



# The Executive's Guide to AI-Driven Supply Chain Design

Top 10 Use Cases for AI-Driven Supply Chain Design



## The Questions Haven't Changed. The Urgency Has.

Supply chain design has always been about answering hard questions: Where should we locate our distribution centers? How do we balance cost against service level? What happens if a key supplier fails?

What's changed is the volume and frequency of those questions.

According to Bain & Company, around 75% of executives are managing six or more competing supply chain priorities simultaneously. Tariffs shift overnight. New markets open. Acquisitions create redundant networks that need rationalization. Customer expectations for speed and service continue to rise. And through all of it, most design teams are still working the way they always have — assembling data, building models, and producing recommendations on a project-by-project basis.

That approach wasn't designed for this environment.

This guide documents the 10 most common supply chain design use cases — the questions organizations consistently need to answer to compete and respond. For each, we outline what the question is, why it matters, and how teams are applying modern design tools to answer it faster and with greater confidence.

# Three Value Drivers. One Platform.

Combining agentic AI, mathematical optimization, and simulation in a single cloud-native platform, Optilogic enables supply chain teams to move from data to decision in days — and to run the continuous what-if analysis that's required to design a supply chain that can survive anything.

## Solve It Now

Rapid answers to urgent, high-stakes supply chain questions — in days, not months.

## Design the Future

Model the supply chain you should have, not the one you inherited. "What If?" for any time horizon.

## Partner for What's Next

Continuously evolving capability — agentic AI that builds, designs, and answers as your needs grow.

## How Optilogic's AI Makes It Possible

Unlike legacy tools that bolt AI onto an existing platform, Optilogic was architected from day one around three integrated AI modes:

- **Build Mode** — Agentic AI autonomously builds supply chain models. What took a modeler three months now takes a day. AI handles data ingestion, gap-filling, and model construction, so your team can focus on decisions instead of data prep.
- **Design Mode** — AI-driven what-if scenario generation and optimization. Run hundreds of scenarios simultaneously across millions of SKUs and constraints. The platform suggests design alternatives you haven't thought to ask for yet.
- **Answer Mode** — Natural language queries against your live supply chain model. Ask questions the way you'd ask a colleague. Get optimization-backed answers in hours, not weeks.

Underpinning all three modes is Optilogic's Technology Triple Threat: Artificial Intelligence (pattern recognition, data manipulation, intelligent interfaces), Mathematical Optimization (advanced algorithms that find the best answer within real-world constraints), and simulation (stress-test designs, master uncertainty, quantify risk). No other platform combines all three at hyperscale.

## Top 10 Use Cases

The following use cases are organized from short-term tactical response to long-range strategic design. Each reflects how leading supply chain organizations are using Optilogic today — and provides a practical view of what's possible when supply chain design shifts from a periodic exercise to an always-on capability.

# 01: Disruption Response & Rapid Scenario Triage

## Planning Horizon: Tactical / Immediate

When a port closure, supplier bankruptcy, or geopolitical shock hits — you don't have six months to model the response. You have days. Optilogic enables supply chain teams to spin up disruption models, run hundreds of what-if scenarios across their full network, and surface the lowest-cost, lowest-risk structural response before the situation gets worse. Agentic AI handles data ingestion and scenario setup automatically, so modelers focus entirely on decisions. Teams that previously needed three weeks to answer “What do we do if we lose 80% of our supplier base?” are now getting those answers in 24 to 48 hours.

### CUSTOMER PROOF POINT

A major discount retailer used Optilogic to run 600+ scenarios during hurricane recovery, identifying the optimal network response across all impacted nodes before competitors had even finished scoping their analysis.



