

Closing Gaps in Freight Visibility Takes a Team Effort

Visibility Vendor Collaboration Is Speeding the Time to Market for Next-Generation Visibility Solutions



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The electronic logging device (ELD) mandate is often credited for opening the floodgates of digital innovation in the transportation and logistics industry. Still, it has not been the only force in the market.

When the ELD rule was published in December 2015, motor carriers had until December 2019 to modernize their fleet and back-office systems to meet the final compliance deadline. Concurrently, shippers and third-party logistics (3PL) have been reshaping their businesses in response to:

- 1. The 'Amazon Effect.'** As the world's largest online retailer and 3PL, Amazon sets the delivery expectations for speed, visibility, and convenience for customers with Prime membership. These expectations carry over to all supply chains.
- 2. Tighter Delivery Windows.** Many large shippers, particularly in the retail industry, began charging exorbitant fees to suppliers if loads arrive early or late.
- 3. Food Safety Requirements.** Shippers, 3PLs and carriers must keep detailed records of load temperatures to prevent cargo claims and protect themselves from audit risks. Monitoring load temperatures in transit has been the norm since the April 2017 compliance deadline of the Food Safety Modernization Act (FSMA).
- 4. Supply Chain Disruptions.** The COVID-19 pandemic disrupted global supply chains by causing factory shutdowns and altering the buying habits of consumers and businesses. Shippers and transportation providers depend more heavily on data insights to respond to customer needs proactively.

This powerful combination of market forces created a groundswell of demand for freight visibility technology and formed a new technology landscape. Supply chains have critical visibility gaps that need to be filled. To rapidly meet customers' current and future visibility needs, some technology providers have taken an integrated and collaborative approach called the Open Visibility Network.

Expanding Visibility

Shippers and transportation providers widely use cloud-based freight visibility platforms to obtain shipment tracking data from carriers.

Visibility platforms from market-leading suppliers FourKites and project44 are connected directly with the ELD, telematics and back-office systems of carriers using application programming interfaces (APIs).

The connections feed machine learning algorithms that calculate accurate transit and arrival times using GPS location, weather, traffic, and other data sources to deliver predictive insights.

The platforms give end-customers a dashboard view of shipments in their freight network and identify loads falling behind schedule or outside of condition parameters. The visibility extends beyond shipments on tractor-trailers to include air cargo, rail, and ocean containers.

Visibility providers have developed integrations with transportation management systems (TMS), yard management systems (YMS), and warehouse management systems (WMS) as well to provide end-to-end supply chain visibility, planning and execution functions.

Filling Visibility Gaps

Despite the rapid growth and advancements of hardware-agnostic visibility platforms, it is difficult for any shipper, 3PL or carrier to achieve complete visibility using a single vendor. The gaps in visibility can be attributed to:

1. A Fragmented Transportation Market

Although ELD systems are mandated for carriers, visibility providers are not integrated with all products.

As of April 2020, the Federal Motor Carrier Safety Administration had 928,647 for-hire carriers and 799,342 private carriers on file. Of these, 97.4% operate less than 20 trucks. Even if a visibility provider did integrate with every ELD system, it might not make economic sense to integrate with a small carrier that is infrequently used by a 3PL or shipper.

2. Loads Have Different Visibility Needs

Visibility platforms can monitor temperature-sensitive loads such as pharmaceuticals and perishable foods by integrating with trailer telematics systems. A shipper or 3PL customer may want to have an extra visibility layer, however.

In addition to monitoring load temperatures, a shipper or 3PL may want to use sensors that monitor humidity, door open events and vibrations for high-value or delicate freight such as computer equipment and electronics.

Data logging devices can fill such visibility gaps, but the devices have traditionally been passive. They lacked real-time cellular and other connectivity types that fire alerts if temperatures or other conditions go out of range.

Recent advancements in cellular chipsets include broad network coverage and low-power circuits that extend battery life. Tive, a visibility provider, has been leading the evolution of cost-effective load sensing hardware and data that works across all modes of transport — truck, ocean, air, and rail.

The Open Visibility Network (OVN)

To meet the present and future visibility needs of shippers, 3PLs and carriers will require a team effort. A single visibility player alone cannot achieve 100% coverage for all its customers' requirements across different modes and nodes of transportation (ports, borders, terminals).

The pathway to 100% visibility will require collaboration among visibility suppliers to bring the right coverage and data insights forward within the shortest possible time frame for mutual customers.

For this purpose, Tive created the Open Visibility Network (OVN) in collaboration with project44 and Fourkites. The OVN enables critical shipment data to be collected and shared according to the specific insight needs of mutual shippers and 3PL customers.

Customers can leverage current and future integrations in the OVN to have instant access and extended data from a growing network of leading supply chain visibility providers.

