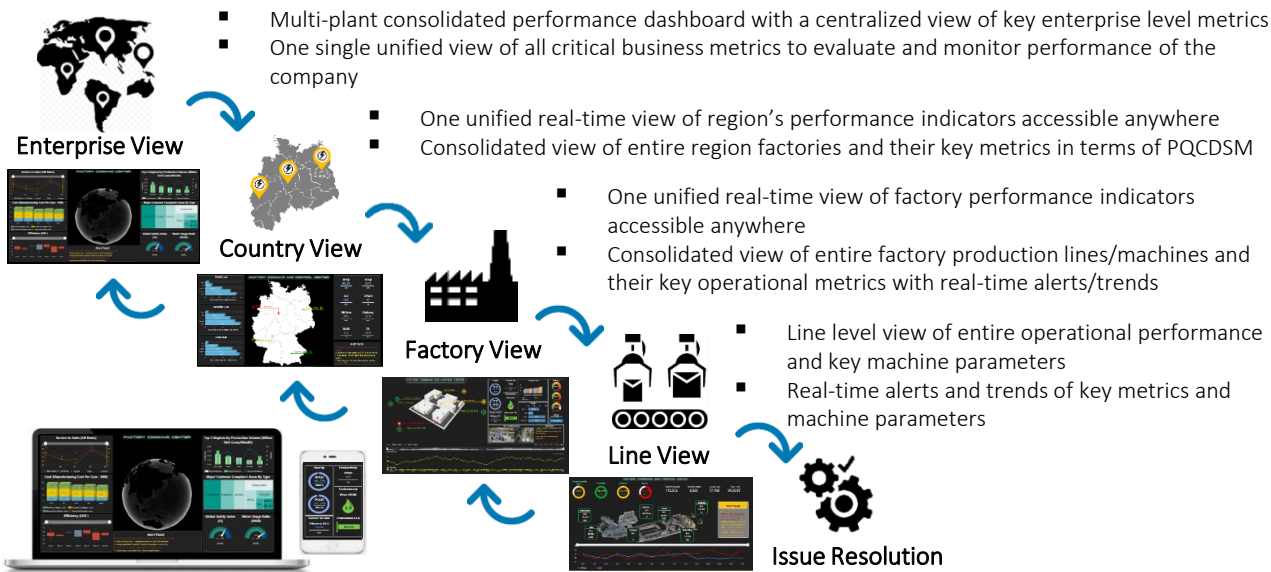
Snapshot of our E-TMP solution for Automotive Battery Manufacturers and high-level functionality of end-to-end execution, including regular machine/asset maintenance within the shop floor.



This also has a feature called factory command and control center (FCCC), which helps multi-national organizations (having factories in multiple locations across the globe) Standardize their respective KPIs worldwide and communicate the same through one platform.



The solution enables analysis of global data and tracks it to specific to the factories and the respective production lines.



About ITC Infotech

ITC Infotech is a leading global technology services and solutions provider, led by Business and Technology Consulting. ITC Infotech provides business-friendly solutions to help clients succeed and be future-ready, by seamlessly bringing together digital expertise, strong industry specific alliances and the unique ability to leverage deep domain expertise from ITC Group businesses. ITC Infotech is a wholly owned subsidiary of ITC Ltd., a 100-plus-year-old diversified conglomerate with businesses spanning Hotels, Consumer Goods, Paperboards & Packaging, Agri Business, and Information Technology. ITC Ltd. has been in the hospitality business for over 4 decades. It has over 100 properties across 70+ destinations. The hospitality practice at ITC Infotech is 800+ people strong and most have experience in the hospitality domain leading to a high-quality IT service experience for its hospitality customers.

