

# Market modernisation

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# Market modernisation

Market modernisation is as much a mindset as it is a suite of products and services. For that reason, technologically ambitious re/insurers call it a transformation. We begin with analysis of Lloyd’s Blueprint Two before turning to electronic placement and then the role of syndicates-in-a-box. Next, we go beyond the hype of artificial intelligence, automation and blockchain to see their practical value in underwriting, risk transfer and customer experience.



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**Content editor**

Louise Isted

**Contributors**

Francis Churchill, Michael Faulkner, Ben Margulies, Queenie Shaikh

**Production editor**

Toby Huntington

**Sub-editor**

Jessica Sewell

**Editorial**

Insurance Day, 5th Floor, 10 St Bride Street, London EC4A 4AD  
Email: editorial@lloydslistintelligence.com

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# Crunch time for London market firms as Blueprint Two cutover approaches

With less than five months to go before phase one of the Blueprint Two project to create a new digital, data-first market goes live, there is significant work for the London market to do

The clock is ticking for London market firms – insurers and brokers operating in the London market have less than five months to hit a key deadline in the most ambitious technological project the market has ever undertaken, writes *Michael Faulkner*.

From July 1, phase one of the Blueprint Two digitalisation programme will be implemented and all brokers and carriers will need to use a new cloud-based processing platform to continue trading in the market.

And that is just the start of the project. The phase one single market

cutover will be followed by phase two, which will now go live in April 2025 after a [six-month delay](#) was announced.

Phase two provides the complete set of services that fully use the new digital processing platform, enabling “data-first” interactions between brokers and carriers for risk placement, premium and claims agreements within the London market using a new “digital gateway”.

Phase two has the potential to revolutionise the way the market operates.

But it is the phase one cutover that

will be the key concern for the market this year, when Velonetic, which is building the technology, will move all market participants to the new single digital platform for premiums and claims processing.

Surveys conducted by Velonetic late last year suggest around 70% of market firms were confident they will be ready for the cutover – meaning around 30% of participants were not confident in meeting the deadline. And a [recent survey by technology firm Novidea](#) found around one-third of London brokers and insurers are only “slightly ready” for Blueprint Two.

## The London market has work to do to deliver on Blueprint Two phase one

Graphic: Blueprint Two timeline for phase one digital services



Source: Velonetic

### Work to do

It is clear there is a lot of work for companies to do over the coming months. London market trade bodies and Velonetic are emphasising the importance of preparation, with numerous briefings and Q&A sessions to help participants get ready.

Chris Halbard, Velonetic chief executive, says a “tipping point” was reached last year when it became apparent to the market the Blueprint Two initiative was “real” and work needed to be done. “In my mind the market is very aware now it has work to do to be ready and it is putting that work in place,” he tells *Insurance Day*.

Sheila Cameron, chief executive of the Lloyd’s Market Association (LMA), insists for managing agents market readiness for phase one is “eminently achievable”.

Cameron highlights four key areas for managing agents to focus on. The first is signing the contracts with Velonetic for the provision of the digital services. Second is completing soft-

ware updates to ensure their systems can interact with the new digital services. Third is system testing and the final element is staff training.

“I do feel those are four eminently achievable things for a managing agent,” Cameron says in an interview with *Insurance Day*. “And I think we should have confidence in that.”

For the London companies’ market, the International Underwriting Association (IUA) has launched a campaign in conjunction with Velonetic to “ensure members are ready to adopt and benefit from the upgrades”, the IUA’s chief operating officer, Louise Day, says.

“This will cover ensuring contracts are signed and system user permissions are in place,” she says. “Training and education will be carried out with online modules, classroom sessions and support documentation.

“There will also be a digital support network to assist with system testing and help integration with other software systems,” Day adds.

Much of phase one is about the technology development itself, handled by Velonetic, which will see old legacy systems replaced with a new cloud-based system for processing the tens of billions of pounds of premiums and claims that flow through the market each year, as well as for processing the related tax and regulatory reporting, so it is essential the technology itself works.

Halbard says the technology build is “on track” to build the core services for open market and delegated authority business by the end of March as planned. Property treaty business, which was brought into the scope of this section of the work at the end of last year, will be completed at the beginning of May, he continues. Internal testing to date has shown the “quality is holding very well”, Halbard adds.

Functional testing will begin in early February. This will be followed by end-to-end testing by a group of around 30 market leaders and their software vendors and then wider market testing. The aim, Halbard



says, is to be “testing in earnest” in April and May. “There’s a lot of work to be done,” Halbard says, “but I’m not seeing anything that says, ‘we’ve got a major issue we can’t get past.’” One of the benefits of phase two being delayed is it frees up capacity to deal with addressing defects and testing support, he adds.

In parallel with the testing programme, Velonetic will be looking at four areas, which Halbard summarises as: Can you connect with me? Can you understand me? Can you use me? And have you contracted with me?

The first three cover issues such as new URLs, readiness for new messaging formats and training on the new portal. The final element relates to the new contracts with the market, known as digital processing services agreements (DPSA). “There is a lot to be done in Q2 of the calendar year, but it is doable,” Halbard says.

### Crucial contracts

The contractual element is a crucial part of phase one. Every London market firm will need to sign a DPSA with Velonetic for provision of the core services. The contracts, which will cover pricing and service delivery as well as the termination of the existing processing arrangements, are expected to be sent out to market firms by early February.

Contract negotiations involving the LMA, the IUA, Lloyd’s and Velonetic have been running for months. A set of draft contracts were also reviewed by a panel of customer firms in October. Bob Verber, commercial director at Velonetic, described the contract as “fair and balanced” at an industry event last year. Cameron is positive about the DPSA, saying the initial review by market participants “hasn’t shown anything up. There are no show-stoppers”.

Nonetheless, the contract will need to be signed off by the board of each market participant. This will not be a rubber-stamping process given the materiality of the contract. Firms must make time at board meetings in



**“In my mind the market is very aware now it has work to do to be ready and it is putting that work in place”**

Chris Halbard  
Velonetic

the first quarter of the year to work through the contracts, Cameron says. “They are not all going to automatically say ‘yes’ – and nor should they,” she adds.

Companies should go through a “robust review to ensure they are comfortable Velonetic is providing the services they need”, Cameron says, adding: “That’s why we have allowed a number of months for that process.”

Velonetic is targeting the end of March for the signed contracts to be returned to go live on July 1.

While the market is focused this year on the technical elements of the project’s implementation, the benefits of the project should not be overlooked. Blueprint Two is expected to lead to cost savings and increase processing speed. Lloyd’s is targeting £800m (\$1bn) of market-wide cost savings from the initiative.

### Cheaper and faster

The new digital services provided by Velonetic will be around 40% cheaper for market participants than the expiring legacy systems. The introduction of new technology will also improve the security and resilience

of the market’s infrastructure. “Some of those systems within Velonetic are 20 to 30 years old. They have served us well, but they are not enabled for a data-driven marketplace, so we have got to replace them,” Cameron says.

But the bulk of the efficiency benefits will come from phase two as companies roll out the new digital services combined with the Core Data Record (CDR) that is being developed. The CDR is a key element in the digitalisation of the London market and relates to the critical transaction information that will drive an increase in automated processes, such as accounting and settlement.

“We’d like to get to a position where one enters the data on to a platform like PPL or Whitespace, it extracts the CDR and it just passes straight over to Velonetic for processing,” Cameron says. The ambition is for this process, including the subsequent payments of premiums and claims, to take seconds, rather than the weeks or even months that it takes now.

More importantly, a “data-driven” market using common data standards will create significant opportunities for brokers and underwriters. Cameron highlights the potential for direct peer-to-peer trading between participants, without the need for third party placing platforms, and for new underwriting models.

“We handle complex risks and not everything is suitable for straight-through processing. But there is a substantial portion that can be much more data-driven than it has been in the past and that’s where we need to get to,” Cameron says.

“If you look at what the likes of Ki has done with algorithmic follow or the algorithmic lead Hiscox is doing with Google, there is a whole suite of things that opens up if we are all speaking the same data language,” Cameron continues.

“I think the world is our oyster in terms of what we could do from a data-driven set of processes,” she adds. ■

# Blueprint Two is a significant potential risk event



**Blueprint Two is one of the larger programmes that most of us will have experienced in our careers and brings the promise of many benefits in terms of improved data quality, reduced costs and increased resilience, write Benoit Steulet and Claire King, ICSR**

The process of change itself introduces significant risk.

It becomes very easy to look forward and focus solely on the risks associated with the change. What happens

if something fails to go to plan? How will we react? What impact might it have on our cashflow, or on the way we pay claim monies to customers?

These are all great questions and ones that need to be considered collectively and individually but, as a market, we should not lose sight of why we are undertaking this programme of modernisation.

This change is happening precisely because of “risk” – the risk that comes with continuing to rely on technology that pre-dates most of our careers. As one colleague recently put it to us, it pre-dates by a considerable period of time the technology we now all take for granted, our mobile phones.

There is significant risk in the ongoing use of this very old technology not originally designed with the modern era in mind. That risk has now firmly tipped the balance scales in favour of the need for change.

So, if we accept that doing nothing is not an option, we can focus on how we mitigate the risk associated with market modernisation and how we maximise our ability to cope with any disruption that does occur. As a

market, we have collectively agreed change is necessary, so as individual firms, if we wish to continue being part of the London market, we must play by the collective rules and common processes we have all chosen to abide by.

With that in mind, a lot of careful thought has gone into the design of phase one to ensure, in so far as it is practicable to do so, that the level of change market participants must adapt to is limited. But this remains a significant change event, both from the technology and process perspectives, and is one that rightly involves our colleagues in risk functions.

It is clear there is a wide range of disruption possible, with the scale spanning anything from staff having to train for and adapt to new processes, through to the far more significant possibility of system failure of some kind.

## Key focus areas

In our conversations with market participants, three key areas of risk associated with the change itself have generated the greatest level of focus. These are: testing – strategy, scope and timeframes; the overall timelines



### The onus now is very much on individual firms to assume accountability for their own readiness, making use of all the support and guidance

for change, which are very tight; and the risk of disruption and how that will be managed given that, if it happens, it is likely to be market-wide.

These are entirely understandable concerns given the scale and timings of the change and will be recognised by those running the programme centrally. The level of change for phase one is being kept to a minimum, with significant investment being made in providing market firms with as much guidance, support and testing material as it is practicable to deliver.

Velonetic has continued to evolve the Blueprint Two website, with updated information recently added on a variety of topics, including electronic data interchange technical specifications, market training material, carrier checklists, quality assessment, assurance and governance, Vanguard testing and customer testing. In February, portal demonstrations and customer testing Q&A sessions are being hosted.

The onus now is very much on individual firms to assume accountability for their own readiness, making use of all the support and guidance that is being made available. Alongside the change itself, they need to consider their own internal governance process and the way they manage their internal risks and regulatory obligations.

A wide-ranging change programme of this nature will almost certainly require board approval on the final go/no-go decision. And therein lies a conundrum – phase one may well have a July 1 cutover date attached, but with the need for boards to sanction the change, the reality is, for most firms, this approval will need to be obtained a month or more ahead of that date. With final testing yet to get fully under way for many firms,

there is a feeling that time is against the market but, in reality, much has already been done centrally to ensure readiness.

#### Regulatory and operational readiness

The change programme itself may be driven by a need to deliver improved operational resilience and cost efficiencies. The process of change, however, brings the programme squarely within the perimeter of regulators – certainly in the UK, but also, to some degree, internationally.

Risk and compliance practitioners will need to consider the implications of the programme from a number of angles, paying specific regard to the given regulator's work on outsourcing and critical third parties, and operational resilience.

