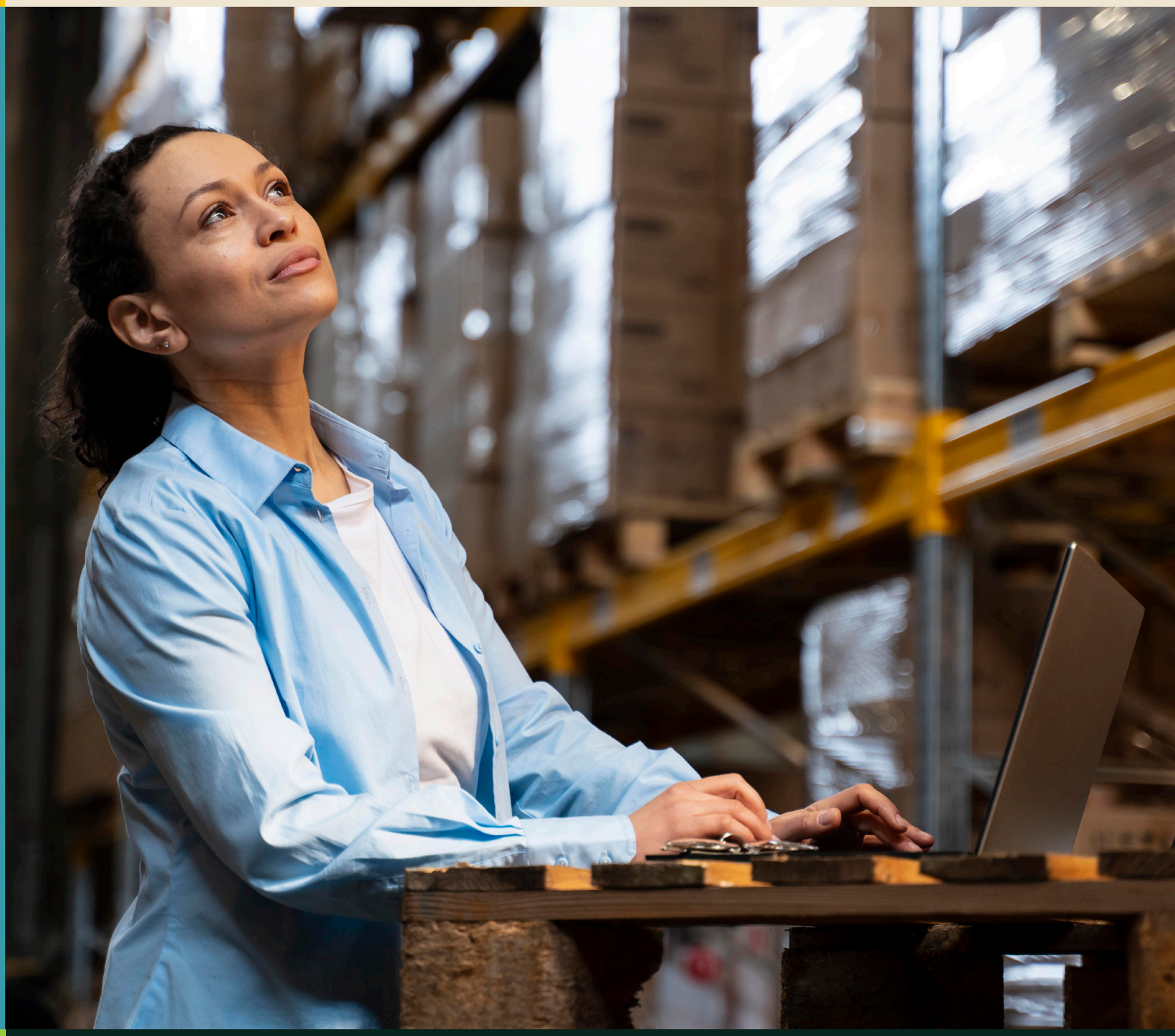
GAINS
MOVE FORWARD FASTER

5 Steps to Supply Chain Agility in Manufacturing



A Guide to Resilience and Profitability:

Proven Strategies for Agility and Resilience in Supply Chain Management

Agility is Essential in Manufacturing

Manufacturers today operate in an increasingly uncertain and unpredictable environment where agility is not just "nice to have" but essential for survival. More than at any time in history, supply chains are more interconnected, complex, and vulnerable. With global pandemics, raw material shortages, evolving regulations, and rising geo-political conflict, supply chain professionals face a barrage of challenges that demand rapid and effective responses. An agile supply chain ensures faster, smarter decisions because you're not reacting to disruptions but planning for them.

