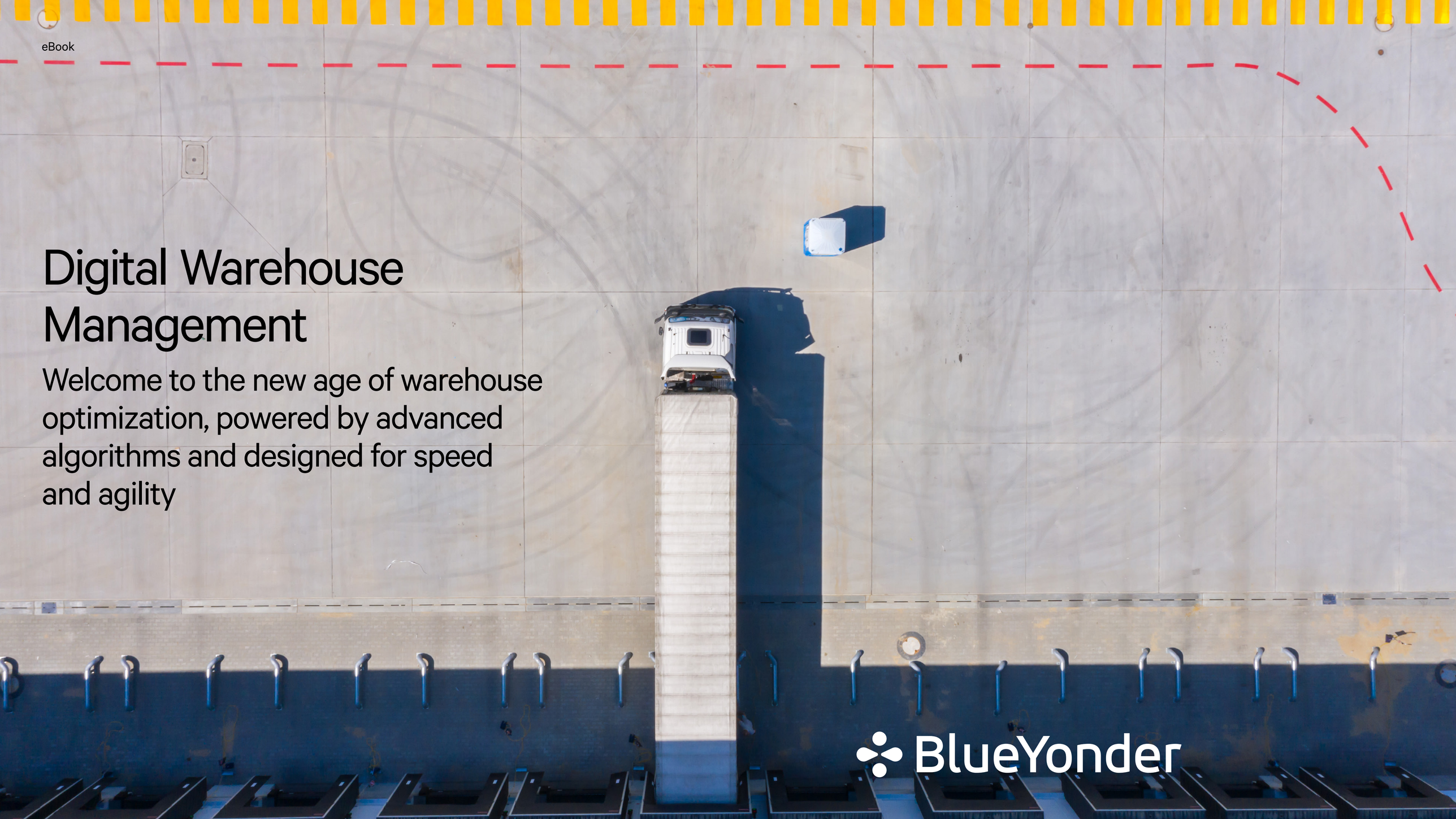
eBook

Digital Warehouse Management

Welcome to the new age of warehouse optimization, powered by advanced algorithms and designed for speed and agility



BlueYonder

How can you manage growing pressures for rapid fulfilment, increasing demand volatility and worsening labor shortages — while also controlling your costs to maximize margins?

