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Innovation

The risk of (not) adapting

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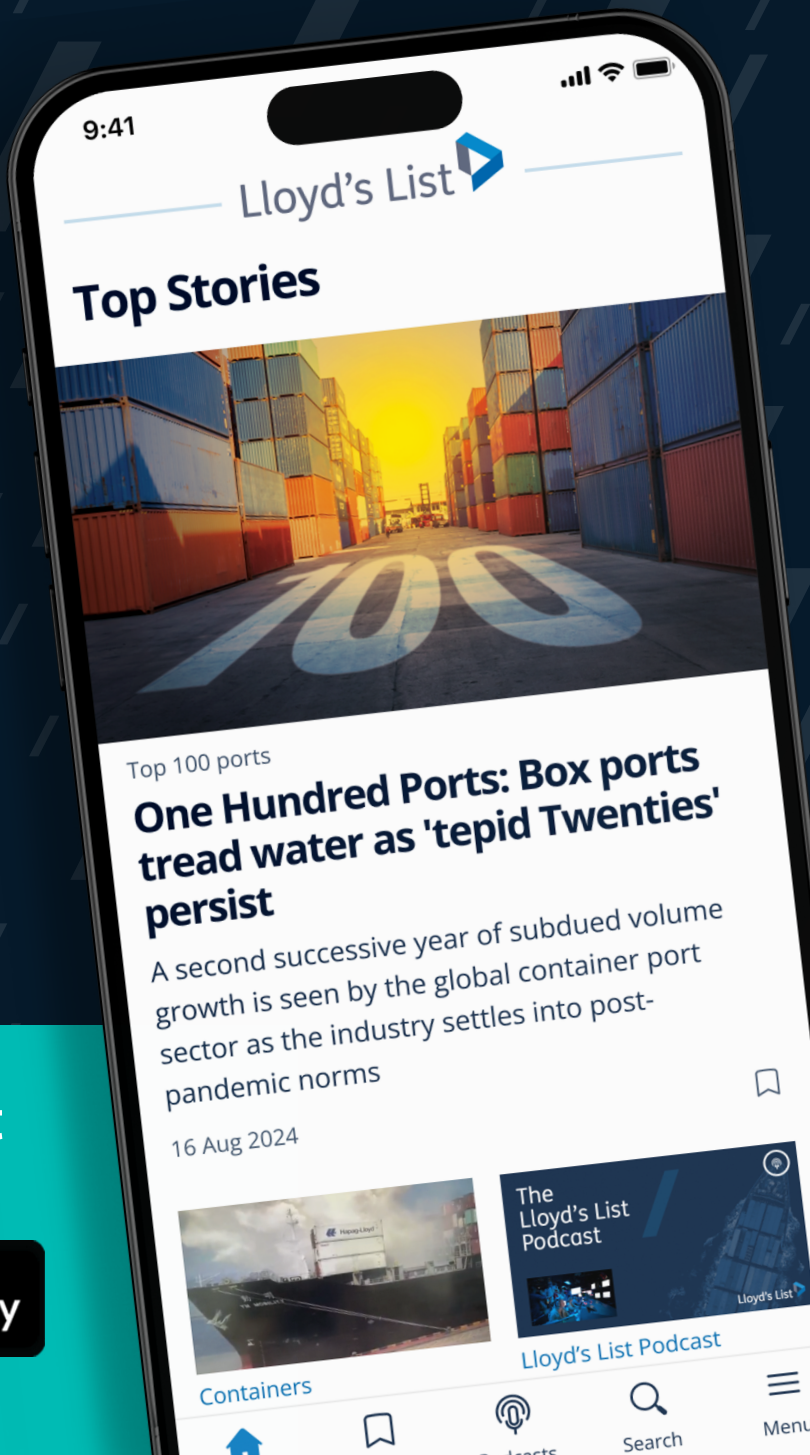

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Innovation

Innovation includes how to adopt and how to adapt to new technology. It can also mean seeing and doing business differently. Here, re/insurers present all kinds of 21st-century approaches to their 350-year-old industry.

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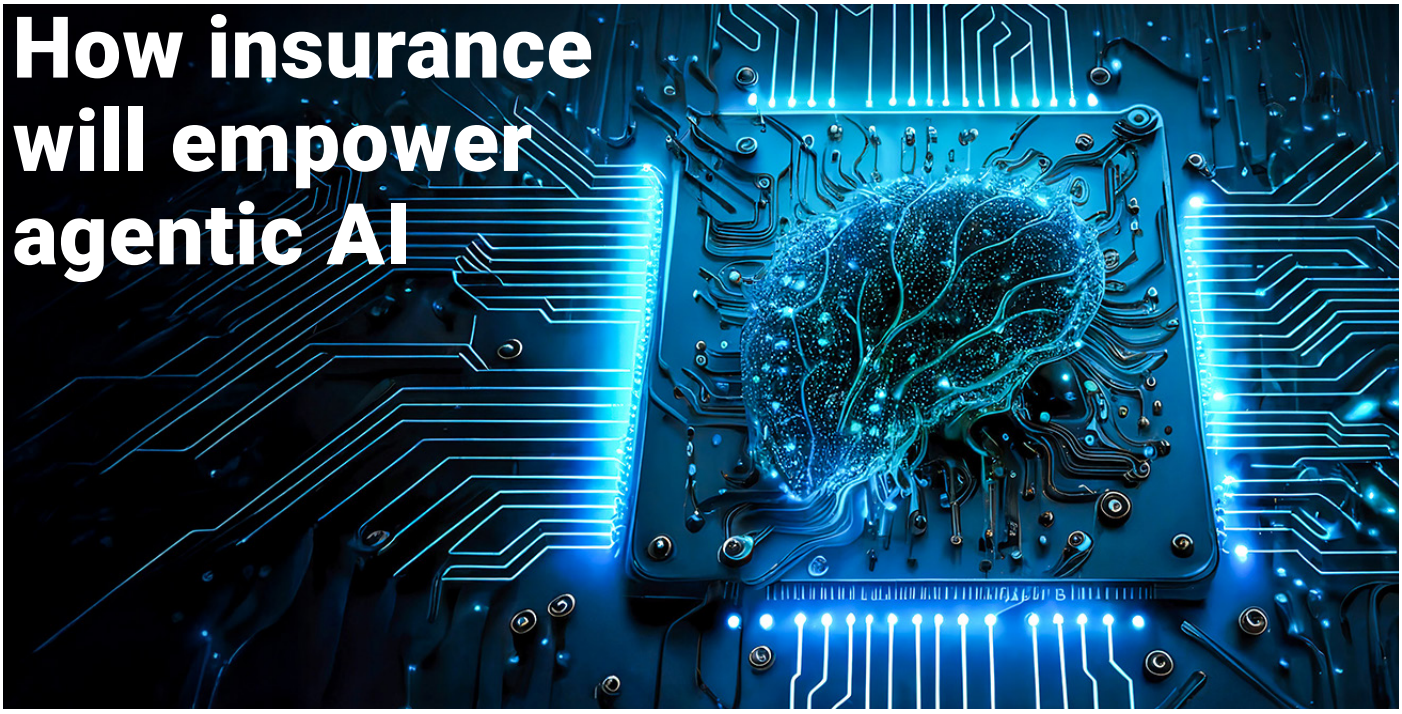
How insurance will empower agentic AI



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The challenges involved bring opportunities for insurers to step in as enablers of innovation, helping organisations adopt agentic AI confidently and responsibly, writes Brandon Nuttall

Even within the artificial intelligence (AI) space, technology continues to evolve rapidly and agentic AI is positioned to redefine industries by introducing unparalleled efficiency, personalisation and innovation.

Agentic AI differs dramatically from traditional AI. While conventional AI performs narrow, predefined tasks on demand, agentic AI acts autonomously, making decisions, adapting strategies and pursuing long-term objectives over extended periods within dynamic environments.

Picture systems that not only predict trends, but act to capitalise on them, building solutions to evolving problems in real time.

Although the potential benefits of agentic AI are vast, its integration poses significant risks – ranging from algorithmic biases and failures, to cyber-physical threats and regulatory gaps.

These challenges, however, bring opportunities for insurers to step in as enablers of innovation, helping organisations adopt agentic AI confidently and responsibly. Much like cyber insurance transformed their portfolios a decade ago, insurers have a chance to create policies that bridge gaps and meet emerging demands in the AI landscape.

The case for new products

As agentic AI becomes a fixture in industries such as healthcare, finance and manufacturing, insurers can develop innovative risk management solutions tailored to these systems. Opportunely positioned, insurers can ensure organisations deploying AI do so without undue exposure to risk, thereby fostering broader adoption.

The following areas are ripe for innovation:

AI algorithmic liability insurance: this coverage protects organisations from claims of bias, flawed recommendations, intellectual property infringement or AI-driven errors. With businesses increasingly delegating critical decisions to AI, traditional errors and omissions policies no longer suffice. Insurers can bridge this gap by explicitly covering liabilities like algorithmic bias and performance failures, reassuring enterprises navigating this new frontier.

AI performance guarantees and warranties: enterprises remain wary of deploying mission-critical AI without guarantees that systems will per-

form reliably. This insurance solution would compensate users for financial losses when an AI product underdelivers on performance standards such as accuracy or uptime. Much like the evolution of cyber insurance, AI performance warranties – combined with independent testing – could furnish the assurance businesses require to embrace agentic AI fully.

AI-related business interruption coverage: traditional business interruption policies focus narrowly on losses tied to physical damage. However, agentic AI outages can disrupt operations just as severely, causing lost revenue and reputational harm. A customised policy addressing such failures would not only fill a glaring coverage gap, but also mitigate harm with provisions for incident response and revenue recovery.

Cyber extensions for AI systems: expanding cyber policies to include risks related to AI is vital given the growing threat landscape. From adversarial attacks and data poisoning to privacy breaches caused by misused AI tools, a tailored policy can ensure cyber events involving AI are covered as insured risks – not dismissed as operational flaws.

To incorporate agentic AI into underwriting strategies effectively, insurers need to understand its nuances and challenges. This begins by building organisational expertise.

Multidisciplinary teams bringing together underwriters, data scientists and AI engineers can develop proprietary frameworks to assess client risk. Examining AI controls, governance practices and data quality enables insurers to provide accurate, informed coverage and pricing.

Furthermore, partnerships with reinsurers can reduce upfront capital risks when piloting new products. For example, targeted programmes like AI performance guarantees for healthcare start-ups or business interruption coverage for cloud-based AI solutions allow insurers to test niche markets while sharing losses.

Alongside these pilots, embedding risk management services – such as prebinding audits, bias detection, and cyber security reviews – creates added client value, fosters loyalty, and reduces loss frequencies over time.

Practical next steps

The transformative potential of agentic AI is already evident, but capitalising on it requires proactive strategies. Forward-thinking insurers should:

Engage regulators: contributing to regulatory frameworks like the EU AI Act or Financial Conduct Authority guidelines ensures insurers play a pivotal role in defining insurable AI-related risks. Aligning policies with compliant requirements reassures clients and strengthens market confidence.

Leverage technology for scale: digital platforms can streamline quoting and claims processes, creating plug-and-play endorsements for existing cyber, errors and omissions or liability policies tailored to AI-related risks. This modular approach can expand product offerings quickly and efficiently.

Nurture ecosystem partnerships: insurers must collaborate with AI developers, enterprises and regulators to build trust in agentic AI's potential. Performance guarantees, coupled with standardised policy conditions such as governance and security controls, can encourage best practices across industries while signalling responsibility to stakeholders.

By addressing risks decisively, insurers emulate historical examples of underwriting innovation – like the Lloyd's policies that powered marine trade centuries ago. Just as maritime insurance enabled the age of exploration, agentic AI insurance can accelerate the adoption of autonomous systems, driving global progress while creating new revenue streams.

Bridging the insurance gap

The road to realising agentic AI's full societal value starts with de-risking innovation. Through performance warranties, liability protections and proactive risk assessments, insurers can empower organisations to boldly adopt these transformative systems. This alignment of industry practices with emerging technologies marks a turning point where insurers are no longer just providers of coverage, but catalysts of economic and digital advancement.

We are entering an era where insurers will not only close the risks of today but will recalibrate to meet the challenges of tomorrow. Whether by standardising new products or accelerating the adoption of autonomous tools, the insurance industry has demonstrated a unique ability to adapt and transform. This moment is no different and by investing in agentic AI now, insurers can fulfil their role in writing the next chapter of innovation, responsibly and securely.

By embracing these opportunities, the insurance sector can help enterprises move forward with confidence, seize efficiencies and bridge existing coverage gaps. Together, we can turn potential challenges into profitable possibilities – and most importantly, play a critical role in empowering the organisations that will shape the future.■

Brandon Nuttall is chief digital and AI officer at Xceedance

Just as maritime insurance enabled the age of exploration, agentic AI insurance can accelerate the adoption of autonomous systems, driving global progress while creating new revenue streams

The 2R Artificiality/Adobe Stock

The irresistible rise of artificial insurance

Insurers must prepare for a future where AI could replace the human element in insurance, writes Peter Mansfield

The irresistible rise of artificial intelligence (AI) is no longer hypothetical – particularly in an industry built on risk. This is the dawn of "artificial insurance": a future where AI is not just supporting the industry but fundamentally reshaping it.

For insurers, the shift is already under way – AI is changing how risk is assessed, policies are priced and claims are processed. But the true impact of this transformation is only beginning to unfold.

To demonstrate just how far AI has come, I asked ChatGPT to generate a version of this article using the title, "The irresistible rise of artificial intelligence in the insurance industry". I hesitated to use artificial insurance – a poetic phrase that felt a little too human for it.

Surprisingly, the result was strikingly coherent and informative – though not without its flaws, namely an abrupt ending and American spellings. Still, the output was a reminder of just how far generative AI has come and how convincingly it can now replicate the language of expertise.

Its main argument, that AI's role in insurance is both inevitable and expanding, was very accurate. But the more pressing question is not whether change is coming, but how rapidly and how radically it will reshape the industry.

Tom Wilde, chief executive of Indico Data, recently noted on my Insurance Covered podcast that AI is "overhyped in the short term and underhyped in the long term". This is a sentiment increasingly echoed by senior figures across the industry.

Already, AI systems are taking on a growing list of routine insurance tasks. Claims triage, underwriting

support, document extraction and customer onboarding have all been streamlined through automation, delivering faster decisions and more consistent outputs. Most of this is powered by large language models (LLMs) and machine learning tools trained on historical data – technologies built for speed, scale and pattern recognition.

Obvious benefits

The benefits are tangible: it is helping insurers assess risks more broadly, price premiums more accurately and develop tailored insurance products. It is opening opportunities that simply did not exist even two years ago.

But in 2025, AI does little more than streamline and improve the status quo. At this stage, it is less revolutionary force than helpful sidekick – think Santa's Little Helper or Dobb-AI the insurance elf. As we are repeatedly told, it quietly takes care of the admin no one really wanted to do in the first place. The technology is transformatory in a localised sense – but it is not yet transforming the industry as a whole.

As insurers consider where AI is heading next, it is helpful to distinguish between the different phases of its evolution – each with distinct implications for how the industry operates and innovates. These four stages paint the picture...

- **Predictive AI:** early-stage models analyse historical data to predict outcomes. For instance, estimating the probability of a flood at a specific address.
- **Extractive or discriminative AI:** this stage enables AI to make inaccessible or unstructured data usable. For example, it can pull relevant information from PDFs or handwritten documents.
- **Generative AI:** with tools like ChatGPT and image-generation models, AI has begun creating new content, from customer service scripts to marketing collateral.

Whether or not artificial superintelligence materialises, AI in its current forms is already reshaping how insurance works. From risk pricing to fraud detection, customer onboarding to policy servicing, AI tools are accelerating decision-making, improving consistency and raising new legal and regulatory questions. The industry must engage – not just with opportunity, but with risks: explainability; bias; liability; and exclusion of vulnerable customers

- **Agentic AI:** this emerging phase involves AI that can reason, learn from experience, and take initiative. Agentic systems could, in theory, improve themselves and act semi-autonomously.

The disrupters

Most current insurance applications sit comfortably within predictive and extractive AI – useful, practical, and relatively well understood. But the direction of travel is towards something far more disruptive.

Artificial general intelligence (AGI) – described on the Your Undivided Attention podcast as "AI that matches human cognitive performance" – could, if realised, fundamentally reshape knowledge-based sectors like insurance.

Much of the industry's work already happens behind a screen: drafting policies, analysing risk, reviewing claims. This is exactly where AGI would feel at home.

Some forecasts put the arrival of AGI within the next two to five years. If that turns out to be even close to accurate, it will be a before-and-after moment – not just for insurance, but for every screen-based profession. What AGI cannot yet do today, it may learn to do tomorrow. And possibly teach itself to do better the day after that.

