EBOOK

AI in Insurance

Executive Summary of Global AI Adoption Trends

EBOOK

Contents

Introduction

In the history of insurance innovation, we have seen insurers apply significant effort in learning, experimenting and deploying solutions leveraging emerging technologies such as blockchain, robotic process automation (RPA) and early-generation artificial intelligence (AI).

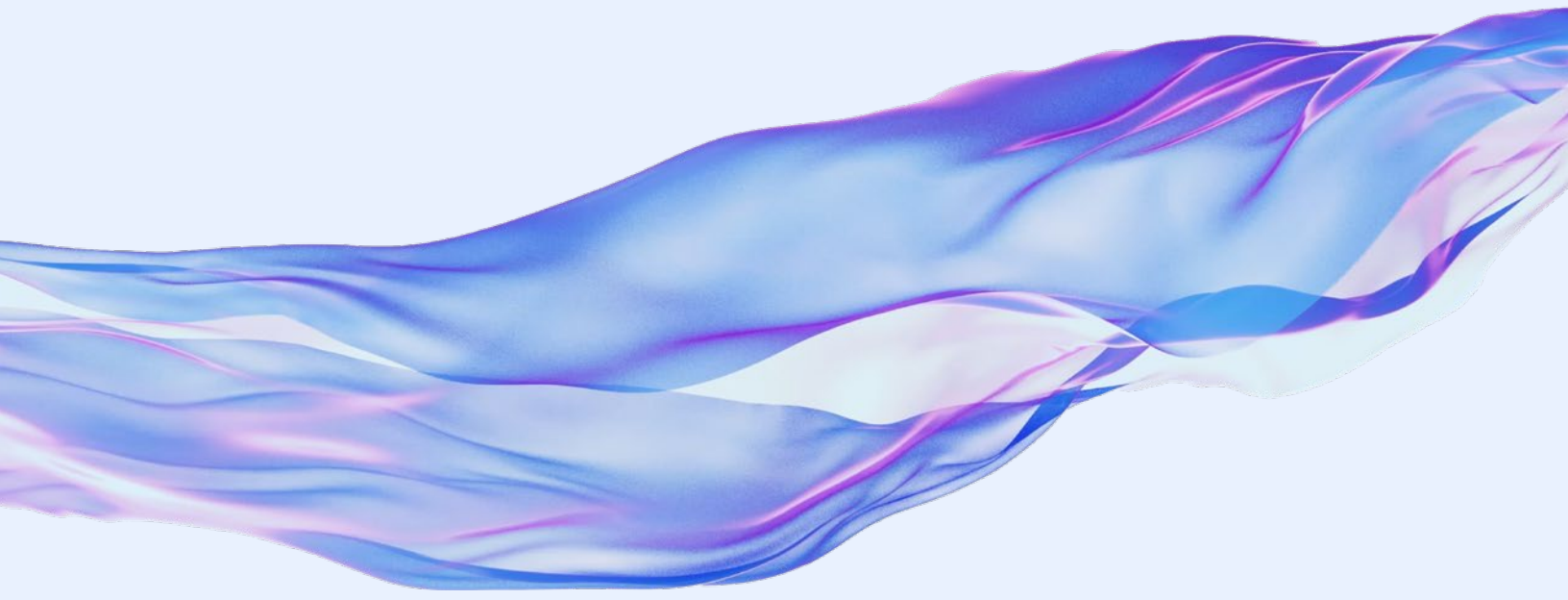
Many of these initiatives have focused on solving legacy challenges within the insurance value chain and many have failed to be adopted broadly in the organization. The advent of generative AI (GenAI) completely changes the equation, empowering users to do more with data than ever before. And, as the pace of AI change continues to accelerate, new AI developments have the potential for even greater gains for businesses, such as autonomous agentic AIs.

Insurers, like other businesses, can't control the adoption of this technology — it is already here, both in our personal lives and in business operations. Insurers should be thinking about the arrival of GenAI like the dawn of the internet. Unlike previous emerging technologies, AI is already in the business workplace and embedded in customer interactions, and the decision for insurers is not whether they pursue adoption, but rather how they can engineer an AI-driven future to remain competitive.

A Global Perspective

EPAM set out to understand where businesses stand in their AI and GenAI adoption and implementation journey in a **global study** spanning sectors, businesses and seniorities. This eBook examines the survey results for the insurance industry specifically and is based on feedback from 909 respondents from insurance companies with 10,000 or more employees across the globe, enabling you to benchmark your own journey and business outcomes against a substantial cross-section of industry peers.

