

# INSIGHTS

OCTOBER 2024

## SOUTHEAST ASIA'S INSURANCE BOOM: OPPORTUNITIES AHEAD



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# Editor's Note



Dear Readers,

Reflecting on how quickly our world is changing brings me to the forefront of exciting developments in our industry. Just a few years ago, climate change, electric vehicles (EVs), and drone technology felt like concepts for the distant future. Now, they're not just part of our daily conversations; they're reshaping the insurance industry in Southeast Asia in real-time.

So, why does this matter? Southeast Asia is on an exciting growth trajectory, with a booming middle class that's opening doors for the insurance sector. Alongside this economic expansion, the emerging field of geoengineering presents both promising solutions to climate challenges and complex risks that we must address. But with this growth comes a mix of opportunities and challenges that we can't afford to ignore.

Take EVs, for instance. Remember when hybrid cars were the cool new thing? Fast forward to now, and EVs are projected to make up 30% of all vehicle sales by 2030. This shift means we have to rethink how we price and underwrite policies. It's not just about the cars anymore; it's about the technology behind them and the new behaviours of drivers.

Then they are drones. What used to be simple toy gadgets are now essential tools in marine and cargo insurance. Picture this: inspecting a ship without deploying a team.

In this issue, I invite you to consider how these trends impact your work and our industry. Change can be daunting, but it also brings opportunities for innovation and growth. Let's embrace this moment, not just to adapt but to lead the way in shaping a resilient insurance landscape.

*Annie Undikai*

**Annie Undikai**  
**Managing Editor**

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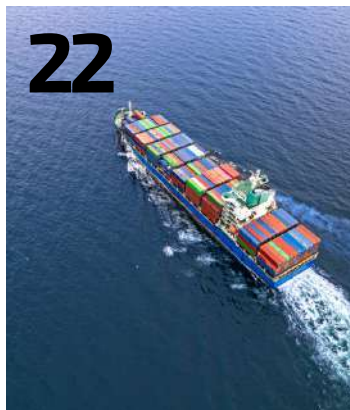
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# **SOUTHEAST ASIA'S INSURANCE BOOM: OPPORTUNITIES AHEAD**





The insurance industry in Southeast Asia is undergoing rapid transformation. With economies growing and middle-class populations expanding, the sector is poised for significant growth. According to Swiss Re, total insurance premiums in emerging Asian markets are projected to grow by an annual average of 7.1% between 2024 and 2025, significantly outpacing the global average of 3.3%.<sup>1</sup>

As economies in the region continue to expand, three key factors stand out as major drivers of growth: demographic shifts, untapped market potential, and emerging risks. For insurers, these factors present both opportunities and challenges. Understanding how to harness these growth drivers while managing risks will be essential for success in this dynamic market.

### Demographic Shifts

Southeast Asia's rapidly ageing population is one of the most prominent factors driving insurance growth. According to data from the World Health Organization (WHO), Southeast Asia is gradually transitioning to an aging population. WHO projects that by 2030, 13.7% of the region's population will be aged 60 and above, with this figure is expected to rise to 20.3% by 2050.<sup>2</sup>

This dramatic demographic shift will have profound implications for healthcare and long-term care insurance. As people live longer, the demand for healthcare services naturally increases. Elderly populations tend to require more medical attention, chronic disease management, and long-term care solutions, which places greater emphasis on comprehensive health insurance offerings.

Healthcare spending across Southeast Asia is expected to increase to \$740 billion by 2025 from the the current \$425 billion.<sup>3</sup> This is largely driven by ageing demographic and the subsequent rise in chronic diseases. In Thailand, for instance, healthcare spending has risen to \$27.7 billion in 2023, up from \$24.2 billion in 2021, largely attributed to the increased focus on healthcare for the elderly.

To leverage this trend, insurers are developing more innovative health insurance products. AIA Group has been one of the leaders in this area, launching a suite of policies under the AIA Vitality brand that focus on preventive health, wellness, and personalised care plans for older policyholders.

<sup>1</sup> Swiss Re Institute (2024). Emerging Asian Markets: Insurance Growth Projections.

<sup>2</sup> <https://seads.adb.org/solutions/advancing-digital-health-ecosystem-southeast-asia>.

