

INDUSTRY EBOOK

Agentic AI for Manufacturing Supply Chains



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Chapter 1

Introduction

In today's manufacturing world, a single disruption can send shockwaves through the entire production system.

With thousands of interconnected suppliers and just-in-time inventory models, even a minor event can lead to major losses. Factory fires, labor strikes, geopolitical conflicts, regulatory shifts, and natural disasters are no longer one-off events. They're constant. They're global. And they're growing in complexity.

Despite this reality, most manufacturers still operate in a reactive mode. When disruptions hit, teams scramble to assess damage, identify alternate suppliers, and coordinate across siloed systems—often too late. This reactionary approach leads to delayed decisions, production halts, inflated costs, and lost revenue.

Enter agentic AI—your always-on, always-alert partner for your supply chain. Instead of waiting for the worst to happen, agentic AI is already watching. It tracks global events in real time, filters out the noise, and flags only what matters to your business. More importantly, it recommends what to do next—and can even kickstart mitigation workflows for you.

With research showing that up to 70% of disruptions are preventable, this is the moment to shift from reacting to predicting, from scrambling to strategizing. Agentic AI makes that shift possible.

Chapter 2

What is agentic AI? And why now?

15% increase

in disruptions YoY

88% rise

in cyberattacks

53% increase

in geopolitical disruptions

Based on 2025 Resilinc
EventWatch^{AI} data

Agentic AI is a new kind of artificial intelligence—built to think for itself, learn as it goes, and handle complex tasks without needing constant human input.

These agents go far beyond predictive analytics or alerts—they operate with purpose, constantly evaluating supply chain dynamics and taking informed action.

Why now? Because supply chains are hitting a breaking point.

Supply chain complexity has exploded. In the first half of 2025 alone, general manufacturing saw a 15% spike in disruptions overall compared to the first half of 2024. Cyberattacks jumped 88%. Regulatory changes soared by 86%. And geopolitical disruptions? All-time high at 53%. Layer in factory disruptions, port closures, and extreme weather, and it's clear: spreadsheets and manual workflows just can't keep up.

Agentic AI provides a force multiplier. It connects the dots across siloed data, identifies sub-tier risks before they materialize, and executes mitigation workflows autonomously. It allows manufacturers to anticipate disruptions, reduce time-to-response, and maintain operational continuity.

Whether it's a supplier acquisition in Latin America, tariff increases in Asia, or a labor walkout in the Midwest, Agentic AI ensures manufacturers are not just informed but prepared.

Chapter 3

Closing the visibility gap across every tier

Only 30%

of supply chain leaders report visibility beyond Tier 1

McKinsey & Company 2024 Supply Chain Risk Survey

For manufacturers, visibility is everything.

Yet, according to McKinsey, only 3 in 10 supply chain leaders have visibility beyond their Tier 1 suppliers. That's a critical blind spot in a world where sub-tier dependencies are often the weakest links. For manufacturers, a single disruption in raw materials, specialized components, or capacity at a sub-tier supplier can shut down entire production lines.

And it's not just about keeping things running. With growing pressure around ESG and compliance, manufacturers also need to prove they're sourcing ethically and staying in line with regulations—across every tier.

Agentic AI doesn't require perfect data. It works with what you already have. By ingesting fragmented, incomplete, and even unstructured data, agentic AI applies contextual reasoning to fill gaps and make connections. It understands the relationships between parts, suppliers, geographies, and regulations. It finds the weak spots before they become problems and turns scattered data into real, actionable intelligence.

The result? Supply chain leaders gain deep visibility into:

- Which parts are made at which specific supplier sites
- How events impact operational and financial performance
- Supplier compliance status and risk readiness
- Where operational bottlenecks or sustainability risks may emerge

This level of intelligence fuels faster, smarter decisions. **When data becomes actionable, risk becomes manageable.**

Chapter 4

Key capabilities for manufacturing supply chains



Resilinc's agentic AI was built specifically to help manufacturers stay resilient in a world of constant supply chain disruption.

Here's how it changes the game:

- **See beyond Tier 1 with autonomous multi-tier mapping**

Get clear, real-time visibility into your full supply network—down to the part-site level. Know which suppliers makes which components, and how sub-tier suppliers are connected to your top-line revenue. Identify single-sourced parts and potential line-down risks before they happen.

- **Catch disruptions as they happen**

Monitor over 150 million global sources across 100+ languages to detect factory fires, labor protests, leadership changes, tariff shifts, and more—with minutes.

- **Know the impact in minutes**

No more manual triage. Agentic AI instantly evaluates which SKUs, suppliers, and facilities are affected, how it could impact revenue or delivery timelines, and what to do about it.

- **Get smarter response plans, fast**

Get tailored playbooks with supplier-validated sourcing alternatives, risk scores, and action items. One-click WarRooms let you collaborate with suppliers instantly.

- **Stay ahead on compliance**

From [Uyghur Forced Labor Prevention Act](#) (UFLPA) to [EU Deforestation Regulation](#) (EUDR) to regional labor laws, agentic AI keeps tabs on the regulations that matter to your business. It automates assessments, collects documentation, flags risks, and can even initiate supplier outreach for you.