Drawing from insights shared by both the C-suite and technology leaders, we'll explore the current state of AI, organizational readiness and leadership strategies, while also providing actionable steps to accelerate AI programs and address critical challenges like data, security and compliance. This eBook serves as a guide to equip insurance executives with additional insights to advance AI investments and harness AI's transformative potential.



Current State of AI

The results from our survey show that the insurance industry is at a pivotal moment in AI advancement, with insurers beginning to see its transformative power, but still generally lagging in maturity compared to other sectors.

Most early AI solutions thus far have focused on improving operational efficiency in certain functions and delivering better customer experiences. However, the industry's cautious approach and fragmented strategies in deploying AI programs highlight the need for companies to have a cohesive roadmap to move from experimentation to scalable deployment.

Our global survey reveals that insurers are early in their AI journey compared to other sectors, with the insurance industry least likely to consider itself advanced and having the largest share of beginners. Insurers are actively piloting AI, with 34% testing new programs with customers and 27% experimenting internally. These statistics illustrate a dual focus on customer-facing uses as well as operational improvements, but also highlight hesitancy, as only a minority of companies have scaled beyond pilots.

34%

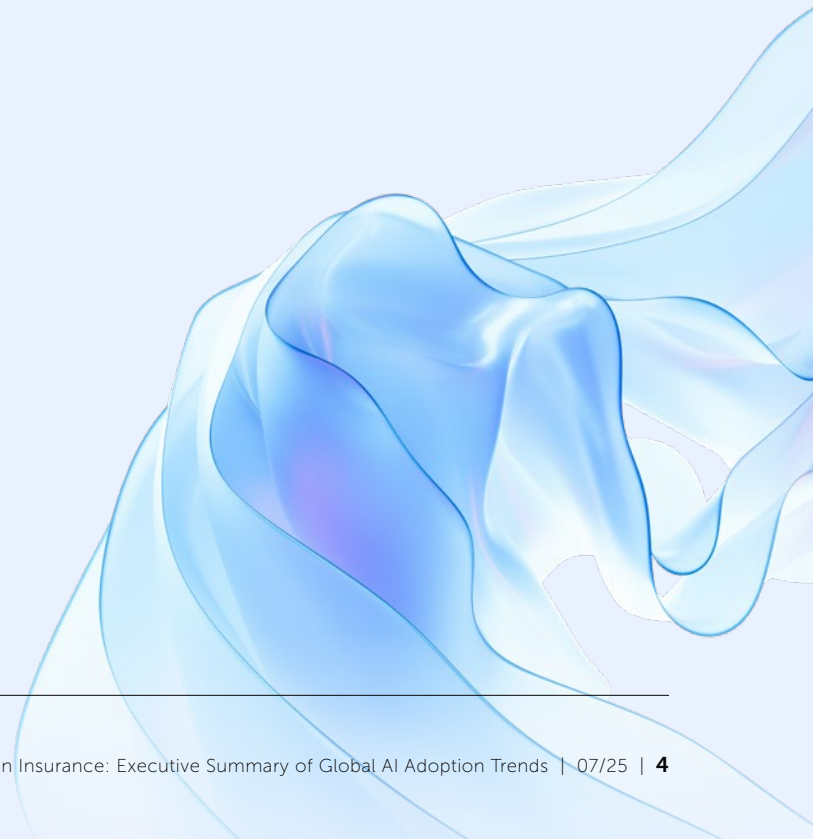
of insurers are testing new AI programs with customers

27%

are experimenting with AI internally

ACTIONABLE STEPS

Benchmark your AI maturity against peers with a focus on moving from pilots and proofs-of-concept (POCs) to production. Identify low-hanging fruit, like operational efficiencies and customer engagement use-cases, to build momentum with quick AI wins that provide immediate ROI and pave the way for further adoption across the organization.



Organizational Readiness

Organizational readiness is the cornerstone of any successful technology adoption but it currently remains elusive to most insurers at this point in their AI journey. Our survey underscores significant readiness challenges for companies:

51%

of respondents agree their workforce lacks the skills to deploy GenAI effectively

45%

On average, insurers estimate 45% of their staff will need AI retraining and/or upskilling within 18 months

54%

report fragmented AI roadmaps, indicating a lack of cohesive strategy

Additionally, respondents rated their top AI challenges as: preventing data loss (22%); protecting data (22%); and training employees (22%), pointing to data and people as critical bottlenecks. These findings suggest that while insurers are eager to embrace the possibilities of AI, many lack the infrastructure and talent to execute effectively.

