LogiSYM

The Magazine for Supply Chain Executives

AUGUST 2026

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THE FUTURE-PROOFING COLD CHAIN LOGISTICS: TECH-POWERED, AI-ENABLED QUALITY & RISK MANAGEMENT FOR PHARMA

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EDITORIAL MESSAGE

From the Editor

Welcome to the August 2026 edition of LogiSYM Magazine and our theme this month: "Future-Proofing Cold Chain Logistics: Tech-Powered, AI-Enabled Quality and Risk Management for Food, Pharma and Retail".

COVID-19 exposed both the strength and the fragility of Asia's cold chains. Vaccines, fresh food, frozen products and retail inventory continued to move in some corridors because suppliers, carriers, 3PLs, regulators and customers shared timely information and made decisions quickly. In others, a customs delay, missed connection, power interruption or weak hand-off turned a manageable delay into lost product, empty shelves or a delayed treatment – impacting customers and patients.



The shift since then has been from passive data logging to active control. Temperature, location, and condition data are useful only when they give visibility to a likely problem early enough for someone to act. AI can help identify recurrent risks by lane, carrier, season, packaging type, or delivery point, then focus attention on the shipments that are most exposed.

The same thinking applies across food, pharma and retail. Better data can support faster packaging and lane qualification, improve exception handling, and make sensible modal choices that reduce cost and emissions without lowering product protection. But the operating model must suit the market. Southeast Asia has very different infrastructure, distances, and service levels. Technology should strengthen the basics: reliable equipment, trained teams, clear decision rights, and contingency plans that have been tested before a disruption occurs.

With that in mind, we are thankful to our feature article contributors this month: Brighton Tan and Dino Liquito of Roche for "Future-Proofing Cold Chain Logistics: Tech-Powered, AI-Enabled Quality and Risk Management for Pharma", Roger Chew with "APAC Cold Chain Management – The Last Hundred Metres", Kim Winter for "Protecting What Matters: Technology-Led Cold Chain Risk Management for Food, Pharma and Retail", and Chris Cunane for "Why Track and Trace Is Essential for Modern Supply Chains".

We are also pleased to include, in these "never normal times", a highly topical feature from LSCMS's President, Dr. Raymon Krishnan, "Are We Optimising Freight Rates Instead of Supply Chains? ".

The ASEAN series of LogiSYM Symposiums continues this month in Malaysia, then the Philippines in September, and Thailand, Vietnam and Indonesia in November. We hope you can join us in the conversations that bring ASEAN Logistics and Supply Chains together and the insights these conversations bring.

Brett Marshall
Editor-in-Chief
LogiSYM Magazine



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LSCMS PRESIDENT'S MESSAGE

Technology Is Only Part of the Answer

The cold chain has always been unforgiving. A temperature excursion, equipment failure or delay can turn a perfectly good shipment into a costly loss and in pharmaceuticals, potentially affect patient safety. That makes this edition's theme, “Future-Proofing Cold Chain Logistics: Tech-Powered, AI-Enabled Quality & Risk Management,” particularly relevant.

AI, IoT and automation are changing what is possible. Sensors can provide continuous visibility, IoT can connect assets and shipments and AI can identify patterns that indicate a potential failure before it happens. We are moving from simply monitoring problems to predicting them.

Technology, however, is only part of the answer. A cold chain can have thousands of sensors producing data every few seconds and still suffer from poor planning, inadequate contingency arrangements or slow decision-making. There is little value in predictive analytics if nobody has the authority, capability or processes to act on the warning.

Technology gives us better information. It does not automatically yield better decisions. That is why future-proofing the cold chain must also mean investing in people, skills and organisational capability. We need professionals who can interpret data rather than simply receive it, understand risk rather than simply monitor dashboards and make decisions when reality does not fit neatly into an algorithm.



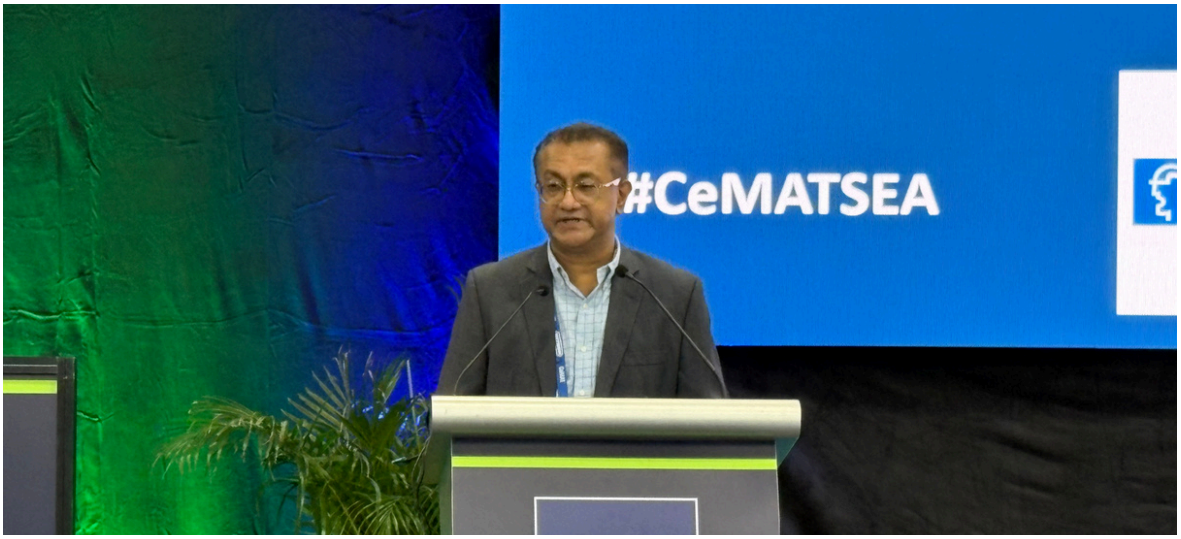
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There is also a danger of becoming too focused on what can be measured. A dashboard showing 99.8% temperature compliance may look impressive, but the real questions are what happened to the other 0.2%, how quickly it was identified, and whether the underlying problem was addressed. The objective is not a perfect dashboard. It is a reliable, resilient and responsive cold chain.

This is why professional development and knowledge sharing remain important. For 27 years, LSCMS has contributed to Singapore's logistics and supply chain community by bringing practitioners together and promoting professional capability.



This month, I am particularly pleased to contribute to LogiSYM Magazine again. The last time one of my articles appeared in the magazine was before COVID. The fact that even as the President of LSCMS, I still need to go through the editorial process credits the quality and professionalism of the team. It reflects a magazine that must compete for space and relevance alongside the industry's many voices to maintain its position as the market leader.

As we embrace AI, IoT and automation, we should keep asking one fundamental question - are we using technology to build better supply chains or simply more sophisticated ways of monitoring them? The answer will determine how future-ready we really are.

Raymon Krishnan, FALA, FCILT, CLP
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The Future-Proofing Cold Chain Logistics: Tech-Powered, AI-Enabled Quality & Risk Management for Pharma

Feature Article Co-authored by Brighton Tan, Roche Affiliate Network Quality, Global Manager & Dino Liquito, Roche Global Logistics, Business Partner

In the global pharmaceutical landscape, the stakes of logistics have never been higher. As a global healthcare leader founded in 1896, Roche dedicated more than CHF 12 billion to research and development in 2025 alone.

This immense investment fuels a pipeline focused on the world's toughest healthcare challenges, delivering life-changing biological breakthroughs across priority therapeutic areas such as oncology, immunology, ophthalmology, neuroscience, and cardiovascular-metabolic diseases. In 2025, our treatments reached approximately 39 million patients globally.

However, discovering a breakthrough molecule is only half the battle. Many of these cutting-edge biologics – from complex monoclonal antibodies used in cancer care to targeted therapies for rare diseases – are profoundly temperature-sensitive. A single thermal deviation during transit can render an innovative medicine inert, directly impacting patient health and jeopardising clinical outcomes. Historically, the pharmaceutical cold chain operated on a reactive paradigm: packaging products in validated shippers, transporting them across continents, and analysing data loggers post-delivery. Today, driven by decentralised care delivery and the increasing global disease burden, that model is obsolete. To ensure that our life-saving treatments reach patients in pristine condition, Roche is shifting from reactive compliance to predictive, tech-powered, and AI-enabled real-time quality and risk management.

THE CATALYST FOR CHANGE: EVOLVING CARGO COMPLEXITY

The expansion of our pharmaceutical portfolio has fundamentally rewritten the rules of temperature-controlled logistics. The traditional cold chain typically operated within a strict 2°C to 8°C range. However, modern biopharmaceutical innovations require a vast operational spectrum, moving from standard refrigeration to deep-frozen ranges (-20°C to -80°C) and even cryogenic environments below -150°C.

Consider the logistics required to distribute complex therapies globally. A delay on an airport tarmac or an unmonitored customs warehouse isn't just a financial loss; it threatens a patient's vital window for treatment. At Roche, our overarching purpose is "Doing now what



patients need next". To honor this commitment, we must eliminate visibility blind spots and build a cognitive, self-healing logistical ecosystem capable of safeguarding medicine integrity at every global milestone.

The Pillars of Roche's Tech-Powered Cold Chain
To cultivate a resilient supply network that handles global scale, our operation relies on three interconnected technological pillars:

1. IoT and Continuous Visibility: Static data loggers that function as historical "black boxes" are being replaced by live, cellular-connected Internet of Things (IoT) sensor networks. Modern smart tracking devices stay with our pharmaceutical cargo from the manufacturing floor to the point of care. These sensors continuously stream critical environmental parameters, including internal /ambient temperature, relative humidity, tilt, shock, and unauthorised light exposure. By routing this continuous stream through advanced 5G networks, the cargo effectively communicates with our centralised operational control towers in real time.

2. Artificial Intelligence: From Hindsight to Foresight
The true differentiator in modern pharma logistics is the overlay of artificial intelligence (AI) and machine learning (ML) models onto our IoT streams. Transformative technologies like AI are fundamentally reshaping healthcare systems and logistics architectures alike. Instead of simply alerting an operator after a temperature excursion has occurred, our AI models analyse the current thermal trajectory, historical transit lane performance, live weather forecasts, and airport congestion data. The system then predicts a potential breach hours before it happens, giving logistics teams a proactive window to intervene.

3. Precision Automation: On the ground, automation ensures precision and repeatability. In high-throughput distribution hubs, automated storage and retrieval systems (ASRS) operating inside climate-controlled vaults optimize the thermal footprint of the facility. Automated packing lines ensure that phase-change materials (PCMs) and vacuum insulated panels (VIPs) are configured flawlessly every time, eliminating human error from the physical staging process.



