

WHITEPAPER



TOKIOMARINE
KILN

PRICED BUT NOT UNDERSTOOD

WHY ASIA'S PROTECTION GAP PERSISTS,
AND WHAT THE CLAIMS RECORD REVEALS
ABOUT THE RISKS BEHIND IT



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FOREWORD

Asia Pacific generates roughly half of all global uninsured risk¹. It accounts for one third of the world's cyber incidents². It is the fastest-growing region for specialty insurance. After two decades of expanding capacity, the protection gap persists and premium growth has not explained why.

Capital has been available throughout the period we have operated here but the problem is more fundamental. Risk in Asia is still being priced using frameworks that were not built for the way it accumulates, interacts, and resolves in this region.

When Tokio Marine Kiln opened in Singapore in October 2006, we were the fifth syndicate on the Lloyd's Asia platform. We wrote marine cargo, transit, and goods moving through the ports and warehouses that were making this region the centre of global manufacturing. Twenty years later, the Lloyd's Asia platform has grown to 22 syndicates writing over US\$1 billion in gross written premium, with TMK writing more than US\$132 million of that. The nature of the risk has changed in the same period, but coverage has not kept pace.

Over that period, our underwriting and claims experience in Asia has provided a continuous view of how these risks develop in practice, and how they differ from the assumptions that still underpin much of the market³.

PAVLOS SPYROPOULOS,
REGIONAL MANAGING DIRECTOR,
TOKIO MARINE KILN ASIA PACIFIC





SECTION 1:

THE MISSING PERSPECTIVE

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THE MISSING PERSPECTIVE

Asia Pacific accounts for roughly half of global uninsured risk despite two decades of growth in insurance capacity.

The Lloyd's Asia platform has grown from five syndicates in 2006 to 22 writing over US\$1bn today. TMK Asia Pacific has been a key part of this development story, growing from US\$135,000 in gross written premium in 2006 to US\$132 million in 2025. Despite this growth, the protection gap has not closed.

Asia Pacific still accounts for roughly half of global uninsured risk, equivalent to an estimated US\$889 billion protection gap. Across emerging and developing markets in the region, only five to seven percent of natural hazard losses were insured between 2000 and 2023⁴. Earthquake losses sit at the low end of that range⁵. ASEAN insurance penetration remains less than half the global average, at approximately 3.2%⁹ of GDP compared to around 7% globally. OECD data placing total insurance penetration across all reporting jurisdictions at 5.4%⁶ of GDP in 2024, further reinforces the scale of the gap.

The standard explanation for this gap points to structural barriers such as low incomes, limited distribution, and the absence of compulsory requirements in many markets. These factors are real and apply in parts of Southeast and South Asia where affordability constrains take-up. But they do not explain what happens in markets that are neither poor nor distribution constrained. They do not explain the underinsurance of trade credit exposure in Singapore. They do not explain the coverage shortfall that emerged when Cyclone Gabrielle hit New Zealand's Hawke's Bay in 2023 and loss creep ran well beyond initial estimates. Nor why when a leading semiconductor manufacturer's Taiwan facilities were struck by earthquakes in both April 2024 and January 2025, the only engineers qualified to assess the damaged machinery had to be flown in from the United States.

\$132M

Gross written premium in 2025 in TMK's Asia business



In markets such as Singapore, Taiwan, and New Zealand, capacity exists and buyers are generally able to secure coverage. Affordability and market appetite are rarely the defining issues. More often, coverage lags behind the exposure it is intended to protect, and in some cases, the policies are designed around a version of the risk that is no longer accurate.

Natural Catastrophe (Nat Cat) models built on Western loss experience have been applied to Asian peak zones without material adjustment. Trade finance has been assessed against documentation rather than the operational reality of the businesses behind it. In each case, losses developed in ways that the product structure had not fully anticipated. They still reflect assumptions that no longer align with how businesses in the region operate.