ACTIONABLE STEPS

Conduct a readiness assessment to identify gaps in skills, data and technology. Based on your findings, develop a comprehensive upskilling program and prioritize investments in cloud-based data platforms to enable AI scalability. Also, identify and deploy key data sources aligned with priority AI use cases to achieve tactical solutions with measurable value that advance AI engineering experience as well as levels of business engagement.

AI Program Leadership

Effective AI solution development and deployment requires strong leadership to align people, data and technology.

A dedicated Chief AI Officer (CAIO) can drive strategic coherence, but the role must be empowered to bridge business and technology silos or they will likely be unable to realize the complicated goal of company-wide AI implementation and adoption. Leadership must also prioritize data governance and quality to unlock AI's full potential.

Over half (54%) of insurers we surveyed have already hired for the CAIO role and 39% are actively seeking one. Respondents also confirm that most insurers are filling the CAIO role through existing IT leadership roles such as CTO (32%), CDO (31%) and CIO (29%). At the same time, our survey shows that 28% of respondents report business and technology teams do not communicate effectively, and 54% describe their AI roadmap as fragmented. These insights reveal that while leadership roles are being established, misalignment and fragmented strategies persist.

54%

of insurers have already hired for the CAIO role

28%

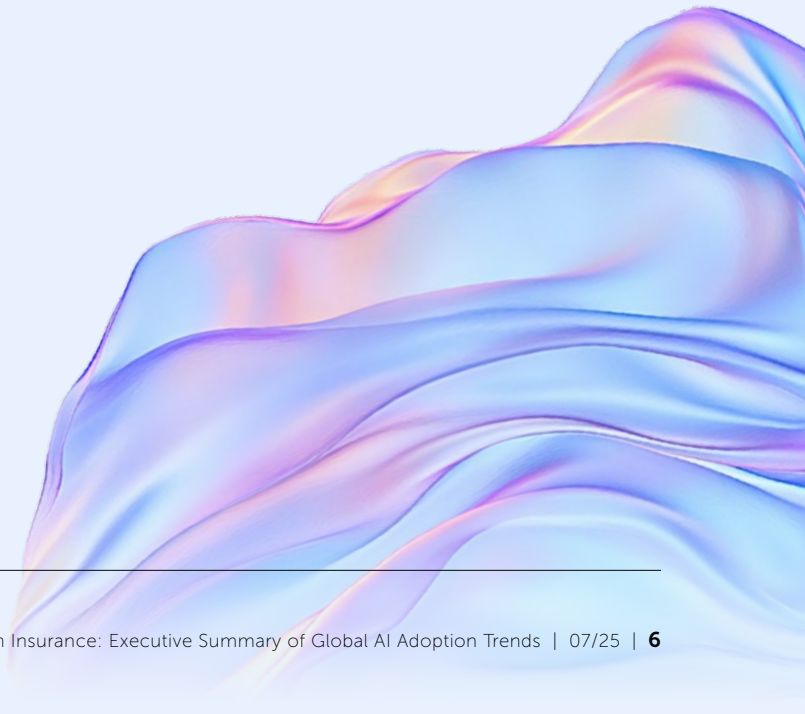
report business and technology teams do not communicate effectively

54%

describe their AI roadmap as fragmented

ACTIONABLE STEPS

Appoint and empower a dedicated CAIO to unify AI strategies across both business functions and IT areas. Establish a cross-functional AI task force to enhance communication and AI advocacy, align priorities with business goals and actively engage business users at all levels.



Accelerating Your AI Program

To accelerate AI programs, insurers must move beyond experimentation to strategic deployment and operational scale.

The executives we surveyed acknowledge that skill gaps remain in deploying AI and GenAI solutions, and we worry that these gaps will only be exacerbated with the introduction of other advanced solutions, like agentic AI. A balanced approach of upskilling internal IT and business users while leveraging external expertise will be critical for gaining early traction and concrete ROI.

Our survey highlights a robust hiring trend, with 98% of carriers planning to hire AI roles in 2024 and 2025, including 60% seeking 10–100 prompt engineers and AI researchers, 58% targeting machine learning engineers, and 55% focusing on ethics and governance roles.

These findings indicate a proactive approach to building AI capabilities but also a reliance on external talent to bridge gaps and accelerate solution delivery. With GenAI still in its infancy, most insurers are at similar points in their learning curves and similar stages of building solutions and developing skills.