But it does not stop there. Beyond AGI lies the more speculative territory of artificial superintelligence (ASI), a level of capability that surpasses not just individual humans, but the combined cognitive capacity of all of us. In that world, it is hard to imagine where, or if, the traditional human roles in underwriting, claims or actuarial work would still fit in.

Whether or not ASI materialises, AI in its current forms is already reshaping how insurance works. From risk pricing to fraud detection, customer onboarding to policy servicing, AI tools are accelerating decision-making, improving consistency and raising new legal and regulatory questions. The industry must engage – not just with opportunity, but with risks: explainability; bias; liability; and exclusion of vulnerable customers.

The rise of artificial insurance is happening – incrementally, but irresistibly. Its impact may feel evolutionary for now, but the direction is clear: deeper automation, smarter systems and a rethinking of human roles.

If AGI or ASI emerges, underwriters may find themselves, cognitively speaking, where dolphins sit in relation to humans – intelligent, but no longer the decision-makers. That future is not here yet, but preparation must begin now. ■

Peter Mansfield is a partner and insurance lawyer at RPC

Aviva pilots actuarial AI agent in specialty lines

Insurance giant is partnering with AI developer hyperexponential on initiative to augment underwriting capabilities, Aviva's commercial lines CUO tells Insurance Day

UK insurer Aviva is testing how agentic artificial intelligence (AI) can help it price risks in its specialty business, *writes Francis Churchill*.

Agentic AI promises to be the next development in AI technology. Building on the success of large language models (LLMs), agentic AI attempts to mimic human decision-making within defined tasks.

Partnering with AI developer and underwriting platform hyperexponential, Aviva is using an actuarial pricing tool to help augment the expertise of its underwriters. Over the next six months, the insurer will look to explore the "full range of possibilities" with hyperexponential.

"We see significant potential in this AI capability to streamline workflows and reduce the volume of manual processes currently handled by underwriters," Karen Dayal, chief underwriting officer for commercial lines at Aviva, tells *Insurance Day*.

Transformation tool

AI has become a key driver for business transformation and modernisation for the insurer. In its risk management solutions business Aviva is using AI tools to extract insights from engineering and loss adjuster reports to develop best practice guidance on loss prevention for clients.

"We see augmented underwriting playing a role in automating routine tasks, efficiently triaging submissions and enriching pricing tools with third-party data," Dayal says. "These capabilities will not only accelerate the underwriting process but also provide underwriters with deeper insights and more accurate valuations to support optimal pricing outcomes."

Hyperexponential provides a platform to allow actuaries to build their pricing models, which can then be rolled out to underwriters. One of the tools the company has developed is a "coding co-pilot", which Adam Ben-David, the company's AI leader, says will help actuaries develop the code used in pricing models.

"Increasingly we see in pricing teams there are now software developers and actuaries themselves getting more comfortable with [coding language] Python. But a software development language is a big ocean of knowledge and skills to build up and that constrains how sophisticated you can make these models," Ben-David says.

The coding co-pilot can help with questions about how to use the framework, give specific advice on how to achieve certain outcomes with the code or even how to translate business objectives into computer code. Whereas existing LLMs work on a question-and-answer basis – not dissimilar to a search engine – Ben-David says the co-pilot tool will be "like a co-worker or a senior member [of staff] who you can turn to and say 'I'm working on this, what do you think?'"

Ben-David compares it to partner programming, where two programmers take turns writing code and problem solving – only in this case the partner would be AI. "I'm the primary developer working on this feature, but I'm not just sitting there coding everything. [The partner is] watching and giving me advice or is there if I have questions. Sometimes they might get their hands on the keyboard and go, why don't we try this?"

Improving actuarial models

Time and budget are often the biggest constraints when it comes to developing actuarial models, Ben-David says, and tools like this can help not only by speeding up the process but also advising on how coding could be improved. "Oftentimes, you can't ship as advanced a software product as you would want given those constraints," he says. "That's a big focus for us in the partnership with customers: given a new set of capabilities, can you push the top line of what's possible with a model that just wasn't reasonable before given time and material?"

Rather than building and training a custom AI model, Aviva says partnering with hyperexponential allows it to use existing large language models. Hyperexponential says it takes a "model-agnostic" approach, allowing customers to integrate whichever AI models they choose. "Most companies are setting up direct relations with model providers so we take an agnostic approach, but we do guide on which models perform better in certain scenarios," Ben-David says.

Dayal says the quality of the model is ensured through ongoing user-in-the-loop testing, beta deployments and a structured evaluation framework. "Documentation and real user feedback are central to refining the agent's capabilities and ensuring outputs align with current standards," she says. ■

The impact and potential of AI in the claims process

DAC Beachcroft's report on the impact and potential of AI in the insurance claims process reveals a sector 'embracing change, with eyes wide open'

A new report from DAC Beachcroft on the insurance industry's use of artificial intelligence (AI) reveals a number of clear themes emerging, as well as a definite sense of optimism – indeed excitement – regarding future use cases and what the technology can do to drive process efficiency, enhance job satisfaction and improve customer journeys, *writes Liz Booth*.

DAC Beachcroft conducted a series of qualitative one-to-one interviews with senior managers from a diverse group of compensator organisations across the claims market and then tested the common themes emerging from these interviews with a wider group through an online survey.

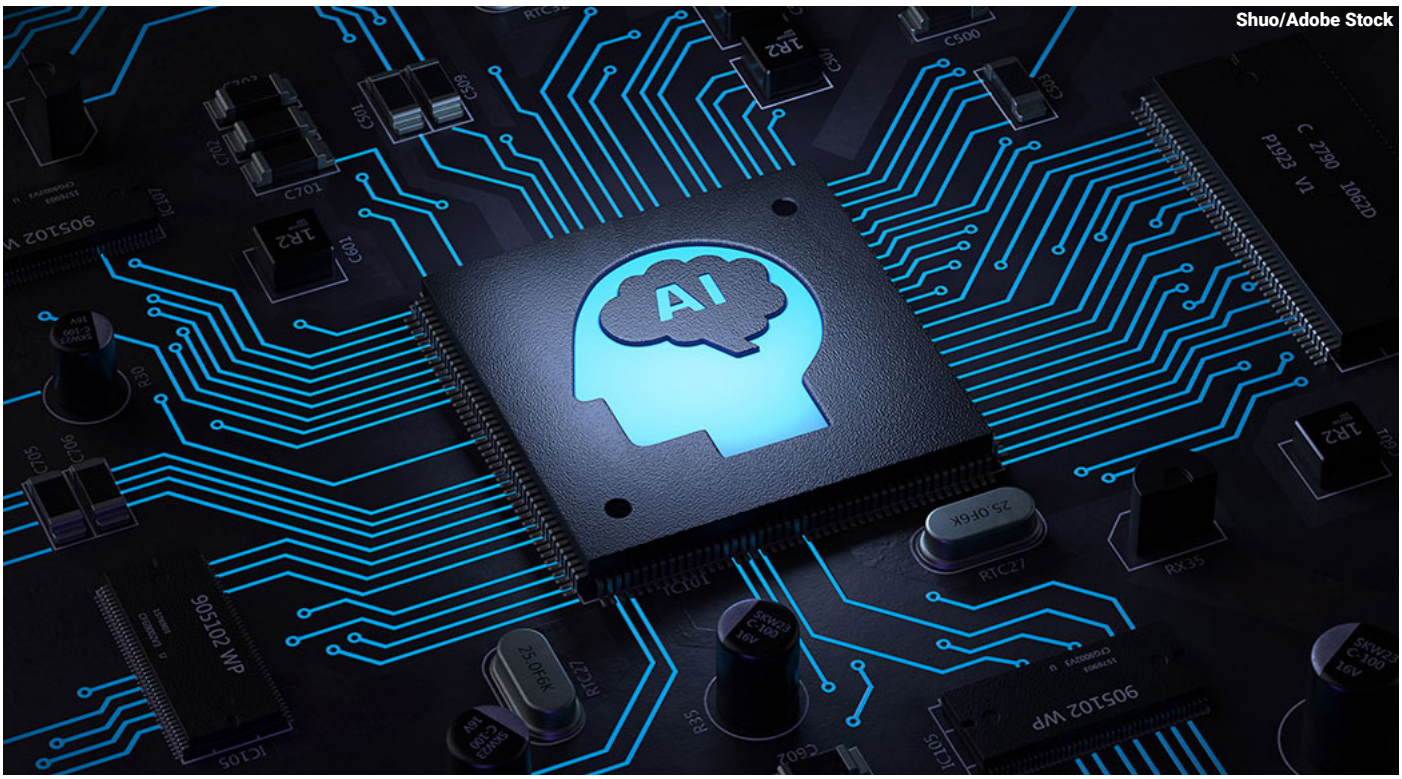
The resulting report provides a review of the claims market's current and planned use of AI, looking thematically at the impact of new technologies on important stakeholders in the process, such as colleagues and – most importantly – customers.

It reveals while many insurers are already using "traditional" predictive AI and machine learning to help assess loss more accurately and identify patterns that point to potential exaggeration or fraud, generative AI is seen as another level again. The insurers interviewed are all now piloting use cases to assess the value this new iteration of AI could potentially add.

Human involvement

All interviewees talked about the importance of making sure humans remain in the loop and of perfecting the interplay between the roles of humans and AI. A number underlined the need for humans to retain responsibility for decisions, with AI being deployed to assist this decision-making process by providing support to claims handlers in a number of ways, freeing up their time to focus on the more complex and human elements of their jobs.

Hardly anyone interviewed anticipated a future where the claims process would be fully automated. Nearly all described human interaction as essential, for the simple reason that an insurance claim is always a time of stress and emotion for customers. This is the reason why insurers' focus for AI investment (and now generative AI) is for now firmly on back-office functions,



Shuo/Adobe Stock

working behind the scenes to enable them to service customers better, rather than on the customer-facing part of their business.

All interviewees mentioned training as another key to the successful integration of AI in the claims process, helping the humans in the process to understand not just what AI can do and how to use it, but crucially its limitations too, particularly regarding its interpretation of data. As a number of interviewees put it, if the data input is not perfect (and given the industry is currently relying on legacy data, this is most of the time), the people working with these outputs need to understand that.

A number talked about significant investments their companies have made in establishing "data academies" to educate the people in the business about how to interpret the output from generative AI and what to watch out for in reviewing that output. This included anticipating assumptions the AI might be making when processing data and identifying patterns and trends; watching out for bias that could creep in to the process because machines do not understand the nuances that may sit behind some numerical trends in the way that humans can; and being alert to the possibility of machine hallucinations.

Everyone talked about the critical role for the humans in the claims process in reviewing and challenging AI output and making sure the conclusions drawn from it make sense in the real world.

Most described the major potential benefit of generative AI being its ability to structure unstructured data. As one interviewee said: "The moment you can do this, you are able not only to make significant improvements to existing models but also create new models that were out of reach before."

Areas of greatest benefit

There were three areas of insurance business and claims handling that could benefit most from generative AI listed by respondents (*see box*).

Peter Allchorne, partner at DAC Beachcroft and head of the strategic advisory team, said: "AI is a hot topic just now, but there is a lot of hyperbole and PR noise around it, which confuses the picture for those needing to make proper and diligent assessments to guide their organisations into the future.

"Many organisations already use rules-based RPA [robotic process automation] for processes involving repetitive tasks such as data entry and extraction. The opportunity of AI is to take this to an entirely different level: AI promises the ability to identify and learn from patterns in data, allowing systems-driven decision-making, with or without a 'human in the loop', to solve complex problems that previously required human thinking. Our aim was to chart the insurance industry's adoption so far and its future plans." ■

Where generative AI can help insurance

Supporting claims handlers' calls with customers: generative AI has a lot to offer in terms of creating summaries of case information for claims handlers at great speed and producing transcripts of calls with customers, freeing them up to focus on the more complex, human and interesting parts of their job.

Processing the millions of incoming documents insurers receive each year: having the ability to extract the most useful and relevant information much more quickly would be a major benefit.

Verifying images: increasingly customers' claims are supported with images of damage and in these days of AI image generation, it is easier for the unscrupulous to fabricate these. Generative AI is able to assess images submitted in a case to check where they have come from, whether they are genuine or whether there is fraud at play.

"Many organisations already use rules-based robotic process automation for processes involving repetitive tasks such as data entry and extraction. The opportunity of AI is to take this to an entirely different level: AI promises the ability to identify and learn from patterns in data, allowing systems-driven decision-making, with or without a 'human in the loop', to solve complex problems"

Peter Allchorne
DAC Beachcroft

MGAs emerge as generative AI testers

Managing general agents are the 'boiler room' of artificial intelligence for re/insurance, Earnix's Andrew How says

Managing general agents (MGAs) are pioneering insurance innovation, serving as testing grounds for artificial intelligence (AI) applications that traditional carriers are too cautious to implement at scale, *writes Queenie Shaikh.*

This dynamic has created an unusual relationship where nimble MGAs experiment with technology while their carrier partners watch carefully from the sidelines, ready to adopt successful approaches once the risks are understood.

Andrew How, director for Europe, the Middle East and Africa (Emea) insurance at insurtech Earnix, describes MGAs as the "boiler room of innovation" in insurance.

Based in London, Earnix provides integrated, predictive and generative AI across the full underwriting, pricing, rating and personalisation cycle.

Earlier this year, it also became a member of the Managing General Agents' Association (MGAA), which represents MGAs in the UK and the Republic of Ireland.

By referring to MGAs as such, How means their agility and lean structures allow them to embed predictive AI into risk selection and pricing more quickly than carriers constrained by legacy systems and complex governance structures. This is creating an industry ecosystem where innovation flows upward from smaller, more flexible operations to larger, more established ones.

Structural simplicity

The trend is challenging traditional assumptions about how innovation spreads through financial services. Rather than large companies with substantial research budgets leading technological advancement, the insurance industry is seeing smaller, specialist operations drive change through practical experimentation.

In an interview with *Insurance Day*, How suggests the speed advantage MGAs have stems partly from their structural simplicity. "They don't have to unwind decades of IT infrastructure or reconcile multiple post-M&A data systems," he explains. This freedom from legacy constraints allows MGAs to integrate AI into core workflows with minimal friction, How says, making them "ideal early adopters" of technologies that might take carriers years to implement properly.

Yet the MGA advantage is not simply about speed, he stresses. Their smaller size enables rapid testing and refinement that would be impractical for larger operations. How notes that MGAs have used predictive models to segment portfolios and recalibrate pricing in near real-time. "Identifying a cluster of under-priced risks early in a renewal cycle allowed corrective action that materially improved loss ratios," he says. "The speed of adjustment being weeks rather than years is the real advantage."

This experimental approach is generating valuable lessons for the broader industry. How says carriers are discovering that AI adoption involves more than just implementing new technology. "From MGAs, they're seeing how explainability and fairness checks can be embedded early, and how smaller, agile teams experiment with pricing strategies more openly," he says. These insights are increasingly influencing how carriers structure their own AI programmes, he adds.

The learning process has also revealed common misconceptions about AI implementation. How describes widespread confusion between generative and predictive AI applications. "One misconception is

"From MGAs, [carriers are] seeing how explainability and fairness checks can be embedded early, and how smaller, agile teams experiment with pricing strategies more openly"

Andrew How
Earnix

that generative AI can replace predictive models in underwriting and pricing," he explains. "In reality, the two are complementary – predictive AI provides robustness at scale, while generative AI can accelerate analysis or tune models in novel situations."

This distinction matters, he continues, because it affects how companies allocate resources and set expectations. Understanding the complementary nature of different AI approaches may help organisations avoid costly mistakes and focus investment where it will deliver genuine value.

The data quality challenge presents another area where MGA experimentation appears to be providing broader industry insights.

How emphasises that success depends more on clean, auditable data and strong governance frameworks than on sophisticated technology alone. This lesson may prove particularly valuable for carriers with complex data environments inherited from decades of operations and acquisitions.

AI adoption styles

However, How argues the narrative of MGAs being significantly ahead of carriers in AI adoption may be overstated. "The real distinction lies in adoption styles – MGAs test and adapt quickly, while carriers scale more cautiously but with heavier governance," he suggests. As AI adoption moves into the "early majority" stage for predictive modelling, How says carriers appear to be beginning to close the gap.

The question of how far automation can extend before undermining specialist expertise remains contentious. He argues the dividing line falls between repetitive tasks and high-context judgement. "AI should be used to automate routine processes, from document handling to initial triage, freeing underwriters to focus on complex, specialist risks," he says. Human expertise remains essential, particularly for novel or ambiguous cases.

