



The New Must-Haves for Supply Chain Resilience

The pain is real, and the time for change is now

 **BlueYonder**
Fulfill your potential™

As global market volatility and disruptions increase, it has become nearly impossible for organizations to predict changes in supply and demand patterns. As a result, businesses risk bleeding billions in value—through lost sales, increased supply chain costs, inventory challenges and lower organizational productivity. Revenue, profit and customer satisfaction are on the line, along with sustainability goals critical to reducing environmental harm.

As organizations struggle to maintain consistently high performance in the midst of perpetual chaos, it is clear that improving supply chain resilience is the key to future growth and success.

How we get there from here

If resilience is the key, existing solutions fall woefully short. Disparate data and siloed systems that force a sequential approach have hit a performance plateau—they're simply not adequate to address today's complexity, volatility and demand for scale.

In an effort to accelerate high-quality decision-making and execution, organizations are beefing up investments in artificial intelligence (AI) and machine learning (ML). But unless these technologies are smoothly integrated into existing business workflows and processes, the results will always fail to meet expectations. Planners will continue to struggle, execution will fall short and, as a result, revenues, margins and customer experience will suffer.

Organizations need a better way to manage the growing complexities of supply chain planning—from part shortages and cost pressures to increasingly volatile customer preferences and proliferation of data.



It's now nearly impossible to predict changes in supply and demand patterns.

82%

of supply chain leaders anticipate supply disruptions and part shortages to worsen or stay at the same levels during 2023.

73%

of manufacturing leaders expect to increase their prices.

65%

of manufacturers are looking to new technologies to adapt to demand spikes.

77%

of manufacturers agree that hiring and retaining talent is important to their growth plans.

58%

of manufacturers agree that improving resilience is key to future growth.

Insights from Blue Yonder's
2023 Supply Chain Executive Survey

The new must-haves for a resilient supply chain

Imagine a solution that delivers true end-to-end collaboration, seamlessly integrated AI and ML for maximum impact, and advanced tools that empower planners to predict and pivot quickly when supply falters or demand shifts. The result: breakthrough supply chain planning and optimized business performance. To master the growing complexities of supply chain planning, organizations need an intelligent solution that delivers on **five critical must-haves for supply chain resilience**.



#1 True end-to-end collaboration and synchronized planning

Fragmented planning and execution processes hinder supply chain efficiency. Organizations need end-to-end collaboration that aligns processes and decisions across the global enterprise, uses a unified data model, and offers purpose-built solutions for network design, scheduling and execution.



#2 Seamlessly integrated AI and ML for transparent decision-making

AI can analyze huge volumes of data, identify patterns, assess operations and support better decisions—but only when it's integrated into existing processes and workflows. Must-haves include transparent and scalable AI with high-volume processing, user-friendly interfaces and the flexibility to incorporate custom algorithms.



#3 Supply chain optimization and automation for empowered decision-making

Optimizing supply chain performance requires high-quality, accurate forecasting at scale—mitigating risk while maximizing rewards. A solution that's always on empowers organizations to predict and pivot quickly so they stay one step ahead of supply disruptions, consumer demand shifts and competitors.



#4 A scalable technology platform

A scalable platform simplifies deployment, accommodates business growth and innovation, and does this while reducing the maintenance complexity and reducing total cost of ownership.



#5 A trusted partner ecosystem

Peak performance depends on a best-in-class partner ecosystem with industry experience and expertise, a partner-centric approach, and flexible, responsive global and regional resources.

MUST HAVE 1

True end-to-end collaboration and synchronized planning

Traditional siloed and sequential planning approaches can no longer handle the complexities, volatility and scale of modern supply chains. Building real supply chain resilience means saying goodbye to fragmented planning and execution processes driven by mixed tools and systems. The resilient supply chain solution integrates through these barriers and creates maximum visibility and collaboration from planning to execution

Non-negotiables for end-to-end effectiveness

The resilient solution is truly end-to-end; with the integrated components you need to run an exceptional supply chain from start to finish.