OVN already has a dense network of integrations developed by project44, FourKites, TransVoyant and Everstream Analytics with the ELD, telematics of carriers, and many TMS and WMS systems that logistics service providers, 3PLs and shippers utilize.

Tive and other visibility providers can provide their mutual customers with an expanded set of visibility data in a single user interface with this infrastructure. If a customer is already using a portal from project44, FourKites or a native TMS system, any additional visibility data from suppliers in the OVN can be channeled into the same interface.

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Creating Value

The OVN has opened a new pathway for technology suppliers to connect and share data with mutual customers seamlessly. The primary benefits of this collaborative approach are threefold:

1. Speed Time to Market

A shipper or 3PL may already be using a visibility solution from FourKites or project44 but have additional needs such as temperature monitoring of trailers dropped at its yard by carriers.

The shipper or 3PL could put Tive trackers in the trailers at the origin. Rather than monitor an additional portal — in this case Tive — the OVN brings visibility and data insights from Tive trackers into the visibility portal or TMS the customer is already using.

Similarly, if a 3PL were using Tive devices but wanted to have better ETAs for shipments provided by FourKites or project44, the ETA data could be instantly available within the Tive portal or a TMS.

2. Coordination

The integrations established by project44 and FourKites with transportation, warehouse and yard management systems provide shipment visibility down to the SKU level. When a load plan is created in a TMS of a shipper or 3PL, the plan can be associated with a Tive device in the trailer instantly using one of several methods.

When a Tive device is placed into a trailer, the worker can scan the device ID as part of the workflow for loading freight. Likewise, when a 3PL or carrier assigns a truck to the load, integration with the TMS captures the assignment and provides continuous visibility from origin to destination.

3. End Customer Experience

The end customer is the primary benefactor of visibility. A 3PL using aggregated data from two or more technology suppliers in the OVN can provide an end customer, such as a retailer, with predictive ETAs and delivery exceptions for all inbound shipments to a distribution center or store, for example.

With real-time visibility of all shipments, the end customer can improve the delivery experience for internal or external customers and proactively save loads that are at risk of being late or rejected due to a temperature issue.

The end customer can also improve supply chain efficiencies and maximize productivity at delivery locations. Having visibility of incoming shipments gives a retailer, for example, the ability to plan ahead and ensure that workers are ready to unload a trailer when the driver arrives.

In short, the OVN is making it possible for shippers, 3PLs and carriers to rapidly expand visibility and data insights without needing to add more applications, and to extend this same convenience to their customers.

**The Open Visibility Network is all about time to value,
speed to market, and solving real business problems ...
You cannot solve everything on your own.**

— Matthew Elenjickal, CEO of FourKites

OVN Case Study: Crane Solutions

For Crane Solutions, a subsidiary of Crane Worldwide Logistics, the OVN “is the key to everything that we’ve done and how we’ve grown,” said Josh Hussin, client development manager.

Vernon O’Donnell, Chief Product Officer of project44, explained that Tive’s data is integrated into the core project44 platform and integrated into analytics dashboards, and made available in aggregate to customers of both companies on a shipment-level basis.

Integration is just as important as technology

“When we use the word integration, we mean it in its truest sense: two-way communication between the parties,” he said. “At the end of the day, customers want flexibility, and they are either looking at their own dashboard or any other tech provider’s dashboards.”

The Houston-based 3PL had been using visibility platforms from FourKites, project44, and other platforms to provide customers with accurate location data of their shipments.

Hussin spotted an opportunity to offer a value-added service to customers by analyzing the location and condition of high-value shipments in real-time. Crane Solutions selected Tive trackers and software because the re-usable and single-use trackers can monitor freight location, temperature, light, and shock. With Tive and the OVN, Crane Solutions had the technology integrated into its existing TMS quickly.

“Integration is just as important as technology,” Hussin said. “We are always looking for the next piece of technology we can use to not only make people more efficient but to make the customer happier and better.”

Crane Solutions has grown quickly by solving problems for its customers and giving them information they want, he explains.

One of the solutions it provides for customers is to hold carriers accountable if trucks show up late or with damaged freight. Tive gives Crane Solutions visibility of trailer door open events during transit. This makes it easy to investigate late loads or damaged freight.

Customers typically pay for a dedicated truckload, but the carrier who picks up the shipment may have extra cargo volume and try to add more freight from a different customer to increase revenue. A door open event can detect when such events occur.

Crane Solutions also uses Tive to provide customers with seamless visibility for shipments by any mode — truck, ocean vessels and air cargo.

The OVN has enabled Crane Solutions to provide customers with a broader set of visibility information and services to set the company apart in a crowded field. “No matter how small or big you are,” Hussin noted. “If you do not adapt to new options to give customers visibility, you’re not going to survive in the market.”

For more information about the Open Visibility Network:

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