Explore the Future of Industrial Manufacturers

Discover how Blue Yonder solutions help industrial manufacturing leaders transform uncertainty into a competitive edge

BlueYonder

Fulfill your potential™

Explore the Future of Industrial Manufacturing

The global manufacturing industry is rapidly increasing in complexity. Various factors impact this growing complexity, including extended supply network from suppliers to customer, deep bills of material, and global footprint in manufacturing and distribution. Across the industry's vast network of original equipment manufacturers (OEMs), warehouse and distribution centers, multiple tiers of suppliers, and third-party logistics providers, any disruption, in any node, can send a bullwhip effect throughout the entire supply chain.

The events of 2020-2022 starkly revealed the fragility of the complex industrial manufacturing supply chain. Faced with parts and material availability issues, extended lead times, rising energy and transportation costs, an unprecedented shortage of labor, port closures, weather disruptions, and other events, the world's discrete manufacturers were forced to shut down or slow their production, even though consumer demand was high.

In an industry traditionally characterized by velocity and precision, these events have alerted both manufacturers and their suppliers that they need to invest in a digital transformation of their supply chains. Only by connecting their end-to-end networks on a common technology platform, sensing disruptions in real time via internet of things (IoT) based artificial intelligence (AI), and orchestrating a synchronized, strategic response can manufacturing companies hope to succeed in today's extremely volatile business landscape.

With a proven array of industry-leading solutions, Blue Yonder can help. Industrial companies that leverage Blue Yonder's solutions to gain a real-time view of both internal and external conditions, predict the future via probabilistic planning, and autonomously correct the course via machine learning (ML) can achieve new levels of precision and responsiveness. By partnering with Blue Yonder to digitally transform their end-to-end supply chains, manufacturers can turn uncertainty into a marketplace advantage – as they proactively manage inevitable challenges faster, more strategically, and more profitably than their competitors.

In this eBook, we'll discuss eight use cases

that showcase how Blue Yonder's solutions help discrete manufacturing companies master today's extreme supply chain volatility and optimize their results:

1. Network Design & Optimization

2. Integrated Business Planning

3. Integrated Demand & Supply Planning

4. Supplier Collaboration

5. Omni-Channel Fulfillment

6. Warehouse and Labor Management

7. Transportation Management

8. Real-Time Visibility & Collaboration

An Industry in Flux

In addition to the enormous challenges of supply chain volatility, industrial companies face another significant hurdle: Their industry is in the midst of being completely redefined, with significant implications for the supply chain.

First, increasing focus on sustainability is putting pressure on manufacturers to not only introduce product designs with a reduced environmental impact, but also to manage their supply chains in more sustainable ways. Advanced technology can help by increasing visibility and transparency; improving the efficiency of production, warehousing and other operations; and optimizing transportation and logistics.

Second, as industrial products become intelligent, manufacturers are consistently investing to include technology within their products. Frequent changes in technology reduces product lifecycle with changes in bills of materials and supply chain. Companies need to master traditional production challenges, but their success also increasingly depends on understanding and meeting consumers' needs for IOT, wireless connectivity, autonomy, electrification, and other functionality.

To be competitive, industrial companies must make this shift by increasing their agility and responsiveness, so they can continuously deliver state-of-the-art features and functionality as a differentiator. They need to take a nimble stance that allows them to pivot instantly as technology and consumer needs continue to evolve. This represents a significant change from their historic approach.

Fortunately, Blue Yonder offers purpose-built solutions that address both these urgent challenges, by increasing visibility, connectivity, intelligence, and agility across the end-to-end value chain. As environmental regulations, consumer needs and technologies continue to evolve, Blue Yonder's solutions help industrial companies identify and capitalize on new opportunities, while also making data-driven decisions that minimize risk exposure and maximize profitability.

