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GUIDE

N-Tier Mapping

Understand the importance of multi-tier visibility and build an effective N-Tier mapping program

The Importance of N-Tier Mapping

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What are N-Tier suppliers?

N-Tier suppliers are suppliers that exist beyond your Tier 1 (contracted) suppliers and form the network of companies that provide your tier 1 supplier with the goods or services they need to deliver their own goods or service to you, the ultimate buyer. Because sub-tier organizations can be represented across many levels and oftentimes very little is known about them, risk exposure can be incredibly high. In the same way that the ultimate buyer often has little visibility into their sub-tiers, your Tier 1 suppliers may also often have little or no robust visibility. This demonstrates the interconnectedness of the supply chain and how vulnerable it can be.

Why it is important?

N-Tier mapping is crucial in supply chain risk management because it provides comprehensive visibility into the entire supply chain, beyond just direct (Tier 1) suppliers. This deep insight helps identify potential risks, vulnerabilities, and disruptions hidden in the lower tiers, allowing organizations to proactively manage risks, ensure compliance, and respond quickly to threats that could impact the supply chain. Without n-tier mapping, companies remain blind to the full spectrum of risks, making them more susceptible to unexpected disruptions.

Deep supply chain transparency problematic

are not confident in 3rd tier visibility.

According to a McKinsey survey of the automotive, aerospace, and defense sectors, only 9 percent of respondents expressed confidence in their third-tier supplier visibility and none expressing satisfaction with their supplier visibility at all levels.

Source:
McKinsey Survey: Taking the Pulse of Shifting Supply Chains

Challenges collecting n-tier data directly from suppliers

N-Tier mapping presents significant challenges as it requires comprehensive visibility across all layers of the supply chain, extending beyond immediate Tier 1 suppliers to those at Tier 2, 3, and beyond. This complexity increases exponentially with each tier due to several factors. First, collecting accurate data becomes more difficult because as companies go deeper into their supply chain, they lose leverage and control, making it harder to compel lower-tier suppliers to share information. The sheer number of suppliers and degrees of separation between companies also introduces additional communication barriers, slowing down the process.

The time and resources required for effective n-tier mapping are substantial, often taking months or even years to gather sufficient data for just Tier 2 suppliers. Many projects are ultimately abandoned due to the overwhelming effort involved. Furthermore, relying on primary data collection from suppliers has its drawbacks. Self-reported data is often incomplete or biased, whether unintentionally due to a lack of information or deliberately due to selective disclosure. Low response rates and inaccurate or missing reports from sub-tier suppliers are common issues, which further hinder visibility. As a result, most companies can only feasibly gather meaningful information about Tier 2 suppliers, leaving deeper tiers opaque and increasing the risk of disruptions, compliance failures, and hidden vulnerabilities throughout the supply chain.

