



The Ultimate Guide to Obtaining 360- Degree Visibility into Your Supply Chain

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Introduction

Cataclysmic global supply chain disruptions increased over the past five years, and all companies (not just MNCs) have been challenged to re-assess their supply chain partners, connectivity, and the broader ecosystem.

In its January 2023 survey, Ernst & Young LLP (EY US) revealed that 200 executives at firms generating over US\$1 billion in income picked supply chain visibility as their number one priority in the coming months.

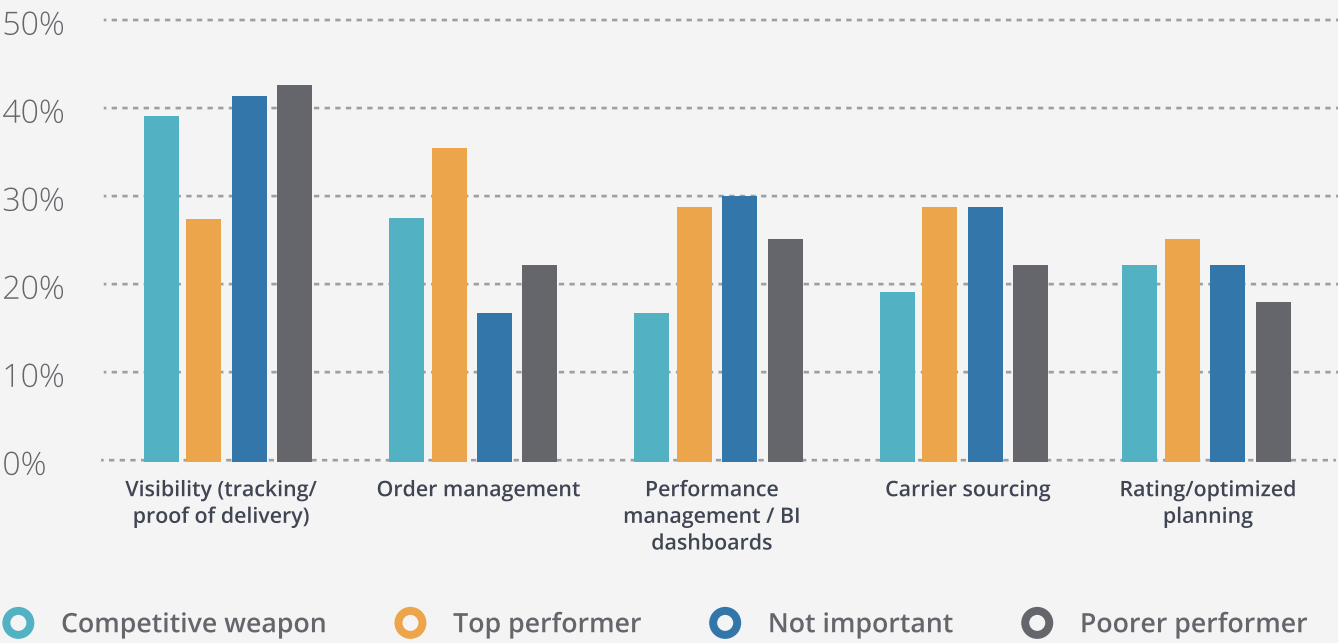
This sentiment is reinforced by one of the industry's leading news outlets SupplyChainBrain, which reports that visibility is projected to deliver substantially higher value than any other capability in 2024 and 2025, as indicated by 43% of the respondents.



This guide contains strategies to help you begin the journey towards 360-degree visibility of every shipment—regardless of where and how it was booked—through learning how to assess your current visibility capabilities. Using that data, you will learn to set goals, select appropriate technologies, integrate data sources, ensure data accuracy, collaborate effectively, monitor performance, manage risks, and adapt to evolving needs.

Real-world examples from the market-leading SCMS will guide you toward unlocking the full potential of your supply chain, enhancing operational excellence, and thriving in an increasingly complex and competitive business landscape.

