

❖ BlueYonder

Logistics Service Providers

Capturing Cold Chain Growth Opportunities

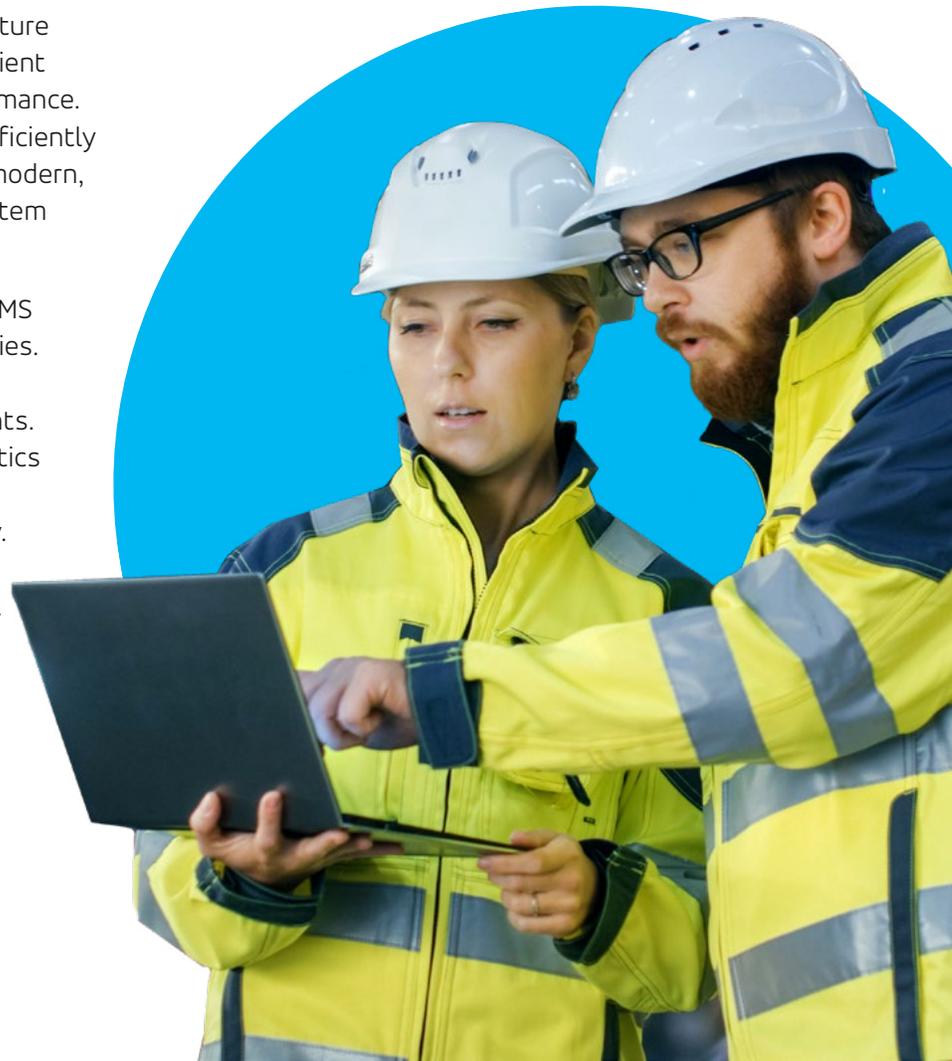


The cold chain is a fast-growing segment within the logistics market that offers an abundance of growth opportunities for logistics service providers.

Demand growth factors include increased consumption of fresh food, geographically expanded access to refrigerated warehousing, increased production and distribution of biologic medications within the pharmaceutical industry, shifts in grocery supply chains, and expanding regulatory requirements. At the same time, capital costs in temperature-controlled warehousing are extensive, the lead times are long, niche market buildings are in high demand, and the required capabilities are specialized. As a result, the development and ownership of temperature-controlled warehousing is often separate from utilization. Asset-based logistics service providers are well positioned to address these market opportunities with their physical infrastructure and operational capabilities. However, efficient operations are essential to financial performance. Providing these services effectively and efficiently requires the proper operating systems. A modern, interoperable warehouse management system (WMS) is among the most critical.