What is Supply Chain Agility?

More than speed, it's the ability to respond quickly and effectively — incorporating flexibility, adaptability, and the ability to maintain control in the face of the unexpected. Supply chain agility allows organizations to navigate shifting consumer demand, supply disruptions, and market volatility without losing momentum. Agility becomes the defining factor that separates resilient organizations that customers can depend on from those of your competitors left scrambling to recover from disruptions.

Modern Manufacturers face key challenges that demand agility:

Addressing these challenges requires a strategic shift toward real-time visibility, advanced planning tools, and a composable technology framework.

- **Volatility and Omnichannel Complexity** - Manufacturers manage an intricate web of sales channels which requires a quick response to shifting demand patterns to meet customer expectations.
- **Misaligned Inventory** - Overstock, tying up capital, or stockouts leading to missed sales create financial strain. Fulfilling customer promises depends on real-time inventory. Manufacturers must match inventory to demand with precision, but outdated tools make it difficult to keep up with the pace of modern manufacturing.
- **Limited Inventory Visibility** - Without a multi-echelon inventory strategy, manufacturers struggle to gain a clear, consolidated view of inventory across all supply chain tiers, including raw materials, in-process goods, and finished products. This lack of visibility creates inefficiencies, bottlenecks, and reactive decision-making, ultimately compromising service levels and profitability.
- **Outdated Planning Tools** - Manual spreadsheet-reliant processes and monolithic "one-size-fits-all" solutions fall short in managing the intricacies of modern manufacturing. A lack of automation and real-time data cripples the ability to respond to market changes effectively.
- **Increasing Product Complexity and Customization** - The need for personalization and mass customization add layers of complexity to production. Manufacturers must juggle a wide array of products and components while maintaining efficiency and consistency.
- **Production Scheduling Issues** - Without synchronization across systems, production suffers from delays and inefficiencies. Real-time adjustments are key to maintaining operational flow during uncertain times.
- **Operating Margins Under Pressure** - Rising transportation expenses, labor shortages, and energy costs increase financial strain. Agile logistics enable cost-effective solutions without compromising service standards.