Top 5 TMS capabilities that will deliver the greatest value in the next 2 years



Source: Descartes

Importance of Supply Chain Visibility



Supply chain visibility is crucial for effectively managing your operations, optimizing processes, and meeting customer expectations. It provides you with real-time insights into the movement of goods, inventory levels, and production status at every stage of the supply chain. With complete visibility, you can proactively identify and address potential disruptions, leading to improved inventory management, delivery speed, and product quality.

Challenges Faced By Businesses without Visibility



Without comprehensive visibility, you are prone to encountering numerous challenges that hinder your supply chain performance. These challenges may include inaccurate demand forecasting, delays in identifying and resolving issues, excessive inventory levels, inefficient transportation routes, poor supplier collaboration, and limited visibility into customer demand. These issues can result in increased costs and lost sales opportunities. Additionally, these problems produce dissatisfied customers and a damaged brand reputation.

Benefits of Achieving 360-Degree Visibility



Achieving 360-degree visibility into the supply chain offers several significant benefits:

Enhanced operational efficiency.

Complete visibility allows you to streamline processes, eliminate bottlenecks, and optimize inventory levels. It enables better coordination among various stakeholders, improving resource allocation and reducing lead times.

Proactive issue identification and resolution. With real-time visibility, you can quickly identify potential disruptions or bottlenecks and take measures to mitigate their impact. Visibility helps prevent costly delays, minimize stockouts, and maintain smooth operations.

	Details	Rates	Documents	Notes	Tracking	Activity	Invoice	Related	Orders	
 	Tracking		Last Requested Update 07/04/2023 03:32 GMT +08:00		LIST	Email Tracking		Add New Tracking		
	DAT/TIME	TRANSIT STATUS	TRANSIT EXCEPTION	ESTIMATED ARRIVAL	LOCATION	UPDATED	MAP	SHIPM	RELATI	
	07/04/2023	In-Transit	Accident	07/04/2023 17:00	US	X 07/04/2023 0		11111		
	06/29/2023	Awaiting Pick-Up		07/04/2023 17:00	[A] Y, CO, US	X 06/30/2023 0		11111		

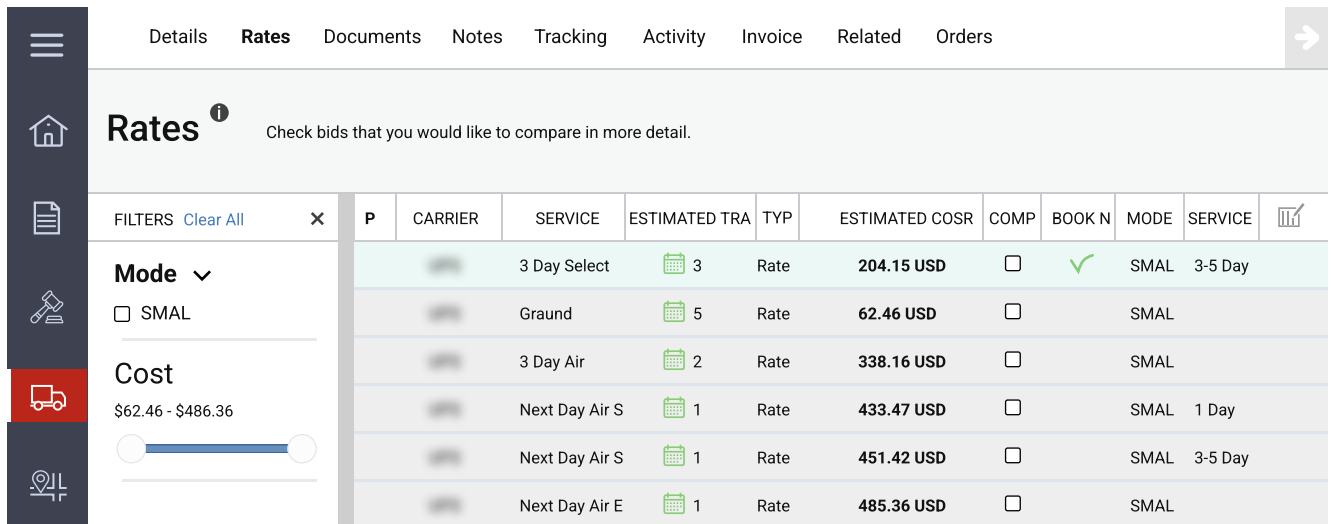
Agistix interface for locating incidents

Improved customer satisfaction.

