LeanDNA

GUIDE

Building a Tariff-Resilient Supply Chain

How discrete manufacturers can navigate cost, risk, and complexity in 2025 and beyond

The Return of Tariff Disruption in Manufacturing

The global manufacturing landscape is once again being reshaped by tariff policy. On March 12, 2025, the U.S. government implemented a 25% tariff on all steel and aluminum imports. Designed to protect domestic industries, this move has introduced fresh uncertainty into supply chains that are already strained from geopolitical instability, supplier constraints, and inflationary pressures.

In response, supply chain leaders in discrete manufacturing must consider how to remain resilient amid cost hikes, sourcing risk, and shifting global trade relationships. As Harrison Wells, VP of Professional Services at LeanDNA, noted in a recent article for Wards Auto, "Resilience isn't about reacting faster. It's about having the visibility and agility to act before disruption hits."

This guide offers a set of timely considerations to help manufacturers assess their current readiness and explore tactical and strategic responses that can reduce exposure and drive smarter decisions.

The Impact of Tariffs on Discrete Manufacturing

Industry Snapshot: Aerospace, Automotive, and Industrial Equipment

Tariffs continue to be a major lever of trade policy and a persistent source of volatility for discrete manufacturers. Industries such as aerospace, automotive, and industrial equipment are especially affected due to their complex global supply chains and dependency on specialized, often imported components.

In aerospace, a single imported component may require lengthy and costly requalification if a new supplier must be sourced domestically due to tariffs. In automotive, it's common for components to cross multiple borders during the production process, multiplying the tariff burden. An Associated Press report from February 2025 noted that proposed tariffs on imports from Canada and Mexico could raise vehicle prices by thousands of dollars, with some estimates suggesting increases of $3,000 or more for the average new car.

More broadly, a 2024 Deloitte survey of global manufacturers found that 73% of respondents identified trade-related disruptions—including tariffs—as one of their top three operational risks. Tariff volatility not only impacts material costs, but also introduces uncertainty into sourcing decisions, working capital allocation, and lead time management.

What's New in 2025

The latest round of tariffs includes key trading partners: China, Mexico, and Canada. While similar policies have existed in the past, what makes 2025 different is the simultaneous pressure from:

- Continued material shortages and supplier constraints
- Labor limitations across production and logistics
- Greater scrutiny on environmental and sustainability metrics
- Depleted inventory buffers at many manufacturers, a lingering impact from COVID-19 supply chain disruptions

Together, these factors create a perfect storm—and underscore the need for agile, tech-enabled decision-making in supply chain operations.

4 Strategic Focus Areas for Building Resilience

1. Reevaluate Sourcing and Landed Cost

For many manufacturers, long-held supplier relationships are no longer viable without revisiting total landed cost (TLC). This is especially true for steel, aluminum, semiconductors, and proprietary parts.

Recommended Actions:

- Recalculate TLC using current tariff rates, shipping constraints, currency exchange rates, and overhead assumptions
- Flag high-risk materials and identify opportunities for nearshoring or domestic dual sourcing
- Reprioritize supplier performance metrics to include agility and tariff exposure

Manufacturer Insight

Spirit AeroSystems has shared publicly how the organization is driving better performance through site-to-site visibility, integrated supplier collaboration, and AI-driven prioritization to improve execution. Their approach to operational alignment can serve as a model for manufacturers navigating tariff-driven disruptions.

2. Balance Inventory and Working Capital Wisely

Holding too much inventory is expensive. Holding too little is risky. Manufacturers need data-driven inventory strategies that respond to real-time changes in cost, lead time, and demand.

Recommended Actions:

- Use AI-powered tools to model inventory buffers based on tariff-sensitive materials
- Segment inventory by cost volatility and supplier risk
- Evaluate opportunities to pull inventory from overstocked sites rather than placing new orders
- Reallocate existing investments in strategic inventory from lower risk to higher risk items

Did you know? According to Deloitte's 2025 Manufacturing Industry Outlook, manufacturers are increasingly investing in digital tools to improve agility and supply chain visibility—key enablers for navigating trade disruptions and rising operational complexity.

3. Strengthen Supplier Collaboration

Tariffs often force price renegotiations. But strong supplier relationships can turn cost pressure into opportunity.

Recommended Actions:

- Initiate proactive conversations about shared risk and scenario planning
- Establish collaborative KPIs related to lead time flexibility, tariff contingency planning, and component substitution
- Use supplier scorecards to track delivery, price volatility, and responsiveness
- Establish a robust PFEP (Plan For Every Part) so you can effectively react to demand fluctuations and mitigate disrupting to your suppliers' operating plans

Manufacturer Insight: Signia Aerospace, has shared how the LeanDNA has helped them standardize processes, align across sites, and improve supplier responsiveness. By increasing visibility and using data to drive decisions, they've created a more agile and resilient operation—critical when adapting to supply volatility or tariff-driven changes. With a consistent approach to supplier performance, manufacturers are better equipped to adjust to cost and lead time pressures brought on by tariffs.