Blue Yonder Has Delivered Value for Industrial Manufacturers Across the Globe

pactiv evergreen

ESCORTS

Honeywell

ABB

ArcelorMittal

HILTI

DiversiTech

POSITEC

GE

3M

Panasonic

TP Travis Perkins

Stanley Black & Decker

BOSCH

Novelis

JFE

CNH INDUSTRIAL

CEMEX

NOV

BAE SYSTEMS

CELSA GROUP

TATA STEEL

Andersen CORPORATION

DEUTSCHE EDELSTAHLWERKE
Providing special steel solutions

Future-Proofing the Industrial End-to-End Supply Chain

While the world's industrial companies face a tough road ahead, Blue Yonder helps them leverage the power of their supply chains to master volatility and meet key business objectives – no matter what the future brings. Blue Yonder offers a scalable methodology that measures the supply chain's real strategic impact, as demonstrated by its ability to contribute to top-level organizational goals over the longer term.
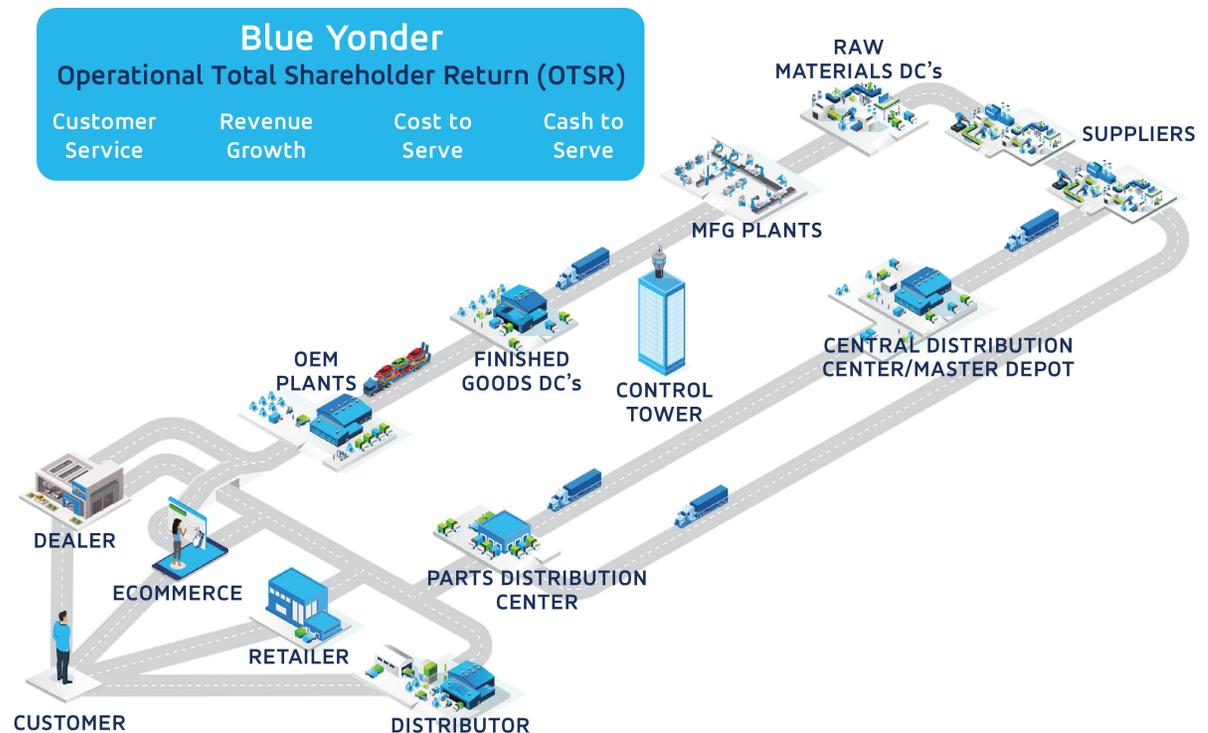
By connecting business strategy, financial strategy, supply chain strategy, and operational strategy under a common business plan, Blue Yonder supports a process of value creation that is repeatable, adaptable and sustainable.

How does it work? Advanced solutions from Blue Yonder, enabled by AI and ML, help industrial manufacturers gain a holistic view of the supply chain by breaking down data siloes and streamlining the process of generating and sharing insights. This enables fact-based decision making, as well as everyday operational tactics that are directly tied to strategic, organization-level KPIs including customer service levels, sustainability targets, and OSTR (Operational Total Shareholder Return) metrics like revenue, cash to serve, cost to serve, and margin.

With support from Blue Yonder, industrial companies can master their current and forward-looking challenges by focusing on eight strategic actions:

- Designing an end-to-end network that maximizes transparency and responsiveness

- Driving a synchronized response by closely integrating their business planning processes

- Integrating demand and supply planning to minimize shortages and excess inventories

- Collaborating more closely with their network of global suppliers

- Ensuring accurate, cost-effective fulfillment across all channels

- Optimizing the warehouse and labor for speed, efficiency and responsiveness

- Maximizing the transportation network's ability to meet goals for cost, service and sustainability

- Achieving real-time visibility to deliver an immediate, orchestrated response to disruptions

Blue Yonder
Operational Total Shareholder Return (OTSR)

| Customer Service | Revenue Growth | Cost to Serve | Cash to Serve |

RAW MATERIALS DC's

SUPPLIERS

MFG PLANTS

CENTRAL DISTRIBUTION CENTER/MASTER DEPOT

OEM PLANTS

FINISHED GOODS DC's

CONTROL TOWER

DEALER

ECOMMERCE

PARTS DISTRIBUTION CENTER

RETAILER

CUSTOMER

DISTRIBUTOR

Network Design & Optimization

Recent events have demonstrated the shortcomings and vulnerabilities of many industrial manufacturing supply chain networks. Component shortages, long lead times, transportation roadblocks, and other disruptions left the world's manufacturers scrambling to respond.

Burdened with outdated networks that only focused on cost reduction, many companies lacked the end-to-end, real-time visibility, agility and resilience that would allow them to create a strategic, orchestrated response to these events. An absence of digital connectivity and collaborative problem-solving strategies across the network only exacerbated the problem.

Blue Yonder can help, by providing network design and optimization solutions that position industrial companies for success in today's uncertain business landscape. Optimized network designs enable manufacturers to pivot quickly,

focus on customers and their evolving needs, and synchronize a profitable response across increasingly complex networks of multi-tiered suppliers. With Blue Yonder's help, industrial companies can increase visibility and collaboration, prevent supply gaps and disconnects, and improve overall velocity.

Supply and demand conditions are a moving target, always characterized by change. But, by digitizing their operations via Blue Yonder's solutions, manufacturers and their suppliers can simulate scenarios and act quickly to configure, and reconfigure, their networks for extreme speed and responsiveness. .
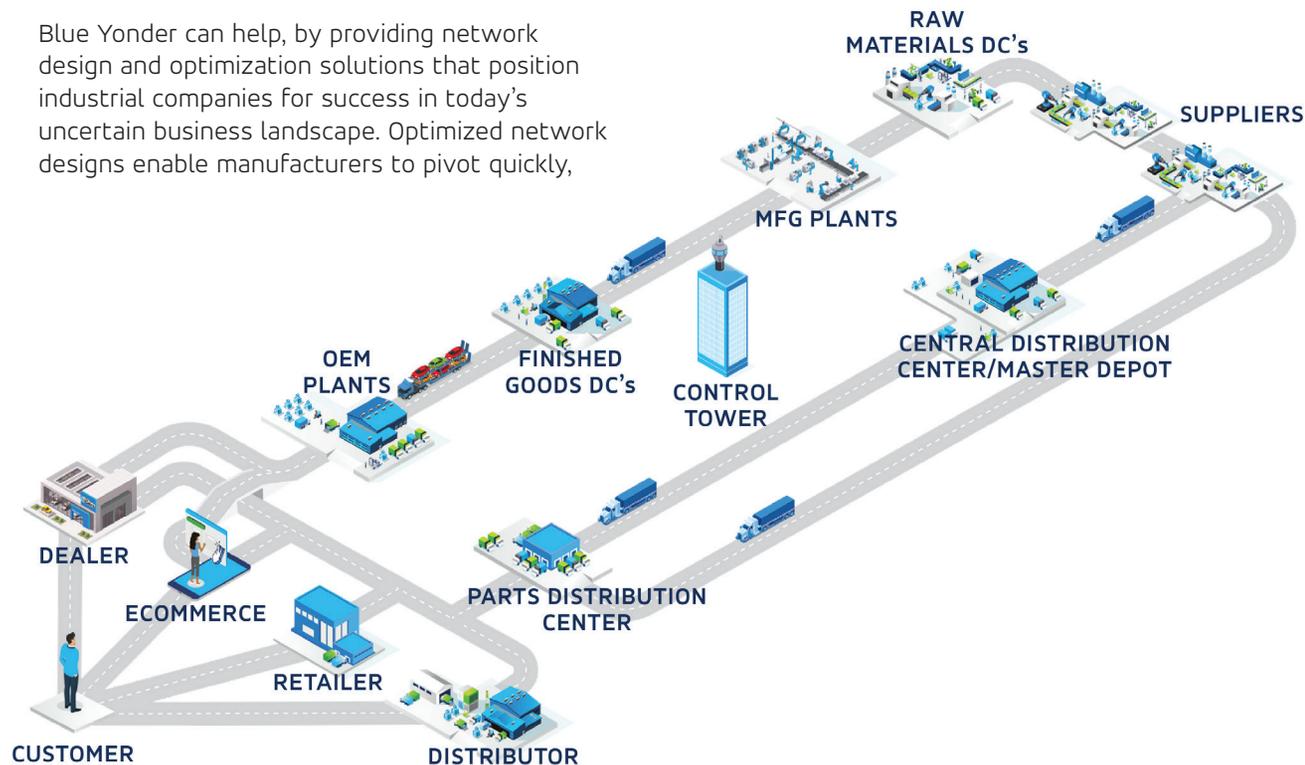
Key Benefits

