Warehouse Management

Drive distribution center and fulfillment agility to meet the evolving needs of the warehouse.

BlueYonder

Blue Yonder's Warehouse Management System (WMS) is a comprehensive, real-time warehouse management system designed to drive efficiency, manage labor, and increase throughput. WMS helps manufacturers, retailers, distributors and third-party logistics providers thrive in an ever-evolving and hyper-connected omni-channel world by providing the power to quickly adapt to change, optimize and execute work, and get the right product to the right destination at the right time. Users are empowered with a flexible solution that can easily manage complex warehouse operations.

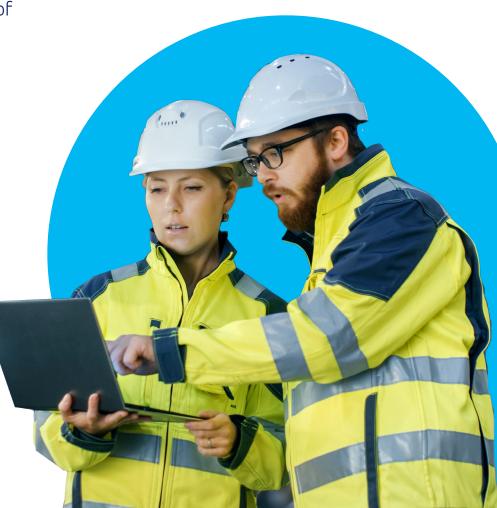Blue Yonder's WMS customers have achieved substantial ROI:

Fulfillment cost reductions of

10-50%

Inventory storage and handling cost reductions of

10-33%

Inventory visibility and accuracy approaching

100%

How does Blue Yonder's Warehouse Management System enable customers to achieve the best results?

Industry leadership

Blue Yonder has been enabling companies to optimize their distribution networks for more than 35 years. As a recognized Leader in every Magic Quadrant for WMS since 2012, We provide the most comprehensive warehouse management technology to ensure all aspects of inventory movement and labor productivity are optimized.

Optimizing supply chain ROI

By optimizing movement in the distribution center (DC), operations run more smoothly, accurately, and efficiently. Nothing is left to chance or to the whims of individual workers. Workflow and throughput operate as a well-oiled machine. This maximizes the value of the DC and produces the greatest return on your supply chain investment.

The user experience: re-envisioned

In keeping with Blue Yonder's customer-centered vision, the WMS user experience is solving key industry problems and interacting with technology in an optimal way, by focusing on user empowerment and efficiency. It allows users to handle the most pressing issues in real time while keeping an eye on their day-to-day business — resulting in maximum user productivity.

Blue Yonder's WMS technology and services provide a comprehensive solution for fulfillment covering:

- Labor management
- Warehouse execution
- Yard management
- Inbound operations
- Inventory management
- Work order processing
- Outbound operations
- Third Party Logistics operations
- Business analytics

Role-based mobility: extending user advantage

Thoughtfully created and prioritized based on extensive customer feedback, WMS extends the solution's use through mobile roles. Users can flexibly respond to business demands both in and outside the facility without being locked down to a workstation or RF device.

Complex operations supported more easily with smart configuration

Experience faster time to value with quicker implementations, increased agility, simplified process changes and better onboarding. User- friendly, prescriptive workflows allow users to manage complexity without losing any richness, making them more self-sufficient. Your company's specific business needs are met without the customizations that make upgrades painful and costly.

The flexibility to bolster omni-channel fulfillment strategies

WMS is focused on meeting the demands of omni-channel fulfillment. The solution thoroughly handles fast-paced processing of small, direct-to-consumer orders. It also provides enhanced support for more flexible store distribution capabilities.

In combination with Blue Yonder's Order Management System (OMS) on Blue Yonder's Luminate® Platform, WMS enables the rapid response from distribution centers and hubs necessary for you to offer customer in-store fulfillment services, such as buy online pickup in store and curbside. Utilizing Luminate Platform, OMS can optimize the most cost-effective way to meet a promised service level, manage returns and ship via parcel.