The action taken by the Prudential Regulation Authority (PRA) against the chief information officer of TSB Bank for failures associated with their own, internal programme of change will certainly be on the minds of a number of accountable C-suite executives with a role to play in this programme.

Blueprint Two introduces change across a number of critical third parties, impacts several important business services and has the potential to test impact tolerance levels. And with the action against TSB, it is clear the PRA will not tolerate a failure to plan.

It is no surprise, then, overall operational readiness and the tight timeframes to complete testing have been regular topics of conversation. Seen through the lens of a risk professional, a group tasked with the specific responsibility to both identify operational risk and to help identify pathways to removing or mitigating those risks, Blueprint Two is a significant potential risk event.

#### Achieving readiness

The question firms need to be asking is, what does readiness look like for their organisation? This will be a combination of satisfaction they have taken all appropriate actions to reduce the risks associated with the changes taking place; and confidence they have maximised their ability to cope with any disruption that does arise. There will be significant overlap in that picture of "readiness" across firms, but risk tolerances and how firms conclude they need to approach contingency planning will differ based on the specific operating models, types of customer and types of business written by each business.

Market organisations such as the Lloyd's Market Association, the International Underwriting Association, the London & International Insurance Brokers' Association and Lloyd's are doing an excellent job in identifying common ground and ensuring member firms have a clear and common understanding of the issues. Ultimately, though, there can be no delegation of responsibility for the readiness assessment in individual firms. Each must answer the question for themselves. The key areas firms need to consider include: governance and oversight; impact assessments; business continuity planning; risk assessments; data integrity, privacy and security; outsourcing/third-party relationships; change management; testing and quality assurance; and cutover plans.

With a change of this scale, perfection rightly remains the ultimate objective, but finite budgets and resources, and competing priorities, make disruption of some magnitude inevitable. Readiness is a state where we have maximised our ability to deal with any disruption that does arise, with a lens that sees both the company and customer implications of such disruption. For any firm that is taking its own readiness seriously, that is very achievable and it is the regulatory expectation. ■

*Benoit Steulet is operations director and Claire King is risk and compliance director at ICSR*



# Whitespace ready to roll out 'headless' integration: Broome

Electronic trading platform Whitespace's chief platform officer describes how the re/insurance market is moving away from traditional documents to working entirely with data

Digital e-trading platform Whitespace has reached the next stage in the evolution of electronic placement – enabling its users to integrate their data across systems via APIs, according to its chief platform officer, Marcus Broome, *writes Louise Isted*.

In an interview with *Insurance Day*, Broome says an 18-month trial of "headless" trading on Whitespace, between a London broker and a Paris-based underwriter, is now "moving into production".

"Headless means the Whitespace platform's APIs can connect directly to other systems. The Whitespace browser and/or iOS applications – the head – would be completely hidden from the user," Broome says, adding this functionality is "ready to roll out now".

Users of Whitespace have always been connected to its platform through its APIs, ever since it launched five years ago, as the Whitespace applications are themselves entirely API-driven. The "miss-

ing part", Broome says, was connecting another computer to them.

The development is a shift for the market away from traditional documents to working entirely with data. There is "substantial" interest in systems integration, Broome says, whereby brokers and underwriters use their in-house systems seamlessly with the Whitespace platform.

There are 30 to 40 companies at "various stages" of integration with the Whitespace platform.

"Everyone is welcome to integrate fully with our APIs now and more and more firms are doing so," Broome says. "These things take time and very often organisations want to start using the platform as a browser experience. A decision on full integration is a decision to spend money, not necessarily with us but usually on the customer's side."

## Unique selling points

The fact Whitespace is designed to be a fully data-driven platform is its main unique selling point (USP), but

Broome highlights two more USPs. The first of these is a "truly modern" user experience.

He says: "When we started building the platform, the first thing we built was an iPhone app. The process of getting an app approved to put on the App Store entails running it past Apple so it can carefully check the way you've built the application because it guards very jealously the whole experience of apps on iPhones, iPads and its other devices."

Data delivered this way enables a good user experience on a small device. "We've all had the job of trying to read a PDF on a small screen, where you're constantly pinching and scrolling and you can't remember what you've seen elsewhere. But if you use a genuine app, you can interact with the data," Broome says.

Whitespace's other USP is the "sheer scale and financial stability" of being part of Verisk Analytics, which has an insurance-related annual turnover of \$3bn.

**"Everyone is welcome to integrate fully with our APIs now and more and more firms are doing so. These things take time and very often organisations want to start using the platform as a browser experience. A decision on full integration is a decision to spend money, not necessarily with us but usually on the customer's side"**

Marcus Broome  
Whitespace



## ■ ELECTRONIC PLACEMENT

Being part of Verisk, Whitespace has the freedom to innovate at its own pace – and provides an environment that allows even the largest of firms to contract with confidence using standard commercial terms, Broome adds.

### Accelerating growth

Whitespace has more than 260 firms trading on its platform, which includes more than 8,000 individual users. They vary from start-up brokers to the largest underwriters and brokers in the market, Broome says.

Growth in the use of the Whitespace was steady until October 2023, when it started to accelerate “very fast indeed”. “We had a tripling of volumes going through Whitespace and, by year end, we were close to a four-times multiple,” he says. One factor behind that growth has been transactions from a large broker, Marsh.

“We’re seeing more volume in January to date coming up to the February 1 renewals than we saw in December last year, which is another indicator that volumes on the platform are ramping up,” Broome says.

Whitespace exclusively has invested in its platform, Broome stresses. “We don’t ask anybody for development funding and our costs are eminently reasonable.”

Whitespace has two payment models: a “pay-as-you-go” monthly subscription of between £122 (\$154) and £243 and an onboarding fee of between £3,000 and £3,500, depending on the size of the customer.

“We joke there’s every chance a user would spend more on lunch in The City in one day than they would for a month using our platform,” Broome says. “We’re priced aggressively with the aim of being deployed

wherever there is offer and acceptance in the insurance process.”

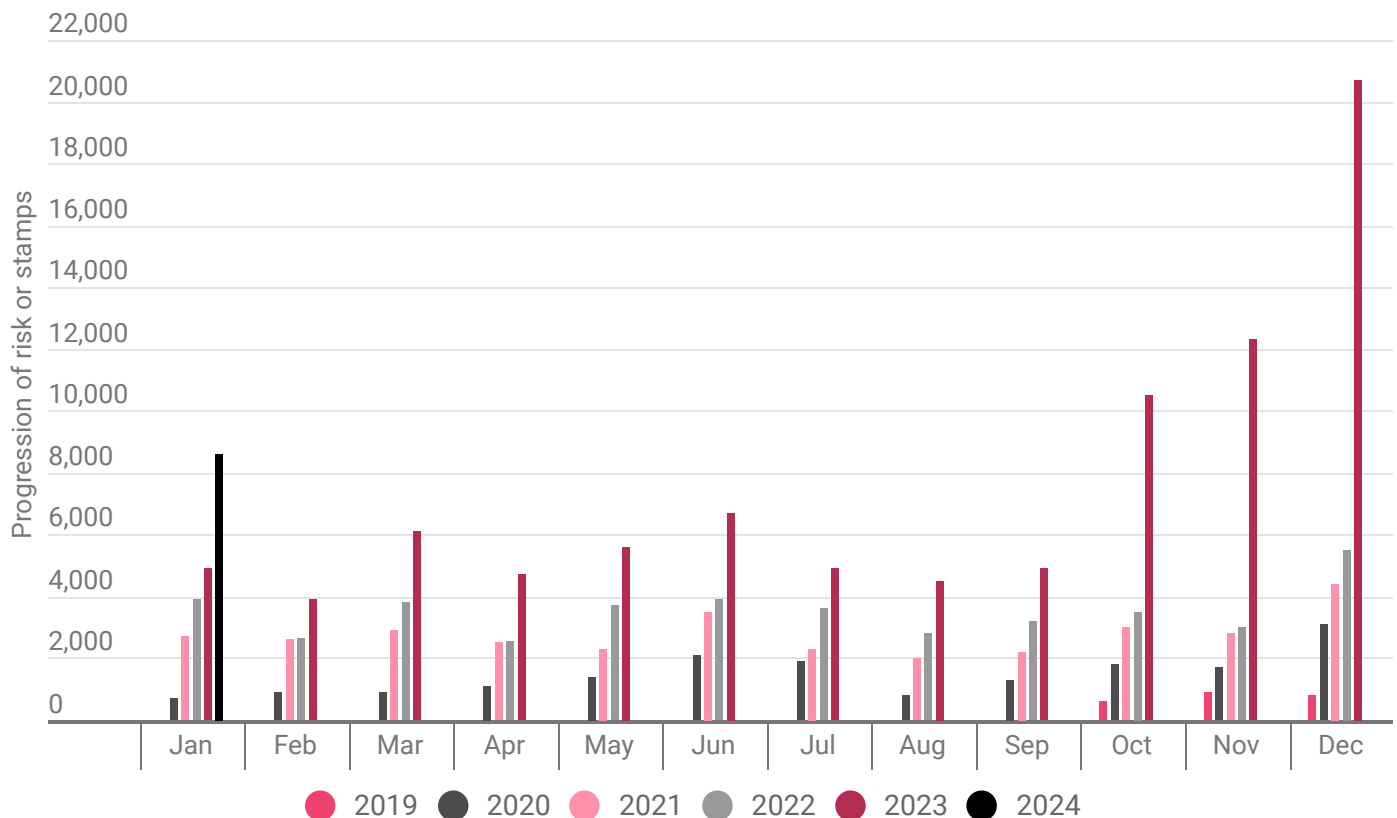
As well as a subscription fee, Whitespace also offers an “all-you-can-eat” option, which is a fixed fee for firms that have yet to determine how quickly they can integrate with the platform. “A fixed fee for unlimited use is a very popular option,” Broome says. “Customers know the price won’t change however many risks they write and however many of their brokers or underwriters use the platform.”

It also offers an API-based “fee-per-risk”, so an IT department of a large broker can make a single connection to the platform, “to do the work of 1,000 people in a single morning”.

“We needed to have a model that recognised how the success of integration was compromising our

## Whitespace usage accelerated rapidly over the final three months of 2023

**Graph:** Whitespace platform usage, 2019 to 2024



Source: Whitespace



subscription fee and so we have this other model, on a per-risk basis driven by the APIs.” Broome says, “and the same ‘all-you-can-eat’ option is still available to API users, meaning there is no danger of over-spending.”

### Speed to market

It takes “days, at most” to onboard a new user of the platform, Broome says. “Whitespace is ‘software-as-a-service’, meaning we don’t have to do any implementation work to onboard someone; we merely have to tell the software they’ve signed a contract.”

He adds: “The thing that can sometimes take time is with the modern single sign-on approach, so you don’t need to have a new password to access Whitespace. The Whitespace technology will talk to your in-house security to allow a single sign-in, which can take a few days. For larger customers, which might want to bring in their business in other markets and trade with a lot of organisations, we need to make sure their partner firms are also onboarded, which can take a few weeks.”

The speed of the onboarding process is helped by the fact many new customers are already familiar with Whitespace from what they have heard from their peers. “It’s a net-

work effect where our customer engagement is not so much selling the platform as enabling people who have already reasoned with their partners they too want to trade on it,” Broome says.

Whitespace has had 99.98% of uptime since its launch in August 2019 and 99.93% in the past six months.

“We’re delivering more uptime than our service level of 99.8% dictates,” Broome points out.

### Roadmap milestones

A “major change” coming to the platform in March or April, Broome says, is enabling endorsements to be recorded as a change to a subscriber’s contract.