- **Unified data model.** The resilient solution synthesizes real-time data from diverse sources, including internal, external, IoT and event data, into a single central source. The result: smarter decisions based on a holistic view of the supply chain.
- **Interface and workflows designed for collaboration.** A single shared dashboard, intuitive user interface and virtual situation rooms let you work across departments and collaborate with internal associates and external trading partners. By collating inputs from sales, marketing, finance, operations and other key stakeholders, the resilient solution aligns goals and powers creation of synchronized plans.

- **Purpose-built end-to-end supply chain solution suite.** End-to-end collaboration requires end-to-end capabilities. Look for a comprehensive suite that encompasses integrated planning and execution, control tower, network design, detailed scheduling, warehouse management and transportation management.
- **Interoperability of deployed solutions.** The resilient solution creates a synchronized and harmonious ecosystem by integrating data, systems, business processes and decisions across planning time-horizons and across the global enterprise. Systems communicate with bidirectional data exchange that supports synchronization and collaboration. Business process interoperability means it doesn't matter where a process is initiated.

Avoiding pitfalls

Don't miss out on true end-to-end visibility and collaboration with solutions providers whose solutions and approaches remain fragmented and incomplete.

- **Missing components.** solutions providers lack essential components, such as e-commerce, execution, network design scheduling, warehouse management and transportation management, making a true end-to-end solution impossible to deliver.

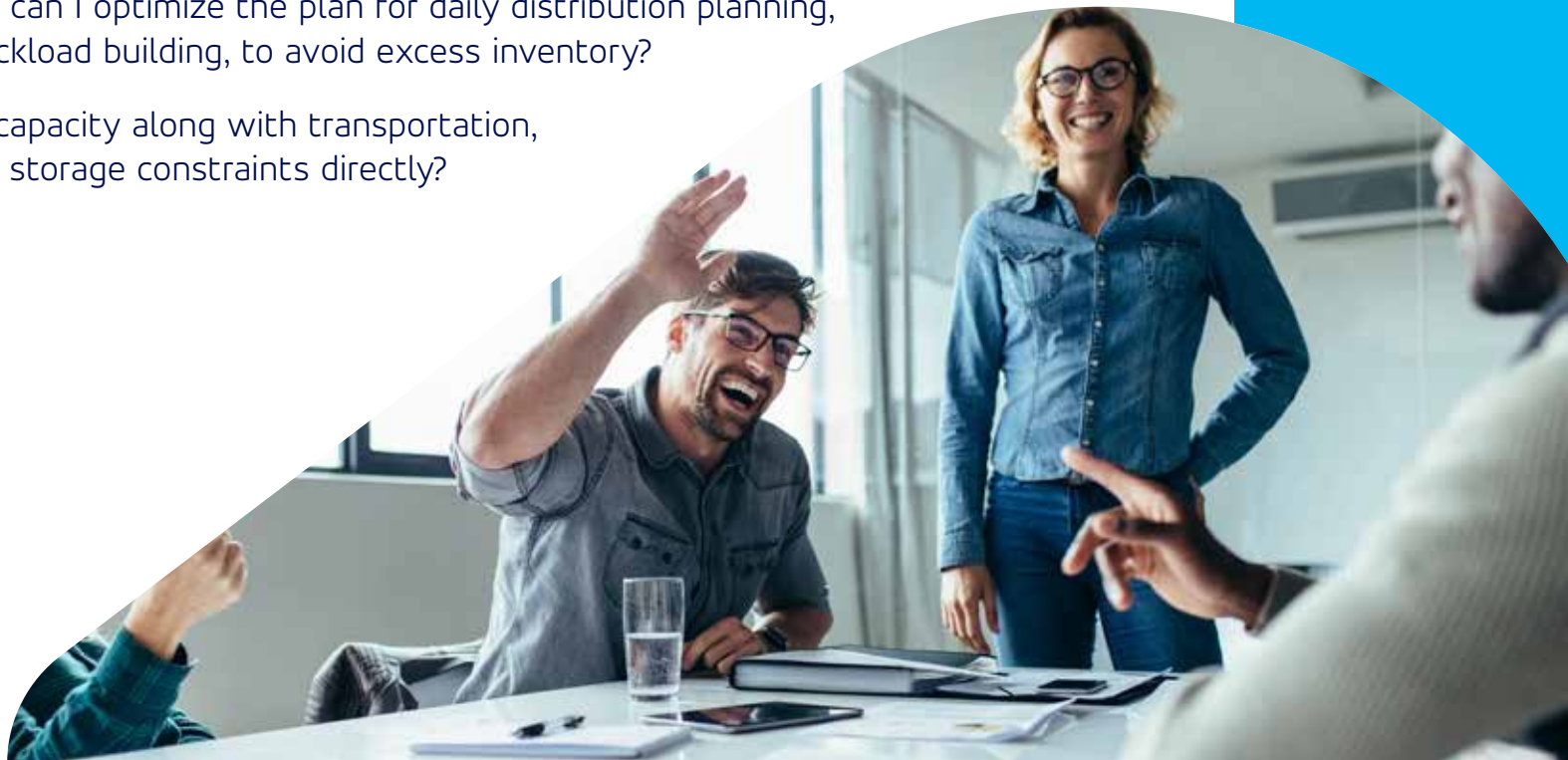
- **Barriers to action.** Some collaboration frameworks may not have the tools or capabilities users need to work together to make decisions, solve problems or resolve issues.
- **Overemphasis on modularity.** If you're considering a modular solution, don't choose apparent power over the seamless integration that true end-to-end collaboration demands.