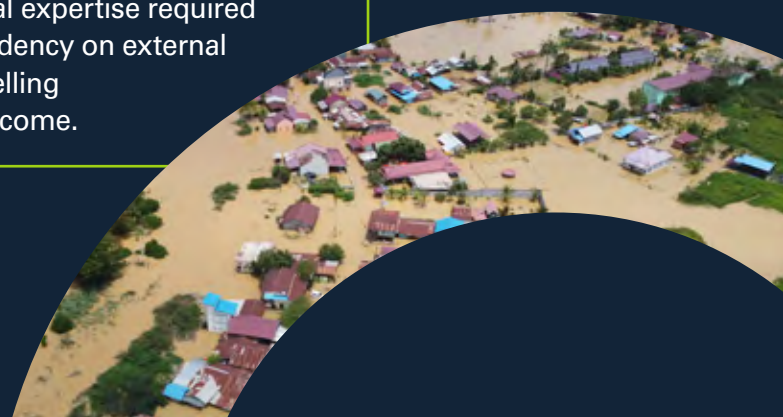


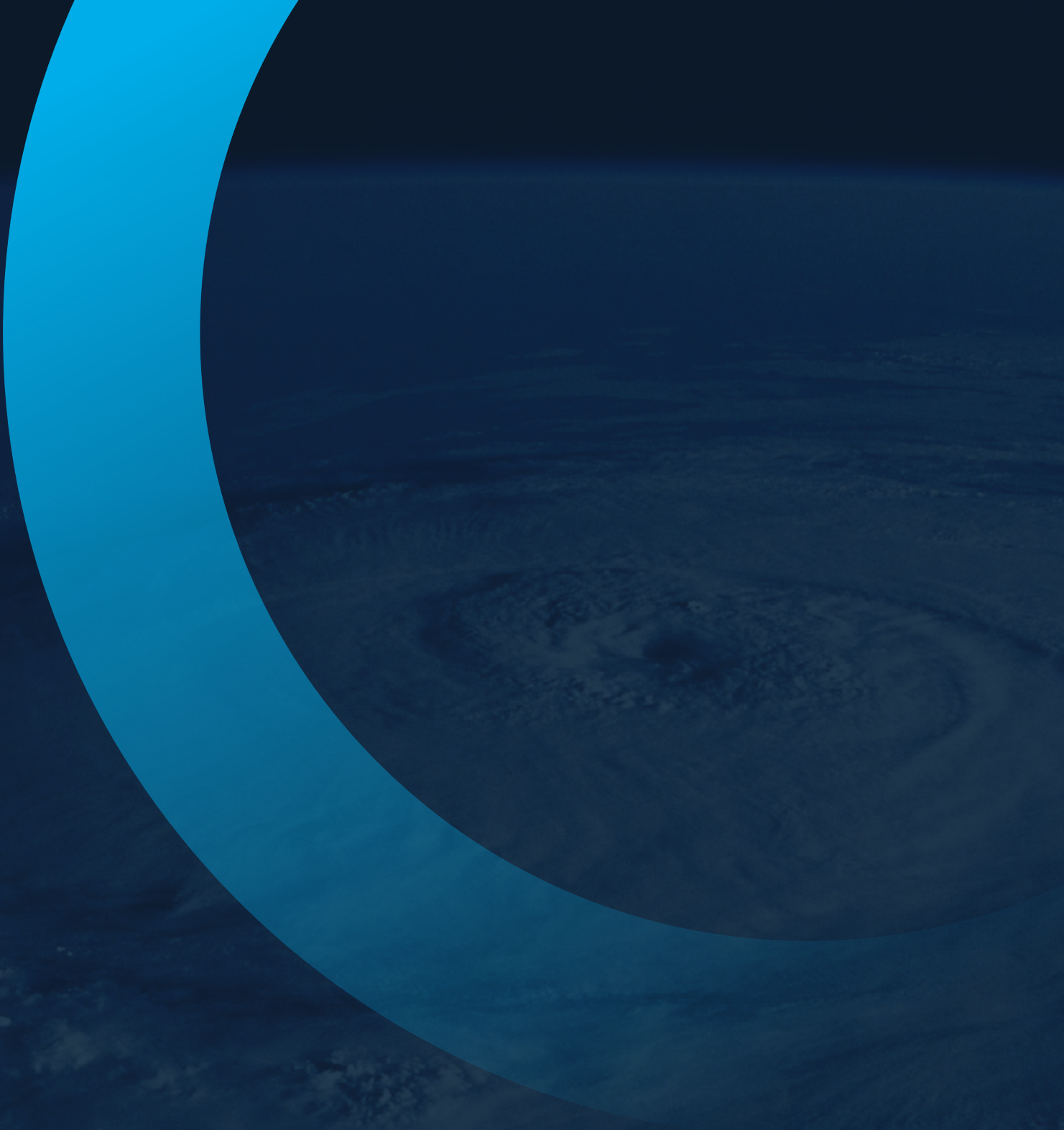
THAILAND, 2011

Industrial parks north of Bangkok had been designed with geographic clustering as a deliberate feature, providing manufacturing efficiency, supply chain proximity, and shared infrastructure. When floodwater breached the perimeters, that clustering amplified losses because models had assessed the physical risk to individual facilities but not the correlation between facilities sharing a floodplain. Contingent business interruption losses cascaded across manufacturers in Europe, Japan and North America who had no physical damage but deep supply chain dependencies. Policy limits sized for property damage could not contain them.

TAIWAN, 2024 AND 2025

A leading semiconductor manufacturer's facilities were hit by a major earthquake in April 2024 and again in January 2025. Neither event reached worst-case modelled Probable Maximum Loss (PML). Both produced significant losses because value concentration in a small number of facilities in a geologically active zone creates accumulation that standard models understate. When technical assessment began, there was no qualified machinery specialist in the region. The expert flew in from the United States and was on site within seven days. Although the asset was world-class, access to the specialist technical expertise required to assess the loss was limited locally. The dependency on external specialist capability was absent from most modelling assumptions and directly influenced the loss outcome.





SECTION 2:

HOW ASIAN RISKS DIFFER

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HOW ASIAN RISKS DIFFER

In Asia, four structural characteristics produce loss patterns that Western-calibrated models were not designed to capture. Over the past two decades, this has marked a broader shift from 'Acts of God' to complex 'Acts of Man', from discrete, physical events to interconnected, system-driven losses. These characteristics explain why:

NAT CAT: FREQUENCY, ACCUMULATION, AND SECONDARY PERILS

Nat Cat risk has evolved from principally a severity issue into one increasingly shaped by frequency, asset accumulation, and secondary perils. A recent study¹⁰ by Swiss Re estimates that global insured Nat Cat losses are increasing by 5–7% annually in real terms, driven mainly by expanding exposure, including urbanisation and economic growth.

For Asia Pacific, accumulation is particularly important. Increasing concentrations of high-value property, infrastructure and manufacturing capacity, mean that one event can affect multiple insured locations and interconnected supply chains simultaneously. A good example is the 2011 Thailand floods that, concentrated around key industrial corridors, produced approximately US\$46 billion¹¹ of economic losses and US\$15 billion of insured losses, while disrupting global supply chains.

More recently, Asia's insured flood losses have been rising by around 12% annually²⁰, highlighting the growing significance of what were traditionally regarded as secondary perils. In the Pacific, Australia's 2022 floods caused approximately US\$6.6 billion²¹ in economic losses and US\$3.9 billion in insured losses²³. In New Zealand, the 2023 Auckland floods caused around US\$1.9 billion economic and US\$1.3 billion insured losses, followed only weeks later by Cyclone Gabrielle²³, at approximately US\$2.4 billion economic and US\$1.6 billion insured losses. Taiwan provides another perspective on accumulation risk given its position as a global semiconductor manufacturing hub: the 21 January 2025 earthquake alone generated approximately US\$1.3 billion of economic losses, of which US\$0.6 billion was insured¹². These events demonstrate how concentrations of property, infrastructure and inter-dependent commercial activity can turn geographically contained events into significant global claims.

12%

Asia's insured flood losses have been rising by around 12% annually



Yet the protection gap remains substantial. Munich Re estimates that 88% of Asia Pacific natural-disaster losses since 1980 have been uninsured¹³, whilst Gallagher Re has identified insurance penetration below 1%²⁴ in several Asian emerging markets. These countries are among the most exposed to risks arising from climate change yet are least able to fund recovery efforts. Insurance, supported by geographically diversified reinsurance, therefore remains fundamental to transferring concentrated local catastrophe losses into global risk-bearing capital.

For TMK, this is where the claims promise becomes tangible. Our client-centric claims philosophy, supported by an excellent network of experts, is about more than paying a valid claim. It is about making fast decisions and helping clients restore their operations and assets to their pre-loss position as quickly as possible. Ultimately, claims are where the insurance promise is tested and where we can reinforce the trust that clients place in TMK and in the insurance product itself.

88%

Munich Re estimates that 88% of Asia Pacific natural-disaster losses since 1980 have been uninsured.



“TODAY’S CATASTROPHE CLAIMS REFLECT ACCUMULATION, INTERCONNECTION AND SUPPLY CHAIN DISRUPTION.”

SUGENTHRAN RAMASAMY, HEAD OF CLAIMS, TMK ASIA

REGULATORY COMPLEXITY: AN UNDERWRITING VARIABLE, NOT A COMPLIANCE COST

Regulatory fragmentation across Asia is framed as an operational challenge for multinationals. In practice, it is a core underwriting variable. Policy interpretation claims payment speed, the enforceability of recovery rights, and the interaction between insurance and broader financial regulation all vary materially across APAC, and that variation affects loss outcomes in ways that headline risk analysis rarely captures.

The Monetary Authority of Singapore (MAS), operates one of the world's more sophisticated frameworks. The Australian Prudential Regulation Authority (APRA), imposes capital and conduct standards that shape how claims settle. Indonesia's Otoritas Jasa Keuangan (OJK) requires local policy issuance for certain risk classes, affecting both coverage scope and claims jurisdiction. Two identical assets in different APAC markets carry different effective risk profiles, not because the physical hazard differs, but because the regulatory environment determines what recovery is possible and on what timeline. This divergence has widened over the past 20 years as regulatory regimes have matured at different speeds, creating more complex and less predictable underwriting environments rather than a more harmonised one.

DISCLOSURE GAPS COMPOUND THE PROBLEM

- Disclosure requirements across the region remain inconsistent
- Reporting thresholds vary
- Enforcement is uneven.

In several major markets, mandatory notification timelines are either absent or ambiguous enough that breaches are routinely underreported.

UNDERWRITERS ARE PRICING A RISK THEY CANNOT FULLY SEE

This uncertainty feeds directly into capital allocation decisions, with capacity becoming more selective and more expensive in the very areas where risk visibility is lowest. A region producing a third of the world's cyber incidents but operating without consistent disclosure requirements cannot price that risk on sound actuarial foundations.