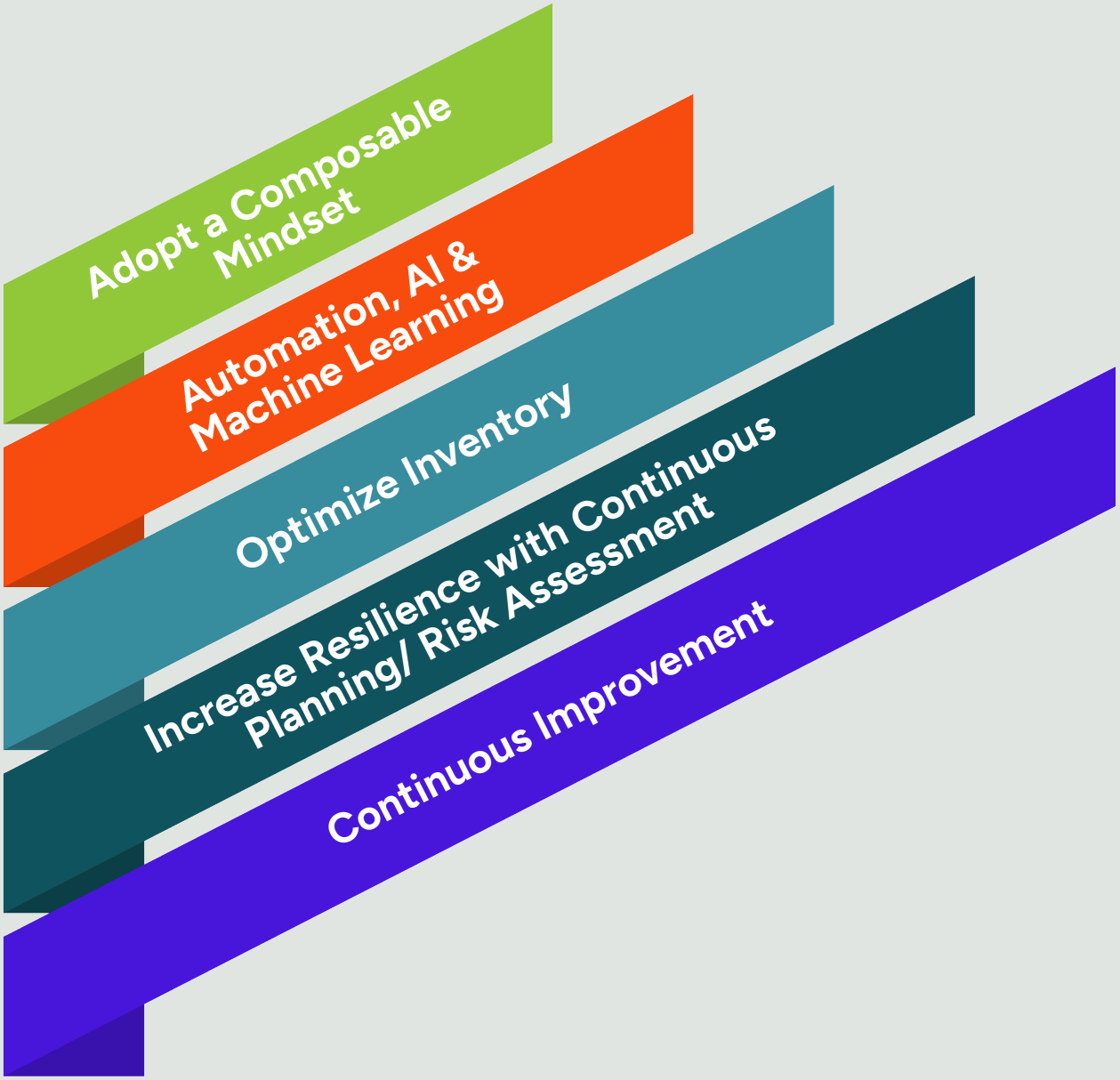
By embracing agility, manufacturers can respond dynamically to change, streamline operations, and unlock new levels of efficiency and competitiveness. GAINS provides the expert solutions and real-world experience manufacturers need to tackle these challenges head-on, enabling a resilient, customer-focused supply chain network that thrives in an unpredictable and complex environment.

A resilient supply chain... is within your reach.

Building a resilient supply chain isn't just a goal for modern manufacturing organizations — it's necessary for survival in an increasingly chaotic market. Resilience empowers manufacturers to navigate disruptions, adapt to demand changes, and deliver exceptional service levels while protecting profitability. Achieving this level of agility and stability may seem daunting, but it's entirely within reach.

In this E-Book are **five essential steps** manufacturers can follow to transform their supply chains into their competitive advantage:

5 Essential Steps Manufacturers can follow for better profits and improved service levels.



1. Adopt a Composable Mindset

Supply chain professionals can no longer rely on rigid, one-size-fits-all systems to achieve success. The ever-increasing complexities of global markets, shifting demands, and supply disruptions require organizations to seek and implement modular, adaptable solutions. — systems of interoperable components that can be seamlessly added, replaced, or adjusted as business needs evolve.

Composability begins with a simple yet transformative principle: there is no one single "right answer" or perfect solution that can address every supply chain challenge. Many monolithic software providers claim to offer such all-encompassing solutions, but the reality quickly becomes evident — some features deliver value, while others fall short. Relying on a solution that is merely "good enough" or assumed to be reliable is a gamble — arguably more dangerous than having no solution at all. The stakes are too high for companies to pin their hopes on one-size-fits-all systems that can't adapt to their supply chains and the world's unique and evolving demands.