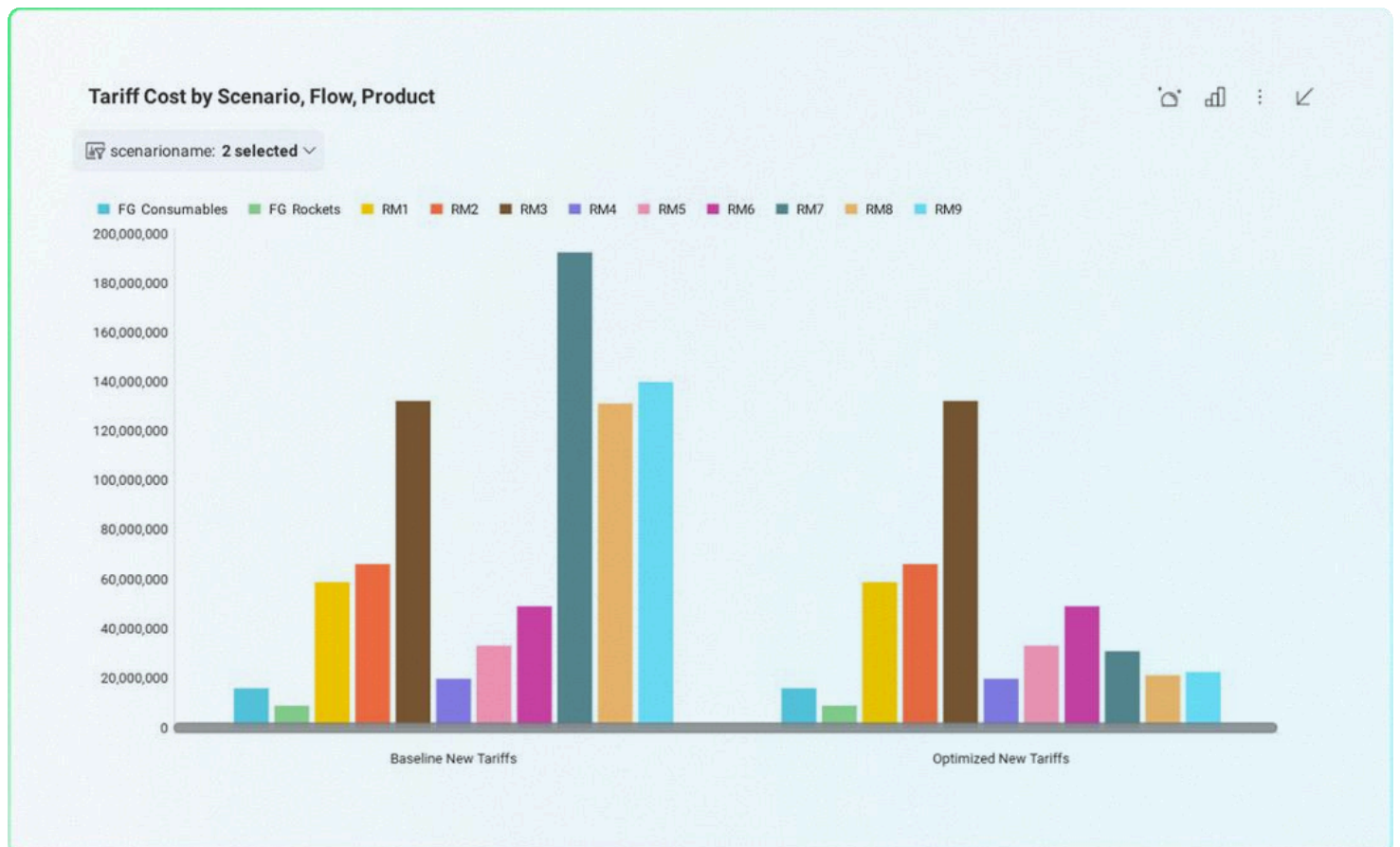
# 02: Tariff & Trade Policy Impact Analysis

## Planning Horizon: Tactical / Short-Term

Tariff regimes are no longer stable multi-year inputs — they're live variables that can restructure the economics of your entire network overnight. Optilogic allows supply chain teams to model the full structural cost impact of shifting tariff landscapes: Section 301 changes, USMCA realignments, Hormuz-driven freight disruptions, and more. Rather than running a single sensitivity analysis in a spreadsheet, teams can evaluate dozens of tariff scenarios simultaneously, seeing exactly where absorbed costs are acceptable and where structural redesign is warranted. This use case is often the entry point that converts skeptics — because executives can see a current-state tariff burden and an optimized alternative side-by-side, with dollar impact attached.

### CUSTOMER PROOF POINT

Facing rising tariff exposure, a global manufacturer used the Optilogic platform to rapidly model sourcing alternatives and redesign their network — avoiding \$8M in costs.