<sup>3</sup> <https://fintechforhealth.sg/the-growing-healthtech-market-in-southeast-asia/>

By shifting the focus toward preventive care, insurers can reduce the frequency and cost of claims related to chronic illnesses, which typically rise with age. This shift also aligns with regional healthcare initiatives that emphasise wellness, such as Singapore's Healthier SG strategy launched in 2023, which aims to improve the population's overall health through preventive care and better chronic disease management.

Insurers can also enhance their offerings through the use of digital health solutions, particularly telemedicine. Southeast Asia has witnessed a boom in telehealth usage post-pandemic, with the digital health market in the region estimated to grow at an annual rate of 8.6% from 2024 to 2028<sup>4</sup>. Interestingly, 1 in 5 people across the region have previously used telehealth services, reflecting a regional trend towards embracing this innovative approach to healthcare.<sup>5</sup>

The rise of telemedicine, accelerated by the COVID-19, has demonstrated that insurers can offer policyholders virtual health consultations and digital wellness programs, reducing in-person healthcare costs while improving access to medical services. A recent survey on telemedicine usage in Singapore found that 43% of respondents used telemedicine in 2023, up from just 19% in 2019.<sup>6</sup>



### Expanding into Untapped Markets

Despite the economic growth in this region, insurance penetration rates remain significantly low, especially in developing markets such as Indonesia, Myanmar, and the Philippines. In 2024, Southeast Asia's insurance penetration rate was just 4.1%, compared to a global average of 7.4%. The region's low penetration underscores a substantial opportunity for insurers to expand their footprint, particularly among underserved populations in rural and low-income areas.

<sup>4</sup> <https://www.statista.com/outlook/hmo/digital-health/asean>

<sup>5</sup> <https://www.mili.eu/my/insights/embracing-the-future-remote-healthcare-services-resonate-across-southeast-asia>

<sup>6</sup> <https://www.statista.com/statistics/1389971/singapore-telemedicine-usage-in-past-year/>

Indonesia, the largest economy in the region, provides a clear example of untapped potential. The insurance penetration rate in Indonesia was only 1.6% in 2023, well below the regional average.<sup>7</sup> Over 80 million people in the country are uninsured, representing a massive opportunity for growth in life, health, and microinsurance products. By 2030, Indonesia's insurance market is projected to be worth \$150 billion, driven by rising middle-class incomes and increasing financial literacy.

One of the most effective ways insurers can tap into underserved markets in the region is through microinsurance. Microinsurance refers to affordable, easily accessible insurance products designed for low-income individuals or populations that are traditionally excluded from formal insurance services. These products typically offer coverage for essential risks, such as health, agriculture, property, or life, at lower premiums, making them more attractive and attainable to those in developing economies.

In Southeast Asia, a significant portion of the population remains uninsured, either due to a lack of awareness, financial constraints, or a lack of suitable insurance products tailored to their needs. Through offering microinsurance, insurers can bridge this gap, providing protection to vulnerable groups who would otherwise face financial hardship in the event of illness, disaster, or other unforeseen events.



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<sup>7</sup> Financial Services Authority (OJK) 2023 Annual Report



Countries such as Indonesia, the Philippines, Vietnam and Thailand have implemented microinsurance solutions, with the Philippines emerging as a regional leader. Over 50 million Filipinos are covered under microinsurance plans, representing about 40% of the population.

The country's microinsurance market has grown significantly largely driven by government support, regulatory reforms, and strong collaboration between the public and private sectors. The Insurance Commission of the Philippines has been instrumental in creating a regulatory environment that encourages the growth of microinsurance products, offering lower barriers to entry for insurers and clear guidelines on product development.

To further penetrate these markets and close the protection gap, insurers must leverage digital distribution channels. A key factor in the success of microinsurance in the Philippines has been the strategic use of digital technology, which enables insurers to effectively reach remote areas.

Advancements in digital technology and mobile penetration across the region are enabling insurers to deliver microinsurance products more efficiently. Many Southeast Asians, especially in rural areas, now have access to smartphones and mobile payment systems, allowing insurers to reach these populations through digital platforms.



Internet penetration in Southeast Asia has experienced rapid growth, surpassing 70% of the population by early 2023. This expansion has been driven by the increasing use of smartphones and significant enhancements in internet infrastructure across the region. The insurance sector has benefited from this digital revolution, as insurers can now leverage online and mobile platforms to offer products like microinsurance, which cater to the needs of low-income populations.