Greater visibility enables you to provide accurate order tracking, timely updates, and reliable delivery estimates to customers. It enhances transparency and builds trust, leading to higher customer satisfaction levels.

Cost savings.

You can achieve cost savings throughout the supply chain through optimized inventory management, reduced transportation costs, and improved resource utilization. Visibility enables better decision-making, identifying areas for cost reduction and process improvement.



The screenshot displays the Agistix 'Rates' interface. At the top, a navigation bar includes tabs for Details, Rates (selected), Documents, Notes, Tracking, Activity, Invoice, Related, and Orders. Below this, the 'Rates' section header is followed by a sub-header 'Check bids that you would like to compare in more detail.' A sidebar on the left contains filters for 'Mode' (with a dropdown arrow and a 'SMAL' checkbox) and 'Cost' (with a range of '\$62.46 - \$486.36' and a slider). The main table lists shipping rates with columns: P, CARRIER, SERVICE, ESTIMATED TRA, TYP, ESTIMATED COSR, COMP, BOOK N, MODE, and SERVICE. The first row is highlighted in light green.

P	CARRIER	SERVICE	ESTIMATED TRA	TYP	ESTIMATED COSR	COMP	BOOK N	MODE	SERVICE
		3 Day Select	3	Rate	204.15 USD	☐	✓	SMAL	3-5 Day
		Ground	5	Rate	62.46 USD	☐		SMAL	
		3 Day Air	2	Rate	338.16 USD	☐		SMAL	
		Next Day Air S	1	Rate	433.47 USD	☐		SMAL	1 Day
		Next Day Air S	1	Rate	451.42 USD	☐		SMAL	3-5 Day
		Next Day Air E	1	Rate	485.36 USD	☐		SMAL	

Agistix interface for choosing the most optimal rate

Supply chain resilience.

Visibility enables you to identify potential risks and vulnerabilities in your supply chains. By having a clear view of the entire network, you can implement strategies to enhance resilience, such as diversifying suppliers, creating backup plans, and implementing risk mitigation measures.

Understanding Supply Chain Visibility

Supply chain visibility refers to tracking and monitoring the movement of goods, information, and capital across the entire supply chain network, from raw material suppliers to end customers. It involves capturing, analyzing, and sharing data related to inventory levels, production status, transportation, demand, and other relevant factors. Complete visibility encompasses internal and external stakeholders, enabling them to enjoy a holistic view of the supply chain ecosystem.



Key Components and Data Sources

Many companies face the challenge of having disparate internal systems that do not sync fully. For example, you may have multiple instances of SAP or Oracle and different warehouse management systems (WMS) that are partially integrated with your enterprise resource planning (ERP) system.

In addition, working with external partners with their custom, in-house systems can add further complexity to the supply chain data. This lack of cross-standardization can make extracting clear meaning from data difficult, hampering decision-making capabilities.

First, identify critical data items within your supply chain. They may include:

Internal

inventory levels, procurement, production, logistics, transportation, and customer orders

External

suppliers, customers, logistics partners, customs regimes, weather, port conditions, and other market trends

One way to centralize internal data is by using [a supply chain management \(SCM\) and visibility platform](#) to integrate different systems and data sources, providing a unified view of the supply chain. These platforms can provide insights into your performance, optimization of your logistics network, and visibility into your company metrics.

To centralize external data, consider using [application programming interfaces \(APIs\)](#) to connect with external systems and collect data in real time. On top of that, you can also use data mining tools to extract external data from such sources as social media, news outlets, and industry reports to observe ever-shifting global trends and customer preferences.

Before proceeding to automate the process of capturing data, you need to make sure that you fully grasp the difference between correlation and causation to choose the proper tools and data sources themselves. Correlation shows a statistical link between two or more variables, while causation implies that one impacts the other.

Supply chain data is highly structured and transactional, and it's critical to maintain this to derive meaningful insights. Regarding your entire supply chain, highlight data points that influence your chain the most, making them available for real-time decision-making.