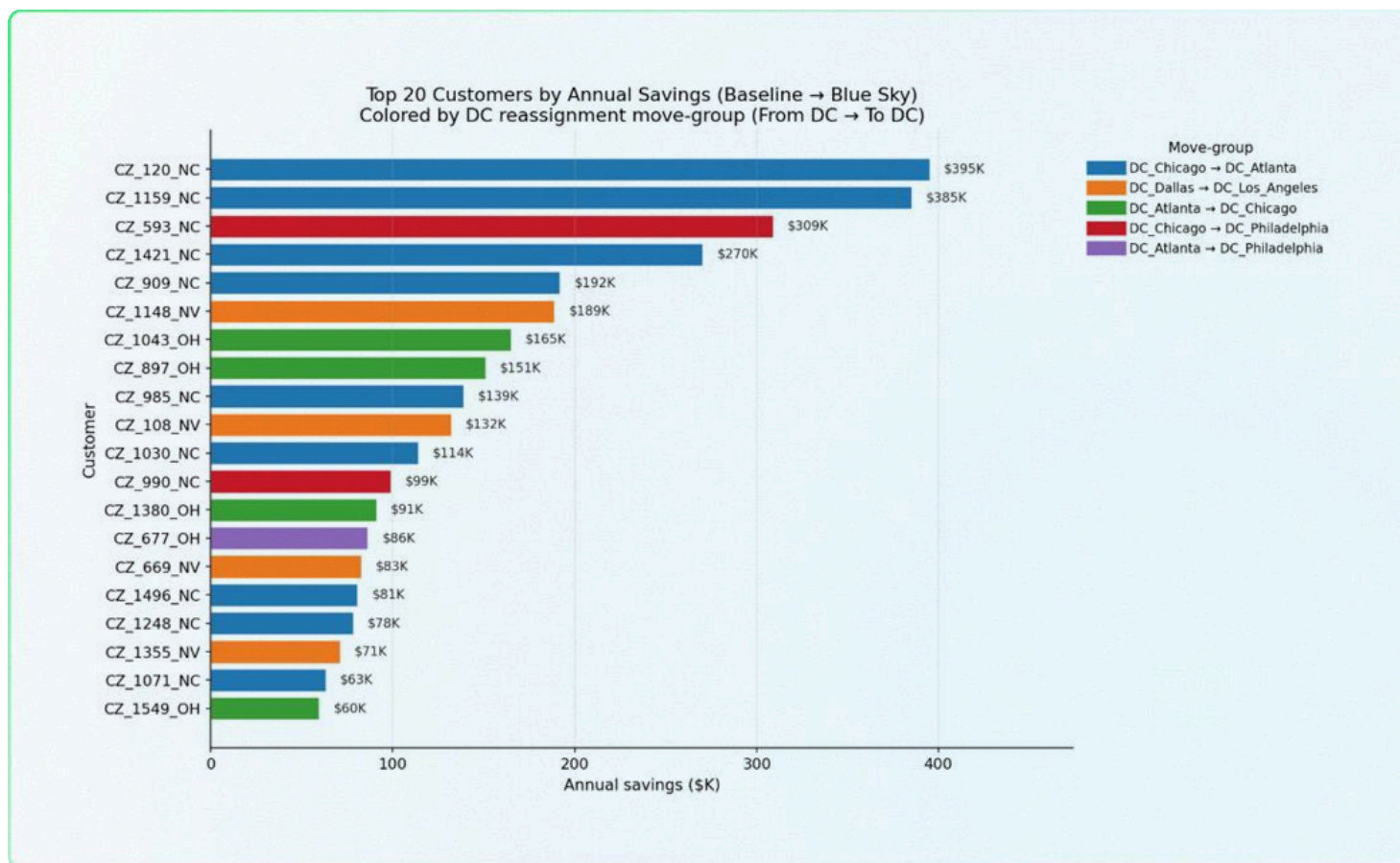
# 03: Sourcing Policy Optimization

## Planning Horizon: Tactical / Short-Term

For companies with complex, multi-tier supplier networks, the combinatorial challenge of evaluating sourcing policies is enormous. Which suppliers should serve which markets? What allocation rules minimize total cost while maintaining service levels and risk thresholds? Optilogic's hyperscale optimization engine can evaluate millions of policy combinations simultaneously — something no legacy tool or manual analysis can approximate. The platform's agentic AI also addresses the missing data problem: when supplier data is incomplete or inconsistent, AI fills gaps intelligently rather than forcing analysts to spend weeks in data prep.

### CUSTOMER PROOF POINT

GM uses Optilogic to manage sourcing policies across 260,000+ SKUs and 29 million sourcing policy combinations — a scale that would be computationally impossible with any prior-generation tool.



# 04: Inventory Positioning & Reduction

## Planning Horizon: Tactical / Monthly S&OP

Inventory is where supply chain strategy meets the balance sheet. Companies routinely carry 20-30% more inventory than they need because they lack the modeling capability to understand true demand variability, supplier lead time risk, and optimal positioning simultaneously. Optilogic's optimization and simulation engines allow teams to stress-test inventory positioning decisions across thousands of scenarios — answering not just “How much should we hold?” but “Where, and under what conditions does that change?” The result is a defensible, optimized inventory policy that finance and operations can both stand behind.