Resource management

Labor represents 50-75 percent of non-inventory costs in most distribution centers, so optimizing tasks is critical to achieving agile, efficient and lean operations. This requires consistency and control over what tasks are assigned and how they are carried out.

Blue Yonder is a long-time leader in labor management, transforming your distribution center into a self-accountable, performance-focused culture. This transformation is accomplished through a proven, step-by-step methodology that incorporates culture-altering change management and strategic project management programs.

The transformed business is enabled by technology for:

Workforce planning and scheduling

To ensure just the right number of workers with the right skills are available exactly when needed to fulfill order demand.

Schedule optimization

The ability to quickly assign and reassign workers to priority work areas and functions based on order flows, deadlines, skills and cost considerations.

Task optimization

Making sure all tasks are assigned and executed in the proper sequence while balancing workflows and order priorities to maximize efficiency and quality of service.

Compliance and measurement

Measuring performance and ensuring compliance with regulations and work rules is central to workforce management. This includes tracking indirect time, attendance, quality and safety, as well as calculating incentive rewards.

Data Access Service

Blue Yonder's Data Access Service (DAS) is a cloud-based software service within Luminate Platform that provides a single ingestion point for all data sources to ensure dashboards, business applications, machine learning and analytics across the enterprise and extended network are empowered with the highest quality data.

DAS provides several key speed, reliability, and performance advantages. They include:

- Near real-time capture of data as arrives
- High availability cloud infrastructure less prone to downtime or disruptions
- Site and enterprise views of data
- Easy identification of opportunity areas

Optimized operations

Once you have visibility into inbound shipments, there are many tasks that should be optimized to streamline inbound operations. WMS provides these capabilities.

Appointment scheduling

Interactive, user-friendly graphical dock calendar for:

- Inbound and outbound appointment scheduling
- Standing appointment management
- Supplier and carrier compliance
- Integration of dock scheduling with Blue Yonder's Transportation Management System (TMS)

Yard and dock management

Check-in to check-out management of yard equipment, inventory movements, dock doors and personnel, including:

- Gate check-in and check-out
- Yard and dock location assignments
- Inventory and handling unit
- System-directed movements via wireless devices
- Optimal door selection
- Yard audits

Cross-docking

Hot receipt functionality to prioritize inbound inventory with outbound orders, reducing handling, storage and costs while improving service:

Real-time demand assessment and prioritization

Opportunistic and planned to provide flexibility on how inventory is routed from inbound through to outbound

Receiving and putaway

Optimized receipt and storage, including:

- ASN, PO and pack list management
- Receipt check-in by paper or RF device
- Detailed SKU attribute capture and verification
- Cart/container optimization
- System-directed putaway based on cube, weight, dimensions, nesting and stacking, commonality, location availability, zoning, and product demand
- Operator-managed overrides and exceptions
- Optimized task interleaving

Retail store/flow through processing

Inbound processing for retail distribution, including:

- Store-ready distributions
- Put-to-store
- Merge-in-transit

Inbound services

- System-directed work assignments for:
- Supplier/carrier compliance statistical sampling
- QA workflow control

Reverse logistics/returns processing

Blue Yonder provides returns management for omni-channel orders to ensure that proper identification and disposition of inventory is possible to get merchandise back into the supply chain and available for order management quickly. We provide system-directed work assignments for:

- Evaluation and breakdown
- Disassembly/de-kitting
- Clean/rework/repackage
- Putaway or return to vendor
- Dispose or destroy
- E-commerce returns

Inventory management

Effective inventory management requires visibility and control from suppliers' production all the way through to the end user. Blue Yonder provides this real-time visibility and control to optimize the tracking, movement, handling, storage, and if necessary, recall of all types of raw materials, work-in-process, and finished goods inventory. Key functions include:

Asset management

Blue Yonder provides the ability to define and track assets, such as returnable containers, carts, and pallets for the purpose of handling and visibility. These assets can be within a facility, across a campus or around the globe.