HONDA

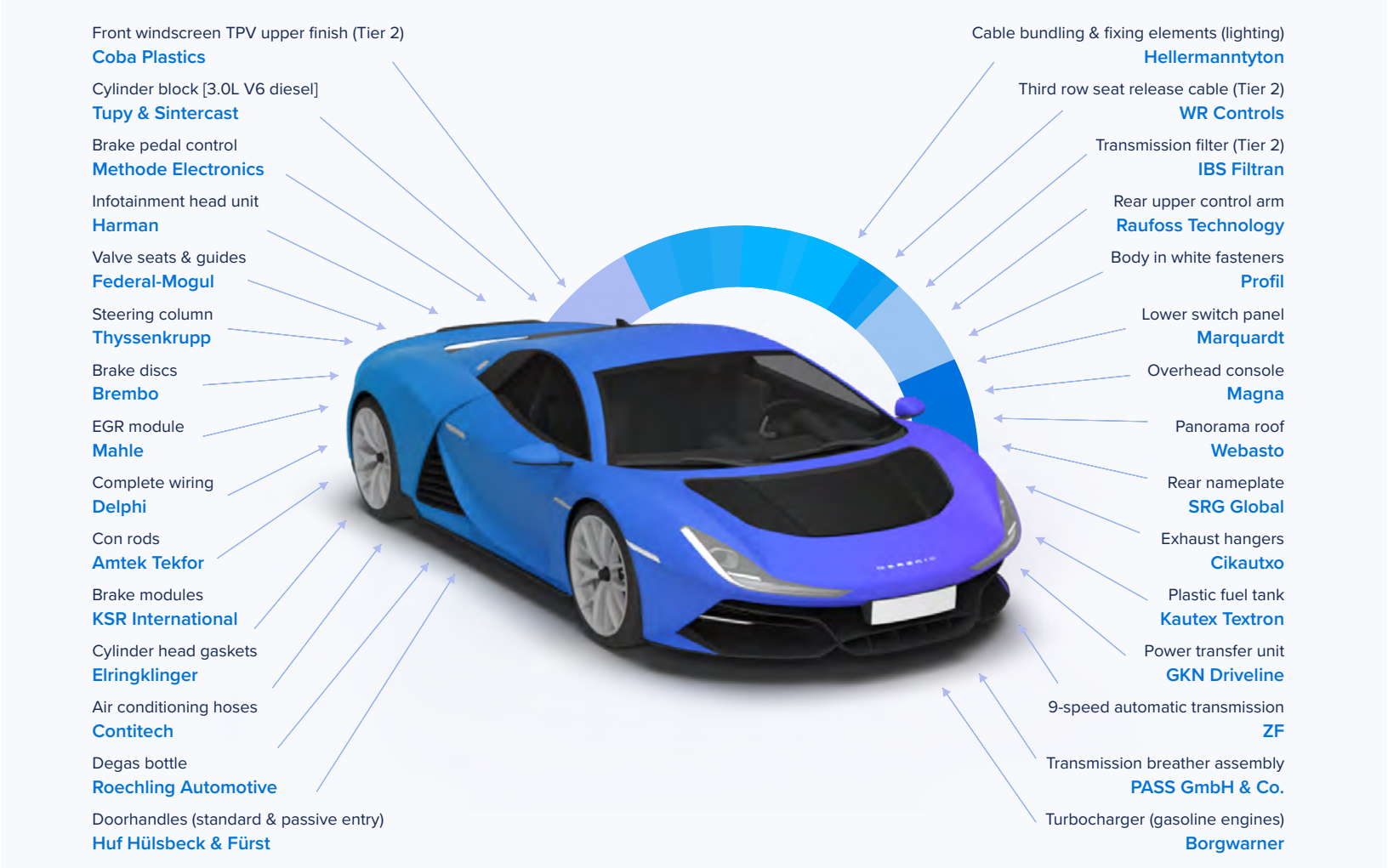
of suppliers are below tier 1.

The Center for Advanced Purchasing Studies mapped the American Honda Motor Company's supply network. The supply chain included 10,832 suppliers: 245 first tier, 1,643 second tier, 4,605 third tier.