“The current system is a subscriber receives a document for every new endorsement, which is attached to their original policy. The change will be to embed endorsements into their contract as a contract change. That’s a major shift coming up within our roadmap.”

Whitespace’s “aspirations” for 2025 include enabling subscribers to use its software for negotiating complex claims contracts. A recent change that would assist this is the integrating of payment technologies that allow its customers

to organise the movement of funds resulting from a transaction on Whitespace between themselves.

Along with the JavaScript Object Notation format Whitespace uses, it has “separately identifiable” formats for Blueprint Two and Core Data Record. As its customers migrate to data-only trading, Whitespace also supports traditional documents. “We have a substantial investment going on now to make the migration process quicker and easier by creating a more effective toolset for contract building,” Broome says.

“There’s no point in us trying to compete with Microsoft Word, but we do aspire to have the best and most efficient way to create, edit and trade fully digital contracts and we are investing at the moment in the ‘create’ part of that, which will move us substantially from where we are now.”

This functionality will resemble digital “bricks” that can be picked up individually or as a group and dropped into a new contract. “And, like everything else we do at Whitespace, it will be available through our APIs, so that another piece of a subscriber’s technology will be able to look for and find a given clause.”

Whitespace is taking practical steps to build on its success in the London market by [launching in the US](#), Broome says. This is a natural development, given Whitespace has been part of US data analytics and risk assessment firm Verisk since March 2021.

“We’re of the view Whitespace can be used in the global specialty market,” Broome says. “London is around 7% of global specialty premium, so we are looking to deploy the platform internationally and we see no reason why it can’t have a role wherever there is offer and acceptance in the insurance contracting process, whether that offer and acceptance occurs between individual people negotiating or whether it is technology matching an offer with an underwriter’s appetite.” ■



Porntep Lueangon/Alamy Stock Photo



# Ebix Europe gears up to increase competition in electronic placement

Aleksey Funtap/Alamy Stock Photo

## London market technology specialist completed seven years as architect and provider of the original London market electronic placement platform at the end of 2023

Ebix Europe is all set to redefine the modernisation of the London market with its launch of PlacingHub, a new electronic placing platform that enables brokers and insurers to quote, negotiate, bind and endorse business digitally, according to its vice-president, Pete Smyth, *writes Louise Isted.*

Following the acquisitions of London-based Acord, messaging and trading platform specialists TriSystems and

Qatarlyst (formerly RI3K), Ebix Europe was created to design, develop and support a range of insurance software solutions.

It designed and powered the technology used by Placing Platform Ltd (PPL) from when this went live in 2016 until the [end of last year with the wind-down of PPLv3.](#)

With its new independence, Ebix Europe in January unveiled Placing-

Hub, which Smyth says offers an “unparalleled level of robustness, reliability, user-centric experience and support”.

As such, he says PlacingHub is positioned to play a pivotal role in shaping the future of electronic risk placement. Smyth has been part of the evolution of electronic placement, having joined TriSystems in 1992.

In an interview with *Insurance Day*, he says the first significant milestone in that evolution was the RI3K product used by brokers Aon and BMS with about 100 carriers.

“That ran successfully for a number of years, but they didn’t manage to get more brokers on board, so it was very much an Aon/BMS vehicle,” Smyth says.

It was when Marsh was looking to join Qatarlyst, he says, that PPL was created to provide a platform for the market as a whole. This was around the time Ebix acquired Qatarlyst,

**“The market has spent an awful lot of money on electronic placement platforms and are saying they want a return on that investment now, to see something tangible for their efforts”**

Pete Smyth  
Ebix Europe





which had itself bought TriSystems. Ebix proposed a placing platform for PPL based on TriSystems' Lime Street platform for electronic endorsements, which was used successfully for nearly seven years.

There were classes of business, notably financial lines, that were "quick to adopt" PPL, Smyth says, while some aviation re/insurers initially felt their product was too complex to work on such a platform. "But there is no class of business that failed to use PPL," he adds.

The Holy Grail in the evolution of electronic placement is to have "one true source of the data at the outset", Smyth says. "Where we've got so far is to electronically reproduce the traditional way of placing transactions, but I think where we're going next is for data to flow through the platform without having to be rekeyed or re-extracted."

He adds: "It's a dream of many companies to be able to talk electronically through a placing platform from their existing systems. That means using APIs [application programming interfaces] to access all the functionality of a platform without needing to see the screens associated with it, so it comes from the back end of their own systems."

The first step in that direction will be the ability of brokers to drop their data directly into a placing platform electronically so it is distributed seamlessly across their carriers, Smyth says.

The ultimate goal is "headless use" with APIs.

Ebix Europe has APIs to put data in and take data out of its PlacingHub and has been testing them with some of its partners to create a fully integrated system, Smyth says.

The company is also working on a "whole load of additional APIs" to take that process a stage further.

### **Return on investment**

The bottom line in the evolution of electronic placement platforms, though, is the bottom line of the users, Smyth stresses.

"The market has spent an awful lot of money on electronic placement platforms and are saying they want a return on that investment now, to see something tangible for their efforts," he says.

Ebix Europe has dispensed with fees for licensing or onboarding at PlacingHub and only charges for transactions and at a cost, moreover, that is "the lowest in the market", Smyth says.

"People will be using PlacingHub because they want to and not because they are tied to us through a licence fee," he says. It can do this because it has the expertise it needs in-house, with no need to employ external resources.

An example of its credentials is the platform Ebix Europe was operating for PPL had no downtime over the final three months of 2023 and less than 0.01% for the whole year.

"Both the hardware and the application performed extremely well and we're proud of the uptime it

achieved," Smyth says. "The same people designed PlacingHub."

They have built a new application on Microsoft Azure, in the cloud, meaning the platform will be "even more resilient than it is now".

### **Business intelligence**

A feature of PlacingHub, which the PPL platform did not have, is an online built-in reporting tool to graphically display customised data insights. This "business intelligence side" of PlacingHub means the platform is as relevant to the C-suite of a company as it is to the operations side, Smyth says.

Ebix Europe plans to launch this quarter the first iteration of the "product and contract builder tool" it has developed as a template for any class of business. On the more distant horizon, Smyth says, is the use of artificial intelligence in the submission phase of PlacingHub.

The key message Smyth has heard from the market on electronic placement is carriers and brokers "don't feel wedded to one particular platform". A lot of companies have used both PPL and the Whitespace platform, with a market split of about 90:10, and "we'll be looking to take a sizeable part of that", he says.

Smyth concludes: "We have nearly 90% of the carrier market either contracted or in contract negotiations so far, by volume of their placements on the previous PPL product. We also have a number of brokers signed up already, including from among the top 20 broking firms, so we expect live action on PlacingHub during February." ■

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**"It's a dream of many companies to be able to talk electronically through a placing platform from their existing systems. That means using APIs to access all the functionality of a platform without needing to see the screens associated with it, so it comes from the back end of their own systems"**

Pete Smyth  
Ebix Europe

# How prospective syndicates help Lloyd's think outside the box

## Asta and Greenlight Re describe the widening appeal of the syndicate-in-a-box mechanism

As many from the first syndicate-in-a-box (SIAB) cohort reach the three-year milestone towards full syndicate status, the fog is lifting on whether they kickstarted a new era of innovation at Lloyd's, *writes Queenie Shaikh.*

The SIAB initiative was [unveiled in September 2019](#) as a key feature of Lloyd's Blueprint One. The idea was to help new underwriting entities gain a foothold in the market, thanks to less onerous requirements for business plans and gross written premium. In return, Lloyd's would be a testbed for innovation by giving SIABs the freedom they needed to evolve into full syndicates.



Keith Nevett  
Asta

**“In the past, people were inquisitive. What is it? How is it working? Today we're only getting people who are ultimately interested in stepping in to establish an SIAB”**

With Blueprint Two on the horizon, Lloyd's is learning from the experience of these pioneers and working with managing agents to enhance their capacity to better prepare and support new SIABs.

The initial hype around the SIAB model may have largely dissipated but that signals its maturity, Keith Nevett, head of business development at managing agent Asta, says. “In the past, people were inquisi-

tive. What is it? How is it working? Today we're only getting people who are ultimately interested in stepping in to establish an SIAB,” Nevett tells *Insurance Day.*

Asta has been heavily involved in the SIAB structure from the start, managing a total of six, including Carbon Underwriting, Parsyl and Greenlight Re. It helps ensure each market entrant's business plan provides “accretive value” to Lloyd's



Ilyas Ayub/Alamy Stock Photo



## Lloyd's SIAB pioneers show the challenges and appeal of the framework

**Table: Syndicate-in-a-box selected financials (\$m)**

Name	Capacity 2020	Capacity 2021	Capacity 2022	Capacity 2023	Gross written premium 2020	Gross written premium 2021	Gross written premium 2022
Munich Re Innovation 1840	23.9	24.4	23.3	*	1.3	4.9	4.7
Carbon 4747	14.7	50.9	60.4	132.2**	2.3	26.2	56.4
Parsyl 1796	-	23.6	21.7	23.6	-	0.6	2.0
MCI 1902	-	-	48.5	66.4	-	-	28.2
Beazley 4321	-	-	36.5	-	-	-	10.5
Greenlight Innovation 3456	-	-	19.3	39.4	-	-	6.3
OIC 2880	-	-	27.7	37.2	-	-	18.4
MCI 5183	-	-	11.5	33.0	-	-	7.3

Name	Combined ratio 2020	Combined ratio 2021	Combined ratio 2022	Earnings 2020	Earnings 2021	Earnings 2022
Munich Re Innovation 1840	380.0%	207.8%	127.8%	-1.1	-1.3	-0.6
Carbon 4747	2,229.5%	166.8%	130.0%	-2.1	-5.8	-5.9
Parsyl 1796	-	110.1%	982.0%	-	-0.1	-0.7
MCI 1902	-	-	102.2%	-	-	0.1
Beazley 4321	-	-	165.0%	-	-	-3.2
Greenlight Innovation 3456	-	-	230.9%	-	-	-0.9
OIC 2880	-	-	88.1%	-	-	1.2
MCI 5183	-	-	7,579.1%	-	-	-0.6

\*in run-off \*\*now full syndicate

Source: company announcements

and it supports them for the stand-ard three-year term.

The SIAB initiative has “absolutely worked” to bring more Lloyd’s newbies to Asta’s door, Nevett says. “There’s quite an educational process we must go through. When we onboard a new syndicate, we hold its hand a lot and take it through the operational mechanics at Lloyd’s, what it does and why it does it,” he adds.

The model has also accelerated the creation of captive syndicates, according to Nevett, who predicts they

will become a primary driver of the model’s success.

“For a captive, it’s all about costs. Keeping costs to a minimum for a full syndicate under the existing regime doesn’t work. For a captive syndicate within an SIAB framework, the costs are potentially better when they enter the Lloyd’s market,” Nevett says.

### Mixed expectations

The initial response to the new structure had been mixed. As [Insurance Day reported in 2021](#), the SIAB

framework attracted a lot of interest from underwriters who might otherwise have never considered Lloyd’s as a place to develop their business. At the same time there were concerns, not least about the additional time and effort needed to explain the idiosyncrasies of Lloyd’s structure to a new pipeline of potential market participants.

The first SIAB was launched by Munich Re on January 1, 2020, with the aim of designing, developing and launching innovative insurance products. That subsequently went

into run-off in December 2022. On the heels of Munich Re's SIAB came [Carbon Underwriting's syndicate 4747](#), which focuses on data-driven delegated underwriting. Carbon became the first SIAB to gain full syndicate status, in January 2023. The latest SIAB to receive Lloyd's approval, [MCI's syndicate 1966](#), will provide insurance for clinical trial funding to biotech firms. It aims to commence underwriting from April 2024.

