



How secure is your supply chain?

Here's a contemporary corporate fable: At the leadership meeting, the CEO asked the head of sales how the geopolitical situation was impacting revenues.

"Orders are piling up but deliveries are delayed," the sales head pointed at the head of distribution.

"The warehouses are waiting for finished products to arrive, but manufacturing is late," the distribution head glanced at the head of manufacturing.

"The factories are waiting for the components to arrive," the manufacturing head nodded at the head of procurement.

"The orders have been placed but we're waiting for legal to advise on the next steps," the procurement head raised an eyebrow at the legal counsel, who took a moment to think of a response.

"We warrant that the supply-chain risks have been identified, reviewed, mitigated, documented and footnoted," the learned lawyer said. "However, actual arrival of goods remains subject to *force majeure*, market conditions and shipping routes, none of which have been cooperative or conducive. With that disclaimer, let us proceed with the next item on the agenda."

If that corny corporate anecdote made you smile, these pointers should make you think a while: The latest quarterly survey from the Chartered Institute of Procurement & Supply (CIPS) shows short-term supply chain anxiety climbed to 5.69 in the first quarter of the year (1Q2026), up sharply from 4.59 in 4Q2025, marking the highest level recorded so far. Medium-term concern also reached a new peak of 5.64, rising from a previous high of 5.03.

GEOPOLITICAL INSTABILITY

The culprit? Geopolitical instability, especially the conflict in the Middle East. This was cited by 89% of respondents in the CIPS survey, while 67% pointed to broader geopolitical uncertainty and 28% to the war in Ukraine. Notably, US protectionism and US-China trade tensions fell off the top three concerns for the first time in over a year.

"Global supply chains are facing an unprecedented period of sustained disruption, with new data revealing record levels of concern among procurement and supply chain professionals as geopolitical instability and rising costs reshape the outlook for manufacturers," writes James Devonshire, news editor at *The Manufacturer*. "Crucially, the near parity between short- and medium-term sentiments signals a structural shift. Historically, longer-term risks have outweighed immediate concerns. But the latest data suggests disruption is now seen as both immediate and entrenched, pointing to a volatile and uncertain operating environment for manufacturers."

Any disruption in global supply chains can hurt Malaysia. Although 50% of Malaysia's gross domestic product (GDP) comes from the services sector, manufacturing contributes about 25% and remains highly strategic for the economy, with high-value manufacturing hubs in Penang, Kulim, Klang Valley and Johor. The manufacturing sector employs about 2.5 million people across Malaysia and recorded a value-added GDP of over RM101 billion in 1Q2026.

AI VOLATILITY

It is not just geopolitical tensions that impact the supply chain; it is also the inescapable intrusion of artificial intelligence (AI), especially in the Asia-Pacific region. The region, including China and Japan, will invest more than US\$370 billion (RM1.46 trillion) on AI solutions by 2029, up five-fold from US\$73 billion in 2024, estimates International Data Corp (IDC).

Generative AI (Gen AI) is set to command the largest share of investment, with spending projected to reach US\$175 billion by 2029, growing at a compound annual growth rate (CAGR) of 68.2%. By then, Gen AI is expected to account for nearly half (47.4%) of total AI expenditure in the region — underscoring a clear transition from experimental adoption to enterprise-scale deployment and integration with operations.

"The Asia-Pacific AI market has shifted from an infrastructure-building phase to one defined by platform consolidation and operational depth," says Vinayaka Venkatesh, an IDC senior market analyst. "Organisations are prioritising AI platforms that unify generative, predictive and prescriptive capabilities, with increasing focus on AI agents and orchestration to scale enterprise-wide adoption."

Meanwhile, corporate boards are also demanding a hard return on investment (ROI) on every dollar spent.

"There is a massive reallocation of capital away from pilot projects towards unglamorous functions such as cleaning up toxic data, securing borders and hiring the services talent that can actually make the machines work," says Mario Allen Clement, an IDC research manager. "If you haven't fixed your data architecture by this year, you won't survive the automation wave in 2029."

That level of investment in AI will surely have a significant impact on jobs in manufacturing and logistics. Gartner says companies are set to spend US\$53 billion on supply chain management (SCM) software with agentic AI capabilities by 2030 — up a whopping 26-fold — from less than US\$2 billion in 2025.

"Simple AI agents are capable of executing discrete supply chain tasks, thereby enabling organisations to automate routine workflows and freeing up

bandwidth of humans to complete more complex tasks," says Balaji Abbabatulla, a Gartner vice-president. "As organisations begin to realise, measure and demonstrate business value from such simple AI agents over the next 12 to 18 months, leaders will prioritise investments in clusters of simple AI agents to enable orchestration of multi-step workflows with or without humans in the loop."

