



AI AND REGULATION IN INSURANCE: TURNING COMPLIANCE INTO A STRATEGIC ADVANTAGE

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Abstract

Artificial intelligence (AI) is now an operational reality for the insurance industry. For insurers in the UK and Europe, the journey from AI adoption to value realisation increasingly hinges as much on the technology as on responsible, regulated innovation.

Insurers today compete in a landscape where regulators, customers, and professional bodies demand accountable governance, fairness, explainability, and risk discipline when using AI. This paper outlines a high-level roadmap that helps insurance enterprises align commercial ambition with regulatory expectations, enabling them to realise the value of AI both responsibly and at scale.

Introduction

Advances in artificial intelligence (AI) are unlocking efficiencies for insurance organisations. AI has demonstrated its potential in accelerating and optimising key functions, such as claims automation, fraud detection, policy pricing, and underwriting, thereby enhancing customer experience¹. In 2024, around 50% of European non-life insurers and 24% of life insurers were already using AI². Now, with the advent of generative AI (GenAI), adoption rates are steadily rising: As of 2025, 65% of insurers are using GenAI systems³.

This opportune environment introduces novel risks. Scaling AI across insurance functions calls for deep monitoring of AI algorithms along with stronger data governance, AI model explainability, and timely human oversight. As organisations move beyond pilots to enterprise-wide adoption, they must deal with challenges from legacy data, evolving AI governance expectations, and increased regulatory scrutiny.

While several recent European laws aim to foster accountability in AI adoption, there is a need to balance innovation with regulation. As a first step, insurers must understand these new laws and leverage a fit-for-purpose roadmap that allows them to effectively scale AI as an operating model while meeting regulatory requirements.

The Need for AI Governance

Effective AI governance is becoming a crucial consideration for enterprises aiming to scale AI. Left unmanaged, AI systems risk generating outcomes that are biased, unexplainable, and inconsistent with regulatory expectations and customer fairness norms.

Some common pitfalls observed during large AI-based transformation programs are:

- Legacy data embedded with historical biases
- Siloed risk ownership between business and technology teams
- Ad hoc addition of controls later in the delivery cycle
- AI model documentation that is insufficient for audit or supervision

Regulators today are interested in whether organisations are using AI models. They also want evidence of how these models are governed, monitored, and controlled throughout their lifecycle. Customers, too, are increasingly supportive of the use of AI in certain insurance operations.

A recent survey shows that Swiss insurance customers accept AI as a tool that explains, guides, and assists activities like simplifying policy wording, flagging suspicious patterns, and reducing losses. This acceptance, however, depends upon insurers maintaining human oversight and transparent decisions when using AI models⁴. Professional bodies, like the Chartered Insurance Institute (CII), have also highlighted that the insurance industry must prioritise clear accountability frameworks when adopting AI in order to protect consumers⁵.

The Evolving Regulatory Environment

The regulatory landscape for AI in insurance is evolving rapidly. Two recent developments are:

1. EU: The AI Act – a horizontal framework

In 2024, the European Parliament and the European Council adopted the Artificial Intelligence Act (AI Act), the world's first

comprehensive, risk-based AI regulation⁶. This law classifies AI systems according to their risk levels and introduces requirements for those considered 'high risk'⁷. In the insurance industry, high-risk systems include those that assess risk and set pricing for life and health insurance plans⁸.

Under the AI Act, insurers must show evidence of:

- Governance, documentation, and traceability
- Data quality and bias mitigation
- Human oversight
- Transparency and explainability

The AI Act complements existing frameworks such as Solvency II and sectoral conduct rules. It enables insurers to adopt a harmonised approach to risk governance by integrating technology, human oversight, and operational resilience.

2. UK: A principles-led, outcome-focused approach

In contrast to the EU's legislative model, UK regulators, such as the Financial Conduct Authority (FCA), have adopted a principles-based approach. The FCA emphasises outcomes, such as fairness, transparency, and accountability, without enforcing rigid, prescriptive rules.

While this approach affords flexibility, it places the onus on insurers to translate regulatory expectations into robust internal frameworks. UK insurers must, therefore, demonstrate how their AI governance model is fair, practical, ethical, and explainable.