The SIAB model has succeeded in supporting Lloyd's modernisation mission, Patrick O'Brien, chief executive and director for Ireland of property/casualty reinsurer Greenlight Re, says. It has been a mechanism for insurtechs to access Lloyd's capacity in a way that would not have been possible before, he adds.

Greenlight Re [established its SIAB, syndicate 3456](#), in 2022. "We approached Lloyd's with the vision of establishing an insurtech syndicate we would use to provide capacity to our portfolio companies we invested in. On a broader basis, we also write other innovation-related business through that syndicate," O'Brien says.

The SIAB model has enabled Greenlight to scale its business to now invest in more than 35 insurtechs, most of which are managing general agents. O'Brien says: "As our existing entities were reinsurance-focused, we required a fronting carrier. We recognised Lloyd's interest in innovation and it found the proposal appealing. SIAB allowed us to cautiously explore the value of Lloyd's without committing to substantial premium volumes. As we grow in scale over time, our plan is to transition and migrate to full [syndicate] status."

The Lloyd's brand underpins the value of the SIAB, O'Brien continues, and is seen as an asset for Greenlight's insurtech partners. The structure also acts as a "creative bridge, connecting Lloyd's to the



**"SIAB allowed us to cautiously explore the value of Lloyd's without committing to substantial premium volumes. As we grow in scale over time, our plan is to transition and migrate to full [syndicate] status"**

**Patrick O'Brien**  
Greenlight Re

evolving landscape of insurtech", he says. As a result, Greenlight's SIAB not only supports its portfolio companies, but also enables it to engage in a broad range of innovation-related business.

### **Ups and downs**

O'Brien says the SIAB mechanism encourages traditional insurers to be more creative. "Lloyd's has a keen interest to grow in the innovation and insurtech arena, which makes it possible for syndicates to do things differently," he says. Lloyd's vision for SIAB was always to attract "creative business that was different from the traditional business Lloyd's had", he adds.

SIABs have their challenges, but these are not because of the business model, and rather because of the time it takes to generate a pipeline of opportunities, O'Brien says.

"For Greenlight, securing the initial

contracts for its SIAB took longer than expected, a challenge compounded by its client base's relative unfamiliarity with the Lloyd's environment. Since our portfolio companies are often not coverholders, navigating the coverholder approval process added a time constraint," he says.

Acknowledging the initial phase was a learning curve, O'Brien says Greenlight's SIAB is now anticipating gaining momentum in the coming months. Syndicate 3456 is half of the way to the critical three-year milestone, at which every SIAB is reviewed by Lloyd's against the key performance indicators (KPIs) agreed at its launch. Meeting these KPIs is a central consideration when deciding whether the business can progress to full syndicate status.

More than anything, O'Brien says Greenlight needs to demonstrate premiums can be generated in a profitable way. "If we can do that for the first three years of SIAB successfully, there's the opportunity to migrate to full syndicate status in time."

Fundamentally, O'Brien says insurers considering an SIAB need to understand it is a "box under certain restrictions".

The key is to agree KPIs "up front" with Lloyd's and with as much clarity on both sides "as to what that box is", he adds.

O'Brien is glad the SIAB model is attracting companies that are "probably a little bit different from the market as a whole" because this creates diversity. "SIABs are not as aligned to the hard market conditions as some traditional players," he adds.

For all their teething problems, new SIABs continue to be launched. For the concept's supporters, including O'Brien and Nevett, the results are clear: SIABs have opened new doors (and perhaps new boxes) for those who want to dip their toe in the Lloyd's market. ■



# Carbon Underwriting's platform 'democratises' insurance data

Chief technology officer at Lloyd's first syndicate-in-a-box explains why Carbon Underwriting created its own underwriting platform

Carbon Underwriting's post-bind analytics and pricing platform challenges industry norms and views on data ingestion, analysis and consumption, according to its chief technology officer, Ben Laidlaw, writes Louise Isted.

Carbon became Lloyd's [first syndicate-in-a-box in July 2020](#) and graduated to a full Lloyd's syndicate in January 2023. The London-based firm created its own underwriting platform, which it called Graphene, after the allotrope of carbon.

In an interview with *Insurance Day*, Laidlaw says Graphene was "built in-house and without the constraints of legacy infrastructures or mindsets", employing the latest data processing and analysis techniques that allow Carbon to "capture unique insights which may otherwise be overlooked by underwriters".

Graphene is managed by a team of quants and IT developers who employ machine learning and artificial intelligence. Leveraging Google Cloud Platform to "democratise" data and empower its users with actionable insights, Graphene standardises and homogenises claims risk and premium bordereaux, augmented

with third party data. It enables Carbon's underwriters to draw insights at a binder, coverholder, territory or class of business level.

"Graphene allows for the democratisation of insurance data, with the platform and its conclusions being shared with all of Carbon's partners, whether coverholders, brokers, follow markets or reinsurers," Laidlaw says.

**By underwriters for underwriting**

Carbon Underwriting recently received [approval from Lloyd's for a 36% increase in the stamp capacity of its syndicate 4747](#), whose gross written premium will increase from £150m (\$189.9m) in 2023 to an expected £204m this year.

Carbon set out in 2018 with a mission to transform the world of delegated underwriting and a vision to set a global benchmark, and Graphene was built "by underwriters for underwriting", Laidlaw says.

"Our data models have provided us as a syndicate with a scalable runway to build amazing data products

that allow underwriters to focus on underwriting, actuaries on their modelling and increased efficiency across the entire business. It has also allowed us to expand across multiple territories and increase our premium base significantly with a minimal increase in headcount," he says.

**£204m**  
Expected gross written premium of Carbon's syndicate 4747 for 2024, up from £150m

"Graphene underpins everything we do because it presents all parties in the distribution chain – underwriters, brokers and coverholders – with superior data to ensure they are completely aligned. Our approach is quite simple – data model before application," he adds.

A scalable common data model allows Graphene to contextualise inconsistent bordereaux data and enrich it with third-party datasets to produce hyper-granular insights. Google large language models are used to classify claim descriptions and risk occupancies, streamlining underwriting processes and ensuring accuracy. Visualisations and bidirectional event listening provide customised dashboards and real-time



**"Our data models have provided us as a syndicate with a scalable runway to build amazing data products that allow underwriters to focus on underwriting, actuaries on their modelling and increased efficiency across the entire business"**

Ben Laidlaw  
Carbon Underwriting

updates, tailored to individual user needs, and a dedicated tool simplifies data ingestion, ensuring efficient data capture and management.

In-house machine learning models help Carbon identify the loss-making parts of its book of business, which it says would take a human hours – if not days – to find.

“Graphene goes beyond static reports by offering a dynamic view,” Laidlaw says. “Its asynchronous data pipelines clean, enrich and extend information – ultimately creating a single source of truth for the entire business.”

This allows users to gain insights into individual binders, portfolio-wide performance, and identify loss areas “with ease”, he says. A “Google-like” search tool uses natural language processing to generate insights “instantly”, he adds, facilitating faster decision-making.

“By prioritising data models before applications, Graphene ensures flexibility and scalability. Its cloud-based

**“Graphene underpins everything we do because it presents all parties in the distribution chain – underwriters, brokers and coverholders – with superior data to ensure they are completely aligned”**

**Ben Laidlaw**  
Carbon Underwriting

infrastructure adapts to evolving needs and integrates seamlessly with new technologies,” Laidlaw says.

Graphene is used internally across Carbon’s entire business – claims, actuarial, underwriting, finance and operations. All its coverholders, brokers, re/insurance partners, funds at Lloyd’s (FAL) providers and managing agents have access to a “personalised version” of the platform.

Graphene is “more than just” a next-generation analytics platform, Laidlaw insists.

“By enabling closer scrutiny of delegated authority facilities, it should

assist in generating profits for future underwriting of these risks across the market. Graphene has not only challenged industry norms but shattered them – revolutionising data ingestion, analysis and consumption.”

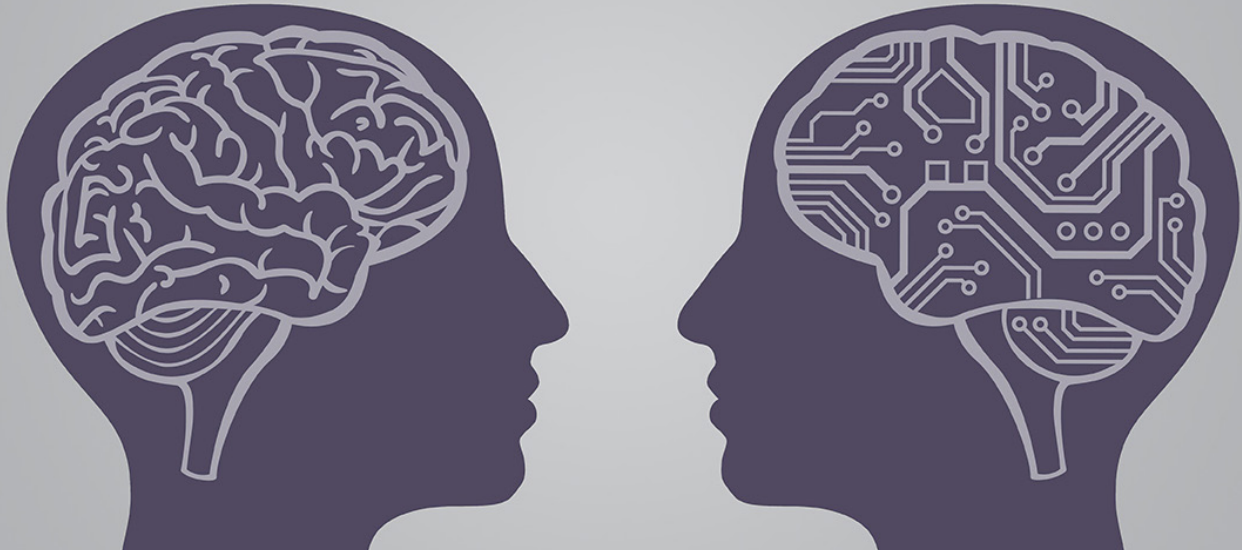
He concludes: “For coverholders, brokers and reinsurers, such technological progress is allowing them to move away from traditional linear, mono-directional modes of communication, which in turn is allowing them to gather collective insight to underpin corrective strategies. The outcome of this will be a sector that is more proactive and less reactive when it comes to risk management.” ■



Ianni Dimitrov Pictures/Alamy Stock Photo



# A meeting of minds? Ways to adopt artificial intelligence



## Brokers, carriers and insurtechs are united in their quest to get the best from AI

“Never send a human to do a machine’s job,” Agent Smith, the artificial intelligence (AI) program in the sci-fi movie *The Matrix*, says. The opposite is also true because technological transformation is about understanding the strengths and limitations of both humans and machines, writes Louise Isted.

Re/insurers are prepared for AI to move beyond task automation and machine learning to advanced uses in 2024, but they first need to overcome certain hurdles. Xceedance sees [four main challenges](#): generative AI testing; reinventing insurance workflows; embracing “the power of one”; and integrating information sources.

To realise the full potential of AI, the challenge is to become comfortable with computers making choices, from the level and type of coverage to claims recommendations. To achieve that level of trust, testing will be crucial, the insurtech says.

Most insurance workflows were designed more than 60 years ago and so

insurers will need to combine technology, data and AI, and revise insurance processes from the ground up.

Insurance models have historically considered clusters of risks in determining rates and coverage. The ability to quickly analyse large volumes of data is enabling this to change and some insurers are starting to look at risks individually, no matter how small, Xceedance says, and are considering business they may not have previously, and identifying new market approaches.