HUMAN AVAILABILITY

Will humans still be relevant? Gartner says it is vital that companies include humans in SCM decisions, particularly during the initial stages of AI-driven SCM software deployment.

"Focus your change management investments on data management, operations management, workforce AI-readiness and network-centricity," Balaji advises. "Develop strategic partnerships with AI-driven SCM platform providers to ensure robust support for multi-agent, multi-vendor AI agent orchestration."

Is there a viable solution that helps optimise the supply chain while keeping humans also in the loop? Yes. McKinsey calls it Supply Chain 4.0. That is the application of Industry 4.0 technologies — such as Internet of Things (IoT), AI, big data analytics and advanced robotics — to SCM. It digitises the physical supply chain to create faster, more flexible and granular operations, allowing for real-time visibility, automated fulfilment and customer care.

"Eliminating today's digital waste and adopting new technologies are the keys to increasing supply chain operational effectiveness," McKinsey says. "The potential impact of Supply Chain 4.0 is massive — a reduction of 75% in lost sales, up to 30% fewer transport and warehousing costs, a decrease of up to 80% in administration costs and cutting inventories by up to 75%."

McKinsey cites the example of a manufacturing company that undertook a major effort to integrate its supply-chain processes and implement a new enterprise resource management (ERP) system. As part of this effort, it set up data streams from sources across its entire supply network. It fed all incoming data into a common data engine to connect and analyse information from diverse sources. This helped it identify how activities and decisions in one part of the supply chain influenced operations elsewhere.

Within a few weeks, the company uncovered several systemic issues, such as mismatched lead times and past-due purchase orders that prevented reliable indicators of future demand from reaching suppliers. The data engine helped the company to cut its inventory by 20% and boost the productivity of its planners by 20% to 30%.

WAYS TO KEEP SUPPLY CHAINS MOVING AMID GLOBAL DISRUPTION

Here are my seven suggestions — in alphabetical order — for manufacturing companies to consider to optimise and keep their supply chains running amid today's geopolitical tensions, trade disruptions, climate events and economic uncertainty:

- Advocate supplier relationships and collaboration. Move beyond transactional buying. Share forecasts, risk scenarios and contingency plans with key suppliers. Support their resilience where possible. Why it helps: suppliers are more likely to prioritise, warn early and cooperate with trusted partners during crises.
 - Build strategic inventory buffers selectively. Re-evaluate just-in-time models for critical or long-lead-time parts. Hold safety stock where disruptions would cause disproportionate financial or operational damage. Why it helps: balances efficiency with resilience in high-risk areas of the supply chain.
 - Consider regionalisation and near-shoring where viable. Move parts of production or final assembly closer to demand markets, even if unit costs are slightly higher. Why it helps: shorter supply chains are typically more predictable, less exposed to global shocks and faster to recover after sudden or prolonged shocks.
 - Diversify suppliers and production locations. Avoid over-reliance on a single country, region or vendor. Multi-sourcing critical components and considering "China+1" or regional alternatives would reduce exposure to tariffs, sanctions, conflicts or natural disasters. Why it helps: shocks in one region are less likely to halt your entire operation.
 - Ensure end-to-end supply chain visibility. Invest in digital tools that provide real-time insights into inventory levels, supplier status, logistics movements and demand signals across the network. Why it helps: faster detection of disruptions enables quicker corrective action instead of reactive firefighting.
 - Fine-tune scenario planning for geopolitical and systemic risks. Regularly run stress tests and what-if scenarios covering trade restrictions, shipping chokepoints, energy shortages, cyberattacks or regulatory changes. Why it helps: when disruption hits, the playbooks already exist — saving time and reducing costly decision-making under pressure.
 - Get data-driven demand and planning capabilities. Improve demand forecasting using advanced analytics and AI. Link it tightly to production and procurement planning. Why it helps: better alignment between demand and supply reduces excess inventory, shortages and panic buying during volatile periods.
- Since we started with a corny corporate anecdote, let's end with another. At the risk committee meeting, the chair asked the chief information officer how exposed the company was to cyberthreats.
- "Our defences are strong, but response times depend on incident escalation," the CIO nodded at the chief information security officer.
- "We can respond immediately once an intrusion is confirmed," the CISO gestured to IT operations.
- "Detection works as designed once alerts are triggered by vendors," IT ops pointed at procurement.
- "Contracts are in place and SLAs defined but we're waiting for legal to sign off," procurement said, looking towards legal.
- "We confirm that cyber risks have been identified, assessed, mitigated, documented and reviewed quarterly," the chief compliance officer said. "However, residual exposure remains subject to threat actors, zero-day vulnerabilities, and the internet, none of which is under our control." ■

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