- **Optimize end-to-end decisions** by quickly evaluating production cycles, product handling, process and transportation lead times, and safety stock.

- **Improve sustainability** by reducing the carbon footprint and travel miles, while also driving cost reductions.

- **Create network-wide agility** by increasing planning cadence, leading to multi-year strategic or weekly network plans.

- **Increase competitiveness** via globalization, digital transformation and customer centricity.

Solutions

- Network Design
- Transportation Modeling

Integrated Business Planning

Today's worldwide discrete manufacturing industry is characterized by volatility and disruption, on both the demand and supply sides. Wherever exceptions originate, Integrated Business Planning (IBP) enables manufacturers to respond in a manner that's consistent with their long-term strategic plan and overall business objectives. Integrated Business Planning (IBP) enables real-time visibility across the global supply chain, so participants can sense when something goes wrong. It also allows companies to quickly define and enact the right strategic response, via advanced analytics and what-if scenario planning.

Supported by best-in-class digital capabilities from Blue Yonder, Integrated Business Planning (IBP) positions industrial businesses to eliminate supply chain blind spots and disconnects, optimize daily operations across the network, and drive rapid, thorough analysis that delivers fact-based sales and operations decisions with a high probability of success.

By relying on Blue Yonder's exception-based, real-time planning framework, enabled by AI, companies can identify supply-demand imbalances at the earliest possible moment. Then they can explore a variety of resolution alternatives, making probabilistic trade-offs in a collaborative manner until they determine the right course of action. They can closely analyze impacts on operations, costs and service levels before taking action.

To address the harsh realities of today's discrete manufacturing industry, Blue Yonder supports continuous monitoring, real-time alerting and a continuous feedback loop that spans planning and execution. The result? More synchronized, harmonious operations and more certain results, even in an environment of uncertainty.
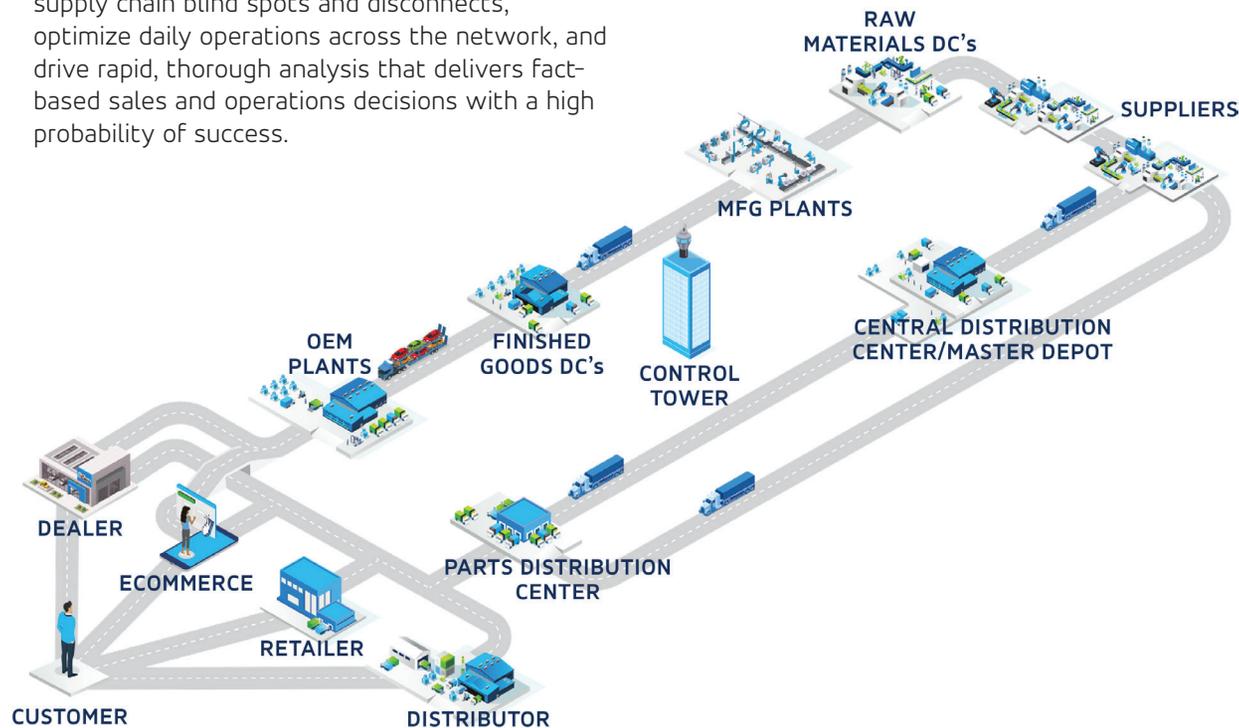
Key Benefits

- **Streamline the consensus forecasting process** via better collaboration, leading to less waste, optimized labor and improved sustainability.