Real-time data integration represents another frontier where MGAs are demonstrating possibilities for the broader industry. The ability to detect shifts in claims patterns or market conditions and react within days rather than quarters gives MGAs significant competitive advantages, How suggests. "For MGAs in any class of business, real-time integration can be the difference between capitalising on an emerging trend and missing it entirely," he says.

Looking ahead, he sees claims processing emerging as the greatest untapped opportunity, and the potential for AI tools that combine predictive and generative techniques to process documents, images, and reports at scale while flagging edge cases for human review. Given claims account for most of the industry's profit and loss, improvements in this area could prove transformative.

The relationship between MGAs and their carrier partners suggests innovation in insurance is often happening through practical experimentation by smaller players before being adopted more widely. Whether this pattern continues as AI technologies become more mainstream remains to be seen.■

PRIM/Adobe Stock

How technology is enhancing reinsurance

As the primary insurance market embeds digital into the heart of its operating models, it creates a compelling need for the reinsurance industry to pick up the pace of technological development, writes Louis de Segonzac

At a recent meeting with a managing general agent (MGA) specialising in property, I was given an insight into the extraordinary possibilities technology can bring to the insurance and reinsurance industries.

During our discussion, I was asked for my address in Miami. The MGA's quoting platform used more than 30 sources, including satellite images of my home and artificial intelligence (AI), to validate details such as the square footage of the building and age of the roof. The technology also interrogated existing databases to get information on the age of the building and the electrical and plumbing systems used.

Within seconds – and without having to fill in a single form – I was given a detailed quote that was rich in accurate information about my property. Thanks to the depth of data the MGA had used and the deep understanding it had of the risk, had I been an actual customer it would have been able to insure my property with a high degree of confidence.

MGAs are becoming a larger part of the primary insurance market, especially in the US. MGAs tend to be started by insurance professionals who have a great depth of understanding of a particular sector and actively build technology into their business models right from the start.

Our industry is littered with examples of insurtech companies that have failed. Often, this is down to the fact they were started by technology professionals who do not really understand insurance. The most successful MGAs are founded by insurance people. They have deep insights into the challenges of our industry and the problems we need to solve. Having identified the pain points, they have then searched the market for technology that best addresses them.

Impact of artificial intelligence

AI-driven innovations are already starting to transform our industry. For example, many organisations have been able to consign the use of spreadsheets to history. Everyday data-gathering functions can be time-consuming, tedious and prone to inaccurate inputting. Digital technology can tackle these problems head-on, resulting in data being processed at speed and with higher levels of accuracy, while enhancing data consistency.

Technology is now allowing reinsurance companies to understand their clients' portfolios at a granular level, enabling them to provide bespoke solutions. This means reinsurance companies can create products that not only improve the efficiency of their clients' business, but can also offer strategic insights. Carriers that achieve this can become valued partners, supporting client operations throughout the business cycle, not just at renewal.

Technology, of course, also allows reinsurance companies to enhance their own performance. Improved data leads to superior analytical capabilities, meaning they can move

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quickly to respond to unforeseen events. All these technological evolutions will further strengthen their relationships with existing clients and make them an attractive option for potential new clients.

The clever application of technology to automate grunt work such as collecting and inputting data frees up underwriters to perform higher-value tasks such as offering clients strategic advice on risk management and insights into emerging risks that will enable them to plan well for volatility and uncertainty.

Technology will not replace the role of humans, but it will lead them to carry out more stimulating and intellectually challenging tasks each day. From a business point of view, it allows reinsurance companies to significantly scale up operations without the added costs of having to hire more staff. It will also mean in the future reinsurance professionals will become more, rather than less, important to the success of the companies.

Keeping up with competencies

As the primary insurance market embeds digital into the heart of its operating models, it creates a compelling need for the reinsurance industry to pick up the pace and match these levels of technological competence. If they do not, they risk becoming a somewhat outmoded partner, which creates unnecessary friction for primary insurance companies thst are used to a more seamless digital experience. If that does happen, reinsurers risk being left behind.

As the world becomes increasingly complex, the challenge to understand these new risks and price them accurately has never been higher. However, the rewards of fully embracing digital technology and the many efficiency and operational benefits it will unlock are even greater.

MS Reinsurance is investing heavily in technology. We have upgraded many legacy systems and have developed our own underwriting, technical accounting and claims tools. These allow us to track renewals, accounts and claims from the moment they come in to the time they are finalised. We have also started to use AI to help with data analysis and to eliminate data discrepancies.

It is a fascinating journey that will lead us to a leaner and value-add administration of our portfolio, which, in turn, will lead to lower expenses being pushed on to our clients, to their benefit. ■

Louis de Segonzac is chief underwriting officer, Americas at MS Reinsurance

The clever application of technology to automate grunt work such as collecting and inputting data frees up underwriters to perform higher-value tasks such as offering clients strategic advice on risk management and insights into emerging risks that will enable them to plan well for volatility and uncertainty

Commercial insurance's automation dilemma

CFC's head of digital underwriting describes the ongoing struggle to balance efficiency with adequate risk assessment for commercial insurers

Commercial insurers are caught between competing pressures that seem almost impossible to reconcile: brokers increasingly demand instant quotes and seamless digital experiences, yet the complexity of commercial risks means rapid, automated decisions carry significant potential for costly mistakes, *writes Queenie Shaikh*.

Finding the right balance between these competing demands has become one of the industry's key innovation challenges.

Dan Keeler, CFC's recently appointed head of digital underwriting, has witnessed this challenge at first hand. CFC, which specialises in cyber insurance from its London base, has built its reputation on digital-first underwriting since launching its Connect portal in 2019.

Yet even as the company develops quoting powered by artificial intelligence (AI) that can analyse documents ranging from PDFs to emails without human input, Keeler acknowledges the ongoing struggle to balance efficiency with adequate risk assessment.

"Our strategy continues on that note, as we commit to delivering the best possible terms with the least friction possible," he says, although he adds achieving this balance remains complex.

The dilemma is most acute in commercial lines, where individual policies can be worth millions of dollars and risks often involve unique circumstances that do not fit algorithmic models. While personal lines automation can rely on standardised risk factors, commercial underwriters must assess everything, from unusual manufacturing processes to novel tech exposures, that historical data simply does not capture. Automation excels at pattern recognition but can struggle with outliers.

Layers of security

In an interview with *Insurance Day*, Keeler says CFC's response reveals how insurers are attempting to square this circle. Rather than choosing between speed and scrutiny, the company has built what he terms "multiple layers of security" into its digital processes.

InfiniteFlow/Adobe Stock

Validation "engines" cross-reference data against multiple sources, flagging discrepancies, such as a recent case where reported company turnover was $10m while external data indicated $100m. Continuous monitoring tracks unusual patterns, while human teams conduct independent reviews of complex business, he says.

The result is a hybrid approach that is becoming standard across the industry: routine risks are handled automatically; complex cases require human assessment. The challenge lies in drawing these boundaries accurately while ensuring they evolve as both technology and risk landscapes change.

"Our platform support team conducts independent risk reviews of our more complex business," Keeler says. This combination of automated processing for routine risks and human oversight for complex cases reflects the practical reality most insurers are adopting even as technological innovation gathers pace.

This technological foundation aims to give CFC confidence in its competitive positioning. "When it comes to underwriting more complex risks via digital channels, I truly believe CFC will have a competitive advantage over our peers," Keeler says.

The broker relationship adds another layer of complexity to the automation challenge. Keeler points out brokers have varying digital maturity levels, requiring different approaches. "With our digital underwriting team coming from a range of backgrounds, we're able to deploy the right expertise depending on the broker needs," he says.

Clearly, this can be a double-edged sword: necessary for maintaining broker relationships but adding operational complexity to what might otherwise be a streamlined digital process.

Competition from insurtech

Meanwhile, competitive pressure intensifies the contradiction. Insurtech firms have raised customer expectations for digital experiences, while traditional players struggle with legacy systems. Moving too slowly risks losing market share; moving too quickly risks sustaining underwriting losses.

Geographic expansion reveals another dimension of the challenge. Digital platforms promise rapid market entry, but local regulations, cultural preferences and risk characteristics vary significantly. Keeler sees potential in white-label partnerships for territories such as Europe and Asia-Pacific, but acknowledges the complexities involved.

The digital capabilities are also opening new business channels CFC has not historically leveraged fully. "Embedded insurance, scheme and affinity business are areas we are actively exploring," Keeler says.

The company has six products available through its digital channels at present, with cross-selling opportunities emerging from this expanded digital offering that would not have been possible through traditional trading methods.

Keeler's aim is for 100% of CFC's volume products to be traded digitally within five years. Whether this proves achievable while maintaining adequate risk oversight remains an open question for CFC and the wider industry as insurers continue to navigate the tension between operational efficiency and prudent underwriting. ■

"When it comes to underwriting more complex risks via digital channels, I truly believe CFC will have a competitive advantage over our peers… with our digital underwriting team coming from a range of backgrounds, we're able to deploy the right expertise depending on the broker needs"

Dan Keeler
CFC

Sky's the limit with a tactical nuke

Gallagher's Nigel Weyman discusses the broker's insurance facility that would enable airlines to continue to fly following the use of a tactical nuclear device

The potential response to the use of a tactical nuclear weapon was a risk flying under the re/insurance radar until broker Gallagher noticed that an age-old clause in aviation policies was not fit for purpose in the modern military world, *writes Louise Isted.*

The broker has developed an aviation market-wide industry solution to airlines having to ground their fleets immediately after the hostile detonation of a nuclear device.

In an interview with *Insurance Day,* Nigel Weyman, Gallagher Specialty's global executive for aerospace, explains how the threat of such an event in the Russia-Ukraine conflict spooked the market.

"It's the tactical nuclear weapons that we were specifically worried about because, when the wording was originally written, which is standard across all airline insurance policies, the industry thought a nuclear event would be Armageddon. Since then, very small nuclear devices have been developed to use as a tactical weapon on the battlefield," Weyman says.

"What concerned us was the wording didn't differentiate between 'tactical' and 'massive', meaning we would have aircraft all around the world grounded unnecessarily. The risk is an aircraft being shot down by a conventional weapon in response to an attack using a nuclear device," he explains.

The ideal solution would be to quickly reinstate cover – effectively cancelling the cancellation – but with aviation policies, typically, involving many different insurers, there was no guarantee they would all agree to do so.

If they did, even then the process could take months, which, given the hundreds of thousands of policies in play at one time, could mean the paperwork would be endless. Even worse, passengers would be grounded for an indeterminate length of time.

When Dmitry Medvedev, deputy chairman of the Russian Security Council, started making threats about using tactical nuclear weapons in Ukraine, there was a "collective gasp" in the insurance industry, Weyman says.

"We rushed to the clause book, but no one was comfortable putting a definition for a strike with a tactical nuclear weapon. They go from very small bombs that are not much bigger than the conventional bomb to the Armageddon size. And there's also a massive difference if it has exploded high up in the air or on the ground," he adds.

A definition of "tactical" in this context is irrelevant for the special facility, he notes, as the key is the "hostile detonation of a nuclear device". "Even a tiny one would trigger the automatic cancellation," he says.

He continues: "We've come up with an innovation that has solved a problem we forgot existed until this rather nasty dialogue started."

Even if peace breaks out between Russia and Ukraine, the threat of a tactical nuclear weapon remains a risk for re/insurers to manage, he notes, not least because of the nuclear capabilities of other nations in Russia's sphere of influence, such as North Korea and Iran.

Billion-dollar facility

Gallagher created a standalone, billion-dollar policy that covers both passenger legal liability war and third-party legal liability war.

The broker found 17 specialist aviation insurers, led by La Réunion Aérienne & Spatiale, willing to come on board, by replacing the cover that would be automatically cancelled.

The broker would call a meeting of all these insurers – virtually or physically – within four hours of a tactical nuclear weapon being used anywhere in the world. They would follow government and airline secu-

"If a wording anomaly, which is what this is, stranded tens of millions of passengers, then I wouldn't ever admit that I was in the aviation insurance industry at dinner parties again"

Nigel Weyman
Gallagher Specialty

rity advice on how safe it is for aircraft to be allowed to fly again.

Weyman explains: "If the attack was in Ukraine, for example, then the first countries we would look at would be New Zealand and Australia. They would be the furthest away from the incident and so why not give them cover within minutes? Then we would gradually walk the coverage question back towards where the event happened. We think we could probably get 90% of the aircraft flying again."

This "simple" solution took 18 months of hard negotiation, however, not only with direct insurers, but with their reinsurers and retrocessionaires. "Eventually we got a positive consensus," Weyman says, "and we put together this scheme that can be accessed by all airlines around the world, through us or their own brokers."

Gallagher and members of the facility have agreed a nominal price for the cover, which Weyman declines to reveal to avoid the antitrust concerns such disclosure would create. "It isn't a huge amount to get people moving again and the elements have already been agreed as acceptable," he says.

"The pricing is settled and so we can talk about safety as a collective legally," he adds.

The broker anonymised the process as much as possible, so that "branding doesn't get in the way" of an airline's decision to join the scheme. About 110 airlines have signed up since its launch in September 2023, but there are many more that have not.

Weyman says the main reason for that lack of enthusiasm is the assumption that governments will step in and provide the coverage, just as the US administration did following the September 11, 2001 terror attacks.

Had that terrorist attack happened in another country, Weyman argues, there might not have been such a government response.

"In the UK, the government was making noises that they might provide coverage, but they dragged their heels, and we had to reinstate the cover after 9/11. That's different circumstances, it wasn't a nuclear weapon, but all insurance coverages were being cancelled," he notes.

He continues: "I can't tell you their names but the vast majority of airlines in Europe have bought the cover. There are some very significant ones that have not, although we have presented it to them. Either they think it will be all right on the night, or that there'll be government indemnity because it will be such a terrible situation – the social horror story of 100 million passengers being stranded – that governments can't turn their back on."

Gallagher has also achieved agreement among signatories to its scheme that aircraft could continue to fly for 48 hours before automatic cancellation of coverage kicks in.

"They realised that the likelihood of an accident would go off the scale if you forced aircraft to ground immediately," Weyman says, adding that the Covid pandemic had shown what turning a runway into a parking lot for aircraft looked like.

He continues: "Anyone who has been at an airport when all the flights have been cancelled knows that it's an absolute disaster. For example, passengers not having enough medication with them who can't risk being stranded for a number of days. Another example is passengers who don't have enough formula milk or nappies for their babies. It's a nightmare and it could go on for weeks."

The pressure on aviation insurers to make an instant decision has been made easier, therefore, by having a 48-hour window, "as we would be able to step in and hopefully provide the cover", he says.

To help design the facility, Gallagher enlisted the guidance of Osprey, the specialist security company that many airlines use on a daily basis to assess the safety of aircraft around the world. "There are other companies like Osprey, but it's the one we're contracted with, and we know insurers trust its judgement," Weyman says.

Osprey has been part of the "dress rehearsals" for the cover, which included resources like maps of where the "nuclear drift" would go. "It was a very professional, very positive approach and everyone who participated felt it was well handled," he adds.

Gallagher's clients have said they would put their security departments in touch with the broker directly. "They have a lot of intel, and they deal directly with their governments, and so we are quite confident we'd get input from them," Weyman says.

He points to the disruption at London airports in July as a mini example of the potential impact of cancellation of insurance cover for airlines worldwide.

The air-traffic control outage was caused by an unspecified radar-related issue and resulted in the cancellation of 84 departing flights and 71 arrivals across the UK, with Heathrow having the most disruptions.

"We saw the impact of Heathrow shutting down due to an IT glitch, but the issue of cancelled cover would impact every airport in the world. If we multiplied that incident 1,000 times, then it really is untenable," he says.

He concludes: "If a wording anomaly, which is what this is, stranded tens of millions of passengers, then I wouldn't ever admit that I was in the aviation insurance industry at dinner parties again. I mean, you'd be a pariah because, surely, it's so simple just to reword policies. This special facility has the answer to 99% of the issues that can [occur]."■

Maturing cyber seeks new reinsurance lines

Broker argues that, as primary cyber underwriters get a better handle on their catastrophe risk, there is more room for new types of reinsurance

As cyber insurers become increasingly sophisticated in how they manage their portfolios and model potential loss events, there is growing demand for equally sophisticated reinsurance tools, *writes Francis Churchill.*

Quota-share reinsurance is still by far the most common way to buy cyber reinsurance, but increasingly non-proportional and event-based cover has been chipping away at its dominance. This has been most apparent in the nascent but growing cyber insurance linked-securities market, where several catastrophe bonds and loss warranty products of increasing size have launched over the past few years.

