AIFS0036

Written evidence submitted by Lloyd's of London

Dear Chair,

I am writing on behalf of Lloyd's, the world's leading (re)insurance market based in London. All insurance at Lloyd's is written by Lloyd's members, organised into 77 syndicates, managed by 52 managing agents. In 2024, the Lloyd's market's gross written premiums (GWP) totalled £55.5bn.

We welcome the Committee's inquiry into how UK financial services can take advantage of the opportunities of artificial intelligence (AI), while also mitigating any threats that it poses to financial stability. As the business written at Lloyd's is primarily non-life insurance, we would like to note that we will not be commenting on the consumer aspect of the Committee's inquiries.

As in most other parts of the economy and society, AI is having a transformative impact on financial services. Within the insurance sector, the rise of AI is being driven by InsurTechs – a sub-set of fintech – many of which have graduated from the Lloyd's Lab. Established in 2018, the Lloyd's Lab is an insurance 'accelerator' that develops innovative solutions to address the growing number and complexity of risks facing society. Today, over 100 InsurTech startups from 16 countries have come through the Lloyd's Lab – with over $1 billion of capital raised for the solutions developed.

In the Lloyd's market, we are seeing AI progress rapidly from its traditional application, which was aimed at enhancing the customer experience, to playing an increasing role in the main elements of the insurance value-chain: in claims management and the underwriting process.

This evolution is supporting Lloyd's and the insurance industry to increase process efficiency through greater automation; to offer increasingly consistent and speedier quotes and payout to customers as a result of the increased use of Large Language Models; and importantly, to offer insurance coverage for previously prohibitive risk through 'enhanced underwriting' – the leveraging of AI to access large data sets that support analysis of claims made. The latter benefit is has been particularly important, for example, in helping to enable Lloyd's role as 'insurer of the transition' by de-risking novel, sustainable technologies that are vital for the UK and other markets as they decarbonise their economies.

Undoubtedly, the rise of AI is changing the global risk landscape, and financial services is no exception. Lloyd's believes that AI may heighten cyber security risks and pose challenges in terms of professional and product liability. There is also potential increased risk to operational resilience because of the high concentration of insurers using the same cloud providers and similar Large Language Models in their day-to-day.

As the technology develops and is further embedded across the economy, there will be an increasing demand on Lloyd's and the insurance sector as a whole to provide more risk mitigation and transfer solutions. In this sense, as well as presenting risk, the rise of AI offers significant business opportunities for insurance providers.

However, for the insurance sector to be able to step up, innovate and develop new insurance products that can leverage AI technology flexibly will require a conducive regulatory regime. To that end, Lloyd's believes the UK should retain a principles-based

approach to the regulation of new technologies like AI, and that regulators should focus AI risk management efforts on enforcing existing laws and providing examples of how complying with existing rules will help firms manage AI risks, rather than introducing new regulations.

We hope that our views are helpful to Committee members, and we would be delighted to answer any questions you have about our response.

1. **How is AI currently used in different sectors of financial services and how is this likely to change over the next ten years?**

Traditionally, applications of AI in the insurance industry have been 'front-ended' - centred around improving customer service. Examples of this include chatbots to provide speedier responses to queries, or speech detection tools on phone calls that generate automated transcripts and summaries of calls with customers so that future customer engagement can be better informed.

More recently, however, technological advances have enabled applications of AI to be extended into the field of underwriting, claims handling and sales and distribution. Today, 'enhanced underwriting' currently represents $5 billion in premium, approximately 7% of Lloyd's 2023 GWP, with the largest share from Pure Algorithmic Underwriting[1].

35% of Lloyd's market participants have said they expect rapid expansion across the market of enhanced technologies like AI, whilst 65% believe adoption would be more gradual. Generative AI and the availability of new data sets through IoT and open data are expected to accelerate the current rate of progress over the next 10 years.

Several large players in the technology marketplace have invested in applications of AI in insurance and the supporting infrastructure for embedded fintech solutions. This investment reaches the broader insurance ecosystem through several mechanisms:

- **Directly**, such as with Amazon's attempts to step into the insurance market through their platforms, inserting AI into the insurance value chain at both the back end (risk analysis, fraud, claims automation) and front-end (chatbots, personalised quotes, etc).

- **Through partnerships**, like the collaboration between Google Cloud and Hiscox for their AI-augmented Terrorism Lead underwriting tool, which utilises many cutting-edge aspects of GenAI and machine learning.