CASE STUDIES IN PRECISION: AI AND IOT IN ACTION

To see the tangible impact of these technologies, consider two distinct global logistics scenarios where tech-driven risk management alters the outcome of a pharmaceutical delivery.

Scenario A: The Tarmac Crisis (Predictive Risk Mitigation)
A critical shipment of a Roche oncology medicine is en route from Europe to a distribution hub in Latin America. During a scheduled transit at a tropical airport, the connecting flight is delayed. The pallet is left staged on a tarmac under an ambient solar load exceeding 40°C.

- **The Old Way**: A passive logger records the heat spike. Upon arrival 18 hours later, the quality assurance team flags the excursion and quarantines the batch. A multi-week stability investigation ensues, delaying access to care and ultimately forcing the destruction of the costly batch.

- **The Tech-Powered Way:** Within minutes of tarmac exposure, the IoT sensor flags a rapid rise in the shipper's internal thermal energy. The AI platform cross-references the airport's delay backlog and calculates that the active container's battery will deplete before the next available flight. The system automatically triggers an urgent alert to our local ground handling partner. The crew relocates the pallet into a temperature-controlled airport facility and connects the shipper to a power source. Product integrity is preserved, ensuring a seamless delivery to the hospital.

SCENARIO B: DYNAMIC STABILITY BUDGETING

Different biological products possess varying degrees of thermal resilience, defined by their stability budgets. Through AI integration, we can utilize dynamic stability budgeting. If a shipment undergoes a brief temperature excursion during customs clearance, the AI platform checks the product's unique stability profile stored in the cloud. It calculates the exact fraction of the stability life used during that single event. If the remaining budget is healthy, the system automatically clears the shipment for fast-track release upon arrival, significantly reducing warehouse quarantine bottlenecks and accelerating time-to-market.

THE HORIZON: BUILDING AN AUTONOMOUS, SELF-HEALING NETWORK

The future of pharmaceutical logistics points toward completely autonomous, self-healing networks. We are moving toward an era where AI doesn't just predict risks; it actively mitigates them by rewriting transport routing on the fly. If an AI system detects a regional climate anomaly or a geopolitical disruption along a primary trade lane, it will autonomously re-book cargo onto alternative routes while pre-alerting customs via secure digital ledgers to ensure zero-touch, frictionless border crossings. Furthermore, sustainability is deeply intertwined with our digital transformation. Because Roche aims for a net-zero environmental footprint, predictive modeling will allow us to optimize packaging configurations, minimizing reliance on heavy insulation and reducing shipping emissions without compromising product safety.

CONCLUSION

Future-proofing the pharmaceutical cold chain requires an unshakeable commitment to digital evolution. By weaving IoT, artificial intelligence, and automation into the fabric of global logistics, Roche shifts the paradigm from merely moving cargo to actively guaranteeing medicine quality. The technology is here, the data is flowing, and we will continue to innovate end-to-end to deliver our life-saving medicines to the patients who need them next.





Brighton Tan

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Brighton Tan is the Global Quality Manager at Roche, supporting the affiliate network. With 20 years of industrial experience, he integrates qualifications in Six Sigma Black Belt, project management, and QMS by ensuring GxP compliance in a commercial environment.
Brighton consistently advances the quality value proposition in cross-function operations by uplifting quality behaviors: accelerating learning, being proactive, owning quality, speaking up, and simplifying processes.



Dino Liquito

Global Logistics Business Partner Global Logistics Excellence, F. Hoffmann-La Roche Ltd

Dino Liquito is a Global Logistics Business Partner and Project Manager at Roche based in Basel, Switzerland. He is best known for his work in modernising pharmaceutical supply chains, specifically co-presenting on "zero-touch release" and real-time Internet of Things (IoT) visibility automation alongside Controlant at industry conferences like LogiPharma.

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APAC Cold Chain Management - The Last Hundred Metres

Feature Article by Roger Chew, Group Chief Executive Officer, SFS Pharma Logistics

For twenty years, cold chain money in this region went to the long haul. Validated air lanes through Singapore, Hong Kong and Incheon. Qualified passive shippers. CEIV Pharma certification at the hubs. It worked: the air leg is now the most audited part of the chain. The weak point has moved downstream - to the receiving bay, the pharmacy back room, the ward fridge, and the deliveries that end at a patient's front door. Biologics volumes are climbing fast in China, Japan and Korea, and ageing populations push treatment into the home. Asia-Pacific makes that final stretch harder than most regions do.

- Ambient conditions are unforgiving. Packaging qualified against European summer profiles behave differently at 33°C and 85% humidity. Forty minutes on an unrefrigerated trolley in Manila is not forty minutes in Frankfurt.

- The regulatory map is fragmented. Singapore, Malaysia, Thailand, Indonesia, Japan, Korea, Hong Kong,Taiwan, Australia and New Zealand work to PIC/S standards; India and China sit outside it. A regional shipment can meet three inspection regimes in a week.

- The last leg is often informal. In archipelago markets the final movement may be a ferry, a van or a motorcycle courier, not a validated reefer on a mapped lane.

FROM "DID IT?" TO "IS IT?"

The first generation of monitoring was forensic. A USB logger was downloaded at destination and a PDF filed. Any excursion triggered a review days after the stock had been put away or dispensed. Real-time loggers change that question to "is it?" Devices are now cheap enough for a tote, a tray or a single-patient parcel, not just a pallet

- Cellular and LPWAN loggers send temperature, humidity, light, shock and location continuously - useful where a shipment may sit at customs for two days.

- Bluetooth Low Energy (BLE) tags store readings on board and upload to any gateway they pass - a dock, a van, a courier's phone, the hospital network. That suits last-mile networks where the courier is a contractor, not an employee.

- Bluetooth-enabled fridges and cabinets report their own temperature, door-open events and power status automatically, instead of a nurse writing a number on a chart twice a day. Where grid supply is unstable, the power alert matters as much as the temperature.

Ward fridges are the least monitored assets in the chain, and the last place product sits before it reaches a patient. The case for door-event alarms was made in



December 2024, when Canada's national emergency stockpile lost more than $20 million of pharmaceutical product. A box inside a freezer shifted and expanded in the cold, pushing the door very slightly ajar. Nobody saw it.

THE VALUE IS THE INTERVENTION WINDOW.

The value is not the data. It is the time it buys you. A shipment drifting towards its limit two hours from the dock can still be diverted to qualified storage or met with pre-cooled totes. But that depends on a person, not a platform. Before buying sensors, settle four things: warning versus alarm; who owns each alarm, by name and shift; how fast they must respond; and what they may do without asking.

LET AI PREDICT THE FAILURE

Excursion prediction. Models trained on past routes, packaging, weather, carrier reliability and customs delay can score a shipment before release. High-risk lanes get stronger packaging or a different route; low-risk lanes do not. Here, customs dwell and monsoon disruption are the strongest predictors.

Stability budgeting. A short deviation does not mean the medicine is spoiled. What matters is cumulative exposure against documented stability data. A stability engine tracks how much of that budget each unit has used and assembles the evidence for quality review.

Days become minutes. Both should support the quality decision, not make it.

FORECAST DEMAND, NOT JUST PROTECT PRODUCT.

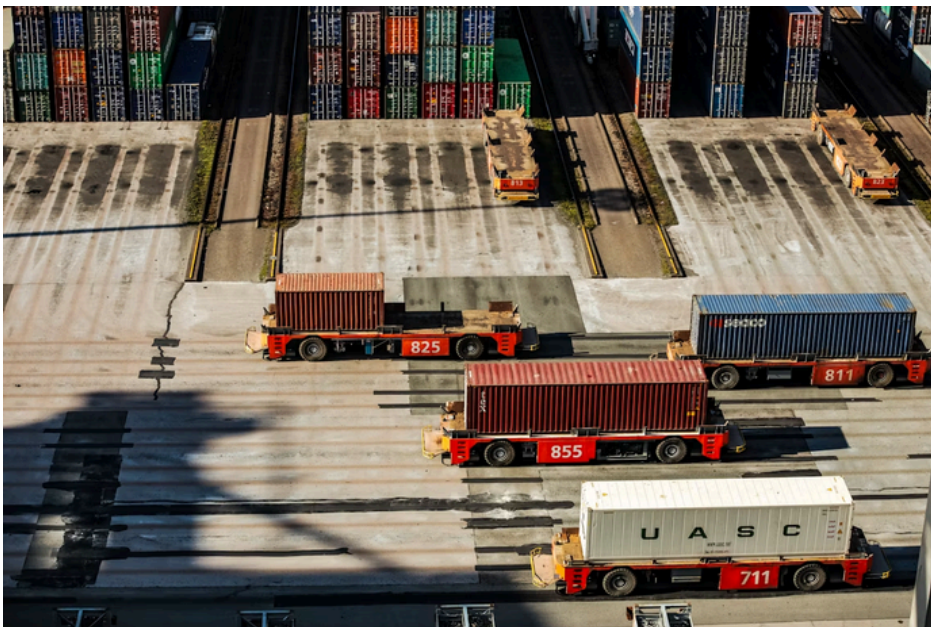
Inside the hospital, the most valuable AI application is not thermal. It is forecasting. Most pharmacy stock is still ordered on reorder points set by experience and corrected after each near miss. The result: too much short-dated fast-moving stock; too little of the specialty lines where a stockout harms a patient; and write-offs nobody owns.

Demand-sensing models use better inputs—admissions, elective surgery schedules, seasonal infection patterns, formulary changes. In tropical markets, dengue and influenza seasonality is a real signal. The outcome surprises people: inventory value falls while service rises because safety stock moves to the lines that needed it.

AUTOMATE INSIDE THE FOUR WALLS

A hospital pharmacy is a small warehouse with severe consequences for a picking error. Read the toolkit as one custody chain from dock to bedside.

- **Storage without a cold room.** Portable validated glass-door chillers and freezers replace the walk-in. They free floor area a hospital in Singapore or Hong Kong cannot spare, RFID readers count stock continuously, badge access records who took what, and staff read the shelf without opening the door.
- **Loading bay to storage.** An AMR collects the delivered tote and runs it straight to the chiller bank. The dock is where product waits for a free porter, and that wait is the excursion nobody logs.
- **Storage to ward.** The same fleet replenishes refrigerated RFID cabinets at ward level. The cabinet reads what arrives and what is removed, so stock and custody reconcile themselves with no manual scan.
- **Robotic dispensing** in the central pharmacy for unit-dose picking, with scan verification manual picking cannot match at volume.



