



S&P Global

CONTAINER LIFECYCLE MANAGEMENT[®]

VISIBILITY MEETS EXECUTION



GNOSIS
FREIGHT

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Top Takeaways

- Container visibility solves for only half of the problem. Without a through line to management execution, container data is overwhelming and, at worst, unusable.
- The current exception management process relies on a milestone visibility approach, which utilizes time-consuming and error-prone manual data collection and yields incomplete and out-of-date information.
- The concept of container lifecycle management (CLM) marries advances in data accessibility and precision with execution functionality.
- Equal parts strategy, technology and philosophy, CLM creates a framework to transition beyond mere visibility as the goal, creating a nerve center for a company’s supply chain.
- Benefits to the CLM approach include reduction of detention and demurrage, better forecasting and direction of labor resources.
- Container lifecycle management combines complete, accurate and low-latency visibility data with ERP data surrounding the goods in transit, and the execution capabilities of a transportation management system.



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Introduction

Over the past two decades, the supply chain and logistics technology space has approached the question of end-to-end visibility from different angles, building upon user experience, changing mindsets and evolving innovation. Through some element of trial and error, each solution has contributed to a better understanding of the consistent needs and shortcomings faced by beneficial cargo owners, freight forwarders, drayage companies and other logistics service providers.

“If you look at the development of containerization and container shipments over the long course of time, over sixty years, I think it [visibility] has been one of the most elusive problems to solve,” said Jim Newsome, former CEO of South Carolina Ports Authority and Hapag-Lloyd (America).

“Various entities have tried to do this, be they owned by shipping lines, be they third-party providers, [but they] really have not sustained the effort to a point where they ever achieved success. The result of that is, I think, lack of visibility contributes to the perception that container shipping is unreliable. I think that’s a key point.”

Fundamentally, better visibility solves for only half of the problem. Accurate tracking of a container across its complete lifecycle — from dispatch at terminal of origin to return at destination terminal after unload — holds the promise of actionable data points. Without a through line to the management step, however, additional data is often overwhelming to those who need to use it and, in the worst cases, unusable.

Currently, exception management is powered by a milestone visibility approach. Shippers receive milestone data from their forwarders and ocean carriers, then search carrier, rail line and terminal websites to update or close information gaps. Data is collected from as many points as possible in an attempt to identify moments where elements have gone off course.

From the start here, completeness, accuracy and latency are challenges. This arduous process of catching, managing and correcting for these exceptions buries inbound and outbound logistics teams in data and creates blind spots of incomplete, and often outdated, information. Significant time and resources are spent to attain visibility alone, with the result fundamentally lacking in accuracy and integrity. This leaves little time to proactively manage exceptions to prevent disruptions, resulting in logistics teams reacting to disruptions after they’ve already occurred.



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The concept of container lifecycle management (CLM) marries advances in data accessibility and precision with execution functionality. Equal parts strategy, technology and philosophy, it creates a framework to transition beyond mere visibility as the goal. In practice, CLM underpins a central operating system for international container logistics that collects and integrates comprehensive, trustworthy data into existing workflows. This proposed paradigm shift would create a nerve center for a company's supply chain, connecting purchasing, inventory and finance in a way that enables money-saving decisions to be made quickly and efficiently, through logistics.

Unpacking manual processes reliance

Global supply chains are an interconnected series of handoffs between shippers, terminals, carriers and ports; but operational change is not keeping pace with the increasing complexity of these connection points.

"Our left and our right hands impact each other. I may know what's going on here at the vessel, but I have no idea if I connected to the rail. Over the past 10 to 15 years, nothing has changed," said Donna Lemm, chief commercial officer for IMC Logistics.

Recent events in the Red Sea and Panama Canal highlight the increasing need for a container lifecycle management approach to adequately respond to disruptions and execute subsequent container moves.

"Our left and our right hands impact each other. I may know what's going on here at the vessel, but I have no idea if I connected to the rail."