**A WORLD-CLASS
FACILITY CAN
STILL GENERATE A
DIFFICULT CLAIM
IF THE SYSTEMS
AROUND IT FAIL.**

INFRASTRUCTURE MATURITY: WORLD-CLASS ASSETS, UNEVEN ECOSYSTEMS

Many assets now operate at or above global benchmarks. Changi Airport, the Port of Shanghai, South Korea's semiconductor plants, and offshore wind installations now operating at scale across Taiwan and Vietnam, operate at world-class engineering standards. A world-class facility can still generate a difficult claim if the systems around it fail.

Infrastructure risk in Asia is as much a function of external dependencies as of the asset itself. A state-of-the-art semiconductor facility in an earthquake zone carries exposure not only to direct physical damage, but to the fragility of its power supply, specialist supplier network, water treatment infrastructure, and the regulatory environment governing its recovery timeline. Business interruption losses arise not from damage to the insured asset but from failure several steps removed in the supply chain. A modern port in a secondary Southeast Asian market may match global engineering standards while sitting inside a port authority bureaucracy that adds weeks to loss notification and extends the business interruption period materially.

For property and energy underwriting, risk quality assessments require dependency mapping alongside asset inspection.

In many cases, the limiting factor is the capacity of the surrounding ecosystem to respond rather than just the resilience of the asset itself.





“TRADITIONAL CYBER EXCLUDES PHYSICAL LOSSES. PROPERTY POLICIES EXCLUDE CYBER. THERE IS A GAP BETWEEN THEM, AND IT IS GROWING AS OPERATIONAL TECHNOLOGY CONNECTS TO IT SYSTEMS ACROSS ASIA’S MANUFACTURING SECTOR.”

GEORGIE FURNESS-SMITH,
CYBER UNDERWRITER, TMK ASIA PACIFIC



THE SHIFT FROM PHYSICAL TO INTANGIBLE RISK

Asia’s most economically significant sectors have shifted from physical to intangible value. Alongside this, the dominant risk profile has moved from ‘Acts of God’ to ‘Acts of Man’ – cyber events, system failures, and geopolitical disruption. Insurance structures have not kept pace. Production of the world’s most advanced semiconductors is concentrated in a very small number of facilities in a single market. A disruption to leading-edge node production generates a supply chain shock across every industry that depends on advanced chips. Standard property coverage was not designed for that risk profile.

The gap is most visible at class boundaries. Traditional cyber policies exclude physical damage, while property policies exclude cyber. A cyber intrusion that accesses an industrial control system and triggers a physical failure, whether a sprinkler activation, an overheating furnace, or a conveyor shutdown, produces real physical loss through a cyber vector, and neither policy responds cleanly nor consistently. Data centres are a good example of this dual problem: a physical plant that can be damaged, and service contracts that can be breached if it goes down.

TMK is one of a small number of insurers currently writing cyber physical damage cover locally in Asia, where market capacity remains limited. These policies sit between traditional cyber and property lines, covering tangible damage to machinery, buildings and stock caused by a cyber event, along with the resulting business interruption. In our experience, most insureds do not yet know the gap is there.

A cyber attack on a data centre in a jurisdiction with weak disclosure requirements, causing physical damage, in a market where loss assessment expertise is scarce, produces a claim that crosses cyber, property, regulatory and market-capacity lines simultaneously.



SECTION 3:

**WHERE
COVERAGE
NO LONGER
MATCHES RISK**

SECTION 3:

WHERE COVERAGE NO LONGER MATCHES RISK

Every major specialty line in Asia has a blind spot. In each case, the coverage was designed for a version of the risk that no longer exists.

MARINE CARGO: THE RISK THAT STAYS STILL

Asia Pacific accounted for roughly 30% of global marine insurance premium in 2024 and more than 35% of global cargo premium¹⁴. Yet the region's cargo risk is not defined by trade volumes alone. It is increasingly shaped by what happens between departure and final delivery: where goods are stored, how often they are handled, how long they remain stationary and how much value accumulates at a single location.

Conventional cargo underwriting has naturally focused on the voyage from origin to destination. Today, that is only part of the exposure. Modern supply chains involve consolidation centres, inland warehouses, transshipment points, contract logistics providers, and multiple layers of subcontracting. Goods may spend more time waiting than travelling, while values accumulate in places that are less visible to underwriters than major ports and terminals.

Alexandros Ampatzis, Head of Marine, TMK Asia Pacific describes how in the past the focus was largely on goods moving from A to B, but “today what we’re underwriting is much more about complex supply chains — goods sitting in warehouses, moving through multiple hands, sometimes not moving at all. It’s less about transit in isolation and more about everything that happens around that transit.”

That change has significant implications for accumulation risk. Concentrations of value are no longer confined to major ports or obvious catastrophe zones. They can arise in an inland processing facility, a freight forwarder’s consolidation warehouse or an industrial cluster shared by several insureds.

30%

Asia Pacific accounted for roughly 30% of global marine insurance premium in 2024.

“IT’S LESS ABOUT TRANSIT IN ISOLATION AND MORE ABOUT EVERYTHING THAT HAPPENS AROUND THAT TRANSIT.”



The same warehouse operator may appear across multiple risks. Several insured supply chains may depend on a single logistics provider, storage facility, transport corridor, or subcontractor. These connections are not always visible when individual policies are placed, but a fire, Nat Cat, systems failure, or geopolitical event can expose several policies simultaneously.



Freight forwarders and logistics providers add another dimension. Consolidated shipments can generate values considerably greater than those originally contemplated, particularly where declarations are delayed, incomplete or based on assumptions that no longer reflect the actual flow of goods.

Another increasingly important source of accumulation arises from digital dependency. Supply chains now rely heavily on transportation management systems, warehouse management platforms, port operating systems, tracking providers and cloud-based logistics networks.

Semiconductor supply chains are also a good example of how cargo exposures have evolved. High-value chips and electronic components may move through a relatively small number of fabrication facilities, specialist logistics providers, and regional distribution hubs. On the Taiwan to United States route, thefts of server components in freight forwarders' hands during inland transit have produced individual losses ranging from several million dollars to tens of millions of dollars. While the value of individual shipments is significant, the greater exposure often lies in the dependency on a limited number of facilities and transportation corridors that support global technology production.

2013 COCONUT STOCK LOSS

A TMK loss in 2013 illustrates the issue. A fire destroyed coconut stocks held at processing facilities in the Philippines, producing a multi-million dollar loss for TMK. The important feature was not simply the size of the loss. The values had accumulated inland, outside the port locations that traditionally attracted the greatest attention from cargo underwriters. The concentration was therefore much less visible during placement.

Vessel size creates a different form of accumulation. When an ultra-large container vessel carrying thousands of containers suffers a casualty and general average is declared, hundreds or potentially thousands of cargo interests can become involved. Determining ownership, declarations, security, and each party's contribution may take years. A single physical event can therefore generate a highly fragmented and operationally complex claims process across multiple insureds and insurers.



LOCATION ALSO MATTERS

Two ports on the same trade route may present materially different risks because of differences in infrastructure, storage standards, security, legal systems, emergency response, and claims handling. The name of the trade lane alone is not an adequate proxy for the exposure.