- **RFID portals** at goods-in close the loop, giving an unbroken custody record from dock to bedside. Tag economics have turned for high-value items.

The business case differs across the region. In Japan, Korea, Singapore and Australia, automation is justified by labour scarcity. Where pharmacy labour is cheap, it rests on error reduction and inspection readiness. A Japanese case will not survive a capital committee in Vietnam.

Note the trade-offs. Many small units mean more compressors, more mapping and more calibration than one walk-in, so validation cost scales with unit count. Glass also leaks more heat than an insulated panel, which matters more at 32°C than in Europe, so the room the units stand in still must be controlled. What you buy is flexibility: both layers scale one unit at a time.

THE LAST MILE IS NOW TWO PROBLEMS

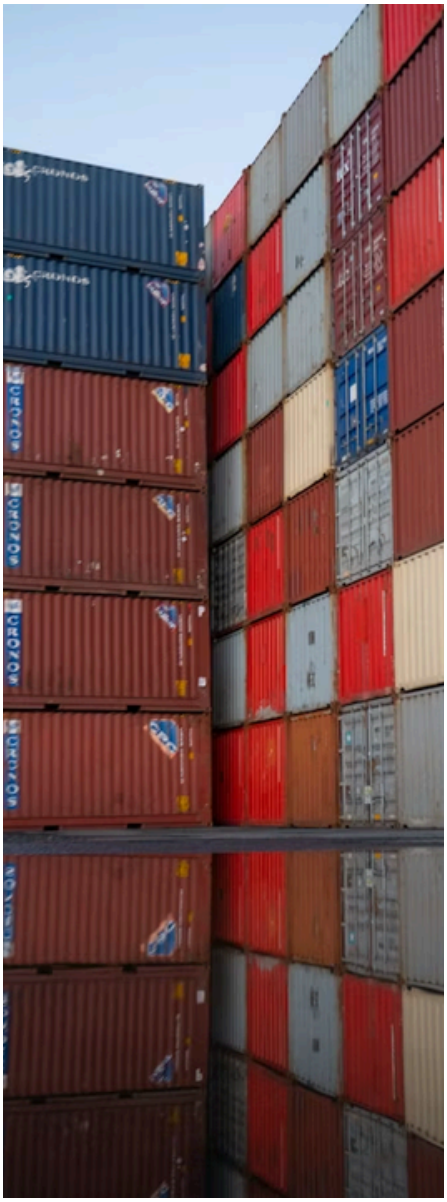
A. IMPATIENT REPLENISHMENT: This is the second leg of the same fleet. AMRs navigate with lidar and cameras, talk to lifts and doors through building APIs, and carry locked compartments that open only for an authenticated recipient or the ward cabinet - a chain of custody portering never produces.

One lesson beats any vendor demonstration: lift capacity, not robot speed, decides journey time. That bites hardest in the towers this region builds - Singapore, Hong Kong, Tokyo, Seoul. Model lift traffic before buying the fleet, validate compartment temperature, and write the escalation path for emergency doses. Robots take the scheduled runs; people keep the exceptions.

B. DIRECT-TO-PATIENT DELIVERY

A regulated product enters an unregulated place. The recipient may be out, may not understand the storage instructions, and expects the tracking of a food delivery app - a high bar here. Three parts. Packaging that proves itself: qualified passive shippers with an embedded sensor, sized for realistic local delays and heat.

Routing that treats remaining time out of refrigeration as a hard constraint. And secure handover: verified proof of delivery, temperature-controlled lockers, and drones for remote islands where regulation permits. There is a quieter benefit. When delivery data, refill timing and patient confirmation flow back to the clinical team, the network becomes an adherence sensor. A patient who has missed three deliveries is a clinical





signal, not a service statistic.

WHAT SEPARATES THE PROGRAMMES THAT WORK

One data spine. One view across warehouse, transport, pharmacy and ward, not four systems joined by reconciliation reports. Harder here, because the chain crosses several third parties and jurisdictions. Agree data ownership before the first sensor is bought.

Validation as a design input. A GDP-compliant environment cannot absorb an algorithm whose behaviour cannot be explained to an inspector, and here you may face several with different expectations. Document intended use, risk assessment and audit trail from day one.

Redesigned roles. The technician who spends less time counting and more on clinical verification is the real return on a robotics investment. If the work does not change, the technology has not delivered.

MEASURE THESE, NOT DEVICE COUNT

- Excursions prevented - not only excursions recorded
- Mean time from alarm to action
- Avoidable expiry write-offs, by value
- Failures that reached a patient

THE POINT

The cold chain's hardest problems were never at 35,000 feet. In Asia-Pacific they were always in the last hundred metres - and that is finally where the engineering attention, and the budget, is going.



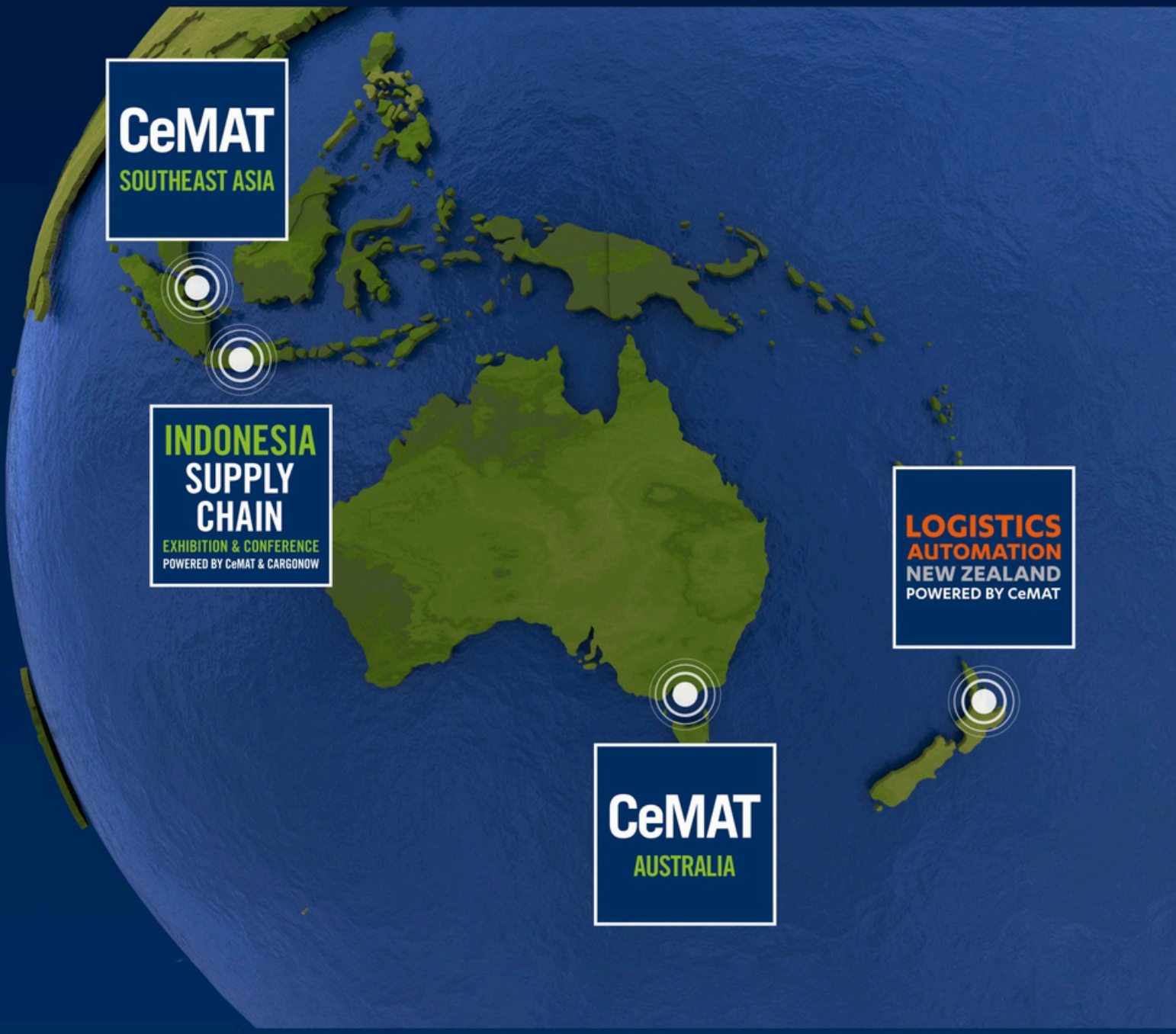


Roger Chew

Group Chief Executive Officer
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Roger has spent 20 years in the freight forwarding industry with the last 14 years in the specialty courier for pharma cold chain transportation mostly in the clinical trials space. Prior to joining the freight forwarding industry in Oct 2002, he served 12.5 years as a regular commando officer. Roger is the founder of SFS Pharma Logistics with 11 regional branches across Australia, China, Hong Kong, India, Indonesia, Malaysia, Philippines, South Korea, Taiwan, Thailand and Vietnam. He is a council member with SAAA@Singapore (Formerly Singapore Aircargo Agents Association) and mentor for Republic Polytechnic Entrepreneurship Community Mentorship Scheme.

The Trade Shows for Intralogistics, Robotics and Automation, and Supply Chain Management.



CeMAT Southeast Asia	12–14 May 2026	Singapore Expo, Singapore	cematseasia.com
CeMAT Australia	23–25 June 2026	MCEC, Melbourne , Australia	cemat.com.au
Logistics Automation NZ	10–11 Nov 2026	Auckland Showgrounds, New Zealand	logisticsautomation.co.nz
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Protecting What Matters: Technology-Led Cold Chain Risk Management for Pharma, Food and Retail

Feature Article by Kim Winter, Founder & Group Managing Director, Logistics Executive

The global cold chain sector is being reshaped by artificial intelligence, the Internet of Things, and automation. These technologies are enabling real-time monitoring, predictive risk management, and more precise quality control across perishable food, pharmaceuticals and retail inventory.

For decades, cold chain performance was assessed largely after the event. Temperature loggers were downloaded at the end of a journey, damaged products were identified on arrival, and corrective action began only after a failure had occurred. That model is no longer adequate. Today's cold chain must operate as a connected, intelligent and continuously controlled ecosystem. It must identify developing risks before product integrity is compromised, coordinate intervention across multiple logistics partners and maintain a reliable digital record at every critical handover."The cold chain can no longer be treated simply as refrigerated transport and warehousing," says Kim Winter, Global Managing Director of Logistics Executive group. "It is now an integrated quality, risk, and data-management system. Refrigeration remains essential, but the competitive advantage comes from how effectively organisations use information to anticipate problems and protect product integrity."