Rather than expending time and resources chasing an elusive "one-stop" solution, **composability** embraces a more pragmatic philosophy. It focuses on leveraging **modular components** that can be seamlessly added, replaced, or adjusted without disrupting (ripping out and replacing) existing systems. Each module is purpose-built to address a specific supply chain function or functions, such as demand forecasting, inventory optimization, or lead-time prediction.

The modular nature of composable systems allows companies to make targeted enhancements and seamlessly integrate new capabilities, eliminating the costly and disruptive need for complete system overhauls. Developing a composable mindset means designing a supply chain network with flexibility at its core. This begins with a modular approach to processes like demand planning or inventory management.

Benefits:

- **Flexibility:** Quickly adapt to market shifts, customer demands, or new technologies without having to "rip-and-replace" the entire system.
- **Scalability:** Add or replace specific components as your business grows, such as expanding fulfillment capacity in one region while maintaining stability in others.
- **Faster Implementation:** Deploy new capabilities, such as AI-powered forecasting tools, more quickly than traditional systems.

Actionable Steps:

- **Audit Your Current Systems** - Identify areas where rigidity in your current processes or technologies creates bottlenecks. Look for systems that are difficult to upgrade, overly customized, or unable to adapt quickly to changing requirements.
- **Focus on Modularity** - Break down your supply chain operations into small, manageable components. Instead of building or relying on a monolithic ERP system, prioritize selecting modular solutions that can evolve independently. For example, GAINS demand forecasting tools integrate easily with other planning functions as an add-on to your ERP.
- **Embrace APIs and Interoperability** - Ensure your chosen technology supports seamless integration. Modern supply chain solutions should allow different systems — ERP, WMS, TMS — to communicate with each other effortlessly. This interoperability is a cornerstone of composability and a key to successful communication.
- **Leverage Your Data as an Asset** - A composable approach thrives on accurate, real-time data. Make sure you have strong centralized data that is accessible across functions.
- **Stay Technology-Forward** - Partner with vendors who can help you implement incremental changes. Invest in technologies designed for composability, such as microservices, cloud-native applications, and platforms offering API-first architectures.

Adopt a Composable Mindset Cont.

Key Focus Areas:

1. **Demand Planning:** Implement modular tools that improve demand forecasting accuracy. Start with one product line or region and scale as you see results.
2. **Inventory Management:** Break down inventory processes into components, allowing real-time adjustments for stock levels, locations, and replenishment.
3. **Multi-Echelon Inventory Optimization (MEIO):** Balance inventory across all levels of the supply chain, from raw materials to finished goods, by considering interdependencies between locations to minimize total inventory costs while maintaining high service levels, enabling smarter stock placement and improved responsiveness to uncertainty.
4. **Supplier Collaboration:** Use composable platforms that enhance supplier communication, making it easier to adapt to lead-time variability and disruptions.
5. **Logistics Optimization:** Modular systems allow for route optimization and dynamic adjustments to transportation plans without disrupting other processes.
6. **Technology Integration:** Focus on connecting key systems (ERP, WMS, TMS) through APIs to ensure seamless data flow and improve visibility across the supply chain.

What Manufacturers are saying about GAINS

"The GAINS project provided the **greatest corporate ROI** of any IT project in the history of the company." – Jonn Walker, President and CEO	QUBICAAMF
AmerCare ROYAL	"With **better demand signals** and the ability to **evaluate multiple scenario tradeoffs** on service and inventory perfomance – GAINS is a game-changer for the ACR team." – Brett Barnello, Chief Supply Chain Officer
"Stuller established an agile process and platform that supported our **aggressive 99% line item fill rate with 27% less inventory and a 23% reduction in operating costs**." – Tiffanie Ortis, Executive Director, Planning & Procurement	STULLER
GRACO	"With GAINS enterprise-wide S&OP support, we **reduced inventories and operating costs**. We finally have capabilities for profit optimal analysis of both short-term and long-term scenarios." – Vice President, Operations
"With GAINS we reduced inventories and eliminated a warehouse while simultaneously increasing our turns and customer service levels. GAINS enabled us to **achleve higher service levels with significantly less inventory** than our ERP tool did." – Vice President, Operations	HILLMAN
GE Power	"GAINS has enabled us to work **down excess inventories** allowing us to offset them with **inventories that truly drive our spare parts business** for today and the future." – Materials Manager

2. Leverage Automation, AI & Machine Learning

Automation, Artificial Intelligence (AI), and Machine Learning (ML) enable organizations to achieve a level of precision and efficiency that traditional methods can't match. These technologies work together to streamline operations, improve decision-making, and optimize performance across the supply chain.

