

SHIPPEO

Powered by Visibility: Proactively Managing Transportation Risks

Executive Summary

Chief Supply Chain Officers (CSCOs) are navigating an era of unprecedented supply chain complexity. Escalating geopolitical tensions, frequent natural disasters, and tightening trade regulations are creating a landscape riddled with unpredictable risks. Simultaneously, CSCOs must contend with rising costs, stringent regulatory demands, and evolving customer expectations that necessitate both operational efficiency and sustainability. This confluence of factors demands a fundamental shift from a "just-in-time" to a "just-in-case" approach, where resilience is paramount while maintaining customer service and sustainability commitments.

Achieving this resilience hinges on building agile, forward-looking supply chains that effectively balance risk mitigation, cost control, and strategic business growth. A critical component of this transformation is the implementation of robust transportation risk management strategies, underpinned by foundational, high-quality visibility data and comprehensive logistics control towers.

While the market has witnessed a surge in risk monitoring and visibility solutions designed to enhance agility, their efficacy is often undermined by data quality issues and implementation challenges. Gartner reports that "91% of supply chain leaders are implementing or already have implemented risk monitoring technologies or supply chain visibility and multitier mapping as a result of a disruption." However, this widespread adoption has not translated into proportional operational benefits. Alarmingly, "less than 12% of frontline and operational staff reported sensing a risk early enough to affect different mitigations," and "only 40% agreed their level of visibility made monitoring the impact easy."[1]

These statistics highlight a critical gap: the mere implementation of technology does not guarantee effective risk management. Without accurate, complete, and timely data, even the most sophisticated solutions will fail to deliver a meaningful return on investment. Furthermore, successful implementation requires meticulous change management and seamless integration with broader risk mitigation strategies. In essence, achieving true supply chain resilience demands a holistic approach, where technology serves as an enabler, not a panacea, supported by robust data governance and strategic organizational alignment.



1 Source: Gartner, "Build Resilience, Visibiity and Agility to Lower Risk Impact" by Suzie Petrusic and Heather Wheatley, 31 May 2024

Mitigating Transportation Risks

The movement of goods is fraught with risks, ranging from accidents, extreme weather events, and equipment failures to geopolitical conflicts, labor strikes, and trade restrictions. These disruptions can lead to severe consequences for businesses, including increased costs, lost revenue, higher insurance liabilities, delayed deliveries, contractual breaches, order cancellations, and reputational damage. Furthermore, supply chain bottlenecks, inventory mismanagement, and production halts can weaken market position and strain customer relationships. To mitigate these risks, supply chain organizations must adopt a proactive approach, leveraging diversification, technology, contingency planning, and sustainable logistics strategies to enhance resilience and ensure operational continuity.

Identify & Assess Transportation Risks

Before mitigating risks, organizations must first identify, assess, and prioritize transportation vulnerabilities.

Conduct risk audits

Regularly assess transportation risks by identifying vulnerabilities in the supply chain.

Supplier & carrier risk evaluation

Assess reliability, financial health, and operational stability of logistics providers.

Use risk modeling tools

Leverage predictive analytics, AI, and scenario planning to anticipate potential disruptions. Visualize risks across the supply chain (e.g., dependency on certain routes, suppliers, or transport modes).

Predictive analytics

Use historical data and AI to forecast potential disruptions (e.g., weather delays, port congestion, etc.).



Diversify Suppliers & Transport Modes

Relying on a single supplier, transportation method, or route creates vulnerability. Organizations should diversify to minimize risks.

Multi-supplier strategy

Avoid dependence on a single supplier by sourcing from multiple vendors.

Alternative transport routes

Identify and establish backup shipping routes in case of disruptions.

Intermodal transportation

Use a mix of air, sea, road, and rail transport to minimize reliance on one mode.

Nearshoring & regional distribution

Reduce dependency on long-distance suppliers by shifting to closer partners.

Strengthen Logistics Partnerships

Building strong relationships with logistics providers ensures reliability and better crisis response.

Establish strong contracts

Negotiate service level agreements (SLAs) with clear performance metrics for logistics providers. Clearly define expected delivery times, penalties for delays, and contingency measures in contracts.

Collaborate with 3PLs & 4PLs

Partner with third-party (3PL) and fourth-party (4PL) logistics providers for better risk-sharing, expertise and scalability, and codevelop contingency strategies.

Regular performance monitoring

Track logistics provider performance to ensure reliability.





Accelerate Supply Chain Digitalization

Technology-driven visibility helps companies track shipments, anticipate disruptions, and improve efficiency.