The answer is digital transformation.

It's fitting that the world's warehouse operations were viewed as heroic during 2020 and 2021. As demand shifted overnight, fulfilment expectations increased exponentially and products were often in short supply, warehouses ensured a steady flow of both essential and non-essential products to businesses and consumers around the world.

These extreme conditions are here to stay, even as the COVID-19 pandemic wanes. Consumers' expectations have forever been altered, and they want products how, when and where they choose. Growing competition and an omni-channel landscape have enabled customers to choose availability, price and service over loyalty. Warehouses need to make a fundamental shift from filling large orders, defining delivery terms, and relying on manual processes and static business rules to supporting a new level of speed, agility and service personalization.

Digitized warehouse management is no longer an option, it's a competitive imperative. It's enabled by, automation, advanced algorithms and analytics, and real-time synchronization – and it's delivered by Blue Yonder. Named as a Leader in every Gartner Magic Quadrant for warehouse management systems since 2012, Blue Yonder supports the digital warehouse operations of the world's top retailers, manufacturers, distributors, and third-party logistics providers.

With 35 years of proven success across hundreds of customers, Blue Yonder is unmatched in its industry expertise and its digital capabilities for warehouse management.

This eBook highlights Blue Yonder's capabilities in:

- Optimizing complex warehouse operations
- Managing microfulfillment centers
- Maximizing labor resources
- Streamlining task execution via both humans and robotics

Introducing the Warehouse of the Future

Blue Yonder's warehouse management transforms slow, manual operations to a real-time, connected, agile and highly synchronized environment built for speed, productivity and profitability.

The dramatic transition to an omni-channel environment, characterized by both ultra-fast and hyper-local fulfilment, has forever changed the world's warehouses. Today warehouse operations must be rapid, accurate, agile, efficient and synchronized – able to deliver the right product to the right place at the right time, flawlessly.

Blue Yonder can help organizations make this transition, with an industry-leading software-as-a-service (SaaS) warehouse management solution that's comprehensive, scalable and enabled by advanced, proprietary algorithms.

With real-time visibility from the extended supplier network to the final customer, Blue Yonder warehouse management intelligently prioritizes activities, identifies exceptions and autonomously keeps the warehouse running optimally, every hour of every day.

Blue Yonder has actively invested in developing industry-leading capabilities in these areas:

- **Real-time inbound and outbound processing** that supports visibility into shipments to ensure accuracy, timeliness, efficiency and compliance
- **Optimized inventory management** that spans suppliers' production all the way to the end user through inventory control, quality management, date/lot control, asset management, serial number tracking and cycle counting
- **Unified yard management** that streamlines and optimizes all aspects of the yard, from equipment to dock doors to personnel, for improved efficiency
- **Strategic resource orchestration** that synchronizes human labor, robotics and automation

Advanced Fulfillment for the Modern World

Blue Yonder enables companies to move fulfilment capabilities closer to customers, for fast, profitable last-mile delivery.

One of the most visible warehousing trends of 2021 and 2022 was the shift to localized fulfilment centers. To maximize speed and flexibility, retailers and direct-to-consumer manufacturers began operating smaller-footprint, highly automated distribution centers that served as regional “spokes” to their central warehouse hubs.

Blue Yonder offers a flexible, next-generation fulfilment capabilities that enables companies to quickly configure, launch and profitability operate these microfulfilment centers. Retailers and direct-to-consumer manufacturers can maintain inventory accuracy above 99%, along with new levels of speed and efficiency for outbound orders, by using a more streamlined version of Blue Yonder’s industry-leading warehouse management solution.