However, catastrophe bonds are challenging to put together and are not for everyone, Rory Egan, head of cyber and analytics at Aon Reinsurance Solutions, tells *Insurance Day.* Instead, it is stop-loss products that have been the "bedrock" of non-proportional cover, he adds.

Stop-loss products have been in the cyber space for a long time and were initially introduced when this market was much less mature in its understanding of catastrophic or systemic losses and when cyber portfolios were much smaller and less diverse. As a result, traditional stop-loss products have high attachment points, often 100% loss ratios over the year, and many insurers "buy them begrudgingly", Egan says.

"If you go back to the earlier days of cyber, 2019 and earlier, it was much more imaginable to get a 100% loss ratio in a year because the books were smaller," he says. "Now, it's going to take a lot of individual losses to get that kind of loss ratio." Insurers do not expect to see any recoveries from these products save for "a real Doomsday-level scenario happening that we haven't seen yet in the cyber area", Egan stresses.

Major systemic events, which have been the source of much discussion within the cyber market, could include a widespread malware or cloud outage event or the disruption of a major financial services payment system. A Lloyd's realistic disaster scenario in 2023 estimated such an event could cause global losses of $16trn.

Stop-loss 'surge' product

To try to plug this gap, Aon recently launched its own stop-loss product designed to provide protection for "surges" in loss activity caused by smaller but more frequent catastrophe events. "We felt there was a bit of a gap in the market where we could innovate and bring a new product," Egan says.

The product, Surge Stop Loss, has no event definitions and kicks in when insurers experience short-term spikes in losses over a two- to three-month period. It also has a much lower attachment point compared with normal stop-loss products, closer to a 30% loss ratio over the defined period.

"The buyer doesn't have to be having the year from hell in terms of its overall portfolio [to trigger a payout]. It could just have a bad month or a bad quarter and it will get some recoveries back," Egan says.

This is another tool, he continues, that will allow cyber insurers to tailor the reinsurance cover they purchase depending on how they view their systemic exposure. "It's different strokes for different folks," he says. "The general motivation for purchases across the market is fear of that big, systemic event. But at the

"The general motivation for purchases across the market is fear of that big, systemic event. But at the same time, it's about trying to get as much value out of that [reinsurance purchase] as possible"

Rory Egan
Aon Reinsurance Solutions

same time, it's about trying to get as much value out of that [reinsurance purchase] as possible."

Typically, buyers look to secure about $400m of non-proportional reinsurance limit, but there are different ways of going about this. Some look for the most limit at the lowest price and attach it as far away as necessary, Egan says, "whereas others would say 'I won't buy that bit at the top and I'll recycle the spend and buy something where I've got a chance of getting recovery from what is actually happening', which is these smaller events that happen pretty frequently".

Over the past nine years or so, Egan says there has quite consistently been three or four of these smaller catastrophe events a year. For example, 2024 saw not only CrowdStrike but also the CDK Global and Change Healthcare attacks. "Individually they don't add up to much but collectively they can be meaningful," he says.

Time limits and event definitions

To ensure the product only covers surges in losses caused by these types of unexpected catastrophe events, not increases in losses caused by bad underwriting, the policy sets time limits. A tool borrowed from the catastrophe bond space, this limits recoveries to spikes losses incurred in a 60- or 90-day window, depending on the exact wording agreed. If the losses continue past this window, it is not considered a surge covered by the policy. "It's a way to ensure the product only responds to something quite abnormal," Egan says.

Removing event definitions is another way Aon hopes to set the product apart from other non-proportional reinsurance covers. In practice, this simply means, if a significant enough loss happens in an insurer's cyber book, it is covered regardless of the cause.

While cyber event wordings have improved and there is a large part of the market now comfortable with event-based covers, many remain sceptical, Egan says. "Lawyers on the property side will tell you it's a challenge [defining events] there too, but I think it's even more of a challenge on the cyber side because so many different things can go wrong," he says. "We'd like to think we've thought of all the possible permutations, but we're probably kidding ourselves."

What removing event definitions effectively means for buyers of reinsurance is "they can get cover for anything that causes their portfolio to spike", Egan says. "It could be the CrowdStrike event, where you saw a really sharp period of loss notifications coming in: business interruption losses happening from a global IT outage," he adds. Even the recent Scattered Spider ransomware campaign, where a criminal gang used the same attack on different targets over a short period of time, would be covered if losses reached the attachment point, he says.

Removing definitions was in part possible because primary insurers now have a good handle on the major exclusions, such as war or critical infrastructure failure, meaning reinsurers are already protected from these exposures. "The point on the surge [product] is we're not introducing any new exclusions; it's as broad as the other products in terms of the business going in," Egan says.

Aon placed the first of these covers with Arch in June. "It was a relatively small amount of limit it asked us to go and source, but we've a bunch of reinsurers that are now giving us grief because they didn't get an opportunity to write this," Egan says. "The demand from a reinsurer perspective and the support for this product from reinsurance markets is really encouraging."

Buyer demand

It remains to be seen how much buyer demand there will be for this product as it will take time for insurers to run their models and see how it might affect their portfolio in any given loss year. But Egan says there have been "some very interested buyers who would look to buy a meaningful amount of protection".

Demand for more sophisticated non-proportional cover is largely being driven by insurers' better understanding of their books and exposures. The threat landscape itself has been relatively consistent, Egan says. "I think it's just people getting their arms around what cyber looks like rather than the threat landscape having changed massively... having a better feeling for what to expect in a 'normal' year compared with the worst-case potential has allowed us to look more confidently at different solutions," he says.

This does not mean, however, a wholesale move away from quota-share reinsurance is on the cards. Quite the opposite, given the recent performance of the primary market, which has been contending with slowing rates and tighter margins. Ceding commissions are also higher than they have ever been, meaning insurers are getting good margins on the business they cede to reinsurers.

It would be "counterintuitive" for insurers to start reducing their quota-share cover now, Egan says. Instead, the reinsurance market is beginning to reach an equilibrium between proportional and non-proportional covers. And as primary insurers continue to grow their books, he expects both types of reinsurance to grow as well.

On the one hand, the growing range of reinsurance products could be seen as a sign of a maturing cyber market as insurers become increasingly sophisticated in how they manage their systemic and tail risk. But, Egan says, the market is still looking to protect itself from a risk that has not happened yet. He concludes: "Until we see that truly systemic event – and that will shake out all sorts of reactions from buyers and sellers about how they want to move forward – it's still a big unknown."■

How to gain clarity on cyber insurance accumulation

It is essential to assess the accumulation potential of cyber insurance in safeguarding the digital lives of private individuals and their families, write **Martin Kreuzer** and **Sigrid Heidenreich**

Personal insurance policies are becoming increasingly important as they can help safeguard the digital lives of private individuals and their families from online fraud and cyber attacks.

Merchants worldwide have estimated losses to online payment fraud at around $44bn in 2024 (Statista). Since numerous insurance companies today offer coverages and affiliated services, it is an essential task for insurers to assess the accumulation potential for this insurance segment.

Clarity on accumulation will also support further growth in the private cyber insurance market and enable insurers to further diversify cyber insurance books.

In the past, cyber attacks on private individuals were carried out individually. Therefore, historical examples of cyber incidents affecting hundreds of private individuals are rare. Furthermore, the amount of damage in such scenarios always depends on the specific coverage, the services included and the development of penetration rates.

It should also be remembered that, with the help of artificial intelligence (AI), cyber attacks that were previously carried out individually could potentially be replaced or exacerbated by automated attacks, which means the probability of cumulative events in cyber insurance for private customers could increase.

With a view to advancing the understanding of insurers and reinsurers about the accumulation potential in personal lines coverage, Munich Re has drawn on the judgment of its internal cyber experts. Taking into account events that are typically covered by personal lines cyber policies, they have identified possible scenarios and classified them in terms of their accumulation potential. The table shows the relevance and criti-

Data restoration and hardware replacement high risk for cumulative losses

Table: Accumulation potential of insurance for private individuals and families

Coverage	Accumulation potential
Data restoration	High
Hardware replacement	High
Smart home cover	Medium to high
Extortion	Medium to high
Theft of funds	Medium
Identity theft	Medium
Online shopping	Medium
Online sales	Low to medium
Social media and media liability	Low to medium
Bullying	Low
Liability covers	Low

Source: Munich Re

SkórzewiakAdobe Stock

cality of single coverage elements in respect of susceptibility to accumulation events.

The seven most critical cyber accumulation scenarios in personal lines insurance are outlined below.

Data restoration/malware decontamination: today, there are approximately 7.4 billion smartphone connections worldwide, which, according to DataReportal's Global Digital Insights, represent about 87% of total mobile devices. The heavy usage of smart devices leads to increased attack surfaces for individuals. It has never been easier for cyber criminals and other threat actors to spread malware on smartphone and other personal devices.

AI may identify exploits at an accelerated rate or create new strains of malware to spread them on a large scale in an automated way. This may not be limited to companies, with private individuals more and more likely to become victims.

A widespread malware event that renders data inaccessible and compromises thousands of devices will be covered under data restoration/malware decontamination and thus seems to be one of the most likely accumulation scenarios at present. It is therefore assessed as having a "high" accumulation potential.

Hardware replacement: the line of reasoning for this coverage is similar to that outlined above. Whereas physical damage to computing devices caused by a mass malware attack on personal devices seems unlikely, experts see a significant potential for insurers to choose hardware replacement as the most cost-effective option for covering data/system restoration, which may accumulate to a substantial loss amount. The accumulation potential of this coverage is therefore also assessed as "high".

Smart home cover: given the interconnectedness and the widespread usage of the same hardware and software components in many electronic devices, and with similarities to the two scenarios above, the accumulation loss potential for smart home devices is evident. A mass malware attack could cause system restoration costs (including hardware replacement, if that is more cost-effective) for all smart home devices (for example, security systems, cameras, smart appliances or home entertainment systems).

In addition, such an attack could also involve ransom demands (see Extortion below). The bandwidth of existing devices, software or operating systems is very wide. Whether a device is affected usually depends on

In the past, cyber attacks on private individuals were carried out individually. Therefore, historical examples of cyber incidents affecting hundreds of private individuals are rare. Furthermore, the amount of damage in such scenarios always depends on the specific coverage, the services included and the development of penetration rates

the type, brand and components of the respective device typically covered. Experts at Munich Re therefore assess the accumulation potential of this coverage as "medium to high".

Extortion: in their private lives, individuals very often lack a strong sense for cyber hygiene. Therefore, picking "low-hanging fruit" could become increasingly lucrative for cyber criminals. Since the amounts extorted from private individuals have tended to be rather small in reality, hackers may feel incentivised to launch attacks on a larger scale by targeting hundreds of people on the same occasion.

As AI is not only expected to enable automated distribution of malware but also facilitate cryptocurrency transfers, this raises concerns that the risk for ransomware attacks on private individuals might increase in the future. These developments also make accumulation scenarios around extortion more likely. Experts assess the accumulation potential of extortion coverage as "medium to high".

Theft of funds: major threat scenarios are expected to initially involve large-scale phishing campaigns that might enable attackers to target multiple victims simultaneously. In this context, the targets would be larger banks and their private customers. With this kind of a "distribution channel" the potential for accumulation is obvious. Since banking liability generally is strong in many regions (for example, in which banks bear the burden of proof of unauthorised transactions), in many cases the bank would need to reimburse damages to their clients as a result of unauthorised transactions.

Identity theft: a large-scale data breach at a single target may lead to a spike in identity theft claims, as stolen credentials and a large repository of personal identifiable information might appear in the dark web for further exploitation. If those details contain financial or health-related information, they may become even more attractive to criminals than less critical data elements. Criminals can then use this stolen data to open fraudulent accounts, file false claims, or gain access to government benefits.

Against the backdrop of numerous data breaches affecting nearly all industries, ranging from hotel chains to financial institutions to the healthcare sector, identity theft cases have surged over recent years and are likely to continue to increase in future. Experts at Munich Re assess the accumulation potential of identity theft coverage as "medium".

Online shopping and sales: to date, fraudulent activities related to online sales and shopping are the largest loss drivers within the claims book of personal cyber insurance companies. Usually, these events are individual cases only, but professional and automated phishing campaigns that direct online shoppers to fake shops are on the rise and, as a consequence, so is the affiliated accumulation potential.

In the future, AI agents may be able to perform social engineering and manipulate humans on a large scale. If malicious AI agents were able to intervene in transactions – for instance between buyers and sellers – scenarios involving mass fraud might emerge in that context.

Accumulation scenarios are manageable

The potential for large accumulation losses for insurers heavily depends on the composition of their portfolios (for example, the ratio of commercial to personal lines cyber business). From Munich Re's perspective, only malware scenarios would also trigger losses in personal lines cyber insurance as well as commercial policies.

As indicated by expert judgment, these losses would derive from the coverages of data restoration and of hardware replacement and, to a certain extent, also from extortion and smart home cover. These findings should be reflected in insurers' malware accumulation models. Incidents such as WannaCry and NotPetya have already demonstrated how fundamental it is to take accumulation scenarios into account when building cyber portfolios. Since then, AI has emerged with the potential of making attacks within personal cyber coverage more prone to automation and accumulation, attacks that were previously targeted at individual victims.

Overall, Munich Re considers accumulation in personal lines to be manageable from the perspective of primary insurers and reinsurers. Expanding the cyber portfolio might even help to further diversify the cyber book. Munich Re believes the sharing of insights on accumulation scenarios is an important contribution to deliberately grow this important segment of business in the market and protect private lives against the threats of our digital world. ■

Martin Kreuzer is senior risk manager of cyber risks and Sigrid Heidenreich is cyber actuary at Munich Re

Incidents such as WannaCry and NotPetya have already demonstrated how fundamental it is to take accumulation scenarios into account when building cyber portfolios. Since then, AI has emerged with the potential of making attacks within personal cyber coverage more prone to automation and accumulation, attacks that were previously targeted at individual victims

The promise of a digital London market

IRStone/Adobe Stock

Digitalisation will enhance the existing best practice of top brokers and carriers, Sheila Cameron and Joe Brace tell the Insurance Day Podcast

Hands-free processing of underwriting data is the future of a digital Lloyd's market, according to the chief executive of the Lloyd's Market Association (LMA), *writes Francis Churchill.*

Speaking to the *Insurance Day* Podcast, Sheila Cameron said the promise of Blueprint Two and efforts to develop data standards would be a market where data flowed "freely to counterparties and to the back office without touching the sides".

In the future, risks could be auto-matched to particular markets, with a core data record that could be automatically reconciled financially "without having to touch any hands", Cameron said.

"Once that decision has been made by the underwriter, the data should be able to flow to the counterparties and to the back office without touching the sides."

This was echoed by Joe Brace, operations director at the LMA, who said digital markets would help to accentuate the existing best practices of top brokers and carriers.

New tools including artificial intelligence (AI) would help underwriters assess a greater number of risks in detail, something carriers only have the capacity to do with the most difficult risks at present.

"If you've got a small to medium enterprise, [such as] a restaurant, [AI] will read the menu and read the reviews and look at TripAdvisor and tell you [if you] might get some claims against food poisoning," Brace said.

He continued: "That's what the good underwriters are doing already. But it will do it thousands of times, not just on the two or three risks you've cherry-picked."

Comparing these new technologies to the introduction of the internet, Brace said they would empower best practice across the market.

"We all thought [the internet] would reinvent everything. It did, but it empowered the existing behaviours and existing good traits [in the market] and everything here is built on trust and the relationships and looking after that end customer."

Supercede plans follow-up to big Lloyd's software package

Co-founder and chief executive, Ben Rose, says artificial intelligence will do little good if insurers do not compile and share data more effectively

Two-time Lloyd's Lab participant Supercede will launch a new "shared and connected infrastructure" product later this year, its chief executive tells *Insurance Day*, *write Ben Margulies and Louise Isted*.

It will be the latest innovation from the company, which recently premiered a facility to automate a major Lloyd's regulatory filing.

Speaking at the Rendez-Vous de Monte Carlo, chief executive and co-founder Ben Rose says the software-as-a-service (SAAS) company aims to "fill the void" between reinsurance placement and operations teams at primary insurers and brokers by connecting them as a "single, unified and much more effective force".

Rose tells *Insurance Day* he hopes to unveil this "shared and connected infrastructure" by the end of the year.

Supercede offers primary insurers and brokers a variety of data management tools designed to standardise and consolidate data. Its services allow cedants and brokers to provide more complete filings to reinsurers and keep better track of their reinsurance contracts, since many firms lack adequate data-management software.

The company's name comes from the idea it can make it "super to cede", Rose explains, emphasising its focus on reinsurance. "We're the only fully reinsurance-focused technology company out there," Rose says, "working mainly with cedants and their brokers to make it easier for them to manage the very complex and often costly process of buying reinsurance."