- **Increase planning speed and productivity** with a highly automated forecasting process.

- **Improve customer service levels** at a lower cost through reduced inventory.

- **Enhance understanding of business performance** via better, more comprehensive reporting, data and analytics.

Solutions

- Sales & Operations Planning

RAW MATERIALS DC's

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CUSTOMER

DISTRIBUTOR

# Integrated Demand & Supply Planning

The last few years have seen manufacturing companies scrambling constantly to adjust to the "next normal," matching their long production cycles with fast-changing market demand. In this volatile environment, the long-term advantage will go to manufacturers that link demand and supply planning as closely as possible, tying production directly to forecasted demand and planned inventory.

Too often, a lack of real-time visibility into demand drivers leads to a disconnect between demand and supply plans, causing misaligned inventory and product shortages. The solution? Tightly integrated planning systems that can sense actual demand from all sources, not just extrapolate historical trends, to form an accurate picture of future demand. Blue Yonder can help, with ML capabilities that ingest a variety of demand-driving variables and create a precise sales projection – along with carefully calculated business impacts and risks.

Armed with a clear view of future demand, manufacturing companies can leverage Blue Yonder's Integrated Demand & Supply Planning solution to create optimized, executable plans across their global networks. Consistently named a Leader in the Gartner® Magic Quadrant™ for Supply Chain Planning report[1], Blue Yonder's solutions deliver industry-leading master planning, capacity planning, distribution planning, and production scheduling capabilities for complex, global, asset-intensive production. Industrial manufacturers can seamlessly balance changing customer needs with the realities of the physical supply chain, from materials and inventory levels to asset utilization and production capacities.

Purpose-built to manage the extreme volatility that characterizes today's global manufacturing industry, Blue Yonder's Integrated Demand & Supply Planning solutions provide real-time visibility into all critical functions and holistically optimizes end-to-end planning.
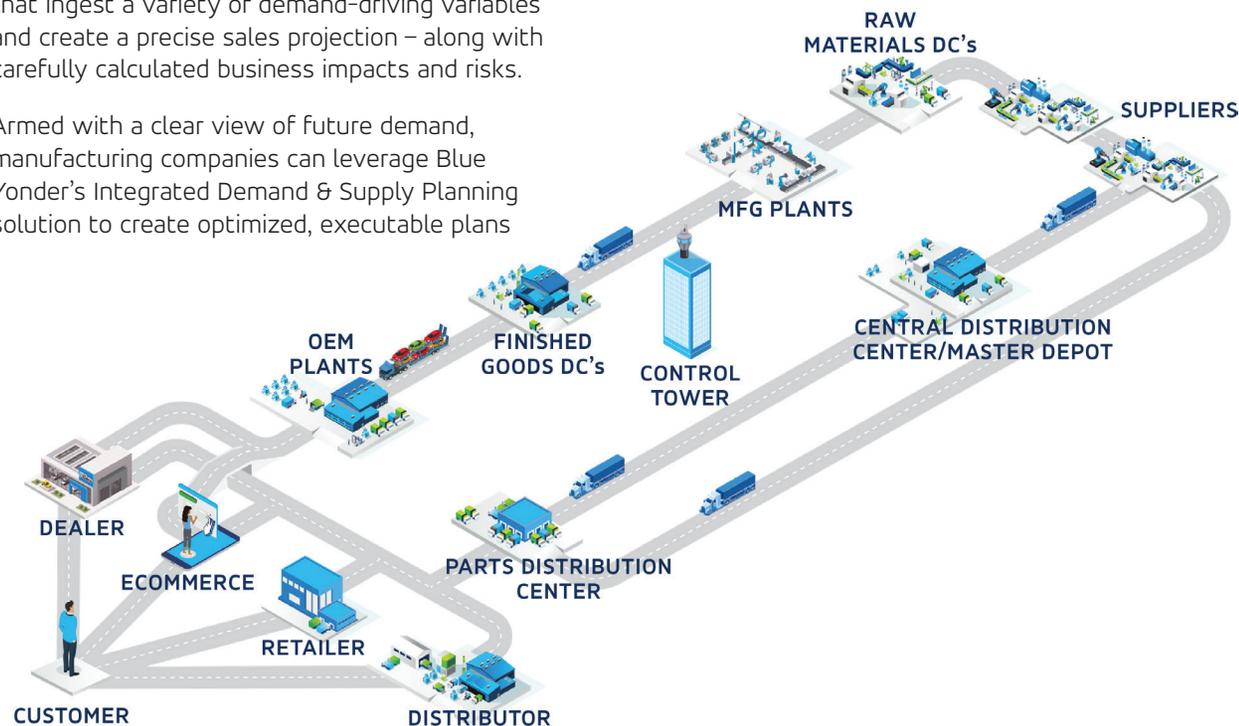
Key Benefits

- **Increase the quality of demand forecasts**, using leading-edge ML technology.

- **Create material- and capacity-optimized supply plans**, including fast demand-supply scenarios, to maximize customer service and revenues.

- **Strategically allocate limited supply to different channels and customers**, in line with business objectives.

- **Promise orders in real time**, aligned with supply allocations.

- **Optimize cost-to-serve** with intelligent segmentation, automated planning parameter tuning and optimized inventory targets.

- **Create optimized factory schedules** to maximize throughput, while minimizing inventory and operating expenses.

- **Boost planner productivity** with collaborative, outcome-based planning.

Solutions

- Demand Planning
- Supply Planning
- Inventory Optimization
- Production Planning
- Allocation Planning & Order Promising

Supplier Collaboration

Today's extreme volatility demands that manufacturers work much more collaboratively with their global network of suppliers. They need to adopt an extended, digital network model that's based on a shared demand forecast, real-time visibility to changing conditions, and a synchronized response to any exceptions on both the demand and supply sides.