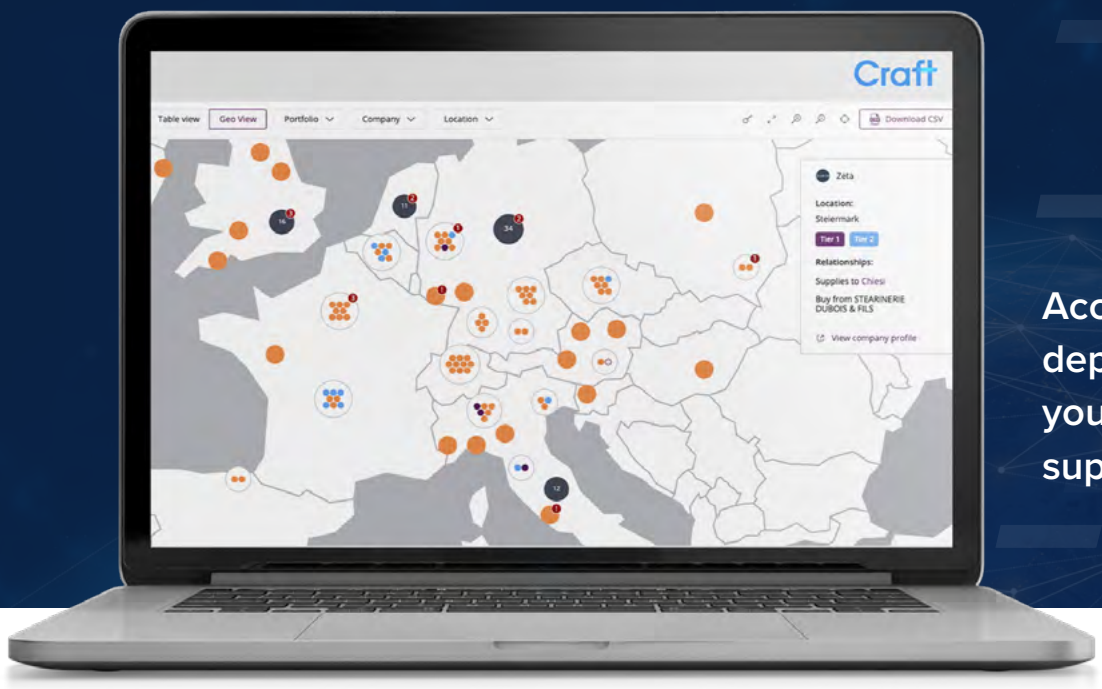
Start with the Product

An organization producing a product like a drug or a car requires specific materials or components. These components are typically sourced from direct suppliers, often with a finite number of sources. Let's use the example of a car. In the illustration below, you can see a list of components necessary to build a Range Rover, each linked to the supplier that provides them.

This breakdown is how procurement and supply chain professionals prefer to dissect their supply chain across tiers. However, the caveat is that they will only have Tier 1 direct suppliers, and perhaps an awareness of a few ad hoc N-Tier suppliers.



For instance, consider COBA PLASTICS. The key question a supply chain manager would want to answer is: "Who provided the glass, plastic, and other materials to create the 'front windscreen TPV upper finish'?" Therefore, the starting point for any supply chain map analysis needs to begin with the customer providing a list of Tier 1 suppliers and the components they supply.



Accurately map key dependencies for your most critical supply chains

Supplier Filtering & Application at Scale

Based on that exercise, we now have the following information:

- Name of Tier 1 supplier
- Product or component sourced from that supplier

Using this data, Craft can leverage AI tools to build a comprehensive map of N-Tier suppliers. During this process, it is crucial to identify what each supplier contributes to the value chain (e.g., by HS Codes). For example, Jaguar Land Rover receives cylinder blocks from Tier 1 suppliers like Tuper and Sindercast. But who supplies them? Our partner might identify two Tier 2 suppliers: Supplier-1 and Supplier-2. By enriching this data, we can determine that Supplier-1 provides casting molds, essential for Tuper and Sindercast. Meanwhile, Supplier-2 provides tissue paper, which is irrelevant for the production of the car.

Supplier Prioritization & Selection

Once filtering is complete, the next step is to prioritize suppliers. For example, after filtering an initial list of 1,000 suppliers down to 100 direct suppliers, we can identify those that are single-source versus those with multiple sources. **Single-source suppliers are higher priorities because their failure has no alternative options.** Many companies believe they have diversified by having multiple suppliers for a particular part, but fail to realize that all of those direct suppliers depend on a single source deeper in the supply chain. Other prioritization rules may also apply, such as suppliers in markets with rising prices or stringent regulations. By applying these rules, users can identify which N-Tier suppliers should be monitored closely.

Prioritized suppliers can be monitored and evaluated more frequently or with more detailed profiles.

Frequently monitor

- Single source suppliers
- Suppliers in regions with political or economic instability
- Suppliers in industries and regions with stringent regulations

Data sources to augment the supply chain view

Craft utilizes global customs data and shipping records, news media, company websites and other primary data to provide a robust understanding of their entire supply chain.

To start the process, we require the following inputs:

COMPANY INFO

- Company names
- Registered addresses
- Any subsidiaries or aliases that are of interest
- Locations or sites of interest
- Known suppliers or subcontractors

RELEVANT PRODUCT INFO

- Products
- Components
- Processes
- Commodities

Since companies don't have relationships with sub-tier suppliers, **entity resolution** is critical when navigating the complexities of subsidiaries and multiple locations to make sure the right companies are being tracked.

Supplier Risk and Monitoring

Suppliers should be regularly monitored and assessed given the dynamic nature of supply chains, especially below tier one. With a clear understanding of the N-Tier footprint and relevant direct suppliers, companies can use Craft's supplier risk monitoring features and datasets to detect issues with those suppliers. Unlike other solutions that just rely on news alerts for monitoring, Craft provides alerts as well as historical metrics to track changes in supplier health over time.

Configuration of risk scores and alerts

Risks are relative and risk appetites vary by company. Highlight the risks most critical to your business with configurable risk scores. Then reduce noise and increase efficiency by creating alerts aligned with your role and business priorities.

