

THE KEY TO PROACTIVE SUPPLY CHAINS

Visibility throughout the supply chain provides the opportunity for better decision-making, increased customer service and lower operational costs.

By Hailey Settineri.

Supply chain visibility is a key aspiration for most organisations. Knowing exactly what's happening, and where, in your supply chain at any given point in time means being able to take a proactive approach to your operations.

In an increasingly data driven economy, responding effectively to supply chain disruptions or deviations from the plan due to unforeseen circumstances is dependent on having good visibility across the entire supply chain, end to end, and this requires good quality and timely data, says GS1 Australia Director Freight, Logistics and Industrial Sectors Bonnie Ryan.

"The alternative, as is often still the case, is 'fixing on failure' or reacting to what has already happened," she said. "Having effective supply chain visibility means being able to proactively manage the supply chain and effectively respond to unplanned events."

Logistics optimiser Andrew Clark, founder and Managing Director of Logistics Help, says people and businesses want certainty, and if they can't have it, then they need information on a dynamically changing situation so they can plan for it and make good decisions.

"Customer demand and timing constantly change, and supply availability, timing and price constantly change, which then feeds back into demand and affects where the demand goes," he said. "This has only been magnified over the last couple of years because of the supply chain disruptions due to the pandemic lockdowns around the world."

Mr Clark says supply chain visibility is still an emerging technology, and

while large manufacturers can impose requirements and technology solutions on their trading partners, smaller suppliers usually must laboriously track their inbound and outbound supply chains manually.

"Many operators in the supply chain aren't set up to report on their activity to anyone but their direct customers who ask for it on a case-by-case basis," he said. "If your business is three or four steps down the supply chain, you simply have no idea what's happening. A truck breaks down somewhere overseas, your stock misses the container load and therefore the ship, and you don't find out about it until you call up the freight forwarder to ask where your shipment is. It's a very complex problem with no simple solution."

He recommends FMCG manufacturers do what they can, initially by keeping customers informed of supply.

"Work with your suppliers and their suppliers to get better information on what's happening on your material inputs," he said. "Consider implementing a supply chain control tower system."

Role of the NLR

The National Location Registry (NLR) is an industry led initiative sponsored by the federal government to deliver an industry platform to complement its National Freight Data Hub.

The registry digitises the management, storage and sharing of attribute information about physical pick-up and delivery locations. This data can then be shared between location owners, their customers and transport operators.

"It provides a one-stop shop of relevant location information to support freight

companies to get goods to businesses and consumers in the most efficient way possible," Ms Ryan said.

She adds that information including operating hours, weight and height restrictions for vehicles, truck entry and exit points, driver amenities and safety requirements for each site is crucial, as these are all "key aspects to ensuring the smooth delivery of goods and making the transport industry's job of moving trucks in and out of freight locations more efficient".

The NLR improves on the manual process by allowing supply chain partners, including transport companies, to subscribe and access all the location information they need in one file: one process, one format. Ms Ryan says they can then import this directly into any back-office system they choose, be it a traceability platform, a warehouse or transport management system, or a mobility solution.

Benefits of using the NLR include:

- Access to accurate, up to date information.
- Alerts on drop-in delivery delays, delivery failures, and driver stress.
- Streamlining the collection, management, storage, and dissemination of data to new parties.

"The registry helps our supply chains be more resilient, more streamlined, contain less errors, and become cheaper, especially in terms of administration costs."

Smooth flow of goods

Since the NLR was launched in 2021, the platform has continued to evolve, with several enhancements now available to improve the user experience. The volume

of data is increasing every day as more and more companies join in, and the more industry participates, the more valuable it becomes,” Ms Ryan said.

“Industry is now pushing for companies to load their location data,” she said. “One of the key developments with regard to this is the broad call to action by key stakeholders in the FMCG industry. Some of these companies [and organisations] include Woolworths, Primary Connect, Big W, Metcash, Endeavour Drinks Group and the AFGC.”

The push comes as location data is becoming increasingly important to the smooth flow of goods.

“Knowing exactly where goods need to be picked up from and where they’re going are key to providing the market with timely deliveries and ensuring that products go to where they need to be,” Ms Ryan said. “This needs to be done with the least possible cost and effort.

“With the building of new DCs, Woolworths is using the NLR as an option for location data to be effectively shared. Woolworths needs supplier location information. In the past, all this information would’ve been presented as a spreadsheet sent out via email. Compared with utilising the NLR, this is a cumbersome and unreliable process.