All trading partners must break down functional and organizational barriers to identify any potential supply gaps at the earliest possible opportunity, then work together on an orchestrated resolution. This means sharing market forecasts, operating data, logistics insights, and other critical information via a shared platform of supply chain solutions. Only by recognizing and responding to both upstream and downstream events can all partners optimize their financial and service results.

Blue Yonder's Luminate® Control Tower is built with an AI- and ML-enabled framework that delivers end-to-end visibility of the entire supply chain, across the extended partner network, via a shared technology platform. Proactive alerts inform all supply chain participants of disruptions in real time, then powerful business analytics help identify the root cause and expected impacts.

Machine learning helps surface resolution recommendations, based on data patterns, leveraging capabilities that exceed the cognition of human planners. Shared playbooks and situation rooms bring together internal and external stakeholders in real time, so each trading partner can maximize its own outcomes, while also considering the holistic performance of the entire supply network.
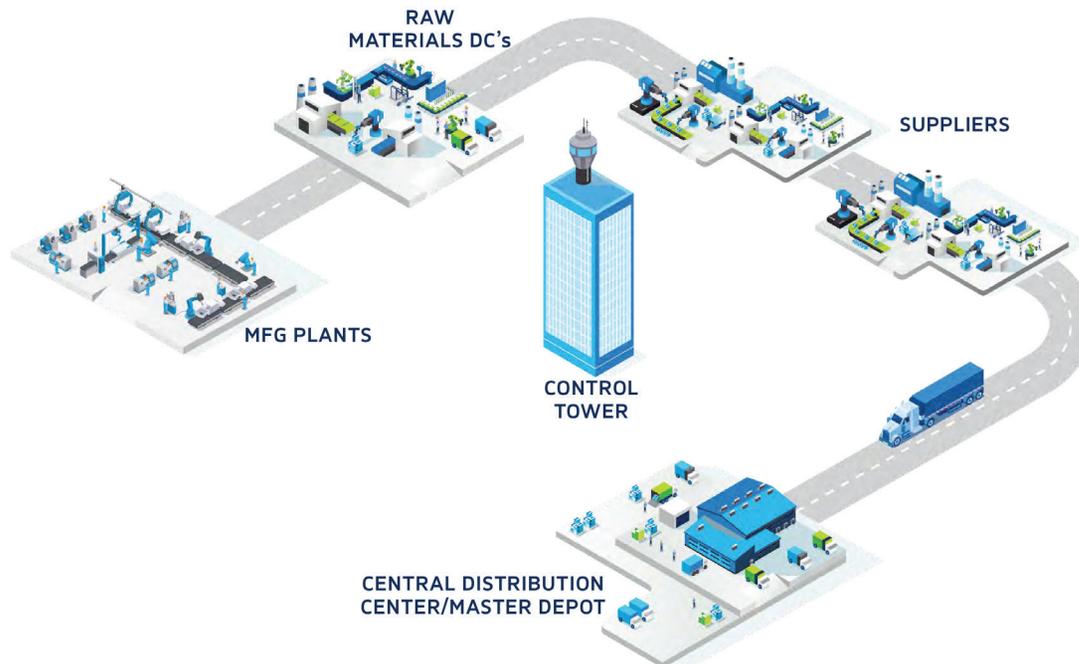
Key Benefits

- **Increase end-to-end collaboration and results** via a common technology platform.

- **Maximize transparency** by sharing critical forecasts, data and plans.

- **Identify resolution strategies quickly** by collaborating, planning and executing contingencies quickly and efficiently.

- **Increase cost savings** via automated processes and long-term supply chain collaboration.

- **Monitor supplier status in real time** to enable an immediate response when disruptions occur.

Solutions

- Control Tower — Collaboration

RAW MATERIALS DC's

SUPPLIERS

MFG PLANTS

CONTROL TOWER

CENTRAL DISTRIBUTION CENTER/MASTER DEPOT

Omni-Channel Fulfillment

Service-level requirements for industrials vary greatly among channels, including dealers, distributors, e-commerce, and fleet. But, whatever the channel, success depends on optimizing the process of receiving, confirming and fulfilling customer orders. That means orchestrating personalized, experience-aware supply chains across a complex structure of products, assemblies, parts families, and SKUs.

Blue Yonder accelerates and automates every part of the omni-channel fulfillment process, ensuring that every channel and every customer receives the highest possible level of service and transparency. Blue Yonder's solutions help industrial companies optimize inventory, minimize costs, maximize service, and meet sustainability targets — all while making a profit.

Inventory and order management (OMS) capabilities from Blue Yonder provide real-time inventory visibility across the network. Discrete manufacturers and their suppliers can match specific products with individual customers and fulfill orders most effectively based on cost, location and transit times. Blue Yonder's advanced fulfillment optimization engines ingest real-time data and make fact-based, on-the-fly decisions that balance a wide range of outcomes and support multiple key performance indicators (KPIs).

