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The Decision-Ready Supply Chain

How Shippers Operate When Forecasts Stop Helping

With Special Contribution by Gene Seroka,
Executive Director, Port of LA

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FOREWORD

Letter from Thad Bedard

"The only thing certain is uncertainty" may describe the market, but it does not help companies operate through it.

Uncertainty is now an operating condition. The priority is building the service networks, decision structures, and execution capacity that allow companies to respond with speed and confidence.

Standalone software platforms are at their limits due to their disconnect from operational execution. Visibility remains important, but organizations also need the ability to act on disruptions quickly and consistently.

They need service networks capable of translating decisions into physical movement across increasingly volatile global trade environments. Ocean freight markets, sourcing patterns, and capacity strategies are all adjusting to conditions that are far less predictable than they were a decade ago.

Put those together and the question changes. Asking which provider can give you a better view of disruption is too narrow. Visibility is no longer enough. It still leaves inventory to move, flows to reset, containers to prioritize, and leadership tradeoffs to assign. The better question is which partners can help you act sooner, with higher-quality information, defined accountability, and enough physical reach to make the decision real.

That is why we put together this argument for what shippers should ask of their networks now. There is no waiting for perfect information. Companies need to look at where decisions should be made and where technology creates operational advantage.

That is what we mean by a decision-ready supply chain.

Thad Bedard
President, APL Logistics

SPECIAL CONTRIBUTION

The Future of Global Supply Chains: A View from the Port of Los Angeles

Global supply chains have been tested over the last decade in ways few industry leaders could have imagined. A pandemic disrupted manufacturing and transportation networks simultaneously. Geopolitical tensions reshaped sourcing strategies and trade lanes. Inflationary pressures altered consumer demand. Trade policies shifted rapidly, creating uncertainty for businesses trying to plan months — and sometimes years — ahead.

At the same time, expectations for speed, transparency and sustainability have only intensified.

The result is a fundamental shift in how the industry must think about the future. Supply chains can no longer be built solely for efficiency or lowest cost. They must also be resilient, intelligent and adaptable. In a world where disruption has become a constant, the companies and economies that succeed will be those capable of anticipating change, responding quickly and collaborating effectively across the global logistics ecosystem.

At the Port of Los Angeles, we see these changes unfolding in real time. As the busiest container port in the Western Hemisphere, our gateway connects manufacturers, retailers, transportation providers and consumers across the globe. Cargo that moves through Los Angeles reaches each of the 435 Congressional districts of the United States, giving us a unique vantage point into the opportunities and challenges shaping international trade.

Resilient, Predictable Supply Chains

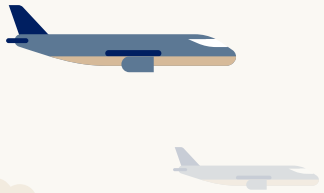
One of the clearest lessons from recent years is the growing need for more resilient and predictable supply chains.

For too long, portions of the industry operated in a largely reactionary mode. During the COVID-19 era, businesses were solving problems day by day, often without the visibility or flexibility needed to stay ahead of rapidly changing conditions. More recently, shifting trade policies and geopolitical uncertainty have created additional whipsaw effects throughout global markets.

The next generation of supply chains must operate differently. Resilience today is not simply about absorbing disruption after it occurs. It is about building systems capable of anticipating problems before they escalate. That requires stronger forecasting, more agile operations and closer coordination among cargo owners, transportation providers, infrastructure operators and policymakers.

There is not a day that goes by without some disruption somewhere in the logistics chain. A vessel delay, weather event, labor issue, policy change or equipment problem can quickly ripple across multiple sectors. The ability to react quicker than ever before — to see around corners and over hills — is becoming one of the defining characteristics of a successful supply chain.

Predictability has historically been one of the industry's most elusive goals. Customers continue to ask for greater precision in forecasting, scheduling and cargo visibility. Narrowing the gap between estimated and actual arrival times – ship, truck or rail -- builds confidence throughout the logistics network. Improving forecasting accuracy, increasing schedule reliability and managing disruptions more effectively creates a stronger experience for the businesses and consumers who depend on these systems every day.



Data-Driven Decisions

Data and technology will also play a central role in building more resilient and predictable supply chains.