98%

of carriers are planning to hire AI roles in 2024 and 2025, including:

- **PROMPT ENGINEERS & AI RESEARCHERS**
- **MACHINE LEARNING ENGINEERS**
- **ETHICS & GOVERNANCE ROLES**

ACTIONABLE STEPS

Unlike most insurance package software solutions that leverage system integration skills, AI and GenAI implementation requires engineering skills with expertise in AI to successfully develop custom solutions. Partner with firms that have experience with AI-driven business transformations — especially AI-native solutions — and with the engineering experience and tools to jump start and accelerate AI solution delivery and speed to value. A partnership-focused approach helps build the foundational tooling (e.g., LLM orchestration, consumption monitoring, auditability and APIs) necessary on top of cloud platforms as well as accelerate AI solution delivery and AI upskilling.

Solving AI's Kryptonite

Data is AI's lifeblood, but poor data quality, governance and security are its kryptonite. Insurers must modernize their data foundations, adopting cloud-based platforms and robust governance frameworks, to ensure AI initiatives deliver reliable, secure outcomes.

Our survey highlights that:

Data quality (72%) and governance (71%) are top priorities, with 43% and 38% deemed as critically important, respectively.

Security concerns, including data loss prevention (22%) and protection (22%), are significant barriers.

Nearly a third (30%) of insurers feel that they lack a single source of truth for data, a problem exacerbated by outdated tech stacks and incomplete cloud migration and microservices/ API journeys.

ACTIONABLE STEPS

Prioritize investments in cloud-based data platforms and governance frameworks. Conduct a data quality audit and establish a single source of truth for AI applications. Finally, develop an AI-informed data strategy focused on the information architecture required to promote data integrity and enable leverage of multiple LLMs.

Gaining Intelligence, While Mitigating Security Concerns

AI offers unparalleled opportunities for insights but also introduces significant security risks.

Insurers must adopt responsible AI practices and strengthen cybersecurity frameworks to protect sensitive data and mitigate vulnerabilities such as unauthorized access, DDoS attacks, data exfiltration and privacy breaches through LLM use.

Our survey also indicates that many insurers worry that companies are correctly prioritizing data security but lack infrastructure maturity. Respondents from both engineering backgrounds (30%) and the C-suite (35%) believe their cloud infrastructure is not mature enough for AI infrastructure modernization, hindering progress.

ACTIONABLE STEPS

Strengthen cybersecurity with AI-driven threat detection and response systems. Consider solutions where PII detection and encryption can be leveraged and integrated with AI applications. Develop strategies for integrating AI solutions with both public and private cloud platforms.

Compliance, Governance & Ethics

Compliance, governance and ethics are non-negotiable for AI in insurance.

Stringent regulations, like HIPAA, and other industry requirements mean that insurers must safeguard a wide range of potentially sensitive information and data. Ranging from personally identifiable information (PII) to proprietary company and business information, this confidential data is a crucial responsibility for insurers. Yet in order for AI, GenAI and Agentic AI to make a real business impact, these tools need access to data.

To maintain compliance and security, insurers must establish comprehensive governance models that enforce responsible AI principles and ensure solution deployments align with regulatory and ethical standards, building trust with internal and external stakeholders.

Our survey showed that organizations understand the importance of proper governance: an overwhelming majority (87%) of insurers plan to hire or have hired for AI ethics and governance roles in 2024 and 2025, expecting an average of 46 hires. Within 9–48 months, 79% plan to deploy comprehensive AI governance models, and 46% are already assessing regulatory impacts per use case.

87%

of insurers plan to hire or have hired for AI ethics and governance roles in 2024 and 2025

79%

plan to deploy comprehensive AI governance models within 9–48 months

46%

are assessing regulatory impacts per use case

ACTIONABLE STEPS

Develop a comprehensive AI governance framework, including ethical guidelines and regulatory compliance standards that span the business and technical perspectives. Hiring trained specialists that deploy Responsible AI can support the initiation of your governance model and mitigate risk in AI use.

Use-Case Prioritization

Strategic use-case prioritization is critical to maximizing AI's business impact. Insurers should focus on leveraging AI to enhance business outcomes rather than become the new answer to automating existing processes.

Results show that 41% of surveyed insurers are focusing on productivity improvements, seemingly prioritizing AI use-cases that deliver time savings and cost reduction. However, the most significant business value will be realized through AI-enabled decision effectiveness, but these use-cases are just starting to be delivered. In particular, underwriting and claims stand to gain the most from AI solutions for knowledge workers.