FROM REACTIVE MONITORING TO PREDICTIVE CONTROL

Traditional monitoring confirms whether a temperature excursion occurred. The next generation of cold chain management predicts whether one is likely to occur. IoT-enabled sensors can continuously capture temperature, humidity, location, shock, vibration, light exposure and door-opening events. When this data is integrated with transport and warehouse systems, weather information, traffic conditions and maintenance records, companies gain a far more complete view of shipment risk. AI can analyse these data streams and identify patterns that may escape human attention. Declining refrigeration performance, unusual border dwell time, repeated door openings or deviation from an approved route can trigger an





early warning before a product moves outside validated conditions. The shift is significant. Instead of receiving an alert after a threshold has been breached, an operatormay be warned that a breach is probable within the next hour unless action is taken. “The value of AI is not simply that it creates more alerts,” Winter explains. “Most control centres already suffer from excessive alerts and fragmented information. Its real value is distinguishing routine variation from a developing threat, recommending the right response and directing attention to the exceptions that genuinely matter.”

PROTECTING PHARMACEUTICALS AND PATIENT SAFETY

Cold chain control is particularly critical in pharmaceutical and life-sciences logistics. Vaccines, biologics, cell and gene therapies, diagnostic materials and specialist medicines can be highly sensitive to temperature, time and handling conditions. The World Health Organization’s guidance for time- and temperature-sensitive pharmaceutical products reinforces that compliance must be designed into storage, transportation, qualification, monitoring, and distribution processes. It cannot be added as a final inspection step. In this environment, a temperature reading alone is insufficient. Companies must understand the duration and severity of an excursion, the product’s stability profile, the remaining shelf life and the point at which the event occurred.

AI-supported quality systems can bring these variables together and accelerate assessment. They can identify the affected lot, retrieve handling instructions, compare the excursion with approved stability data and route the case to an authorised quality professional. However, technology must support, not replace, qualified decision-making. “In pharmaceutical logistics, speed is important, but scientific and regulatory discipline is non-negotiable,” says Winter. “AI can assemble the evidence and prioritise a response, but product-release decisions must remain governed by validated procedures, accountable quality personnel and defensible data.”

REDUCING FOOD LOSS THROUGH SMARTER COLD CHAINS

The food sector faces a different but equally serious challenge. Fresh produce, seafood, meat, dairy and frozen products are exposed to risk across farms, processing facilities, ports, airports, distribution centres, supermarkets and final-mile networks. AI can support shelf-life prediction. Rather than assuming every carton in a shipment has the same remaining life, intelligent systems can analyse harvest conditions, processing time, temperature history and handling exposure to estimate actual product condition.

This enables dynamic inventory allocation. Products with shorter remaining life can be sent to nearby stores, rapid processing or immediate promotions, while products with longer life can be allocated to more distant markets. “The conventional first-in, first-out model is increasingly being replaced by first-expired, first-out and, ultimately, by intelligent product-level allocation,” Winter observes. “That allows businesses to manage stock according to its actual condition rather than assumptions based solely on production or arrival dates.”

RETAIL VISIBILITY AND THE OMNICHANNEL CHALLENGE

Retail cold chains have become more complex as companies combine stores, e-commerce fulfilment, dark stores, rapid-delivery services and direct-to-consumer distribution. common traceability standards

allow products, locations and critical tracking events to be identified consistently across manufacturers, logistics providers, distributors and retailers. This improves recall precision. Instead of removing an entire product category from every store, a retailer may isolate the affected production lot, route or location.
The objective is not to install more sensors, but to integrate equipment, product and operational data into one control environment.

DIGITAL TWINS AND SCENARIO PLANNING

Digital twins are among the most promising developments in cold chain management. These virtual representations of physical networks, facilities, assets or shipments allow companies to test disruption scenarios before changing the live operation. A pharmaceutical distributor could model the loss of a major cold-storage facility. A food exporter could assess alternative ports during seasonal congestion. A retailer could evaluate whether additional regional fulfilment capacity would reduce spoilage and final-mile risk.

“Resilience cannot be created during the disruption itself,” says Winter. “Organisations must understand vulnerabilities in advance, model realistic failure scenarios and establish approved alternatives. Digital twins provide a powerful environment for doing this without placing live products or customers at risk.”

THE HUMAN FACTOR REMAINS DECISIVE

Despite increasing automation, people remain central to cold chain performance. Technology will not compensate for unclear accountability, weak procedures, poor training or inconsistent execution.
A sensor may identify that a shipment has remained on an airport apron too long, but someone must have the authority to escalate and relocate it. An AI platform may predict an equipment failure, but maintenance teams still need the resources and discipline to act.

Control must also extend beyond organisational boundaries. Manufacturers, freight forwarders, airlines, shipping lines, handlers, warehouses, customs brokers and last-mile providers must operate against clearly defined quality requirements.
“The weakest handover can undermine an otherwise excellent supply chain,” Winter warns. “Companies often invest heavily in their own facilities while accepting limited visibility once a shipment passes to another party.

Future-proofing requires shared standards, contractual accountability and transparent performance data across the partner ecosystem.”

BUILDING THE FUTURE-READY OPERATING MODEL

Businesses should avoid treating digitalisation as a collection of isolated technology projects. Transformation should begin with the product, customer and regulatory risks the organisation must control.

The first priority is reliable data. Sensor accuracy, calibration, connectivity, product identification and master data governance are foundational. Without trustworthy data, advanced analytics will simply produce unreliable conclusions faster. The second priority is integration. Monitoring platforms must connect with transport, warehouse, enterprise-resource-planning and quality-management systems. Alerts should trigger defined workflows, responsibilities and escalation actions rather than remain on a standalone dashboard.



Thirdly, organisations need risk-based governance. Not every shipment requires the same monitoring, packaging or intervention. Controls should reflect product value, sensitivity, consumer or patient impact, route complexity and regulatory exposure. Finally, companies must measure business outcomes. Technology should reduce excursions, waste, claims, emergency interventions, energy use and manual administration. It should also improve shelf life, product availability, compliance and customer confidence.

INTELLIGENCE WITH ACCOUNTABILITY

The future cold chain will be increasingly autonomous, predictive and interconnected. AI will improve forecasting, route selection, inventory positioning, maintenance and quality assessment. IoT devices will create continuous visibility, while automation will accelerate response. Yet the foundations of successful cold chain logistics remain familiar: sound engineering, validated processes, clear accountability, competent people and disciplined execution.

“Technology does not remove responsibility; it makes responsibility more visible,” Winter concludes.

“The organisations that succeed will not necessarily be those with the most sensors or the most fashionable AI platform.

They will be those that convert reliable data into timely decisions, measurable action and stronger protection for the product and the end customer.” For food, that means less waste and better access to safe, fresh products. For pharmaceuticals, it means protecting medicine efficacy and patient wellbeing. For retailers, it means greater availability, lower losses and stronger consumer trust. That is the real promise of the technology-powered cold chain: not simply colder products, but safer, smarter, more resilient and more accountable supply networks.





Kim Winter

Founder &
Group Managing Director
Logistics Executive

The founder of Logistics Executive Group, Kim delivers 40 years of executive leadership experience spanning Executive Search & Recruitment, Leadership Development, Executive Coaching, Corporate Advisory, Consulting & M&A, Media Interviews & Vodcasts, across the Supply Chain, Logistics, 3PL, E-commerce, Life Science, Cold Chain, FMCG, Retail, Maritime, Defense, Aviation, Resources & Industrial sectors.

He is a regular contributor of thought leadership to industry and media, is a professional Master of Ceremonies and is frequently invited to chair / moderate face to Face international events and media platforms.

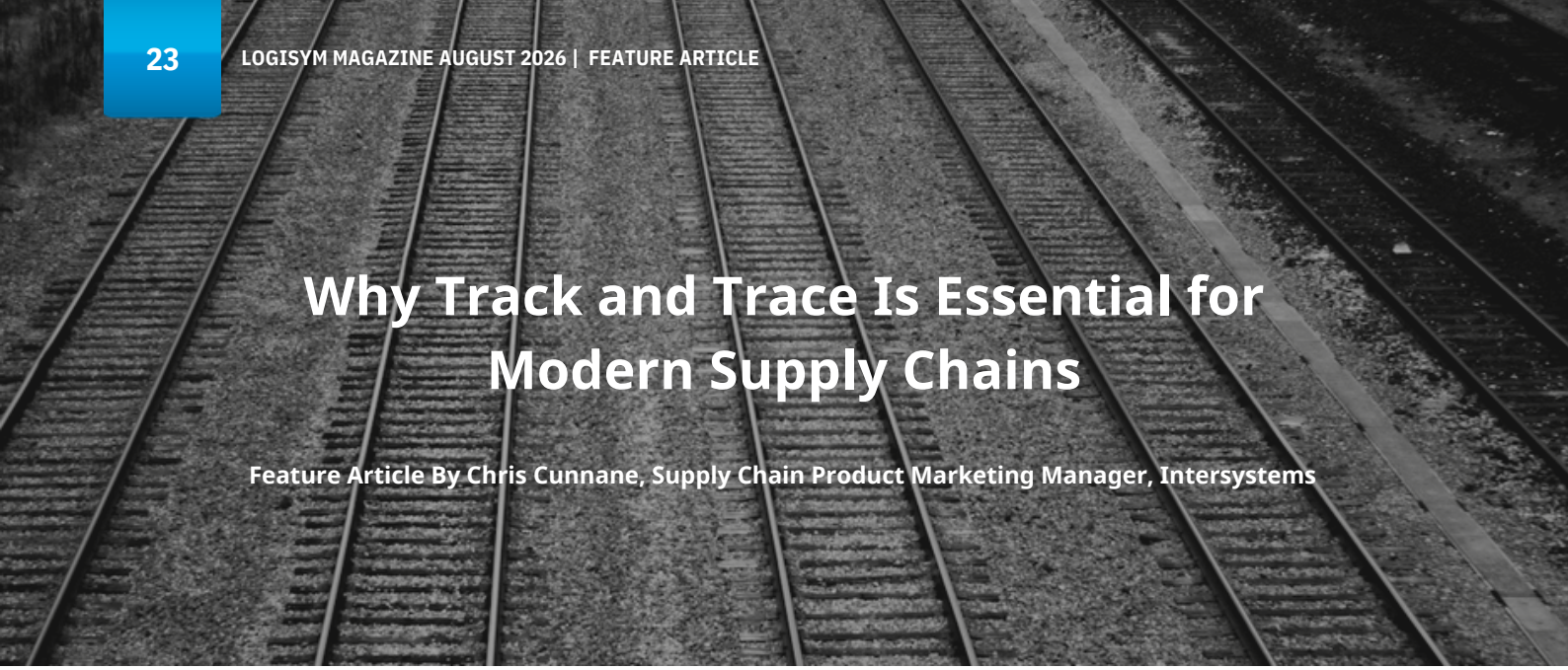
He is a Board member over a dozen companies throughout APAC, India and the Middle East, a New Zealand citizen, he holds formal resident status in Australia, Hong Kong and the UAE and is an international representative for several key UAE Government entities.