- **Through infrastructure** that Google, Microsoft, and Amazon (AWS) have been investing in - essentially an 'AI Toolbox' for firms through their cloud platforms. This enables insurers to digitise and modernise many aspects of underwriting, exposure management, and customer service using the vast computational resources and out-of-the-box ready solutions

[1] In Pure Algorithmic Underwriting, risk decisions and processes are fully automated, removing the human from decision-making

Within the insurance sector itself, the increasing use of AI across our ecosystem is being fuelled by the rise of InsurTechs – the insurance subset of fintech. A primary way InsurTechs are working in the Lloyd's ecosystem is through their leveraging of AI technology to enable underwriters to create more accurate risk modelling. This means the development of more innovative products such as usage-based or personalised insurance. These products can help reduce existing protection gaps and insure previously prohibitive risks.

AI-supported risk-modelling has, for example, expanded the insurance industry's coverage of natural catastrophe (NatCat) events, in particular because of various InsurTech Alumni from the Lloyd's Lab:

- **Vayuh**, a US-based weather forecasting and climate risk modelling company, is using AI and physics to provide accurate medium to long range weather climate predictions for stakeholders in energy markets, insurance, and other parts of business supply chains. Vayuh generates accurate, high-resolution risk maps about wildfire, extreme wind, temperature, precipitation, severe convective weather for risk selection, pricing, and portfolio management.

- **Intelligent AI**, an insights firm, is using AI and predictive modelling to calculate risk score and identify opportunities for risk mitigation to help insurers, brokers and corporates to make more informed decisions on NatCat coverage. This is based on statement of location values (SOV), risk survey reports, natural catastrophe data, 3D mapping and satellite imagery, and 300 other data sources.

Claims Management

AI is also helping insurers to streamline various key procedures in the insurance value chain to increase process efficiency, enhance customer experience and offer products at more competitive prices.

There are examples from Japan, New Zealand and the US, where image recognition applications in conjunction with insurers' own historic claims database are used to speed up claims assessment and payout after natural catastrophe events such as hailstorms or hurricanes. These applications are trained to make a first assessment of damage to property and crops based on pictures submitted by the policyholders themselves. This automated first assessment helps to significantly reduce the time it takes to assess and pay out claims after large-scale natural catastrophic events, especially in sparsely populated or difficult to access areas.

There are also commercial insurance providers that have launched an AI-powered claims triage capability. The triage process embeds an AI model which assesses and assigns claims based on certain criteria and proprietary scoring algorithms into the insurers' claims workflow. This leads to faster claims service for clients and brokers[2].

Fraud Detection

Increasingly, AI-driven fraud detection solutions are tackling the problem of fraud by analysing vast quantities of data from multiple sources in order to spot fraudulent insurance claims. These tools can enable insurers to spot and flag unusual patterns that a human

[2] https://www.gfiainsurance.org/mediaitem/d5cc0d5e-d7d9-4810-bd62-51de9a029348/GFIA%20paper%20on%20AI%20in%20the%20insurance%20industry.pdf

might miss, potentially helping to reduce these huge costs, as well as the level of customer premiums[3].

Supporting the Green Transition

Lloyd's is seeing a spectrum of climate-related opportunities from an underwriting perspective, from insuring new climate-related businesses and activities at one end, to assisting existing businesses with their transition as they adapt to new technology and processes on the other. There is also a growing need for insurers to provide more complete coverages for sustainable technology, with the Lloyd's market dedicated to finding solutions to de-risk large scale renewable projects. AI is playing a significant role within all of this by giving underwriters previously unreachable levels of data to assess, and with that, the ability to structure and understand that data to enhance claims assessments and innovate new solutions to insure against climate risk. This ability is particularly beneficial when insurers are looking to de-risk novel sustainability technologies and develop new sustainability products as described.

There is an emerging range of InsurTechs that are using AI technology to deliver solutions to the insurance market to de-risk and scale various sustainable technologies. There are numerous examples where this taking place within Lloyd's:

- **Kita** has developed Carbon Purchase Protection Cover that protects buyers of carbon credits against delivery risks.

- **Renew Risk** has developed granular risk modelling software to inform the financial planning, banking and insurance of a range of renewable energy assets, from offshore wind farms to onshore wind, tidal, hydrogen and more.

- **StateUp**, currently within the Lloyd's Lab Cohort 13, is a research and data company providing unique intelligence on the green and technological transitions. They are leveraging sectoral expertise, data, and AI to supercharge the insurability of renewable energy projects.