1 Check for these must-haves before you sign

- Can I collate inputs from all key stakeholders—sales, marketing, finance, operations etc.—to create an optimized demand plan.
- How will I integrate, extract or share data—inside and outside our enterprise solutions?
- Will I have a single data model for all supply chain-related data?
- How does your solution enable cross-organizational collaboration?
- Do you offer seamlessly integrated, end-to-end capabilities, including integrated planning and execution, control tower, network design, detailed scheduling, warehouse management and transportation management?
- For example, can I optimize the plan for daily distribution planning, including truckload building, to avoid excess inventory?
- Can I model capacity along with transportation, handling and storage constraints directly?



MUST HAVE 2

Seamlessly integrated AI and ML for transparent decision-making

With their power to analyze vast amounts of data, understand relationships and enhance decision-making, artificial intelligence and machine learning can revolutionize supply chain management. But their benefits fall short unless they're smoothly incorporated into the broad span of workflows and processes. By integrating AI and ML seamlessly and transparently at every stage, the resilient solution transforms the potential of these cutting-edge technologies into true business advantage.

Non-negotiables for seamless AI and ML

The resilient supply chain software partner prioritizes these features in its AI/ML approach:

- **Purpose-built AI/ML roadmap.** A robust roadmap signals that the solutions provider is truly invested in AI and ML and lets you gauge how well its strategy aligns with your needs and goals.
- **“Glass Box” AI.** Look for a software partner with transparent and scalable AI who's willing to lift the lid on its API, data model and algorithms—and able to incorporate your algorithms into its ML models.
- **Scalable AI.** The resilient solution can manage huge volumes—50 billion+—of AI-powered transactions a month with high levels of automation, no disruption and no constraints on data or file size.

- **Easy-to-use AI.** Intuitive user interfaces and support tools let data scientists create, test and deploy custom AI models with ease.
- **More explainable AI.** As AI/ML solutions become more sophisticated, the need for explainability grows. Outputs that are easy for planners and management to understand will encourage

Avoiding pitfalls

In the search for seamless AI and ML integration, watch for these signs that a solutions provider may fall short in delivering the benefits you're counting on.

- **Lack of vision.** Make sure the solution provider is truly invested in AI, not just using the buzzword to get your attention. Look for a coherent strategy and commitment in staffing and intellectual property.
- **Inability to integrate.** You'll lose an important performance advantage if the solutions provider's approach isn't flexible enough to integrate your in-house statistical forecasting and AI/ML into a single planning solution.

- **Platform constraints.** Is the vendor's technology architecture designed to ensure compatibility with AI and performance optimization? Are there limits on volume, data or file size that will hamper performance?
- **Limited track record or resources.** Are there success stories and verifiable references to back up big promises about AI/ML? Is there in-house brain power? Too great a reliance on “citizen” data scientists can result in suboptimal solutions.



