



# Navigating Europe's AI Act

## INTRODUCTION AND SCOPE

Europe's regulatory landscape is evolving rapidly, particularly regarding the implementation of AI systems. Actuarial professionals continuously balance and promote best practices in complex risk assessments, data collection and usage, and disclosure. The European Union's AI Act, formally Regulation (EU) 2024/1689, is the world's first comprehensive regulatory framework for artificial intelligence. As a pioneering effort, its primary goal is to ensure the responsible use of AI, applying directly and uniformly across all industries and EU member states. The Act supports innovation and promotes the adoption of human-centric, trustworthy AI while safeguarding health, safety, fundamental rights, the rule of law, and environmental sustainability.

B. Tautan MSc AAG is Senior Reinsurance Actuary at Achmea Reinsurance. He has co-authored, together with Anni Helman, Claudio Senatore Reso, Esko Kivisaari, Jonas Hirz, Roberto Carcache Flores And Stephanos Hadjistyllis the recently published paper by AAE – Navigating Europe's AI Act: Insights for Actuaries and the Insurance Sector. This article gives a brief overview of the main topics discussed in the paper and has been written with the help of the co-authors.

This article has also been published in The European Actuary on 1 June.



As global regulatory frameworks for artificial intelligence remain fragmented and inconsistent, organisations operating across multiple jurisdictions face significant challenges. In the United States, regulation follows a decentralised, innovation-oriented model, largely based on voluntary, sector-specific guidelines. China, by contrast, emphasises a state-driven approach, prioritising national security and centralized control over AI technologies. The European Union, meanwhile, has adopted one of the most comprehensive regulatory stances to date, focusing on consumer protection, human oversight, and accountability as the pillars of its AI strategy. This article provides a brief overview of the recently published AAE Discussion Paper – Navigating Europe's AI Act: Insights for Actuaries and the Insurance Sector.

## RELEVANCE TO ACTUARIES

The AI Act holds significant relevance for actuaries, leveraging their core expertise in risk management and data analysis. A direct impact is already evident with the inclusion of life and health insurance models under the high-risk classification. The Act could also expand this classification to other areas, such as general insurance pricing, fraud detection, underwriting, claims management, and predictive analytics.

Undoubtedly, many requirements for high-risk AI systems under the Act—such as those related to data governance, quality management, risk assessment, technical documentation, and transparency in decision-making—will significantly overlap with principles and processes already familiar to actuaries. Actuaries are uniquely positioned to evaluate and manage such systems due to their expertise in probabilistic modelling and risk analysis.

In addition, actuaries can contribute meaningfully to AI governance by prioritising long-term risk assessment, ethical considerations and applying their strong code of professional conduct and actuarial standards of practice.

Finally, the Act presents opportunities for actuaries to **expand their role as trusted advisors in AI governance**. They can support the implementation of explainable AI (XAI) to make AI decisions more understandable. Their expertise can help design frameworks for monitoring AI performance and identifying biases—particularly where fairness and accountability are critical. This enables actuaries to contribute to organisational strategy, bridge technical requirements with ethical considerations, and take a leading role in AI governance.

## KEY ASPECTS OF THE ACT

An AI system is described as a machine-based system designed to operate with varying levels of autonomy and potentially exhibit adaptiveness after deployment. In an actuarial context, guidance from