Generative AI requires a lot of data and the challenge for insurers will be integrating data sources into AI platforms so information can be used to make decisions. Xceedance stresses it is also important to populate the platforms employees use so that the information is accessible.

### Legal advice

The latest advances in AI and related innovations have signalled the need to embrace digital transformation with increasing urgency, according



**“There are so many opportunities from AI, but it’s important to recognise we cannot lean on it completely. It’s about upskilling the workforce to equip and empower them to be very efficient with AI as their copilot”**

Carolina Klint  
Marsh McLennan



to [Fleur Rochester, president of the London Forum of Insurance Lawyers and partner at Kennedys](#), and Deborah Newberry, corporate affairs director at Kennedys.

Alongside the significant benefits, they warn there are legal issues arising from technologies that have the potential to bring innovation to insurance – requiring a careful balancing act between risks and rewards. Those issues include concerns about data privacy, bias and discrimination. Use of data and data privacy is a “particular pressure point”, they say, in how consumers view insurance innovation.

To mitigate risks and realise the potential of AI technologies, insurers must create robust AI governance frameworks to ensure best practice; including with regard to data governance, explainability and transparency, as well as continuous monitoring.

Doing so, the legal experts say, will help send a strong message to customers – and the wider market – that the commitment to fostering responsible AI practices will go hand in hand with applying ethical AI principles associated with AI technologies.

### Wider risks

In its *Global Risks Report* for 2024 the World Economic Forum says the “adverse outcomes of AI technologies” is a new entrant to the top 10 list of global risks ranked by severity. [Marsh McLennan’s chief commercial officer for Europe, Carolina Klint](#), notes that AI-generated misinformation, cyber attacks and cyber insecurity are now considered top risks.

“And it’s about time, if I may say so, because these risks have not been prominently featured in past years, which I think is surprising given our dependency on technology, but also given the acceleration of digitisation following the pandemic,” Klint says.

The “sudden accessibility” of user-friendly interfaces like ChatGPT, larger-scale AI models and synthetic content to manipulate public opin-



**“Google Could was very keen to partner with someone around lead underwriting and we’d done a lot of commentary around the fact everything we’re doing at Hiscox has been about lead underwriting and so it was very much a meeting of minds”**

**Kate Markham**  
Hiscox London Markets

ion means “it is no wonder ‘misinformation and disinformation’ is ranked by respondents to the report as the top risk in the short-term outlook”, she says.

Klint stresses the use of AI “comes with so many fantastic opportunities”, but businesses must also consider the societal, economic and security implications of using it.

“There are so many opportunities from AI, but it’s important to recognise we cannot lean on it completely,” she says. “It’s about upskilling the workforce to equip and empower them to be very efficient with AI as their copilot.”

### Tech collaboration

The collaboration between Hiscox and Google Cloud in AI could cut lead open-market quotes from three

days to three minutes, according to [Hiscox London Market’s chief executive, Kate Markham](#).

The collaboration combines Hiscox London Market’s recently built technology platform, Hiscox AI Laboratories (Hailo), with Google Cloud’s generative AI technology to automate lead algorithmic underwriting from submission to quote. The work leverages both Google Cloud’s BigQuery and Vertex AI platform to extract key data and insights from email submissions – a manual process that can typically take up to three days in today’s insurance operating model.

Markham says the proof of concept was undertaken in Hiscox’s sabotage and terrorism line of business, although the principles will apply to other lines “within and beyond big-ticket insurance”.

Google Cloud had been working in the Lloyd’s market for a number of years but from a follow insurance point of view only. “It was very keen to partner with someone around lead underwriting and we’d done a lot of commentary around the fact everything we’re doing at Hiscox has been about lead underwriting and so it was very much a meeting of minds,” Markham says.

### Carrier partnerships

Insurtech Cytora and data firm Relativity6 plan to replicate the partnership they formed at Beazley in the US with other carriers and in other geographies, according to their [chief operating officers, Juan de Castro and Josh Lurie](#).

Cytora is using the industry classification modelling of Relativity6 to enhance the underwriting process on its digital risk processing platform. Their integration enables underwriters to accelerate commercial quotes while using more accurate risk insights with intelligent industry classification data. The process turns data from freeform text into standard industry classifications.

Its partnership with Relativity6 fol-



**“With Relativity6 data, we have done two things: one is we attach it to every single risk, so a human doesn’t need to do that manually. The second thing is two underwriters might make different decisions, so we’re driving consistency of outcomes based on that same data”**

Juan de Castro  
Cytora

lows the launch of the latest enhancement to Cytora’s platform: leveraging large language models (LLMs) alongside its proprietary AI.

“With Relativity6 data, we have done two things: one is we attach it to every single risk, so a human doesn’t need to do that manually. That means when an underwriter receives a risk, it already contains the data. The second thing is two underwriters might make different decisions, so we’re driving consistency of outcomes based on that same data.”

Relativity6 has an “end-to-end AI solution” that finds, classifies and monitors businesses and their activities, Lurie says. It searches the entire open public web to determine all of this in “under two seconds”. More than that, it forms a “confidence score” of each insured and delivers this through different classification taxonomies, such as the National Association of Insurance Commissioners code and Standard Industrial Classification codes.

#### AI strategies

People and resources are “scarce and expensive” and so an AI strategy for re/insurers begins with “deliberate selections”, according to [Jeff Cohen, senior vice-president of Zywave](#).

The brokerage software provider’s insurer clients are “dabbling right now”, he says, “by biting off small pieces of impact” for underwriting, reserving, claims handling and loss control.

“An obvious requirement is sound data, and those insurers that have organised their internal data have an advantage here. When com-

bined with external data sources, the potential to learn quickly, greatly transcends what a single individual could learn over the course of years,” Cohen says.

For example, when AI is applied to the text descriptions of Zywave’s one million loss data records, a specific underwriter could immediately decipher factors that trigger large loss scenarios.



**“Insurers that have organised their internal data have an advantage here. When combined with external data sources, the potential to learn quickly greatly transcends what a single individual could learn over the course of years”**

Jeff Cohen  
Zywave

The mid- and long-term scenarios of an AI strategy will likely involve an effort to figure out how to expand into other areas and across lines of business, as well as how organisations shift their data collection efforts.

Zywave’s clients are concerned about the impact of climate change and extreme weather, social inflation, and litigation in fines arising from factors such as General Data Protection Regulation and meta-pixel data.

Last September, Zywave announced its strategic partnership with Cowbell, a provider of cyber insurance tailored for small- and medium-sized enterprises. Their collaboration is facilitated by Herald, a digital infrastructure provider connecting software developers to commercial insurance carriers through a unified application programming interface (API).

Their partnership represents the first standalone cyber insurance offering on Zywave’s hub, which accelerates access to cyber insurance products for managing general agents (MGAs), wholesale brokers and retailers.

#### Knowledge versus model

A data catalog built on a knowledge graph addresses three of the limitations associated with LLMs, according to the [principal scientist at data.world, Juan Sequeda](#).

An LLM is a type of AI program that can recognise and generate text, among other tasks. Despite their capabilities, LLMs present significant challenges when it comes to storing and retrieving facts because they function as statistical pattern-matching systems. In contrast, knowledge

graphs are a collection of interlinked descriptions of entities that put data into context and enable data integration, analytics and sharing.

Sequeda says LLMs analyse vast quantities of data to generate statistically likely responses to prompts, but they do not store facts in the traditional sense. Instead, they produce the most probable response based on patterns detected during training. This can create difficulties when the inquiry is business-critical and nuanced, such as, “What is the amount of total loss claims this quarter?”

Sequeda says LLMs have three main shortcomings – a lack of accuracy, a lack of explainability and a lack of governance. A data catalog built on a knowledge graph overcomes all three of these, by creating a map of what data exists in an organisation and tying that data to meaning – semantics and context. The transformation from rigid tables to a flexible graph structure allows for more complex relationships between data points, providing a “richer and more comprehensive” understanding of the data, people and processes that drive a business, Sequeda says. Once that data is mapped and connected, it can then be shared with the LLM.

### More embedded

AI will enhance embedded insurance to the extent that traditional affinity products will soon be a distant memory, according to [Nelson Castellanos, chief partnerships officer at HDI Embedded](#). Affinity insurance leverages a brand’s distribution channel, while embedded insurance adds value to the product. With AI, that value is multiplied, Castellanos says.

“[This year] will see a transformative shift in the industry as insurtechs and embedded insurance providers expand into diverse new markets, such as the internet of things [IoT]. This expansion will allow insurers to integrate with emerging technologies, offering specialised coverage for IoT-connected appliances,” he says.

With IoT, sensors have facts running

through them, and the identifying information is transmitted on the internet. With AI, the system learns from errors or background activity and attempts to grow itself to perform better.

“By tailoring insurance products to specific needs, companies gain even more data and can therefore provide truly relevant and comprehensive coverage, attracting a wider customer base and, in many cases, even automating insurance enrolment and staying ahead in the transformation that we’re seeing in the insurance sector,” Castellanos says.

“We’re already seeing financial services explore AI to create chatbots and virtual avatars to support customers. These virtual assistants will soon be able to offer 24/7 personalised guidance, based on the customers’ individual preferences and interactions, for seamless and user-centric experiences,” he adds.

### End-to-end insurance

Insurers that fail to adopt new technologies to manage ever-increasing volumes of data will not be part of the future of their sector, which will be shaped instead by collaborations with Big Tech firms, according to the [co-founder and chief executive of Foxquilt, Mark Morissette](#).

The North American digital MGA, which provides small business insurance through an embedded distribution model in the US and Canada, recently formed a strategic long-term capacity relationship with Markel.

Morissette says joint venture partnerships that marry the underwriting expertise of insurance companies with the technological expertise of insurtechs will enable future collaborations with the “Amazons or Teslas”.

Morissette says: “I don’t believe the big technology companies necessarily want to get into what is a very complex, highly capital-intensive industry, which could be distracting to their existing business. But if I was on the C-suite of a Big Tech firm, I would very much argue legacy in-



**“By tailoring insurance products to specific needs, companies gain even more data and can therefore provide truly relevant and comprehensive coverage”**

**Nelson Castellanos**  
HDI Embedded

surance carriers must get ready for collaboration with them, through investment in or strategic acquisition of an insurtech to get them there.”

Foxquilt uses a combination of data analytics and AI to recommend the best insurance coverage and price to meet the individual needs of its small business customers through brokers, agents and enterprise partners. It uses a “full-stack” underwriting platform, powered by data analytics, to recommend tailored coverage and pricing from its own proprietary commercial insurance products. Small business and micro-enterprise owners can also, in turn, quote and bind entirely online, which Foxquilt describes as a “true end-to-end insurance journey”.

“In a world where buyer autonomy and instant end-to-end results have been normalised,” Morissette says, “the insurance space has lacked the technology investment that affords this table-stakes experience.”

Whichever type of AI experience re/insurers choose to explore, thankfully they have more choice than the blue pill/red pill offered by Morpheus. ■



# Balancing the opportunities and risks of generative AI

ArtemisDiana/Alamy Photo



**This year the focus on generative AI will only intensify – so it is time for a balanced view on the opportunities and risks when it comes to using this powerful technology, writes Pravina Ladva, Swiss Re**

Artificial intelligence (AI), in its present form, has proven invaluable in insurance, providing more accurate data insights, enhancing operational efficiency and fostering innovation.

Industry applications today predominantly rely on traditional AI methods with a focus on automating routine tasks and extracting insights from vast datasets. This technology has played a vital role in portfolio management, risk assessment, streamlining claims and submissions processing, making it more efficient for insurers and customers alike.

