

Gain Competitive Edge with End-to-End Multimodal Supply Chain Visibility



Abstract

Logistics and supply chain managers have been waiting years for the next leap forward: end-to-end visibility. Finally, it has arrived. Those companies who incorporate IoT-enabled visibility into their supply chains will possess a real competitive advantage among global commerce players. How? End-to-end visibility brings a cognitive, predictive and digital supply chain, where live streaming supply chain data continually enhances the flow of goods and resources.

Executive Summary

As supply chain networks feel the impact of things outside their control, such as consolidation, tightened capacity and rising carrier costs, shippers seek strategies to eke improvements where they can. We will dispel myths that thwart supply chain visibility adoption and then move to manufacturing supply chain benchmarking metrics commonly used to assess performance against peer organizations. We will demonstrate the reasons organizations must prioritize deploying supply chain visibility solutions. Adopting an end-to-end, multimodal visibility solution not only helps reduce costs—detention, demurrage and On Time in Full (OTIF) penalties—but also reduces risk, lowers network capital and boosts a company’s agility, reputation for on-time delivery and customer/partner satisfaction. These benefits are all achievable through the “value of knowing”—knowing where goods in transit are, and having confidence in Estimated Time of Arrivals (ETAs), enable better decisions and results.

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A large cargo airplane is shown in flight against a sunset sky. Below the plane, a port scene is visible with several large gantry cranes and a large cargo ship docked. The scene is illuminated by the warm, orange and red light of the setting sun.

Myths Surrounding the Need for Supply Chain Visibility

There are some myths surrounding supply chain visibility which have managed to discourage more widespread adoption. According to Christian Titze, research director at Gartner, "These myths distract us from the real issues and solutions surrounding supply chain visibility, causing us to make decisions based on assumptions that are wrong, expensive or even dangerous."¹ Here are four myths debunked.

Myth 1:

Organizations can live without supply chain visibility. Your business has made it this far with little to no technological upgrades, so why start now?

Supply chain experts disagree. Avoiding opportunities for improvement limits your company and impacts supply chain functions and partners. In reality, visibility capabilities are critical to your enterprise. Identifying plans, events and relevant data generates value and minimizes risks for the entire supply chain ecosystem.

Myth 2:

Visibility is achievable using existing Enterprise Resource Planning (ERP) solutions. ERP provides all the critical information companies need.

Unfortunately, relying solely on ERP data is no longer sufficient. Traditional ERP and Supply Chain Management (SCM) solutions were not designed to allow companies to orchestrate and optimize their cross-enterprise supply chains. ERP does play an important role in providing enterprise-level visibility. However, to achieve more granular, network-centric visibility, organizations should use SCM tools that ingest a variety of IoT data to produce a more comprehensive view of goods in transit.

¹ Gartner, Christian Titze, "Debunking the Myths of Supply Chain Visibility." (May 2017).

Myth 3:

Visibility is equal to, and another term for, collaboration.

There is some confusion that cloud-based supply chain visibility solutions imply supply chain data is visible to everyone—and thus available to use for collaboration. That is not the case.

Companies who have end-to-end multimodal transport visibility, such as Savi's™ in-transit visibility software, have an end-to-end view of goods in motion. Data-based collaboration cannot happen without the right framework in place to facilitate data sharing. Savi's Multi-Enterprise Grid gives users the means to do just that. Data sharing with partners or carriers is done via permission-based access, giving companies full autonomy over who has access to what information. This collaboration is essential to give vendors opportunities to identify areas for improvement, further expanding efficiencies within a supply chain ecosystem.

Myth 4:

Install a supply chain visibility solution, sit back and wait for improvements to happen.

No solution is plug and play. Data gleaned from visibility solutions must be analyzed to determine which action will bring the requisite optimization. Knowing the location, condition and estimated time of arrival of all goods in transit gives companies the power to make smarter decisions to improve performance, reduce costs and ultimately keep more cash on hand.

Organizations can use this information to seek viable solutions to top business challenges themselves or use professional services to set up, organize and identify which data trends can help streamline supply chains.



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The Importance of Visibility

GEODIS' 2017 Supply Chain worldwide survey² found that gaining full supply chain visibility rose from the sixth most important strategic priority in 2015 to third in 2017. Businesses have taken the first step by recognizing the need to prioritize visibility, but how well have they executed towards that goal? Survey respondents indicate that most organizations have fallen short—only 6% of them have achieved complete supply chain visibility.



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Reduce Disruptions. The obvious answer is supply chain blind spots impede your ability to make the best decisions—if you can't see what's happening in real time, you can't respond in real time. This can have extremely negative financial and operational impacts. For example, a delay from a single source provider could cause a costly line or plant shutdown.