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Why Track and Trace Is Essential for Modern Supply Chains

Feature Article By Chris Cunnane, Supply Chain Product Marketing Manager, Intersystems

Supply chains face constant disruptions, from weather events and geopolitical disruptions to labor shortages and capacity issues. These disruptions can be managed by using decision intelligence through AI, machine learning, and simulations to predict outcomes, weigh scenarios, and recommend the best course of action to overcome these disruptions.

But what data are these decisions based on? Track and trace is the ability to monitor the movement of goods or items throughout the global supply chain, providing visibility through both real-time and historical location and status information. While supply chain visibility gives you real-time data on inventory, shipments, delays, and demand, the ability to act on this data is crucial.

Decision intelligence bridges the gap between raw data and strategic actions, adding a layer of contextual understanding and recommendations. At its core, track and trace is about more than just knowing where a product is.



It's about creating a digital thread of information that follows products from origin to final delivery. When data flows seamlessly across the supply chain, organisations can meet compliance requirements, respond to disruptions, and deliver the transparency customers increasingly demand. While usually seen as a single solution, track and trace comprises of two parts:

- **Tracking:** Monitoring the real-time location and movement of a product as it moves through the global supply chain.
- **Tracing:** Looking back at the product's history: where it came from, how it was made, and how it moved.

Together, they provide a full picture of a product's lifecycle. Typically, this is powered by technologies like barcodes, RFID, QR codes, IoT sensors, telematics (ELD/GPS), and the underlying data platforms that can capture, store, and integrate information from many different sources.

THE BENEFITS OF TRACK AND TRACE TECHNOLOGY

Delivering End-To-End Supply Chain Visibility

Visibility is a persistent challenge for supply chains that span continents and involve dozens of stakeholders. Without accurate, real-time information, companies risk delayed shipments, stockouts, or excess inventory. Track and trace provides the transparency needed to manage proactively rather than reactively. With a digital view of product movements, organizations can:

- Improve demand planning
- Optimize inventory management
- Reroute shipments when disruptions occur
- Keep customers informed with accurate ETAs

Meeting Consumer Expectations for Transparency and Sustainability

Today's customers care about more than price. They want to know how and where their products were made, whether materials were ethically sourced, and if processes were sustainable. Track and trace allows companies to put that information directly in customers' hands.

For example, a QR code on packaging can reveal a coffee bean's journey from farm to cup, or a vaccine's journey from lab to clinic. Transparency builds trust, which builds loyalty. This transparency extends to sustainability initiatives as well. Sustainability isn't just a brand differentiator anymore; it's a requirement. Investors, regulators, and consumers expect organizations to measure and report on their environmental and social impact. Track and trace plays a central role here. By connecting the dots across supply chain partners, organizations can:

- Track carbon emissions across product journeys
- Verify responsible sourcing of raw materials
- Improve recyclability by monitoring material lifecycles

The ability to prove sustainability efforts with data is what transforms promises into measurable outcomes.

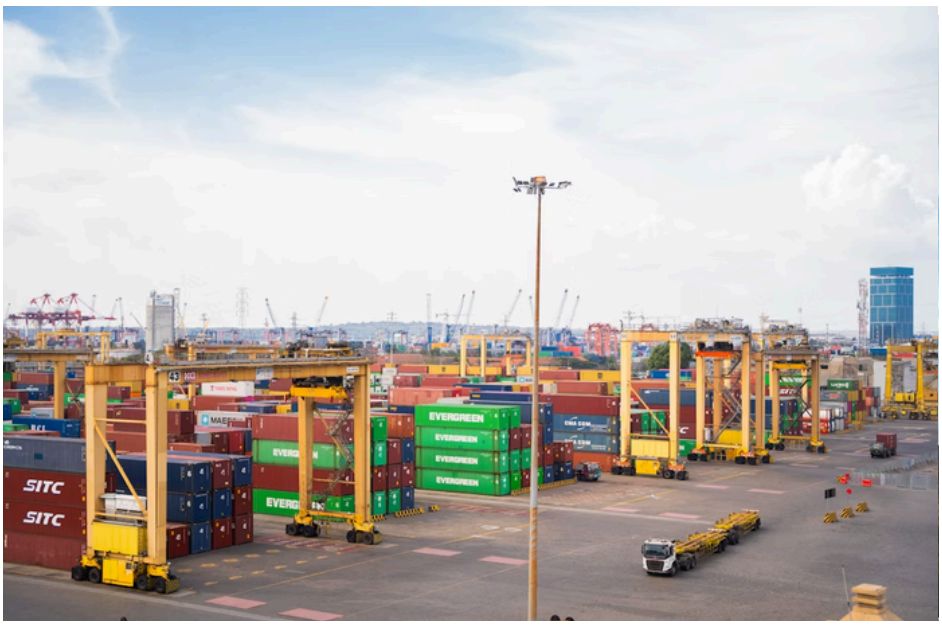
Safeguarding Health and Safety

Industries such as pharmaceuticals, food, and medical devices have no margin for error. Regulatory frameworks like the U.S. Drug Supply Chain Security Act (DSCSA) and the FDA's Food Safety Modernisation Act (FSMA) requires traceability at the lot or even unit level. If there's a safety concern for counterfeit drugs or contaminated food, track and trace enables organisations to identify affected batches and act quickly. Instead of pulling all products off the shelf, companies can target only the impacted items, minimising cost while protecting consumers. This ensures safety for patients and makes product recalls more efficient for companies.

The Organisation for Economic Co-operation and Development (OECD) estimates counterfeit goods account for more than $500 billion annually in lost value. Track and trace creates a verifiable chain of custody to confirm authenticity. This builds trust and protects revenue while also safeguarding brand reputation.

THE FUTURE OF TRACK AND TRACE – DECISION INTELLIGENCE

The future of track and trace is not just about knowing where a product is. It's about predicting



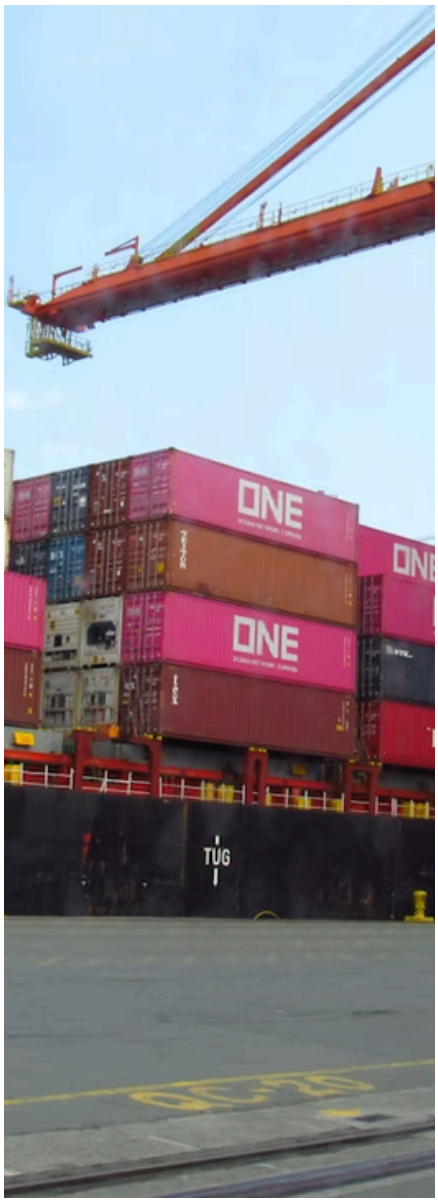
This is where decision intelligence comes in. InterSystems now brings decision intelligence-enabled track and trace capabilities to your supply chain through its partnership with Descartes MacroPoint™.

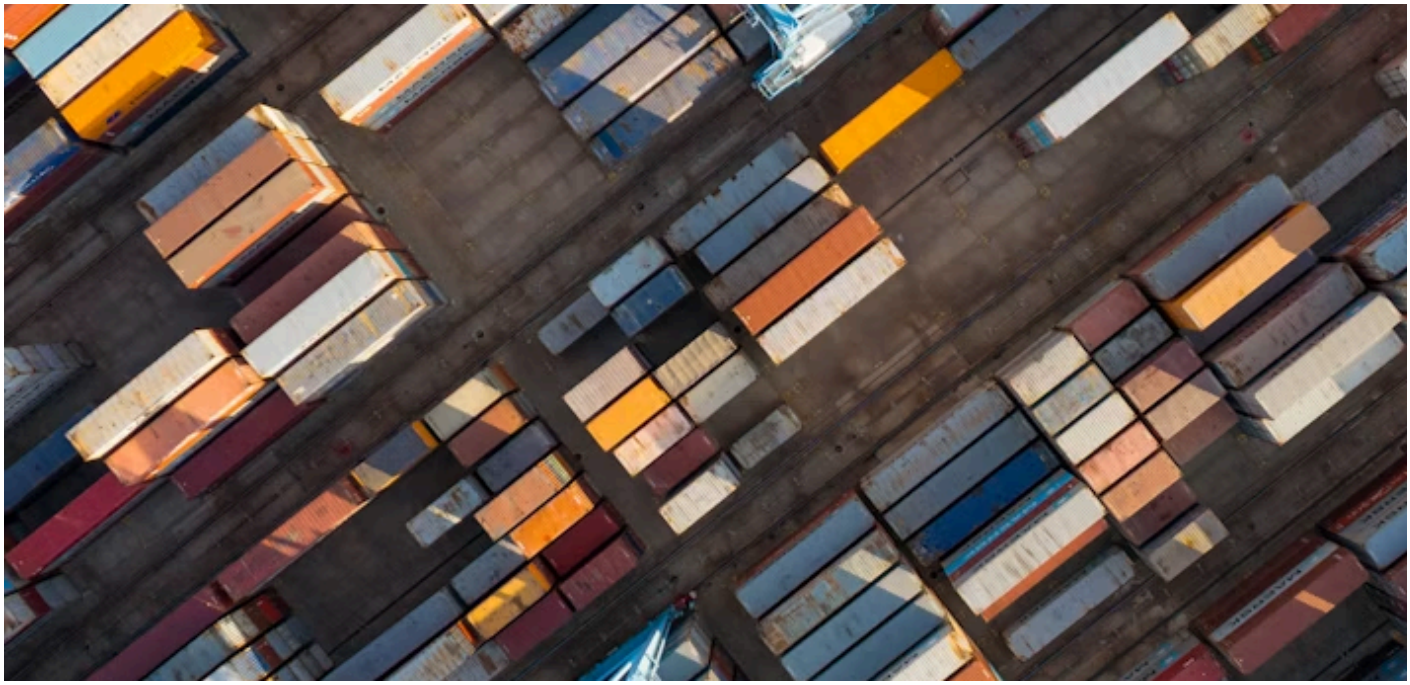
The need to know where your products are (whether in transport to the warehouse, port, store, manufacturing plant, or customer anywhere in the end-to-end supply chain), when delays occur, and be alerted to these delays, is critical to ensure a positive customer experience. InterSystems provides a single source of truth with full interconnected supply chain visibility to anticipate, simulate, and activate your next move. AI-based actionable insights make recommendations to solve problems before they occur.