When I first entered this industry, we were using telexes and faxes. At the time, those systems represented progress. Today, the amount of information available throughout global logistics networks is almost unimaginable by comparison — and the pace of technological advancement continues to accelerate.

But the future is not simply about gathering more information. The competitive advantage will belong to organizations that can interpret data faster, make smarter decisions and act with greater speed and precision.

Better visibility leads to better decisions. There will always be disruptions in global logistics. What matters is how quickly organizations can identify those changes, evaluate alternatives and implement solutions.

Artificial intelligence is poised to help accelerate that transformation.

AI-powered systems can help identify patterns, forecast disruptions and recommend operational responses before problems cascade across the supply chain. Predictive and prescriptive analytics can model multiple scenarios simultaneously, allowing professionals to evaluate options in real time. Digital twins and geospatial mapping tools can optimize infrastructure planning, freight routing and cargo movement with a level of sophistication that would have been difficult to imagine even a decade ago.

At the Port of Los Angeles, we are already applying these tools to improve infrastructure planning and freight mobility. These technologies, combined with human expertise, help us better manage cargo flows, evaluate alternatives and optimize transportation networks more quickly and efficiently.

People and Collaboration

Still, technology alone is not the answer.

One of the industry's greatest opportunities is finding ways to combine institutional knowledge with the speed and processing power of advanced computing. Artificial intelligence should not replace experienced supply chain professionals. It should augment expertise, accelerate decision-making and improve operational agility.

The real value of visibility is not simply knowing how much cargo is moving through a trade lane at a given moment. The value lies in the ability to act on information quickly enough to correct issues before they become larger disruptions.

That capability depends heavily on collaboration.

Modern supply chains are deeply interconnected ecosystems. Ports, shipping lines, railroads, trucking companies, logistics providers, manufacturers, retailers and government agencies all influence one another. No single organization can solve global logistics challenges independently.

Increasingly, we are seeing how impactful public-private collaboration can be across the supply chain sector. Whether the issue involves infrastructure investment, freight mobility, trade facilitation or sustainability initiatives, all stakeholders need a seat at the table.

That collaboration becomes even more important as sourcing and manufacturing strategies continue to evolve. Nearshoring, regional diversification and new industrial investments are reshaping supply chains. Building those new networks requires transportation capacity, infrastructure investment and coordinated long-term planning.

The best outcomes occur when business leaders, infrastructure agencies and policymakers begin working together early in the process to align priorities and understand operational needs. With that understanding, investments can be made smarter, faster and more effectively.

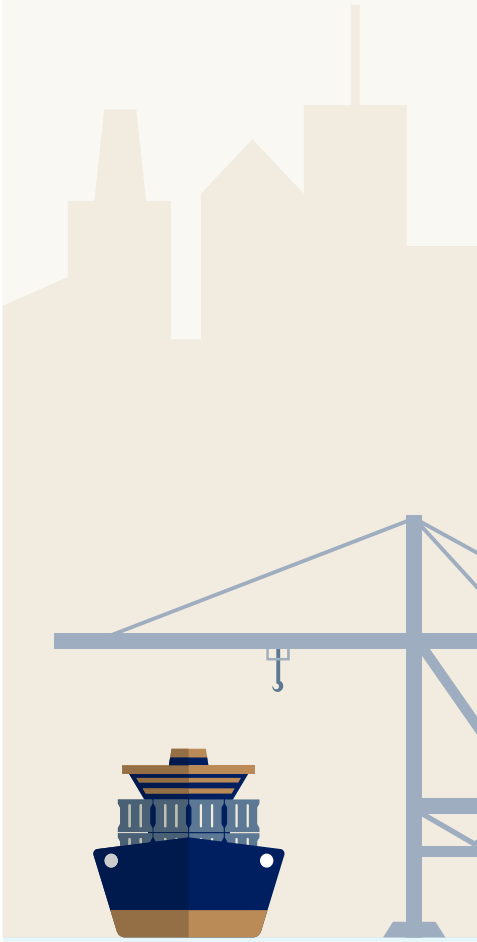
The supply chain community must also remain closely connected to policymakers around the globe. Decisions made in Washington, Beijing, Hong Kong, Kuala Lumpur, Jakarta and other major trade centers increasingly influence sourcing decisions, cargo flows and industrial investment strategies. Maintaining strong communication and trusted relationships across borders is more important than ever.