A key difference between these regulations is that while the EU AI Act provides risk-based assessments with legally binding obligations, UK regulators such as the FCA and Prudential Regulation Authority (PRA) focus on outcomes and principles. For many insurers, navigating this complex regulatory landscape is challenging, particularly when operating across both EU and UK markets. As risk management frameworks and regulatory expectations evolve rapidly, insurers need flexible governance models that can satisfy prospective compliance requirements and address AI risk while scaling AI innovation.

Navigating the Regulatory Landscape with Responsible AI

Although the EU's risk-based AI Act and the UK's principles-led approach differ in design, they converge on a common mandate: AI must be fair, transparent, explainable, and governed with appropriate human oversight. Furthermore, this mandate reflects the foundational tenets of Responsible AI (RAI).

Thus, for insurers, RAI becomes the execution layer of regulation. It enables organisations to embed controls directly into data

pipelines, model development, and decision workflows, shifting compliance from a review activity to a built-in capability. Insurers that anchor regulatory expectations within an RAI framework are better positioned to industrialise AI, reduce regulatory friction, and build sustained trust with customers and supervisors. In effect, RAI transforms regulatory alignment from a constraint into a scalable enabler of innovation.

An Implementation Roadmap for Responsible AI in Insurance

Responsible AI (RAI) refers to a set of guiding principles for the safe, secure, accurate, accountable, and monitored use of AI⁹. It requires organisations to embed responsible AI and governance practices throughout the operating model, and not relegate these to a final step or a compliance overlay.

Below are five steps for establishing an RAI practice within insurance^{10,11}:

- 1. Establish clear accountability:** Establish executive ownership for AI use cases, including a board-level view of risk registers. Rather than operate in isolation, AI governance should integrate with enterprise risk management.
- 2. Classify system risk:** Different AI systems carry varying levels of risk. Insurers must first classify systems based on their potential impact across three dimensions, and calibrate controls accordingly. These dimensions include customer outcomes (such as pricing, claims, and eligibility), business performance (such as efficiency and underwriting accuracy), and regulatory risk.
- 3. Monitor data quality and bias:** Fairness begins with data. Insurers must establish structured pipelines that enforce data quality standards, detect bias early, and monitor model drift over time.
- 4. Emphasise model explainability:** Insurers must provide transparent reasoning for AI-derived decisions, particularly where the outcomes affect customers. Human oversight should be proactively calibrated to the level of risk.
- 5. Design for auditability and assurance:** Documentation, model artefacts, and testing results should be audit-ready by design. This will reduce friction with supervisors and build internal confidence during deployment.

Governance founded on RAI helps insurers reduce operational and compliance risks, improve customer trust and fairness of outcomes, and scale AI adoption sustainably.

Benefits for Insurance Leaders

Insurers that have strategically scaled AI across the organisation can unlock operational and strategic benefits across claims, underwriting, and risk management, including:

- Faster product innovation and speed to market:** AI-enabled compliance by design shortens the path from idea to deployment. It helps insurers accelerate the launch of new products, such as parametric, usage-based, and embedded insurance. Additionally, AI-supported controls embed regulatory checks such as FCA and PRA requirements into the operating model, thereby reducing approval cycle times and minimising rework.
- Reduced friction across underwriting and claims:** Embedding AI-driven controls within underwriting, claims triage, fraud detection, and policy servicing workflows minimises manual interventions across actuarial, legal, and risk functions. This helps insurers reduce operational drag, make decisions faster, and improve loss ratio management.
- Enhanced trust, fairness, and regulatory alignment:** Transparent, explainable models support fair pricing, bias detection, and equitable claims outcomes. By aligning with regulatory norms around pricing and fairness, such models strengthen customer trust and supervisory confidence.
- Scalable reuse across lines of business:** A unified AI governance framework promotes the reuse of AI models and controls across property and casualty (P&C), specialty, cyber, and reinsurance portfolios. It reduces marginal costs of deploying new AI use cases and ensures consistency in risk and compliance management.