Designed for the demands of today’s fast-paced, omni-channel environment, Blue Yonder enables organizations to:

- **Manage all fulfillment activities in one version-less solution** that connects labor, warehouse execution, transportation, and pick/pack/ship resources in real time
- **Leverage data as a service (DaaS)** to consolidate all information into a single database, providing visibility at the tactical, enterprise and network levels
- **Track inventory from receipt to delivery,** with real-time exception alerts
- **Optimize labor assets and track performance** via built-in resource scheduling and reporting
- **Maximize productivity and profitability** with intelligent task prioritization, and prescriptive and extensible workflows, based on Blue Yonder’s deep experience

Delivered via a microservices-based, modular architecture and intuitive mobile interfaces, warehouse management capabilities are fast and easy to deploy, for rapid time to value. Its extensive framework allows companies to personalize dashboards and mobile workflows to meet their operational needs, while software upgrades happen invisibly and seamlessly.

Optimized Labor Management

In a warehouse environment marked by unprecedented labor shortages, Blue Yonder helps maximize efficiency and throughput — by applying human resources more strategically and productively.

The warehouse has grown exponentially in strategic importance but, at the same time, it's been challenged by extreme global labor shortages and high turnover — with no apparent end in sight. It's imperative that every organization makes the greatest possible use of its limited labor resources. With the workforce representing the single largest cost center in a warehouse, maximizing employee contributions isn't just critical to delivering high service, it also drives positive financial outcomes.

Enter Blue Yonder's labor management solution, which provides a real-time, granular view of workforce performance, providing a basis for coaching and continuous improvement. It guides organizations to define and communicate standardized best practices, set performance expectations, track warehouse activities, and support ownership and accountability. Via dashboards and alerts, Blue Yonder labor management enables supervisors to recognize and address any issues quickly.

Specific capabilities of Blue Yonder's labor management solution include:

- **Workforce productivity.** Managers can accurately forecast short- and long-term workforce requirements based on historical data and work content, matching available resources with periods of highest demand.
- **Performance measurement.** Ad hoc performance metrics are replaced with precise tracking of indirect time, attendance, productivity, quality and safety compliance.
- **Long-term resource planning.** Managers can plan future headcount requirements, ensuring the right number of workers with the right skills are available exactly when needed to fulfill demand.
- **Labor optimization.** Employees are assigned or reassigned to specific work functions based on demand levels, order flows, deadlines, skillsets and cost considerations.

Organizations leveraging Blue Yonder labor management can increase throughput and service, maximize limited human resources, and drive performance improvements – for a greater return on their labor investments.

Rapid, Flawless Execution

Whether warehouse assets include human labor, robotics, or some combination of the two, Blue Yonder drives new levels of speed, accuracy and productivity – helping to control costs, while maximizing service and margins.

Given today's time, cost and service pressures — coupled with ongoing labor shortages – it makes strategic sense for warehouses to increase their reliance on robotics and automation. It also makes good business sense for organizations to assign tasks to human workers in the most efficient manner.

No matter if companies are relying on human labor, robotics or a hybrid approach, Blue Yonder can optimize everyday warehouse execution, balancing costs with service. Across both human and machine assets, Blue Yonder's warehouse management toolset increases real-time visibility, monitors and communicates performance levels, identifies exceptions and supports a proactive response when issues arise. Centralized, intuitive, real-time dashboards span robotics and manual operations, for a single view of warehouse operations.

Blue Yonder is unique in its ability to tightly integrate both employees and automation capabilities in a single, industry-leading solution that also offers specialized capabilities in each area.

Warehouse Execution System

Blue Yonder's warehouse execution capabilities are built to deliver the highest level of efficiency at the lowest possible cost, which is absolutely essential in today's era of faster deliveries, shorter order-to-ship cycles, constant inventory movements and reduced labor availability. This robust software-as-a-service (SaaS) offering capitalizes on the power of AI/ML to identify and unlock opportunities for cost and time savings.