Of course, it's much easier to gain actionable insights and engage in supply chain planning when the entirety of your data is structured, meaning it's recorded into readable databases and stored there. Learning from unstructured data is much more difficult because it appears in an incompatible format. That said, it can equip you with information if the cost of normalizing the data is not excessive.



Consulting giant McKinsey names unstructured data as one of the essentials for establishing a Big Supply-Chain Analytics organization and provides the following list of core areas required to do so:



**The current IT landscape
(ERP/SCM)**



**Analytical, mathematical,
and statistical capabilities**



System Integration



Solution development

To better understand the structured data construct, refer to the chart below:

The landscape of supply chain analytics opportunities

Product design					
Supply chain design					
A. Sales, inventory and operations planning					
Supplies risk management and incoming goods projection		Inventory projection and scenario planning		Forecasting accuracy evaluation and optimization	
B. Sourcing	C. Production	D. Warehousing	E. Transportation	F. Point-of-sale	G. Consumer
Cost modeling to identify cost drivers	Scheduling of energy-intensive production	Picking zone/ warehousew space allocation	Real-time routing and ramp allocation at warehouses	Out-of-stock detection and prevention	Credit rating to define payment terms offered
Quantification of benefits from spend pooling	Statistical quality control and tolerance optimization capacities	Wprker to picking zone allocation based on efficiency	Delivery scheduling in line with consumer patterns	Shelf space optmztation	Return projection to calculate outstanding inventory
Automatic analysis of contract compliance	Lot sizing and scheduling considering cost, inventories and capacities	Automatic stock relocation in high bay storage areas	Cleansheet cost modeling	Retail employee scheduling	Product recommendations based on purchase history
Aggregate demand/supply balancing		Cleansheet cost modeling	Dynamic routing	Channel/store allocation of goods maximizing service	Fraud detection
		Workload optimization			

Source: McKinsey&Company, KLU reserch report "Supply Chain Analytics-Gaining value from data-based decision making"

Process to capture supply chain big analytics potential

	A. Establish big analytics team	B. Identify supply chain (SC) business problems Map out data sources and use cases	C. Set business priorities	D. Solution build phase	E. Evaluation of impact
What	Identify data science skills needed Refine program approach and hypothesis Appoint business participants Link roles to projects/priorities Define evaluation framework	Map out the business problems Link problems to processes and responsible roles Brainstorm with functional owners Set up project charter and team Map out data sources Review competitor's approach Detect external use cases	Agree on initial shortlist Analyze impact potential • Cost • Capital • Service • Strategic advantage	Access new data sources Start data capture if source does not exist Build analytical tools Embed in business process Solicit user feedback	Review impact of use cases Implement use cases at scale or stop Define potential next steps for use cases Define additional impact potential of evolution Review brand new ideas
What	Head of SC SC HR function CIO (review)	Head of SC Functional SC leads SC leadership team Need of data scientists	Head of SC Functional leaders	Big analytics team Functional leaders (review)	SC leadership team Big analytics team CIO
Duration	2-3 months	2 weeks	2 weeks	Weeks-month	1 week (quarterly review)

Source: McKinsey&Company

The Role of Technology in **Enabling Visibility**

Technology plays a pivotal role in enabling supply chain visibility. Key technologies and tools include:



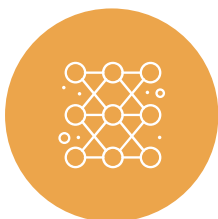
Cloud-based platforms

Cloud computing facilitates data sharing, collaboration, and real-time access across the supply chain network.



Big data analytics

Advanced analytics techniques allow you to process large volumes of data and derive actionable insights. These techniques enable predictive analytics, demand forecasting, and the identification of patterns and trends to optimize operations.



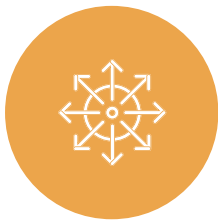
Internet of Things (IoT)

These devices and sensors provide real-time data on inventory levels, equipment performance, and product conditions. This data enhances visibility and enables proactive decision-making.



Blockchain

Distributed ledger technology enables secure, transparent, and immutable data-sharing across multiple stakeholders. It enhances visibility, traceability, and trust in supply chain transactions.