Chapter 5

Inside real manufacturing disruptions

When disruption hits, speed matters

Manufacturing supply chains are under constant pressure- it's not a matter of *if* disruptions will happen, but *when*. What separates resilient manufacturers from the rest is how quickly and effectively they respond.

That's where agentic AI makes all the difference. Instead of reacting late, manufacturers using agentic AI respond in real time, with clear insight and decisive action.

How leading manufacturers use agentic AI

- **Tariff hike on Asia-sourced components**

Resilinc's [Tariffs Agent](#) flags a sudden spike in duties. Within minutes, the agent traces affected SKUs and suggests alternate suppliers in low-tariff regions—helping sourcing teams to pivot quickly and avoid cost impacts before the new rates take effect.

- **Factory fire at U.S. injection molding site**

A fire is reported at a facility producing engine cooling system components. Agentic AI sends a verified alert, evaluates which OEM programs are impacted, and models potential production delays. A mitigation workflow is activated, including backup suppliers and inventory buffers.

- **Supplier M&A risk in Europe**

An acquisition is announced for a key electronics supplier. Agentic AI surfaces past M&A trends, scores risk to continuity and alerts the sourcing team to initiate due diligence and alternate supplier validations.

- **Forced labor alert tied to raw material source**

Resilinc's [UFLPA Agent](#) flags forced labor risk at a Xinjiang-based raw material supplier. It traces the aluminum to affected EV battery SKUs, notifies compliance, and launches a mitigation workflow—including alternate sourcing options and audit-ready documentation—before regulatory action is triggered.

Chapter 6

Why Resilinc stands out from the rest

15% reduction

in inventory buffers

\$100k+

savings in premium freight

40% reduction

in disruption-related costs

Based on Resilinc 2025 data

At Resilinc, we turn complex supply chain problems into clear, confident decisions.

Our platform blends deep manufacturing know-how with smart automation—so you can move faster, cut risk, and stay ahead of disruptions.

What sets Resilinc's Agentic AI apart:

- **15+ years of supply chain data**

Built on the industry's largest repository of supplier-validated data and disruption events

- **Built-in manufacturing expertise**

Guided by in-house specialists and OEM advisors who know how disruptions happen—and how to prevent them

- **End-to-end platform**

A unified platform combining autonomous mapping, real-time alerts, automated impact analysis, and instant response tools like WarRooms.

- **Results that speak for themselves:**

- 15% reduction in inventory buffers
- \$100K+ saved in premium freight
- Up to 40% reduction in disruption-related costs

Resilinc empowers manufacturers to act fast and smart amid constant disruption, flagging risks, surfacing what matters, and guiding your next move.

Chapter 7

The future of smart manufacturing resilience

Executive takeaway

In Industry 5.0, manufacturers that harness agentic AI to anticipate disruptions, enforce compliance across every tier, and collaborate seamlessly with suppliers will turn risk management into a source of resilience, reputation, and competitive advantage.

The future of manufacturing belongs to companies that can think ahead, act fast, and adapt continuously. Agentic AI delivers that agility.

As Industry 5.0 unfolds, manufacturers will need to integrate human decision-making with machine precision. Agentic AI is the bridge. It enables a [human-in-the-loop](#) model where advanced AI agents do the heavy lifting—monitoring global disruptions, modeling impacts, and recommending actions. Meanwhile, people stay in control, applying the context and experience only humans can bring.

This synergy accelerates time to resolution, strengthens accountability, and enables factories to operate with resilience by design—not just resilience by reaction.



Chapter 8

Conclusion

Supply chain intelligence built for manufacturing

In today's fast-moving, always-connected manufacturing world, disruptions aren't the exception—they're the norm. Factory fires, labor strikes, tariff shifts, and regulatory changes happen constantly, and traditional risk management tools just can't keep up. That's where agentic AI comes in. It gives manufacturers real-time visibility all the way down to the part-site level, spots issues before they turn into full-blown disruptions, and helps teams respond quickly—with less manual scrambling and no more piecing together siloed data.

Whether you're coordinating a global network of suppliers, ensuring compliance with labor and trade laws, or managing the ripple effects of a Tier 3 component delay, agentic AI helps you act fast—and act smart. It translates fragmented supplier data into proactive action: securing alternative sourcing for a sole-sourced component, identifying the impact of a leadership change on production output, or modeling the downstream effects of forced labor violations before they happen. With Resilinc's agentic AI, manufacturers gain not just efficiency, but a competitive edge—built on resilience, automation, and a deeper understanding of how your supply chain really works.

About Resilinc

Resilinc is the leader in supply chain risk and compliance intelligence. Our agentic AI-powered platform transforms how companies detect, assess, and respond to disruptions—autonomously, in real time, and at scale. With 15+ years of supplier-validated data and visibility to the part-site level, Resilinc delivers predictive disruption alerts, compliance insights, and AI-guided mitigation workflows that reduce response times and drive better business outcomes.

Learn more at resilinc.ai

Protect your manufacturing supply chain

Learn how Resilinc can help

[Schedule Demo](#)

