

Smart Warehouse Management System

enabling end-to-end inventory traceability





MORANGO Ledger Solution by **Motherson Technology Services** is a one stop solution with end-to-end traceability of the inventory in real-time. It also serves as a Smart Warehouse Management System powered by Internet of Things (IoT) and Blockchain. The solution helps manufacturing enterprises reduce costs, improve profitability and outpace competition with faster access to data-based intelligence.

The Fourth Industrial Revolution (or Industry 4.0) has resulted in an ongoing automation of traditional manufacturing and industrial practices, using modern smart technology. In the post pandemic era, businesses rely on faster access to critical data to succeed and overcome the below challenges



Faster Traceability Lot, Part, Invoice and location level



FIFO compliance to reduce inventory wastage



Managing Multiple Data Sources (MES, ERP, SCADA)



Reduce the pick time for issuance or customer orders



Reduce Downtime and Improve Labour Management



Difficulty in action prioritisation

Thus, smart businesses will develop smart warehouses where technology will deliver optimum performance but also share valuable data that will lead to intelligent and faster decision making w.r.t frequently changing market conditions.

The solution helps manufacturing enterprises plan and control their entire material and information flow, manage staff and all available resources, guides users to execute system-controlled operation tasks. With the blockchain technology advantage get access to transparency across the entire logistics value chain with

- Optimising total warehouse space and locate inventory optimally to reduce travel time
- Automating replenishment with global view of inventory with real time traceability
- Improving Production Assembly, Sub-assembly Sequence and Non-Sequence Production
- Ensuring Label Compliance and standardisation
- Increasing visibility across the supply chain with real-time access to quality data
- Streamlining warehouse processes
- Optimising warehouse layout
- Improving pick accuracy and decreased pick time through directed picking
- Improving warehouse flexibility and responsiveness
- Capability to implement an ongoing optimisation strategy
- Ability to handle consignment and non-consignment stocks



Solution Features



Material Receiving and Labeling

Capability to standardise incoming inventory label details for accurate mapping of available inventory



Inventory Movement Track & Trace

Tracking of the movement of available inventory inside the four walls by Box/Location/Split and Move scenario/ Fixed Location or Free Location Movement



Least Step Counting for Picking Distributed Inventory

Finding the shortest path to optimise time, improve production efficiency and reduce production downtime.



Order, Picking and Packaging Management

End-to-end capability of managing accepting incoming orders from customers via EDI or Reservation, to configuration of raw material pickup in FIFO order all the way till packing the completed items per custom parameters.



Visual Dashboards for

- o Inventory status by Racks
- o Finished Goods Stock
- o Production Line



Cycle Count / Safety Stock

Cycle Count can be performed when the stock is not moving no picking, no inventory movement via a web Interface, scanner interface or by Pallet or location



Ability to integrate with Standard ERP to reflect transactions



Blockchain powered transfer of ownership and inventory tracking capability

Solution Benefits

MORANGO Ledger is automated for improved productivity, efficiency, and accuracy, and the solutions that are implemented give flexibility and capability to the employees and their processes