Real-time tracking

Consider GPS tracking for live shipment monitoring, as well as IoT or RFID-based tracking for specific use cases, for example temperature-controlled or high-value shipments.

Blockchain for secure documentation

Ensure transparent and tamper-proof logistics records.

AI-powered route optimization

Use AI to analyze traffic patterns and suggest the fastest routes.

Strengthen Inventory & Demand Planning

Proper inventory management ensures business continuity despite transportation delays.

Buffer stock strategy

Maintain safety stock of critical components to absorb supply chain disruptions.

Demand forecasting

Use predictive analytics to anticipate fluctuations in customer demand.

Warehouse network optimization

Distribute inventory across multiple locations to minimize risk.

Just-in-case (JIC) vs. Just-in-time (JIT) balance

Avoid over-reliance on lean inventory models that may be vulnerable to transport delays.

Develop Contingency & Crisis Management Plans

Contingency planning prepares businesses to respond quickly to transportation disruptions.

Business continuity planning (BCP)
Develop response strategies for various risks (e.g., natural disasters, strikes, cyberattacks).

Alternative logistics providers
Maintain relationships with backup carriers and warehouse facilities.

Emergency freight solutions
Partner with expedited shipping providers for urgent deliveries.

Scenario-based crisis training
Conduct simulations and training exercises for logistics teams.

Integrate Sustainability-Focused Strategies

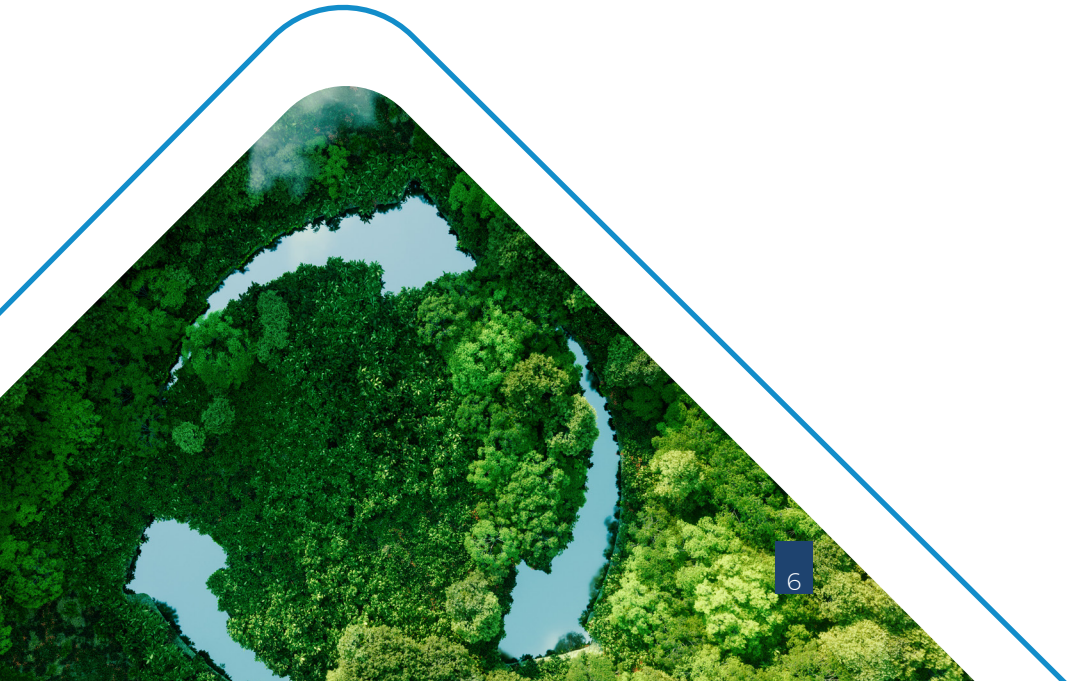
To reduce environmental impact and improve long-term cost efficiency, businesses can adopt:

Electric & hybrid vehicles
Investing in electric trucks and delivery fleets reduces carbon emissions and fuel dependency.

Alternative fuels
Utilizing biofuels, hydrogen, or LNG (liquefied natural gas) lowers the carbon footprint of long-haul transportation.

Route optimization software
AI-driven route planning minimizes fuel consumption, decreases emissions, and avoids congestion.

Carbon offset programs
Participate in sustainability initiatives to balance emissions.



Power Risk Management Capabilities with Robust Visibility

The ability to identify risks throughout supply chains depends largely on the data available. When it comes to transportation risk management, a real-time transportation visibility platform pulls together vast swathes of data that can be used to power detailed analysis on where many of the weak links lie within supply chains. Providers should also demonstrate high competence for data manipulation and cleansing to maximize the quality and completeness of datasets, and ensure accuracy and reliability.

