Warehouse Management Solution

Warehouse management built for the future

Business challenge

The heightened pressures from global competition and frequent disruptions are causing a magnified impact on warehouse operations. Today's accelerated change and compressed cycle times are amplifying the importance of speed, straining the capacity of resources, and pushing the limits of technology infrastructure.

While computing capacity and data availability have greatly elevated warehouse performance, tighter deadlines along with limited visibility and data overload have become the new performance constraints. Traditional batch and release methods offer processing scale - but at the expense of time delays and capacity underutilization. Data generation is overly abundant - but identifying and utilizing the most complete, relevant information has become prohibitively difficult.

Incremental advancements are insufficient at this juncture. Future success depends on a step change in thinking and capability. Warehouses will need to run leaner, faster, and with fewer errors. Speed and precision of both decision-making and action will be the ultimate determinants of success. Blue Yonder Warehouse Management Solution delivers that step change in capability – enabling faster action and greater precision to support enhanced agility, improved efficiency and better outcomes. Outperform the competition with the machine speed, precision, and cognitive intelligence of Blue Yonder.

Metrics

- Increase in throughput **50%**
- Decrease in pick travel time **30%**
- Reduction in fulfillment, storage and handling costs **50%**
- Reduction in overstaffing with improved resource forecasting **60%**
- Reduction in late shipments **35%**

The Blue Yonder solution

Blue Yonder Warehouse Management Solution provides transformative capabilities that rest on the comprehensive features and functionality established over 25 years of customer-centric development improved with ongoing enhancements, unleashed by the infinite scalability of cloud-native computing, and transformed by the full power of artificial intelligence, optimization services and unified decision-making.

Predict and plan for the future

Begin each shift prepared for peak performance with predictive planning. Predictive intelligence is infused throughout the solution, injecting machine precision into resource forecasting, workforce allocation, work reassignments, and daily slotting optimization. Dynamically predict resource requirements by role, equipment, task, and work zone with consideration to real-world process variations for your desired forecast horizon ranging from days to weeks. Advanced slotting adjusts slot layouts based on real-time forecasts to enable gradual slotting adaptations to evolving trends as they occur – shifting slotting away from periodic events to a continuous and automated process. Predictive task time accurately and reliably predicts warehouse activity at a fundamental level, enabling highly effective task assignment and efficient, ongoing alignment of resources with requirements to consistently meet performance goals.

Dynamically adjust in real-time

Execute intra-day activities with greater agility, higher efficiency, and better outcomes through real-time visibility into workloads, resource capacities, interdependencies, and shifting priorities. System-directed work can be performed according to a multitude of intelligent approaches to achieve the most ambitious performance goals. Traditional wave creation and release approaches can be augmented with pull-based work release and dynamic task prioritization methods that continuously leverage real-time status to drive performance uplift. Automatic detection of anomalies or deviations from the plan can trigger an opportunity for a performance-enhancing resource swap to dynamically adapt to changing conditions and priorities on the floor. Meanwhile, peak efficiency can be obtained from innovative task design such as intelligent task list combinations to create efficient tour builds and slotting moves integrated with replenishment tasks to maximize resource utilization and minimize travel times.

Operational synergy across labor and automation

Achieve complete synergy across humans, robots, equipment and automation with intelligent insight into resource capabilities, productivity, capacity, and performance interdependencies. Advanced warehouse labor management capabilities provide real-time communication and tracking into productivity and utilization of labor and mobile robotics for a unified view of resource performance. The embedded warehouse execution system orchestrates pull-based work methods by sensing activity levels at automation locations and releasing work as capacity becomes available to increase automation utilization and ensure high throughput. Meanwhile, agility is maximized through workload balancing across automation vendors and humans, quickly adapting to important changes in factors such as trailer arrival times or robot vendor outages.

Transform work with AI agents

Amplify the impact of informed decision-making with the machine speed and precision of AI agents built natively into the solution. Agents monitor the system for real-time changes and analyze complex data to recognize important patterns and causes. They surface the most impactful information along with the most pertinent details from the masses of data generated each day. Recommended options based on business metrics can then be presented along with valuable decision support such as "what-if" analysis that describes the impact of suggested actions. Quickly and conveniently take action on AI agent insights to make those suggestions a reality. AI agents see, analyze, decide, and act with machine speed and precision.

Capability highlights

Blue Yonder Platform-native performance

Obtain cloud-native performance and the full power of the Blue Yonder platform. Zero-downtime deployments, peak availability and endless scalability ensure maximum uptime and optimal capacity for seasonal peaks or unexpected changes in supply or demand. Seamlessly incorporate ongoing innovations and platform capabilities into your environment for expanded value and enhanced interoperability across solutions.

Warehouse operations

Optimize end-to-end warehouse processes with the comprehensive range of features and functionality Blue Yonder established through 25 years of customer-centric development. The extensive capabilities include yard management, inbound processing, inventory management, production management, task management, and outbound operations. Easily adapt the solution to unique warehouse needs with an expansive library of configuration settings and workflows.