Gain Better Orchestration and Lower Labor Costs. It's far easier to identify improvement opportunities with a big picture supply chain perspective and trustworthy ETAs. Imprecise ETAs result in higher labor costs at distribution centers and warehouses due to employees standing idle while they wait for shipments to arrive to unload. And in the cases where shipments show up early, there are no resources allocated to move goods into the distribution center or warehouse. [Precise ETAs help remove unnecessary labor costs and allow managers to identify other inefficiencies to improve orchestration and output.](#)

Shrink Stockouts, Capture Lost Revenue. Reduce Inventory Levels. The amount of inventory kept on hand is planned based on how long the goods take to be ordered, manufactured and delivered. [If your organization can be more precise about delivery timeframes and see that the actual timeframe is lower than its forecast, you can safely reduce inventory.](#) The amount of potential spoilage is also a factor for estimating the amount of inventory held. Identifying that shipments arrive consistently sooner than planned permits operations to reduce the extra food held as a buffer for potential spoilage.

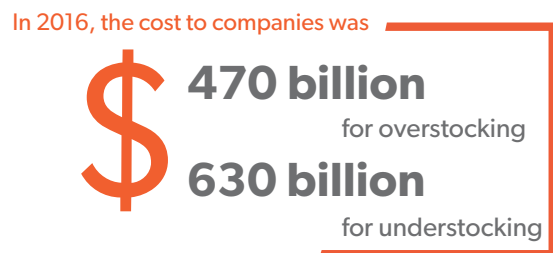
² GEODIS' 2017 Supply Chain worldwide survey

Reaching Just In Time (JIT) inventory is a common goal, yet it is one that must be balanced against the risk of stock-outs and missed sales. To avoid lost sales and maximize revenue opportunities, organizations have more often elected to hold buffer inventory. However, excess inventory brings higher storage costs for goods that may go bad or become obsolete.

Without end-to-end visibility, managers can be hard pressed to meet sales capacity projections. As meeting sales targets and JIT inventory are at odds with each other, supply chain managers have had to choose which one is more important. Many find it safer to carry extra inventory as an expected cost of doing business.

Often the difference in being able to keep shelves stocked to meet demand and having an out-of-stock condition is having a viable contingency plan when disruptions occur. If you can't see what is happening in real time, you won't have the agility to execute a plan B.

The lack of close management of goods in transit means more network cash is tied up in a manufacturer's supply chain as a hedge against uncertainty. This inflation of network costs is significant. According to the research firm IHL Group³, in 2016, the cost to companies was \$470 billion for overstocking and \$630 billion for understocking.



Lower Working Capital. In addition to improving excess storage and labor inefficiencies, better visibility can also help raise an organization's liquidity. Operational process improvements positively impact working capital throughout the entire supply chain, including sales, operations, manufacturing planning, demand and supply synchronization, inventory management, customer and supplier relationships and financial management. Having visibility over your supply chain gives you the data needed to make improvements from end to end while freeing up working capital—a boon for the C-Suite and shareholders.

Less Slack, Better Agility. For decades, slack was a necessity born of uncertainty. The good news is, companies no longer have to settle for uncertainty in their supply chains. Knowing the condition and location of every shipment enables planners to reduce the slack that exists in supply chains. Accurate end-to-end visibility reduces delivery time (ETA) variability so planners can make better planning and forecasting decisions, and predictable ETAs give operations managers the information they need to confidently reduce safety stock, all of which makes your business more strategically agile.

³ IHL Group, Buzek, Greg, & Holman, Lee, "Retail's Inventory Distortion Problem: Sizing it all up." (2016).

Supply chain metrics framework for benchmarking

Many supply chain executives use a supply chain metrics framework for measuring supply chain performance. One of the most widely used frameworks is one developed by AMR Research in 2004. Industry analysts use the framework to educate companies on how essential, individual supply chain tasks may have interdependencies which must be identified and understood in order to effectively achieve holistic performance improvement.

This benchmarking approach has three levels: Assess, Diagnose and Correct.

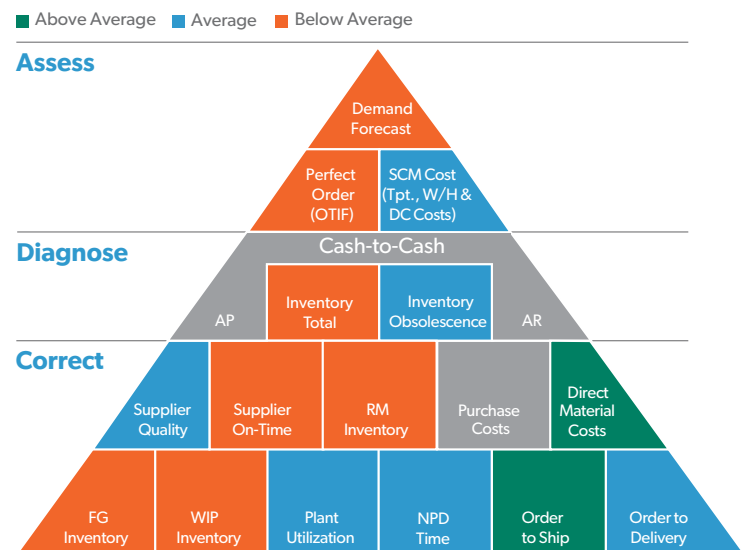
Assess, the top of the pyramid, includes perfect orders (OTIF, supply chain management costs and demand forecasts. These areas can be more easily observed and changed to influence better overall performance quality.