Historical data

View transportation carrier performance metrics, costs, journey times and delays, breaches in SLAs, routes taken, detention & demurrage, and more

Real-time status

Understand what is happening with your supply chain shipments at any given moment, no matter the mode of transport or where they are in the world, enabling proactive actions to be taken for disruptions and delays, and timely updates to be shared with recipients

Predictions

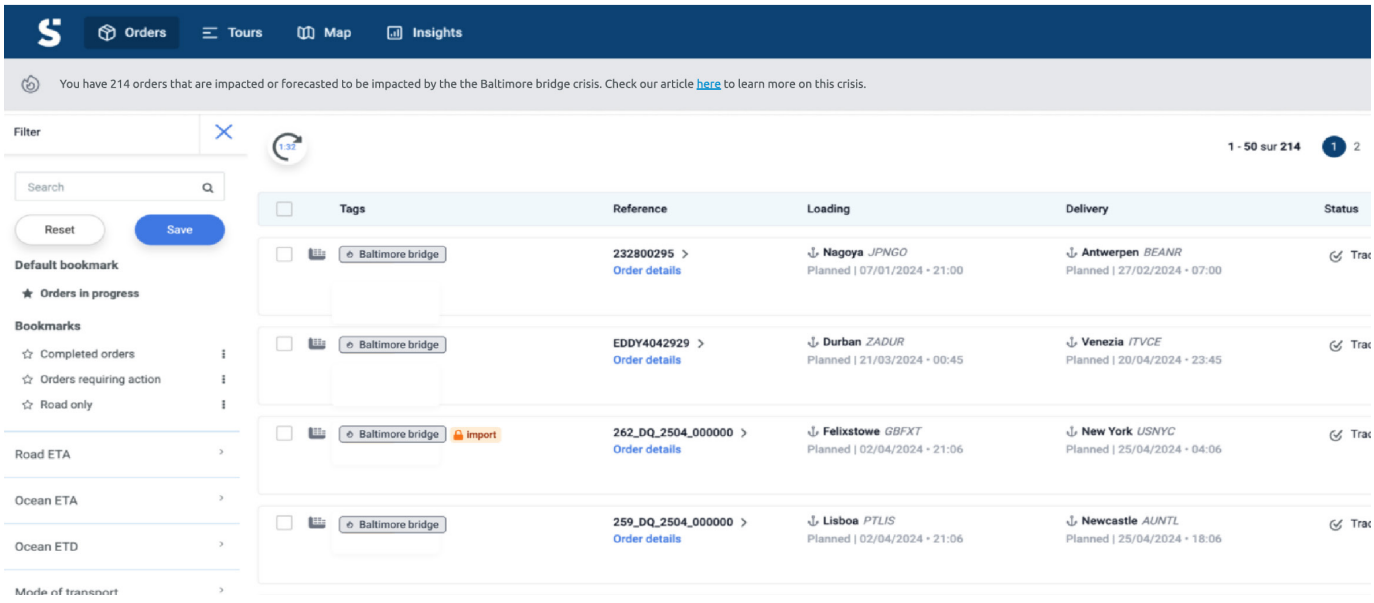
View estimated times of arrival or departure at factories, ports and terminals, warehouses and distribution centers, and delivery addresses

Carbon footprint

Access granular data across transport modes on Scope 3 carbon emissions using GLEC-accredited methodology to simplify reporting and inform greener transport plans

Logistics control towers and digital twins

Plug visibility platforms into control tower solutions and take actions to reduce disruption impacts, or power digital twins with accurate data for high-fidelity scenario simulations



Shippeo's platform alerts users to critical disruption events and ringfences those shipments impacted to help users navigate and respond more effectively.