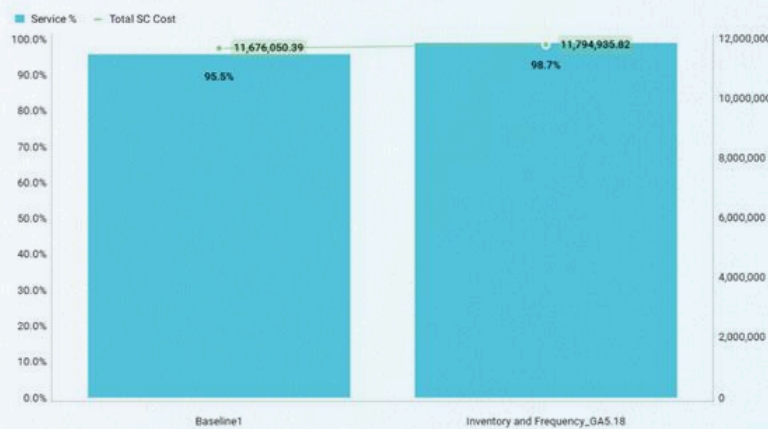
### CUSTOMER PROOF POINT

Optilogic customers consistently achieve 20%+ inventory reduction while maintaining or improving service levels — a proof point that appears on the platform's results slide because it is so consistently repeatable across industries.

### Dashboard 3: Evaluate Inventory and Replenishment Trade-Offs

scenario name: 2 selected

Service and Cost Comparison between Baseline and Optimized Replenishment Policies



Service Level Improvement over Baseline - 95.5 to 98...

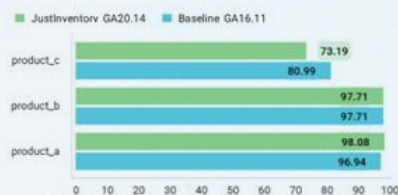
3.2%

Cost Increase over Baseline - \$11.67M to \$11.79M

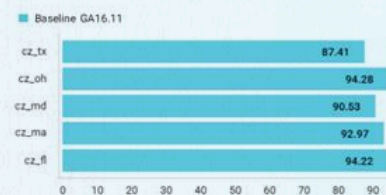
1.0%

### Product Service Summary

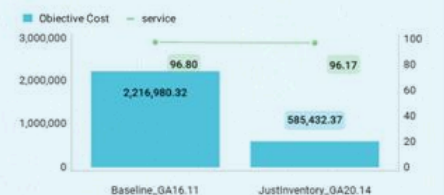
Product Fill Rate (%)



Customer Fill Rate (%)



Cost vs Service



# 05: Production Replanning & S&OE Response

## Planning Horizon: Tactical / Weekly Execution

Supply execution is where plans meet reality — and reality rarely cooperates. Machine breakdowns, demand spikes, logistics failures, and supplier short-ships all require rapid replanning decisions that have cascading effects across the network. Optilogic supports weekly S&OE (Sales & Operations Execution) workflows with fast optimization runs against live operational data, giving planners the ability to reoptimize production schedules and transportation routing in near-real time. With natural language AI as the interface, planners who aren't modelers can run rapid analysis without waiting for a specialized analyst — democratizing optimization access across the enterprise.

### CUSTOMER PROOF POINT

Kohler uses Optilogic to get answers to supply chain questions in 24 hours — compressing what previously required weeks of analyst time into same-day decision support.



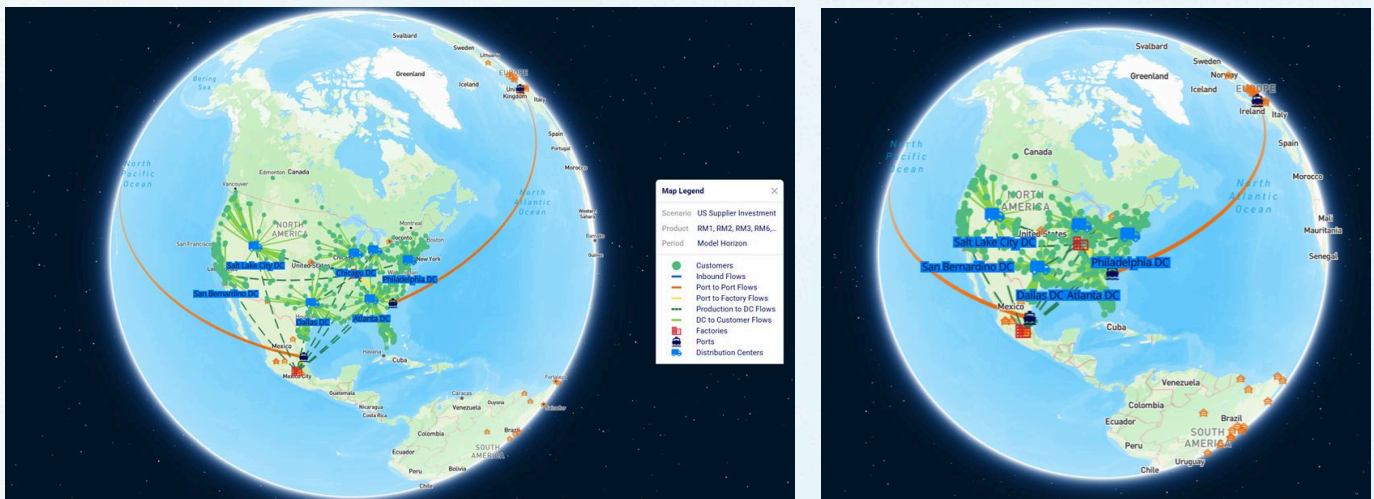
# 06: Network Optimization & Footprint Rationalization