Retail replenishment

Efficiently manage the industry-specific retail replenishment processes for verticals ranging from apparel to grocery, wellness and more. High value capabilities include flow-through to store, consolidation of exception picks into a single chase tour, ratio-pack processing, garment on hanger for dynamic location storage of handing products, put-wall functionality for efficient order consolidation, and more.

Warehouse returns processing

Maximize revenue yield, streamline workflows and reduce the holding cost of warehouse returns. Comprehensive, system-directed decisioning ensures thorough grading and reliable verification to determine the optimal disposition path for each returned item, while guided navigation streamlines processing. Historical analysis of returns provides valuable insights into root causes and potential corrective actions.

Warehouse execution system

Harness real-time visibility into workloads, resource capacities and activity levels to orchestrate work to labor, robotics, and automation using pull-based work release and dynamic prioritization methods to increase resource utilization, improve on-time completions, and more effectively balance urgency with efficiency. Predictive task time dynamically predicts warehouse activity durations in shifting conditions for optimal work assignment.
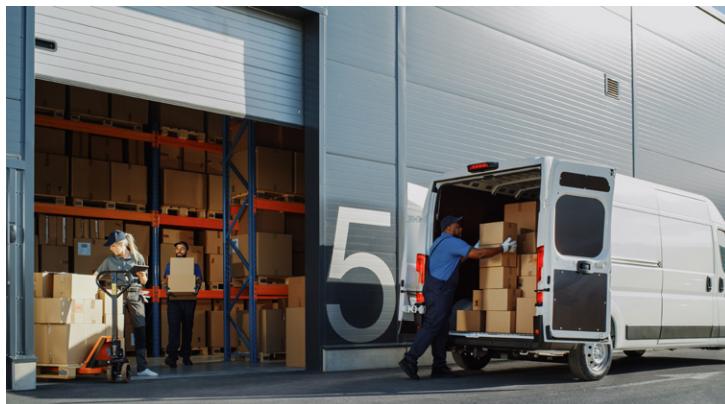
Warehouse AI agents

Get ahead of the competition with swift, informed decision-making enabled by warehouse AI agents that convert masses of raw data into timely, actionable insights. The Warehouse Ops Agent and Resource Agent monitor your warehouse operations for emerging concerns, analyze problems, and recommend actions along with insights into the likely business impact of suggested actions. Turn insights into impactful action.

Resource forecasting

Accurately forecast resource requirements with machine precision to prepare your warehouse for peak performance and efficiency. Comprehensive historical data, plan updates, and machine learning techniques are used to create intelligent, data-driven predictions for resource requirements by role, equipment, task, work area, and work zone with configurable forecast horizons ranging from days to weeks.

Resource orchestration

Intelligently align available resources with the current workload to optimally achieve the warehouse's operating objectives. Reallocate resources during a shift to alleviate bottlenecks or accelerate productivity while considering task priorities, resource capabilities, equipment permissions, deadlines and other binding constraints. Recommend best resource for assigned tasks. Determine best resource and equipment matches.

Warehouse labor management

Unlock your workforce potential with a comprehensive warehouse labor solution that provides the framework, content, and workflows to improve workforce productivity through detailed insights while encouraging continuous Improvement. Obtain insights into labor performance by group, individual, shift, job code, and other attributes to uncover drivers of performance and establish opportunities for improvement.

Advanced slotting

Transform slotting from a reactive periodic process into a continuous proactive process that reduces pick time and optimizes space utilization while optimizing end-to-end movement cost. A comprehensive data-driven approach incorporates real-time demand forecasts, warehouse parameters and machine learning algorithms into an optimization solver to generate daily slot plans that maximize your warehouse objectives.

Yard management

Automate and accelerate gate check and trailer tracking across the yard with AI & camera vision to generate complete, real-time information that enables increased efficiency, reduced detention fees, improved trailer prioritization and accelerated inbound and outbound processing. Maximize the utilization of all yard assets, including trucks, trailers, containers, inventory, and personnel.

Load building

Build full truckloads from fulfillment orders and create optimal load containerization plans that maximize trailer utilization. Consolidate multiple orders together while respecting equipment dimensions and limits to achieve the best fit for the load. Split order quantities across multiple trucks to achieve maximum load efficiency. Increase service levels while reducing transportation costs.

Advanced analytics

Access, share and consume live governed data, industry-specific datasets and data services at scale. Obtain a full 360-degree view of supply chain data, as well as end-to-end insights into the overall product journey and customer experience. Advanced analytics works on top of the unified data stored in Snowflake and provides an interactive, consumer-like interface that enables users to easily visualize current resulted compared to performance KPIs.

To learn more about warehouse management built for the future visit:

https://blueyonder.com/solutions/warehouse-management

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