The disruption in the Red Sea provides a broader illustration of how geopolitical events can alter cargo exposures almost overnight. Since late 2023, attacks on commercial shipping have resulted in vessel rerouting, extended voyage durations, elevated freight costs, higher war-risk premiums, and sustained pressure on global supply chains. Routes once regarded as routine have required entirely different underwriting assumptions regarding voyage duration, accumulation, and aggregation of values aboard vessels.

GEOPOLITICAL RISK

Geopolitical risk adds further complexity because established assumptions can change abruptly. In January 2024, a vessel carrying hot-rolled steel coils from Korea to Turkey was struck by Houthi missiles in the Gulf of Aden. General average was subsequently declared, and TMK's cargo exposure was substantial. A trade route previously treated as part of an established commercial pattern had become exposed to active conflict, affecting multiple cargo owners through a single event.



The underwriting implication is clear: understanding modern cargo risk requires more than identifying the goods, vessels, and destination. Underwriters need visibility over the full period of exposure, including storage locations, dwell times, logistics providers, subcontractors, and concentrations of value. They also need to understand the dependencies connecting apparently separate insureds.

Increasingly, the drivers of loss are not purely physical. Supply chain dependencies, digital infrastructure, geopolitical disruption, and operational bottlenecks can all transform a relatively localised event into a regional or global loss. The challenge for underwriters is therefore not simply identifying where the cargo moves but also understanding the network of dependencies supporting that movement.

The defining question is no longer simply, "Where is the cargo going?" It is also, "Where might it stop, what value could accumulate there, and how many other risks could be affected by the same event?"

WE OFTEN SEE MULTI-BILLION DOLLAR COMPANIES IN APAC STILL BUYING EXTREMELY SMALL LIMITS."

CYBER: WHEN INSURANCE LIMITS LAG BEHIND THE RISK

When CrowdStrike issued a defective software update in July 2024, approximately 8.5 million Windows devices were affected worldwide¹⁵. Airlines, healthcare providers, financial institutions, and other critical services experienced disruption, including across Asia Pacific. Although CrowdStrike identified and deployed a fix quickly, recovery was uneven because many affected devices required manual remediation.

The event was not a cyberattack. Nevertheless, it demonstrated a defining characteristic of modern cyber risk: a single failure at a widely used technology provider can affect thousands of organisations simultaneously. A more prolonged disruption involving a common cloud, security or software provider could generate losses across multiple insureds, portfolios, and classes of business.

This creates two related challenges for insurers and insureds. The first is systemic accumulation arising from shared technology dependencies. The second is the gap between the scale of an organisation's potential loss and the insurance limit it purchases.

Georgie Furness-Smith, Cyber Underwriter, TMK Asia Pacific describes the disparity she sees in the market: "We often see multi-billion dollar companies in APAC still buying extremely small limits compared to what I would have seen in Europe or North America. Five or ten million dollar limits for three-hundred-billion-dollar companies. It is very, very different."

8.5 million

Windows devices were affected worldwide when CrowdStrike issued a defective software update in July 2024.

ASIA PACIFIC SITS AT THE CENTRE OF THIS CHANGING EXPOSURE

The region accounted for 34%⁷ of cyber claims to which IBM X-Force² responded in 2024, the largest share of any region and a 13% increase from the previous year. IBM also identified manufacturing as APAC's most affected industry within its dataset.

The 2025 Verizon Data Breach Investigations Report⁸ provides a further measure of the threat. According to the report, ransomware was present in 51% of the APAC breaches analysed, while system intrusions accounted for four out of five regional breaches.

“SYSTEMIC LOSSES ARE SOMETHING WE’VE BEEN TALKING ABOUT FOR QUITE A LONG TIME NOW. WE ARE YET TO SEE ANY REAL IMPACTS TO THE MARKET IN TERMS OF LOSSES, BUT I CAN ONLY THINK IT’S A MATTER OF TIME.”

GEORGIE FURNESS-SMITH, CYBER UNDERWRITER, TMK ASIA PACIFIC



Across parts of APAC, rapid digitisation has increased reliance on connected operational technology, outsourced services and a concentrated group of cloud and technology providers. Governance, resilience, and insurance purchasing have not always developed at the same pace.

Manufacturing provides some of the clearest examples, although the issue extends to logistics, healthcare, financial services, and critical infrastructure. A failure or compromise affecting one cloud provider, software platform or outsourced technology partner can spread across organisations that share the same dependency. The event need not be a targeted attack. It may arise from an accidental technology failure, a software supply chain compromise or the interconnection of systems that were previously isolated.

As highlighted in Section 2, further exposure sits at the boundary between cyber and property insurance. A compromise affecting a factory’s control systems, for example, could damage machinery, interrupt production, or cause stock loss. Depending on the wordings, the resulting physical damage and business interruption may not fall cleanly within either the cyber or property programme.

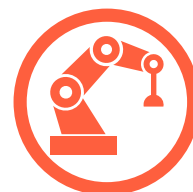
Many companies insure physical assets worth billions of dollars under property policies while purchasing comparatively limited affirmative cover for cyber-triggered physical damage – if they purchase any at all. Reporting requirements also vary materially across APAC. Differences in disclosure thresholds and regulatory regimes can make it more difficult for underwriters to form a consistent view of incident frequency, severity, and systemic accumulation.

TMK bridged the gap with its Cyber Ctrl PD+ product to provide affirmative cover for physical damage to buildings, machinery, and stock, together with resulting business interruption caused by a cyberattack. It is designed to address the potential coverage shortfall created where cyber policies exclude property damage and property policies restrict cyber-related losses.

Cyber exposure can no longer be assessed solely by examining an organisation’s own network. The more important questions are increasingly: Which technology dependencies does it share with others? How could a digital failure affect physical operations? And is the insurance limit proportionate to the plausible interruption and damage?

“IN HIGHLY SPECIALISED INDUSTRIES, THE EXPOSURE EXTENDS BEYOND THE INSURED SITE.”

PROPERTY: WHEN THE RISK EXTENDS BEYOND THE SITE



Earthquakes in Taiwan in April 2024 and January 2025 caused significant losses at advanced semiconductor manufacturing facilities. The events damaged inventory, facilities, machinery, and equipment. There was no structural damage to the fabrication plants, but wafers in production were affected and had to be scrapped.

The April event demonstrated the value of strong physical resilience. More than 70% of fabrication tools were recovered within ten hours, and the affected facilities were fully operational by the end of the third day. Yet the wider risk cannot be understood solely by looking at the physical damage to an individual facility.

In highly specialised industries, the exposure extends beyond the insured site. Production may depend on common utilities, specialist equipment, sole-source suppliers, outsourced processes, and tightly integrated customers. An event that causes limited structural damage can still affect work in progress, interrupt production and transmit disruption through the wider supply chain.

This distinction matters across Asia Pacific, where manufacturing and infrastructure are often concentrated in industrial clusters. A site may be exceptionally well engineered, but that does not by itself address the dependencies surrounding it. The interruption of power, water, transport, a specialist supplier, or a nearby processing facility may prevent production even where the principal asset remains intact.

Property underwriting therefore needs to consider three related dimensions:

- The resilience of the insured facility
- The dependencies that support its operation
- And the portfolio accumulation created where multiple risks rely on the same industrial ecosystem.

Business interruption is central to that assessment. The financial impact of an event may extend well beyond the cost of repairing physical damage. Lost production, delayed customer deliveries, replacement sourcing, additional expenditure and disruption at suppliers or customers can all influence the ultimate loss.