TRACK AND TRACE CLOUD SERVICE WITH DESCARTES MACROPOINT

InterSystems Track and Trace Cloud Service with Descartes MacroPoint is a fully managed cloud service to bring real-time shipment tracking and continuous in-transit risk monitoring data to the InterSystems Supply Chain Orchestrator™ decision intelligence platform. The solution includes out-of-the-box data integrations and API-enabled integration to ensure productivity. Advanced analytics improve planning for terminal congestion, labour shortages, and dwell times across air, parcel, IoT-enabled, rail, TL/LTL.

By partnering with Descartes MacroPoint, InterSystems customers can leverage the Descartes Global Logistics Network™ (GLN), the world's largest collaborative, multimodal logistics messaging network. Using the GLN, hundreds of thousands of trading partners, logistics services providers, and carriers connect and collaborate through 24.6 billion transactions annually. The network supports real-time GPS, EDI, and API-based capacity requests, bookings, statuses, and customs messages.





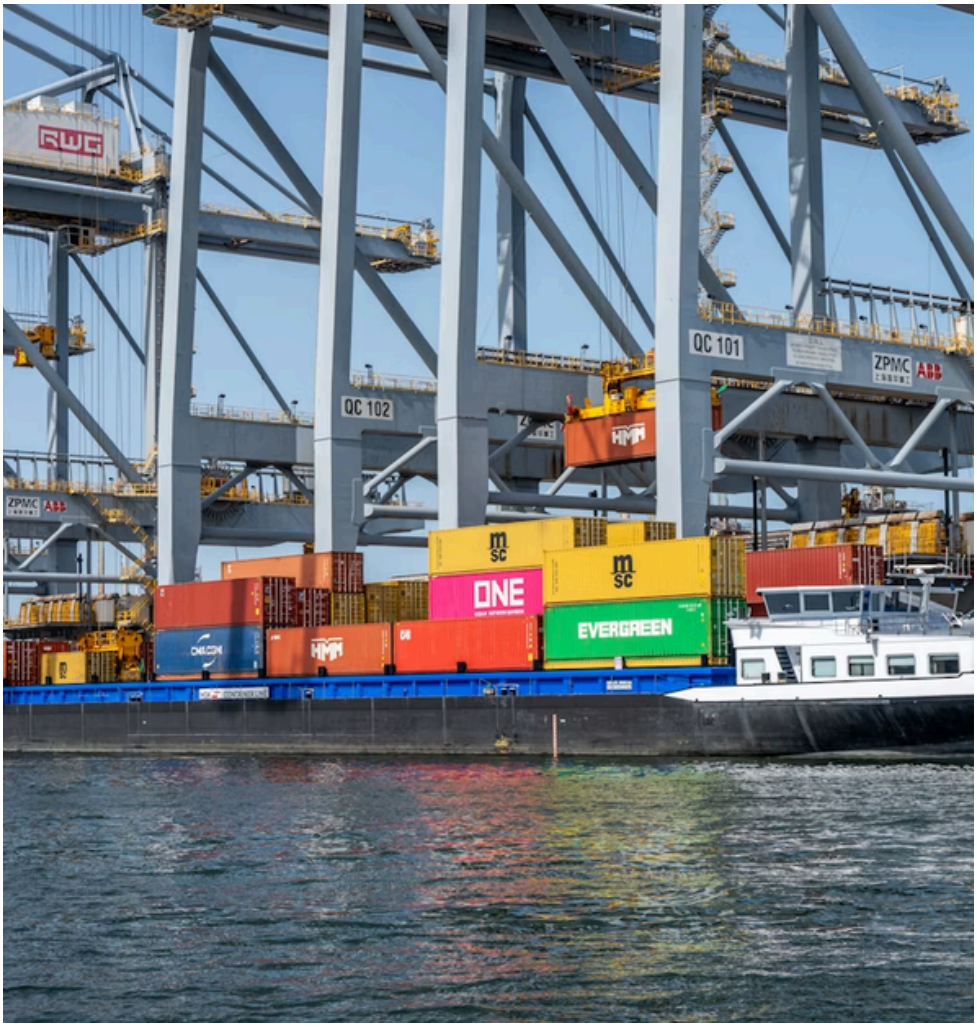
ACCELERATE TIME TO VALUE WITH DECISION INTELLIGENCE

InterSystems Supply Chain Orchestrator is an AI-enabled supply chain decision intelligence platform that predicts disruptions before they occur, and optimally handles when they do, so you'll be ready to manage the unexpected with confidence.

InterSystems unifies disparate data sources by providing a real-time connective tissue—with built-in predictive and prescriptive analytics—that's complementary and non-disruptive to your existing infrastructure. Using InterSystems Track and Trace Cloud Service with InterSystems Supply Chain Orchestrator empowers you to make faster decisions.

Track and Trace: From Compliance to Competitive AdvantageTrack and trace ensures safety, combats counterfeits, enables precise recalls, delivers transparency, and powers sustainability initiatives. Most importantly, it builds the trust that organizations need to thrive in an era of rising expectations.

But none of this is possible without a strong data foundation. To make track and trace work, organizations must integrate data across disparate systems and partners, ensure its accuracy, and make it available in real time. Track and trace is not just about compliance. It's about creating supply chains that are safer, smarter, and more connected. And in today's world, that's not just a competitive advantage; it's a necessity.





Chris Cunnane

Supply Chain Product Marketing Manager,

Intersystems

Chris Cunnane is responsible for developing and executing marketing strategy and content for the InterSystems supply chain technology suite. Chris has 20+ years of supply chain expertise, leading the supply chain practice at ARC Advisory Group, as well as holding various sales, marketing, and operations roles in the wholesale, retail, and automotive parts markets.

He holds a BA in communications from Stonehill College and an MA in global marketing communications from Emerson College.

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Are We Optimising Freight Rates Instead of Supply Chains?

Feature Article By Dr Raymon Krishnan President, The Logistics & Supply Chain Management Society

The logistics industry has always evolved in response to disruption. As part of this continuous evolution, one tool that has over the last few years become more widely available and used are freight indices.

In most cases, freight indices provide an independent, transparent benchmark of prevailing market rates, enabling shippers and carriers to make more informed pricing, contracting and procurement decisions. Somewhat as a by-product of indices, is the more recent noise around Index-Linked contracts from some quarters. Arguably, when freight markets are stable and rate volatility is low, the commercial value of index-linked contracts tends to diminish because fixed-rate agreements become easier to negotiate and maintain.

During the lull between the pandemic and the current conflict in the Straits of Hormuz, at least one private equity backed company increased its advocacy of index-linked contracting during this period. Index-Linked contracts as a concept are not an issue.

The danger is the creation of the mindset that now has a commercial incentive to ensure the industry keeps looking at the freight rate, rather than the supply chain. There is no question that these contracts address some of the long-standing challenges associated with traditional fixed-rate agreements. By allowing freight rates to move in line with market conditions, they reduce the need for constant renegotiation, improve pricing transparency and lessen the likelihood of contractual disputes when markets become volatile.



During the pandemic, many shippers holding long-term contracts at around US$2,000 per FEU found themselves unable to secure space as spot rates climbed beyond US$15,000. Fixed-price contracts became commercially unsustainable, and relationships between carriers and cargo owners were strained as each side sought to protect its own interests. Index-linked pricing emerged as a practical solution. By automatically adjusting freight rates in line

with market movements, contracts remain commercially relevant regardless of whether prices rise or fall. Both parties gain greater certainty that agreements will remain viable, reducing the temptation to abandon or renegotiate them whenever market conditions change.

ARE WE SOLVING ONE PROBLEM WHILE UNINTENTIONALLY CREATING ANOTHER?

The greatest risk of index-linked contracts is not that they fail to reflect market conditions. It is that often they reinforce an industry-wide obsession with freight rates. Instead of encouraging conversations around carrier capability, operational excellence, schedule reliability, equipment availability, customer service and supply chain resilience, they risk making the freight index the centre of every commercial discussion.

In effect, price becomes the product. That shift has profound implications for how procurement teams evaluate solution partners. For many procurement teams, the main measure of success centres on whether a rate sits above or below an industry benchmark - rather than whether the partner consistently delivers the outcomes that matter most to customers, both internal and external. For Supply Chains, like for most functions, rates are only one component of performance. Customers do not judge businesses by how effectively they negotiated ocean freight. They judge them by whether products arrive on time, inventory is available when required and disruptions are managed without affecting service. The true competitive advantage for Supply Chains lies in reliability, visibility, responsiveness and resilience and not simply securing the lowest possible freight rate. Another consequence of index-linked pricing is that it exposes contracting parties more directly to market volatility rather than insulating them from it. Traditional long-term contracts often acted as a buffer against short-term market fluctuations.

Although imperfect, they provided organisations with greater budget certainty and protected both parties from reacting to every short-term market movement. Index-linked contracts work differently. Every geopolitical disruption, every port congestion event, every drought affecting a major waterway, every tariff announcement and every capacity shortage feeds directly into contract pricing. Rather than acting as a shock absorber, contracts become a transmission mechanism for market volatility.

While this accurately reflects prevailing market conditions, it also transfers pricing uncertainty directly into supply chain budgets. For finance teams attempting to forecast costs or manufacturers planning long production cycles, greater pricing transparency does not necessarily translate into greater commercial certainty.
Perhaps even more importantly, index-linked pricing has the potential to reshape commercial relationships.