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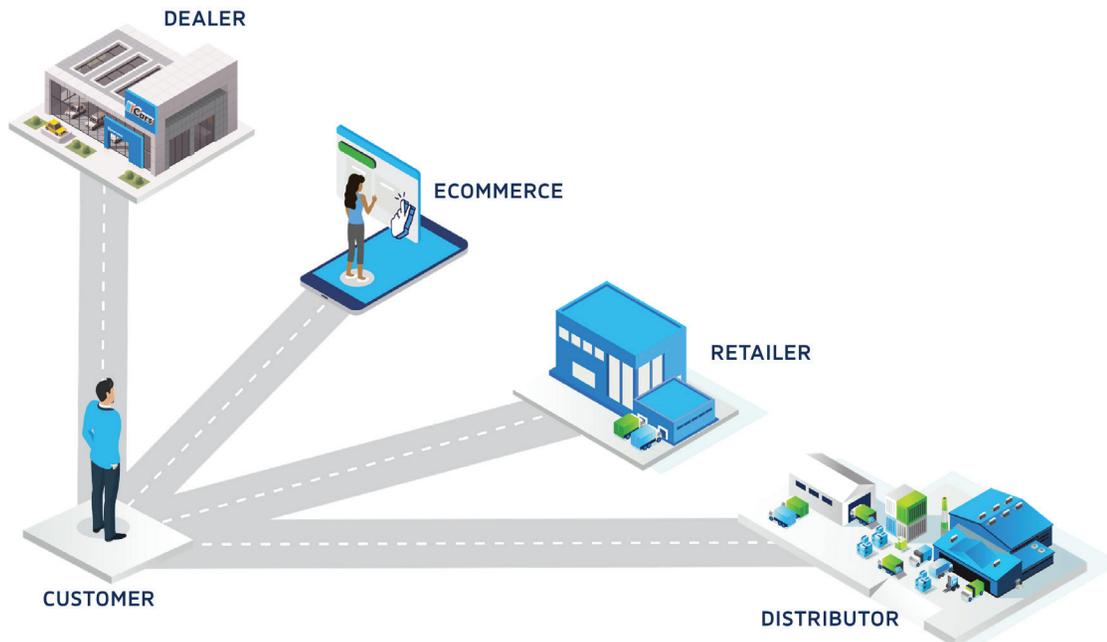
Key Benefits

- **Deliver accurate and reliable inventory commitments** to customers across every channel in real time.

- **Increase revenue by delivering accurate data to customers**, including in-stock/out-of-stock, local inventory and available product quantities.

- **Deliver personalized experiences** based on customer preferences.

- **Optimize the cost to fulfill**, considering product location, cost of merchandise, product selection, profitability, transportation, and supply chain costs.

Solutions

- Inventory & Order Management
- Transportation Management
- Warehouse Management
- Labor Management

DEALER

ECOMMERCE

RETAILER

CUSTOMER

DISTRIBUTOR

Warehouse and Labor Management

The rapid growth of e-commerce has significantly impacted warehouses in every industry, including industrial manufacturers. Delivering products through multiple channels from multiple locations, amidst well-publicized product shortages and supply chain issues, has created an unprecedented level of warehouse complexity.

A lack of real-time connectivity and synchronization between warehouses and other key functions, including transportation, is only exacerbating this situation. Without visibility and transparency across functions, ever-changing omni-channel conditions are driving order fulfillment delays, out-of-stocks, frequent inventory movements, and high expediting costs. Adding to the complexity are extreme global labor shortages and high turnover rates.

Blue Yonder is uniquely qualified to address both warehouse management and labor management challenges, with industry-leading solutions in each area.

Recognized as a Leader in Gartner Magic Quadrant for Warehouse Management Systems report[2] for 12 times in a row, Blue Yonder's Warehouse Management System (WMS) capabilities connect inventory management and fulfillment activities with both upstream, demand-facing data and downstream transportation insights in real time. Wherever a change occurs, the warehouse can react optimally to hit service targets, while also controlling costs to protect profit margins. By leveraging this solution to gain real-time visibility into demand, industrial manufacturers can position both inventory and human resources optimally. Blue Yonder's WMS utilizes AI and automation to make fact-based decisions in real time, to keep pace with omni-channel demand shifts.

In addition to ensuring that the right talent and skillsets are in place, Blue Yonder's labor management solution provides a real-time, granular view of workforce performance, supporting coaching and continuous improvement. Manufacturers can define and share best practices, set performance expectations, track warehouse activities, and support ownership, buy-in and accountability.
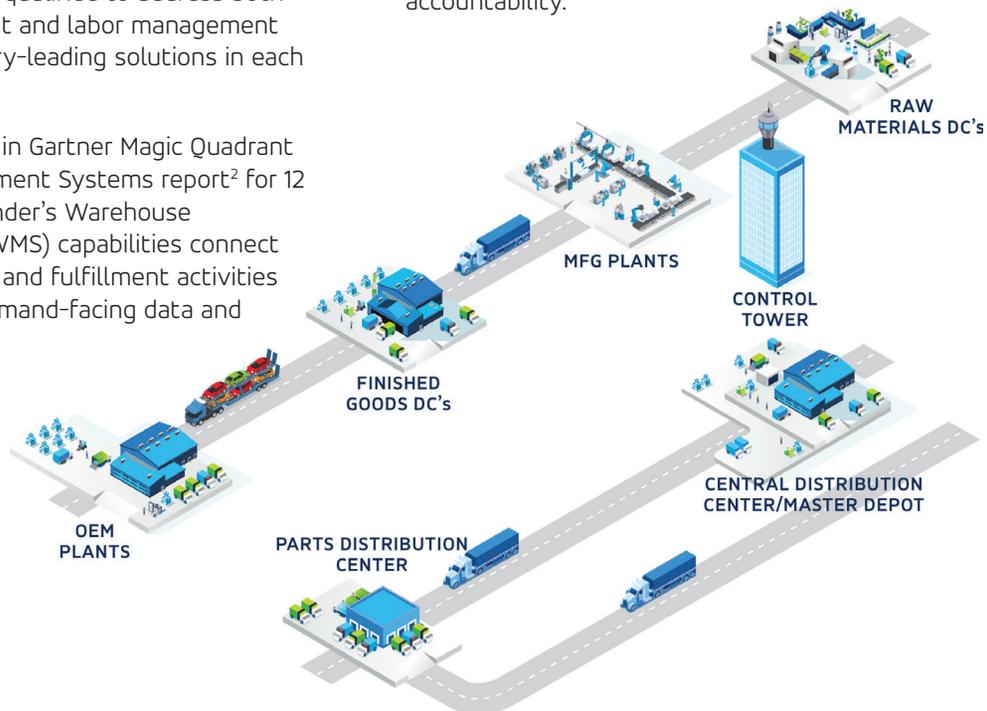
Key Benefits

- **Achieve end-to-end visibility** to support fast and profitable inventory management.

- **Grow revenue** with accurate inventory levels and placement.

- **Deliver personalized experiences** based on customer preferences.