Recent Asian claims data illustrates the growing importance of this exposure. Marsh reported that the number of property damage and business interruption claims among SMEs and growing enterprises in Asia increased by 18% from 2022 to 2023¹⁶. It also noted that interconnected supply chains can create severe interruption even where the affected business is in an area with relatively low natural-catastrophe exposure.

At the same time, frequent weather-related events are placing sustained pressure on property portfolios. Australia provides a clear example. Declared extreme-weather events produced A\$2.19 billion¹⁷ of insured claims in 2023–24, the same aggregate cost as in the preceding year. However, the number of claims rose to almost 157,000, an increase of 66,000. Average claim values were lower, but the effects were more widespread.

Over the latest five-year period covered by the Insurance Council of Australia's analysis, the annual average cost of extreme-weather claims was A\$4.5 billion, **more than double the 30-year annual average** of A\$2.1 billion. Flood was the principal driver of that increase.

These losses are also affected by the cost and time required to reinstate damaged assets. Construction-cost inflation, labour shortages, material volatility, and supply chain disruption can increase repair costs and lengthen recovery periods. Where production cannot resume until specialist machinery or components are replaced, the resulting business interruption may continue after the physical repairs have begun.

The underwriting question is therefore no longer simply "How resilient is this site?" It is also "What does the site depend on, who depends on it, and how many other insured risks could be affected by the same event?"

**“THE FINANCIAL IMPACT OF AN EVENT
MAY EXTEND WELL BEYOND THE COST
OF REPAIRING PHYSICAL DAMAGE.”**

CLAIMS: WHERE THE REALITY OF RISK BECOMES VISIBLE

Claims provide the clearest test of whether underwriting assumptions, policy structures and indemnity periods hold up when an actual loss occurs.

TMK's enduring principle is straightforward and in the words of our founder speaking in the 1970's "Always look for a reason to pay a claim." In practice, that means understanding what actually happened, testing the available evidence, applying the policy wording fairly and, ultimately, explaining the outcome clearly.

This approach becomes particularly important where the facts are complex, or where a loss does not fit neatly within traditional categories. It does not mean departing from the terms of the contract. Rather, it means looking beyond the unusual nature or circumstances of a loss to understand its substance and ensuring that valid coverage is not overlooked simply because the circumstances do not follow a familiar pattern.

Claims handling is also becoming increasingly multidisciplinary. Physical inspection remains fundamental, but complex losses may require a much broader examination of financial records, digital evidence, contractual responsibilities, and supply chain dependencies.

Business interruption and contingent business interruption claims are good examples. They can require detailed consideration not only of the physical damage itself, but also of causation, repair timelines, output replacement options, and the period over which revenue was affected.

As technology, financial losses and supply chain dependencies become increasingly prominent alongside traditional physical damage, effective claims handling requires the ability to bring these different strands together. Technical expertise remains essential, but it increasingly needs to be combined with financial, digital, and contractual analysis to understand the loss as a whole and reach a fair, well-reasoned outcome.

US\$580M

Approximate amount paid in claims since 2006, by TMK's Asia Pacific business.

“ALWAYS LOOK FOR A REASON TO PAY A CLAIM.”

ROBERT KILN, KILN FOUNDER



AVIATION: THE COST OF A SAFER SKY

Aviation in Asia Pacific has become safer and more expensive at the same time. Technology and safety improvements have reduced the frequency of catastrophic losses, but the same technology that makes aircraft safer also costs more to fix when it fails. Higher settlement costs per claim, rather than more catastrophic hull losses, explain most of that shift.

These challenges sit alongside one of the aviation industry's great success stories. Continued investment in aircraft technology, safety systems, and operational standards has made flying safer than ever, while strong passenger growth across Asia Pacific continues to create opportunities for airlines, airports, and insurers. At the same time, increasingly sophisticated aircraft and expanding aviation networks, are bringing new operational and claims considerations.

Some of this pressure has nothing to do with geography. Composite materials cost far more to repair than the aluminium they are replacing, specialised parts and repair capacity are getting scarcer and more expensive, ground operations are still absorbing pandemic-era staffing gaps, and geopolitical conflict and litigation both add unpredictability to claims wherever an airline flies. None of that is unique to Asia Pacific.

Appointment of specialist aviation loss adjusters also remains a challenge. Korea is a good example, where it is not uncommon for a general loss adjuster rather than a dedicated aviation specialist to be used. In complex aviation claims, this can increase the risk of important facts being overlooked during the claims process, potentially affecting the accuracy of loss reports, increasing claims costs, and reducing salvage and subrogation opportunities for insurers.

Safety standards and infrastructure investment vary enormously across Asia Pacific, simply because of the region's size and the number of countries it covers. Many of those countries have airstrips at high altitude, and in areas of rapidly changing weather, often serving as the only link to otherwise inaccessible rural settlements. When an aircraft operating from one of these locations requires even minor repairs, there is often limited local capability to carry out the work, and costs can escalate well beyond what an identical incident could cost at a major hub. In addition, it is important to understand and acknowledge local customs and regulations, particularly when calculating potential liability exposures. This is where local expertise can be invaluable, as models based primarily on western litigation concepts may not fully reflect these local factors and cultural considerations.





The biggest challenge comes from the vast difference in geography between countries in Asia. Airstrips at high altitude, with rapidly changing weather conditions, often provide a lifeline for otherwise nearly inaccessible rural settlements. The limited infrastructure means repair options may not be available, and costs can snowball as a result.”

NOMDO KRUIS, HEAD OF AVIATION, ASIA PACIFIC



General aviation risk in that setting needs different metrics from a commercial airline, and it is best placed with underwriters who price each case on its own merits, drawing on direct experience of this kind of terrain.

Conditions across Asia can shift quickly, and that unpredictability is exactly why close coordination between aviation meteorological services and air-navigation providers matters so much in this part of the world. Diversions, delays, cancellations, and the occasional temporary halt to airport operations all follow from the same volatility, and damage to aviation infrastructure can force further closures or capacity restrictions.

IATA forecasts that global air travel demand will more than double by 2050²⁶, with Asia Pacific growing faster than any other major region over that period. China, India, Indonesia, and Vietnam are leading that growth, helped by rising incomes and government tourism incentives. Whether the region's infrastructure can keep pace is an open question, and the answer matters for underwriting, since more aircraft and busier ground operations will be moving through infrastructure that many markets have yet to modernise.

In a market as price-sensitive as Asia Pacific's, a few dollars on a ticket can sway a passenger's choice of airline, and a similar swing in operating cost per mile can be the difference between profit and loss for the operator. Many carriers run on thin margins as a result, with little budget for anything beyond a standard policy, and that limits demand for bespoke or modular cover across the region. Buyer sophistication varies just as widely, from niche general aviation operators with simple needs to mainline carriers with complex, global exposures, and brokers serving either end of that spectrum need markets able to flex across that whole range.



SECTION 4:

ONE REGION, MANY MARKETS

SECTION 4:

ONE REGION, MANY MARKETS

Asia Pacific is often treated as a single market in growth forecasts and capital-allocation decisions. For underwriting purposes, however, it is better understood as a collection of distinct markets connected by trade, investment, distribution, and a small number of regional hubs.

The same underlying exposure can produce materially different outcomes depending on where the risk is located, how the business is written and where a claim must be resolved. Regulation, legal enforceability, market practice, counterparties, infrastructure, and claims processes all influence how the risk performs.