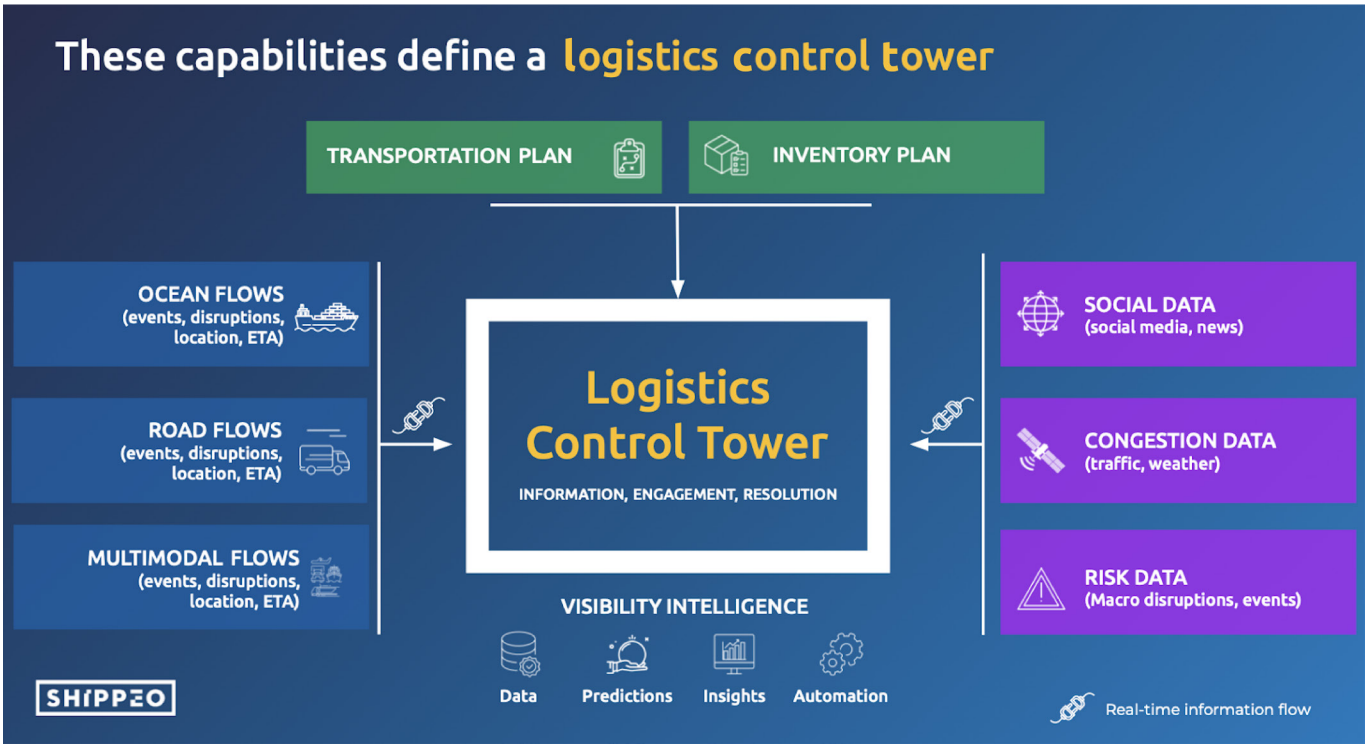
Logistics Control Towers: Transforming Transportation Risk Management

In today's volatile supply chains, logistics control towers, powered by real-time visibility, are crucial for operational continuity. They provide a centralized platform to anticipate, assess, and resolve disruptions through integrated real-time data, predictive analytics, and automation.

Functionally, control towers aggregate and analyze diverse data—GPS locations, social media, weather, risk intelligence, transportation plans, and inventory—enabling real-time monitoring and predictive insights. AI-driven analytics anticipate delays, optimize planning, and automate responses, fostering stakeholder collaboration.