Countries like Indonesia, the Philippines, and Vietnam have seen significant growth in digital insurance solutions, using mobile applications and online portals to make it easier for consumers to purchase policies, pay premiums, and file claims.

Insurers looking to capitalise on this trend need to invest in digital ecosystems that allow for seamless transactions, customer engagement, and policy management. Partnerships with local fintech players and telecom companies are critical in expanding reach, especially in regions where traditional insurance distribution methods are less effective.

### **Addressing Emerging Risks**

Southeast Asia is one of the most disaster-prone regions in the world, with countries like the Philippines, Vietnam, and Indonesia frequently facing typhoons, floods, and earthquakes. Natural disasters in the region have significant economic implications, causing billions in losses each year.

In 2022, the region experienced estimated economic losses from disasters totalling around \$30 billion, a figure expected to rise as climate-related risks intensify. The economic repercussions of such disasters are compounded by the long-term effects on livelihoods and development, making disaster preparedness and risk management critical for the region's resilience. For insurers, this presents both a challenge and an opportunity. In recent years, the region has seen significant growth in the demand for climate-related insurance products, including catastrophe bonds, parametric insurance, and agriculture insurance.

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**Internet penetration in Southeast Asia has experienced rapid growth, surpassing 70% of the population by early 2023.**

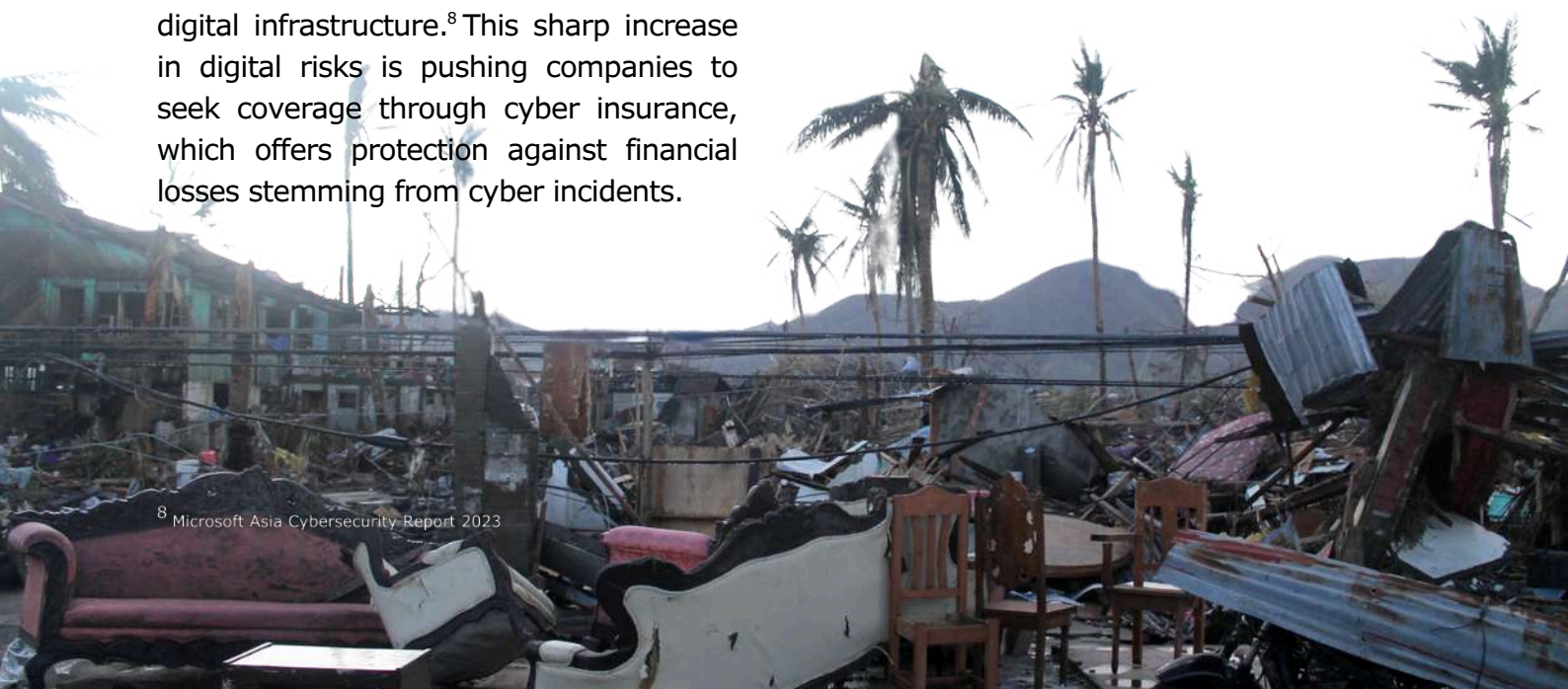
Although still in its early stages, parametric insurance is gaining traction. This insurance model offers rapid payouts based on predefined triggers, such as the severity of a natural disaster, rather than assessing actual losses. In Southeast Asia, governments and insurers are increasingly exploring parametric insurance to address the region's vulnerability to natural disasters, especially in Indonesia, the Philippines, and Vietnam. Frequent typhoons, floods, and earthquakes in these nations have heightened interest in this insurance solution, aimed at facilitating faster recovery and enhancing resilience.