A property exposure in Singapore and a superficially similar exposure in Vietnam may appear comparable in a submission. Their loss outcomes may nevertheless differ because the availability of contractors, documentation standards, access to the site, regulatory requirements and the wider claims ecosystem are not the same.

This is why regional underwriting requires more than a regional growth forecast. It requires a practical understanding of how different markets operate before and after a loss.



**REGIONAL UNDERWRITING REQUIRES
A PRACTICAL UNDERSTANDING OF
HOW DIFFERENT MARKETS OPERATE
BEFORE AND AFTER A LOSS.**

1. REGIONAL HUBS, GLOBAL EXPOSURES

Singapore, Hong Kong, and Tokyo have mature regulatory, legal and claims frameworks, but each performs a different role within the region.

Singapore is a regional centre for specialty insurance and reinsurance, commodity trading, shipping, finance, and infrastructure investment. Many of the risks structured or underwritten through Singapore are not purely Singaporean risks. They are regional or global exposures with a Singapore address.

A trade-credit risk may involve a Singapore-based trader, cargo stored in another jurisdiction, financing from several banks and buyers located across multiple countries. A marine claim may require evidence and recovery action in several legal systems. A data centre project may depend on equipment, contractors, power, and customers spread across the region.

The underwriting decision may be made in one location, but the exposure and the claim rarely remain there.

Hong Kong plays a distinctive role as a connection point between Greater China and international capital, while Tokyo combines deep domestic insurance capacity with access to major Japanese corporate risks. Treating these centres as interchangeable overlooks their different client bases, distribution structures, and strategic functions.



2. SOPHISTICATED MARKETS, CONCENTRATED HAZARDS

Japan, Australia, South Korea, and Taiwan have sophisticated domestic insurance markets and many highly engineered physical assets. Their complexity arises from the interaction of natural hazards, significant concentrations of value, interconnected industrial supply chains and, in some sectors, ageing infrastructure.

The Taiwan earthquake losses described earlier illustrate the distinction between asset quality and loss potential. Neither the April 2024 nor the January 2025 event caused structural damage to the affected fabrication plants, but wafers in production were scrapped in both.

The facilities were highly resilient. The events nevertheless demonstrated that operational interruption could generate substantial economic losses even where physical damage is limited. The principal impact arose from work in progress rather than damage to buildings or equipment. Dependencies involving production, customers, suppliers, and highly specialised manufacturing processes remained material despite the resilience of the underlying infrastructure.

The broader lesson extends beyond Taiwan. Increasingly, global supply chains depend on a relatively small number of strategically important facilities, ports, logistics hubs, and manufacturers. Disruption at one location may generate consequences that extend far beyond the jurisdiction where the physical event occurs.

Australia presents a different pattern of the same challenge. Rather than concentrated supply chain dependencies, insurers must manage the accumulation of exposures across regions vulnerable to repeated extreme-weather events. Successive catastrophes demonstrate that portfolio outcomes can be shaped as much by event frequency, geographical overlap, and claims inflation as by the severity of an individual catastrophe. In 2020, four weather events generated most of Australia's approximately A\$4.5 billion insured Nat Cat loss, including a series of hailstorms that produced more than 130,000 claims²².

The underwriting challenge in these markets is therefore not a lack of information or engineering quality. It is understanding how hazard, concentration, dependency, and recovery costs interact across a portfolio.





“LOCAL KNOWLEDGE IS NOT AN OPTIONAL SUPPLEMENT TO TECHNICAL UNDERWRITING. IT IS PART OF THE RISK ASSESSMENT ITSELF.”

3. MARKETS THAT CANNOT BE READ FROM A DISTANCE

High-growth ASEAN markets are defined by variation. Regulatory frameworks, infrastructure, distribution, legal processes, and claims practices can differ not only between countries, but between ports, provinces, and industrial zones within the same country.

The marine examples discussed earlier illustrate this clearly. Two ports on the same trade lane may produce very different outcomes because of differences in storage, security, access, handling standards, liability regimes, and emergency response.

These distinctions may not be apparent from a standard submission. They often become visible only after a loss, when underwriters and claims teams need to establish where goods were stored, who had custody, what documentation exists and which party can be held responsible.

Claims timelines, including regulatory requirements, can also vary. Notification, site access, evidence gathering, regulatory involvement, adjustment and recovery may operate differently in each jurisdiction. Traditional underwriting information may describe the insured asset accurately without fully capturing the environment in which a claim will be resolved.

Regulatory expectations are also becoming more fragmented. Sanctions compliance, export controls, local data requirements, trade restrictions, and environmental regulations increasingly influence how risks are structured and managed. Underwriters therefore need to understand not only the physical exposure, but also the regulatory framework governing the movement of goods, capital, and information across borders.

For that reason, local knowledge is not an optional supplement to technical underwriting. It is part of the risk assessment itself.

4. ASIAN BUSINESSES INVESTING BEYOND THE REGION

Asian companies, banks, and investors are increasingly supporting trade and projects outside their home markets. These activities can involve manufacturing investments in Southeast Asia, infrastructure projects in Africa and natural-resource ventures in Central Asia.

As these exposures expand, the distinction between commercial credit, political risk, property, and supply chain risk becomes less clear. A project may be commercially viable but vulnerable to government intervention, currency restrictions, licence withdrawal, contract frustration, or disruption involving a state-linked counterparty.

The products may sit in separate underwriting classes, but the causes of loss often interact. Underwriters therefore need to understand not only the insured entity and contractual structure, but also the political and operating environment in which performance is expected.

This is another reason why Asia cannot be treated as a single destination market. Asian insurers are not merely receiving international capital. Increasingly, they are supporting Asian businesses as those businesses take risk into other regions.



“ASIAN COMPANIES, BANKS, AND INVESTORS ARE INCREASINGLY SUPPORTING TRADE AND PROJECTS OUTSIDE THEIR HOME MARKETS.”



5. WHY PROXIMITY MATTERS

Products must sometimes be adapted to local conditions, but proximity is principally about the quality of judgement.

Consider a stock-throughput policy covering agricultural commodities in a secondary ASEAN market. The submission may identify the insured values, locations, and transit routes. It may not show how long the goods remain in inland storage, whether values accumulate seasonally, which freight forwarder has custody or how liability operates in practice.

An underwriter familiar with the market is more likely to recognise those questions early. Modelling can inform the decision, but it cannot replace knowledge of how commodities are stored, how contracts operate and how claims are resolved in that jurisdiction.

The same principle applies across classes. In cyber, disclosure and incident-reporting frameworks differ. In political risk, commercial and government action may be difficult to separate. In property, site access, repair capacity, and the local claims ecosystem can materially affect recovery. In each case, local experience helps bridge the gap between the exposure described at placement and the way a loss develops in practice. Building that judgement requires continuity and investment in people.

“Our advantage comes from combining local market knowledge with regional underwriting authority and global specialty expertise. The closer you are to the risk, the more likely you are to understand the operational realities, critical dependencies and claims challenges that ultimately determine performance. Those insights are difficult to replicate from a distance and become increasingly valuable as risks grow more interconnected.”

ALEXANDROS AMPATZIS, HEAD OF MARINE, ASIA PACIFIC AT TMK



Roman Reut, Head of Specialty Reinsurance, Asia Pacific, joined TMK's Singapore operation in 2010. He describes how developing a more locally rooted team broadens the relationships and opportunities available to the business.