He continues: "Ceded reinsurance teams have probably the most impactful job in an insurance company's entire business and yet have the least resources. They literally give away 20% of their premium that they work so hard to get on a reinsurance spend because they don't have the technology to optimise it."

Legacy systems

Insurance executives are realising, Rose says, their reinsurance buyers are impeded by the "primitive setup" they are forced to rely on – spreadsheets, emails and Word documents – that can become a breeding ground for "dodgy data".

Insurance companies have tended to see their teams as "islands" and consequently they have designed in-house data systems that are unable to "talk to each other". The Supercede platform on the other hand enables a reinsurance buyer to "upload, analyse, manipulate and transform" information from their legacy systems internally and convert it into a "consistent, well-interrogated and reliable" submission pack that can then be shared with their colleagues, cedants and brokers.

"When they're ready to go to market, they can share that submission pack as part of a deal with their reinsurance partners," Rose says. "So, you have the brokers effectively acting as the master record keeper of a deal, the same way that they always have done, but instead of doing that by keeping a spreadsheet going and emailing the reinsurers, waiting for them to email back and then calling the cedant with a quote on the deal, they just update the Supercede platform, which is all happening live."

This makes the annual gathering of reinsurers in Monaco more efficient, Rose says. "The Monte Carlo confer-

"We're the only fully reinsurance-focused technology company out there, working mainly with cedants and their brokers to make it easier for them to manage the very complex and often costly process of buying reinsurance"

Ben Rose
Supercede

ence has about 70 different underwriters and reinsurers have at best 30 minutes to spend with each of them. Their ability to provide clarity and speed is affected by the questions the buyers have and the information they need, which can mean millions of pounds worth of difference in terms of the amount they end up paying for reinsurance."

Lloyd's Lab

Supercede has been through the Lloyd's Lab twice – in 2021 to ensure its solutions, already tested in the US, were also suitable for the Lloyds market; and this year as part of the first reinsurance cohort at Lloyd's Lab, which was in partnership with the Bermuda Monetary Authority (BMA).

"Lloyd's Lab has been the saving grace of the Lloyd's technology narrative over the last five or six years because Blueprint Two has been a bit chaotic," Rose says. "The silver lining to delays with that has been Lloyd's Lab as a massive contributor to innovation across the market," he adds.

Rose also praises the supportive role of the BMA. No one innovates or invests "for the greater good", he stresses, and instead they need regulatory incentives to do so.

Following its second Lloyd's Lab stint, Supercede announced last July a new application that converts Lloyd's reinsurance data into sharable CSV files, allowing them to file their Syndicate Reinsurance Structure (SRS) returns earlier and more easily.

Rose describes SRS filings as "a really, really painful process for everybody in Lloyd's". Typically, syndicates must hurriedly compile their SRS paperwork manually after the January 1 renewals.

Now, syndicates will be able to compile data in the autumn without having to search through reams of paperwork.

In addition to the positive environments provided by Lloyd's Lab and the BMA, Supercede has been able to help innovate reinsurance thanks to the independence of its financial backers, Rose says. "We're not an insurtech in the sense that we sell insurance, but rather we're a software-as-a-service business, which is a relatively new concept in reinsurance by offering an off-the-shelf solution to a problem that everybody shares. It means insurance companies have a much lower cost than if they built a solution in-house. They can have our platform up and running within weeks rather than spend five years trying to build something for themselves."

He continues: "As the de facto reinsurance technology company, Supercede has found it very easy to attract funding. As a custodian of industry data, we need to make sure we retain our impartiality, independence and neutrality, and so all of our venture capital to date has been from independent firms."

On advice for the sector, Rose warns re/insurers against throwing their arms around artificial intelligence (AI) before they have mastered the art of reinsurance tech as humans.

He explains: "It would be a case of trying to run before we can walk, if we go headfirst into AI while people are still sharing their submission information to the reinsurance industry in completely inconsistent spreadsheets and fragmented data in PDFs. If you were to unleash AI on that, then it would just amplify the errors and produce misleading outputs. Until we have shared data in a consistent format across the industry, then AI is just going to be an entertaining distraction."■

Rob/Adobe Stock

How insurers are venturing into digital assets

BillionPhotos.com/Adobe Stock

Protection is becoming more available, but a lack of information and familiarity with the industry leaves insurers somewhat reluctant to jump into crypto

Digital assets and cryptocurrency firms continue to struggle to obtain appropriate insurance, though brokers and carriers are expanding their provision towards this market, *writes Ben Margulies.*

"The market is gradually evolving," says Kieran Quigley, vice-president for cyber at Mosaic. "While some insurers remain cautious, others are building specialist knowledge and moving away from legacy underwriting models to better engage with this sector."

Some carriers and brokers are targeting crypto enterprises with tailored products. In March, Marsh launched a new policy for cryptocurrency providers subject to a new EU regulation requiring them to hold certain kinds of insurance.

In July, specialist broker Native announced the creation of a new consortium, the Native Risk Collective, which would provide insurance for digital assets provided they used cyber security tools approved by the consortium. Among the consortium's members are Chaucer and Mosaic Insurance.

"Over the past year, the insurance sector has made significant strides in embracing the digital asset space," Freddie Palmer, head of cyber and blockchain at Howden, says. "Some would argue that regulation and insurance are now helping to shape the broader digital asset framework."

Market barriers

The crypto sector is frequently the subject of bad press – the collapse of FTX in late 2023 being perhaps the most prominent scandal. However, insurers seem mainly concerned about the fact that the digital assets sector is so new, making it difficult to model risk from historical data.

"Traditional underwriting relies on precedent and loss data built up over long periods," Ben Davis, Native's chief executive, says. "Because digital assets are still considered an emerging risk, underwriters have to invest time into understanding the technology before they feel comfortable underwriting in this space. The nascent nature of the sector makes it difficult to model exposure with confidence."

Speaking to *Insurance Day* earlier this year, Sarah D Katz Downey, executive vice-president at Lockton, said US carriers sometimes lack personnel with the right experience and market familiarity to confidently offer cover to digital assets firms. "Over time, we expect more underwriters across various markets to gain expertise in this space and become more comfortable in providing the right insurance."

Palmer adds some jurisdictions do not allow foreign brokers and insurers to directly offer policies to digital assets firms, limiting Lloyd's and London market players to reinsurance roles.

A lack of insurance can be a major

obstacle for digital assets providers. Not only do regulators – such as the EU – require insurance cover, but investors demand it as well, Palmer notes.

Dipping their toes in

Cover has become more available for digital assets in the past two years as insurers focus more resources on the market. Palmer credits this partly to new regulations in the EU and Dubai, which encourage or require digital assets firms to obtain cover, as well as the Genius Act, a new US law that specifies which entities can issue stablecoins tied to the US dollar.

Downey says insurance offerings for the US digital assets sector have grown in recent years, with the strongest flow of funds going into the directors' and officers' and crime segments.

"In recent years, a select group of specialist insurers has entered the digital asset space, offering coverage tailored to digital assets," she says.

Quigley and Davis agree insurance is becoming more available for digital assets firms, but barriers remain. "It's improving, but it's still far from mainstream," Quigley says. "A growing number of insurers – including Mosaic – are engaging more closely with well-governed digital asset firms through data-driven, specialist underwriting."

There are some specific areas where digital assets providers still find it difficult to buy policies. Palmer notes cyber tech errors and omissions policies are hard to come by, while

"Because digital assets are still considered an emerging risk, underwriters have to invest time into understanding the technology before they feel comfortable underwriting in this space"

Ben Davis
Native

Downey says bitcoin miners are not always able to get business interruption insurance.

The digital assets sector can use captive insurance as a substitute for third-party carriers, and some have. "For many digital asset firms, captives have, historically, been one of the few available risk-transfer options," Quigley says, but he adds having external insurance makes a better impression on regulators, investors, and other partners.

Davis says captives are a more workable solution for larger firms that can afford to set aside the necessary funds and administrative resources.

Building bridges

Brokers have an important role in connecting digital assets firms and insurance providers and informing insurers about the digital assets world. Downey says: "We see it as our responsibility to educate insurance and reinsurance markets, so they become more receptive to underwriting digital asset-related risks".

"The firms gaining traction are the ones that treat insurance as a strategic partnership, not just a compliance tick-box"

Kieran Quigley
Mosaic

Howden is also taking active steps in this direction, hosting talks and workshops to bring digital asset and insurance professionals together. "We're focused on building an ecosystem for our clients – not just acting as your average insurance broker," Palmer says, including relationships with "trusted third-party vendors". The Native Risk Collective also partners with external cyber security providers.

Digital firms can help themselves by approaching insurers and being more transparent about their internal operations, Quigley argues. "The firms gaining traction are the ones that treat insurance as a strategic partnership, not just a compliance tick-box."

Davis says crypto firms are beginning to take meetings with insurance underwriters directly to lay out their business models and operations. He also argues the Native Risk Collective could provide a model for drawing more insurers into the digital assets market by allowing more cautious firms to enter it gradually. "We believe strong collaboration will be the defining feature between insurers that merely dip their toes in and those that wholeheartedly embrace (and benefit from) the industry," he says.

"'Onchain' is the new 'online'," Davis says. "This shift will bring about a new paradigm that I believe will be the largest opportunity in insurance today."■

Transportation insurance is being transformed

The growing availability of telematics data is paving the way for innovative insurance products, including usage-based insurance models, writes James Wells

Over the past decade the transportation industry has undergone a significant transformation with the widespread adoption of telematics and data mining tools.

Fleet owners and insurance carriers have increasingly embraced these technologies to mitigate risk exposure, enhance operational efficiency and reduce the cost of insurance.

The integration of artificial intelligence (AI) and the internet of things (IoT) has revolutionised fleet management, making real-time tracking, predictive maintenance and automated logistics the new industry standard.

Telematics and fleet management

Telematics systems have proven to be highly effective in improving road safety, reducing risky driving behaviours up to 50% through real-time monitoring and driver feedback as well as targeted training programmes.

According to a report by Fortune Business Insights, the telematics market is projected to grow from $85.95bn in 2024 to $170.35bn by 2032, highlighting the increasing reliance on data-driven fleet management solutions and how broadly these devices are being implemented with transportation companies in the US.

The industry's shift towards data-driven decision-making in fleet management has been significant, with telematics adoption rising 30% year-on-year. The adoption of telematics is particularly evident among larger fleets – according to Penske, 71% of large fleets used telematics in 2024, up from 54% in 2022, while smaller fleets exhibit varied levels of usage.

Fleets are increasingly sharing telematics data with multiple third-party providers to enhance efficiency and streamline operations. Maintenance challenges continue to be a top priority, with many fleets using telematics to proactively address issues before they escalate.

Leveraging telematics for real-time data acquisition on vehicle location and driver behaviour enhances risk mitigation strategies significantly. This rich data, when shared with insurance companies, allows for a thorough analysis of operational performance metrics and contributes to more accurate risk pricing.

Even though Lloyd's focuses predominantly on motor physical damage and motor truck cargo on a direct basis, telematics and the data surrounding it on the motor liability side has proven to be a beneficial addition to analysing and pricing risk. It allows brokers, actuaries and underwriters to analyse and drill down in specific areas and identify where improvements can be made for insureds.

Where coverage could have been costly or difficult to find in the past (whether it is bad luck or an adverse loss history), it allows London brokers and underwriters to proactively work with insureds to continuously improve their operation and bring their cost of insurance down. As an industry, we are always looking at ways we can help to improve safety for insureds and their drivers on the road.

In addition to risk management, the growing availability of telematics

Anna/Adobe Stock

data is paving the way for innovative insurance products. One trend is the rise of usage-based insurance models. These models offer flexible premiums based on real-time data and usage patterns, providing cost-effective solutions for businesses.

Several US managing general agents and domestic insurers are moving into this space, replicating the success seen in the sharing economy market.

Emerging products

Another wider concept that has been discussed is the use of continuous policies; the use of big data could also benefit insurers in reducing their administrative costs by facilitating a switch to issuing continuous policies versus standard 12-month policies at present. The availability of real-time data allows a constant monitoring of operational performance and reduces the need for annual policy reviews, which for the most part we see becoming obsolete.

According to FreightWaves senior analyst Tony Mulvey, insurance and maintenance costs have risen one-third as a result of high interest rates, new technology installations and an uptick in truck-related accidents, increasing expense pressure on small to medium-sized fleet owners.

When we look at this in relation to the fleet sizes in the US, 97% of trucking companies have 10 power units or fewer. It underlines the challenging environment for the smaller fleet operators. As an industry we need to work with insurers, telematic providers and safety managers to provide cost-effective solutions so we can support trucking companies that want to adopt best practices.

Lloyd's had been at the forefront of innovation through initiatives such as Lloyd's Lab, a programme that supports new companies and their fresh perspectives on risk transparency and operational efficiency. Its success is clearly represented through the 100-plus start-ups in 16 countries it has produced, which has collectively raised $1bn of capital for the end solutions.

Leveraging telematics for real-time data acquisition on vehicle location and driver behaviour enhances risk mitigation strategies significantly. This rich data, when shared with insurance companies, allows for a thorough analysis of operational performance metrics and contributes to more accurate risk pricing

A notable example of innovation emerging from the Lloyd's Lab is ClearConnect Solutions. This company has leveraged extensive US transportation data to develop a fleet risk mitigation product.

By partnering with several London market insurers, ClearConnect has provided new insights into risk assessment, enabling syndicates and brokers to offer more tailored insurance solutions for US transportation companies. The availability of this previously untapped data has enhanced precision and expanded insurance options for fleet owners and also provided new insights into their operations and encouraging them to adopt change.

Digital transformation

The digitalisation of the insurance industry has dramatically improved service delivery, risk assessments, and customer interactions across the board when partnered with specialists in their space.

The Covid-19 pandemic accelerated this transformation, with 96% of insurance chief executives confirming the industry's shift towards seeking digital solutions. Approximately 55% of insurance carriers plan to invest in new technologies to optimise claims processing.

Claims have historically been a sticking point from a London perspective before the implementation of faster claims payments and rolling loss funds for delegated claims administrators, which has really moved forward over the past decade. This is a significant area of focus that will closer align London with the domestic carriers in terms of faster payments.

We must be open to looking at new ways to efficiently handle and service the claim while we reduce the cost and timeframes; technology and the additional data metrics it will provide will allow us to streamline this area alongside specialists with experience and knowledge.

The dynamic interplay between technology and transportation insurance is reshaping industry standards for efficiency, customer service and risk management. By harnessing cutting-edge solutions like data analytics, telematics and automated systems, brokers and insurers can significantly streamline the placing of risk in an efficient manner while reducing costs and enhancing customer satisfaction in the claims arena.

Acrisure is well equipped to lead this transformation by collaborating with areas of innovation like the Lloyd's Lab so we can present these as a value add when handling business in the transportation area and implement positive change for the insureds and the insurance industry.

As the industry continues to evolve, it remains imperative for companies to embrace innovative strategies, while also making them cost effective for insureds to embrace and implement. ■

James Wells is head of transportation and fine art at Acrisure London Wholesale

How insurers can deal with orphaned wells

Antonio Solano/Adobe Stock

Mosaic has developed an enhanced contractor's pollution legal liability insurance product to help cap inactive and abandoned oil and gas wells

There are about three million orphaned oil wells in the US and another few hundred thousand in Canada that are causing earth and water contamination and undermine decarbonisation efforts by spewing carbon emissions directly into the atmosphere, *writes Francis Churchill.*

Until recently, the financial incentives have been lacking to make sure these wells have been capped correctly. But changes in government incentives, as well as the growth of the voluntary carbon market, have created new financial structures to encourage companies to take on these liabilities. With this comes a new opportunity for the insurance sector to support the clean energy transition.

"There's been a legacy of oil and gas exploration, but the obligations to actually close these out appropriately are more modern," says Max Horn, senior vice-president for environmental liability at Mosaic, which has recently launched a product catering specifically for the capping of orphaned – namely, inactive and abandoned – wells.

The problem has been that, as wells become less productive, they are often sold by larger companies to smaller ones willing to take on tighter margins or a lower flow. This means, as wells reach the end of their operating lives, they are passed on to companies less financially able to plug them safely.

"The initial operator is no longer present, and the money is not there to close the well appropriately," says Horn, adding some wells are more than 100 years old and many are unmapped, meaning their exact locations are unknown.

For as long as they remain unplugged, these wells are potentially leaking natural gas or methane into the air, exacerbating climate change, or leaking oil and brine – which is pumped into wells during the drilling process – causing earth or water contamination.

Horn highlights that methane is estimated to be 28 times more potent than CO_2 in trapping heat in the atmosphere. "It's an exceptionally powerful greenhouse gas that causes a lot of global warming issues," he notes.