2. To what extent can AI improve productivity in financial services?

As briefly outlined in our answer to question one, AI is being increasingly used across the full spectrum of the insurance lifecycle to enhance productivity, particularly within the claims process where AI is utilised in a semi-supervised manner, to increase the efficiency and effectiveness of claims teams. These AI models should also result in an improved customer experience, thus improve consumer outcomes, as per the new FCA Consumer Duty:

- **Claims automation**: AI models are being designed to analyse claim data, make decisions about the validity of claims, and even automate pay-outs, reducing the workload for human claims adjusters. For example, **MS Amlin** has launched a new AI-powered claims triage capability as part of its partnership with Genpact. The triage process embeds into MS Amlin's claims workflow an AI model which assesses and

[3] https://www.gfiainsurance.org/mediaitem/d5cc0d5e-d7d9-4810-bd62-51de9a029348/GFIA%20paper%20on%20AI%20in%20the%20insurance%20industry.pdf

assigns claims based on certain criteria and proprietary scoring algorithms. The solution is providing a faster claims service for clients and brokers.

- **Claims payments:** Lloyd's syndicate **Brit** has also been working with the Geospatial Insurance Consortium (GIC) since April 2019, to develop a proprietary ML algorithm to expedite the identification of insured property damage in response to catastrophic tornados. This digital claims solution is particularly important for expediting claims payments in locations that cannot be immediately serviced by local field adjusters in the first few days after a NatCat event. A further example is **Swiss Re,** who have developed parametric Flight Delay Compensation. This is built on an AI model that can predict flight delays. Customers who purchased the insurance when buying their airline ticket can receive an instant claims payment in the event of a delay, without needing to apply for a claim.

Within the Lloyd's Corporation

The Predictive Analytics team uses machine learning (ML) to proactively identify the syndicates whose reserves may deteriorate.

ML is being utilised to standardise client names as part of the Sustainability team's work with Moody's analytics to help quantify managing agents' greenhouse gas emissions. The standardisation of unstructured and freeform data from managing agents could have several additional uses across the Corporation, including improving our understanding of the global client base that the market serves.

Legal

AI may be adopted by insurance firms to predict the likely outcome of a legal case based on historical data from similar cases. This would allow insurers to make well-informed decisions about settlement offers and support in other strategic decisions. Law firms are using AI in this way.

Underwriting

Algorithmic underwriting is one example of how AI is introducing underwriting efficiencies into the Lloyd's market:

- **Ki:** Lloyd's first fully digital and algorithmically driven syndicate Ki, a collaboration between Brit and Google Cloud, was launched in 2021. Ki offers follow-only capacity to several 'nominated' lead syndicates across the Lloyd's market, including **Brit**, **Aspen** and **Travellers**. The claimed impacts of algorithmic smart follow leads to a reduction of time from quote-to-bind (quoting a price to agreeing the contract) from days to seconds, with availability 24/7, and improved consistency and reduced bias in quotes.

- **Lloyd's syndicate Canopius** has launched VAVE, an algorithmic underwriting platform for American property. VAVE offers a suite of services that produce bindable quotes, allowing brokers to access products electronically, and bind and service them in real time.

- **Apollo**: In August 2023, Artificial Labs, a Lloyd's Lab InsurTech alumnus, and Apollo launched a **smart follow** (the use of algorithmic technology to enhance and

automate processes) **collaboration**. The offering will support brokers to transact in-person and through web portals. Apollo believes that the collaboration will enable brokers to benefit from more choice and opportunity in the smart follow market and that they will benefit from increased productivity and efficiency.

- **Hiscox:** their recently announced collaboration with Google Cloud to create the first AI-enhanced lead underwriting model marks a step change from AI in the follow market. Their tool integrates a Large Language Model to read and interpret incoming complex submissions, then automatically generates a quote proposal from a deterministic pricing model after cross-referencing pricing and underwriting guidelines. Hiscox believes this automates several hours of work by an underwriter. Currently, this automated approach is being utilised on just the one specialty line, but Hiscox have plans to initiate a full roll out with the expectation that this will become the template for many syndicates across the Lloyd's market.

AI can also be used to introduce efficiencies into contract reviews within the insurance industry, as with law firms. Insurance companies are working with several AI contract review firms such as LawGeex and Kira Systems. Although estimates vary, contract review by AI could save between 50 - 90% of the current cost of contract reviews.

Lastly, several of Lloyd's Lab alumni also offer AI solutions to the insurance industry which support Lloyd's ambition to create a resilient future and support the market with climate mitigation and adaptation:

- **PolArctic** provide data aggregation and advanced AI forecasting for Lloyd's Market Association to improve underwriting accuracy for ice-related risks PolArtic achieved this through the integration of comprehensive ice chart data, the development of PolArctic's proprietary AI algorithm for sea ice forecasting, and the implementation of an intuitive platform for underwriters to access and interpret the data.