4. Synchronize Data and Decision-Making with AI

Delayed decisions in a tariff-heavy environment cost real money. Manufacturers with disconnected systems and siloed teams can't act quickly enough.

Recommended Actions:

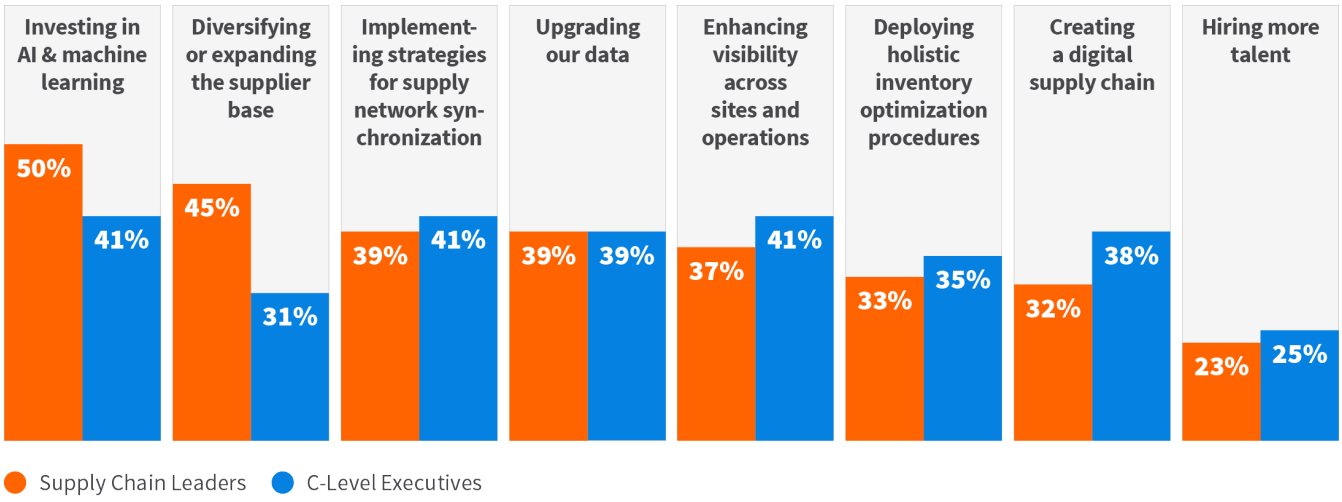
- Invest in platforms that unify ERP data and surface prioritized actions based on cost, availability, and impact.
- Use predictive analytics to forecast tariff-exposed parts and trigger workflows before shortages or cost spikes occur.
- Provide teams with role-specific dashboards that show prioritized tasks for buyers, planners, and supply chain leaders.

Stats to Know:

According to McKinsey & Company, companies that integrate AI into supply chain planning have seen benefits such as up to a 65% improvement in service levels and a 35% reduction in inventory holdings. These gains highlight the role of AI in accelerating response to disruptions.

In LeanDNA's 2025 research study, C-Level executives and supply chain leaders agreed that digital supply chain synchronization delivers measurable value. Over half cited enhanced supplier reliability (54% and 53%, respectively), increased growth and revenue (51%, 53%), and improved on-time delivery (48%, 49%) as top benefits. Additionally, 50% of supply chain leaders and 41% of executives identified AI and machine learning investments as among the most effective ways to improve supply chain reliability.

Ways companies are most effectively improving supply chain reliability



Preparing for the Next 6 Months

U.S. trading partners are already signaling countermeasures. Tariff exemptions may change. New materials may be added to the list. In this environment, the most resilient manufacturers are those who:

- Increase visibility into cost drivers and material dependencies
- Align procurement, operations, and finance around shared metrics
- Take action before the next disruption hits; manufacturers that conduct regular PFEP (Plan for Every Part) reviews are better positioned to adjust inventory strategies as market conditions change

Tariffs are just one of many challenges facing global manufacturers. But they also offer a moment to reexamine the foundations of supply chain execution and create a stronger, more agile operation that can weather what comes next.

Want to Understand the Financial Impact of Tariffs on Your Supply Chain?

LeanDNA's Value Assessment tool uses real inventory data, industry benchmarks, and supply chain KPIs to estimate the financial opportunity available through smarter inventory management.

Based on insights from over 800 manufacturing sites, the tool estimates potential gains from:

- Optimizing inventory
- Minimizing shortages
- Increasing supply chain reliability

Use the Value Assessment to:

- Estimate the value of reducing risk with LeanDNA
- Guide internal conversations with finance, procurement, and operations

Run your value assessment today | Sign up for a demo

This guide is intended as a set of strategic considerations and not a forecast or policy interpretation. All third-party statistics cited are sourced as of April 2025.