- **Maximize employee productivity, speed and accuracy** to combat talent shortages while delivering superior service.

- **Reduce cost-to-serve** with unified logistics optimization across warehouse, warehouse labor and transportation.

Solutions

- Warehouse Management
- Labor Management
- Transportation Management
- Inventory & Order Management

RAW MATERIALS DC's

MFG PLANTS

CONTROL TOWER

FINISHED GOODS DC's

OEM PLANTS

PARTS DISTRIBUTION CENTER

CENTRAL DISTRIBUTION CENTER/MASTER DEPOT

Transportation Management

As demand and supply volatility have increased, many industrial manufacturers and distributers have compensated by building larger distribution networks and relying on expedited delivery. However, this strategy is not sustainable or profitable in the face of ongoing demand shifts and product shortages.

Industrial manufacturers don't need larger distribution networks. They need smarter transportation capabilities that are directly connected to real-time data from the demand forecast and internal execution partners like warehousing, the external carrier network, and third-party data sources for news, traffic and weather. Via digitalization, the transportation function can more efficiently match available assets with customer demand, while also responding agilely to changing conditions like port closures, blocked transportation lanes, geopolitical events, and extreme weather.

Enabled by AI and ML, Blue Yonder's industry-leading Transportation Management System (TMS) gathers real-time data on demand and supply, weighs complex cost and service trade-offs, and autonomously makes optimal decisions.

Blue Yonder's TMS has predictive modeling and advanced analytics that not only considers cost and service, but also other KPIs – such as sustainability – when creating and executing transportation plans. As conditions inevitably change, Blue Yonder's optimization engines conduct iterative analysis to keep plans on track. Blue Yonder's TMS is designed for practicality and usability, as it easily optimizes routine daily tasks such as freight bidding and procurement, routing, and asset utilization.

By enabling the creation of a digitally connected ecosystem, with real-time visibility between transportation and other key functions, Blue Yonder drives greater resilience to disruption, increases asset productivity, and significantly improves long-term financial results. Blue Yonder has been recognized as a Leader 12 consecutive times in the Gartner Magic Quadrant for TMS report[3].
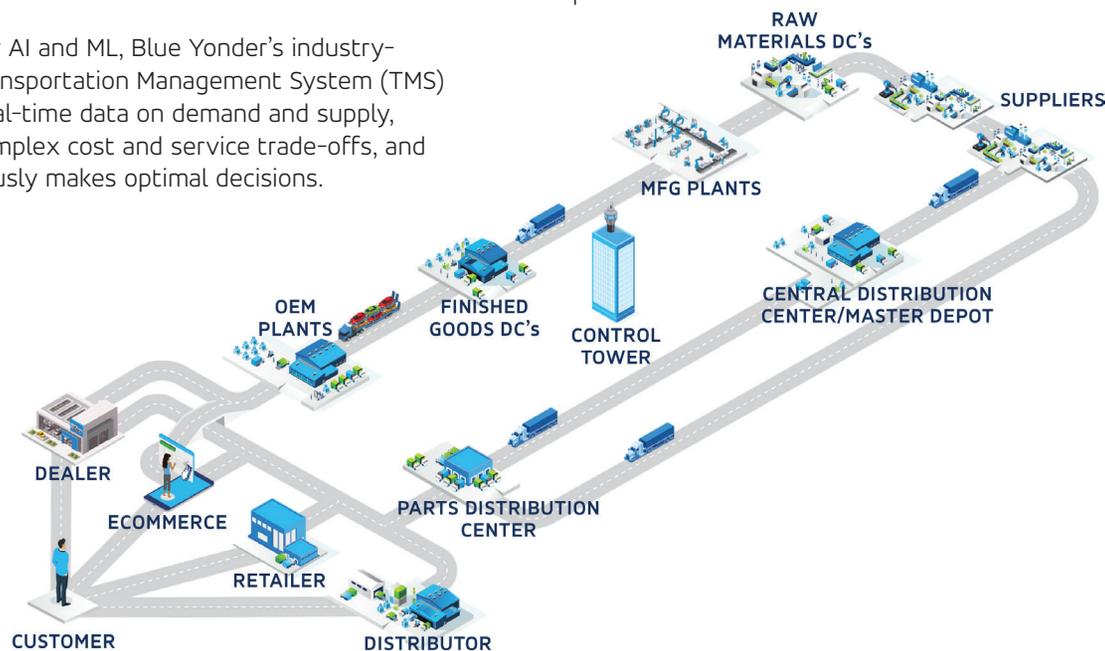
Key Benefits

- **Gain end-to-end traceability** for accurate, reliable inventory handling and delivery.

- **Achieve in-transit visibility** for optimized real-time decision making as conditions change.

- **Leverage advanced routing and load-building capabilities** to reduce the cost-to-serve.

- **Reduce lead times** with unified logistics optimization in transportation, labor and warehousing.

- **Support sustainability and control cost**s by optimizing capacity, maximizing asset utilization and reducing miles.