By automating repetitive tasks, applying AI to analyze vast datasets, and using ML to continuously refine processes, companies can shift from reactive management to proactive, data-driven decision-making. This allows supply chain professionals to predict disruptions, optimize resources, and better align with customer needs — all while reducing operational costs and increasing resilience.

Benefits:

- **Efficiency:** Automate time-consuming tasks to free up resources like working capital for higher-value initiatives.
- **Accuracy:** Use AI and ML to analyze data and deliver more precise forecasts, decisions, and insights. Taking **a data-driven approach ensures decisions are grounded in facts, not opinions.** By prioritizing data over assumptions or biases, businesses reduce the risk of human error and create more reliable, consistent outcomes.
- **Continuous Improvement:** ML models learn over time, enhancing performance and improving adaptability as new data becomes available.

Actionable Steps:

- **Start with High-Impact Automation:** Automate processes where manual effort causes delays or inefficiencies, such as order processing, inventory updates, or supplier communication. For example, automating procurement workflows can accelerate approvals and reduce bottlenecks.
- **Implement AI for Demand Forecasting:** Use AI to analyze historical data, market trends, and external factors (e.g., weather, economic shifts) to improve demand accuracy. This ensures products are available when and where they're needed.
- **Adopt Machine Learning for Lead-Time Prediction:** ML models excel at predicting supplier lead times using your data and external factors. GAINS lead-time prediction tools, for example, adapt dynamically to new information, improving accuracy over time.
- **Use Real-Time Analytics:** Use live data for real-time visibility to quickly identify risks, optimize routes, and allocate resources effectively.
- **Integrate Automation with Existing Systems:** Ensure AI and automation solutions integrate smoothly with your existing ERP, WMS, or TMS systems. Modular tools leveraging APIs and cloud-native architectures ensure easier adoption.

Key Focus Areas:

- **Demand Forecasting:** Use AI to predict demand patterns and align inventory and production schedules.
- **Inventory Management:** Automate replenishment and optimize stock levels using AI-driven insights.
- **Risk Management:** Leverage ML to model disruption scenarios and develop proactive mitigation strategies.
- **Supplier Collaboration:** Automate communications and use analytics to monitor supplier performance and lead times.

3. Optimize Inventory

Effective inventory management is essential. Organizations must align inventory levels with actual demand to reduce carrying costs and avoid stockouts/overstock. Optimizing your inventory involves using advanced tools and strategies to ensure the right products are in the right place at the right time. By adopting a data-driven, demand-focused approach to inventory, businesses can improve working capital, streamline operations, and enhance overall customer satisfaction.

Benefits:

- **Improved Service Levels:** Align inventory availability with real-time demand to prevent costly stockouts and fulfill customer expectations.
- **Increased Visibility:** Gain a clear view of inventory across locations, enabling better decision-making and resource allocation.
- **Dynamic Adaptation:** Take a proactive approach to supply chain disruptions, demand variability, or seasonal trends, making inventory adjustments in real-time.

Actionable Steps:

- **Adopt Demand-Driven Inventory Policies** - Avoid static, "one-size-fits-all" inventory approaches. Use demand-driven strategies to align stock levels with real-time demand signals, reducing overstock and stockout risks.
- **Segment Your Inventory** - Different products require different strategies. Categorize inventory by demand variability, product lifecycle stage, or customer importance. For high-demand items: Keep safety stock to avoid disruptions. For low-velocity or seasonal items: Use just-in-time strategies to minimize excess stock.
- **Use Predictive Analytics for Forecasting** - Use AI-driven demand forecasting tools to predict demand patterns, seasonal shifts, and external factors like market trends or weather conditions. Accurate forecasting ensures you can stock inventory appropriately without over-investing.
- **Enhance Visibility Across Your Network** - Implement tools that provide real-time visibility into inventory across your network, from warehouses to distribution centers to service vehicles. This allows you to rebalance stock where it's needed most.
- **Automate Replenishment** - Deploy automated systems that trigger restocking based on real-time consumption, lead-time data, and demand predictions, reducing manual errors and ensuring timely stock availability.