Geopolitical and environmental disturbances continue to expose the weaknesses of a milestone visibility management perspective rooted in spreadsheets, limited by information gaps, slowed by email communication and at risk for human error by manual processes.

Lemm noted that while COVID changed the way that supply chain professionals think, it did not trigger as much evolution in the processes used.

"How many teams did we have during COVID? How many hundreds of people did we bring together to look at just visibility only? And what do we have to show for it? Not enough. This is where our work with Gnosis Freight is different in the area of visibility, and we will keep pushing forward," she said.

According to Jake Hoffman, chief technology officer of Gnosis Freight, reality supports the perception that the transportation industry is far behind other industries in technology; however, he says fundamental operational differences explain the hesitation.

"The news headline forever has been the freight forwarding or international shipping industry is lagging in technology, far behind other industries. I think it was, kind of, by design because of the way shipping works. In other industries, like banking, you get integrated with your bank because the rates and services are similar.



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“But in the world of logistics, there are different companies doing different things. Suppliers can change, and everything is kind of volatile. Shippers don’t want to get too ingrained with one provider. This explains why they rely on email and Excel — it’s ubiquitous among all the different people that interoperate in the international freight industry,” he said.

Avoidance of “vendor lock” also plays a role in allegiance to manual processes. Vendor integration is time consuming and costly; it can bind shippers to carriers, hampering the vital ability to capitalize on favorable rates and pivot in the face of disruptions. Time spent passing information through email, or entering it into a spreadsheet can seem, operationally, like a small cost to pay.

Lack of trust in the data shippers receive underpins the current mandate to double check everything. With information received often inaccurate, dated and incomplete, shippers can’t deviate from a practice of checking, rechecking, confirming and reconfirming estimated times of arrival on carriers’ websites.

The consequences are significant when it comes to labor allocation, said Michael Rentz, chief revenue officer of Gnosis Freight. “Inbound logistics managers are not data scientists. They’re spending 99% of their time aggregating spreadsheets and looking for the exceptions, and 1% fixing them. That’s bad for profits and bad for the people doing the work. It should be the opposite,” he said.

Additionally, this focus on visibility into specific events has inherent latency risks.

“Ocean carriers might be collecting data from the ports and terminals and then batch sending it to all their customers once they’ve collected it all. That can lead to an eight-hour delay in some cases,” Rentz said.

While the preponderance of manual processes is explainable, there is little doubt that 21st century supply chain operations need more automation and integration of technology solutions. Shippers need the ability to manage all of their international containers — regardless of carrier or freight forwarder — in a single location with decision-determining data already integrated into their execution process. However, the complexities of the industry and the experience borne out of the launch of various tech solutions necessitate an approach that is deep as well as wide.

In shifting the focus from individual milestones to a holistic view of the container's complete journey, CLM creates opportunity to rethink what we are asking of our technology solutions. For the concept to take root, three elements — data quality, functional integration and manual involvement — must exhibit equal levels of improvement over existing practices. Implementation of the CLM method should leverage technology to not only reduce risk of human error and automate processes, but also create seamless interoperability between outside partners as well as within internal departments.

"I think container lifecycle management is a subset of the broader visibility equation," Newsome said. "But it's a very tangible subset. It's something where there's no question, there's an identified need, and there's a market for someone who can provide the data reliably and on time and really better than anyone else."

From trust to transformation

Gnosis Freight's software as a service (SaaS), the Container Lifecycle Management® platform, was born out of the dire necessity of the early pandemic disruption. The timing of this unique moment in the industry coincided with the advance of particular technology developments to create an opportunity to bring the CLM concept into practice.

The rapid evolution of machine learning, cloud computing and application programming interfaces (APIs) allows, for the first time, automatic aggregating of all events in a container's lifecycle. This encompasses machine learning that can normalize data from many milestone sources; the power to process masses of continuous data streams; and the ability to apply opinionated language to filter for truth.

It took the right technology to spark this genesis and the trust of committed partners to identify what a CLM approach could look like for different, individual companies. Trust can be hard to gain, and often comes down to whether the rewards are of sufficient value.