Storage Optimization

Improves productivity by synchronizing product placement to order demand. Key features include:

- Balances pick velocity with travel distances, ergonomics and equipment constraints for optimal workload efficiency and safety
- Integrates with replenishment activities to dynamically relocate product, minimizing disruption and cost

Replenishment

Supports multiple strategies to tailor replenishment to product, location, demand-based needs. Automated or manually driven replenishment can be in conjunction with one another and triggered by:

- Quantity (threshold-based/triggered)
- On-demand/emergency (demand-based)
- Top-off before a picking session

Inventory control

Tracks inventory based on many SKU and user-definable attributes, including:

- Lot number/expiration dates, with variable aging
- Catch-weights and volumes
- Nested serial numbers
- Country of origin
- Temperature-controlled requirements
- Nesting and stacking limitations

Special handling

Enforces rules for handling, storage and tracking of SKUs that require environmental or HAZMAT segregation, procedures, and certifications.

Cycle counting

System-directed work provides 99+ percent accuracy, turning cycle counting from good to great by virtually eliminating the need for traditional cycle counting. However, multiple cycle counting procedures are supported, including:

- ABC counts
- Exception-based counting
- Opportunistic counts

Counts are performed in real time, interleaved with daily activities, eliminating operational disruptions.

Work order processing

A lot more goes on in distribution centers today than simple pick, pack, and ship. Through postponement strategies, customer service requirements and store-ready processing, DCs are becoming limited production centers, requiring skills, equipment, work orders and management practices not seen in traditional warehouses. Work order processing in these DCs can be more akin to manufacturing processes than traditional distribution functions.

Blue Yonder's work order processing solution directs kitting, assembly, and light manufacturing. Work order processing assigns, sequences, and directs tasks to ensure timely, consistent, and accurate completion of work order production. In many ways it can be thought of as a manufacturing execution system for the DC.

Our work order processing solution is highly configurable, providing the flexibility you need to tailor processing to your initial needs, as well as to ever-changing future requirements. System-directed work ensures efficiency and throughput even within the chaos of multiple, changing customer requirements — putting you in control.

Blue Yonder's work order processing functionality includes:

- Work order assignment, sequencing, and execution
- Component/Raw material control, including backflushing
- Multi-level bills of material
- Postponement strategies
- Value-added services
- Light manufacturing/assembly
- Kitting/de-kitting
- Store-ready containers/pallets
- Component-level tracking of attributes such as lot and serial numbers

Outbound operations

From pre-pack to proof of delivery, Blue Yonder optimizes every step of outbound operations to ensure accuracy, timeliness, efficiency, compliance, and optimal customer service. The breadth of capabilities include:

Task management

Within the warehouse, work is completed in either user-directed or system-directed mode. In user-directed mode, an operator can select the next task to be performed if it falls within the set of defined permissible tasks for both the operator and the equipment that is being used.

System-directed mode utilizes the powerful dynamic task management engine where WMS selects and assigns the next, most optimal task for each operator. This assignment is based on operator/equipment permissions, task priority, and proximity. It ensures that the right work is being performed by authorized personnel using the correct equipment and reduces travel time. Task priority can be automatically escalated and/or de-escalated based on factors within the operation such as ship date/time, etc. Dynamic task management further optimizes operations by enabling the concept of task interleaving.

Multiple pick methods

A broad variety of pick methods can be deployed simultaneously. Methods supported include multiple versions of batch, wave, zone, and cluster picking supporting LIFO, FIFO, LEFO and FEFO stock rotation strategies.

Packing and shipping

System-directed packing, cartonization, QA verification, staging, and pack-and-hold management enables accurate, timely, damage-free shipments.

Parcel manifesting

Providing cost-effective small package shipping for the omni-channel to ensure delivery of consumer purchases in a way that fully meets their expectations for speed, consistency, and personalization. Blue Yonder delivers a global, seamless, and high-quality customer fulfillment experience.

Blue Yonder helps shippers implement a multi-carrier strategy using a combination of global, regional, and local carrier networks to reduce costs and drive customer satisfaction. This includes in-line parcel labeling, freight audit, parcel returns, and manifesting capabilities for most carriers.