Key Focus Areas:

1. **Safety Stock Management:** Use AI and ML to determine optimal safety stock levels that account for demand volatility and lead-time variability.
2. **Demand Forecasting:** Implement predictive models to align inventory with expected demand while reducing reliance on historical averages alone.
3. **Inventory Segmentation:** Prioritize products by their impact on customers and your profitability, ensuring critical items are always available.
4. **Supplier Collaboration:** Work closely with suppliers to align lead times, improve reliability, and adjust order schedules in response to shifting demand.
5. **Dynamic Rebalancing:** Continuously analyze inventory positions and dynamically reallocate stock between locations to improve fulfillment rates and reduce waste.
6. **Multi-echelon Strategies:** Take a holistic view of the supply chain for improved forecast precision, synchronized operations, optimal inventory placement, and proactive planning. Having both upstream and downstream visibility, aligning production, distribution, and replenishment with actual demand signals.

Organizations can improve service levels, reduce costs, and create a more agile and resilient supply chain by optimizing inventory through multi-echelon demand-driven strategies, predictive analytics, and enhanced visibility. Inventory optimization is more than just saving money — it's about enabling growth, improving customer trust, and achieving operational excellence.

4. Increase Resilience with Continuous Planning and Risk Assessment

Supply chain resilience is no longer an option in a world where disruption is the norm — it's a necessity. Organizations can't continue to rely on static, once-a-year planning that fails to account for sudden change, regardless of its cause. Continuous planning and proactive risk assessment help companies anticipate challenges, adapt quickly, and maintain stability in the face of uncertainty.

Combining real-time data with predictive tools and scenario modeling allows businesses to identify vulnerabilities, assess risks, and make agile, data-driven decisions that minimize disruptions and maximize operational continuity.

Benefits:

- **Proactive Disruption Management:** Identify risks before they become disruptions for faster responses and minimal impact on operations.
- **Improved Decision-Making:** Real-time visibility and scenario modeling allow for managing uncertainty using data-driven decisions.
- **Enhanced Agility:** Dynamically adjust plans to accommodate changes in supply, demand, or external factors without derailing operations.
- **Risk Mitigation:** Reduce exposure to high-impact risks through proactive assessments and contingency planning.

Actionable Steps:

- **Adopt Real-Time Monitoring Tools** - Real-time insights allow you to spot issues early and respond before they escalate. Implement systems that provide continuous visibility into supplier performance, logistics flows, and demand signals.
- **Conduct Regular Risk Assessments** - Assess vulnerabilities in your supply chain, such as reliance on single suppliers, critical routes, or volatile materials. Prioritize risks based on their likelihood and impact and then develop mitigation strategies.
- **Leverage Scenario Modeling** - Modeling scenarios ensures you have contingency plans ready to deploy. Use predictive analytics and simulation tools to model "what-if" scenarios. "What happens if a key supplier experiences a disruption?" or "How will a 20% surge in demand impact your current inventory strategy?"
- **Build a Culture of Continuous Planning** - Embrace dynamic, continuous planning. Update plans frequently using real-time data and incorporate feedback from all stakeholders.
- **Diversify Your Supply Chain** - Increase resilience by identifying alternative suppliers, distribution routes, and inventory strategies to reduce risk and enhance your ability to pivot quickly.

Key Focus Areas:

1. **Real-Time Visibility:** Implement systems that provide a live view of the end-to-end supply chain, from supplier lead times to demand fluctuations.
2. **Scenario Planning:** Use tools to simulate disruptions, such as supplier failures or demand shocks, to refine contingency plans and minimize downtime.
3. **Supplier Risk Management:** Evaluate supplier performance and reliability to identify and mitigate potential points of failure.
4. **Dynamic Inventory Strategies:** Ensure that inventory placement and safety stock levels are responsive to changing conditions, balancing costs with resilience.
5. **Cross-functional Collaboration:** Align procurement, logistics, and operations teams to share data and make coordinated, proactive decisions during disruptions.
6. **Composable Architecture:** Leverage modular, interoperable technology components that can be easily added, replaced, or adjusted without disrupting existing systems. This approach enables seamless integration across supply chain functions, such as demand forecasting, inventory optimization, and network design.