Building Sustainability

At the same time, the future of supply chains will also be shaped by sustainability and operational transformation.

At the Port of Los Angeles, our goal is to move toward a zero-emission future while maintaining cargo fluidity and economic competitiveness. That transition will not happen overnight. Sustainability is never a straight line. There are real challenges involving infrastructure readiness, technology adoption and the cost of transition. Progress occurs through building blocks.

Advancing toward zero-emission cargo handling equipment, cleaner trucks, sustainable fuels and lower-carbon transportation systems requires both public-sector and private-sector commitment. It requires policy frameworks that encourage investment and create opportunities for innovation. It also requires industrial test beds – like the Port of Los Angeles -- where emerging technologies can move from prototype to scaled deployment.



Over time, incremental gains become larger operational transformations. In 2004, the Port of Los Angeles became the first port in the world to connect a container ship to shoreside electric power through its Alternative Maritime Power program. Today, shore power is standard practice at ports across the globe — demonstrating how early investments in cleaner technology can help move an entire industry forward.

Importantly, sustainability and efficiency are no longer separate objectives. Increasingly, the same technologies that reduce congestion and improve cargo movement can also reduce emissions and energy consumption. Better forecasting, optimized routing and more efficient operations improve both environmental performance and supply chain reliability.

Relationships Are Sacred

Looking ahead, one thing is clear: the world will continue to get smaller. Global trade relationships remain essential to economic growth, innovation and supply chain connectivity. These relationships are sacred — among countries, trading partners, infrastructure providers and customers alike. Whether the cargo involves retail products, manufacturing components, semiconductors, rare earth materials or the flow of information itself, modern economies depend on interconnected global networks.

As information moves faster and customer expectations continue to rise, the pressure on supply chain performance will only intensify. The industry must stay ahead of the curve by investing in resilience, visibility, collaboration and innovation simultaneously. The future of global supply chains will not be determined by a single technology, policy or business model. It will be shaped by how effectively industries, governments and infrastructure partners work together to build smarter, more connected and more predictable logistics networks.

At its core, global trade has always been built on relationships and trust. That will not change. What will change is the speed, intelligence and sophistication with which supply chains operate. The organizations that thrive in the years ahead will be those capable of combining trusted partnerships, advanced technology and operational agility into a system prepared not only for the next disruption — but for the opportunities that follow it.

Gene Seroka
Executive Director, Port of Los Angeles

The Decision-Ready Supply Chain

How Shippers Operate When Forecasts Stop Helping

PART I

The New Reality

Forecasts age faster now.

In 2025, a retail supply chain team rebuilt their import forecast for the third time in eighteen months.

The first forecast assumed lead times would return to familiar patterns. Goods would leave the vendor, move through origin, sail to the destination port, and reach the DC inside the usual window.

The second forecast adjusted for higher tariff exposure, softer consumer demand, and a new lane plan. The team had to revisit sourcing, landed cost, transit time, and inventory position.

The third forecast followed another trade policy change. This time, the team had to answer very specific questions: Should they pull inventory forward? Should they shift volume to another origin? Should they absorb the added cost? Should they change the delivery plan?

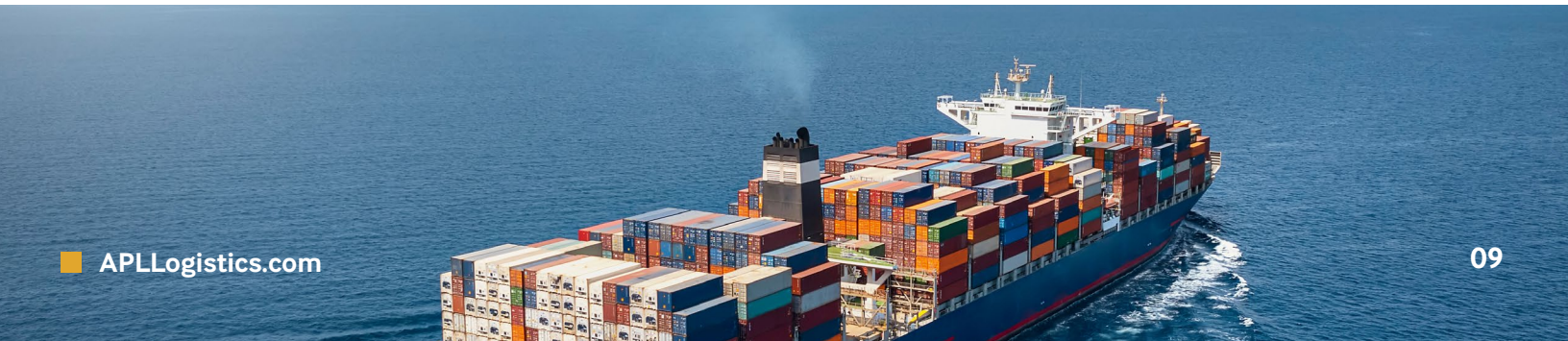
The problem was that each forecast was built on assumptions that changed before the team could fully act on them.