Insurers are equally fine-tuning RAG, commercial and open-source models, with 37% reporting tangible cost savings and 40% seeing increased customer satisfaction. Non-tech C-suite leaders report higher success in efficiencies (50% vs. 40%) and productivity (52% vs. 43%) than tech leaders, suggesting a perception gap. Only 4% feel they are "leading the pack" with innovative AI applications.

41%

are focusing on productivity improvements

37%

report tangible cost savings with RAG, commercial, and open-source models

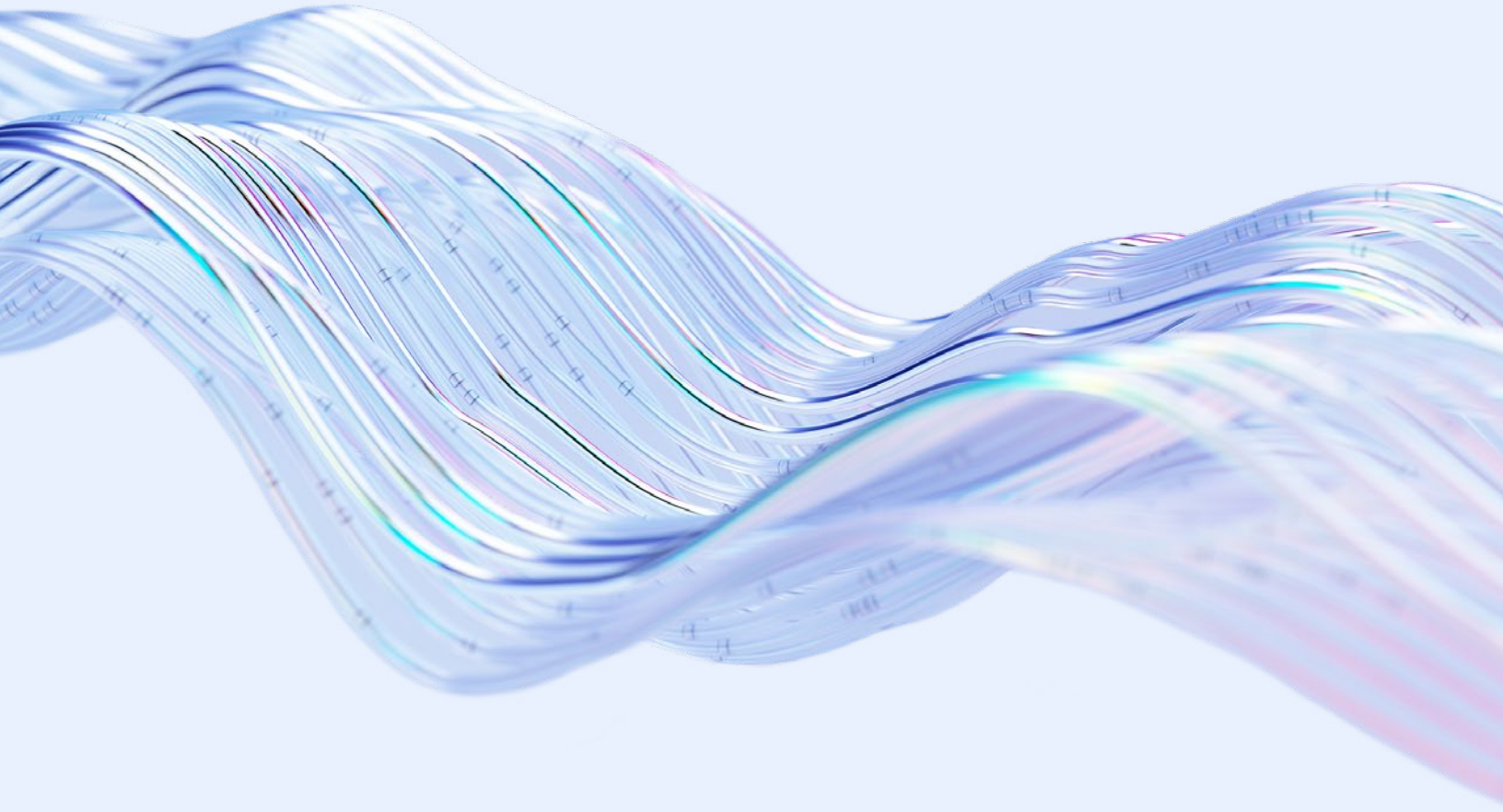