By embracing continuous design, planning, and proactive risk assessment, organizations can build supply chains that are resilient and adaptable. This approach transforms uncertainty into opportunity, enabling companies to respond faster, mitigate risks more effectively, and maintain service levels no matter what challenges arise.

5. Commit to Continuous Improvement

Continuous improvement is the ongoing effort to refine your processes, optimize performance, and drive innovation across your supply chain network. Rather than viewing improvements as an annual event, organizations must foster a culture of continuous learning, measurement, and adjustment to keep pace with the ever-evolving market. Make small, incremental improvements that add up over time to deliver measurable gains in efficiency, cost savings, and customer satisfaction — transforming challenges into opportunities for growth.

Benefits:

- **Sustained Performance:** Incremental changes result in ongoing efficiency, cost control, and service level improvements.
- **Enhanced Agility:** Continually refining processes ensures your supply chain remains responsive to change and disruptions.
- **Encouragement of Innovation:** Build a culture that fosters experimentation, problem-solving, and creative thinking.
- **Reduced Waste:** Systematically identifying and addressing inefficiencies eliminates unnecessary costs.

Actionable Steps:

- **Establish Clear KPIs** - Define and measure key performance indicators (KPIs) to monitor supply chain efficiency, customer service levels, and cost performance. Then, use the metrics to identify areas for improvement.
- **Conduct Regular Performance Reviews** - Review processes and performance data frequently to uncover inefficiencies, bottlenecks, or new opportunities.
- **Scale Incrementally** - Implement changes in manageable phases, such as improving inventory accuracy in one warehouse or automating a single procurement process. Once proven successful, scale improvements across the network.
- **Leverage Data-Driven Insights** - Use real-time analytics and machine learning to identify trends, anticipate risks, and evaluate the impact of process changes.
- **Create Feedback Loops** - Build a culture where continuous improvement is everyone's responsibility. Actively collect feedback from stakeholders, suppliers, and customers to identify pain points and opportunities for refinement.

Key Focus Areas:

1. **Process Optimization:** Regularly evaluate and refine workflows in procurement, inventory management, logistics, and production to eliminate inefficiencies.
2. **Technology Adoption:** Continuously identify and implement tools — like automation and AI — that can improve speed, accuracy, and resource efficiency.
3. **Performance Measurement:** Use KPIs and dashboards to track progress, measure outcomes, and drive accountability for improvement initiatives.
4. **Employee Training and Engagement:** Invest in ongoing training programs to upskill teams and ensure they effectively implement and sustain changes.
5. **Customer-Centric Improvement:** Focus on enhancing customer satisfaction by addressing feedback, improving delivery times, and increasing service reliability.

By committing to continuous improvement, organizations foster a culture of adaptability and excellence. Incremental changes deliver long-term benefits, enabling supply chains to remain efficient, resilient, and prepared for whatever challenges the future holds. In a competitive landscape, companies that embrace continuous improvement will lead the way—transforming small adjustments into significant, sustainable success.

Driving Demand and Delivering Excellence:
ACR's GAINS-Powered Supply Chain

"Product innovation and supply chain operations are ACR's business. It's how we serve the restaurant, quick serve, takeout and hospitality sectors.

GAINS is helping accelerate ACR's speed to respond to new market opportunities on a real time basis. With better demand signals and the ability to evaluate multiple scenario tradeoffs on service and inventory performance – GAINS is a game-changer for the ACR team."

– Brett Barnello,
Chief Supply Chain Officer

Challenge

To drive significant results with a digital supply chain transformation to boost service, synchronize inventory, streamline sourcing & production, and establish a foundation for exponential growth.

Solution

AmerCareRoyal deployed GAINS to accelerate change, formalize a robust Integrated Business Planning (IBP) process for advanced Sales & Operations Planning, and drive new insights across a dynamic network of customers and 250 sourcing and manufacturing partners across six countries.