Similarly, cyber insurance is becoming increasingly relevant as the region accelerates its digital transformation. According to a 2023 report by Microsoft, cybercrime in Southeast Asia is predicted to cost economies more than \$1 trillion by 2025 due to growing vulnerabilities in the digital infrastructure.<sup>8</sup> This sharp increase in digital risks is pushing companies to seek coverage through cyber insurance, which offers protection against financial losses stemming from cyber incidents.

### **Balancing Growth and Risk Management**

Southeast Asia's insurance sector is on the cusp of a major growth phase, spurred by key drivers such as an aging population, the untapped potential in rural and underserved markets, and the increasing relevance of emerging risks like climate change and cyber threats. With the region expected to outpace global insurance market growth in the coming years, insurers have the opportunity to expand their reach and innovate.

However, this growth must be accompanied by strong risk management strategies that address the complexity of evolving risks. By doing so, insurers can secure a stronger foothold in this fast-growing market while helping to close existing protection gaps and meet rising demand for tailored products and services.



<sup>8</sup> Microsoft Asia Cybersecurity Report 2023



# CLIMATE ENGINEERING RISKS

## THE NEXT BIG CHALLENGE





As the world grapples with the escalating impacts of climate change, the concept of climate engineering has emerged as a potential tool to slow down global warming. Also known as geoengineering, it refers to a range of techniques aimed at deliberately altering the Earth's climate system. But as promising as these interventions might sound, they come with complex risks—many of which fall squarely into the realm of the insurance industry.

Could climate engineering offer a pathway for insurers to mitigate some of the worst climate risks, or would it create new challenges? The answer, much like the science behind these interventions, is not simple.

### **What is Climate Engineering?**

Climate engineering encompasses a variety of proposed methods designed to counteract the effects of climate change. These methods generally fall into two broad categories: Solar Radiation Management (SRM) and Carbon Dioxide Removal (CDR).

The SRM approach seeks to reflect a small percentage of the sun's light and heat back into space to cool the Earth. Techniques may include injecting reflective particles into the stratosphere, mimicking the cooling effects of large volcanic eruptions, or brightening low-lying clouds over the oceans. The goal is to reduce global temperatures quickly.

The CDR, on the other hand, focuses on actively removing carbon dioxide from the atmosphere and sequestering it. Methods include afforestation (planting trees), direct air capture (using technology to filter CO<sub>2</sub> directly from the air), and ocean fertilisation (enhancing the ocean's ability to absorb CO<sub>2</sub>). As such, CDR aims at reducing the concentration of greenhouse gases and mitigate the effects of climate change over the long term.

These interventions represent a potential last resort to address the urgent and escalating threats posed by climate change, but they also introduce a range of unknowns and complexities.

### **The Scale of the Climate Challenge**

Before diving into how the insurance industry could engage with climate engineering, let's first understand why countries might be drawn to geoengineering.

Since the industrial era, human activities—particularly the burning of fossil fuels—have pumped vast amounts of carbon dioxide into the atmosphere. This has trapped heat and warmed the planet, triggering a cascade of environmental impacts. From increasingly frequent heatwaves and stronger hurricanes to wildfires and rising sea levels, the evidence is clear: climate change is a pressing global problem.