In the platform's earlier years, its underwriting capability was drawn heavily from internationally experienced expatriate specialists. That expertise was important, but it did not always provide the relationships, language capability and market familiarity needed to access suitable mid-sized local business.

As TMK recruited and developed people from within the region, the team built deeper relationships with local brokers, clients, and service providers. The change affected more than business volume. It improved the range of information available to underwriters and the types of risk the platform could assess.

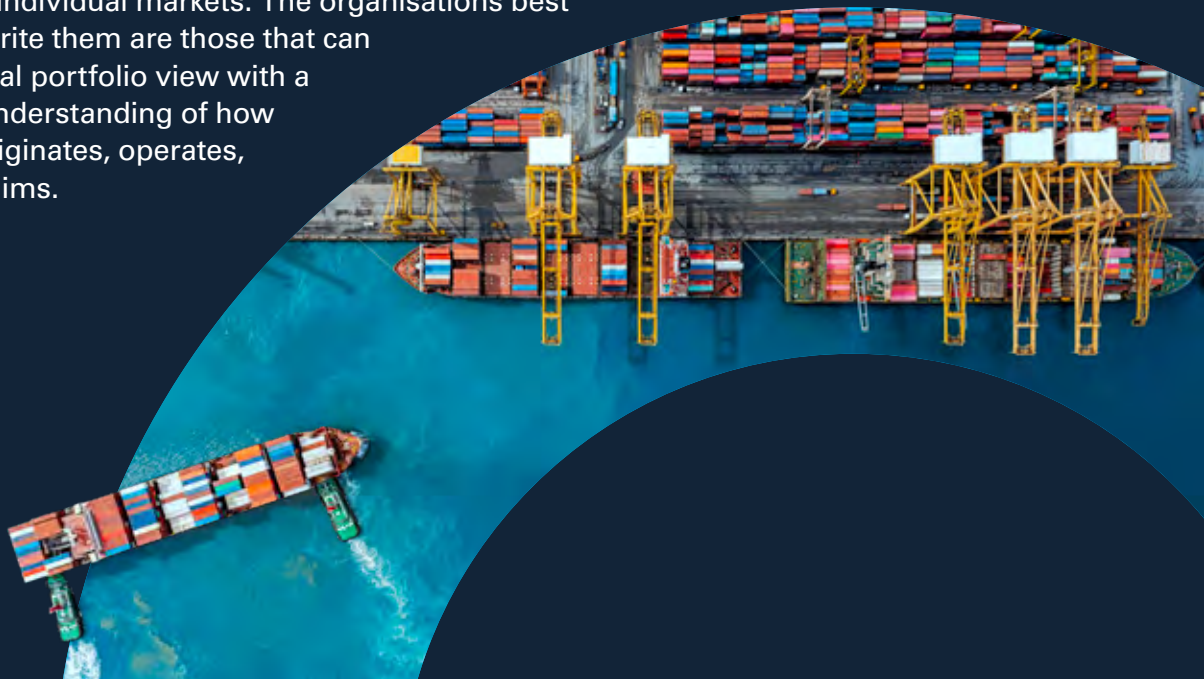
"Local colleagues bring language, relationships, and an understanding of how business is conducted in each market. Combined with international specialty expertise, that gives the team better access to brokers and clients and a clearer view of good-quality local business."

**ROMAN REUT, HEAD OF SPECIALTY REINSURANCE,
ASIA PACIFIC AT TMK**



The competitive advantage is not proximity alone. It is the combination of local relationships, technical underwriting expertise, regional decision-making authority, and claims experience accumulated over time.

Asia Pacific may be connected by trade and capital, but its risks remain rooted in individual markets. The organisations best placed to underwrite them are those that can combine a regional portfolio view with a genuinely local understanding of how each exposure originates, operates, and ultimately claims.



SECTION 5:
**THE NEXT
20 YEARS**

SECTION 5:

THE NEXT 20 YEARS

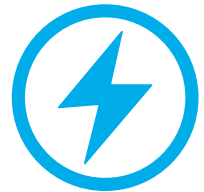
Twenty years of underwriting and claims experience do not provide a forecast for the next twenty. They do, however, reveal where assumptions tend to fail and where tomorrow's protection gaps may emerge.

Twenty years ago, specialty insurance products were more clearly organised around physical assets, defined events, and distinct classes of business. Those foundations remain important, but the boundaries between risks are becoming less distinct.

Cyber events can interrupt manufacturing and damage equipment. A Nat Cat can disrupt suppliers far beyond the damaged location. A commercial default may be shaped by government action. A technology outage can affect thousands of businesses across several industries and insurance portfolios.

The next phase of specialty insurance is therefore unlikely to be defined only by entirely new risks. It is more likely to be shaped by new combinations of familiar risks and by the interconnected systems through which losses spread.

Five forces are likely to reshape specialty risk in Asia Pacific over the coming decades.



“THE NEXT PHASE OF SPECIALTY INSURANCE MORE LIKELY TO BE SHAPED BY NEW COMBINATIONS OF FAMILIAR RISKS.”



1. CYBER MOVES FROM I.T. TO OPERATIONS

CYBER RISK IS BECOMING OPERATIONAL RISK

Manufacturing, logistics, energy, and critical infrastructure increasingly depend on connected technology. A cyberattack, software failure or outage at a critical service provider can interrupt production, affect physical processes, and disrupt supply chains.

As operational technology becomes more connected to corporate networks and external providers, the distinction between cyber, property and business interruption will become harder to maintain. Cyber-triggered physical damage, non-malicious system failure, and outages involving shared technology providers will become increasingly important areas of exposure. Georgie Furness-Smith, Head of Cyber, Asia Pacific at TMK, identifies three gaps:

“Cyber triggered property damage, the limit gap, and non-malicious outages and system failures — those are the three areas where I see the biggest gaps between exposure and available cover over the next five to ten years.”

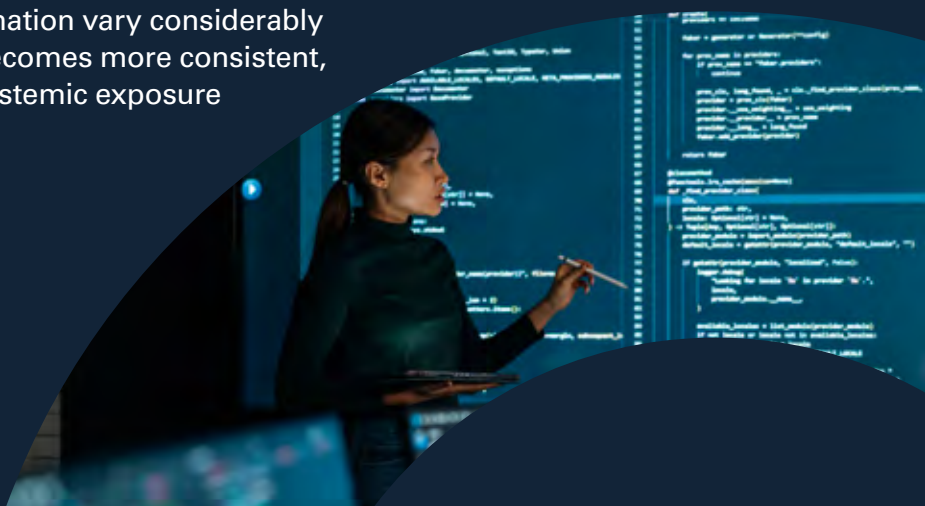
GEORGIE FURNESS-SMITH



The market’s challenge will not be limited to understanding the security of an individual insured. It will also need to identify shared dependencies across cloud services, security software, telecommunications, payment systems, and other critical infrastructure.