Compliance Maturity: Build a Proactive Advantage

Compliance maturity can be viewed as a spectrum ranging from 'reactive' to 'proactive'. Reactive maturity is where controls are bolted on and documentation assembled in a post hoc manner. Proactive maturity is where controls are engineered into data pipelines, model building and decision making.

At the reactive end, governance remains episodic and approval-driven. Each new AI use case restarts the debate on fairness tests, explainability methods, and human-in-the-loop (HITL) thresholds. Such an approach slows down delivery, increases rework, and raises supervisory challenges.

In contrast, proactive insurers assign clear executive ownership for every use case. They align AI governance with enterprise risk and conduct frameworks. Proactive insurers also calibrate human oversight to actual customer impact rather than applying uniform checks everywhere. They institutionalise compliance by design, where regulatory logic and risk controls are embedded into pipelines. Standard toolkits, such as model cards, bias and drift tests, as well as explainability packs are reused across use cases. Further, evidence generation, such as lineage, approvals, and monitoring, is automated, supporting continuous audit-readiness.

Proactive insurers also maintain a central registry of AI systems with versioned artefacts. They use dashboards to track the risk posture and value delivery across portfolios. Moreover, outcomes and complaints are fed into ongoing model monitoring processes, closing the loop.

Over time, this approach creates a flywheel whereby every deployment enriches the control library and shortens subsequent approval cycles, thereby strengthening trust with customers and supervisors. In effect, governance scales as the portfolio grows.

Key Recommendations for Insurance Leaders

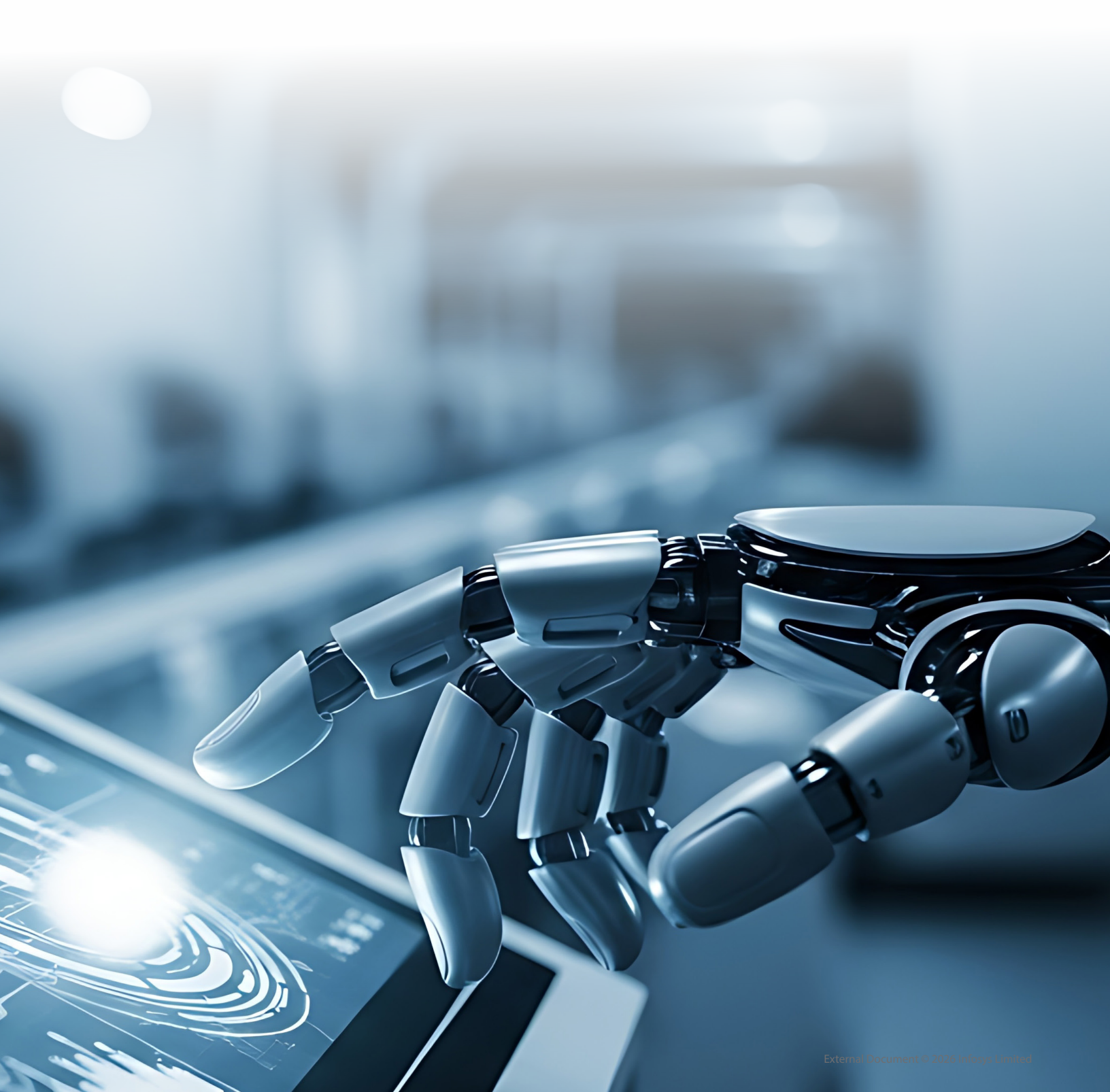
1. **Align AI governance with risk management** by embedding regulatory logic and controls within data pipelines as well as classifying AI system risk
2. **Adopt a strong RAI framework** that emphasises accountability, explainability, auditability, and fairness, in keeping with the requirements of the EU AI Act and the expectations of UK regulators.
3. **Scale AI innovation with a unified governance model** that promotes control reusability, builds regulator confidence, and enhances user trust.
4. **Embrace proactive compliance maturity** as a platform that accelerates growth by enabling speed to market, predictable approvals, and sustainable advantage.