The obvious solution is to stop releasing carbon dioxide. But even if emissions were slashed today, carbon dioxide lingers in the atmosphere for centuries, meaning the effects would continue. That's where climate engineering comes in. Seen by some as a last resort, it offers the potential to slow global warming in ways that traditional methods, like cutting emissions, cannot achieve quickly.

### **Climate Engineering in Action**

To better understand the potential role of climate engineering, let's take a look at a few projects that are already experimenting with these technologies.

#### *Climeworks' Carbon Capture*

The Swiss company Climeworks has developed a technology known as direct air capture (DAC), which removes carbon dioxide from the atmosphere. Their plant in Iceland captures and stores CO<sub>2</sub> deep underground in volcanic rock formations. While this project offers a potential solution to excess carbon in the atmosphere, it also raises important questions for insurers: What happens if this stored carbon leaks? How do you insure against risks that could play out over decades or centuries?

#### *SCoPEX and Stratospheric Aerosols*

At Harvard University, the SCoPEX project is researching how injecting tiny particles into the stratosphere could reflect sunlight and cool the planet. This idea is based on the cooling effect observed after large volcanic eruptions, when ash and particles in the atmosphere reflected sunlight away from Earth. While intriguing, this technology also brings new risks: what if altering the atmosphere disrupts weather patterns or worsens droughts in vulnerable regions?

#### *Drax Power's Bioenergy and Carbon Capture*

In the UK, the Drax Power Station is experimenting with Bioenergy with Carbon Capture and Storage (BECCS) technology, which burns biomass to generate energy and captures the resulting carbon emissions. This "negative emissions" technology could be a game-changer in removing CO<sub>2</sub> from the atmosphere, but it is not without risks. Insurers need to consider potential hazards, such as the long-term reliability of carbon storage and the environmental consequences of biomass sourcing.



### Marine Cloud Brightening in Australia

In Australia, the Marine Cloud Brightening (MCB) project aims to increase the reflectivity of clouds over the ocean by spraying fine seawater droplets into the air. This process could help cool the Earth by reflecting more sunlight back into space. While MCB holds promise as a potential SRM technique, it also introduces risks, such as unintended impacts on local weather patterns or ecosystems.

### **Unpacking the Risks**

As climate engineering gains attention, the insurance industry must grapple with a new array of risks. These risks can be broadly categorised into four areas.

### Liability Risks

What happens if a climate engineering project goes wrong? For example, solar radiation management could inadvertently alter regional weather systems, causing unintended harm to ecosystems or communities. Liability claims could soar if such projects lead to economic losses or environmental damage. Insurers will need to consider how to assess and underwrite the liability risks that come with these interventions.

### Operational Risks

Climate engineering technologies are complex, often unproven, and involve cutting-edge science. As a result, they carry significant operational risks. Whether it's the failure of a direct air capture facility or unforeseen side effects from injecting particles into the atmosphere, the potential for things to go wrong is high. Developing specialised products to cover the technical and operational risks unique to climate engineering will be essential for the insurance industry.



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**As climate engineering gains attention, the insurance industry must grapple with a new array of risks.**

### Reputation Risks

There's also the question of reputation. Climate engineering is controversial, with critics arguing that it could distract from the need to reduce emissions. Insurers that are involved in underwriting or supporting geoengineering projects could face public backlash, especially if these projects prove more harmful than helpful. Balancing innovation with public perception will be key to navigating these new risks.

### National Security Risks

Implications of climate engineering go beyond environmental impacts to include national security risks. Hence, it is crucial that insurers account for the potential geopolitical conflicts arising from unilateral geoengineering initiatives, which could lead to liability claims and regional destabilisation due to resource shifts.

For instance, if a country implements solar radiation management without international consensus, it could disrupt weather patterns in neighboring areas, leading to resource shortages, economic instability, or conflict. These interventions may also alter the availability of essential resources like water and arable land, intensifying competition and potentially escalating regional tensions.

### **A New Role for Insurers**

As the world searches for solutions to the climate crisis, the insurance industry has a unique opportunity to shape the future of climate engineering. By engaging with this emerging field, insurers can help ensure that these technologies are deployed safely, responsibly, and with the necessary risk management in place.