Successful shipper-carrier partnerships were built upon mutual trust, long-term planning and in some instances guaranteed volumes or at the very least, predictable capacity. Parties accepted that markets would fluctuate over time but the relationship itself provided stability through those fluctuations. I experienced this first hand when I was working as a Logistics Manager during the Global Financial Crisis in 2007 – 2009 and then again during the pandemic in 2020 -2023.
Because of the relationships, agreements and understandings we had in place, we continuously outperformed our competition



and the market in terms of rates we were paying and the service levels we provided. An automatically indexed contract introduces a different dynamic. Instead of reinforcing commitment through shared objectives, it can encourage a more transactional mindset where the commercial relationship becomes increasingly tied to the prevailing market benchmark. In my more than 30 years in the industry as a freight forwarder and a shipper and now as a consultant and educationist, I have always advocated that successful shipper-carrier partnerships were built upon mutual trust, actual volumes and long- term planning.

Both parties accepted that markets would fluctuate over time but the relationship itself provided stability through those fluctuations. An automatically indexed contract introduces a different dynamic. Instead of reinforcing commitment through shared objectives, it can encourage a more transactional mindset where the commercial relationship becomes increasingly tied to the prevailing market benchmark. While this may reduce pricing disputes, it also risks weakening the strategic partnerships that have traditionally underpinned resilient supply chains. For organisations that reference common freight benchmarks, those benchmarks begin to influence behaviour rather than simply measure it. Procurement teams monitor them. Carriers adjust commercial strategies around them. Freight forwarders reference them during negotiations. Investors and analysts increasingly use them to assess market performance. Over time, the benchmark evolves from being a reflection of market activity into one of the forces shaping market behaviour itself.

Financial markets have long recognised this phenomenon known as Goodhart's Law which states that 'when a measure becomes a target, it ceases to be a good measure. When participants become excessively focused on a benchmark, decision-making gradually shifts towards, outperforming the benchmark rather than achieving the broader objectives it was originally designed to measure. The logistics industry should be careful not to follow the same path. Ocean freight is a derived demand and it exists to move cargo efficiently through increasingly complex global supply chains. Its purpose is not simply to optimise freight pricing. If executive discussions become dominated by indices, benchmarks and pricing models, there is a danger that the industry loses sight of the capabilities that genuinely differentiate world-class supply chains such as:

- Schedule reliability.
- Forecast accuracy.
- Digital integration.
- Inventory optimisation.
- Risk management.
- Carbon reduction.
- Operational resilience.

Perhaps the next evolution in logistics contracting should not focus exclusively on how freight prices are determined but on what commercial agreements are designed to reward. Imagine contracts that linked commercial incentives not only to market pricing but also to measurable service outcomes such as on-time performance, equipment availability, emissions reduction, forecast accuracy, disruption response times and digital data quality. Such agreements would encourage behaviours that strengthen entire supply chains



rather than simply tracking fluctuations in freight markets. The logistics industry has rightly invested significant effort in making pricing more transparent and contracts more sustainable. That progress should be welcomed. Transparency should however remain a means to an end and not the end itself.

Companies and Supply Chains that secure the best freight rates will not necessarily lead the next generation of global trade. Those that build the most resilient, collaborative and customer-focused supply chains will. No CEO has ever asked, “Did we beat the freight index?”

They ask, “Did we serve the customer, protect margin and maintain continuity of supply?” Freight rates contribute to those outcomes, but they are not the outcomes themselves. Index-linked contracts may well solve yesterday's problem of unenforceable freight agreements.

The challenge now is ensuring they do not create tomorrow's problem by providing an unnecessary crutch that optimises freight prices rather than supply chain performance. Supply chains optimise systems. Indices optimise variables. The danger arises when executives begin managing the variable instead of the system





Dr. Raymon Krishnan

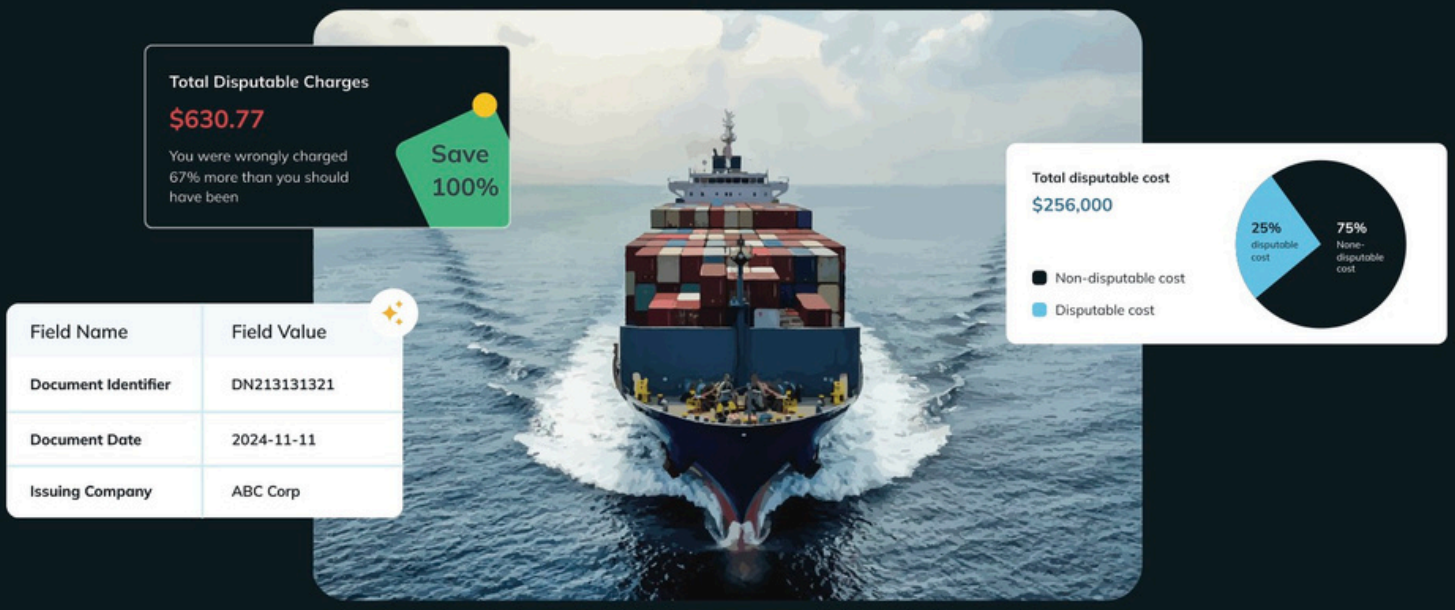
President,

The Logistics & Supply Chain Management Society (LSCMS)

Dr. Raymon Krishnan is a seasoned leader in the global logistics and supply chain industry, with extensive experience driving innovation, collaboration, and growth across complex ecosystems. He has held senior executive roles specialising in supply chain resilience, digital transformation, and trade compliance.

As President of The Logistics & Supply Chain Management Society, he is recognised as a thought leader and expert who has advanced industry platforms, fostered partnerships, and shaped dialogue on emerging trends. Dr. Krishnan focuses on building future-ready supply chains, leveraging AI and emerging technologies to enhance resilience, agility, and long-term business value in a rapidly evolving global landscape.

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For supply chains, the value is not in more data. It is in data you can act on.

Article By Nidhi Gupta, Founder and CEO, Portcast

Over the years, I have watched supply chain teams chase more dashboards, more real-time tracking, and more data feeds, convinced that the next integration would finally put an end to all the firefighting. The industry spent a decade solving visibility and largely succeeded. Most carriers will hand you basic track-and-trace directly from their own websites. That problem is largely behind us. So, teams reached for the next obvious lever: more alerts. If visibility alone was not enough, surely more notifications would help teams stay ahead of problems. In practice, it made things worse.

WHY MORE ALERTS IS THE WRONG ANSWER

Flood an operations team with notifications on every shipment, and you have not solved anything. You have moved the noise from a spreadsheet to a dashboard. Operators end up spending their time describing problems rather than resolving them, and the alerts that actually matter get buried by those that do not. The deeper issue is that not every delay carries the same consequence. A three-to-four-day delay on a fifty-day haul out of Europe barely registers. The same delay on an intra-Asia leg, where the total transit time runs three to four days, doubles the journey. A single threshold applied uniformly across an entire network will either drown a team in low-priority alerts or cause them to miss the one that was genuinely urgent.

WHAT A BETTER APPROACH LOOKS LIKE

The shift that actually changes outcomes is exception-based freight management: fewer signals, defined by lane and context, delivered early enough that someone can still act on them. Rather than monitoring everything equally, teams define what risk means for each corridor they operate in, and let the system surface only the shipments that breach those thresholds. Nishant Kumar, who leads transportation for Mondelēz International across AMEA described exactly this to me during a fireside chat at LogiSYM Asia Pacific 2026. What changed for his team was the adoption of Portcast's Command Center, where each market now sets its own risk threshold by lane, grading exceptions as high, medium, or low based on what is actually at stake in that corridor. The team's attention goes where it counts, rather than being spread thin across shipments that have always been fine.

WHAT THIS MAKE POSSIBLE?

During the fireside chat, Nishant shared three specific ways the Mondelēz team uses Portcast's Command Center to get ahead of problems



rather than react to them. The first is transshipment dwell time. The team tracks the expected dwell window for each lane. typically three to seven days. When a container exceeds that, they get a specific alert rather than a generic delay flag. For example, the alert might show that a next-leg vessel has not been assigned, letting the team contact the carrier before the delay compounds and before the carrier has even identified the issue on their end.

The second is detention and demurrage. The team now catches containers approaching their free time limit while there is still room to act, rather than receiving a charge and then disputing it. In one instance, a clearing agent error showed up in the system the same day it occurred and was corrected before it became an invoice. The third is crisis response. During the recent Persian Gulf disruption, which proved harder to manage than the Red Sea crisis because there was no fallback routing through Africa, the team went port by port, identifying containers in transshipment with no confirmed onwards vessel, often before carriers had a plan. Unlike steel or cement, food products cannot simply be rerouted without consequence.

Every region has different packaging requirements, and shelf-life constraints due to local customs regulations, making every day count. So, the early visibility gave the team something concrete to take to carriers, and carriers responded accordingly.

WHERE THIS IS HEADING

Exceptions never really go away in logistics. What separates a well-run supply chain is how quickly it gets caught and how much warning a team has before it turns expensive. For freight forwarders and shippers, an exception-first approach means fewer hours spent combing through updates and more time spent on decisions that actually change outcomes.