Associating N-Tier Suppliers to Tier 1 Suppliers

Associating groups of N-Tier suppliers with Tier 1 suppliers provides a consolidated value chain view. This can be done using our Portfolio view.

N-Tier mapping is a collaborative project to prioritize which companies to monitor scoped by value chain

Additional direct cost savings through N-Tier mapping

Understanding the entire value chain can reveal hidden suppliers. In the future, buyers might be able to bypass a Tier 1 supplier to work directly with an N-Tier supplier, potentially reducing costs. Filtering by product type facilitates this process.

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How the discovery process works

Identify Priority Value Chains

- The product or material you buy
- The reasons why it is critical
- Data about downstream product / revenue dependencies
- High-level info about the materials or products that are required to make it
- The supplier(s) for the product or material

Map all connected sub-tier suppliers

- Trade data
- Website pages, blogs, and news media
- Aggregate into initial map across the tiers

Refine connections for relevancy

- Inspect info about materials / ingredients
- Map against product information available in the connections dataset
- Filter for relevancy and approve

Finalize n-tier dataset into Craft

- Integrate first-party data with N-Tier dataset
- Load data into the Craft N-Tier view
- Activate placeholder company profiles

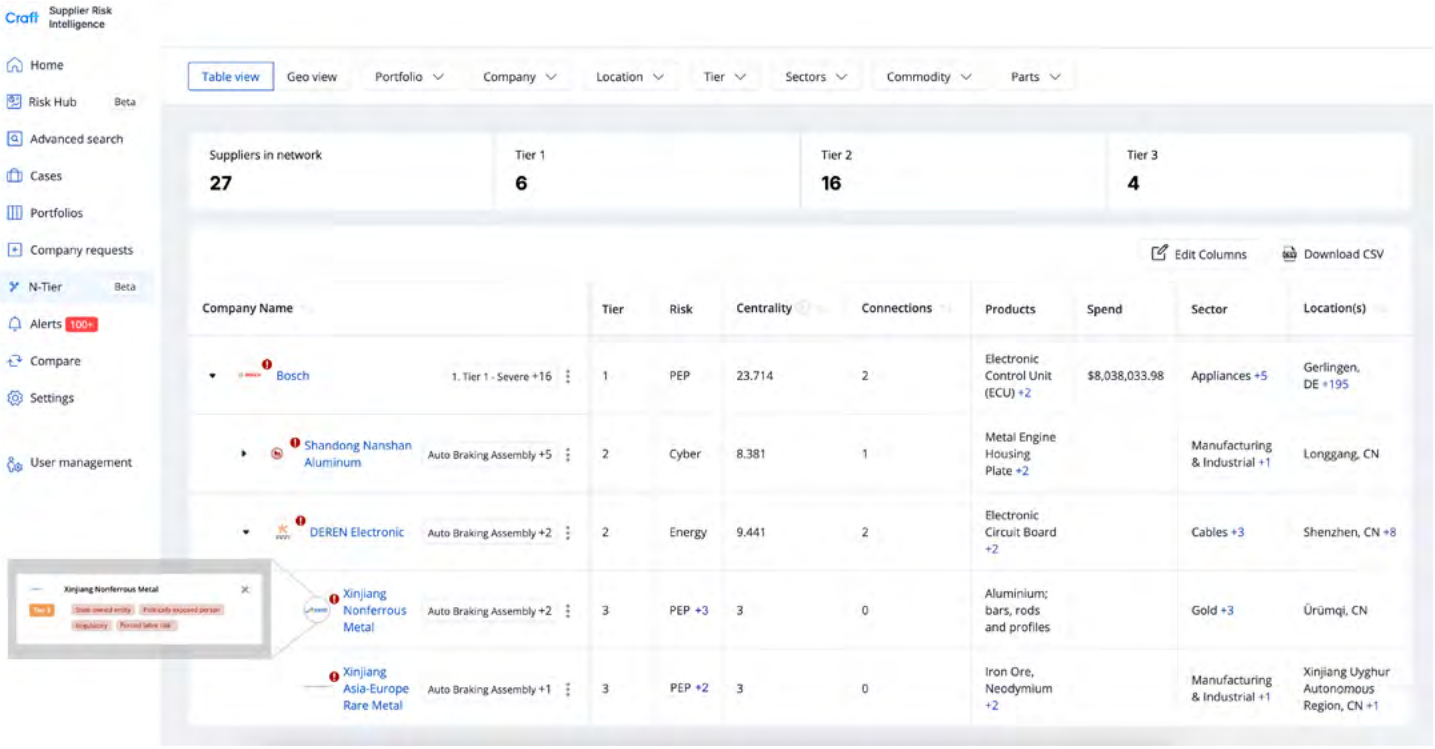
Map risk against sub-tier suppliers

- Determine which / how many sub-Tier suppliers to enrich with risk data
- Connect and activate risk domains
- Build high-priority segments of the value chain into Risk Hub