Artificial Intelligence (AI) and Machine Learning (ML)

AI and ML algorithms can parse and analyze vast volumes of data, identify anomalies, and provide recommendations for optimizing supply chain operations. They can also automate processes, predict demand, and improve decision-making accuracy.



Strategies for Implementing Supply Chain Visibility

Assessing your current visibility capabilities before implementing supply chain visibility solutions is crucial. This involves identifying existing systems, data sources, and processes. It also entails evaluating their effectiveness in providing end-to-end visibility. Conducting a thorough assessment helps understand the gaps and areas that require improvement.

Establishing **Visibility Goals** and Objectives

You should define clear visibility goals and objectives aligned with your supply chain strategy. These goals can include real-time tracking of inventory, improved demand forecasting accuracy, enhanced collaboration with suppliers, and reduced response times to disruptions. Establishing specific, measurable, achievable, relevant, and time-bound (SMART) goals can help you track progress and ensure alignment with business objectives



Selecting and Implementing **Appropriate Technologies**

Selecting the right technologies is crucial for achieving supply chain visibility. You should evaluate and choose tools based on your specific needs and capabilities. Implementing these technologies requires careful planning, including considerations for integrating with existing systems, data security, scalability, and user adoption.

Integrating Data from **Internal** and **External** Sources

Data integration is a major aspect of achieving comprehensive visibility. You should establish seamless data flows by integrating data from internal systems, supplier networks, logistics partners, and other relevant external sources. This integration enables a holistic view of the supply chain, enabling better decision-making and real-time insights.

For example, Agistix was developed to deliver value quickly, with noticeable results within weeks, unlike the time-consuming implementation process often associated with traditional supply chain solutions. Irrespective of the diverse range of technologies you and your partners utilize—including sophisticated and less advanced systems—compatibility is assured. Seamless communication with your SCM systems can be established without extensive integration efforts.

Furthermore, even if you haven't installed a TMS, you can still start using our platform. We will establish connections with your partners using EDI, APIs, and other suitable approaches, providing you with comprehensive, aggregated data necessary so that you can achieve your desired outcomes. Your IT team will not be burdened with involvement in the supply chain integration process, and the time commitment required from your staff will be minimal. Simply inform us about the carriers you work with, and we will transform end-to-end visibility into a tangible reality for both outbound and inbound operations.

[**Get a Demo**](#)

Ensuring **Data Accuracy** and **Reliability**

Data accuracy and reliability are critical for effective visibility. Implementing data governance processes and establishing data quality standards help ensure the accuracy, consistency, and integrity of the data captured and shared across the supply chain. Regular data audits, validation checks, and data cleansing activities should be performed to maintain data reliability.

Overcoming Common **Implementation Challenges**

Implementing supply chain visibility solutions can present various challenges. These include data integration complexities, stakeholder resistance to change, technology infrastructure limitations, and data security concerns. You should proactively address these challenges by involving cross-functional teams, providing training and education, collaborating with technology partners, and implementing robust security measures.



Key Metrics and Performance Indicators

To gauge the effectiveness of supply chain visibility efforts, it is crucial to identify and track key metrics. These metrics should align with your organization's visibility goals and objectives. Some common metrics include:



Order cycle time:

Measures the time taken from order placement to delivery.



Perfect order fulfillment:

Tracks the percentage of orders delivered without errors or delays.



On-time delivery:

Measures the percentage of orders delivered within the agreed-upon timeframe.



Inventory accuracy:

Assesses the accuracy of inventory data, including stock levels and locations.



Fill rate:

Measures the percentage of customer orders that can be fulfilled from available inventory.