However, the road ahead is not without challenges. Climate engineering presents a host of unknowns, and the insurance industry will need to be innovative and forward-thinking to navigate this new landscape. But by doing so, insurers play a crucial role in managing the risks of tomorrow's climate solutions, while also seizing new opportunities for growth and relevance in an era of rapid environmental change.

Climate engineering may not be a silver bullet, but it represents an important part of the conversation as we look for ways to mitigate the growing threats of climate change. And the insurance industry will be at the heart of that conversation, helping the world manage the emerging risks.



# NAVIGATING THE EV REVOLUTION

INNOVATIONS IN UNDERWRITING





The global rise of electric vehicles (EVs) is reshaping the automotive landscape, with EVs projected to account for 30% of all vehicle sales by 2030. As governments push for lower carbon emissions and consumers increasingly opt for sustainable transportation, the insurance industry faces both challenges and opportunities in pricing and underwriting EVs.

The transition from traditional internal combustion engine (ICE) vehicles to EVs demands a rethinking of risk assessment models, repair costs, and regulatory compliance, while also presenting opportunities for insurers to innovate their offerings. Among the key issues are the impact of EV driving behaviours, high repair costs, and new vehicle risks—all of which are affecting underwriting profitability and highlight the need for closer collaboration between carmakers and re/insurers.

### **Challenges in Pricing and Underwriting**

One of the most pressing challenges in the underwriting of EVs is the issue of data scarcity. Since EVs are relatively new to the market, the available pool of historical data is limited, making it difficult for insurers to assess risk accurately. Traditionally, insurance pricing has relied on decades of accumulated claims data for conventional vehicles, which covers accident rates, repair costs, and depreciation trends.

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In contrast, the EV market—though expanding rapidly—has not yet generated enough long-term data to fully inform actuarial models. Without the ability to draw on deep historical insights, insurers are forced to rely on emerging datasets or proxy information from similar vehicle categories. This creates uncertainty in risk predictions and pricing strategies.

Compounding this challenge is the issue of repair costs, which are typically higher for EVs compared to ICE vehicles. Although they are simpler mechanically with fewer moving parts, EVs have expensive and specialised components that are costly to replace or repair. For instance, lithium-ion batteries that power EVs can cost anywhere from \$5,000 to \$20,000 to replace, with the average cost to repair an EV is approximately 1.5 times higher than a traditional car.

Other elements, such as specialised electric drivetrains<sup>1</sup> and complex software systems, further increase repair costs. These elevated expenses can substantially drive up the size of insurance claims, forcing insurers to reconsider premium pricing in order to maintain underwriting profitability.

The evolving technology embedded within EVs presents additional challenges. EVs are at the forefront of automotive innovation, with manufacturers regularly introducing new technologies such as advanced driver-assistance systems (ADAS), autonomous driving capabilities, and more sophisticated battery management systems.

While these technologies offer the potential to reduce certain risks, such as accident frequency due to automated safety features; they also introduce new uncertainties. The Insurance Institute for Highway Safety (IIHS) reports that vehicles equipped with ADAS are involved in 50% fewer rear-end collisions, suggesting a possible reduction in accident claims for EVs<sup>2</sup>.

However, the costs associated with repairing these advanced systems, such as sensors and cameras, can escalate the costs of even minor repairs. Insurers are therefore challenged to assess both the effectiveness and cost implications of these technologies in underwriting models.

Regulatory frameworks surrounding EVs are continuously evolving, further complicating the landscape for insurers. Many governments worldwide are offering incentives for EV adoption, such as subsidies and tax breaks, while also introducing regulations that require insurers to cover specific EV-related risks. In Malaysia, the government is promoting sustainable transportation by offering EV owners financial incentives like road tax exemptions, tax rebates, utility discounts, and reduced rates from EV charging and insurance companies.



<sup>1</sup> Electric drivetrains refer to the system in EVs that converts electrical energy into mechanical energy to drive the wheels.

<sup>2</sup> <https://www.iihs.org/news/detail/crash-avoidance-features-improve-safety-but-complicate-repairs>

New regulations in the European Union, in the other hand, mandate additional liability coverage for incidents involving EV charging infrastructure. Insurers must navigate these shifting regulations and ensure their products comply with local laws, while balancing the risks and costs associated with these new requirements.

