Sourcemap

The ROI of Supply Chain Mapping

How companies use n-tier visibility for competitive advantage

What is n-Tier Supply Chain Mapping?

n-Tier Mapping enables companies to trace their supply chains down to the raw materials origins, powering optimization, risk management, and continuous improvement at every stage of production.

These case studies draw on Sourcemap's experience across industries to show how supply chain visibility drives direct and indirect savings and opportunities.

> *"We selected Sourcemap because we know that it's a leading provider of technology to provide traceability and transparency into our supply chains and ensure that we are doing right by human rights due diligence."*

Jonah Smith
VP AND GLOBAL HEAD OF ESG, IBM

Sourcemap
225 Broadway Ste 4100, New York, NY 10007

Get in Touch
+1 212-401-4067
info@sourcemap.com
www.sourcemap.com

The biggest opportunity in supply chains is hidden in the indirect supply chain: the suppliers' suppliers, who are often unknown by ultimate customers. That's where strategic raw materials are sourced, it's where contracts can be streamlined and logistics can be optimized, it's where the biggest risks to reputation and operations lie, and it's where companies are fighting for the future by securing long-term, strategic contracts. Sourcemap has been helping the world's biggest companies map their supply chains for over 15 years. Find out what the most advanced n-Tier supply chain managers are capable of achieving in this analysis.

Supply chain mapping is essential

Supply chain mapping is the foundation of modern supply chain risk management as well as a necessary component of compliance with global regulations regarding forced labor, deforestation, and conflict minerals.

What is n-Tier Supply Chain Mapping?

n-tier supply chain mapping is the process of managing a company's extended supply chain from direct (Tier 1) suppliers through several layers of sub-suppliers down to raw material origins. This process typically involves incorporating data from 5-10 supply chain tiers and expanding enterprise supplier databases by several orders of magnitude (100x or more).

Supply chain mapping was introduced in 2011 when the first graph database for n-tier mapping was made available commercially by Sourcemap Inc, an MIT spin-off. The methodology gained widespread adoption when it was included in U.S. Customs and Border Protection importer guidance in 2021. Since then, n-tier mapping has become essential for managing origin-based tariffs, forced labor regulations, and extended supply chain due diligence requirements across multiple regulatory frameworks including EUDR, CSDDD, and SEC conflict minerals reporting.

Specialized technology is needed

Supply chain mapping requires a company to establish relationships with all of its indirect suppliers, often numbering many times more than direct suppliers. To do this at scale, companies need specialized supply chain mapping platforms capable of managing distributed data collection across thousands of indirect suppliers. These systems must support:

- Suppliers inviting their direct suppliers through a cascading progress that invites all suppliers upstream, until all suppliers are invited and registered
- Continuous updates as suppliers are added and removed
- Transaction-level documentation that meets regulatory evidence requirements
- Continuous monitoring of all sub-suppliers against global risk watchlists and heat maps
- Traceability at the order level powered by ERP integration

Global 1000 companies use n-tier supply chain mapping not just for risk mitigation, but as a strategic capability that drives measurable business value across supply chain, compliance and finance.

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M&A SYNERGIES FOR A TOP-10 GLOBAL LUXURY CONGLOMERATE

Return on Investment
€85M+

Scope
Multi-subsidiary supply chain consolidation

Financial Impact
> €85M by Consolidation of redundant procurement teams across brands and elimination of duplicate supplier contracts

Challenges Faced

Conglomerates that expand through mergers and acquisitions can end up with multiple companies under the same corporate umbrella that compete with each other in procurement.

One such global luxury conglomerate maintained redundant procurement teams - one for each brand - with each team responsible for scouting, onboarding and offboarding, and compliance of its suppliers, even though the majority of these suppliers served multiple brands within the conglomerate.

This resulted in redundant databases and vendor management processes, multiple contracts for similar products at different prices, and duplicate auditing and compliance reporting.

Results and Impact

By implementing n-Tier supply chain mapping, the conglomerate was able to:

- Provide each subsidiary with a dedicated n-tier supplier database while centralizing visibility for the holding company
- Consolidate purchases of parts and/or services used by multiple subsidiaries
- Optimize use of distribution sites, including warehouses and transhipment locations
- Eliminate redundant audits and compliance work while expanding the number of sites covered by supply chain due diligence

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STRATEGIC RAW MATERIAL SOURCING FOR A GLOBAL AUTOMOTIVE MANUFACTURER

Return on Investment
$100M+

Scope
Electric vehicle battery component sourcing with long-term contracts

Financial Impact
>$100M in supply security and cost avoidance

Challenges Faced

The ability to source limited or rare earth materials in a competitive and regulated environment can determine success in specialized manufacturing such as electronics and batteries. Ensuring access to significant volumes of strategic materials relies on visibility to the n-tier mines and n-1 refining/pouring/smelting operations.

A top-10 global automotive OEM used supply chain mapping to rapidly identify sources of critical minerals and their refining sites to supply new factories with EV battery components. Their objectives included securing large volumes long-term, meeting regulatory requirements, and qualifying for incentives in EU and US markets.Within 60 days of launching a Sourcemap supply chain mapping portal, the cascading process located every metal mining operation and all intermediaries, including refining facilities. Procurement teams collected additional information regarding capacity and compliance to ensure uninterrupted supply and meet friendly-country sourcing requirements.