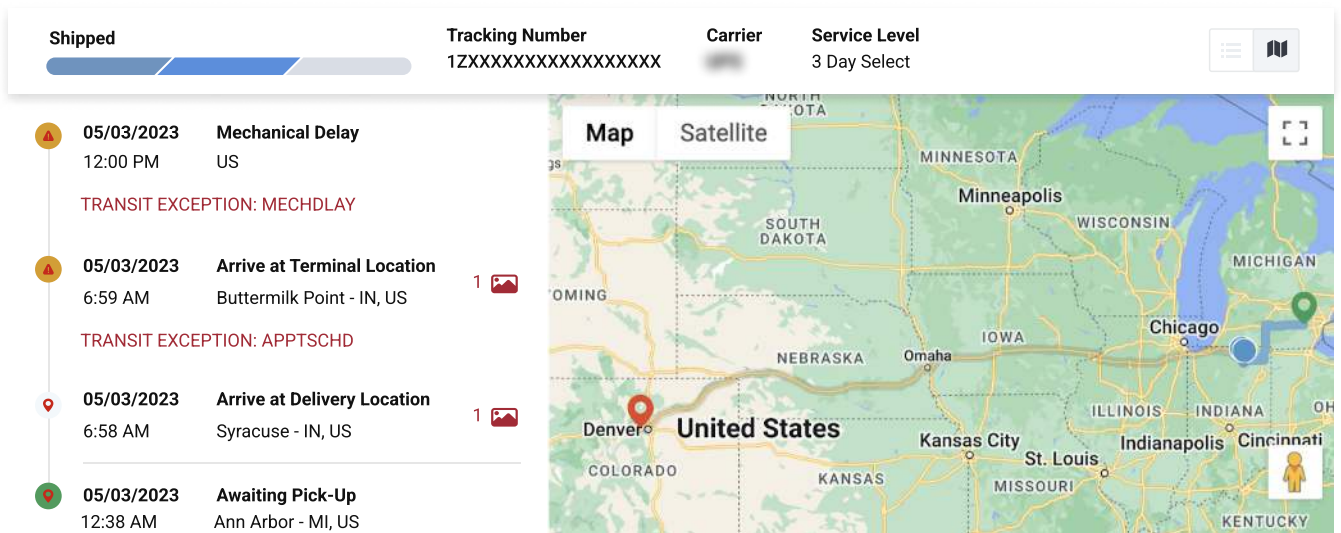
Supplier performance:

Evaluates supplier performance based on factors such as on-time deliveries and quality.



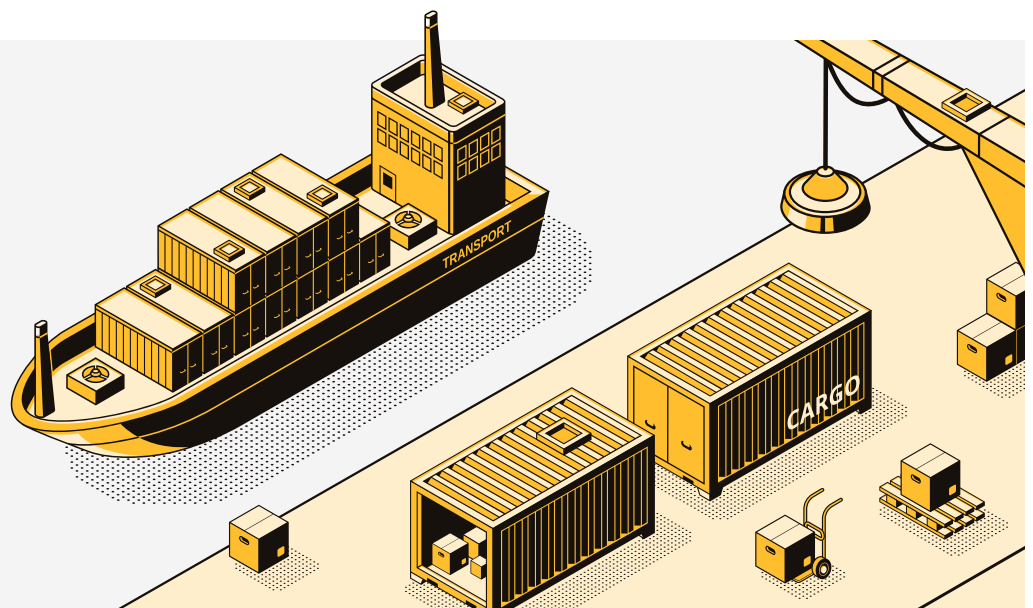
Transportation lead time:

Measures the time taken for goods to move from one location to another.