2 Check for these must-haves before you sign

- What's your AI/ML vision? Do you have or plan to have a full suite of algorithms? How many data scientists do you have on staff?
- Are you willing to “open the box” and provide API, data model and algorithm documentation on your ML models?
- Is your tech architecture compatible with AI and performance optimization? How many AI transactions does your platform process on a monthly basis?
- Can I bring together statistical forecasting, my AI/ML and your AI/ML in a single planning solution? How easy is this to do?
- Can my in-house data scientists create, test and deploy custom models at scale?



MUST HAVE 3

Supply chain optimization and automation for empowered decision-making

Traditional forecast solutions leave planners grappling with inefficiencies and suboptimal decision-making. The resilient supply chain solution closes the gap with optimization powered by AI and ML. No more chasing after endless scenarios or reacting to every minor change in the environment. The resilient solution doesn't just react, it predicts. By telling you what's coming, the resilient solution powers real competitive advantage.

Non-negotiables for end-to-end supply chain optimization

The resilient supply chain solution delivers true end-to-end optimization through these mission-critical capabilities.

- **Event-driven and intelligent scenario planning.** You need event-driven scenario planning that lets you respond to market events in minutes not hours. The solution should automatically create and evaluate a logical set of scenario plans so planners can manage the risk or seize the opportunity.
- **Flexible and extensible ML.** Look for machine-learning models that integrate external causes for real-time simulations, so data-driven insights align with market and business realities.

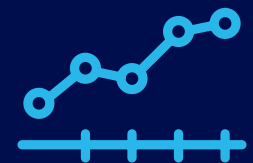
- **AI-driven feature engineering.** The solution should incorporate ML algorithms that continuously learn and determine the best combination of demand factors from all available data. Planners receive a set of optimized plans to review and select from, reducing scenario planning from hours to minutes.
- **Smarter artificial intelligence.** Today's AI must go beyond the basics and include demand automation, dynamic segmentation, disruption prediction, automated resolutions and parameter tuning. The solution should combine the best statistical algorithms and AI/ML models autonomously to achieve the highest possible forecast accuracy.

Avoiding pitfalls

For some vendors and solutions, key weaknesses get in the way of true supply chain optimization.

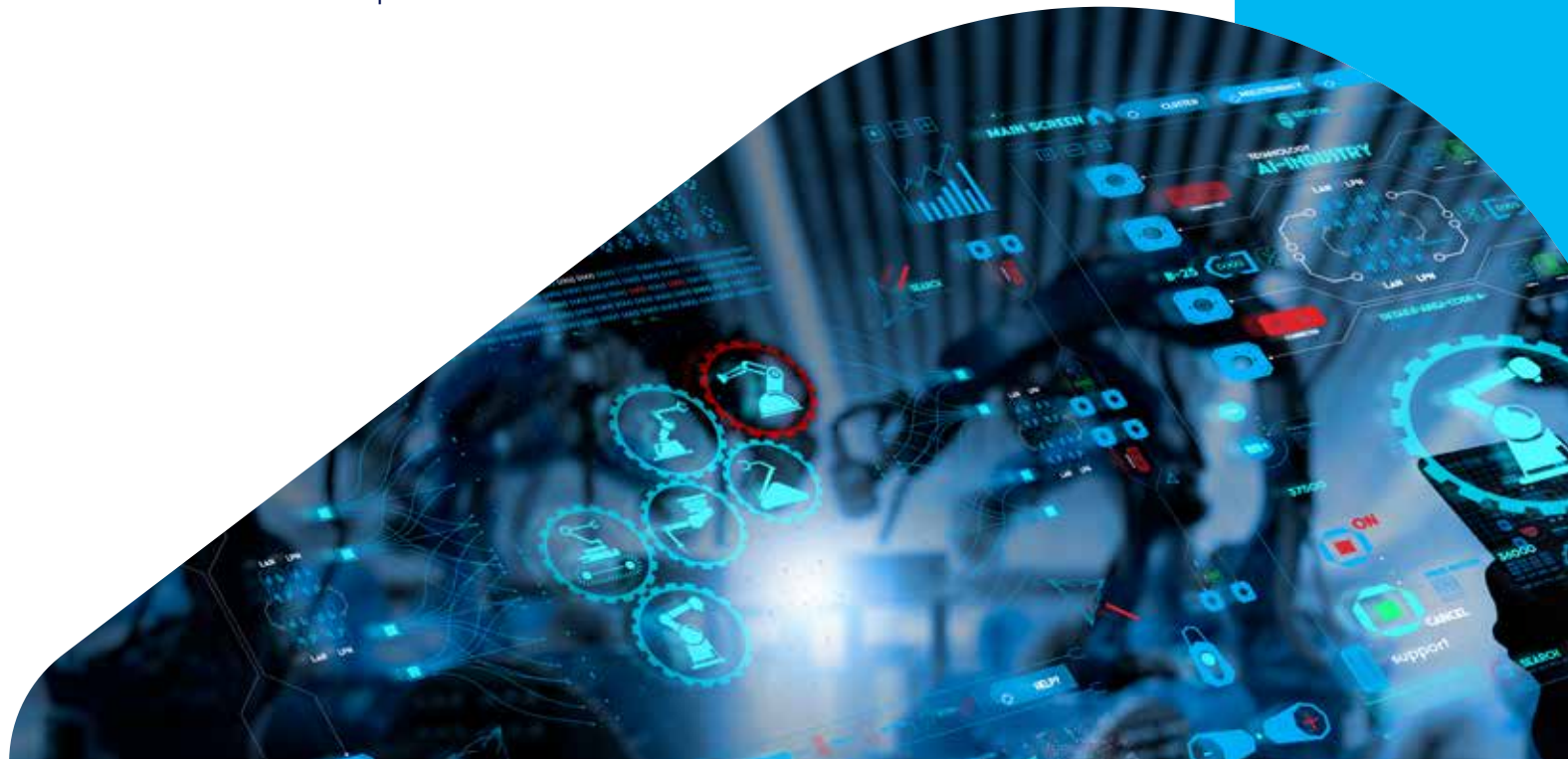
- **Platform limitations.** Some platforms struggle to handle transactional data and scale when merging platform and execution, potentially leading to operational inefficiencies.