## Planning Horizon: Strategic / Long-Range Design

The flagship use case for supply chain design — and one that never goes away. Whether you're evaluating DC closures, capacity rebalancing, or full network restructuring, Optilogic's Cosmic Frog platform provides the most powerful network optimization engine available. What differentiates Optilogic is not just solver performance (80-99% runtime reduction vs. legacy tools) but the ability to co-develop models across distributed global teams in real time, run simultaneous scenario comparisons with visual decision support, and use agentic AI to build the underlying model in days instead of months. Optimize how product moves through the end-to-end network — from suppliers through factories, warehouses, and out to customers — while minimizing cost and maximizing throughput. You can't plan your way out of a bad network structure — you have to design your way out. That's exactly what this use case enables.

### CUSTOMER PROOF POINT

Optilogic customers regularly achieve 25% distribution cost reduction through network redesign. The platform's 95% faster modeling capability means these projects can be completed before a competitor has even finished scoping their RFP.

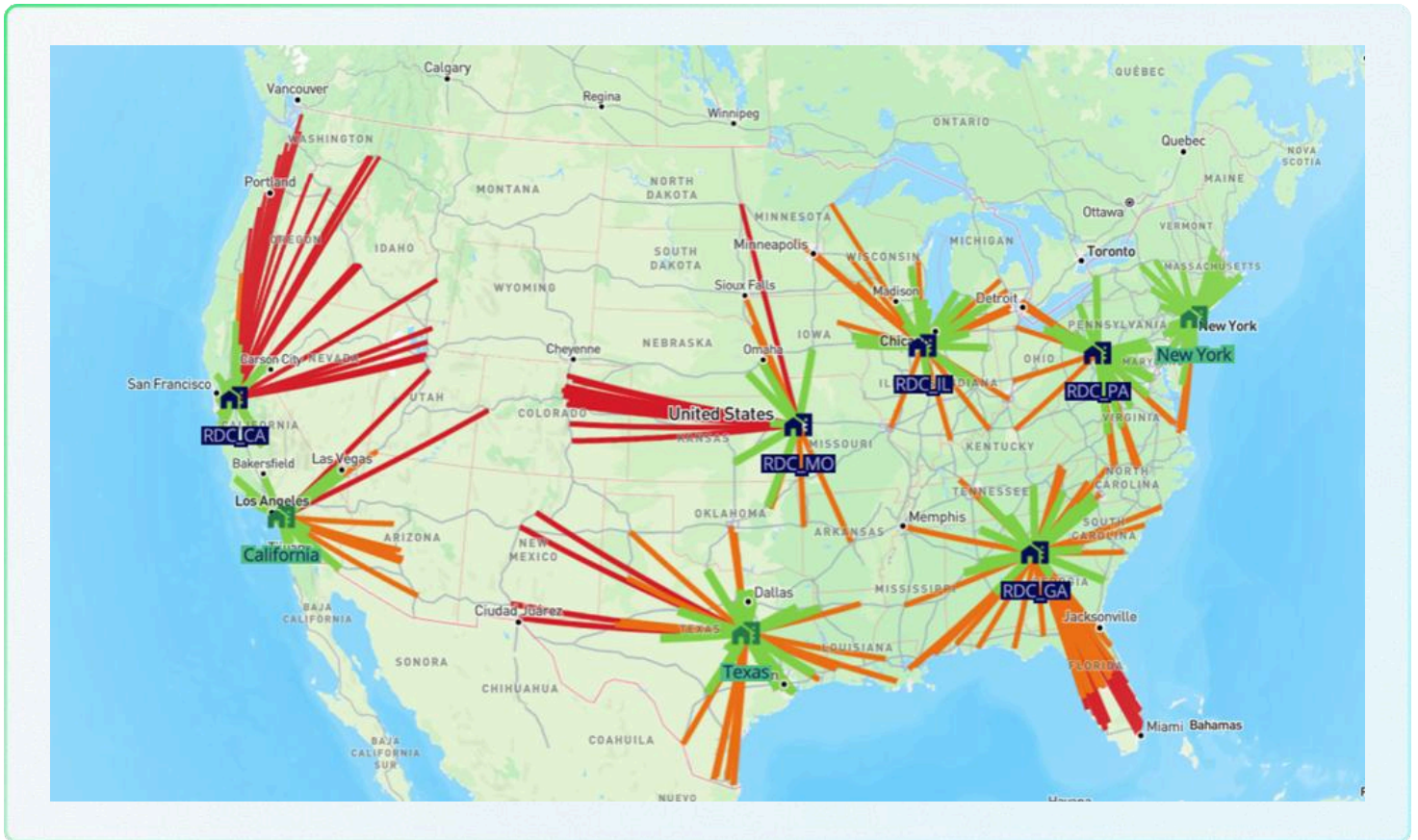


# 07: Greenfield Facility Siting & Capacity Planning

## Planning Horizon: Strategic / Long-Range Design

Where you build next is one of the highest-stakes, longest-horizon decisions a supply chain leader makes. A poor site-selection decision locks in structural cost for a decade. Optilogic allows teams to evaluate greenfield opportunities against the full complexity of the network — labor markets, transportation costs, service requirements, regulatory

constraints, and demand projections — simultaneously, not sequentially. Agentic AI can ingest publicly available reference data (labor costs, carrier rates, demographic projections) to fill data gaps that have historically stalled these analyses. The result is a rigorous, defensible recommendation that boards and CFOs can act on.



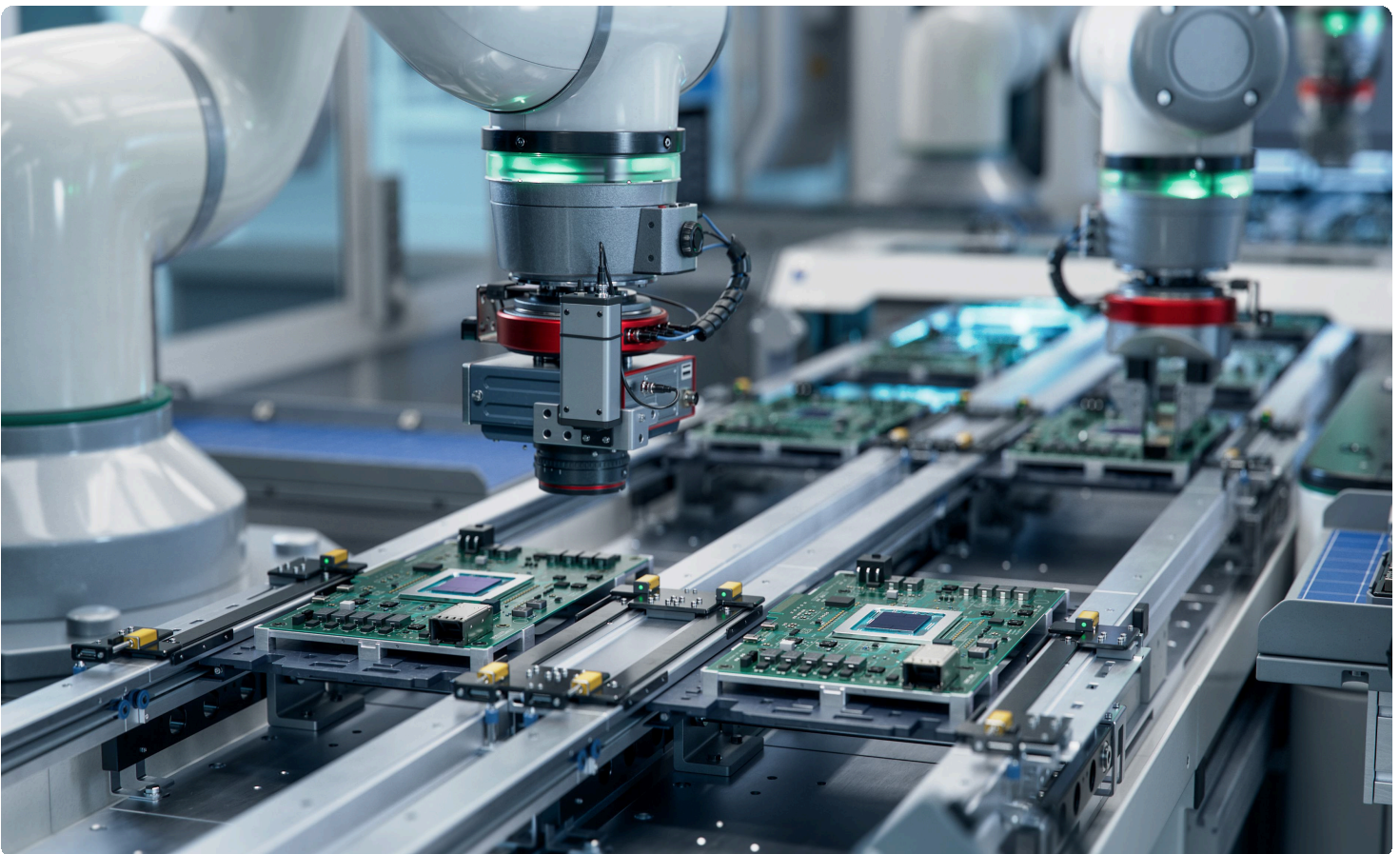
## 08: Make vs. Buy & Insource vs. Outsource Analysis