There is substantial commonality in the WMS features used by companies across industries. However, logistics service providers have distinct priorities and extended requirements. Many of these distinctions are due to logistics being an LSP's core competency — driving revenue, profitability, and customer loyalty. Meanwhile, cold chain operations demand additional capabilities from the warehouse. Most notably, these requirements can be categorized as the following:

- Robust inventory management capabilities including lifecycle stages, lot/batch tracking, traceability, temperature monitoring, shelf-life, multiple-zones, and other features to support perishables.
- An advanced labor management system that enables detailed resource planning, performance management, incentive programs, and overall labor optimization that is critical in cost-to-serve environments
- Comprehensive and granular client billing system that integrates activity information from various systems, creating an audit trail and auto generated invoices
- A set of complementary, interoperable solutions providing the option to easily and incrementally expand functional capabilities



Blue Yonder's WMS

Blue Yonder is unmatched in its logistics industry expertise and its digital capabilities for warehouse management. Blue Yonder has actively invested in developing industry-leading capabilities for logistics service providers operating temperature-controlled warehouses:

- Real-time inbound and outbound processing that supports visibility into shipments to ensure accuracy, timeliness, efficiency and compliance
- Item profiles to clearly identify product storage and handling requirements such as movement paths
- Inventory status allocation profiles by customer for multi-client sites
- Shelf-life requirements on a customer/item basis
- Aging profiles to control the progression of inventory through stages (FEFO/FIFO/LEFO/LIFO rules by zone)
- Multi-temperature zone operations to support frozen, refrigerated and ambient operations for customers
- Configurability to assure special handling requirements and variable date code management requirements can be met out of the box



Warehouse Labor Management

Blue Yonder's Labor Management helps you maximize your operations by optimizing the performance of your most valuable assets — your workforce. Specific capabilities of Blue Yonder's labor management solution include:

- Resource planning for future headcount requirements to ensure the right number of workers with the right skills are available exactly when needed to fulfill demand
- Performance management including performance observation management, tracking of indirect time, attendance, quality, safety, and incentive rewards.

- Labor optimization by assigning workers to priority work areas and functions based on order flows, deadlines, skills, and cost considerations.
- Continuous improvement by identifying improvement and training opportunities for staff and uncovering potential process inefficiencies in the operation



Billing Management

Blue Yonder's Billing Management is a complete, flexible, and powerful logistics billing solution that automates invoice creation based on supply chain activities, provides a full audit trail, and enables visibility into contract profitability.

- Invoice calculations based on information from various supply chain systems to ensure inclusion of all relevant information
- Comprehensive pricing rules configurable to customer specific requirements
- Automatically generated invoices based on configured schedules
- Verification of individual transactions included in a specific invoice line for review and approval process
- Visibility into activity-level revenues and costs for insight into contract profitability

Expanding Complementary Capabilities

Blue Yonder offers a full suite of logistics solutions that allows customers to progressively expand their set of integrated capabilities. Examples of adjacent, complementary solutions include the following:

- **Load Building:** Blue Yonder's load building as a service, built on Microsoft Azure, is designed to build inventory-aware full truckloads from fulfillment orders and provide optimal load containerization plans maximizing trailer utilization. Load building pushes or pulls the orders within a configured planning horizon and splits orders to maximize the transportation efficiency.

- **Warehouse Execution System:** Blue Yonder's Warehouse Execution System extends and enhances WMS capabilities by coordinating work across humans, mobile robots and static automation to assign the right resource, the right work at the right time. Dynamic task assignment establishes a balance between meeting high priority demands and exploiting the efficiencies of task proximity.
- **Transportation Management System:** Blue Yonder's industry-leading transportation management system offers planning, optimization, automated execution, procurement, supplier collaboration, and more. Iterative optimization with WMS, trailer loading in 3D by temperature zone, dock scheduling by commodity type, and dynamic bulkhead movements within trailers are examples of high value capabilities for cold chain operations.





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