Increasing global demand for insurance services necessitates a continuous quest to optimise processes across the entire value chain. The emergence of more advanced generative AI tools proficient in han-

dling unstructured data, such as ChatGPT, has the potential to help our industry innovate and develop cutting-edge solutions that drive operational and business efficiencies.

We will go through a steep learning curve this year when it comes to applying generative AI – it is an exciting time to be at the confluence of insurance and digital technology.

### **Exploring generative AI use cases**

Entering 2024, the opportunities and challenges of generative AI in insurance become more pronounced.

The industry's exploration of this technology is marked by a cautious optimism, recognising the need for a balanced approach. Concrete use cases are being tested, aligning with regulatory requirements and internal standards to ensure responsible and ethical deployment.

While traditional AI has already demonstrated its prowess in insurance, the industry is yet to explore generative AI's full potential, while also keeping track of its emerging risks.

At Swiss Re, we have been testing the capabilities of large language models (LLMs) for more than three years. Selected use cases have been deployed to pilot user groups and we expect to deploy them to a broader user base this year.

The emergence of more advanced generative AI tools proficient in handling unstructured data, such as ChatGPT, has the potential to help our industry innovate and develop cutting-edge solutions that drive operational and business efficiencies

On the operational side, generative AI is set to introduce significant digital workplace enhancements. We are collaborating with leading tech partners to equip our employees with AI assistants by embedding LLM capabilities into the workplace.

Our aim is to continue driving employee efficiency and creativity and thus achieving better results for our clients. What is important is the users of this novel technology always remain in control; they decide when to use what kind of AI-powered outcomes in a secure environment.

From a business perspective, there are promising use cases applying LLMs to efficiently analyse and process large documents and datasets powered by advanced natural language processing (NLP) applications. Engineering high-quality data foundations is key to reaping the

many future benefits LLMs may offer to drive efficiency across the insurance value chain.

Also, it is paramount to ensure the proper guardrails are in place before releasing new AI-powered solutions, also to gain the trust of our clients and make them part of this journey.

### **Blending technology, talent and purpose**

Our experience shows how important it is to have the necessary tech talent and expertise in-house to effectively develop, fine-tune and deploy such solutions at scale. As such, the rise of AI creates a huge demand for experts in the field in the race to harness the full potential of AI.

The significance of technology is paramount – equally important is attracting top tech talents, which requires providing state-of-the-art tools and engaging them with challenging problems. This approach not only leverages the best of technology but also fosters a culture of continuous upskilling, essential for innovation.

Taking a strategic approach to tech talent acquisition and retention, we offer three key attractions for tech talents at Swiss Re: a strong link between tech and our business strategy; opportunities for individual development within our organisation; and a compelling purpose of making the world more resilient.

Applying new technologies to address major global challenges, from climate change and natural catastrophes to healthcare crises and economic distress, makes working

in our industry particularly interesting and rewarding.

As we embrace the potential of generative AI, it is crucial to acknowledge and address the potential risks as well. Clearly, any generative AI initiatives and projects must always be aligned with the ever-evolving risk landscape and regulatory requirements.

Overarching AI-related risks with respect to data privacy, data protection and confidentiality remain. Additional risks, such as embedded bias and robustness of the results are either new or amplified by generative AI; so too are its capabilities to generate new content based on the training data.

A multifaceted approach to mitigating these risks helps establish a balance between leveraging this powerful technology while driving the development of ethical AI that aligns with our values and needs.

Therefore, the focus on responsible use of generative AI and the prevention of biased outcomes – and wrong but plausible-sounding answers – through regular and stringent validation of AI models is paramount.

The generative AI journey holds the promise of unlocking new dimensions in risk insights, operational efficiency, and innovative solutions.

However, it is our goal to steer this transformative technology towards a future where AI augments human knowledge for the greater good. The very promising opportunities AI opens to re/insurers rely on a harmonised interplay human expertise and intuition with creativity of generative AI.

As the insurance industry unveils the full potential and navigates the challenges of generative AI in 2024, it marks a significant chapter in the ongoing evolution of our sector. ■

*Pravina Ladva is group chief digital and technology officer at Swiss Re*

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**The emergence of more advanced generative AI tools proficient in handling unstructured data, such as ChatGPT, has the potential to help our industry innovate and develop cutting-edge solutions that drive operational and business efficiencies**



# Artificial intelligence for re/insurance should be made to fail the Turing test

## A human in the loop should be a permanent feature of a re/insurer's AI strategy

As any fan of Benedict Cumberbatch will tell you, artificial intelligence (AI) isn't new, *writes Louise Isted*.

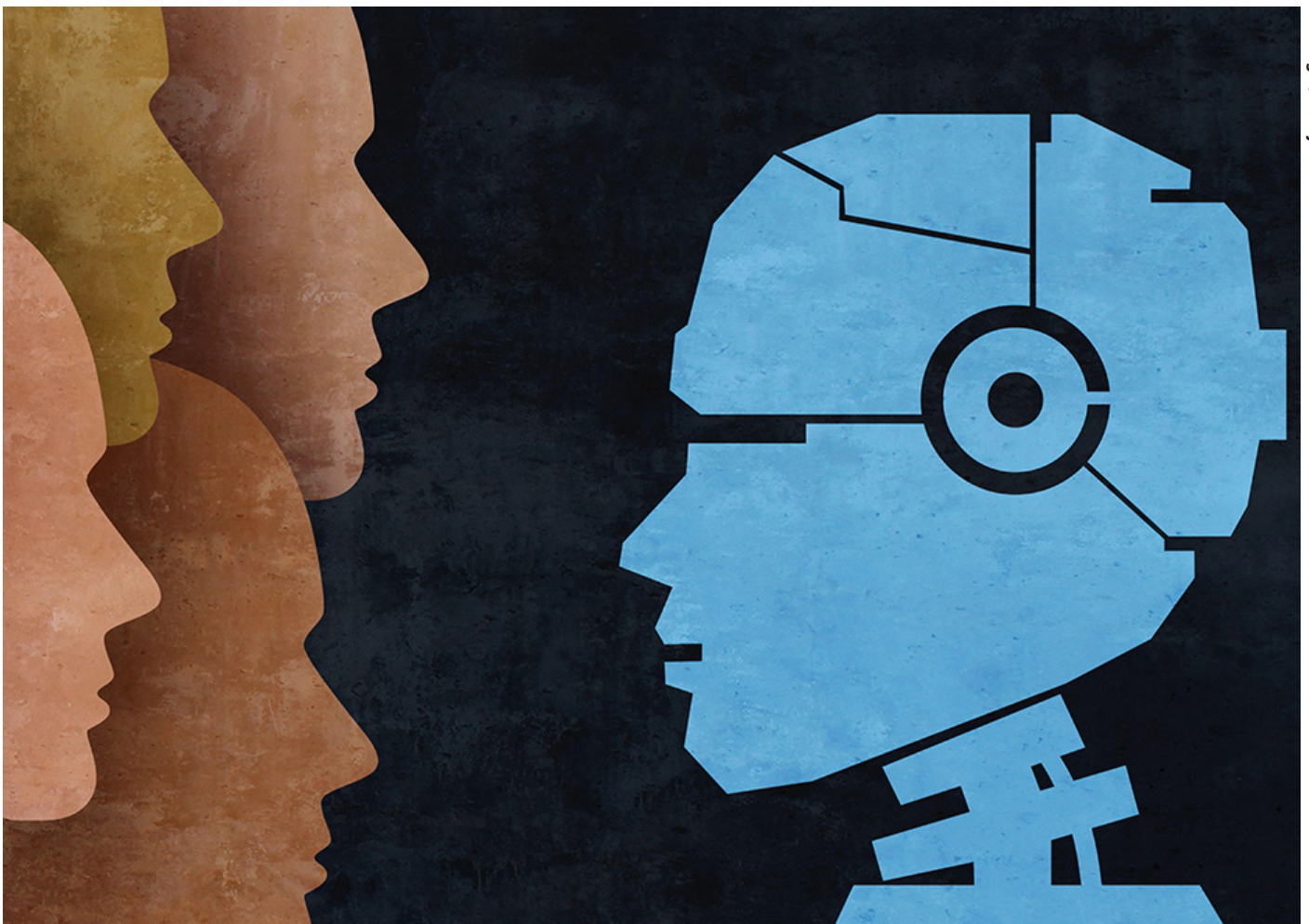
What they might not know is that an invisible pendulum has been swinging between two groups of data scientists in the decades since Alan Turing's time as a codebreaker at Bletchley Park.

The Turing test, which in 1950 the

famous mathematician called the imitation game, is a test of a computer's ability to communicate indistinguishably from a human.

Turing proposed that a human evaluator would judge natural language conversations between another human and a machine designed to generate human-like responses, and if the evaluator could not reliably tell the machine from the human,

**An invisible pendulum has been swinging between two groups of data scientists in the decades since Alan Turing's time as a codebreaker at Bletchley Park**



Brain light/Alamy Stock Photo



the machine would be said to have passed the test.

### Underlying principles

Fast forward to the 1990s, and Peter Norvig and Stuart Russell argued that AI researchers had devoted little effort to passing the Turing test, believing it is more important to study the underlying principles of intelligence than to duplicate an exemplar.

The quest for artificial flight succeeded, Norvig and Russell said, when the Wright brothers stopped the practice of imitating birds.

“Aeronautical engineering texts do not define the goal of their field as making machines that fly so exactly like pigeons,” the two computer scientists quipped, “that they can fool even other pigeons.”

The pendulum has swung between *statistical* AI, which is good at intuitive judgements, such as pattern recognition and object classification, and *symbolic* AI, which is good at principled judgements, such as logical reasoning and rule-based diagnoses.

### AI winters

When research by either of these two groups hits a wall, the other has tended to pick up the slack (and funding).

Meanwhile, the first group tells stories of regret about the hype they generated as they sit around the campfire in their latest AI winter.

One such AI winter followed Fifth Generation Computer Systems (FGCS), the initiative begun in 1982 by Japan's Ministry of International Trade and Industry.

Critics said it was a commercial flop, while sympathisers said (much later) that it was ahead of its time.

The sympathisers were right: FGCS spurred the development of concurrent logic programming.

Scientists will tell you, it is often during the “winters” that they make advances, perhaps because no one else is watching and so they can concentrate.

There was even more focus on data throughout the 2000s, and the next evolutionary stage of AI during the 2010s was machine learning.

So far, so good, until you see an AI hallucination and, without warning, the pendulum swings again.

Where we are today is with large language models, or statistical predictions, but the next stage in AI's evolution will be finding ways that best combine the two different approaches – statistical and symbolic.

There are still two separate groups of AI scientists. There are those working on machine learning and computational neuroscience, who gather at conferences like NeurIPS, and there is the semantic web community, who hang out every year at the Snowflake summit.

### Bridging the gap

There is, however, a third group. They are the scientists who want to be bridges between the other two. As one of them said, poetically: “The light is going to be shining on the folks who are combining.”

The risks from re/insurers using AI – to be better, faster, and even perhaps, fairer – are fewer than the

risks from them not using it. The positives far outweigh the negatives, we're told.

While pursuing the art of the possible, however, it will be better if AI technology for re/insurance fails the Turing test.

Why? Eugene Goostman.

Eugene Goostman is the chatbot developed in 2001 by one Ukrainian and two Russian computer programmers. Eugene is portrayed as a 13-year-old Ukrainian boy. These characteristics are intended to induce forgiveness – for grammatical errors and any lack of general knowledge – in those with whom “he” interacts.

Eugene eventually validated Turing's prediction that, by the year 2000, machines would be capable of fooling 30% of human judges after five minutes of questioning.

At a competition marking the 60th anniversary of Turing's death, on June 7, 2014 – three months after Russia annexed Crimea – 33% of the event's judges thought Eugene was human.