This is the new operating environment for global shippers. They may have quality data and a sound plan, but the assumptions underneath the forecast age out before the business is finished using it.

Erik Lundh, senior economist at The Conference Board, gave some numbers at the APL Logistics North American Symposium to show the reality we are working with: the global economy will likely expand at a 2.5% trend rate over the next decade, well below the 3.4% pre-pandemic average. In the five years after that, The Conference Board expects growth to soften further to 2.3% on average.

For shippers, slower trend growth adds risk. Every decision on sourcing, capacity, inventory, or pricing has less room for error. Companies still have to serve customers, protect margins, and move product across regions. They must do it in a world where the next assumption may expire before they know it.

The old idea was that volatility interrupts the plan. The current reality is that volatility must be a part of the planning conversation from the very beginning.



What changed?

Several changes hit supply chain planning at once.

First, global growth today is more distributed than it was in the recent past. The Conference Board expects emerging markets to drive a larger share of global expansion even as mature and emerging economies slow. India and China remain major growth drivers, although each faces its own constraints.

Second, tariffs are now a standing design variable. Lundh described the U.S. tariff regime as pivoting but persistent. One legal path may no longer be an option, while Sections 232, 301, and 122 remain available. Shippers must plan around tariff exposure as an ongoing factor in network planning.

Third, geopolitical risk belongs in operating plans. Lundh presented oil-shock scenarios connected with the war in Iran and noted that these disruptions sat outside the base forecast, even though they represent real risk. Energy, capacity, and route exposure need a place in the planning conversation.

Fourth, AI may change productivity, and the range of possible outcomes is wide. The Conference Board laid out total factor productivity scenarios that run from stagnation below zero to a phase change above 2%. AI may materially improve productivity, but the range of outcomes remains uncertain. Shippers still need a network that can make decisions under pressure.

Fifth, uncertainty has risen in ranks to a C-suite level issue. The Conference Board C-Suite Outlook 2026 surveyed 1,732 executives, including 771 CEOs, between October 10 and November 24, 2025. The report named uncertainty as a defining challenge for 2026. CEOs cited supply chain disruption, tariff-driven price increases, energy shortages, cyberattacks, geopolitical risk, civil unrest, regulation, protectionism, and policy shifts as key concerns No longer an unexpected factor, change should be accounted for early and often.

The decision process is the bottleneck

McKinsey Global Survey results show that only 20% of respondents say their organizations excel at decision-making.

A majority also said much of the time devoted to decisions is used ineffectively. Organizations have data, but they are unsure how to act on it. Nobel Prize winning behavior economist Daniel Kahneman has established useful language for the tension: System 1 thinking is fast and intuitive. System 2 thinking is slower and analytical. Supply chain leaders need both enough analysis to avoid bias and enough speed to protect service, costs, and margins.

Data can point to several reasonable choices at once. The decision process must name who decides, which tradeoffs rank highest, what level of risk the company accepts, and how the team acts when information is incomplete.

Decision confidence is under pressure.

The numbers point to a planning environment where supply chain leaders have more information than before but still struggle to turn that information into confident decisions.

In a February 2026 Indago survey of 29 supply chain and logistics executives, 62% said uncertainty is higher today than it was three years ago. Most leaders also said they have complete information only half the time or less when making high-impact supply chain decisions. Many important decisions are being made with partial information, even when teams have more dashboards, analytics, and reporting available to them.

The data may help frame the choice, but it often cannot remove the uncertainty around the choice.

The speed of decisions has changed too. 55% said decisions are made in shorter planning cycles. 52% decisions involve more stakeholders than before. 41% said decisions are made faster, often with less information. 31% said decisions take longer because of increased complexity. 31% said decisions are revisited or reversed more often.

