PTC warehouse management system

PTC Warehouse Management System (WMS) address the complexities of today's warehouse environments, supporting a wide range of operational requirements and distribution network configurations. Our successful implementations around the globe have helped market-leaders achieve competitive advantage through execution excellence.
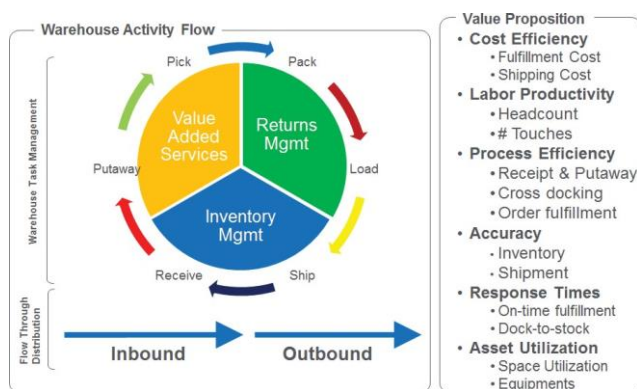

Figure 1: Benefits of PTC WMS

Key business challenges

With a mandate that supply chains become leaner, more integrated, and demand-driven, many stumbling blocks have arisen within the warehouse, impacting a company's ability to realize the expected benefits of their supply chain vision:

- Manual, paper-based inbound, outbound and inventory control processes often result in high labor requirements, increased likelihood of error, excess cycle time, inaccuracies, and difficulties achieving service level objectives

- Lack of real-time visibility and control over inventory at the location level across the warehouse and distribution network

- Inability to extend warehouse processes to facilitate practices such as flow-through logistics, satellite facility, and yard management, and collaborative inventory management (i.e., VMI)

- Difficulty automating and integrating value-added services (i.e., customer-specific configuration, kitting, packaging, labeling and RFID compliance tagging) within the overall outbound fulfillment process

- Ineffective processes for handling returns from initial receipt to final disposition, resulting in blind spots and poorly managed assets that sit in warehouses and repair centers

- Lack of flexibility within existing systems to coordinate warehouse processes across a multi-tier network including national and regional distribution centers, consolidation, configuration and merge-in-transit facilities, and local depots located close to the customer

Solution overview

PTC's MOVE Solution allow customers to enable, coordinate and optimize warehouse activities within the four walls of the distribution center, and across the extended distribution network, resulting in streamlined fulfillment processes, compressed order-to-delivery cycles, reduced inventory carrying costs, and maximized revenues and profit per order.

Best business practices

Enablement

Real-time control of materials and information, driving execution within the four walls of the warehouse.

- System-assisted and-directed warehouse activities improve labor productivity, increase inventory and shipment accuracy, optimize cycle times and eliminate latency as information flows across the network

- Streamlined inbound processes effectively manage incoming products, components, and returns for the elimination of excess touches, minimized dock-to-stock cycle times, and inbound best practices such as ASN receiving, attribute tracking, cross-docking, quality control, and directed putaway

- Proactive outbound distribution functions, including order management, task interleaving, picking, packing, replenishment, shipping, cutting and inventory postponement tactics

- Value-added services such as kitting, build-to-order, compliance documentation and labeling, and small parcel rate shopping and manifesting

- Dynamic inventory management processes enable real-time visibility, accuracy, and control of inventory down to the bin and serial number level

- Enables inventory management workflows such as cycle counting, LIFO, FIFO, pick-to- clean, and pick-to-speed

- Flexible integration with any business system in the enterprise, such as Enterprise Resource Planning, Transportation Management, Order Management, and Advanced Planning and Scheduling systems

Coordination

Closed-loop processes that extend beyond the four walls of the warehouse, resulting in synchronized warehouse operations that get the right product to the right place, in the most cost-effective manner available.

- Ensuring that customers get what they want, how they want it, and when they want it through efficient, cost-effective compliance with customer delivery requirements (i.e., consolidation, ASN generation, and communication, etc.)

- Executing shipping processes to find the best price through effective rate-shopping, an integrated, automated manifesting process, and easy post-shipment track and trace tools

- Drive merge-in-transit and cross-dock processes to maximize throughput and minimize effort level

- Synchronize inventory postponement and customization practices (i.e., configure-to-order, kitting and custom packaging)

- Deploy cost-effective, process-appropriate Warehouse Execution solutions across an extended distribution network comprised of multiple tiers.

- Support multi-tier collaborative inventory management programs (i.e., vendor managed, consignment, etc.)

- Leverage the power of emerging technologies, such as robotics, RFID and voice recognition, to drive process efficiencies, reduce costs and cycle times, and improve customer satisfaction

Optimization

Warehouse and distribution networks through continuous improvement capabilities.

- Achieve the flexibility for managing a growing and dynamic logistics organization with systems that can be continuously re-configured to accommodate customers' changing needs

- Proactively manage distribution processes for optimal workforce efficiency, incorporating workflow best practices such as LIFO, FIFO, pick-to-clean, pick-to-speed, and more

- Monitor performance on-line, in real-time, through key performance metrics that provide historical visibility into your supply chain operations including order fill rates, product and inventory velocities, labor efficiencies, etc.

Expandability

PTC WMS architecture enables companies to start small and expand as necessary to support growth in users, transaction volume, and business processes while maintaining high-performance service levels.

Cost reduction

Space utilization

PTC WMS Management enables Operation Manager to optimize resources such as storage space, labor, and equipment. Directed Put Away Rules recommend storage locations based on configurable parameters such as volume and/or weight, product classification (hazardous materials vs. non-hazardous materials) to dynamically find a location. These rules can reduce space de-fragmentation or implement other storage restrictions.

Order management streamlines warehouse operator picking by optimizing the pick path and dispatching queued tasks only to qualified warehouse operators who have the required equipment to perform the task.

Material utilization

Cross Docking minimizes material handling by eliminating unneeded putaway. In distribution operations, finished goods may be cross-docked from inbound directly to outbound staging for customer sales orders.

Strategy benefits

- Maximize Revenue per Order
- Minimize Material and Labor cost
- Improve Cycle Time
- Increase on-time delivery ratio
- Enhance Customer Satisfaction
- Improve shipment accuracy
- Increase inventory accuracy

Key features

Mobility

- Robotics Integration
- Mobile RF-based execution
- Material Handling Equipment Integrations
- Directed voice picking
- RFID-enabled

Inbound logistics

- Manage incoming products and components
- Advance Shipment Notice (ASN)
- Appointment Scheduling
- Attribute Tracking
- Quality Control
- Rule-based put-away location calculation
- Directed Put-away
- Returns processing
- Supplier Performance and Compliance
- 2D Barcode scanning

Outbound logistics

- Rule-based allocation mechanism
- Order Management
- Picking/Packing
- Consolidation, staging and truck loading
- Dock Door Management and shipping
- Replenishment
- DC to DC Transfer

Inventory control

- Inventory Management
- Cycle Counting
- Slotting Execution

CONTACT US

Learn more about PTC MOVE by visiting

www.ptc.com/Products/move

Request demo or connect with a PTC MOVE expert by visiting:

www.ptcusercommunity.com/groups/ptc-wms

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Replenishment

- Min-Max Replenishment
- Forward Pick Replenishment
- Kanban Replenishment

Automation

- Real-time communication with material handling equipment (MHE)

Value added services

- Compliance Labeling
- Kitting/de-kitting
- Cutting