30% Increase in operator productivity

50% Increase on time shipments

100% Inventory accuracy

95% Reducrion in overtime used

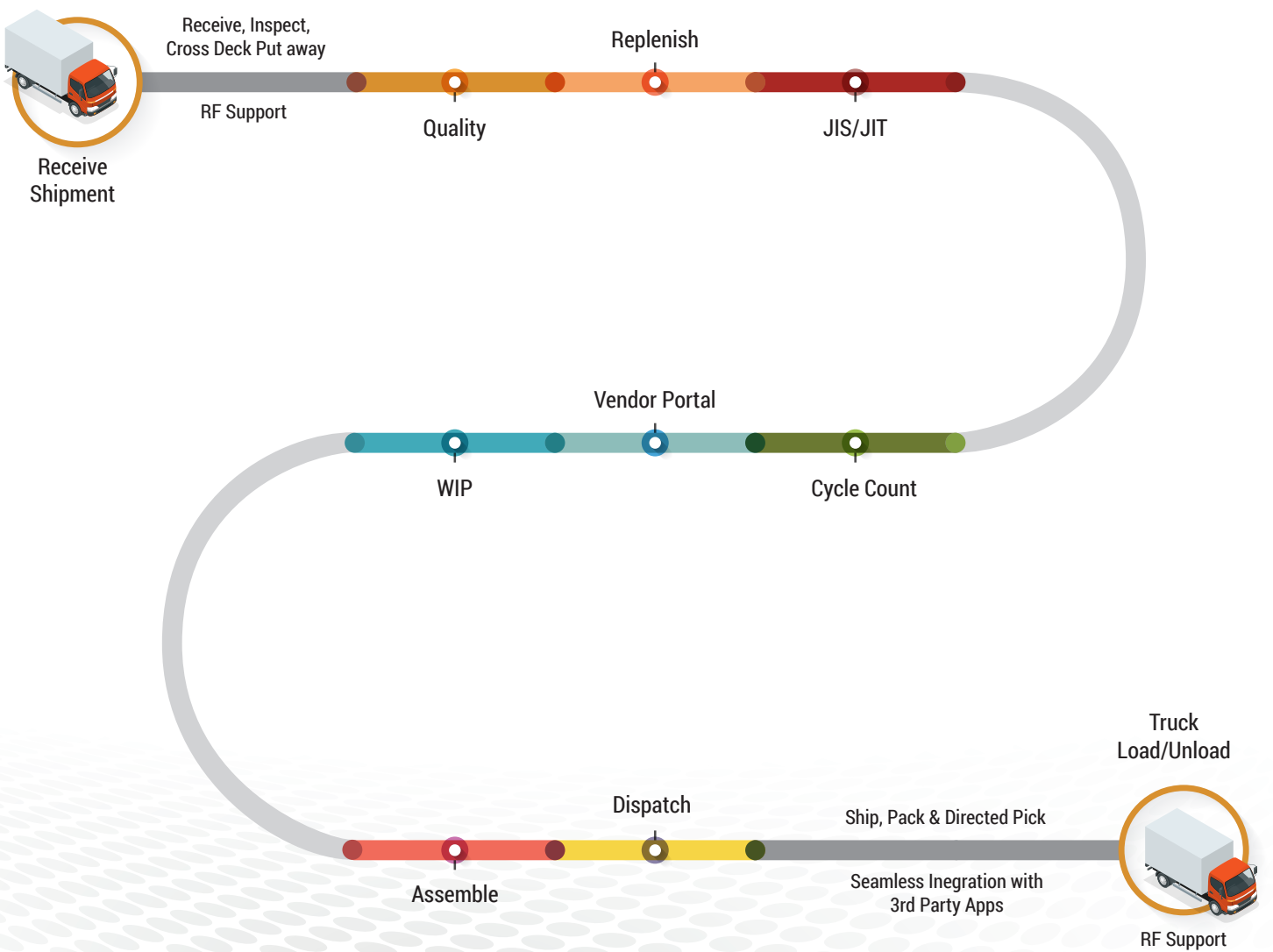
 Effective utilisation to allow label standardisation with its capability to integrate with various supplier and customer portals

 End-to-end traceability of Inventory on Box, User, Location and Invoice basis.



Solution Feature Flow

Enabling end-to-end traceability inside and outside the four walls





Customer Testimonials

HONDA LOGISTICS INDIA PVT. LTD.

"With the implementation of the smart WMS solution by Motherson Technology Services, it looks like our system is going to be in the stage of perfection and we are getting output from it like FIFO, traceability, real time stock etc. We looking forward to flawless and trouble-free WMS and look for implementation of the solution in other Honda plants also.

"The system runs stably, and our users are very satisfied with the operation efficiency / process of the system. I would like to express my heartfelt thanks to your team for their hard work. From ASN receiving, picklist generate, move box by FIFO, shortage checking, dashboard, backflush, traceability report and much report, all these functions have been customised and developed or optimised by your team for us. This optimised system is more suitable for our operation process, and also allows us to easy pass various customer audits of warehouse / raw materials. Compared with the traditional inventory counting method, the solution makes the process makes it more accurate and saves a lot of statistical input calculation time."

SMR Automotive Yancheng Co., Ltd

The solution's powerful dashboard is helping us move much closer to meet many of our customers' audit requirements and also make it much easier for us to implement our daily production control policy. The customer support received has been exceptional and our issues are addressed to the best of our expectations. I look forward to more business collaboration opportunities with your team, and feel sure we can always get everything done successfully in the future, just like what we succeeded in the past.

Reach out to us



Founded in 1975, Motherson Group is an industry leader and one of the world's largest manufacturers of components for the automotive and transport industries. The group's diversified portfolio makes it a complete solutions provider across the globe. Motherson Group serves its customers with a wide array of products and services through multiple business divisions including wiring harness, vision systems, modules and polymer, technology & software, aerospace, health & medical, logistics, retail and metal products. Motherson Technology Services is a global technology company that offers a consulting-led approach with an integrated portfolio of industry leading solutions that encompass the entire enterprise value chain. Our technology-driven products and services are built on two decades of innovation, with a future focused management philosophy, a strong culture of invention and co-innovation, and a relentless focus on customer-centricity. A CMMI Level 5 company, we have delivered best-in-class services to 430+ clients in 41+ global locations across all continents. We are a business division of Motherson Group, one of the largest manufacturers of components for the automotive and transport industries worldwide with 150,000 employees across the globe.

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