For supply chain participants willing to open the door to CLM and leave milestone visibility management behind, there are significant opportunities for cost saving, competitive advantage and global sourcing benefits.



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Benefits at a glance: CLM impact

Quicker conversion of inventory into cash:

- The ability to manage the container lifecycle enables shippers to anticipate and solve disruptions or take advantage of opportunities that minimize length of time that inventory is on their balance sheet before it arrives at the warehouse, order is fulfilled and payment received.

Reduction of detention and demurrage:

- A system with true end-to-end information on a container can be programmed to alert shippers when free time is about to expire and automate tasks, such as notifying drayage partners.

Plan labor, warehouse space, transportation and inventory placement:

- Transparency into the complete container lifecycles enables better forecasting around arrival of goods, labor needed for putaway or fulfillment and resources needed for storage and distribution.

Avoid costly air freight through ETA confidence:

- Removing gaps in container tracking creates opportunities to read lead times and confidently predict the impact of disruptions and corrective actions on the entire lifecycle.

Redirection of logistics labor resources:

- Leveraging CLM to accurately manage by exception can reduce time spent on a task from days to minutes and redirect human analytical and problem solving expertise to examining operations more deeply, identifying and addressing long-standing obstacles.



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Improved customer experience:

- Increased accuracy around timing, integrated into a BCO/shipper's operational nerve center, empowers the moves that elevate logistics to an art form. When a retailer can operate from an omniscient viewpoint, cargo can be, for example, diverted directly from port to a customer's factory floor in time to avoid a line shutdown.

Renewed confidence in international shipping and global sourcing:

- A system reliant on visibility into event data, which is often inaccurate and inadequate, contributes to the perception of ocean trade as unreliable. This prejudices opportunities to achieve competitive advantages through global sourcing of products and materials.

In action: Use cases

From beneficial cargo owner to intermodal logistics provider, Hasbro, Continental Tire and IMC provide three perspectives of companies that have shifted to the container lifecycle management operations approach.

As for many international manufacturers, the pandemic and resulting port gridlock brought lack of true end-to-end visibility, limited full-picture view of its supply chain and inability to affect lead times into sharp focus for multinational shipper Hasbro.

On the global import side, the company operated from a reactive position, explained Logistics Manager Devin Arpin, for example, relying on the often out-of-date carrier 315 messages. Although fed into Hasbro's enterprise resource planning system, these and other similar milestones were not updated in a timely manner. This led to pain points for the planning team communicating inaccurate ETAs to their retailers.



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Arpin credits Gnosis Freight's Container Lifecycle Management® platform with helping Hasbro rethink its process. The platform's algorithm draws data from all the ocean and rail carriers, terminals, trucking companies, as well as AIS satellite, US Customs and more sources. The data model then normalizes — and analyzes — the data to provide a complete and accurate picture of each container's lifecycle.

Gnosis Freight can create “this web of data that provides a much better, predictive ETA,” Arpin said. “They're able to map it out, where ours was very antiquated and we were just using figures that we were pulling from an ERP system loading into Power BI.”

Increasing the breadth of events and depth of data collected enabled Hasbro to manage its containers through their complete lifecycles and achieve a host of benefits, including cutting detention and demurrage charges by more than 90%.

“When we have 50 to 100 containers coming in, we're able to better manage the dwell time and our last free day and really manage the true lifecycle of the container to where we can get it empty before that last free day and control the added cost that we might get,” he added.

At IMC, one of the nation's largest marine drayage providers, Lemm has seen the direct impact of CLM within her logistics team, which began testing the methodology with the help of Gnosis Freight during COVID.

“All COVID did was exacerbate the silos and the fragmentation of our industry and this handoff and relay from one to another,” she said.

Lemm noted that the experience with Gnosis Freight illustrated how IMC could use technology to look at the system as a whole, connect the fragmented pieces and use predictive analytics to close the gaps between them.