Solutions

- Transportation Management
- Transportation Modeling
- Load Building
- Warehouse Management
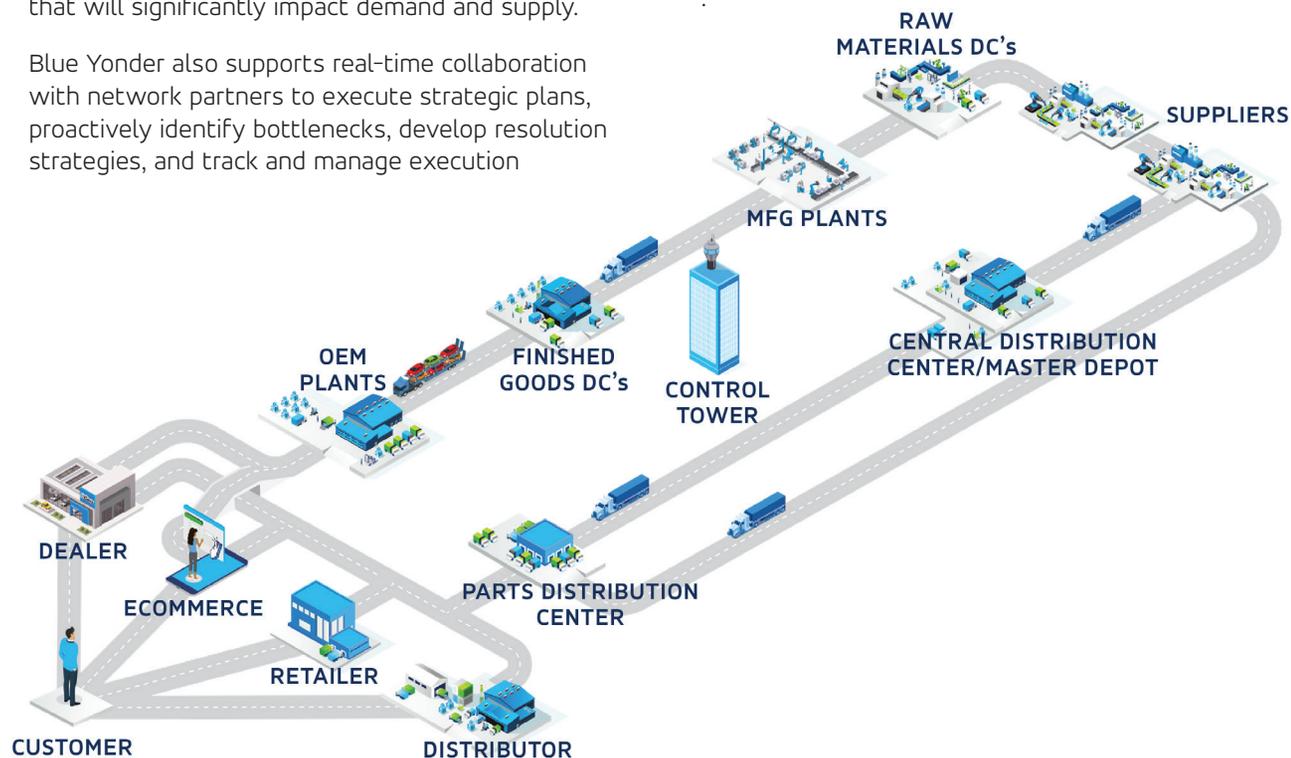
Real-Time Visibility & Collaboration

Given the extreme volatility in the worldwide discrete manufacturing industry today, it's essential for companies to be able to see, analyze and act on information across their supply chains in real time. It's also critical to learn from experiences, such as product shortages, and become better at sensing and responding to supply chain risks and opportunities in the future.

Blue Yonder's Luminate Control Tower was designed to address that need by providing real-time, end-to-end supply chain transparency. By visualizing the current flow of goods across suppliers, factories, distribution centers, customers, and distributors, discrete manufacturing companies can identify and address any events or exceptions that will significantly impact demand and supply.

Blue Yonder also supports real-time collaboration with network partners to execute strategic plans, proactively identify bottlenecks, develop resolution strategies, and track and manage execution

throughout the product lifecycle. Exception alerts, playbooks and situation rooms ensure that all supply chain participants are involved in optimizing overall supply chain results. Control Tower also supports the development of a "digital twin" of the end-to-end supply chain network – including items, locations and inventory – so various scenarios can be tested in a risk-free environment.

Backed by AI and ML, Blue Yonder solutions exceed the abilities of human cognition to recognize and address complex supply chain issues. They continually improve in their ability to recognize exceptions, prescribe actions, and automate the execution of new plans.

Key Benefits

· **Empower and engage planners** to be more productive and effective decision makers, with end-to-end visibility in real time.

· **Improve resource utilization** through prioritization of issues and actions.

· **Collaborate systematically with suppliers** on forecasts and capacities.

· **Enable control, visibility and accuracy** from suppliers' production all the way through to the end customer.

· **Support fast responses** to any changes in demand and supply.

Solutions

· Control Tower

Blue Yonder drives success in the challenging industrial manufacturing industry.

As the global manufacturing industry has evolved in its capabilities and competitive challenges, Blue Yonder's industry-leading solutions have evolved along with it.

Today, Blue Yonder is unique in its ability to support a true digital supply chain transformation via advanced AI and ML, predictive analytics, real-time probabilistic forecasting and autonomous decision-making. Because Blue Yonder spans every supply chain competency, no software provider is better equipped to support a fast, synchronized network-wide response when disruptions inevitably occur. It's not a coincidence that Blue Yonder is the only company recognized a Leader in three Gartner Magic Quadrant reports[4] covering Supply Chain Planning, Transportation Management Systems and Warehouse Management Systems – consistently for the past three years.

The supply chain challenges facing the industry are not going away; in fact, they are expected to increase as technology adoption, competition, autonomy, and other trends continue to gain momentum. The only way industrial manufacturers can succeed in this tough environment is by building the end-to-end visibility, speed and agility that enables them to respond to changing conditions faster, and more strategically, than competitors. Today, a complete digital transformation of the industrial manufacturing supply chain is the key to success and Blue Yonder can get you there.

[1] Gartner, "Magic Quadrant for Supply Chain Planning Solutions," Pia Orup Lund, Amber Salley, Tim Payne, Janet Suleski, Joe Graham, Caleb Thomson, 2 May 2023.

[2] Gartner, Magic Quadrant for Warehouse Management Systems, Simon Tunstall, Dwight Klappich, Rishabh Narang, Federica Stufano, 8 May 2023.

[3] Gartner, "Magic Quadrant for Transportation Management Systems," Brock Johns, Oscar Sanchez Duran, Carly West, 28 March 2023.

[4] Gartner, "Magic Quadrant for Supply Chain Planning Solutions," Pia Orup Lund, Amber Salley, Tim Payne, Janet Suleski, Joe Graham, Caleb Thomson, 2 May 2023; "Magic Quadrant for Transportation Management Systems," Brock Johns, Oscar Sanchez Duran, Carly West, 28 March 2023; "Magic Quadrant for Warehouse Management Systems," Simon Tunstall, Dwight Klappich, Rishabh Narang, Federica Stufano, 8 May 2023.

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