Demand forecasting accuracy:

Assesses the accuracy of demand forecasts compared to actual demand.





Tracking and Analyzing Performance Indicators

You should establish a robust system for tracking and analyzing performance indicators related to supply chain visibility. This involves setting up real-time monitoring dashboards, leveraging analytics tools to extract meaningful insights from data, and conducting regular performance reviews. By monitoring these indicators, you can identify trends, uncover bottlenecks, and make data-driven decisions for continuous improvement.



Using Metrics to Drive Continuous Improvement

Metrics serve as a foundation for continuous improvement initiatives. By setting targets, establishing benchmarks, and comparing performance against industry standards or internal goals, you can identify areas for improvement. Regular performance reviews and root cause analysis can help uncover underlying issues, enabling you to implement corrective actions and continuously improve supply chain visibility.

Collaboration and Communication

Collaboration is another critical aspect of achieving supply chain visibility. It fosters strong relationships and effective communication among internal teams, suppliers, logistics partners, and customers. Collaboration also enables the sharing of real-time data, insights, and forecasts, facilitating better coordination, problem-solving, and decision-making across the supply chain network.

Building Strong Relationships with Suppliers, Partners, and Customers

You should focus on building solid relationships with suppliers, partners, and customers to enhance visibility. This includes:



Establishing clear expectations and performance metrics.

Define key performance indicators (KPIs) and service-level agreements (SLAs) with suppliers and partners to align goals and ensure accountability.

Track Shipment 11111

Shipment, tracking or reference number

🔍

🖨️

✉️

Shipped	Tracking Number	Carrier	Service Level	
	1ZXXXXXXXXXXXXXXX		3 Day Select	



Sharing data and forecasts.

Collaborate with suppliers and partners by sharing demand forecasts, production plans, inventory levels, and other relevant data. This facilitates synchronization and improves overall visibility.



Implementing collaborative planning processes.

Engage suppliers, partners, and customers in joint planning sessions to align strategies, identify potential issues, and proactively address them.



Encouraging transparency and trust.

Foster an open, trusted environment by sharing information, insights, and challenges. This promotes collaborative problem-solving and enables timely decision-making.



Leveraging Technology for Effective Communication

Technology plays a vital role in facilitating effective communication across the supply chain. In turn, effective collaboration and communication encourage a culture of shared responsibility and mutual support throughout the supply chain network. To enable seamless and real-time communication, you should leverage the following technology tools and platforms:



Collaborative platform.

Utilize collaboration tools, such as shared workspaces, project management platforms, and communication apps, to facilitate information exchange, document sharing, and real-time discussions.

	Details	Rates	Documents	Notes	Tracking	Activity	Invoice	Related	Orders	
	Documents									Drag and Drop or
										Attach Documents ▼ Start New Shipment ▼
		DOCUMENT NAME	SUGGESTED NO. OF COP	NO. OF COPIES T	NOTES	TY	CREATED BY	UPLOADED ON	DOCUMENT TYPE	
	☐	Account Print Ship.	1	1 ▼		PDF	AgistixService	06/30/2023 03:49	Account Print Shipmer	
	☒	Bill of Landing	1	1 ▼		PDF	AgistixService	06/30/2023 03:49	Bill of Landing	
	☐	PGE QR Label	1	1 ▼		PDF	AgistixService	06/30/2023 03:49	QR Label	
	☐	Packing List	1	1 ▼		PDF	AgistixService	06/30/2023 03:49	Packing List	
	☒	Shipping Label La	1	1 ▼	Tracking	PDF	AgistixService	06/30/2023 03:49	Shipping Label	

Agistix interface for document upload by all involved parties



Continuous Monitoring and Adaptation

Achieving supply chain visibility is an ongoing process that requires continuous monitoring and evaluation. You should establish mechanisms to track performance and measure the effectiveness of visibility initiatives. Regular monitoring ensures that visibility remains up-to-date and aligned with evolving business needs and market dynamics.

1. **Detecting and Addressing Bottlenecks and Inefficiencies**

Continuous monitoring helps identify bottlenecks and inefficiencies in the supply chain. You should proactively analyze data, identify patterns, and use root cause analysis to uncover and eliminate issues, optimize processes, reduce lead times, and improve supply chain performance.