- **A reactive approach.** Some solutions primarily react to problems after they occur, lacking predictive capabilities to forecast future disruptions effectively.
- **An overly heuristic model.** Speed isn't everything. A heuristics model that can't optimize will fail to deliver high quality insights and can have a negative effect on decision-making in the long run.
- **Source-allocation challenges.** Solutions that can't alternate sources with existing inventory—even if the primary source has production capacity—may lead to excess inventory and inefficiencies.



3 Check for these must-haves before you sign

- What are your customers' average forecast accuracy rates? What percent improvement do they achieve after deploying your solution?
- Does your solution simulate market conditions in near real time, leveraging always-on access to real-world data?
- Can your solution handle multiple complexities like products and markets and combine multiple techniques to boost accuracy and quality?
- How flexible is your scenario planning? For example, can I alternate sources with existing inventory even if my primary source still has capacity?
- Does your solution include recommended resolution levers, so simulations can see all direct and indirect consequences?



MUST HAVE 4

A scalable technology platform for growth

In today's business environment, high-speed innovation is what separates winning and losing strategies for digital transformation. Organizations need the flexibility to bring new capabilities to market quickly so that they can better serve their customers while protecting their bottom line.

Non-negotiables for a platform that can grow with you

The resilient supply chain solution is built on a platform that can support your organization's growth over time. It's reliable and effective today and adaptable and scalable as demands change.

- **Cloud-based architecture.** Cloud-native, microservices architecture reduces time to value with faster deployment times and disruption-free upgrades. Domain-centric microservices makes continuous performance optimization easy and lowers your total cost of ownership, allowing businesses to start with what they need today knowing that they can easily add capabilities tomorrow while maintaining seamless interoperability.
- **Easy configurability.** Fast, low-code configurability makes it easy to align the solution with your specific business processes and requirements.

- **Proven scalability.** The platform's scalability is vital to support end-to-end supply chain planning and accommodate companywide deployments.

Avoiding pitfalls

Solutions providers and solutions without true scalability and resilience are weighed down by platform issues you want to avoid.

- **Over promising and under delivering.** Beware of solutions providers who say they can do what they've never done. Check references and make sure they have the experience and partners to deliver on deployments that match your organization's scale and complexity
- **Hassles with platform customization.** Platforms that rely on custom-built installs for each organization can increase costs, slow implementation and hamper future adoption. These solutions usually come from solutions providers whose limited resources and expertise add up to spotty customer support and slower rollout of software updates and new features.