- **REOR20** developed an AI system for flood risk understanding and mitigation. The company's models incorporate factors including accumulated water, speed of water movement and duration of flooding which affect how much damage a building sustains from flooding. This could be used to support improved risk mitigation, underwriting and claims management.

Overall, it is our view that currently, the best return on investment (ROI) for AI are tasks that are 'triage' in nature. They are easy to continuously evaluate and verify, the cost of failure is quantifiable and low, and the upside is high. This is why we are seeing many applications in brokerage quote submissions, claims and exposure management.

3. **<u>What are the risks to financial stability arising from AI and how can they be mitigated?</u>**

We would point out that the concentration of insurers using the same cloud providers and 'AI Toolboxes' poses systemic operational resilience risks. Additionally, it is believed to be the case that LLMs trained on similar architectures and similar training datasets (but not necessarily identical) will develop similar epistemic and quantitative processing biases. This increases the risk for the entire sector if we cannot identify where these correlations are occurring and work to mitigate them.

It may be the case that in the future, there will be a need for prescriptive guidance from the PRA and FCA on how firms need to assess models for these kinds of properties, because they may not be 'visible' at the level of visibility that an individual firm has.

Overall, AI is undoubtedly changing the global risk landscape: new risks are emerging and known risks are transforming. It is important that the insurance industry understands these risks to prevent silent cover, to protect policyholders, and to ensure underwriting portfolios remain within risk appetite. The impact of AI will vary based on the line of business (LoB):

- **Cyber**: AI may be able to increase the sophistication and volume of cyber-attacks: therefore, cyber underwriters need to be cognizant of the increased risk that AI brings to this line of business.
- **Professional liability:** more companies may be requiring Errors and Omissions (E&O) policies, for example, to protect against allegations of algorithmic bias, IP infringements, and system failures.
- **Product Liability Insurance (PLI)** will be needed to help address potential liability arising from defects or malfunctions related to AI components. In motor insurance, it is likely that autonomous vehicles will see the liability shift from individual drivers to the vehicle itself; the insurance industry will need to appropriately accommodate this shift within a range of policy offerings, including fleet insurance.

As the real economy becomes more dependent on AI algorithms, models and tools, companies are starting to offer performance guarantees and insurance against their performance:

- **Munich Re** has developed aiSure, wherein it provides a performance guarantee backed by an insurance solution to AI providers. The provider benefits from an increased trust in their product and the AI users get a monetary indemnification that mitigates potential underperformance.
- **Armilla:** During their time in the Lloyd's Lab Accelerator, Armilla designed two risk transfer products for AI risks: AI Product Warranty and AI Liability Assurance. They also secured further capacity from Lloyd's syndicates.

The insurance industry has already started to adapt to the new risk landscape and as the real economy depends more on AI, insurance companies will need to provide more appropriate risk mitigation and transfer solutions, providing new business opportunities, whilst managing their own risk appetite. Hence the growing need for insurance companies to develop assurance products, or partner with companies like Armilla to validate the models that they intend to underwrite.

4. **<u>How can Government and financial regulators strike the right balance between seizing the opportunities of AI but at the same time protecting consumers and mitigating against any threats to financial stability?</u>**

We believe a principles-based approach to regulation of new technology, like AI, which enables innovation in our market, is critical for success. As financial services are already

highly regulated, many risks associated with AI are captured within these existing regulations.

We are open to the possibility that we will discover systemic challenges that cannot be addressed or even detected at the level of a firm and so require regulators to collect data about technology behaviour horizontally across a sector to understand aggregate dynamics. However, for now, we encourage officials and regulators to apply existing regulation to the context of AI and educate the industry on current obligations with respect to AI rather than duplicate existing technology-agnostic regulation

AI is used in Lloyd's and the market to provide more efficient services to policyholders and support risk management. The Lloyd's market is also increasingly providing insurance against AI risks. Lloyd's therefore stands to be affected by new AI regulation if it comes. However, the main concerns policymakers have on AI in insurance are already addressed by existing (or upcoming) regulation, such as GDPR, SMCR, Solvency UK, Consumer Duty, or the Critical Third-Party regime. It is therefore our view, and one which appears to be accepted by the government, that there is no current need for additional, insurance-specific AI regulation.

In common with other parts of the UK financial services industry, we think that the government should encourage regulators to focus AI risk management efforts on enforcing existing laws and providing examples of how complying with existing rules will help firms manage AI risks. We would encourage regulators to continue to engage with market participants and keep under review the current approach to AI to ensure there is no emerging complacency to risk in the ever-evolving landscape. The UK should also ensure that AI related regulations are interoperable with US and EU regulations, as far as is possible.

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