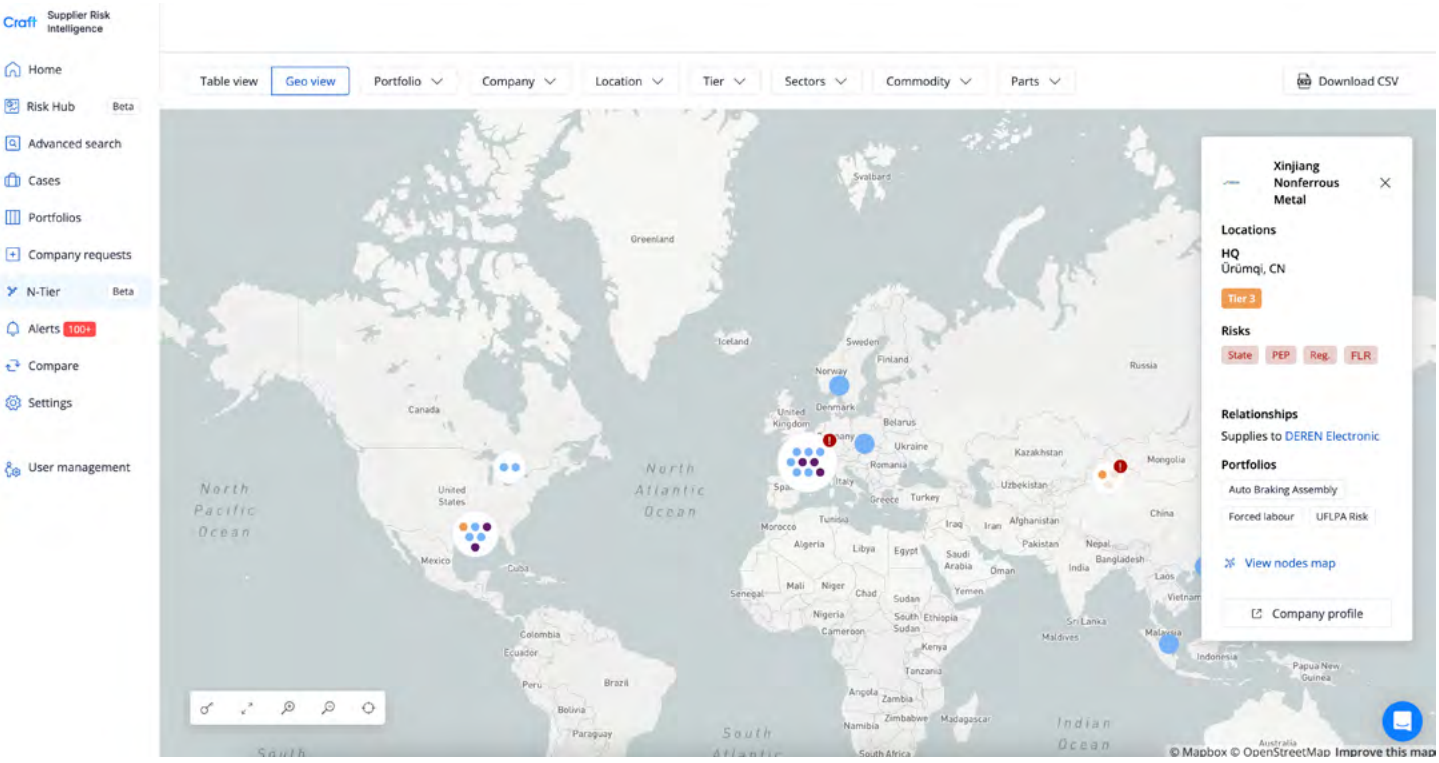
Need help?

If you don't have the personnel or capacity to take this on, Craft has partnerships with consulting companies Deloitte and Ernst & Young to offer a turnkey solution.