The cruel irony is lost on no one. No one with human intelligence, that is.

It would, however, be lost on AI.

Re/insurers are there to do social good, and with so much inhumanity in the world, it would be wrong to dehumanise their work. By all means, have a machine crunch the data, but let a person help the client.

Insurance is a *promise* to pay. No machine could understand the sentiment behind that. ■

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**The risks from re/insurers using AI – to be better, faster, and even perhaps, fairer – are fewer than the risks from them not using it. The positives far outweigh the negatives, we're told. While pursuing the art of the possible, however, it will be better if AI technology for re/insurance fails the Turing test**



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# Underwriters plot route to automation

Algorithmic underwriting is a matter of ‘when, not if’, but insurers are taking a variety of approaches to the technology

In many ways the Lloyd’s follow market is primed for automation: lead underwriters will have already structured and priced the risk and hashed out terms and conditions, leaving follow underwriters to decide whether that risk fits their appetite and portfolio, *writes Francis Churchill*.

“It’s a matter of when, not if,” Mark Allan, chief executive of Ki, Brit’s smart follow syndicate, says. “It’s hard to see a high-cost manual follow market in the long term.”

Artificial intelligence (AI) and automation are often used interchangeably and while the technologies can overlap, they also have their distinct characteristics and use cases. While both use algorithms to turn inputs into outputs, automated technologies

do not necessarily need to be “smart” or to be able to learn.

When it comes to assisting with underwriting decisions, many businesses are already using these tools to manipulate and evaluate data, triage submissions and even send quotes to brokers. The technology is set to become more prevalent, but not all underwriters are using it in the same way.

When Brit launched its [algorithmic follow syndicate Ki](#) in 2021, the focus was simply to stay ahead of the competition. “We were looking at [digitalisation] as both an opportunity and a threat,” Allan says, “the threat being, if you’re not prepared for the change then you can get left behind.”

For Ki, the aim was to find the most

immediate commercial value from the technology. “A digital business model isn’t very useful unless you’re in a digital market, so we said let’s focus on a commercial opportunity,” Allan says. In lead underwriting, this meant digitising the process and using algorithms to prepare and present data to underwriters more efficiently. But in follow, “there was more of an immediate digital opportunity”.

“It can still take one or two weeks to get follow capacity. In a traditional process, follow capacity often comes with conditions or requests for a different price and you get a small line, with brokers running around the market trying to get these small pieces of capacity placed in a really inefficient way. We thought there was a real opportunity to offer a differentiated process to the broker.”



Ki's algorithm uses the information submitted by brokers to decide line size and offer committed capacity in as short a time as 10 seconds. The algorithms have clear boundaries around the maximum line size they can offer, which Allan describes as "control by design", and their underwriting performance is constantly monitored.

Ki's algorithms are completely autonomous, meaning they allocate capacity without any human intervention. While this is not the norm in specialty, direct insurers have been doing it for years. "That's how they write millions and millions of policies every year," Allan says. "I think we have this mindset that because it's different [in specialty lines], it's riskier in some way. But with the right procedures in place, it's very, very well controlled."

Ki expects to write \$1bn in premiums this year, excluding the additional capacity that will be brought to the table through its recent partnerships with Aspens and Travelers.

### On a spectrum

Several underwriters speaking to *Insurance Day* describe automation as a spectrum. At one end there is assisted or augmented underwriting, where digital tools are used to speed up processes such as reading slips or cleaning data. At the other are fully autonomous systems such as smart trackers. They all agree this was the direction the market was going.

"It's not even about competitiveness. Just to be able to trade, you're going to have to use these tools and datasets to help you with that underwriting process," says Frank Perkins, chief executive of insurtech Inari, which provides data and automation tools to managing general agents. There will still be a place for humans in more complex and detailed underwriting, but there is a growing number of risks that do not make sense to underwrite individually, he says.

If an insurer knows its risk appetite for a particular line of business and it can find a lead that shares its outlook, as a follow underwriter there is



**"In a traditional process, follow capacity often comes with conditions or requests for a different price and you get a small line... we thought there was a real opportunity to offer a differentiated process"**

Mark Allan  
Ki

not a lot of value to be gained from writing those risks individually, Perkins says. "I really don't need to go right into the details of it; I can just look at that on a portfolio basis," he says. "That frees up time for me to go to non-follow risks; bigger, chunkier things that really require more dissection and analysis." With the prevalence of off-the-shelf automation tools, it will only take a couple of years before everyone is using them, he adds.

Farris Salah, head of smart follow at Apollo, also predicts a spectrum of automation in the follow space. "There's room for everyone on that spectrum. Depending on the product they want to sell, it makes total sense for some capacity to sit in that far end of the automated space where they want to write big volumes," he says.

Apollo has placed itself in the middle of that spectrum. The Lloyd's re/insurer's [smart follow business](#), which began writing towards the end of 2023, runs an "added-value" model that keeps human underwriters at the forefront. "We want to

be the first broker any market goes to after it has its lead," Salah says. "That means our offering is human delivered, with insights."

The aim is to speed up the underwriting process while using digital tools to provide better insights. Through its smart follow model, Salah says Apollo will provide brokers with a yes or no answer along with a reason for the decision within 24 hours of receiving a submission. "That certainty trumps speed," Salah says. "We're not trying to say, we will give you a response within three seconds, because we don't think that's where the value is. And we want to always give a reason for our decision as well."

To deliver that certainty of response and accompanying insight at speed and scale, Apollo is working with a variety of tools to help ingest submissions, structure and enrich data and measure it against a business's own underwriting appetite. In marine, for example, it uses the shipping vessel's unique International Maritime Organization number to connect third-party data to submissions.

When it comes to underwriting decisions, Apollo uses algorithms to issue a "quick decline" if the risk triggers hard stops relating to its risk appetite – for example, if it fails sanction checks. If the risk passes this stage, it is then assessed on "risk preference", where it is given a score based on a range of factors including external data sets. Finally, it is measured on "risk tolerance", where the algorithms assess how it fits into Apollo's portfolio. Importantly, there is an underwriter signing off decisions at every stage.

Having a human in the loop is a control measure Apollo wants to keep. "If you try to be too machine-based you open yourself up to systemic mistakes, so, especially in the early days, we want to keep that underwriting control," he says. There is also a lot of algorithms can learn from human underwriters, who have an understanding of an issue beyond the scope of the algorithm. "We're keen to keep that symbiosis alive," he says.

There are other motivations behind developing algorithmic underwriting models beyond speed, insight and freeing up human capacity. Salah expects cost savings to become a more salient issue over time, especially as improvements to underwriting performance become more marginal.

“To get underwriting performance you’ll always need good underwriters. However, the challenge now is how can we achieve some of that underwriting performance at a lower cost base through using these technologies,” he says. “It’s about how do we reduce our expense ratio because there is a limit to how far we can improve our underwriting performance.”

### Benefits to reinsurers

Automation is not only for primary underwriters to capitalise on. The technology has many implications for reinsurers, too.

“AI is very good at being able to intelligently process huge amounts of information and deliver insight,” says John Wingate, chief technical officer at Envelop Risk, a cyber reinsurance managing general agent that recently [launched a Lloyd’s special-purpose arrangement with Apollo](#).

As with other underwriters, Envelop uses different tools at different stages of the underwriting process. Unlike primary insurance, a reinsurance submission can contain millions of individual policies, all of which are structured differently and use varying terminologies. One of the tools Envelop uses standardises them into a consistent and usable format. “It would take literally months if we were to do that as a human. We’ve turned that process into something that can be done in around 30 minutes,” Wingate says.

Another uses large language models – a type of AI – to locate individual company names and link them to the reinsurer’s own dataset, which has “dozens, if not hundreds” of datapoints, Wingate says. Those additional insights can be fed into other machine learning models to pull out

other data points such as loss frequency, likely attack types and the potential distribution and severity of loss. “This provides a very rich texture to our underwriting team. They understand the historic performance of that cedant on a number of levels compared to their peers and how the market is doing overall,” he says.

Wingate stresses there is always a human in the loop. “We will never get to the point where that is a fire-and-forget type task,” he says. The underwriting team is also constantly talking to the technology team about the changing needs of the business and what is possible to build and implement. “We are one team. It’s not as if the technology team would go in, build something really clever and throw it over the wall to the underwriting team,” Wingate says.

Because of that, whenever there are any issues or a need for new features, the feedback loops are very quick. Outsourcing this technology will always limit insurers’ ability to understand what features are important and their



**“The technology has existed to do what we’re doing now for a long time, but there’s been a belief and adoption by humans at scale in the market that’s really helped accelerate and drive things along”**

David King  
Artificial Labs

ability to improve their risk estimation, Wingate says. “Until more insurers bring that capability in-house, that will always be the case,” he adds.

### Reaching critical mass

David King, co-chief executive at Artificial Labs, an insurtech that creates automation tools for underwriters and has worked with both Apollo and the London e-trading platform PPL on their algorithms, says automated underwriting is starting to reach critical mass. Not necessarily because of the technology itself. “It’s more of a human thing,” King says. “The technology has existed to do what we’re doing now for a long time, but there’s been a belief and adoption by humans at scale in the market that’s really helped accelerate and drive things along.” This has been spurred by businesses such as Ki, which have shown algorithms can work at scale, and by complementary digitalisation efforts, such as Lloyd’s Blueprint Two strategy.

Not all markets are moving in the right direction, King says, but even if 25% of the market were algorithmically placed, that would be a significant volume. Conversations with brokers over the past few years have become less about whether the technologies are a fad or worth investing in, and more about whether the partnerships are strategic or response times quick enough. King says: “To be one of the most efficient entities in the follow space you will have to have an element of this technology, because otherwise you’ll face expense ratio challenges that mean you would struggle to compete.”

This is echoed by Allan. “It’s hard to see a high-cost follow market in the long term,” he says. “What will sustain is the market structure: leaders offer quotes, sometimes they win the lead, sometimes they don’t and will want to be second on the slip. We need to have a sustainable lead market and that part of the process will operate in the same way. What will change is how you then place the remaining 50% to 60% of the slip and we should be driving towards efficiency in that part of the placement process.” ■



# Insurers grapple with blockchain challenge

Phiang GFX/Alamy Stock Photo

**There has been limited demand for blockchain-based products in insurance because insurers do not face the same pressures as banks for speedier or cheaper payments, and do not issue as many asset-backed securities**

There are few topics in financial services that have excited more attention in recent years than blockchain – even among those who don't have a firm grasp of what a blockchain is, writes Ben Margulies.

In the insurance sector, however, blockchains seem to have produced less excitement. “Insurance has been slower in adopting DLT [distributed ledger technology] relative to other financial services sectors (eg, payments, market infrastructure) for a few reasons,” says Phil Anselmino, a partner in the financial services practice at Bain & Company. Regulatory concerns, low or uncertain demand and competing technological priorities are among the factors that have slowed the adoption of DLT in the sector.

So far, insurers have made relatively small investments in blockchain. In a blogpost published in 2018, Accenture executive Jim Bramblet estimated the global market for blockchain in insurance was expected to grow from \$64.5m in 2018 to \$1.39bn in 2023.

By 2022, however, Boston Consulting Group was estimating that “blockchain technology-related revenues for the insurance industry” was only \$425m in 2022.

Is the insurance sector really a laggard in embracing this new technology? And what would insurers use it for?

## Not Bitcoin

DLT works by sharing record-keeping across a network of computers. A blockchain is a DLT in which each entry in the ledger is linked to the prior record by a cryptographic process, which also controls the addition of new data in the chain.