Warehouse Tasking

Warehousing execution reduces manual task assignment and management, for significant administrative savings. It smooths capacities, prioritizes tasks based on changing conditions, and considers the physical warehouse layout in strategically scheduling execution tasks. It includes high-level operational views for managers, as well as persona-based, prescriptive mobile interactions with individual employees.

This unique solution from Blue Yonder delivers:

- **Advanced visibility** into future warehouse conditions, based on the resource schedule and work queue
- **Robust analytics** that consider the right operating parameters for maximum efficiency, matching work with an optimal number of employees
- **Agile task assignments** that track task completion times and the near real-time position of employees
- **Flexible allocation policies** that optimize travel time and picking processes in ever-changing conditions
- **Integration with distributed order management,** to deliver the fulfillment options customers are looking for, including click-and-collect, as well as optimizing product returns
- **Synchronized interleaving,** so tasks are intelligently combined based on proximity, priority, permissions and skillsets to maximize efficiency and service

By ensuring that all warehouse tasks are strategically prioritized, executed in the right order and completed on time, warehouse taking from Blue Yonder balances maximum customer service with cost control.

Robotics Hub

While automation and robotics offer significant cost and productivity benefits, many organizations are concerned about the complexity of the traditional onboarding process, which typically involves highly complex, customized integrations, as well as a commitment to a single technology vendor.

Blue Yonder's robotics hub is purpose-built to address these concerns, providing a flexible, vendor-neutral architecture for robotics integration. A SaaS-native application built on Microsoft Azure, Blue Yonder's robotics hubs delivers a rapid time to value by onboarding multiple vendors seamlessly and quickly. A range of warehouse automation tools can be viewed and managed via a single, easy-to-use dashboard. Data is fed to the hub via the Internet of Things (IoT) for exception identification and resolution management.

Blue Yonder's robotics hub is unmatched in its ability to create a high-performance, vendor-agnostic warehouse automation landscape, enabling companies to flexibly choose the right capabilities for every distribution center.

Features of the robotics hub include:

Extensible application programming interfaces (APIs) that accelerate the onboarding of one or more robotics vendors, for a customized warehouse solution

Alerts and exceptions that enable an immediate, proactive response to errors and other performance issues

Real-time dashboards that track key performance indicators (KPIs) and provide a single source of visibility and control across all robotics

Combined analytics that span both warehouse robotics and manual operations

Dynamic workflows for outbound order fulfilment and replenishment that are tightly integrated with the warehouse management solution

Why Blue Yonder?

Because no one understands today's warehouse, or today's end-to-end supply chain, better.

For decades, Blue Yonder's warehouse management solution has been the industry standard for optimizing virtually every aspect of warehouse performance. While the warehouse has changed, Blue Yonder has steadily evolved its capabilities to digitally transform warehouse operations by incorporating advanced AI/ML, predictive analytics, autonomous decision-making, support for robotics, and other next-generation features and functionality.

But warehouses don't exist in a vacuum. That's why Blue Yonder offers the end-to-end supply chain expertise required to connect and synchronize your warehouse operations with every other part of the supply chain. It's not a coincidence that Blue Yonder is consistently named to multiple Gartner Magic Quadrants, including warehouse management, transportation management and supply chain planning, year after year.

Blue Yonder's state-of-the-art AI/ML engines are built to gather thousands of real-time data points across the end-to-end network, apply the most advanced algorithms and statistical models, and autonomously arrive at optimal decisions that balance all outcomes – including warehouse management — across the supply chain. When a demand change happens, your supply chain can respond in a synchronized, orchestrated manner, including reassigning warehouse resources and even driving new, innovative initiatives like creating microfulfillment centers.

In today's complex environment of crushing delivery pressures, increasing omni-channel competition and extreme labor shortfalls, operating a warehouse will never be simple or straightforward. But Blue Yonder helps your entire supply chain transform uncertainty into an advantage by sensing changes in real time and pivoting faster, smarter and more cohesively than competitors – including across your network of distribution centers.

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