A major outage affecting a widely used provider may impact thousands of businesses simultaneously. Losses may arise across cyber, property, liability, and business interruption portfolios. As digital infrastructure becomes more concentrated, understanding those common dependencies may become as important as understanding the originating cyber threat.

Pricing and accumulation management will also depend on disclosure. Reporting standards and public information vary considerably across Asia Pacific. Until disclosure becomes more consistent, comparing incidents and assessing systemic exposure across markets will remain difficult.





2. GEOPOLITICAL FRAGMENTATION RELOCATES RISK

GLOBALISATION IS NOT ENDING, BUT ITS STRUCTURE IS CHANGING

Companies are diversifying suppliers, moving production, and investing in new jurisdictions. Trade routes are being redirected, while resilience, economic security and political alignment increasingly influence decisions previously driven primarily by efficiency and cost. The World Economic Forum describes geopolitical fragmentation and economic uncertainty as forces requiring supply chains to become more adaptive and diversified²⁵.

Risk does not disappear when a supply chain moves. It changes location, counterparties, and form.

For insurers, the difficulty is not simply that exposures are moving. Some are accumulating in jurisdictions where historical claims information, reliable asset data and specialist underwriting experience may be less developed. Investment can move faster than the insight.

A new manufacturing facility may reduce one company's dependence on an established production centre while introducing different exposures involving infrastructure, logistics, political stability, local counterparties, and natural hazards. A longer or more diversified supply chain can reduce dependence on one supplier but create more interfaces at which disruption can occur.

The resulting losses may not sit neatly within a single class. Political, trade, marine, credit, property, and supply chain risks can interact around the same transaction.

"The priority is to remain close to how risk is actually behaving in the market, understand what companies are concerned about and translate that insight into products and solutions that reflect the exposure."

PAVLOS SPYROPOULOS,
REGIONAL MANAGING DIRECTOR, TMK ASIA PACIFIC



3. CLIMATE BECOMES A FREQUENCY AND RECOVERY CHALLENGE

The insurance discussion around climate risk often focuses on the most severe events. The more persistent challenge may come from the frequency, clustering, and cumulative impact of less exceptional events.

Across Asia Pacific, portfolios are exposed to repeated floods, severe storms, typhoons, hail, bushfire, heat, and drought events. Where events occur before recovery from an earlier loss is complete, repair capacity, temporary accommodation, materials, labour, and claims resources may already be under pressure.

This creates a different kind of accumulation. The events may be individually manageable, but their combined effect can increase costs, extend restoration periods, and reduce the time available for communities and businesses to recover.

The consequences also extend beyond direct property damage. Weather events can interrupt transport, energy, agriculture, manufacturing, and supply chains. The resulting economic impact may be significantly greater than the insured physical loss, particularly where insurance penetration is limited or business interruption cover is absent.

For insurers, climate is therefore not solely a catastrophe-modelling challenge. It also affects exposure data, pricing, reserving, indemnity periods, claims capacity and the continuing availability and affordability of cover.



“Climate change is a major concern in this region because its effects extend beyond direct property damage. Disruption to agriculture, energy and supply chains can create significant downstream economic consequences.”

PAVLOS SPYROPOULOS,
REGIONAL MANAGING DIRECTOR, TMK ASIA PACIFIC





SOME FORMS OF ECONOMIC VALUE DO NOT FIT EASILY WITHIN ESTABLISHED TRIGGERS AND VALUATION METHODS.

4. ECONOMIC VALUE MOVES BEYOND PHYSICAL ASSETS

THE COMPOSITION OF CORPORATE VALUE IS CHANGING

Software, data, intellectual property, brands, research, processes, are increasingly important to how companies compete and generate revenue. The World Intellectual Property Organisation (WIPO) reports¹⁸ that intangible investment across the economies in its dataset grew more than three times faster than tangible investment between 2008 and 2024¹⁸.

Insurance structures have not always kept pace with that shift. Aon reports that 17%¹⁹ of digital assets are insured in APAC, compared with 60% of physical assets.

This is particularly relevant to data centres, advanced manufacturing, technology platforms, and AI infrastructure. Their buildings and equipment may be insured as physical assets, but much of their economic performance depends on uptime, data integrity, software, process continuity, intellectual property, and contractual obligations.

The challenge is not that intangible value is wholly uninsurable. Cyber, intellectual-property, professional liability and other specialist products already address parts of the exposure. The difficulty is that coverage may be fragmented, limits may be modest relative to the potential loss, and some forms of economic value do not fit easily within established triggers and valuation methods.

Over time, pressure will increase for insurers to develop more effective ways of identifying, quantifying, and transferring these exposures. If product development and purchasing do not keep pace, the gap between economic loss and insured loss is likely to become more visible.

The critical question will be where does the loss fall if the physical asset remains intact but the organisation loses access to the data, process, software, or intellectual property that makes it productive.

17%

Digital assets are insured in APAC, compared with 60% of physical assets.

5. JUDGEMENT BECOMES THE DIFFERENTIATOR

Technology will continue to improve modelling, analytics, exposure management, and data collection. It should make underwriting faster, more consistent, and better informed.

IT WILL NOT REMOVE THE NEED FOR JUDGEMENT

As risks become more interconnected, underwriters and claims teams will need to understand how apparently separate facts relate to one another. They will need to recognise when data is incomplete, when historical experience is no longer representative and when a loss could move across product boundaries.

The next generation of successful specialty insurers in Asia Pacific is likely to combine stronger technology with deeper specialisation, local market knowledge, and experienced claims capability.

Technology can help identify patterns and measure exposures. Expertise is what determines which questions to ask, which assumptions to challenge and how the policy should respond when the loss does not develop as expected.

The businesses that have done well here are the ones that didn't just focus on a single line of business and compete on price, but diversified, built deep expertise, and committed to the market for the long term. That's the model that endures."

PAVLOS SPYROPOULOS,
REGIONAL MANAGING DIRECTOR, TMK ASIA PACIFIC





SECTION 6: **CONCLUSION**

SECTION 6:

CONCLUSION

Twenty years of claims experience suggest that many of Asia Pacific's most difficult losses arise where concentrations, dependencies or coverage gaps sit outside the assumptions made at placement.

Each of the events that have been described are all incredibly unique but nevertheless demonstrate how the ultimate loss can be shaped by factors beyond the most visible exposure: industrial concentration and supply chain interruption, the authenticity of underlying trades and collateral, and the operational consequences of damage to highly specialised production.

As Asia Pacific's economies become more digital, specialised, and interconnected, those dependencies are likely to matter more. Closing the protection gap will require insurers to understand not only the insured assets or transactions, but the wider system on which it depends.

The principal challenge for specialty insurance may not be entirely new risks. It may be familiar risks colliding in combinations that existing products, data, and assumptions were not designed to address.

The insurers best placed for the next twenty years will be those that can see those connections early, translate them into clear coverage and respond effectively when theory becomes a claim.

“THE ULTIMATE LOSS CAN BE SHAPED BY FACTORS BEYOND THE MOST VISIBLE EXPOSURE.”





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