Results

- 50% reduction in stockouts
- 5-10% improvement in customer fill rates
- Synchronized demand, supply and inventory to increase efficiencies and **reduce inventory obsolescence**
- Supporting "healthy" **double-digit growth**
- Increased visibility and **decision-making confidence** to realign inventory investments during a period of extreme volatility and global disruption
- Streamlined **Lunar New Year** planning process

Results of Improved Resilience

Manufacturers can boost service while overcoming poor visibility, disconnected systems, and incomplete data. GAINS helps you continuously sense demand and supply changes and optimize and execute accordingly to improve performance every day.

Reduce Inventory	10-28%
Decrease Stockouts	10-32%
Minimize Factory Setups	15-40%
Boost Service Levels Above	97%

Ready to Boost Resiliency and Optimize Every Decision?

Manufacturers face an increasingly complex and unpredictable environment marked by constant disruptions, shifting customer expectations, and intense global competition. To thrive in uncertainty, supply chains must evolve beyond rigid, process-driven models and embrace **Decision Engineering and orchestration (DEO)—a dynamic, decision-oriented approach that prioritizes agility, resilience, and optimized performance. GAINS is purpose-built to empower supply chain leaders**, enabling rapid adaptation to disruptions while balancing cost, risk, and service according to your organization's unique KPIs.

Why Manufacturers Choose GAINS?

GAINS deeply understands the unique challenges manufacturers face with over 30% of GAINS customers in manufacturing and related industries. Our platform is designed specifically to address these complexities through composability, advanced analytics, and decades of deep supply chain expertise.

- balancing inventory with demand
- navigating supply-side volatility
- aligning production schedules with evolving customer requirements

How GAINS supports manufacturers in building adaptive supply chains:

Rapid Time-to-Value

GAINS delivers immediate impact through quick wins and rapid deployments, achieving measurable results within weeks. Our intuitive platform ensures swift adoption and real-time value.

Continuous Innovation and Composability

GAINS platform doesn't rely on outdated monolithic architecture; it's modular, adaptive, and continuously evolving to meet your business's unique needs. Our expertise combined with our ongoing innovation means GAINS adapts as your company and market dynamics evolve.

Advanced Analytics & Better Decision-Making

Leveraging AI-powered, data-driven insights, GAINS empowers manufacturers to make better, faster, smarter decisions. Our advanced analytics capabilities enable you to understand cause-and-effect relationships across your supply chain, providing the clarity needed to orchestrate decisions proactively throughout your business.

Optimizing Efficiency and Resilience

Make balanced trade-offs between efficiency and resilience across your entire network, proactively managing risks, disruptions, and opportunities through structured, strategic decision frameworks.

GAINS Transforms Supply Chains With:

- **Unified Decision-Making:** Align strategic, tactical, and operational decisions seamlessly, eliminating siloed decision-making and enhancing agility company-wide.
- **Inventory Optimization:** Achieve a precise balance between inventory levels and service demands, optimizing costs and improving your customer experience.
- **Proactive Resilience:** Move from reactive responses to proactive, continuous planning that anticipates disruptions and rapidly adjusts to changing conditions.
- **Enhanced Operational Efficiency:** Automate and orchestrate processes across sourcing and production, enabling your teams to focus on strategic priorities.
- **Scalable and Composable Solutions:** Our modular approach ensures your supply chain can rapidly adapt and scale, effectively addressing future growth and evolving alongside challenges.

Our Commitment

More than software, GAINS is your strategic partner committed to your ongoing success. **Our P3—Proven Path to Performance—methodology ensures that every decision aligns with your strategic priorities, empowering your supply chain to respond confidently to uncertainty.** We don't merely implement tools; we help you orchestrate an agile, resilient, and competitive supply chain for the future.

Manufacturers who partner with GAINS achieve tangible outcomes, including higher service levels, fewer stockouts, greater efficiency, and stronger alignment between production and customer demand. With GAINS, you're not just optimizing processes—you're making informed, prioritized decisions to build a sustainable competitive advantage.

Ready To Embrace Decision Engineering And Orchestration (Deo) And Elevate Your Supply Chain?

Contact GAINS today and start transforming uncertainty into opportunity.