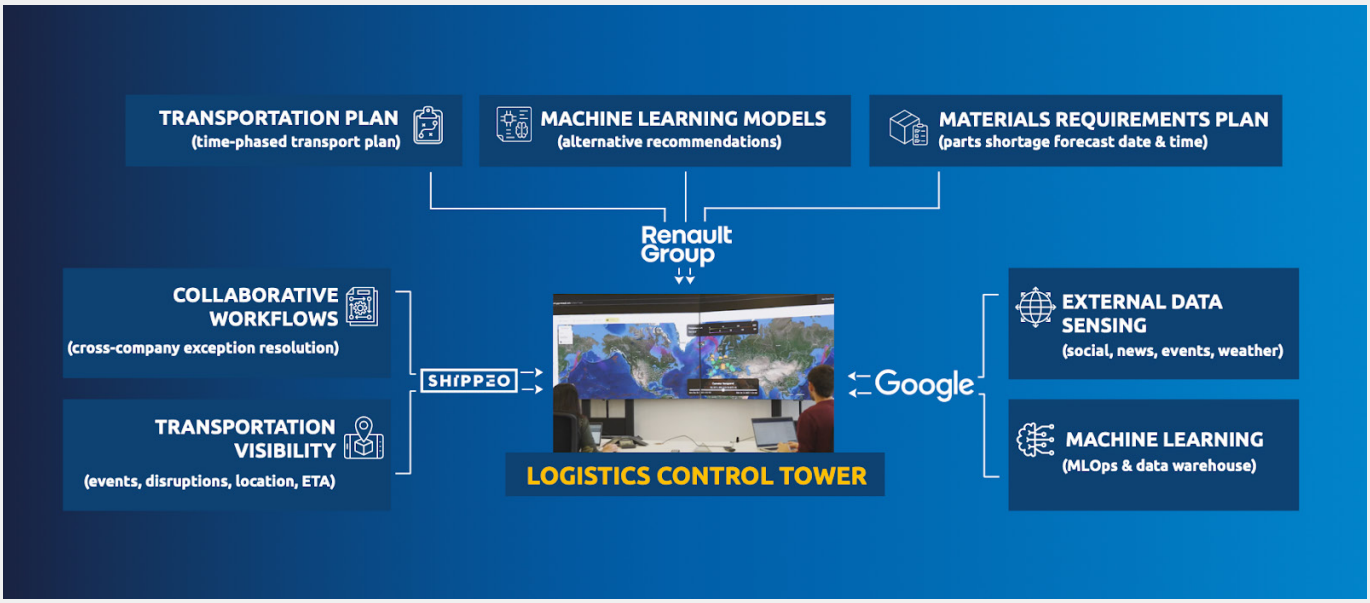
Their capabilities include real-time visibility, tracking shipment locations, ETAs, and potential delays, along with risk alerts that identify disruptions and trigger timely interventions. Predictive analytics forecast delivery timelines and optimize routes, while sustainability tracking monitors emissions. Advanced features include AI-driven resolutions like rerouting and rescheduling, scenario planning through digital twins, and AI-powered recommendations for carriers and routes.

In practical applications, during crises or severe weather, control towers identify affected shipments, monitor congestion, estimate delays, alert managers, and suggest alternative routes, minimizing impact.The business benefits are enhanced visibility, improved decision-making via predictive analytics, accelerated response times, and automated workflows, leading to reduced costs, minimized delays, and increased customer satisfaction through accurate ETAs and timely updates.



Case Study: Renault Group's Automotive Logistics Control Tower

Shippeo partnered with Renault Group, a leading European automotive OEM in a joint development program to build a logistics control tower for inbound logistics. The other key external partner in this program is Google, which brings critical cloud and MLOps infrastructure, along with public data that are leveraged by Renault Group's home built machine learning models for disturbance analysis and recommendations. Renault Group's Plant Materials Requirements Planning (MRP)-generated part shortage forecast date and time and its transportation plans are primary inputs into the control tower. The framework is shown in the figure below.



This is a good example of how multiple aspects of Shippeo's platform can be leveraged to help construct a control tower, versus having to invest in logistics control tower technology on top of a RTTV platform. This avoids a significant amount of application overlap in logistics execution. For example, the RTTV platform has its own control room interactive visual displays of the logistics network. Having a separate logistics control tower on top of this would essentially duplicate this capability.



In Summary

Today's volatile environment demands a shift to proactive, technology-driven supply chain risk management. Logistics control towers are transformative, offering real-time visibility and AI-driven insights for proactive risk mitigation. Crucial for resilience, these solutions require high-quality data and integration with broader strategies. Investing in platforms like Shippeo's, with it's predictive analytics, disruption alerts, and best-in-category data stewardship, is essential for building agile, sustainable supply chains.

Contact our team to explore how our platform can bolster your risk management and position your organization for long-term success.



TALK TO ONE OF OUR VISIBILITY EXPERTS TODAY

HUNDREDS OF SHIPPIANS ARE PRESENT IN CITIES ACROSS THE GLOBE.

Email contact@shippeo.com

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Shippeo is a global leader in real-time multimodal transportation visibility, helping major shippers and logistics service providers operate more resilient, sustainable, and customer-centric supply chains. This is made possible with highly accurate real-time operational visibility and Transport Process Automation™ to streamline transportation processes, reduce latency and improve operational efficiency. Their Multimodal Visibility Network integrates with more than 1,000 TMS, telematics and ELD systems, enabling Shippeo's platform to provide instant access to real-time shipment tracking across all transport modes, in a single portal, through an intuitive user experience. A proprietary and industry-leading machine learning algorithm offers unmatched ETA accuracy, allowing supply chain companies to quickly anticipate problems, proactively alert customers, efficiently manage exceptions with collaborative workflows, and GHG emissions from supply chain transport. Hundreds of customers, including global brands like AkzoNobel, Carrefour, Coca-Cola HBC, Evonik, Renault Group, Saint-Gobain, and Yamaha Motor, trust Shippeo to track more than 50 million shipments per year across 130 countries.

Learn more at **www.shippeo.com**

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