### **Impact of EVs on Underwriting Profitability**

Driving behaviours, repair costs, and evolving risks associated with EVs are presenting new challenges for underwriting accuracy while also impacting the profitability of insurance portfolios. Studies have shown that EV drivers often adopt different driving patterns than traditional vehicle owners, influenced both by the unique design of the EVs themselves and the incentives tied to their environmental benefits.

EV drivers tend to drive more conservatively to extend battery life, which could lower the risk of high-speed collisions. However, this shift in behaviour also changes the nature of claims. While high-impact collisions may be less common, insurers could see an increase in claims for incidents involving charging infrastructure, both at home and in public charging stations.

Repair costs for EVs are particularly impactful on profitability. In cases where a minor accident in an ICE vehicle might only require a straightforward repair, an EV may need costly electronic components replaced. A simple fender-bender in an EV could damage not just the body but also sensitive systems like battery packs, in-car sensors, or ADAS cameras, resulting in unexpectedly high repair bills. As these costs rise, insurers are experiencing greater claim severity, driving up loss ratios and straining profitability.

The unique risks associated with EVs further complicate risk assessment as they are susceptible to risks such as battery degradation over time, potential battery fires, and issues related to the high-voltage systems that power the vehicle. Battery-related fires in EVs, though infrequent, are more challenging to control because they burn at higher temperatures and take longer to extinguish. These risks must be factored into underwriting models. However, the lack of extensive claims data on these emerging risks makes it difficult for insurers to develop accurate pricing models.

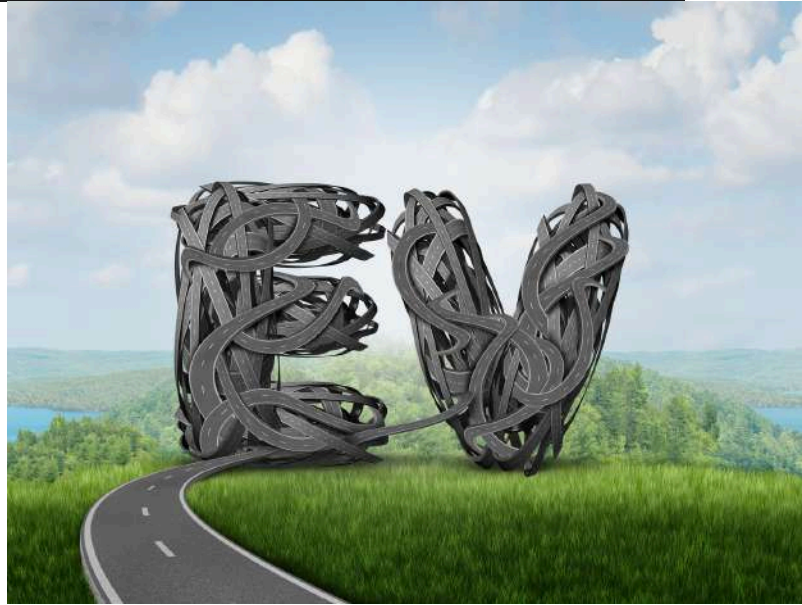


Given these evolving challenges, maintaining profitability in underwriting EVs requires a more dynamic and adaptive approach to pricing. Some insurers have begun exploring usage-based insurance (UBI) models that rely on real-time driving data captured through telematics systems embedded in EVs. UBI allows insurers to price premiums based on actual driving behaviour rather than demographic factors, enabling a more accurate reflection of risk.

### **The Need for Closer Collaboration**

As EV technology continues to evolve, closer collaboration between automakers and re/insurers is becoming essential. Insurers are increasingly recognising that to accurately assess the risks associated with EVs, they must engage with the automotive industry rather than operate in siloed. By partnering with car manufacturers, insurers can access critical data that would allow them to refine risk models and enhance underwriting outcomes.

Collaboration may involve data-sharing agreements that grant insurers direct access to vehicle usage and performance data from manufacturers. This information would enhance insurers' understanding of the risks linked to specific EV models, such as battery life, repair frequency, and potential system malfunctions, leading to more precise pricing.



Tesla, for example, has partnered with several insurance companies to provide integrated insurance products tailored specifically for its vehicles, utilising real-time data on driving habits and performance. Such collaboration not only enhances the accuracy of risk assessment but also enables insurers to develop more competitive offerings.