“We developed an API integration with Gnosis that complemented our proprietary system, and we were able to look at the full lifecycle of the container. Our team had to test and trust the data. With that faith, and a shift in outlook, the results have been transformative.

“They’re giving us data that we have come to believe to be more accurate than anything else that we could get our hands on. And then, better yet, when our teams come to work the next day, instead of spending hours trying to figure out where we are, we already know and can go to work,” she said.

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Newsome, who has been an informal advisor to Gnosis Freight since retiring from the South Carolina Ports Authority, noted that extensive exposure to visibility solutions over his career has led him to the belief that the company “has perfected the art of gathering container data, synthesizing it into a common database, [and] sort of grading the quality of it,” making sense of the disparate data that doesn’t always say the same thing. “They have made it a point of making it a very robust database, which is then easily available to people — either by buying the raw data or by using their SaaS — that tells them where their containers are, at any point in time.”

Top-four tire manufacturer and US importer Continental has also experienced a transformation since implementing CLM.

Prior to its engagement with Gnosis Freight, the company’s ability to manage the lifecycle of a container was limited. Continental’s tech stack comprised technology from major transportation management system (TMS) providers and a freight booking system that left a gap when it came to their international container shipments. The pandemic focused attention on the drawbacks of these processes, including time spent communicating with individual freight forwarders and ocean carriers to obtain shipment status and container ETAs.

Relying on these customer service contacts for information was tedious and involved many emails, phone calls and much waiting, said Tobias Hacker, Continental’s head of tire logistics for the Americas.

“It was super manual with a very low accuracy ... it was more ... best guess than anything else,” he said.

Gnosis Freight helped Continental see where their containers were, in real time, from each end of its supply chain. The benefits after three years of shifting to a clearer understanding — and tracking and managing — include detention and demurrage cost avoidance.

Hacker anticipates greater benefits from Gnosis Freight's Container Lifecycle Management® platform as the company expands its application and use.

"The biggest saving is always overall inventory. Its binding capital aspect needs to be carefully managed," he said.

Better freight tracking empowers smarter management, such as predictive technology to steer overall supply chain lead times and, consequently, minimize Continental's safety stock.

"For all those inventory-related costs, Gnosis Freight definitely helps us be more efficient," Hacker added.



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Managing the future

The pandemic may have been the wake-up call alerting shippers to the shortcomings of visibility in the global supply chain, but the warning is still sounding.

"It is a new norm, everything is a crisis now. But for us, it is really [vital] to navigate through the situation just based on facts instead of listening to the news," Hacker said.

A container lifecycle management approach is an opportunity for companies to develop a smarter way to track and manage their containers. This shift, and Gnosis Freight's Container Lifecycle Management® platform, "has the most potential to really provide information that is desperately needed by shippers in a way that is very useful for them," Newsome said. "Gnosis does this better than anyone else. That's really, I think, their unique selling point. They've perfected a way to gather data in a very painless way and make it available with a very high level of reliability."

With the right combination of technology, technique and trust, shippers can move from accessing visibility information to managing containers from a central point of accurate, up-to-date, incoming information. As the industry faces tighter margins and greater disruption risks, the price of time wasted has never been higher.

About Gnosis Freight

Gnosis Freight is a leading provider of supply chain visibility and execution software, made available through its proprietary Container Lifecycle Management® (CLM) platform — the world's first supply chain platform focused on the full lifecycle of the shipping container. Powered by the most complete, accurate and low-latency container tracking data available, the CLM platform provides logistics professionals with a smarter way to track and manage their containers, from booking until returned empty.

Gnosis Freight's global footprint encompasses a diverse customer base, including top cargo owners (BCOs), ocean carriers, forwarders, truckers, 3PLs, technology providers and other critical supply chain partners — all utilizing the CLM platform to achieve new levels of efficiency, cost savings and collaboration within their supply chain.

Gnosis Freight is committed to delivering practical and innovative logistics technology solutions, offering both standard out-of-box platform features and tailored solutions designed to help companies navigate complex logistics challenges and improve the lives of logistics professionals everywhere.



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