### Planning Horizon: Strategic / Long-Range Design

Make vs. buy decisions are structurally complex — they involve not just unit economics but network-wide cost implications, service commitments, capacity constraints, and risk exposure. Yet most companies still run these analyses in spreadsheets that model the decision in isolation. Optilogic enables a true end-to-end view: model the full network impact of insourcing a capability or outsourcing a function, including the ripple effects on transportation, inventory, and service. Decide which products are manufactured at which facilities, and optimize across production costs, capacity constraints, and transportation lanes. With simulation capabilities layered on top, teams can also stress-test the decision under demand volatility and supply risk scenarios, ensuring the chosen strategy is robust — not just optimal in a single base case.

#### CUSTOMER PROOF POINT

A Tier 1 automotive supplier used Optilogic to evaluate structural sourcing and production decisions, achieving 11.6% cost savings — a result that required modeling complexity far beyond what traditional tools could support.



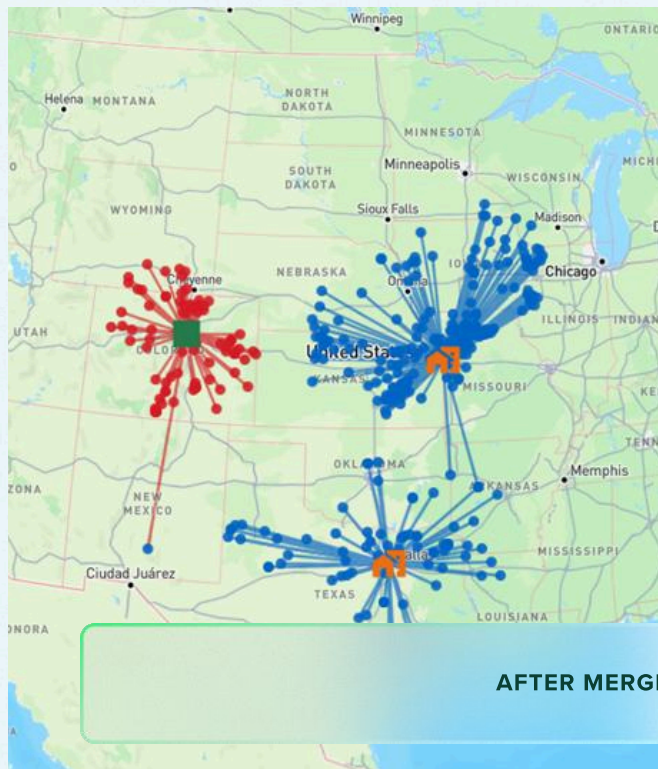
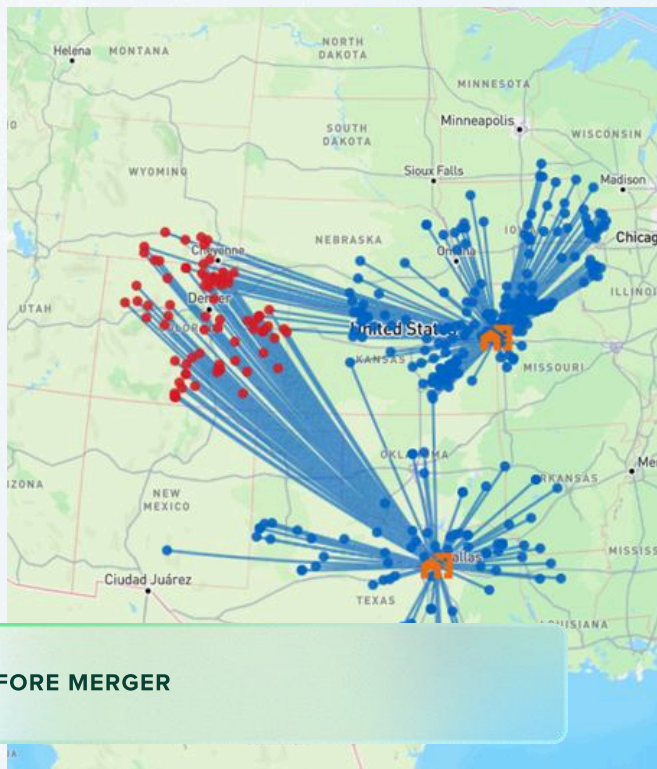
# 09: M&A Integration & Post-Merger Network Rationalization