- **"Free" pilot programs and customized solutions.** You get what you pay for. Offers like these don't integrate best practices, are difficult to support and often require more work—at a price—to accommodate software updates. The result: longer time to value and no scalability.





4 Check for these must-haves before you sign

- How easily would your platform be able to support our unique business requirements?
- What's the process for updates and upgrades?
- How configurable is the product?
- Do you have industry-specific templates, workflows, etc.?



MUST HAVE 5

A trusted partner ecosystem

Finding the right implementation partner can be a quagmire for organizations. It takes extensive research, evaluation and negotiation to find a partner with the right mix of technical expertise, industry experience, project management capabilities and pricing. The resilient supply chain software partner smooths the process with a global network of skilled, innovative partners and a platform custom built for optimization and growth.

Non-negotiables for a best-in-class partner ecosystem

The software partner with a truly resilient solution collaborates with a network of exceptional implementation partners that share its commitment to service and excellence.

- **Names you recognize and trust.** The best attracts the best. Choose a software partner whose network can elevate your total customer experience, tailor implementations to your business requirements and deliver exceptional results.
- **Industry experience and expertise.** The ideal software partner has multiple partners with track records of success implementing its solution. Ask for at least two references to validate their capabilities.

- **Partner-centric approach.** Look for a software partner that collaborates with its network, includes them in strategic discussions and invests in their success.
- **Global and regional partners.** Be sure the ecosystem is diverse enough to support whatever needs arise—from smaller consultants with expertise implementing specific products to global systems integrators that support broader digital transformation.

Avoiding pitfalls

Simply steer clear of solutions providers who don't have a solid track record of successful, large scale implementation and a long list of partners willing to work with them.





5 Check for these must-haves before you sign

- Who are your implementation partners? Are their revenues growing?
- What reference customers do you have from my specific industry?
- How many large-scale deployments have you implemented successfully?
- How easily would your team be able to support our highly customized solution?



Achieve true supply chain resilience with Blue Yonder

Few software providers understand the modern supply chain like Blue Yonder. We're backed by 30 years of experience, thousands of successful customer engagements and the industry's leading portfolio of end-to-end solutions. From our proven warehouse management and transportation management systems to our innovative new control tower, platform offerings and cognitive suite of solutions, the Blue Yonder footprint is designed to answer evolving supply chain challenges.

Blue Yonder is the only supply chain technology vendor that's been named a leader in Gartner's Magic Quadrants for Warehouse Management, Transportation Management and Supply Chain Planning Solutions consistently for past three years¹. This long and robust track record of success is evidence of Blue Yonder's commitment to continuing innovation.

The world of supply chain management doesn't stand still. So Blue Yonder doesn't stand still. With over 430 patents—and counting—Blue Yonder has committed to investing more than \$1 billion in research and development to identify and apply leading capabilities in AI, ML, analytics, decision support, automation and other areas. Acquisitions have brought special capabilities into the Blue Yonder portfolio, to address emerging needs like e-commerce. And strategic partnerships with like-minded industry leaders, including Microsoft and Snowflake, are aimed at maximizing our customers' return on investment.

It all adds up to the industry's most complete and advanced portfolio for supply chain management.

Discover the Blue Yonder difference today.

¹Gartner, "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; Gartner, "Magic Quadrant for Warehouse Management Systems," Simon Tunstall, Dwight Klappich, Rishabh Narang, Federica Stufano, 8 May 2023.

Gartner does not endorse any vendor, product or service depicted in its research publications, and does not advise technology users to select only those vendors with the highest ratings or other designation. Gartner research publications consist of the opinions of Gartner's research organization and should not be construed as statements of fact. Gartner disclaims all warranties, expressed or implied, with respect to this research, including any warranties of merchantability or fitness for a particular purpose. GARTNER is a registered trademark and service mark of Gartner and Magic Quadrant is a registered trademark of Gartner, Inc. and/or its affiliates in the U.S. and internationally and are used herein with permission. All rights reserved. This graphic was published by Gartner, Inc. as part of a larger research document and should be evaluated in the context of the entire document. The Gartner document is available upon request from Blue Yonder.