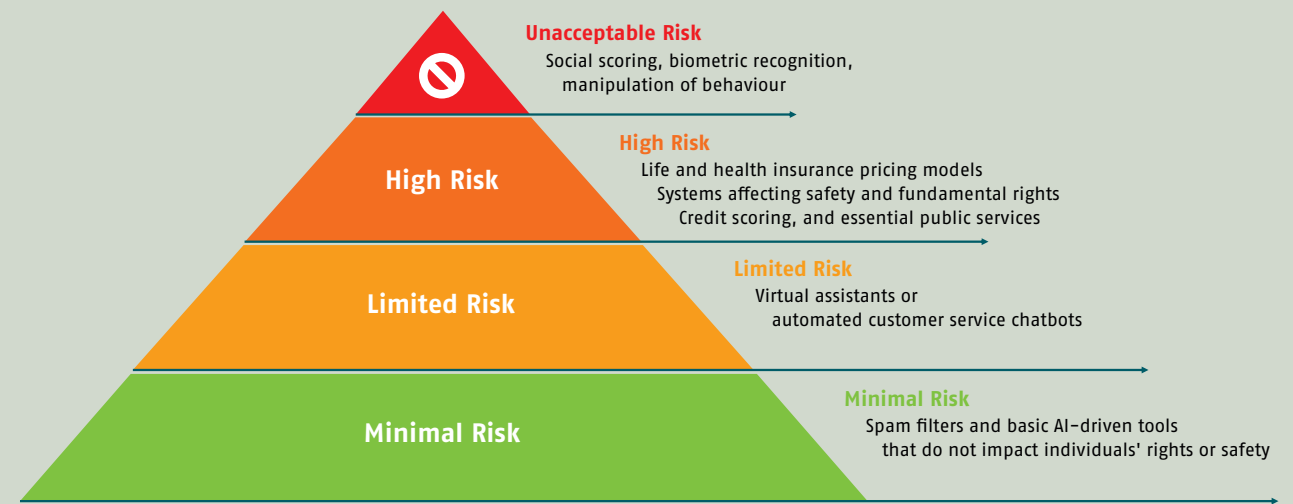


Figure 1: Risk-based categorisation of AI Systems under the AI Act

the European Commission aims to clarify which models fall within the Act's definition. Traditional statistical models, such as linear and logistic regression, may not meet this definition, particularly due to their lack of autonomy, adaptiveness, and self-learning capabilities. As a result, many actuarial models may fall outside the Act's scope. However, actuaries should assess whether their models incorporate adaptive algorithms or automated learning processes, as these features could bring them within the scope of AI regulation. Regardless of regulatory classification, actuaries can adopt a prudent, forward-thinking risk management approach, aligning practices and disclosure with the Act's newly defined risk-based categories. In particular, systems are classified into four risk categories:

- **Unacceptable Risk** – systems that are harmful and prohibited under the AI Act, such as social scoring, biometric recognition, exploiting psychological vulnerabilities and manipulating human behaviour.
- **High-risk**: critical to health and fundamental rights. Examples include applications in life and health insurance pricing and credit scoring.
- **Limited-risk**: systems subject to specific transparency obligations, such as virtual assistants and automated customer chatbots.
- **Minimal-risk**: systems presenting negligible to no risk, such as spam filters or systems that do not affect individual rights.

General-purpose AI systems are treated separately and monitored based on their applications, potentially falling into one of the four risk categories upon careful assessment (see Figure 1).

In addition to the risk categories, the Act assigns corresponding obligations to various AI operators—such as **providers, distributors, importers, and deployers**. As a directly applicable regulation, its EU-wide framework is supported by the establishment of the **AI Office** within the European Commission's DG Connect. Working alongside the AI Board (comprising member states), the AI Office will also include an Advisory Forum and a Scientific Panel. The Act also aims to align with existing regulations, including those areas where actuarial work has long been active.

## INTERCONNECTING REGULATIONS

Areas of concern here include data protection—particularly under the General Data Protection Regulation (**GDPR**)—risk management under **Solvency II**, and the Digital Operational Resilience Act (**DORA**). Specifically, in relation to GDPR, there are shared principles aimed at safeguarding personal data. Any AI system that falls under the Act and

uses personal data must adhere to the data protection principles outlined by GDPR.

In the case of high-risk classified models, stricter rules apply in addition to those defined by GDPR. Providers of high-risk models are also required to establish an accountability framework. It is important to note that some of these requirements are partially addressed under Solvency II. Alignment with Solvency II is particularly evident in areas related to **identifying, mitigating, and monitoring** risks.

Actuaries can manage AI-related risks by integrating Solvency II practices into the lifecycle of AI systems, thereby facilitating compliance with both frameworks. This approach ultimately ensures greater robustness, transparency, and ethical integrity.

Although there is significant overlap among regulations, their starting points and objectives differ. Supervisory institutions within the insurance sector, such as EIOPA, are expected to provide further guidance to harmonise the AI Act and resolve any overlaps with existing sector-specific regulations. In the broader context of the Act, understanding these interconnections is crucial. For high-risk systems in sectors such as insurance, compliance involves not only adhering to new AI rules but also integrating them into existing frameworks. This requires a cohesive governance strategy and cross-disciplinary collaboration.

## CONCLUSION

As the AI Act begins to reshape the regulatory landscape, actuaries have a clear opportunity to strengthen their role in supporting ethical, risk-aware AI deployment. Their skillset aligns naturally with the governance needs and strong standards of practice that would benefit the field of AI. Engaging early with this evolving framework will ensure actuaries remain central to trustworthy innovation in the insurance and financial sectors. ■