Many supply chain leaders feel the strain when decisions must be made faster with more people involved. Even when more data is available, the conclusions that they reach still feel incomplete.

The problem is they need something that goes beyond information. In the Indago results, 52% said decisions rely more on data and analytics than they did three years ago, yet 38% said there is greater hesitation to commit to decisions. 34% said decision ownership is less defined than before.

The biggest constraints were also practical. 59% pointed to data that exists but is fragmented across systems. 45% pointed to difficulty aligning short-term pressures with long-term objectives. 34% pointed to a lack of timely or reliable data. 28% pointed to decision ownership or accountability.

Supply chain teams have data. They need the data connected, the tradeoffs defined in advance, and the decision owner named.

What does this mean for shippers?

Forecasts are not going away, but confidence has to come from the network and the decision process.

A decision-ready supply chain can answer three questions fast to protect the business:

- What changed?
- Which orders, lanes, suppliers, or nodes are affected?
- Which option should the team take now?

That is the shift.

The goal is a network and a decision system that can operate through the next tariff, port constraint, oil shock, labor issue, demand swing, or sourcing disruption. Forecasts remain essential, but the decision system determines how quickly teams respond when conditions change.

PART II

The Case of a Seasonal Retailer

Seasonal retail makes the cost of late shipments easy to visualize.

Take the example of a Halloween retailer. October 31 is a fixed date. Product that arrives too late to be sold for Halloween loses much of its value.

Picture a seasonal assortment moving from suppliers across Asia into U.S. distribution. A supplier delay, a missing document, a carrier schedule change, or a slow origin transfer impact the plan before anyone on the destination side sees the container.

The team needs specific answers. Which vendors are ready? Which purchase orders are at risk? Which origin transfers are late? Which containers need consolidation? Which carrier events changed? Which DCs have capacity for the inbound plan? Which orders need intervention first?

These are operating details with executive consequences. In a seasonal retail network, a missed decision can turn into higher freight costs, extra labor, margin loss, missed selling days, and a negatively impacted customer experience.

In a predictable market, teams might protect against peak risk with more inventory, longer lead times, or emergency freight. The problem is that those answers are more expensive now. Inventory ties up working capital. Extra time can hide problems until the peak is too close. Expedited freight protects service at a high cost.

A better answer is earlier decisions. This enables teams to intervene while useful options remain. If the same issue is discovered after port arrival, the choices are typically narrower and more expensive.

This is where the Halloween retailer example clearly illustrates the need for decision-ready supply chains. It gives a calendar to a problem many shippers know well. It makes it easier to quantify the question "Exactly when did the team know enough to act?"

The seasonal retailer must also answer several operational questions:

- Which suppliers need tighter origin management?
- Which lanes need earlier exception review?
- Which DCs need capacity triggers?

In every scenario, shippers navigate this environment better when they have earlier signals, defined decision rights, and partners close to the product flow, so they can help before the expensive choices are the only choices left.

PART III

The APLL Field Manual

When forecasts are less reliable, shippers need more than another planning revision.

They need a network that helps teams see problems earlier, understand the options, and decide what to do before cost and service risks increase. This is where the focus must shift.

Origin visibility gives teams more time to respond. The data layer gives a usable operating picture. AI helps when it has a specific role inside the decision process.

These three moves answer one question: how should a shipper build a network when the forecast inevitably is going to miss something important?

MOVE 1

Move Closer to the Origin

Need more decision time?
Start at the origin.

The origin is where the clock starts running on your decision time: at vendor booking, at the origin warehouse, and at the documentation step. It continues through consolidation and the first-mile transfer.

The goal is to make sure everything is aligned early. The sooner in the process this happens, the more options shippers have. This might include a shipment being consolidated differently, a container moving to a different sailing, a purchase order being split, or a merchandising team changing allocation.

Teams that can act at the origin have more options than they would after arrival.

Origin Management With APLL

Origin management must be built around vendor management, upstream visibility, inbound inventory flow, and exception management.

This is especially important for diverse sourcing patterns. China+1 strategies can reduce concentration risk, and they also add vendor relationships, border crossings, origin processes, and data paths. More origins mean more places where something can deviate from the plan.