“In a popular way, many times it is a technology that is reduced to ‘something related to cryptocurrencies’, when the reality is that these are based on the blockchain for its operation, but the latter is much more,” says Andrés Hevia, deputy director for architecture and innovation for the Spanish insurer Mapfre. Bitcoin, the best-known cryptocurrency, operates on a blockchain.

Hevia says the sector's sluggish adoption of DLT like blockchain has three principal causes: regulation, consortia, and lack of knowledge. Regulators have yet to establish legal bases that would allow the use of blockchain-supported functions, and “unfortunately, everything that has to do with regulation is quite slow”, he says.

Anselmino adds insurers face multi-

ple technological challenges, such as employing cloud computing, which can make DLT seem like a secondary issue. While distributed ledgers might make insurance operations cheaper or more efficient, the technology “doesn't pose the same type of longer-term disruptive threat to the industry like DLT could in payments or market infrastructure”.

The technology has proven itself as a way of managing business-to-business operations and transactions, Danny Chun Wong, enterprise architect and head of global blockchain at Allianz Technology, says. However, customers have yet to accept DLT to the same degree, in part because of poor user experiences with cryptocurrency, he continues.

“Blockchain and DLT should be considered as a base layer of transactions and value transfer highway. Once it is widely accepted by society and governments, insurance as one of the use cases will come,” he says.

Oliver Süß, head of external communications at Hannover Re, describes the insurer's attitude towards blockchain technologies as “pragmatic”. “We are not driven by technology, but rather by our clients' needs. And the same applies to blockchain or DLT in general,” he says.

### What to do with it

Wong mentions several areas where insurers are examining the use of DLT infrastructure, including international programmes, cross-border business and reinsurance. He also says consumers could verify their identities through blockchains, via an arrangement called “self-sovereign identity”, which could “potentially change the ‘know your customer’ and onboarding process of customers, and agent/broker credential management for large insurers.”

One commonly suggested use for blockchain is as a platform for smart contracts. IBM defines these as “simply programs stored on a blockchain that run when predetermined conditions are met”. This could be useful, for example, in parametric insurance, which is triggered when certain quantitative benchmarks are met.

DLT can also help speed up claims processing and make it easier for consortia to manage their policies, Bain & Co’s Anselmino says. For syndicates, “a platform on top of a blockchain-enabled database can standardise and securely share relevant information between parties and facilitate transactions”.

In 2017, Axa launched fizzy, an automated flight insurance platform that used the Ethereum blockchain to autonomously process payments for flight delays. The programme ended in late 2019 due to lack of demand.

Insurers and reinsurers could also use blockchains to operate insurance-linked securities. A Swiss investment management firm, Solidum Partners, executed the first cat bond settlement on a blockchain in 2017. Hannover Re is piloting the use of blockchain for that purpose.

Mapfre’s Hevia says DLT can be useful where two or more parties need to connect different proprietary databases, allowing them to share the database on the ledger, rather than undertaking tricky “conciliation” measures or building a special shared data collection facility.

### Working in consortia

Hevia says most blockchain functions in insurance require multiple insurers working together in consortia to become feasible. “The development and execution of projects of this type within the company itself is complex; when three or four companies have to be grouped together, the difficulty increases substantially,” he says.

Several insurance firms created a consortium, the [Blockchain Insurance Industry Initiative \(B3i\) in 2016](#), to investigate blockchain use in the sector. The alliance in time counted majors like Aon, AIG, QBE Re, Covéa, Everest Re and Mapfre Re as backers.

B3i eventually became an independent company. Using a blockchain called Corda, its platform supported a number of reinsurance contracts: Allianz and Swiss Re placed a catastrophe excess-of-loss contract on B3i’s reinsurance platform in April 2022. But that July, the company filed for bankruptcy. Hevia said B3i “has left us with great lessons that we will be able to incorporate into new projects as they arise”.

Another consortium, the non-profit Institutes RiskStream Collaborative, remains in business. Working with Kaleido, a “blockchain business cloud” service provider, RiskStream has developed an insurance-specific blockchain application called Canopy. The system permits users to incorporate blockchains into their operations, and “enable data exchange and verification for specific use cases or applications”.

RiskStream and Arbol, a managing general agent that offers insurance policies on a blockchain platform, introduced a blockchain-based tool for parametric re/insurance smart contracts called dRe in mid-2023.

### Limitations

Blockchain cannot support every function in the insurance sector. In a 2016 report, McKinsey pointed out that blockchain can only process so much data. The report said that high-

speed/high-volume transactions, real-time data capture, and storage of large volumes of data “are not the intended domains of blockchain”.

Hevia says many kinds of insurance functions do not require DLT. “If there is no need for traceability, immutability of the data, or, even, for extra trust in the application, there is no need to use blockchain either.” Anselmino agrees “there are many applications where current data architecture is sufficient and the additional complexity of a DLT system is not required”.

Even where blockchain is an appropriate solution, regulators still have to permit its use. Policymakers in other industry sectors have been notably hostile to crypto assets: Fabio Panetta, then a member of the European Central Bank board, said crypto was “an industry that has so far produced no societal benefits”.

Wong says “permissioned blockchain” poses few issues, because the users have already been vetted. “For permission-less public chain and use cases, it is trickier due to its globally decentralised nature,” he says. He adds EU regulators have become more familiar with DLT, and have incorporated provisions for it in recent legislation like last year’s [Markets in Crypto-Assets regulation](#), which establishes standards for crypto-asset transactions.

The insurance sector has certainly shown a willingness to investigate the potential of DLT, but the failures of fizzy and B3i suggest there may not yet be any great demand for blockchain-based products in insurance. Unlike banks, insurers do not face the same pressures for speedier or cheaper payments, and do not issue as many asset-backed securities.

Unlike the internet or cloud computing, DLT has not yet proven itself indispensable to our modern financial infrastructure. Only time will tell if blockchain becomes central to the industry’s workings, or if it is abandoned like Betamax and laserdisc. ■

# Smart medical devices and digital health apps have implications for insurers



The development of wearables and AI-enabled devices can improve patient outcomes, but creates new risks for healthcare professionals and device manufacturers, write **Karishma Paroha** and **Jane Summerfield**, Hogan Lovells

Pivotal trends in 2024 that will affect medical device manufacturers are digitalisation via the use of software, devices that are enabled by artificial intelligence (AI) and the adoption of telehealth and digital tools for purposes such as remote patient monitoring.

The innovation of smart medical devices and digital health apps continues at pace, with a constant flow of new products to the market such as wearables, diagnostic monitors and implantable devices. Established products include wearable coin-size blood glucose monitors with an app to allow patients to monitor and scan their blood sugar readings in real

time, as well as wearable blood pressure monitors and pulse oximeters that allow users to self-monitor vital conditions and minimise hospitalisation. Under UK medical device legislation, any device that uses patient data to make a diagnosis could be considered a medical device.

Products of the future hitting the headlines include cutting-edge smart implantable devices that can personalise treatment for patients with movement disorders such as epilepsy and paralysis. Ground-breaking research is also under way for life-transforming smart patches, which automatically release necessary drug doses into the bloodstream as required.

The potential benefits of these products are vast: more cost-effective healthcare, increased service quality and access, interoperability, convenient mobile health and personalised medical treatment where the real-time diagnostic data can be accessed by the treating medical staff to improve patient outcomes and enhanced patient engagement.

## Emerging risks

At the same time, insurers will be considering the types of risks that can arise. As with any technological advancement, there is the potential for an alleged defective design, possible inadequate warnings or potentially software interruptions and malfunctions. Risks also include, for example, whether patients input correct data (where inputs are required) and whether the treating doctor can accurately use and accommodate any new device.

The risk of bias and differential per-

formance across different patient sub-groups also need to be considered in relation to AI-enabled medical devices. Connectivity and prevention of harm from cyber attacks are also relevant risks for the insurer to consider.

Scale of risk is also a consideration: an error by a doctor is likely to affect a limited number of patients; an error in a smart medical device or digital health app could potentially affect many more patients.

## UK developments

On January 9 the UK Medicines and Healthcare Products Regulatory Agency (MHRA) updated its roadmap for revising existing UK medical device legislation via a series of new statutory instruments. The MHRA is prioritising measures to protect patient safety through enhanced post-market surveillance requirements, which will come into place in 2024.

Further measures will be introduced in 2025 including improvements for implantable medical devices with higher classification, resulting in more stringent pre- and post-market requirements for most devices, and unique device identifiers for all devices.

There will be greater alignment of the requirements for medical devices being placed on the UK market with those in the EU market (for example, cyber security requirements for software as a medical device and compliance with regulations and legislation relevant to the defence of product liability claims).

The MHRA also has a change pro-



gramme tasked with delivering a clear regulatory framework that addresses the specific challenges and risks presented by software and AI medical devices. This runs alongside its broader work on updating medical device legislation.

The UK government consulted on its white paper on AI in 2023. The response to the consultation is expected to be published this year setting out policies regarding AI and providing guidance to regulators on how to deploy their existing powers, which will feed into the MHRA's software and AI as a medical device change programme.

### EU developments

Taking a look at the EU, there are also key developments in the product liability legislation which any insurer needs to have in mind if insuring for risks that could arise in the EU in relation to smart medical devices and health apps.

For example, on December 8, 2023 the European parliament and Council of the EU reached political agreement on the content of the draft EU AI Act, which prohibits AI systems that pose an “unacceptable risk” and increases requirements for “high-risk” AI systems. However, it does not contain specific liability provisions.

It is likely to become law in mid-2024 with various prohibitions and provisions coming into force at different intervals from the end of 2024 to 2027. This is in parallel with the proposed EU AI Liability Directive on adapting non-contractual civil liability rules to artificial intelligence.

Meanwhile, on January 24 the consolidated text for the Directive of the European parliament and of the council on liability for defective products was approved by the European Council. The proposal widens the scope of the existing EU Product Liability Directive and confirms software and products containing AI are “products”. It seeks to ensure claimants can claim compensation when



Elena Uve/Alamy Stock Photo

a defective AI-based product causes death, personal injury, property damage or data loss.

It reduces the burden of proof on consumers by including provisions requiring manufacturers to disclose evidence as well as rebuttable presumptions of defect and causation where there is technical complexity. The hope is to maintain the balance between encouraging new technological innovation, while ensuring the same level of protection for smart product users.

### Establishing liability

Apportioning and determining liability in relation to smart health devices and apps is particularly complex. There could be potential multiple defendants such as the system designer, the manufacturer, shipper, retailer, software or network provider and/or professional intermediaries such as doctors and hospital staff.

Ultimately, much may depend on the contract between the treating hospital/doctor and those in the supply chain of the AI technology service/product and the relevant contractual warranties, liability, indemnity and limitation clauses in place.

From a causation perspective, the patients could also be found contributory negligent for any harm suffered as a result of their own failure to care for their smart medical devices and/or to use them in accordance

with the instructions. Overall, manufacturers are likely to bear the major share of any potential liability and could face huge reputational damage and costly product liability and data breach related group actions and product recalls.

As the landscape of digital health continues to evolve, smart medical devices and digital health app stakeholders can look to mitigate their liability risks by having robust software design, development protocols and post-market surveillance; reviewing labelling, warnings and instructions to ensure they accurately reflect risks and performance accuracy; and conducting global risk management for cyber security, data privacy including an incident response plan for a cyber attack.

There needs to be comprehensive compliance with existing and emerging legal and regulatory requirements and there needs to be a re-evaluation of insurance coverage bearing in mind insurance policies may not provide coverage for every consequence of a cyber attack and considering bespoke combined cover.

These products can transform and improve patient outcomes. That said, they give rise to complex potential risks and liability issues that need to be navigated. ■

*Karishma Paroha is a senior associate and Jane Summerfield is a partner at Hogan Lovells*



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