The next layer of this is cost reconciliation, where AI has a genuine near-term role to play. Freight costs are rarely what they appear on a rate card. Incidental charges accumulate across invoices, lanes, and carriers in ways that are difficult to track manually. AI is well-positioned to do that aggregation work, surfacing the gaps between what was quoted and what was actually paid, so teams can act on the discrepancy rather than absorb it.

At Portcast, we have built that layer above visibility and continue to fine-tune it: the one that turns information into action and moves teams from tracking shipments to intervening before outcomes are affected. The value was never in more data. It was always in better decisions made earlier.



Nidhi Gupta

Founder and CEO
Portcast

Nidhi Gupta is the Founder and CEO of Portcast, the Freight Intelligence Platform for Global Transportation Teams. Before founding Portcast, she held leadership roles at DHL across consulting, strategy, business development, and supply chain transformation in the Asia Pacific region.

With nearly two decades of experience in logistics, she is passionate about advancing the use of AI and digital technologies to build more resilient, efficient, and sustainable supply chains.

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We Are Here WITH You: Berjaya Sompo's Marine Insurance Solutions for Cargo Owners and Logistics Providers

Article By By Dave Ong, Regional Head of Marine Underwriting for Asia Pacific at Sompo

When people hear the term 'marine insurance', they assume it applies only to ships and cargo travelling across the ocean. That perception is understandable, but it is not entirely accurate. Marine insurance is far broader than the name suggests.

The first thing to note is that marine insurance is not limited to the sea. The term may sound maritime, but the coverage extends across land, sea and air. Marine insurance protects goods while they are in transit, regardless of whether they are transported by ship, aircraft, truck or rail. The historical reason for the name is simple. A large percentage of global cargo still moves by sea, and the terminology has remained even as logistics have evolved.

THE TWO CORE CLIENT GROUPS IN CARGO INSURANCE

In the context of cargo and logistics, two primary client groups rely on marine insurance solutions. The first group consists of cargo owners. These are businesses that manufacture, trade or export goods. A manufacturer producing televisions for international markets is a cargo owner.

A glove manufacturer exporting rubber products worldwide is also a cargo owner. Essentially, any company that produces goods and ships them across borders becomes part of the global supply chain and therefore carries cargo risk. Cargo owners rarely move goods alone. They work with logistics providers who form the second major client group. Logistics providers manage the movement of goods on behalf of cargo owners. These include freight forwarders, transport companies, and supply chain specialists who coordinate shipping routes, handle documentation, and ensure goods reach their intended destinations. A manufacturer exporting televisions may rely on a logistics partner, such as an international freight company, to move goods from the factory to the market.



The relationship between the two groups is central to global trade. Cargo owners depend on logistics providers to move their goods efficiently, while logistics providers operate within a complex framework of responsibilities and liabilities tied to those shipments.

Insurance sits within this ecosystem as a risk transfer partner that protects parties from financial losses arising during transit.

THE CHANGING RISK ENVIRONMENT IN GLOBAL TRADE

The risk landscape surrounding global supply chains has changed significantly in recent

years. One major factor is environmental change. Climate conditions influence how goods move around the world. The frequency and severity of natural catastrophes have shifted over time, affecting shipping routes, ports, and transportation infrastructure. Weather-related disruptions now play a larger role in logistics planning and risk assessment. Another critical dimension is geopolitics.

International conflicts and geopolitical tensions can alter traditional shipping routes almost overnight. Supply chains that once followed predictable paths may suddenly require diversion or rerouting. These changes can lead to longer journeys, higher transportation costs, and greater exposure to operational risk.Trade policy shifts also add complexity. Tariffs and regulatory changes can disrupt established supply networks, forcing companies to adapt quickly.

Change in business models, for example a company that exported raw materials may move further up the value chain into processing or manufacturing, which creates entirely new risk profiles that their previous insurance arrangements may not adequately cover. Intricately, these risks may overlap, creating a constantly shifting environment that requires active risk management.

WHAT HAPPENS WHEN DISRUPTIONS OCCUR?

The consequences of risks become clear when real-world disruptions occur. To illustrate, an often-quoted example concerns disruptions to traditional shipping routes through the Red Sea. When this route became inaccessible, cargo that would normally pass through the Suez Canal had to be diverted. For exporters sending goods from Southeast Asia to Europe, this meant longer journeys, higher freight costs and operational delays. Another example comes from the global grain trade. When the conflict between Russia and Ukraine erupted, it severely disrupted Ukraine's wheat exports. Many businesses in Asia relied heavily on Ukrainian wheat for their flour production.

When supply suddenly stopped, they had to source alternative suppliers in countries such as Canada, Australia and Latin America. That change introduced entirely new risks. Shipping routes became longer, climate conditions differed significantly, and suppliers were unfamiliar. A cargo that once travelled along a predictable supply chain suddenly faced new logistical and environmental variables.

Situations like these highlight the importance of supply chain resilience. Businesses involved in international trade must evaluate how disruptions affect logistics partners, transport routes and insurance coverage, making constant reassessment critical.

THE MISCONCEPTIONS THAT CREATE COSTLY GAPS

Given the complexity of global trade, misconceptions about cargo insurance remain common. One of the most frequent misunderstandings among cargo owners is the belief that logistics providers will fully compensate them if goods are damaged during transport. In reality, logistics companies operate under international liability conventions that limit the amount they must pay for damaged cargo. The compensation they provide may be significantly lower than the good's full value. Without adequate insurance, the cargo owner bears the financial gap between the limited liability compensation and the true value of the shipment.



Another source of confusion arises from the concept of all-risk coverage. Many businesses assume that an all-risk policy protects them against any conceivable event. In practice, insurance policies contain defined conditions and exclusions. The term “all risk” does not mean that every scenario is automatically covered. Many policyholders also overlook the importance of international trade terms. Incoterms define the responsibilities of buyers and sellers in cross-border transactions. They specify who is responsible for freight, insurance and other logistical costs. When companies misunderstand these contractual obligations, they may fail to purchase adequate insurance coverage.

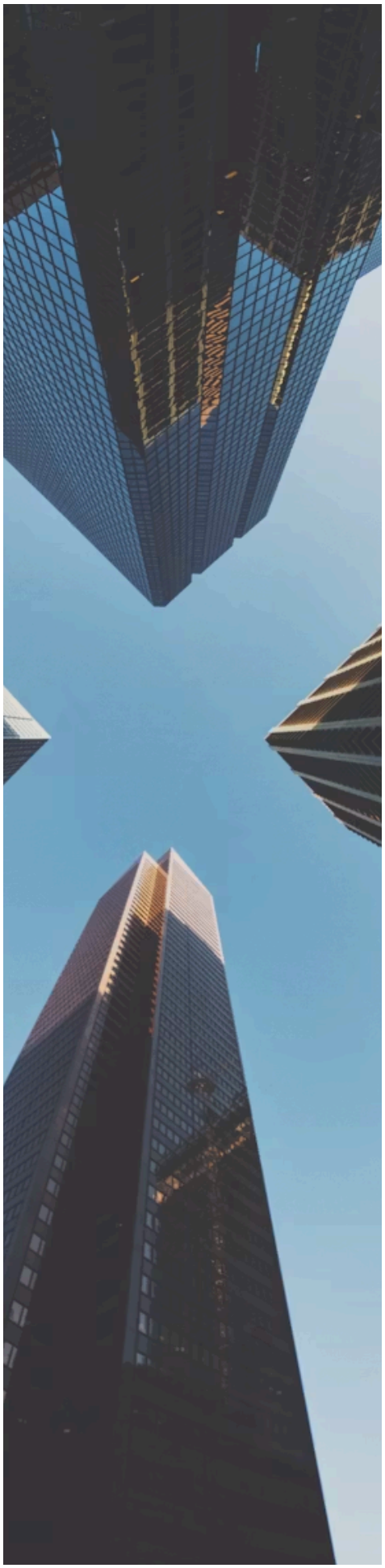
Misconceptions also exist within the logistics industry itself. Some logistics providers believe that when cargo owners purchase cargo insurance, the logistics company no longer carries responsibility. That assumption is incorrect. Logistics companies face liabilities beyond physical damage to goods. For example, a shipment might be delivered to the wrong country due to a seemingly innocent label misprint. The cargo itself remains undamaged, yet the cost of redirecting it back to the correct destination can be substantial. Without the appropriate liability protection, the costs fall directly on the logistics provider.

THE NECESSITY FOR CARGO INSURANCE AND LOGISTICS LIABILITY

Within the marine insurance landscape, the distinction between cargo insurance and logistics liability is fundamental. Cargo insurance protects the owner of the goods and covers the value of cargo while it is in transit, whether internationally or domestically. The trigger for compensation is damage or loss affecting the cargo itself.

Logistics liability insurance addresses the legal responsibilities that arise when logistics providers fail to fulfil contractual obligations during the movement of goods. Marine insurance should not be viewed as a one-off transaction but as an ongoing partnership. Working closely with an experienced insurance partner allows cargo owners and logistics providers to





continually review risk exposure, refine coverage and gain insights that strengthen loss prevention and operational resilience.

BERJAYA SOMPO AS YOUR GLOBAL MARINE INSURANCE PARTNER

As part of the Sompo Group, Berjaya Sompo's marine underwriting capabilities are strengthened by access to a global network of expertise, while remaining deeply anchored in its long-standing history and nuanced understanding of local market needs. The Sompo Group operates across a number of countries, giving it an extensive international reach. As Malaysian businesses expand regionally or globally, this network allows support that extend beyond their home market. Equally important is the depth of experience available within the Sompo Group.

Marine insurance teams across different regions encounter a wide variety of cargo types, supply chain challenges, and claims scenarios. This collective knowledge allows clients to receive valuable insights on risk management and loss prevention drawn from real-world experience.

BERJAYA SOMPO INSURANCE

About Berjaya Sompo's Marine Insurance

Berjaya Sompo Insurance provides a comprehensive range of marine insurance solutions designed to protect clients involved in the movement of goods across global and domestic supply chains. Solutions safeguard businesses against risks such as accidents, theft, fire, severe weather and handling damage throughout the transit cycle, helping companies remain financially secure and operationally stable even when disruptions occur.

Guided by the commitment "We Are Here WITH You," Berjaya Sompo's dedicated team of insurance specialists deliver responsive service, competitive terms and reliable claims support for industries ranging from high technology and pharmaceuticals to machinery, project cargo and logistics services.



Dave Ong

Regional Head, Marine Underwriting Asia Pacific at Sompo

Dave Ong is the Regional Head of Marine Underwriting for Asia Pacific at Sompo. Having worked across multiple functions within marine insurance, including surveying, claims and underwriting, he brings deep industry insight into the risks faced by cargo owners and logistics providers navigating global trade.



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