Incentives are emerging to create a market for well closures. The Bipartisan Infrastructure Act, officially known as the Infrastructure and Jobs Act, was passed by the US Congress and signed into law by President Joe Biden on November 15, 2021. This created financial incentives in the form of $4.7bn funding for grants to cap orphaned wells.

Voluntary carbon market

Perhaps an even bigger opportunity, says Horn, is the voluntary carbon market, which is starting to hit its

stride. Whereas much of the focus for parties looking to offset emissions and sell carbon bonds has been on initiatives such as tree preservation and reforestation, credits can also be created though emission prevention projects, which includes capping orphaned wells.

About 8.2 million metric tons of methane escape from uncapped wells in the US annually, says Horn, which is roughly equivalent to the annual emissions of San Diego, for example. "With the evolution of the voluntary carbon market, you have a really great economic incentive that's encouraging the markets and contractors involved in these activities to take on a very new business that previously did not exist," he says.

Horn continues: "People are taking on the liabilities of these wells even when they had none in order to get this economic benefit."

This is such a recent endeavour that there was no tailor-made insurance solution available on the market. "That's where we stepped in, working with Aon who initially identified this business opportunity," Horn says.

Mosaic has developed an enhanced contractor's pollution legal liability (CPL) insurance product. The base product is a mix of CPL, which is available in the pollution market, combined with control of well, which is an energy product.

Orphaned and abandoned wells differ from commercially active wells – both in terms of the interests of the parties involved, but also in the risks of pumping and capping. This means that controlling a well cover on its own was not a complete solution. "By merging these concepts together, we have one product that's a much better fit for the actual exposures that are relevant," says Horn.

Insurance can include protection for immediate issues and tail cover, should leaks occur a few years down the line. On top of this, pollution cover provides protection should the process of capping a well exacerbate a leak or worsen contamination. There is also scope to bring in additional cover more commonly seen in the carbon credit insurance market for contractors looking to go down that route. "We have done a lot of work in the carbon credit markets, and there's definitely going to be expansion of this product into that space," says Horn.

Rectifying mistakes

Insurance can allow contractors to give third parties, including a state government or buyer of carbon credits, confidence that if something goes wrong with the capping of a well, their investments will still have the desired outcome. It also makes sure that mistakes are rectified.

"If you're contracting work and for whatever reason the plug does not hold and the well was to continue to leak after the operations were completed, [our product] would provide loss cover for redoing that work," says Horn.

"With the evolution of the voluntary carbon market, you have a really great economic incentive that's encouraging the markets and contractors involved in these activities to take on a very new business that previously did not exist"

Max Horn
Mosaic Insurance

"We can provide some comfort to both their contract partners and any of their credit purchasers," he continues. "The credit market has really shown that insured products have a lot more viability for sale, both for purchasing comfort and guaranteeing the credits and longevity."

Capping orphaned oil and gas wells is still a new venture with government financing for these projects only just starting to flow, but Horn says the task amounts to "decades of work for a large number of folk".

He is confident the economic incentives driving this new business will also remain despite the current political pushback against green initiatives in the US. "The folks that are really doing this work tend to be in oil and gas production areas, and those tend to also be somewhat more red-leaning [pro-Republican party states]," Horn explains.

The irony is that many who are politically opposed to climate action are set to benefit economically from cutting carbon emissions by closing wells.

Another promising sign of the well capping market's longevity is the international nature of the voluntary carbon market. "These are not government-tied programmes within the US. So, folks have natural interests, independent of the government," Horn says of the voluntary market.

To a certain extent, capping oil wells is low-hanging fruit for the wider net-zero effort, says Horn, but one that needed the right financial incentives in place. It is much easier to cap a well than reduce emissions from concrete production or pull CO_2 out of the atmosphere, and so it has a clear role to play.

Methane leaking from oil and gas wells provides no benefit of any kind, including commercial. Horn concludes: "Closing that off is a very easy way to make a massive difference to our global emissions."■

WTW aligns e-trading platform with risk and broking

Broking giant will no longer work with third-party brokers as it looks to develop its Neuron platform across its own broking network

WTW is pivoting its digital trading platform Neuron to focus exclusively on its own broking business, *writes Francis Churchill.*

The broking giant has brought the platform directly into its risk and broking business in a bid to streamline its digitalisation efforts with its wider placement strategy, according to Lou Smith, chief executive of Neuron.

As part of the change WTW will no longer be working with third-party brokers as it looks to roll out Neuron more widely across its own broking network.

The decision, driven by Lucy Clarke, president of WTW's risk and broking division, is largely one of business advantage as the group looks to capitalise on the investment it has made in digitalisation. But it also aims to streamline the development of digital tools.

Speaking to *Insurance Day*, Smith says: "We've brought those things together so that we can accelerate our strategy, thinking about that internal brokerage data capability and our connection into the market."

Digital restructure

The internal restructure aims to bring together what Smith describes as the three "tracks" of digitalisation at the broker: the group's proprietary broking platform and Gemini auto-follow facility; its data capabilities including data ingestion and document comparison; and its connection to the market through the Neuron e-trading platform.

Smith says market feedback indicated there was a demand for WTW to focus on developing its digital capabilities at home first. "It does simplify things a lot and right now [the market's] focus is pace. We've managed to get a lot of momentum this year, and I expect that to continue."

As part of the restructure, the future of Neuron will be driven by WTW's placement needs. The broker has a "very clear" placement strategy headed up by Simon Delchar and recently launched its own auto-follow facility Gemini.

Neuron itself has expanded the number of markets it is active in to at least 11 and is now looking to move beyond open market business to supporting other propositions including facilities and algorithmic and augmented underwriting. WTW's international property facility has already been added to the e-trading platform.

"These aren't separate things," Smith says of Neuron's strategy and WTW's own placement strategy. "The way the brokers want to place business, we can point Neuron at those propositions to enable the brokers to deliver the best solution for their clients."

The support goes both ways, Smith continues. There is "a real understanding" of how technology can support the placement strategy among the leadership at WTW, she adds.

"Whenever you look to change something, there's always a pull and a push in the organisation. I'm seeing that less, I'm seeing more people get behind these things and drive stuff through," she says of digitalisation.

Neuron was developed to keep underwriting algorithms on the carrier side, giving them full control of that aspect.

The idea was to make the platform more flexible and adaptable, says

"Whenever you look to change something, there's always a pull and a push in the organisation. I'm seeing that less, I'm seeing more people get behind these things and drive stuff through"

Lou Smith
Neuron

Smith, meaning it "can move to propositions very quickly, whether it's a facility or an open market algorithmic type of underwriting".

She continues: "To support the subscription market we can move Neuron to support those things very quickly because we've kept the way in which it connects to those things really simple."

Futureproofing

This futureproofing is an important part of the product. Building adaptable architectures that can change depending on how the technology evolves is increasingly becoming the way businesses structure themselves, Smith says.

In the past, big technological advances meant huge transformational changes within organisations, but businesses are now looking for architectures that are "more modular, more composable and can adapt quickly to change".

Smith says this is "not just about AI" but about how technological and societal changes converge.

The development of agentic AI is just one example where Smith says the challenge is not so much about the technology but how it fits into the operations of a business. "That's your operations teams who really understand the business and you have to manage that as though it's one of your workforce."

In terms of the broader market, Smith says every single organisation is now thinking about how it can use technology and data to help their business.

These conversations have moved beyond efficiencies towards how technology can help growth and secure opportunities.

Collaboration

There is also more conversation around collaboration in the market on automating processes such as "know your customer" identity verification, anti-money laundering checks or sanctions checks, Smith says. "There are so many areas where I'm seeing the market collaborate more and join forces to create this more digitised, enabled marketplace," she adds.

One tangible example is the creation of a Neuron market group formed by carrier partners using the platform.

This has formed independently of WTW, says Smith. "We're not involved in that. They've done it themselves to talk about how they accelerate things like automated follow [and discuss] where are the areas we're learning and what behavioural shifts are we seeing."

This mirrors the changes Smith saw working in other parts of the financial services sector such as the development of the open banking framework that has enabled the widespread use of APIs in the sector. "I'm starting to see some of the same patterns," she says.

Smith continues: "Everybody talks about insurance being behind other parts of financial services. I don't even know what that means anymore, and I don't know if it's right or wrong, and it almost doesn't matter. This part of the market will accelerate beyond what I've seen in other parts of [financial services]."■

Julie/Adobe Stock

Alternative capital 'struggles to incorporate' new technology

Insurance-linked securities companies do embrace new technology but have no way to co-ordinate efforts leading to a slower transaction cycle, Radix ILS chief, Hanni Ali, says

Alternative capital players are eager to make use of new technologies, a prominent Bermuda fund manager tells *Insurance Day*, but the decentralised market is struggling to connect individual systems and achieve economies of scale, *writes Ben Margulies.*

Hanni Ali, founder and chief executive of Bermuda-based Radix ILS, says companies in alternative capital markets tend to develop their own internal risk management systems individually. They also frequently rely on third parties for technological services and these do not necessarily communicate with each other.

This hampers collective development, Ali says. "It's not always easy to facilitate technology and efficiency or the gains associated from implementing technology in an efficient fashion that can be realised when you've got various outsourcing facilities or dependency on outsourcing," he says.

This heterogeneity extends to the insurance products themselves, Ali continues. Contracts tend to be individually tailored to each deal, meaning firms in the sector cannot rely on standard legal language or forms.

Cyclicality challenges

The reinsurance business cycle, with its annual renewal pattern, poses another problem to adopting new technologies. "We operate in a relatively illiquid market that has an annual cyclicality to it in terms of the change in renewals," Ali says. "If you have a hypothesis and you want to test it... and you implement something, you're not going to really know what value that brings for 12 months," which discourages investment in innovation, he adds.

Retail insurers, on the other hand, engage in much more frequent transactions, which allows them to thoroughly and quickly test new applications and products.

Reinsurers also have less room to experiment than other financial services companies because deadlines are relatively inflexible.

"If your contract expires at December 31, you need your new contract enforced January 1 or you do not have insurance coverage," Ali says.

Alternative capital businesses are eager to adopt innovation, he stresses, but there is no mechanism to impose an innovation agenda across the sector. "I think the change has to come from within the market. It's unlikely to happen by an external force," he says, "and it cannot erode the overall efficiency and the need for things to happen in a timely fashion."

Ali praises the Bermuda Monetary Authority (BMA) for facilitating innovation. "When it comes to doing different things within insurance and applying technology, it has the various sandbox areas and it has the different licence frameworks that enable people to experiment and try and bring technology to bear in insurance," he says.

The BMA also co-sponsored a stream within the 14th cohort of the Lloyd's Lab incubator, which focused specifically on reinsurance applications. One of the cohort's participants, Supercede, developed a system for automating Syndicate Reinsurance Structure (SRS) returns, an annual regulatory filing at Lloyd's.

The authority itself appears to use

"We operate in a relatively illiquid market that has an annual cyclicality. If you have a hypothesis and you want to test it... and you implement something, you're not going to really know what value that brings for 12 months"

Hanni Ali
Radix ILS

advanced technology in its own regulatory activity, Ali adds. "You get a three-day turnaround on catastrophe bond approvals," he says, "and my understanding is it leverages technology internally to help make sure it can deliver on these sorts of promises."

AI applications

Regarding artificial intelligence (AI), Ali believes alternative capital enterprises will find it very useful in speeding specific tasks, such as reviewing submissions and contracts. Within his own firm, "we look to leverage AI in a very tactical fashion, so we look at specific problems" such as data input and document review, he says.

AI may also prove to be more thorough in reviewing documents than human eyes, Ali says, which "should reduce the probability that oversights can happen".

Reinsurers have shown far less interest in distributed ledger technologies (DLT) like blockchain, although Ali says alternative capital firms have been discussing its use for the past decade or so. "I have personally seen very little tangible benefit or application of DLT in reinsurance," Ali says, although he does not totally rule out its introduction in some form.

"I think the change has to come from within the market. It's unlikely to happen by an external force and it cannot erode the overall efficiency and the need for things to happen in a timely fashion"

Hanni Ali
Radix ILS

Ali launched Radix ILS, a fund manager for insurance-linked securities (ILS), in January. Before setting up Radix, Ali worked at Hamilton between 2014 and 2025, finishing as group head of ILS and sustainability.

He is also vice-chair of ILS Bermuda, a trade association that hosts the annual Convergence conference on the island each October. Ali says the association exists to promote Bermuda's role as a centre for alternative risk capital and to examine issues relevant to the market.

Bermuda has long been the centre for ILS, partly because of its proximity to key North American markets and an efficient regulatory regime.

The vast majority of catastrophe bonds have historically circulated on its stock exchange – according to figures cited by Bermuda ILS, the Bermuda Stock Exchange encompassed nearly 95% of ILS capital in the fourth quarter of 2021, with more than 500 listings exceeding $50bn. ■

ipopba/Adobe Stock

Solving the legal puzzle for technology, innovation and insurance

newrossoshAdobe Stock

How legislatures and regulators around the world structure the oversight of emerging insurance products will be critical to maximising their efficacy, write Will Reddie and Anthony Tarr

We live in an era in which many aspects of life are increasingly heavily technology-led and this will only increase exponentially, given the pace of development of artificial intelligence (AI) and other advances.

The insurance industry is not immune to this and technological developments influence every aspect of it, from industry services to actuarial forecasting, underwriting and reinsurance.

It also creates opportunities for insurers to innovate, as well as raising complex issues and concerns.

The ability to access big data – plus technological advances in AI, predictive analytics and blockchain – creates the operational capacity for new insurance products and ways to create and execute insurance transactions. Data might be used to delineate more precisely the scope of cover provided, such as permitting insurers to monitor an insured's activities in real time, with the data about the insured's behaviours permitting the insurer to vary the cover or premium payable by way of instant variations.

Better data may make it possible to ensure premiums more closely reflect an insured's risk and to reduce the overall cost of insurance.

However, the increasing availability of powerful AI and analytics to process vast data sets raises questions regarding the integrity of data and the assumptions of the predictive models being deployed.

Driverless cars, robots and autonomous machines will give rise to legal concerns, ranging from the concept of "AI personhood" to bias and liability issues, with obvious insurance implications.

Here, we explore four examples of newer insurance products.

On-demand insurance

On-demand or usage-based insurance is a good example of technologically enabled insurance product development. In its "purest" sense, on-demand insurance means an insured activates coverage by way of a smart device or application or the cover is automatically based on criteria like location, activity or context.

Cover is terminated manually or automatically and the customer can choose to turn on insurance from different providers at different times.

In usage-based insurance, the contractual relationship between the customer/insured is continuous (that is, both where the item is and is not "in use") because the usage-based component is often part of a traditional insurance coverage.

An example is usage-based insurance for cars, where a basic level of liability and theft insurance may be always in force and additional premiums for liability and collision cover are calculated on usage (for example, distance travelled or driving habits).

On-demand insurance can be made available in many situations for individuals, particularly where traditional insurance might be less available (for example, for drones, home-sharing hosts, travel and event insurance and for workers in the gig economy). It might cover digital businesses against loss in traditional lines of business such as employers' liability, public liability and professional indemnity.

Big data and the AI-driven analytics of it provide new information and insight into specific risks of individuals, groups and types of insureds, enabling risk to be predicted and priced more quickly and accurately.

However, the ability to create very detailed specific risk profiles and pricing for individual customers has the potential to undermine the use of insurance as a risk pool; and is something on which regulators have an eye.

It has, for example, been raised by the UK's Financial Conduct Authority, flagging the hyper-personalisation of insurance could provide the benefit of tailored premiums for some but for others runs the risk of rendering some customers uninsurable or of discriminating against certain customers.

Embedded insurance

Emerging technologies allow both insurers and non-insurance brands to partner to create value and opportunity for customers.

This is particularly the case with embedded insurance (that is, insurance sold alongside a primary product or service). Embedded insurance enables insurance to be offered in innovative ways and to be presented to customers at various points in a purchase process.

However, regulatory restrictions are complex – the involvement of multiple parties, often in different jurisdictions, gives rise to several regulatory and supervisory considerations.

Applicable laws, licences and ongoing regulatory requirements vary in each jurisdiction and are not always well understood by the non-insurance partner. For example, providers of embedded insurance in the UK will need to understand and demonstrate how the Consumer Duty applies to consumer-facing products.

Policyholder protection and treating customers fairly are the primary objectives in many jurisdictions, but not all will take the exact same approach, meaning insurers and third-party providers must navigate (often multiple) complex regulatory environments.