2. **Embracing Flexibility and Adaptability**

Supply chain visibility requires you to embrace flexibility and adaptability. Market conditions, customer demands, and external factors can change rapidly. Regularly assess and adjust your visibility strategy to ensure relevance and effectiveness. This may involve adopting new technologies, integrating additional data sources, or modifying collaboration processes to adapt to evolving business requirements.

3. **Implementing Continuous Improvement Initiatives**

You should establish a culture of continuous improvement within your supply chain operations. This includes implementing regular performance reviews, conducting post-mortem analyses of disruptions or issues, and inspiring a mindset of learning and innovation. By continuously seeking opportunities for improvement, you can not only enhance supply chain visibility but also maintain a competitive edge.

Security and Risk Management

Data security and privacy should be a priority, and to achieve it, you need to implement robust security measures, including encryption, access controls, and secure data transmission protocols. On top of that, you should regularly conduct security audits and assessments to stay alert to vulnerabilities and mitigate potential risks.

Mitigating Risks Associated with Supply Chain Visibility

Supply chain visibility disruptions can have a significant impact on operations. You must have robust disaster recovery and business continuity plans to minimize the adverse effects of disruptions, which include—but are not limited to:



Redundant data backup and storage.

Maintain backups of critical data and systems at off-site locations to ensure data integrity and availability in the event of system failures or disasters.



Alternative communication channels.

Establish backup communication channels to enable continued collaboration and information exchange during disruptions, such as using alternate suppliers, logistics partners, or communication platforms.



Regular testing and training.

Occasionally, put your disaster recovery and business continuity plans to the test to ensure effectiveness and train employees on their roles and responsibilities during disruptions.

Adequate security and risk management practices are essential for maintaining the integrity and reliability of supply chain visibility systems. Identify and assess potential risks, define mitigation plans, and establish risk monitoring processes to address vulnerabilities proactively. In addition, you should collaborate with technology vendors and service providers who prioritize security and have robust safeguarding measures in place. Conduct due diligence and establish precise security requirements in contracts and service-level agreements (SLAs).

The Future of Supply Chain Visibility

The future of supply chain visibility will be shaped by emerging technologies such as IoT, AI, RPA, and DLT. Predictive analytics, coupled with accurate forecasting, will enable organizations to make proactive decisions and optimize their supply chain operations.

In the future, supply chain visibility will also increasingly focus on sustainability and ethical considerations. Consumers and stakeholders are placing greater emphasis on transparency and responsible practices, so you'll need to ensure visibility into environmental, social, and governance (ESG) factors, such as carbon footprint, ethical sourcing, and fair labor practices. Enhanced visibility will enable you to track and communicate your sustainability initiatives, meet regulatory requirements, and build trust with environmentally- and socially-conscious consumers.

As organizations embrace these emerging technologies, leverage predictive analytics, explore blockchain solutions, and prioritize sustainability and ethical practices, the future of supply chain visibility will be characterized by increased accuracy, agility, transparency, and social responsibility.



About Us

Agistix is a well-established company founded in 2004 and headquartered in San Francisco, California. Our team consists of over 75 skilled professionals specializing in supply chain and technology. With a presence in the United States, Europe, and India, we have earned the trust of companies across various industries, regardless of their size or shape.

Our core focus lies in providing global supply chain visibility, encompassing all carriers, transportation modes, and types of shipments, including inbound, outbound, and third-party.

Moreover, our comprehensive Transportation Management System (TMS) empowers businesses with full transportation management capabilities. We seamlessly integrate freight audit services with the top 10 providers, and our vast network counts over 3,500 carriers, forwarders, ERPs, and other relevant entities.

Our approach is designed to ensure a hassle-free experience, with no need for significant business process changes or additional IT resources. By implementing our solutions in phases, we deliver tangible results within a short timeframe of 30 to 45 days.



If you'd like to incorporate supply chain visibility best practices into your flow, [try Agistix for free](#). If there's anything you'd like to know before getting started, you're more than welcome to request a consultation with one of our specialists by using the button below.

[Book a Call](#)