APLL's cross-border solutions for China+1 markets, including Vietnam, India, and Indonesia, help shippers manage product flow across changing origin networks instead of waiting for problems to reach the end of the route.

We also give sustainability visibility to origin warehousing and transportation. A network with better origin control can better evaluate how their options impact carbon, cost, capacity, and compliance.

With APLL, shippers also get a broad network footprint as a part of the KWE Group. APL Logistics is connected to a global network that moves 700,000 TEUs annually by sea and more than 500,000 tons by air, with presence in more than 60 countries and 300 cities.

MOVE 2

Build the Data Layer to Support the Forecast

Why dashboards need a stronger data layer.

What happens when the forecast is off? Shippers need a robust foundation of data. Visibility platforms can show an event. It is the data layer underneath that matters.

The layer should include data formats, integrations, event rules, data quality checks, and people who know how to interpret the signals they see into action.

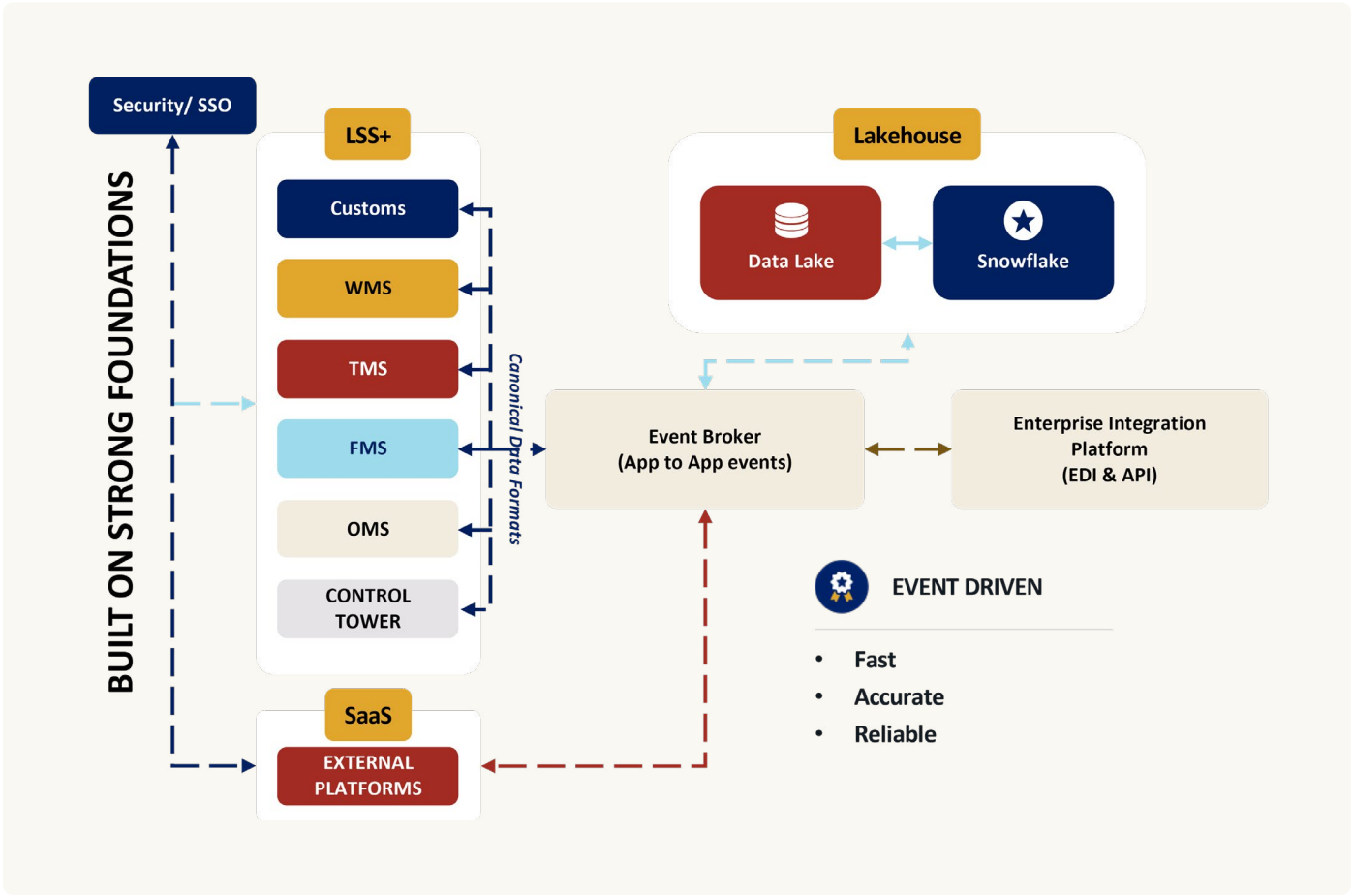
Without this layer, a delay can mean different things to different teams. The business needs one operating picture that each team can use for its part of the decision.