Parametric insurance

It is widely reported natural disasters are increasing in severity, duration and frequency globally, with the greatest impact often felt by those least equipped to recover. Insurance solutions can form a key part of disaster preparedness and resilience and parametric insurance is an important tool to fill the well-documented "protection gap".

Traditional insurance involves payment of a premium in return for a promise to cover actual loss suffered in the event of an insured fortuity (such as a wildfire causing damage to a property).

Payment is made after an actual loss assessment and investigation to put the insured back in the position they were in before the event (that is, the policy provides an indemnity that covers actual loss).

Conversely, parametric (or index-based) solutions cover the probability of a predefined event happening, instead of indemnifying actual loss incurred. A parametric contract is an agreement to make a pre-agreed specified payment on the occurrence of a triggering event (such as wind speeds of a certain strength) and, therefore, is detached from the amount of any loss or damage.

Removing the loss-assessment process makes the payout quicker (especially if coupled with technology and a smart contract), with payment often being made immediately after the loss, allowing the process of recovery to begin. A good example is the parametric insurance of coral reefs in Mexico, triggered by a hurricane of a certain strength, releasing funds to allow stabilisation of the coral reefs immediately.

Even though parametric insurance is now well established, regulatory and legal environments still have not specifically adapted to it.

Key challenges include: understanding whether the contract is an insurance or a derivative contract and accordingly which regulatory framework is relevant; correctly modelling likely actual losses to align as closely as possible with the predefined payout; and ensuring

contracts and other documents are properly designed and, in particular, triggers are clear to all parties.

Autonomous transportation

Increasing use of autonomous vehicles, vessels and aircraft will be an important development for the insurance industry to address.

Taking motor cover as an example, ownership of private vehicles may decrease, with a potential reduction in the number and severity of accidents and, therefore, insurance claims. Liability for accidents will become more complex, shifting from the driver to the manufacturer of the vehicle for design defects and/or associated technology provider in relation to programming.

In the UK, the Automated Vehicles Act 2024 (not yet fully in force) moves liability (with exceptions) from drivers in vehicles with automatic functions engaged to others, including in particular the authorised self-driving entity (ASDE) – the manufacturer – that is responsible for the way the vehicle drives.

Motor insurers are liable to meet claims from all victims in an accident under the Automated and Electric Vehicles Act 2018 and then may seek to recover from liable parties such as the ASDE or the operator overseeing the vehicle where there is no driver.

The act provides a legal framework and it awaits the necessary secondary legislation, as well as the development of various processes for approvals and other matters.

The position will be similar in relation to the use of autonomous and remotely controlled ships (maritime autonomous surface ships) and the use and deployment of unmanned aerial vehicles or drones.

The regulatory and legal framework for autonomous transportation is still developing across many jurisdictions.

Although there is broad acceptance regulatory intervention needs to adapt to allow these advancements to be deployed safely but without stifling innovation, the fast pace at which the technology is developing makes it difficult for regulators to find that path.

Addressing these issues and choosing between competing solutions is no easy task and impacts insurance law and practice in all jurisdictions.

This convergence of new technologies and consumer demands creates new and exciting opportunities within the insurance industry, but also complex challenges.

How legislatures and regulators around the world structure oversight of emerging insurance products to ensure responsible roll out and governance will be critical to maximising their efficacy, with a balance to be struck between facilitating development and protecting customers.■

Will Reddie is a partner and Dr Anthony Tarr is a senior consultant at HFW

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Turning London from testbed to hotbed of innovation

Tokio Marine Kiln's head of innovation describes the emergence of a market in new products centred on Lloyd's Lab

A market in innovative products is emerging in London thanks to Lloyd's Lab and the underwriters and brokers ready to shake up the 300-year-old insurance industry. Among them is Tokio Marine Kiln's (TMK) Rob Jarvis, *writes Louise Isted.*

In an interview with *Insurance Day,* Jarvis says to most companies in the London market, innovation still translates into a "tech-focused" role and there are only "half a dozen underwriters and half a dozen brokers", chiefly at the larger firms, focused on innovative products. Jarvis's explicit job title – head of innovation, underwriting – is thus still quite rare.

"Most of the big composite insurers will have somebody in an IT tech function looking at artificial intelligence, automation, data pipelines into brokers and so on. Having people who are focused on innovative products is more uncommon," Jarvis says.

"However, this is now established enough there is starting to be an innovation marketplace, all centred on Lloyd's Lab. It's moved to a point where there's sufficient companies for this innovation ecosystem becoming a market."

Jarvis and some friends tried to launch a new insurance company in 2017/18. "That start-up failed miserably but you learn a lot from entrepreneurialism," he says. With several actuarial roles already under his belt, including at Aviva and ProSight Specialty, he joined TMK in 2022 as head of enterprise risk management.

A parallel can be drawn between risk management and innovation, Jarvis says, because innovating in insurance is itself seen as a risk.

Innovation risk

He says: "Insurance is a really difficult thing to innovate in because, as people often complain, the industry is very slow to change, which is mainly because the pay-off profile for new insurance products is awful. With venture capital investing, you can only lose as much as you've invested; you have a really limited downside and can make an 'infinite' profit. Launching a new insurance product is the exact opposite of that: the most profit you can make is a small premium, but the biggest loss you can make is 'infinite'. And so, when insurance companies think about doing new things, we spend a lot of time analysing the risks."

They have to manage the risk of being innovative?

"Yes, and that's one of the reasons why we're perceived as being much slower than tech companies; partly it's all the governance around our sector, but mainly it's just much easier for things to go really, horribly wrong for us than it is for them."

The move into his present role three years ago was therefore a natural

progression and his "miserable failure" as an entrepreneur turned out to be an asset.

TMK had already been "staffed up" for innovation for more than a decade, Jarvis stresses, but the company is still focused on walking before it can run with each new idea. That means Jarvis wears two hats: he leads the innovation team and also does some portfolio underwriting. "The logic there is the innovation book is a cross-class portfolio in its own right," he says.

His innovation team, which has two underwriters and one product manager, is an "incubation hub" for the company, Jarvis says. "We work across all classes of business and as closely as we can with the underwriters with the domain expertise for each class. We then try to find external people with the expertise or data we don't have and help them turn that into a product that works for an insurance company."

Jarvis is referring to the companies TMK works with as part of its "outsourced innovation approach", where in-house expertise is either lacking or unneeded at present.

The two main advantages of this, he continues, are it is lower risk, as it requires no internal investment other than time, and it is more successful because there is a specific expert who has an ownership stake in their own company and is highly incentivised to make it work.

TMK's innovation team works with start-up businesses with specific expertise or technology to develop new insurance products.

To support this, TMK has dedicated capital at Lloyd's to foster new product innovation from concept and design, all the way through to scale-up. It works with start-ups at all stages of development and has launched insurance products with partners such as CetoAI, Parametrix, Altelium and WTW.

For example, TMK and WTW developed a first-of-its-kind intangible asset protection insurance product that protects non-public, proprietary assets against financial loss when accidental or malicious insider actions cause the assets to be disclosed, misappropriated, damaged or destroyed.

By having a central innovation team, Jarvis says TMK can dedicate time to innovation experts at third-party companies on behalf of its own underwriters. It also insulates the personal reputation of TMK's underwriters by having a "professional fall guy" – Jarvis and his team – if a project fails. "An idea will sit with us for as long as five years until it's proven, until we know the claims are what we would expect to pay," he says. "Once it's shown to be commercially viable, once it has that track record, it then moves from us to whichever part of the business it's suited to and where it can be scaled."

"Insurance is a really difficult thing to innovate in because, as people often complain, the industry is very slow to change, which is mainly because the pay-off profile for new insurance products is awful"

Rob Jarvis
Tokio Marine Kiln

Spectrum over dichotomy

Jarvis describes the two extremes of innovation as "either improving what insurers are already doing or disruptive change" but admits this is a false dichotomy.

"In reality, it's a spectrum," he says. "This includes keeping a product relevant for a client, such as through changes to wordings. The next step along that spectrum is covering a new technology about which there is little information so far, such as the operational risks associated with potentially flammable battery farms for solar arrays. Another step is taking a tried-and-tested product and approaching it differently, such as new data sources to help underwrite existing policies. An example of this is internet-connected sensors in buildings, such as those in water, electrical, HVAC [heating, ventilation and air conditioning] and even swipe-card-entry systems, which is data the building's management is collecting but not sharing and which actually have predictive value for insurers."

Beyond these examples, outside the normal framework of insurance and at the far end of the innovation spectrum is a disruptive development. Such an "Uber or Airbnb moment" has yet to arrive in the world of underwriting, Jarvis says, but insurers ought to be prepared for it.

He says: "The biggest taxi company in the world doesn't own any taxis and the biggest hotel chain in the world doesn't own any hotels. What would that look like for insurance, where someone rips up the rulebook and starts again, but with a very different business model?"

The digitisation of placement may be considered disruptive change, since it forces underwriters to approach their work differently, but Jarvis says he "wouldn't put big money on that being the 'Uber moment' for insurance".

Big Tech intervention

Might disruption come from a Big Tech firm acting as an insurer without owing any insurance companies? Jarvis believes that threat is imagined rather than real. "It would be difficult for them to do that because regulators would squash it," he says.

Insurers certainly sat up and took notice of Google's attempted foray into car insurance in 2015, not least because of its brand appeal for millennials.

A concern among insurers a decade ago, he continues, was a big data-led firm would buy a large insurer. "The worry was if a big technology company bought an existing insurance company then theoretically they could do a much better job of working with 50 years'-worth of data that's sitting in legacy systems. The reality is it would be hard for them to work with that, which is why you're starting to see insurers trying to use large language models to scrape out legacy data for themselves. I don't think that's working yet, but I can't imagine it's that far off when it is."

TMK views innovation in terms of three trends: sustainability, technology and resilience. Jarvis describes this as "triaging" new ideas so his team is better able to communicate the opportunities and challenges they pose to the company's underwriters.

Sustainability includes, for example, TMK's partnership with Kita to provide political risk insurance for developers of and investors in carbon credits projects.

For technology, he highlights TMK's work with managing general agent (MGA) Sola to reduce high deductibles and out-of-pocket expenses for homeowners facing wind and hail damage.

Sola's parametric product ues weather data and automated claims processing to trigger payouts, potentially offering a quicker and more efficient way to manage wind- and hail-related losses.

Resilience can include, Jarvis says, protecting intangible assets. The innovation comes from finding ways to quantify them. "It's a hackneyed thing to say, but 100 years ago, 90% of the Fortune 500 balance sheets were physical assets and the insurance products we sell are good for those. But 90% of the Fortune 500 today have intangible assets and insurers are having to find new ways of protecting those," he says.

A related issue is companies are increasingly reluctant to file patents on their products, since that places their ideas in the public domain and under the gaze of their competitors, Jarvis says.

The Defend Trade Secrets Act, passed by the US in 2016, goes a long way, he adds, to helping innovators enforce their right to protect their asset, not to mention their brand and reputation.

The ideal partner

TMK published a paper recently to help innovative firms take the plunge as an MGA. That paper – Launching an innovative MGA with TMK – is a guide designed to enable these potential partners to spend less time struggling with insurance-speak and more time talking to TMK about their business. "When we meet people with great ideas about how to do insurance differently, we find we spend a lot of time talking about the process, London market jargon and what we look for – at the expense of discussing their actual idea," Jarvis says.

From ideal partner to ideal environment, Jarvis has nothing but praise for Lloyd's Lab – the innovation hub for the London market – from which he has sourced half of his team's underwriting work.

"It's the flywheel effect," Jarvis says, "where things you're doing get better, people are attracted to it and it gets better still." What began as a few desks, the lab has grown to cover half of the fourth floor at Lloyd's.

Lloyd's has "cemented" London's reputation as the place to launch an insurance company, while Lloyd's Lab, as an insurtech accelerator programme, helps innovative ideas gain traction and success in the London market and beyond.

Jarvis and his team offer their time to that programme and encourage their colleagues at TMK to do the same.

"We typically get half a dozen people from across the company to help with every Lloyd's Lab cohort," Jarvis says. "That's partly to meet lots of interesting businesses, but also to expose our staff to different ways of thinking, whether that's learning from entrepreneurial start-ups or from the other mentors assisting them. It's a good way of subtly training and developing our own people."

Jarvis is confident Lloyd's Lab will continue to be seen by companies from around the world as the go-to place for product innovation. "Lloyd's has always been the place where the hard-to-do stuff comes and so it is already in a good position to host an innovation lab. And the quarter-of-a-square mile around the Lloyd's building that's full of insurance companies means you will often bump into people and have conversations with them about the latest things going on," he says.

Moreover, the Lloyd's market has a structure that makes it capital efficient in a way that is hard for its rivals to beat, he adds. Finally, Lloyd's Blueprint strategy may have "pushed progress", but now brokers are "digitising at pace" to be more efficient and increase their margins there is a real "pull" for the market to change, Jarvis says.

He concludes: "We're seeing real innovation in placement structure in the portfolio underwriting space at the moment, which I think will be a much bigger thing for the market than launching new products."■

Lloyd's Lab 'critical' for MGA Kita's success

Lloyd's Lab offers unique access to insurance professionals that other incubators cannot provide – and office space at an iconic address, Kita's chief technology officer says

Lloyd's Lab can be "critical" for the development of new businesses and business models in the insurance sector, according to the chief technology officer at niche coverholder Kita, *writes Ben Margulies.*

Paul Young said Lloyd's Lab allowed him and Kita's other two co-founders to access insurance expertise they would otherwise have struggled to draw upon.

"None of us had an insurance background," Young says, while their idea – insuring carbon credits – had few precedents.

"We believed in the concept," he continues, but Lloyd's Lab gave Kita's leaders the "ability to get in and network with the main carriers and get some time with them to pitch our idea, to explain what we were trying to do.

"It would have been very difficult from the outside to go and knock on those doors and get meetings with the right folks otherwise," he adds.

Managing general agent (MGA) Kita began operating in 2021, joined Lloyd's Lab's eighth cohort in 2022 and began offering carbon credit cover with backing from Chaucer in early 2023.

Kita offers insurance for holders of carbon credits, which compensates them should the underlying project somehow prove fraudulent or fail to produce sufficient carbon. Kita offers protection against political risk to carbon-capture projects, non-delivery of pre-purchased carbon credits and the failure of a carbon project to sequester enough carbon.

Unusually, Kita can pay out compensation in either cash or alternative carbon credits.

There are other incubators that work with start-ups in insurance and supporting services. Google's X, the Moonshot Lab, is home to Bellwether, which is now providing a wildfire model to Hiscox.

The Lloyd's benefit

However, Young says Lloyd's Lab is unique because the market is an unrivalled nexus for specialist insurance business and experience. This extends beyond its institutional presence: Lloyd's physical headquarters in the City also further facilitates networking.

Lloyd's Lab participants also get office space within the Lime Street headquarters, which Young says gives Kita a prestigious address and a venue for events.

"There's something about being here in the building, having all the insurance carriers within a few minutes' walk away and me bumping into people in the office that are basically important in the industry," Young says.

Kita's business model imposes formidable challenges. To determine whether a carbon abatement project is in fact removing carbon and producing credits, Kita must monitor projects that are often in rural areas of emerging markets. The MGA must also examine reams of documentation, often in incompatible formats.

"We were talking about dozens of people and it'd be a full-time job for them just reading material," Young says. "And obviously, it's not a great use of anyone's time."

"There's something about being here in the [Lloyd's] building, having all the insurance carriers within a few minutes' walk away and me bumping into people in the office that are basically important in the industry"

Paul Young
Kita

Kita employs multiple artificial intelligence (AI) agents "to basically scour hundreds of thousands of documents, millions of pages for crucial information that might affect our underwriting" in multiple languages relating to multiple projects.

The MGA employs AI agents in a sort of chain, with each pursuing a separate inquiry in a linked series of questions. "Think of each agent as an expert in one area with a given constrained amount of knowledge about that one thing and then they're used as a resource for other agents" so the following agent knows whether to look for or disregard certain data, Young says.

Satellite technology

Kita also relies on commercial satellite technology, which allows it to monitor carbon sequestration projects without prohibitively expensive site visits.

Young doubts physical visits would ever be necessary for Kita, except perhaps in the case of a large claim.