Shipment documentation

The system produces all outbound shipment labeling and documentation, including:

- Configurable labeling
- Domestic and international parcel e-manifesting
- Bonded warehouse and international trade logistics documentation

Label Designer

Blue Yonder's Label Designer is a cloud-based labeling software fully integrated with Blue Yonder WMS, created with the objective of replacing the complexity and cost of third-party label vendor solutions. This comprehensive label management solution includes label form designer, cloud-based centralized housing of label forms and configurable print execution during various WMS processes

Architecture

Blue Yonder WMS is deployed in a hybrid SaaS model. First, shared resources in the form of cloud-native capabilities in Luminate Platform take advantage of the scalability and computing power that Microsoft Azure offers, along with the AI/ML and IoT capabilities common to Luminate Platform.

These shared resources are used by Blue Yonder technologies (such as warehouse execution) as well as by clerks and analysts on site performing queries against the data. These highly scalable resources leverage the unlimited compute of Azure for functions that are not latency-sensitive. For latency-sensitive operational or business functions, the second component of our hybrid deployment includes single-tenant, dedicated production resources in Microsoft Azure. These resources run separate from Luminate Platform and ensure that when an operator scans a barcode or a camera on a high-speed conveyor reads a barcode, a sub-second response time is achieved under any operational conditions. This also insulates warehouses from external interruption, allowing each warehouse to take updates separately at a time that works for that specific warehouse and timing of readiness. This hybrid deployment model allows us to take the best of modern, cloud-native capabilities and effectively blend them with the transaction-heavy requirements of WMS without jeopardizing the operational response times that are so critical to success

Integration (Luminate Data Management Service)

Blue Yonder's Luminate Data Management Services (LDMS) is the integration layer technology that provides message or event-oriented options to deliver real time integrations between applications. LDMS supports nearly any format and protocol, including synchronous/asynchronous and message/file/event/web service-based communication.

LDMS provides:

- Single point of ingestion for all business services in the Blue Yonder Platform
- API contract style of data interface management
- Common logical model regardless of data volume and velocity
- Common synchronized validation and business rules to provide a single experience
- Simplified data sharing and provisioning
- Extensible services across all business services, analytics, archiving and data needs

Blue Yonder's Supply Chain Execution

Blue Yonder offers a suite of products and capabilities to enhance warehouse management and drive additional value across the supply chain.

Labor Management

Your workforce offers the greatest potential to enhance your organization's overall performance. Unlock that potential with Labor Management, which drives employee engagement and performance to enhance business results. Define best practices and performance expectations, track warehouse activities to enhance employee accountability, and empower supervisors to effectively mentor their teams

Warehouse Execution System

Blue Yonder's Warehouse Execution System is a holistic SaaS-based resource orchestration solution for warehouse staff, autonomous mobile robots, and advanced automation. It is designed to assist with resource management and extend warehouse management to include task optimization, intelligent work prioritization and seamless onboarding of robots. It also enables real-time visibility into performance, throughput, and bottlenecks, along with insights into future events.

Transportation Management

Transportation allows you to leverage every available asset, drive profitability, improve sustainability, and sharpen your competitive edge. Blue Yonder's Transportation Management System helps you transform your transportation operations by managing both inbound and outbound, integrating supplier and carrier collaboration tools, while giving you the flexibility and confidence you need to tackle whatever challenges tomorrow brings.

Control Tower

Luminate Control Tower delivers an AI/ML backbone to power end-to-end visibility of your supply chain. Now you have the insights to see, understand, act, and learn on real-time information from the entire digital ecosystem to improve On Time in Full (OTIF) performance, profitability, and sustainability

Adaptive Fulfillment and Warehousing

Blue Yonder's Adaptive Fulfillment & Warehousing is a cloud-native, scalable, versionless, services-based solution purpose-built to meet the unique needs of micro-fulfilment centers, dark stores, and store fulfillment across a variety of industries.

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