Results and Impact

By mapping the supply chain, the automotive OEM was able to:

- Rapidly locate mines and refineries within 60 days of launch
- Trace volumes to determine the most strategic sites
- Ensure sufficient reserves and capacity at strategic suppliers
- Establish long-term sourcing contracts with n-tier suppliers of strategic metals
- Develop compliance programs for the strategic minerals supply chains in each operating country

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RULE OF ORIGIN TARIFF MANAGEMENT FOR A GLOBAL FOOTWEAR & APPAREL MANUFACTURER

Return on Investment
$65M+ USD

Scope
Rule of origin compliance for metal-based tariffs

Financial Impact
Strategic raw material sourcing optimization reduced tariff exposure by 10-50% of metals value

Challenges Faced

New tariff regulations impose fees based raw material origins, including US Section 232 and EU Cross-Border Carbon Adjustment Mechanism (CBAM), which focus on the country of origin of metals and their derivatives, especially aluminum and steel. These “melted and poured” standards require companies to obtain evidence of locations where metals were converted into industrial raw materials. These site locations determine the overall fee, which as of June 2025, can reach 50% of the metal’s value in a product.

All companies importing these products must map their supply chain to determine originating countries. Companies seeking tariff exemptions must collect evidence that supply chains originate in favored countries. The task is complicated by metals supply chain length (5-10 tiers) and the likelihood that metals from multiple origins end up in finished products.

Minor adjustments in raw material sourcing can significantly impact tariff burden. This company used n-tier mapping to calculate tariffs exposure and ensure favored raw materials reached appropriate suppliers, thereby reducing tariff burden on imported goods.

Results and Impact

By mapping the supply chain, the automotive OEM was able to:

- Automate the collection of chain of custody data at product, material, and transaction levels
- Identify potential tariff exemptions and collect required documentation as evidence, including order forms, shipping documents and payment receipts
- Achieve direct savings equivalent to the tariff exemption values (10-50% of metals imported)
- Reduce administrative burden for compliance documentation gathering

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NOMINATED SUPPLIERS FOR A TOP-10 US APPAREL COMPANY

Return on Investment
$10M+ USD

Scope
Nominate suppliers for assured pricing, quality and compliance

Financial Impact
Reduced procurement costs by 15-20% while improving consistent quality and supply chain resilience

Challenges Faced

While companies exert strict control over direct suppliers, managing indirect suppliers can be more important, especially when they supply components used across the supplier base. The practice of nominating suppliers occurs when companies require their direct suppliers to use certain indirect (tier-2, tier-3, etc.) suppliers, usually for assured pricing, quality, compliance, or other criteria.

A top-10 US apparel company used supply chain mapping to identify all tier-2 through tier-4 suppliers and determine which provided redundant materials or services. It subsequently negotiated bulk contracts with a reduced number of fabric, raw material, and trim suppliers, thus 'nominating' these sub-suppliers as the only approved ones. Supply chain mapping ensured sub-suppliers adhered to nominated criteria and avoided purchasing from non-approved sub-suppliers.

Results and Impact

By mapping the supply chain, the US apparel company was able to:

- Negotiate long-term bulk contracts with lower unit costs, higher quality, and built-in resilience clauses
- Eliminate non-compliant sub-suppliers lacking the proper audits or certifications
- Exert strict control over material quality and anti-counterfeiting measures
- Reduce warehousing and logistics costs borne by tier-1 suppliers

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DISTRIBUTION OPTIMIZATION FOR A LARGE COMMODITY BUYER

Return on Investment
$5M+

Scope
Consolidate fragmented commodity supplier contracts

Financial Impact
>$5M in reduced transaction costs, improved negotiating leverage, and streamlined logistics operations.

Challenges Faced

Supply chains for many soft commodities are fragmented, requiring large buyers to transact with hundreds of distributors to secure needed volumes.

One large commodity buyer with billions in annual raw materials spend used n-tier supply chain mapping to understand their supplier network. Mapping commodity supply chains requires multi-pronged approaches using internet-based technology as well as mobile phones and messaging applications. A dedicated multilingual support team worked to onboard suppliers who had never participated in online procurement activities.

Results and Impact

By mapping the supply chain, the global food company was able to:

- Reduce the effective number of supplier contracts by 50%
- Streamline procurement processes across fragmented commodity markets

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DISRUPTION MANAGEMENT FOR TWO GLOBAL TOP-10 CPGS

Return on Investment
$50M+ in potential revenue losses from production delays

Scope
Automated supply chain dependency modeling reduced disruption

Financial Impact
$50M in potential revenue losses from production delays

Challenges Faced

Following natural disasters, companies may spend weeks understanding impact on nearby suppliers and global supply chains. Delays in modeling disruption impact are exacerbated by lack of data on n-tier suppliers, their criticality for global business, and extent of delays if production slows significantly.

Sourcemap worked with two leading global CPG's following a major supply chain disruption to develop automatic resolution of data issues that delayed recovery. Over 18 months, an SAP ERP integration was developed to extract key tier-1 data including suppliers, purchase orders, and product bills of materials, automatically generating dependency models and revenue exposure analysis. Using n-tier supply chain mapping, upstream supply chains were documented from tier-1 with flags assigned to single-source suppliers that would create immediate bottlenecks if disrupted. The model included buffer stock and recovery time estimates for each supplier site.

Results and Impact

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