APLL's Data Layer Architecture

APLL's technology architecture is built around the need for a single operating view.

It brings together APLL system data, 65+ ocean carrier EDI/API connections, 35+ dray carriers, rail data, vessel schedules, vessel AIS, and 5+ data aggregators. It combines internal and external events so shippers have every signal they need.

The data then needs enrichment, using: data processing, data transformation, anomaly detection, quality control, and ingestion.



Milestone Data Enrichment Funnel

This produces decision value through predictive ETA and predictive in-DC milestones. It identifies which shipments are at risk and sheds light on the most appropriate next steps for the team. This is the value of architecture built to support decision-making.

MOVE 3

Three Uses for AI

Begin with the job.

Supply chain teams often hear AI described as if it does everything. It predicts, writes, recommends, automates, optimizes, and explains. Unless its bounds are clearly defined, it can muddy the waters.

A simpler view is more useful. AI can have three high-value roles inside a logistics network: predicting, creating, and acting, each supporting a different part of the decision process.

Predicting: ML-AI

THE JOB
Forecasting outcomes from patterns.

THE ROLE INSIDE AN APLL NETWORK
Predictive ETA, predictive in-DC milestone, anomaly detection across 65+ carrier feeds.

THE WIN
Shippers get longer decision windows for their exceptions.

Creating: Gen-AI

THE JOB
Generating new artifacts from learned representations.

THE ROLE
Customer-facing summarization, exception narrative, customer service case generation.

THE WIN
Customer service teams can handle 2-3x more cases with higher quality.

Acting: Agentic AI

THE JOB
Perceiving, deciding, and acting.

THE ROLE TODAY
Bounded operational decisions like dray dispatch, container routing under defined constraints.

THE WIN
Faster operational decision velocity in tightly defined lanes.

The Leadership Test

The leadership test for AI should be well-defined in advance, asking questions like: Which decision happens earlier because the model exists? Which exception takes less rework? Which customer update is more accurate? Which operational step is completed faster because the tool has a defined role?

These types of questions separate useful AI from a demo. The best supply chain AI helps teams see risk earlier, explain issues more accurately, act faster within approved limits, and keep human judgment when it is needed.

Six Questions for Your Operating Team This Quarter

Boards and customers expect action before perfect information exists. Supply chain teams need a network that can decide with imperfect information and act with enough confidence to protect service, costs, and margins.

These six questions are a practical place to begin.

Where in your network do you have fewer than 48 hours to make a decision, and is that enough?

Which decisions are slowed by disagreement over the data?

If your top three forecast inputs were wrong tomorrow, which node, lane, or inventory plan would fail first?

How much origin volume moves through places where you lack physical presence or direct data ownership?

Which AI investments this year help people make or execute decisions? Which only add another view?

If your board asked who makes the decisions, would the answer be the same across supply chain, finance, merchandising, and operations?

The supply chains that outperform in the next decade will not be the ones with perfect forecasts. They will be the ones built to respond faster when conditions change.

Volatility is no longer a temporary disruption to planning. It is a permanent operating condition, that changes the role of the network, the role of technology, and the role of leadership inside the supply chain.

The advantage now comes from earlier signals, clearer decision ownership, stronger operational coordination, and the ability to act before constraints become costly.

That is what defines a decision-ready supply chain.

A member of the KWE Group

ABOUT

APL Logistics

APL Logistics designs, builds, and operates global supply chain solutions across regions, modes, and partners as part of the KWE Group, one of the largest global freight forwarders in the world.

APL Logistics helps shippers build decision-ready supply chains through global execution capabilities, operational visibility, data architecture, and integrated logistics expertise.

The organizations that adapt fastest will be the ones that align decision-making, operational execution, and network design before the next disruption arrives.

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