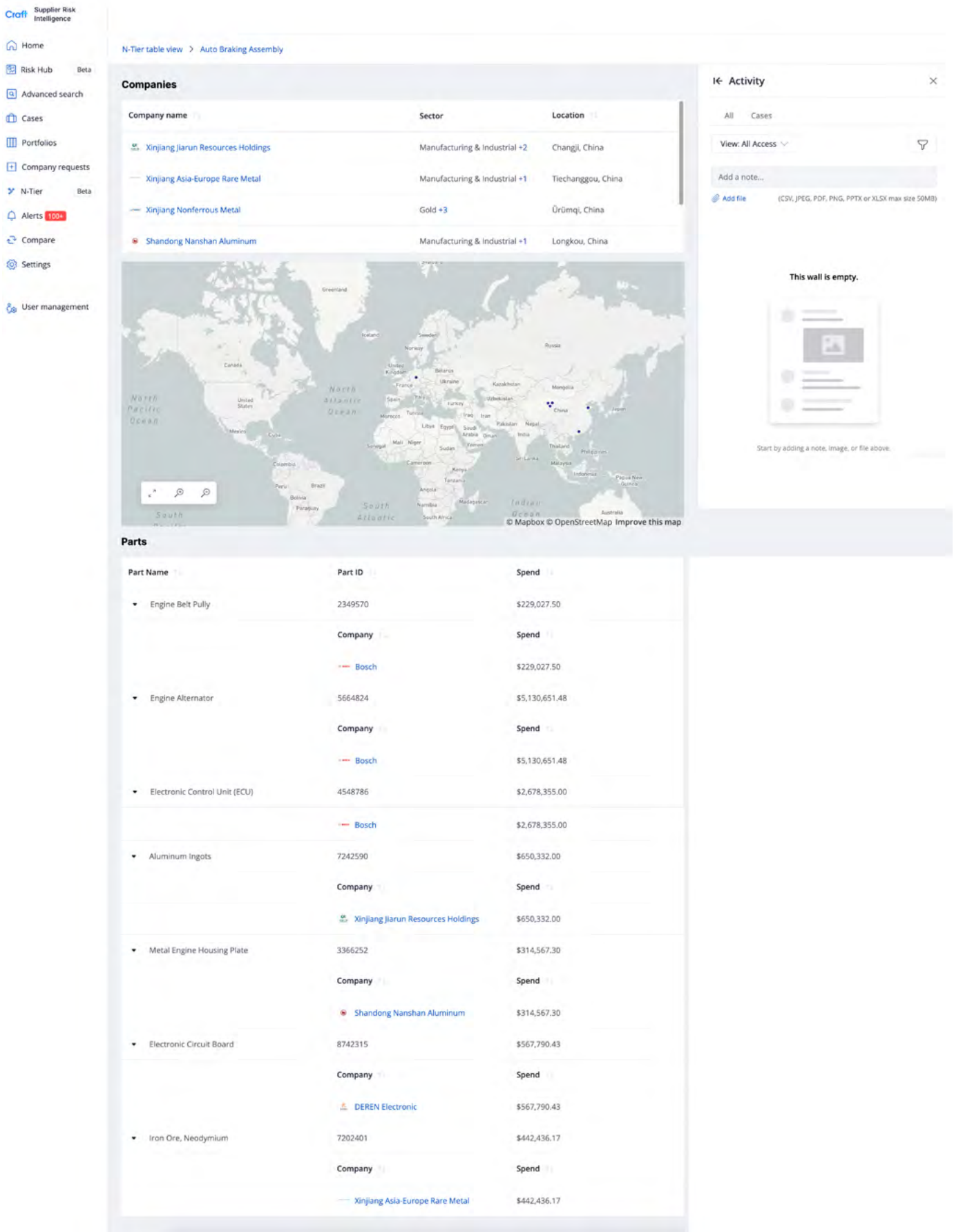
Table view



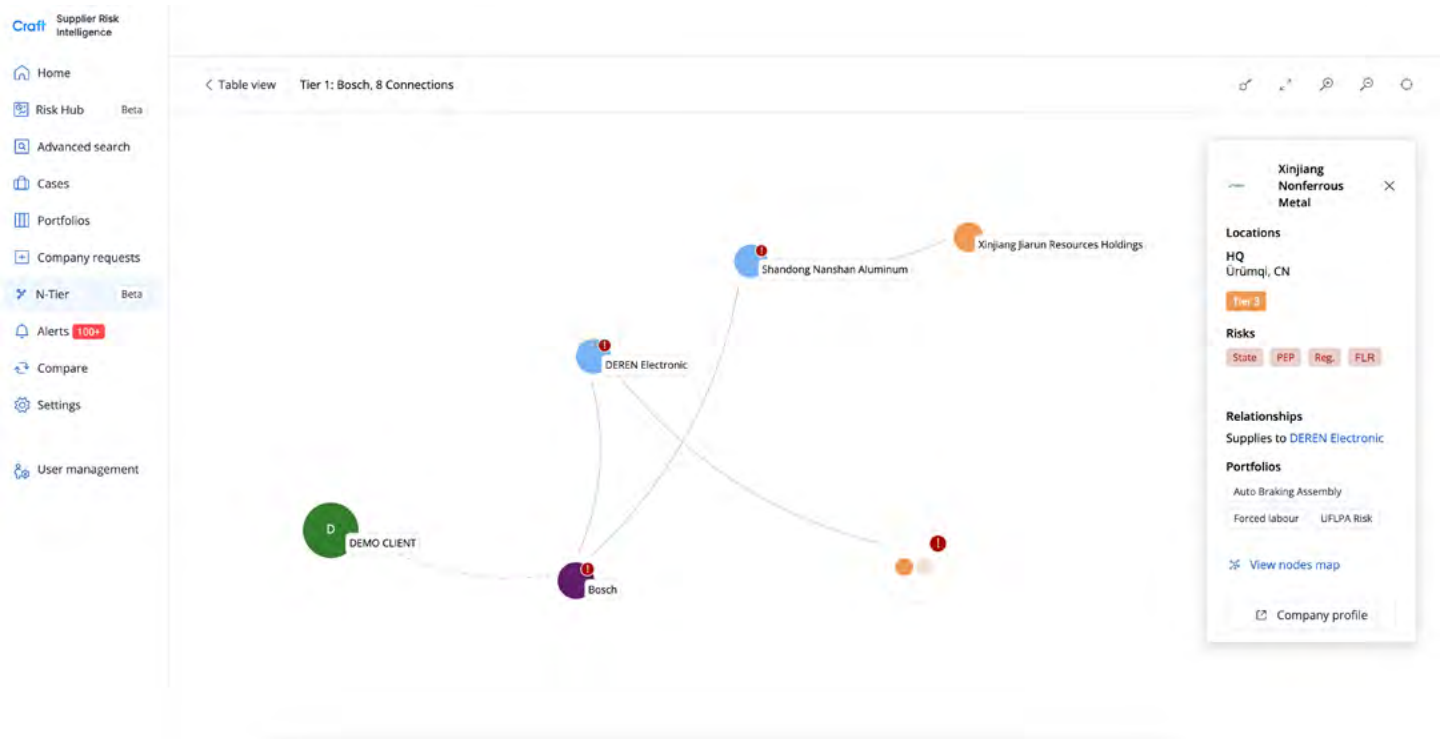
Geo view



Portfolio view



Node view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Supplier Risk Intelligence
Home
Risk Hub
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Advanced search
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Company requests
N-Tier
Beta
Alerts
100+
Compare
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User management
Table view
Tier 1: Bosch, 8 Connections
Shandong Nanshan Aluminum
Xinjiang Jiarun Resources Holdings
DEREN Electronic
D
DEMO CLIENT
Bosch
Xinjiang Nonferrous Metal
Locations
HQ
Ürümqi, CN
Tier 3
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State
PEP
Reg.
FLR
Relationships
Supplies to DEREN Electronic
Portfolios
Auto Braking Assembly
Forced labour
UFLPA Risk
View nodes map
Company profile

Craft's intelligent supply chain resilience platform

Craft's easy-to-use platform provides 360-degree visibility to quickly explore and evaluate supplier networks, AI-driven insights to detect and mitigate disruptions, and collaborative tools to optimize supply chain strategies. With Craft, procurement and supply chain professionals can confidently navigate regulatory environments, uphold ethics, drive business continuity, safeguard their revenue and reputation, and remain resilient in the face of unexpected disruptions.

Know your suppliers better

Evaluate with a comprehensive trusted picture of your supplier network

Protect against disruption faster

Anticipate relevant supplier risk in your business

Build a resilient supply chain

Easily align and execute on supply chain risk strategies across teams

Learn more about the Craft platform and how we can help improve your supply chain visibility.

sales@craft.co