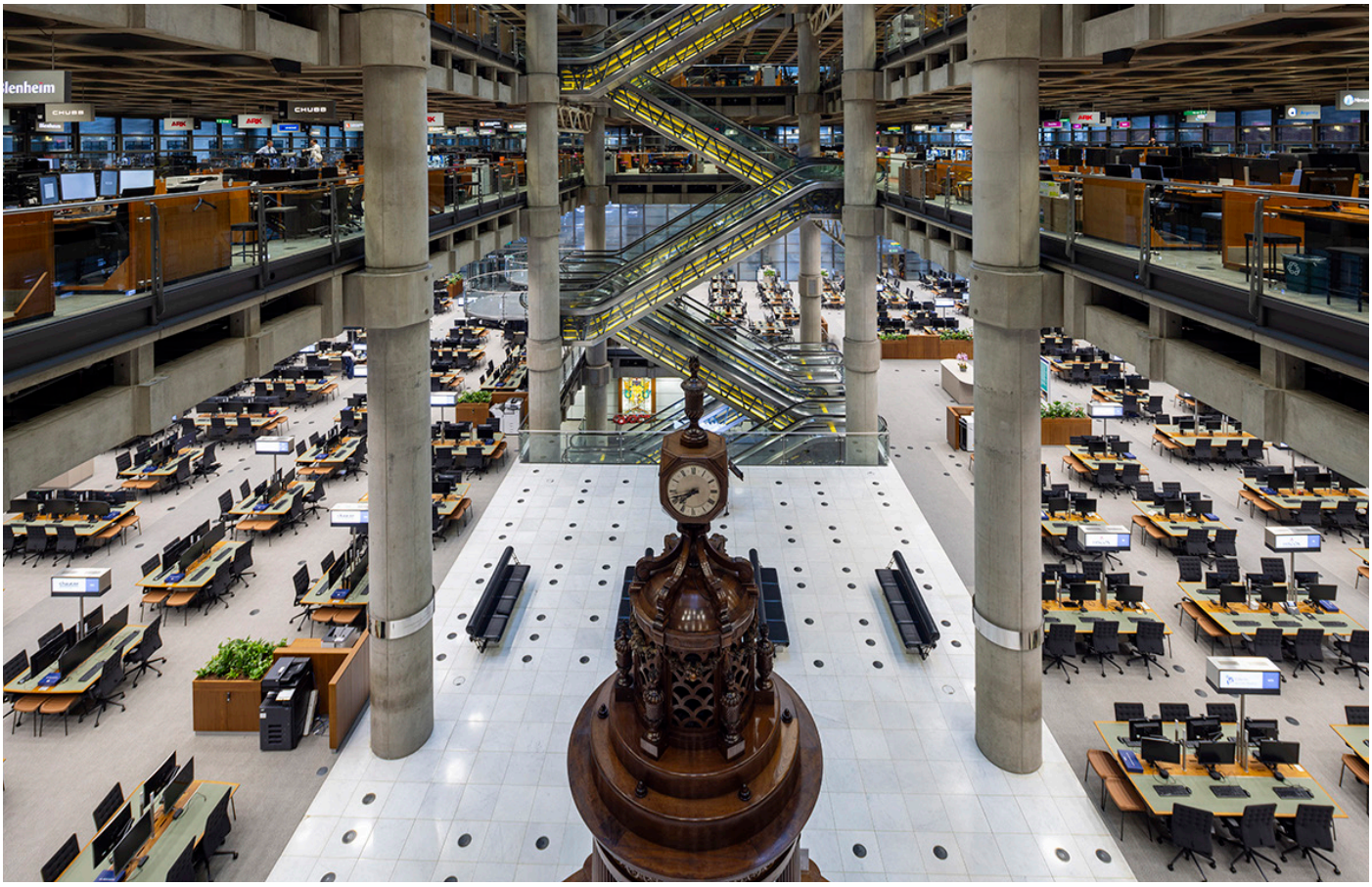
"I think most of the problems aren't really tech problems. They're more about introducing the regulation and standardisation, making the market more like a mainstream finance market."

Paul Young
Kita

Young says the wider carbon credit insurance sector would benefit from a common, machine-readable data format. Young is a member of a working group developing a common protocol as part of the Carbon Data Open Protocol project, "an alliance of 52 organisations drafting a universally standard method for measuring carbon credits and their underlying projects". The sector also needs common standards for monitoring, reporting and verification activities, which are still "patchy".

However, the market's biggest obstacles are institutional. "I think most of the problems aren't really tech problems," Young says. "They're more about introducing the regulation and standardisation, making the market more like a mainstream finance market."

Young adds Kita is working with other players in the voluntary carbon market to improve risk management practices and to make their activities and financing more compatible with the needs of insurers. For example, the company is promoting the use of the Carbon at Risk framework, which adapts measurements of value at risk for the carbon market.■



Bellwether model could help improve insurance penetration in California's stressed property market: Hiscox

Brian Gailey/Adobe Stock

Divisional director James Brady discusses implementation of predictive California wildfire model

Hiscox's partnership with artificial intelligence (AI) catastrophe model Bellwether could help to increase access to insurance in California's ailing property insurance market, according to an executive at the insurer, *writes Ben Margulies*.

In June the specialist re/insurer announced it would begin employing the Bellwether model. The company is now using the model to write cover.

Bellwether mines data about historical wildfire activity, climatic and forest conditions and the built environment. Bellwether claims it can forecast future wildfire risks as far as five years ahead and can also provide "absolute wildfire risk scores" with a full explanation of how each element of the score was calculated.

James Brady, divisional director for property at Hiscox London Market, says Bellwether benefits from Google's superior body of geospatial and other data and computing power. The model is also updated quarterly, more frequently than competing models.

"The granularity of detail Bellwether provides is what we feel makes us superior and then the regularity of the update to the model," Brady tells *Insurance Day*.

Tailored policies

This enables Hiscox to write policies that are more tailored to individual properties, he continues.

"The output from Bellwether will say a risk location is either 0.1% probability to have a wildfire exposure in the next year or it's 10 times more exposed than that," Brady says.

"The granularity of detail Bellwether provides is what we feel makes us superior and then the regularity of the update to the model. The output from Bellwether will say a risk location is either 0.1% probability to have a wildfire exposure in the next year or it's 10 times more exposed than that"

James Brady
Hiscox London Market

This precision "enhances our ability to provide coverage to homeowners when the options are pretty limited in California," he adds.

Hiscox mainly writes excess and surplus (E&S) wildfire cover in California, either directly or through coverholders. The California Department of Insurance does not have to approve models used by E&S carriers, but admitted carriers must submit models for administrative review.

Although the state could still suffer further natural catastrophes, Brady says tools such as Bellwether allow Hiscox to be "more confident in that marketplace, provide consistency in underwriting and pricing for the consumers, and ultimately increase the availability of coverage when offered to them".

Hiscox has been working with Bellwether for almost a year. The two companies forged a partnership through Google's innovation lab X, the Moonshot Factory, where Bellwether was developed. *Time* magazine named Bellwether one of the "best inventions of 2024".

Hiscox already uses some of its AI technologies to help "enhance" its underwriting capabilities in the London market, according to Brady.

One of a kind

Ivo Stivoric, a vice-president at Google's X lab who oversees Bellwether, says the model "organises and analyses historic and real-time data about the natural world and the built environment, revealing new insights into how our planet has changed and what's likely to happen in the future."

"As far as we know, Bellwether is the only system that can forecast wildfires up to five years in advance," Stivoric says.

In December 2024 California authorised admitted insurers to use forward-looking models to write wildfire, flood and terrorism policies. Before that California only allowed carriers to use models for earthquake and earthquake-related fire policies.

Insurers that do use models are required to commit to increase the writing of comprehensive policies in wildfire distressed areas "equivalent to no less than 85% of their statewide market share".

Since July this year, California regulators have approved natural catastrophe models submitted by Verisk, Moody's and Karen Clark & Company. ■

"[Bellwether] organises and analyses historic and real-time data about the natural world and the built environment, revealing new insights into how our planet has changed and what's likely to happen in the future"

Ivo Stivoric
Google X

The virtues of a virtual captive

Monster Ztudio/Adobe Stock

Virtual captives are a tool for structuring risks that conventional insurance finds hard to manage, HDI's Eric Joly-Pottuz says

The term "virtual captive" appears to be a misnomer, in that it is neither virtual (in the digital sense) nor a captive (an insurance company wholly owned and controlled by its insureds). Instead, as the head of HDI Enablers, Eric Joly-Pottuz, says, it is a tool for structuring risks clients want to partially retain or conventional insurance finds hard to manage, *writes Louise Isted*.

A virtual captive replicates the main financial benefits of a captive (so they are "virtually" the same) without forming a legal entity (so there is no actual captive). It is a single multi-year insurance contract with optimised period limits and profit sharing that aims to deliver budget certainty and value creation.

"Whenever we conclude a presentation, we like to say there is no captive and there is nothing virtual about it. So, it's a nice twist at the end to say, the words caught your attention but, in the end, what we are talking about is a good old insurance contract basically pushed to several years out, with profit sharing," Joly-Pottuz says in an interview with *Insurance Day*.

This is innovative as it can take the complexity out of a risk by building a bespoke structure around it. "We keep it simple, with everything known beforehand, so when a partner signs a virtual captive contract with us, they know the duration and the premium budget. This simplicity means they are better able to be flexible," he says.

Virtual captives, structured reinsurance, affinity alternative risk transfer and parametric programmes are all part of HDI Global's division dedicated to risk finance, which it calls HDI Enablers.

By risk finance, HDI means structured and parametric re/insurance solutions for corporations and captive owners. "HDI Enablers is also one of our responses to what we may not be able to offer on a conventional basis, so we would look at it on a structured basis. We do this because our mission is to be the partner for the transformation of our clients," Joly-Pottuz says.

Target first

HDI Enablers always begins with the target, Joly-Pottuz stresses. "Every case starts with an assessment exercise where we discuss the risk with the client. We really listen to them to understand what their targets are because whenever it comes to a structured solution, you have to create a new set of contract features that matches their needs," he says.

A typical example is a client whose risk has evolved, they have had to push up their retention and they need to find a way to manage that exposure or else risk creating a "shock" in their annual profit-and-loss account, he adds.

HDI Enablers would first understand the strategy underlying the size of the retained risk and then design a solution. "Perhaps you want to cover €5m out of a €7m retention and you're going to have deductibles of

€2m," Joly-Pottuz says. "Our virtual captive layer would be placed in between, for the €5m part, and with a duration based on your specific risk profile."

A virtual captive can apply to any sector but is particularly useful when a client is changing what is a traditional activity for it to a new one, a process that might distort its risk profile. "A structured approach may be a solution to finding bespoke coverage for this new risk," Joly-Pottuz says.

"The risk isn't the same anymore and is part of the company's transformation strategy. As a reliable partner, we strive to find a solution for them and that could be a structured approach," he adds.

A virtual captive may be a solution for clients with strong confidence in the quality of their risk and aiming at retaining some of it through profit sharing.

The set-up would be the same for a captive reinsurance contract, whereby a client first takes the given risk within its captive – to incubate a new risk, for example – and then purchases a multi-year reinsurance contract with profit sharing to achieve exactly the same effect.

Joly-Pottuz says this approach also means the captive would be protected in a capital-efficient way – it is not forced to cede 100% of the new incubated risk into its insurance and it could also have a quota-share approach.

Captive audience

Asked how HDI Enablers would present structured solutions to a captive owner, Joly-Pottuz describes use cases.

"If you've got specific risks you want to cover, if you've got significant retentions, if you've got an ambitious loss prevention strategy, you can absorb that within your captive and access structured reinsurance solutions in a way that creates value," he says.

"For example, your captive could accept the challenge of a complex international programme," he continues, "and then seek structured reinsurance for it." The captive thus operates a transformation.

"Captive owners can unlock access to such strategies, even for the most intricate insurance set-ups, thanks to the captive facilitating the transfer and doing the transformation," he adds.

A second use case is a captive owner wanting to optimise its captive like any insurance company, by purchasing a structured reinsurance policy, meaning multi-year or multi-line.

"The risk appetite the chief financial officer targets can absorb the maximum loss and beyond this threshold or in between two thresholds, it would go for reinsurance," Joly-Pottuz says. Optimising risk so it matches risk appetite, he continues, enables better management of the volatility of a captive vehicle, creating value.

"All the traditional insurers have reinsurance and captives are themselves insurance companies, so we could say it is as natural for a captive to purchase reinsurance as it is for any traditional insurance company. And the reason why the traditional insurer purchases reinsurance is to steer its risk appetite so it can optimise its capital use," Joly-Pottuz says.

"A couple of years ago, we started with our core markets in Europe, our historical markets," he continues, "but we are now able to offer solutions on multiple continents, and our goal is to operate on a global basis."

Serving clients

HDI Enablers is HDI Global's division dedicated to the distribution, designing and underwriting of risk finance solutions. As such, it benefits from HDI's financial strength and can leverage synergies as well as its multiple local capabilities. "We are currently sitting in London and Paris, but we act as one global team," Joly-Pottuz says.

The ultimate aim of HDI Enablers is customer satisfaction, he stresses. "Whenever we're able to solve a challenge, be it on a traditional basis or a structured basis, it's a win for us. The creation of HDI Enablers means we can develop new kinds of solutions that not only complement traditional offerings but also create new value streams for the client."

He concludes: "What matters at the end of the day is HDI Enablers helps unlock innovation for HDI's clients in a way that protects their risk and project." ■

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Eric Joly-Pottuz
HDI Enablers

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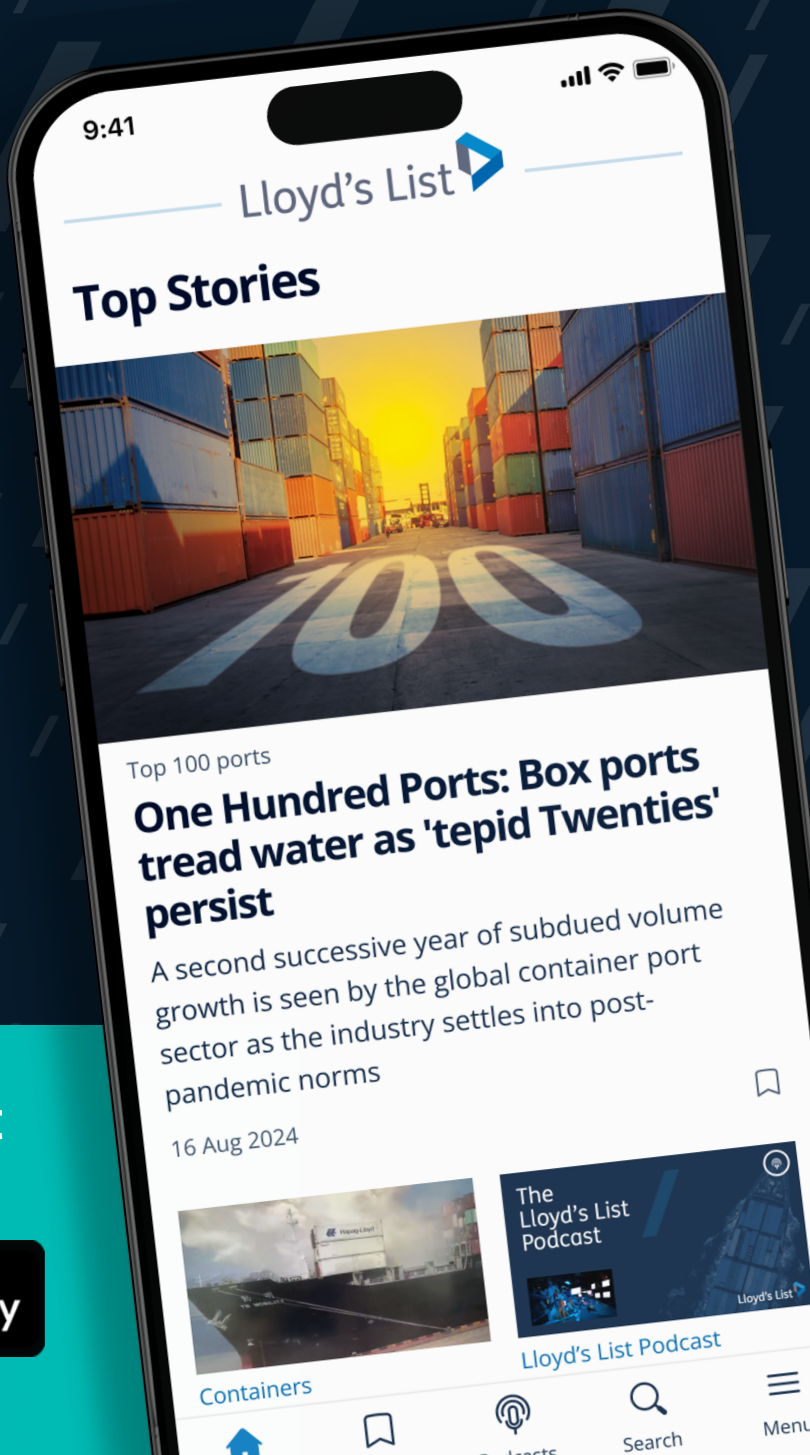

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