The middle level of the pyramid, Diagnose, represents areas of output that need more investigation, as sources of those problems may not be as easily identified. These areas include accounts payable, accounts receivable, inventory total and obsolete stock. Origins of any problems within this mid-level output would benefit from data obtained from an in-transit visibility and analytics platform to successfully diagnose and apply a resolution.

In the base of the pyramid, Correct, some of the items include the amount of time it takes for orders to get ready to ship, the amount of time it takes for orders to be picked up for delivery, and supplier quality and on-time arrival. Sources of problems within these levels of output are complex and require visibility software and big data analytics to easily identify trends and determine appropriate corrective measures.

BENCHMARKING PYRAMID

This hierarchy of performance measurement is composed of three levels:
Assess, Diagnose and Correct.



How Supply Chain Visibility Helps Businesses Compete

Inventory management is one of many areas affected by supply chain blind spots. Historically, one obstacle to reducing excess inventory was the absence of an expectation that there was any other way to operate.

Using visibility software helps organizations reduce supply chain risks such as theft, tampering and counterfeiting. [Cargo theft is estimated to cost shippers and trucking companies at least \\$30 billion a year in the US, according to the FBI.](#)

Using visibility software coupled with big data analytics produces even more value. By drawing from more data points, such as historical sales fluctuations, damage or spoilage trends, for example, big data analytics help push companies toward reaching sales quotas and achieving JIT inventory.

Transportation costs are another area within supply chains where multiple data sources are analyzed for your benefit. Savi offers customers projections to help them choose the best carrier, route and lane for their needs, and gives managers real-time data for on-the-fly Plan B determinations with exception notifications.

In an effort to make their supply chain more efficient, Walmart's OTIF enforcement is forcing suppliers to find ways to improve delivery performance. Incurring late/early fees for deliveries less than 95% OTIF can add up to 3% of total goods' cost, a hefty amount for suppliers to bear. Employing holistic visibility gives carriers a 24-hour advance prediction window and alerts them to late deliveries. Predictive ETAs help companies avoid detention and demurrage fees by identifying the need to call ahead and ask for a new delivery window when running late.

Order to delivery also benefits from greater supply chain visibility. Milestone-based notifications are often late and inaccurate while end-to-end visibility uses live, streaming data points which are continually updated throughout the transit route. By geo-fencing every port around the world, Savi's in-transit visibility platform helps provide critical information on handoffs, an area that is notoriously blind.

Better visibility allows companies to:

- [Reduce inventory](#)
- [Make JIT inventory achievable](#)
- [Reduce risk of theft/tampering/counterfeiting](#)
- [Achieve better agility](#)
- [Enable contingency plan success](#)
- [Lower demurrage and detention fees](#)
- [Achieve predictable ETAs](#)

Visibility software, coupled with sensor technology, offers real-time information at every point along the supply chain journey, eliminating blind spots.

Why the Stakes are Too High to Sit on the Sidelines



You'll recall the GEODIS survey found just 6% of companies reported achieving full supply chain visibility. What those numbers don't tell us is why that number is so low. Industries that are slow to adopt technology such as visibility software, tend to stick with what they know to avoid what is perceived as large changes and the growing pains it can inflict on companies as a whole.

One recommendation for businesses that want to achieve greater end-to-end visibility at their own pace is to start small. [Identify one business challenge you want to overcome and explore how an investment in visibility software and sensor technology can have a significant impact on your company's performance.](#)

Savi offers a range of affordable sensors as versatile diagnostic tools. Rather than outfitting every shipment, you could use active RFID sensors to spot-check the most problematic points. Also, it makes sense to attach sensors to containers, pallets or anywhere extra visibility is needed. Companies also use sensors to monitor temperature sensitivity, tampering and shock/vibration thresholds to provide consistent visibility for high-value and sensitive goods.

Having the most accurate, relevant, high-quality data, enables business leaders to make more informed decisions that in turn lead to lower inventory levels, reduced business risk and a supply chain agile enough to minimize stock outs and improve customer satisfaction.

Conclusion

Today's supply chains are complex, full of uncertainty and variability.

Major manufacturers like Walmart continue to demand better performance from supply chain networks, which is causing a significant shift in industry standards. Supply chain experts outline the critical interdependence of supply chain functions, illustrating the need for deeper insight into comprehensive performance in order to correctly identify inefficiency sources and take appropriate actions. With so many industry icons pushing for performance improvement, *it's riskier not to take action*. To achieve comprehensive optimization, taking advantage of new technologies just makes sense.

Remember only 6% of businesses report achieving end-to-end visibility—now is the perfect time to get ahead of your competitors.

Holistic supply chain visibility solutions give you the data you need to identify solutions for each of your organization's challenges and optimize your supply chain across the board. Take a look at some of our customers' [success stories](#). When you're ready for a conversation, [contact Savi](#) to explore how we can help your company eliminate supply chain blind spots and reap the benefits of end-to-end, real-time visibility.



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