Conclusion

As insurers accelerate their adoption of AI, their ability to govern these technologies responsibly will give them a competitive advantage. Adopting proactive, compliance-by-design practices and embedding responsible AI principles throughout the operating model will enable insurance companies to manage regulatory expectations. It will also help them industrialise AI with confidence, reduce delivery friction, and strengthen supervisory trust. Scaling these capabilities will transform compliance from a restrictive obligation to a catalyst for disciplined, scalable, and trustworthy innovation. With this approach, AI governance becomes a strategic asset that accelerates speed to market, enhances customer fairness, and unlocks long-term competitive advantage. Insurers that integrate governance, risk, and innovation into a unified approach will lead the market, navigate regulatory headwinds efficiently, and discover new growth opportunities.

To industrialise AI for business success, insurers must embed compliance into how AI is designed, built, deployed, and monitored. A robust governance strategy is the key to enabling AI to drive efficiencies across all insurance functions and thereby spur growth.



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A trusted advisor to C-suite and senior technology leaders, Aniket Samant blends business insight, operational depth, and key knowledge to help insurers unlock value from AI. With over 20 years of experience across the insurance and financial services industries, he is proficient at building strong stakeholder relationships and driving transformation for global insurers. Aniket has helped insurance clients leverage emerging technologies to optimise underwriting workflows, improve claims intelligence, and strengthen enterprise decision making.

References

1. European Insurance and Occupational Pensions Authority (EIOPA) | [EIOPA publishes Opinion on AI governance and risk management](#)
2. EIOPA | [Report on the Digitalisation of the European Insurance Section, 2024](#)
3. EIOPA | [Generative AI Market Survey: Outlook, Use Cases and Risk Management](#)
4. Deloitte | [AI in insurance: customers set clear conditions for acceptance](#)
5. Insurance Business | [CII calls for AI regulation](#)
6. European Parliament (Europarl) | [EU AI Act: First regulation on artificial intelligence](#)
7. EIOPA | [Factsheet on the regulatory framework applicable to AI systems in insurance sector](#)
8. EIOPA | [Supervising Digital Transformation in the Age of AI](#)
9. QuantumBlack by McKinsey | [Responsible AI \(RAI\) Principles](#)
10. PwC | [Responsible AI: How insurers can lay strong foundations to start their AI journey](#)
11. PwC | [Mastering the EU AI Act on insurers' route to AI success](#)

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