“It’s a good opportunity for Woolworths, and other companies, to use the NLR as the means by which to provide and acquire required location information.”

GS1 Australia worked with industry and government to bring about the NLR initiative for the benefit of all stakeholders.

“We were able to bring various stakeholders to the table to solve a common problem,” Ms Ryan said. “That’s the real value that GS1 brings: helping industry to collaborate in a non-competitive way for a goal that couldn’t be achieved by any one company.”

Role of IIoT

In the context of the industrial internet of things (IIoT), visibility along the supply chain is primarily related to data visualisation. This refers to presenting data in a visual context, such as a chart or graph, so it can be more easily understood, says Richard Roberts, Industry 4.0 Operations Manager at ZI-Argus and member of Industry 4.0 advocacy group Open IIoT.

“In FMCG, this is made possible by adding sensors to machinery to monitor what’s occurring on the factory floor,” he said. “By using IIoT connectivity, this

information is shared as data, which manufacturers can access in real time and use to make decisions.

“For consumable goods that are manufactured in the FMCG sector, where contamination is always a risk, data-driven insights have further advantages. If there are reports of consumers getting sick from products, manufacturers can check machinery data to trace the supply chain and determine the source of the contaminants. This gives them the facts necessary to decide whether or not a product should be recalled, and which particular batch may be affected.”

Jim Wallace, Sales Manager at Balluff Australia and member of Open IIoT, says customers in the FMCG sector are demanding more visibility, process data and tracking when it comes to the manufacturing supply chain.

“IIoT technology integration is a necessity to meet these demands, as the machinery and equipment used along the supply chain need to be connected to sensors and data readers in order to access the information that’ll give them the required visibility and traceability,” he said.

“Using sensors to transmit real-time data can alert employees when equipment malfunctions, or preferably even before it malfunctions, so they can make the necessary adjustments to avoid goods becoming contaminated or destroyed. Data insights allow employees to adjust equipment in real time to get it back to normal functionality, reducing the need to shut down production completely. Also, it allows manufactures to drive performance improvements, finely tune their product outputs to decrease overages, and make significant savings that would have previously been lost in giveaways.”

He says demand is increasing for manufacturers to implement predictive maintenance, automation and the ability to offer internet-based support and process analyses.

“Manufacturers choosing not to integrate miss the connection to the world wide web and therefore to their customers,” he said.

Preparing for imperfection

Sean Mitchell, Associate Partner at business consultancy firm Argon & Co, says leading a major national consumer food recall was one of the most stressful periods of his working career.

“We were pretty confident in both our systems and record keeping, but when

a defective ingredient was detected, we were reliant on the supplier’s processes to identify the window of failure,” he said.

“Their lack of inspections could only narrow this to the last 12 months, which meant we were faced with the need to recall 70 per cent of the product we’d manufactured for the previous year, through both chilled and frozen supply chains as well as retail and wholesale.”

The records were a combination of electronic ingredient process and customer orders linked by manual batch-control sheets and line records. Even with all this information, the traceability exercise was a mammoth task for both supplier and customers, stretching relationships to the limit, says Mr Mitchell.

“The impact of a single mechanical failure at a supplier site had far-reaching impacts ranging from the financial cost of the recall, which was almost fully recovered from the supplier, to the distraction of crisis management,” he said.

“The dream would have been to type in an ingredient batch number and get a single report tracing its use through the manufacturing site to every single customer order and delivery location. But should this be a dream, or does it need to be a reality?”

He advises supply chain managers to understand where the gaps are and to review what technologies are available to bridge these gaps and allow teams to focus on relationships and recovery.

Argon & Co Associate Partner Scott Varker adds that while achieving end-to-end visibility is always on every supply chain executive’s to-do list, progress has been limited outside of batch-controlled products such as pharmaceuticals.

“As a challenging multi-enterprise exercise, the key is to start small, such as sharing QA [quality assurance] data, independent auditing data and inventory levels – with one or two suppliers initially – via a daily spreadsheet exchange,” he said. “This can quickly be scaled into a dashboard that gives visibility at the supplier level and can be automated with alerts.

“Another step would be to integrate data from the freight forwarder, which can provide daily updates of progress and ETAs, and finally close out with integration with the warehouse and transport providers.

“Having visibility of the end-to-end supply chain is the fundamental building block of securing control of your supply chain.”