## Planning Horizon: Strategic / Long-Range Design

When two supply chains become one, the integration window is narrow and the stakes are enormous. Redundant facilities, overlapping carrier contracts, and misaligned inventory policies can cost tens of millions if not addressed before day one. Optilogic enables M&A integration teams to model the combined network — before the deal closes — identifying synergies, redundancies, and the optimal integrated structure with quantified dollar impact. The platform's ability to build a combined model quickly (agentic AI compresses what took months into days) is particularly valuable in M&A timelines, where decisions move faster than traditional modeling allows.

### CUSTOMER PROOF POINT

United Rentals needed to evaluate upcoming lease renewals and branch expansions. Using Optilogic they identified ideal branch locations and recommended openings, closures, and relocations — giving leadership data-driven guidance for 4–11% cost savings while improving service levels.



# 10: Continuous Design & Always-On Supply Chain Intelligence

## Planning Horizon: Strategic / Continuous

The most mature use of Optilogic is not a project — it's a permanent capability. Leading supply chain organizations are moving from annual network reviews to continuous design: a live, always-on supply chain model that reflects current data, gets re-optimized as conditions change, and supports ongoing strategic planning across the enterprise. With PlanStar (Optilogic's AI-enabled workflow orchestration layer) and Optilogic's Composable Apps, organizations can embed optimization into their standard decision processes — S&OP, board reviews, capital planning, commercial negotiations — so that every major decision is informed by a current, optimized view of the network. This is the connected enterprise: not a tool your analysts use, but an intelligence layer your entire leadership team depends on.

### CUSTOMER PROOF POINT

Cencora selected Optilogic not only for technical capability but for cultural fit and long-term partnership — a signal that the most sophisticated buyers are evaluating Optilogic as a strategic capability, not a one-time project tool.



# At a Glance: 10 Use Cases by Horizon & Pillar

| Use Case  | Planning Horizon            |
|---|-----------------------------|
| 1. Disruption Response & Scenario Triage            | Tactical / Immediate        |
| 2. Tariff & Trade Policy Impact Analysis            | Tactical / Short-Term       |
| 3. Sourcing Policy Optimization                     | Tactical / Short-Term       |
| 4. Inventory Positioning & Reduction                | Tactical / Monthly S&OP     |
| 5. Production Replanning & S&OE Response            | Tactical / Weekly Execution |
| 6. Network Optimization & Footprint Rationalization | Strategic / Long-Range      |
| 7. Greenfield Facility Siting & Capacity Planning   | Strategic / Long-Range      |
| 8. Make vs. Buy & Insource vs. Outsource            | Strategic / Long-Range      |
| 9. M&A Integration & Network Harmonization          | Strategic / Long-Range      |
| 10. Continuous Design & Always-On Intelligence      | Strategic / Continuous      |

# The Results Are Already Here

Optilogic customers are not running pilots. They are redesigning supply chains at scale and posting measurable results:

- ✓ 95% faster modeling — from months to days
- ✓ 25% distribution cost reduction through network redesign
- ✓ 20%+ inventory reduction while maintaining service levels
- ✓ 80–99% improvement in data integration time
- ✓ 11.6% total cost savings for a Tier 1 automotive supplier
- ✓ 600+ scenarios evaluated during active hurricane recovery
- ✓ 260,000+ SKUs and 29M sourcing policies optimized at GM
- ✓ 2,000+ users making daily sourcing and replenishment decisions at IKEA

**KOHLER**®

“With Optilogic, we’re asking questions and getting answers in 24 hours — not weeks.”



“This started with a model, but it’s really about creating a more intelligent, agile, and future-ready supply chain.”

**cencora**

“We chose Optilogic not just for its technical strength, but because the team felt like the right cultural fit.”

## Ready to See What’s Possible?

Whether your most pressing challenge is a tariff shock hitting next quarter or a network redesign you’ve been putting off for three years, Optilogic has the platform, the technology, and the team to get you there faster than you thought possible.

We don’t sell software and walk away. Our Solutions Team — practitioners who’ve held the roles you hold — partners with you from model build through ongoing optimization. You get technology + expertise + partnership = transformative results.

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