### **Opportunities Ahead**

The growing adoption of EVs opens significant opportunities for insurers to innovate in their pricing and underwriting strategies. Enhanced data analytics, driven by telematics and connected car technologies, offer insurers the chance to move beyond traditional risk models.

Real-time data collection on driving behaviour, vehicle usage, and charging habits enables insurers to create more personalised insurance offerings, rewarding safe driving and providing premium discounts to drivers who demonstrate low-risk behaviours.





# HOW DRONES ARE REDEFINING MARINE CARGO INSURANCE



Drone technology has moved beyond novelty and into the heart of critical industries, including marine and cargo insurance. What once required labor-intensive processes and extensive manual effort has been streamlined, thanks to the innovation of unmanned aerial vehicles (UAVs). In a sector where the condition of goods, ships, and infrastructure is paramount, drones are transforming how marine and cargo insurers assess risks, monitor claims, and optimise overall operations. Here's how drones are reshaping this industry, offering unprecedented accuracy, speed, and cost-efficiency.

### **Faster and More Accurate Risk Assessments**

In marine and cargo insurance, precise risk assessment is critical to determine premiums and coverage levels. Traditionally, insurers would rely on surveyors who would need to physically visit ships, ports, and warehouses. This process, while thorough, is time-consuming and can be delayed by weather conditions, inaccessible locations, or logistics challenges.

With drones, insurers can quickly assess a vessel's condition from above, examine hard-to-reach cargo holds, or capture real-time imagery of warehouses and cargo storage facilities.

These UAVs are equipped with high-definition cameras, thermal sensors, and even LiDAR (Light Detection and Ranging) technology, enabling insurers to perform detailed inspections of ships' hulls and critical structural components, even in locations difficult to reach manually.

They can also monitor potential hazards like corrosion, wear and tear, or faulty equipment that could lead to claims. Additionally, drones provide rapid evaluations in areas affected by weather events or accidents, ensuring insurers can respond faster and more accurately. This enhanced visibility allows insurers to mitigate risks more effectively.

### **Streamlining the Claims Process**

Marine and cargo insurance claims can often be complex due to the global nature of the shipping industry. Whether the loss involves a damaged container at a remote port or a sunken vessel in international waters, the traditional method of sending surveyors and investigators is both costly and time-consuming.

Drones offer a new level of agility in the claims process. They can be deployed immediately after an incident, providing real-time data and aerial footage of accidents or damaged cargo. This quick response minimises delays in claims processing and enables insurers to gather unbiased, real-time evidence.



The real-time monitoring capabilities of drones offer a tangible method to curb insurance fraud. By capturing immediate imagery and data, insurers can reduce false claims or exaggerated damages. In cases where damage has occurred in hazardous environments, such as a sinking ship or a cargo spill, drones can gather necessary data without putting human surveyors in harm's way. For insurers, this means reduced operational costs, improved accuracy in claims assessments, and a faster turnaround for customers.

### **Enhancing Cargo Tracking and Security**

One of the biggest challenges in cargo insurance is ensuring that goods are not damaged or lost in transit. With complex global supply chains and the involvement of multiple carriers, tracking the condition of cargo from origin to destination is a daunting task.

Drones are now helping insurers monitor cargo throughout its journey by providing mid-transit monitoring and port and warehouse surveillance. UAVs can be deployed at key shipping points to assess the condition of containers, ensuring that cargo remains intact. Real-time data from drones enables insurers to respond quickly if issues arise, such as compromised containers or exposure to adverse weather conditions.



Beyond in-transit tracking, drones enhance surveillance for ports and warehouses. This added monitoring reduces risks of theft, vandalism, and improper storage — critical factors for managing cargo insurance risks. By incorporating drones into their operations, insurers can gain better visibility into the condition and handling of goods, leading to fewer disputes and a smoother claims process.

### **Future Implications**

Advances in drone technology enable marine and cargo insurers to use predictive risk modelling by combining drones with AI analytics. Drones collect data on environmental factors and cargo handling, allowing machine learning to forecast risks before claims arise. Additionally, integrating blockchain enhances transparency and security in cargo monitoring, claim verification, and regulatory compliance.