ACTIONABLE STEPS

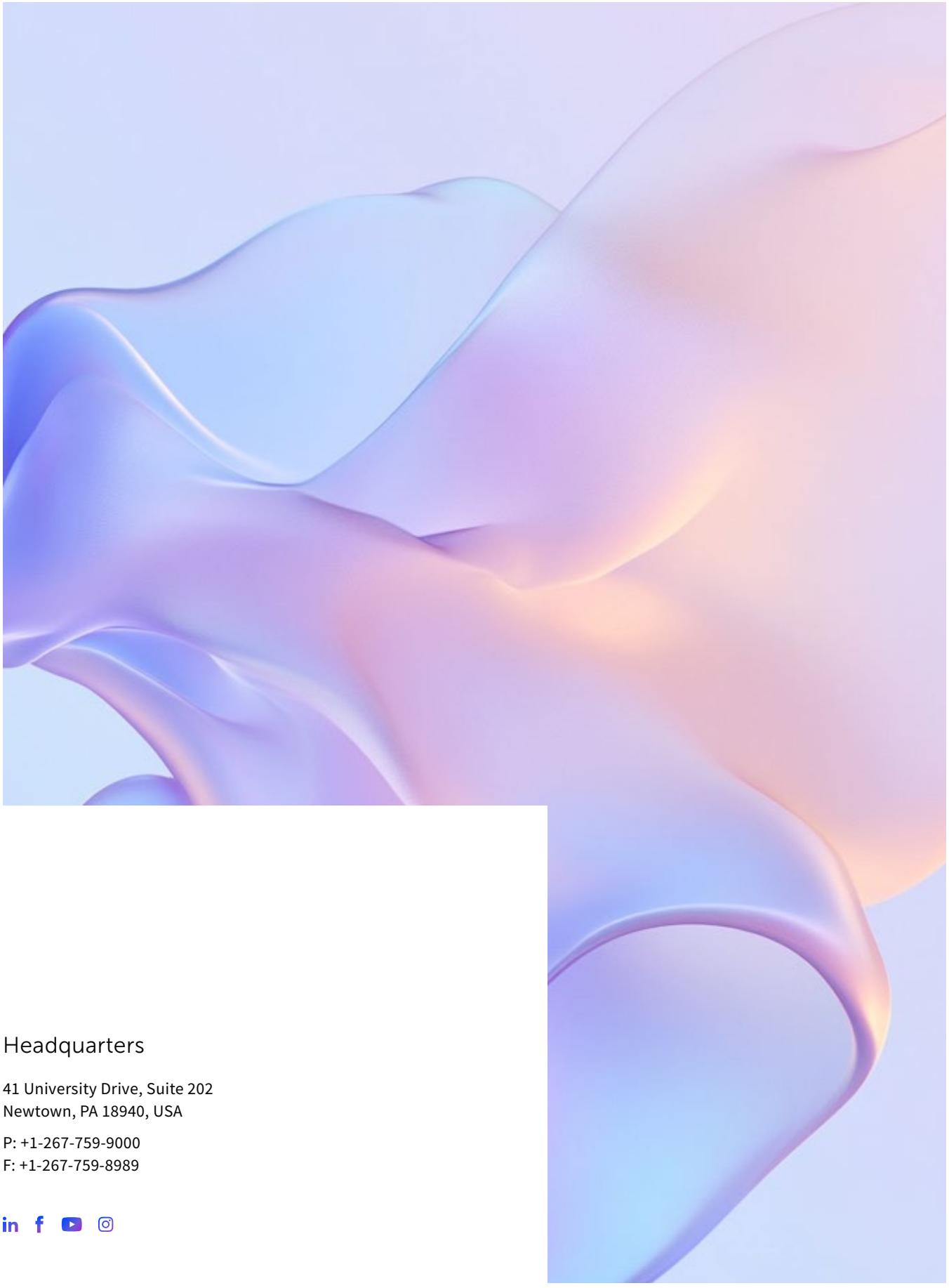
Prioritize use cases with clear business impact and ROI and with a potential to drive opportunities for both efficiency and effectiveness. Develop a target solution architecture that outlines how AI-native applications, integrated AI point solutions and embedded AI (e.g., package solutions) will coexist with existing technology applications to deliver end-to-end business value. Looking forward, define use cases where agentic AI (including multi-agent) solutions can solve for complex, binary process steps and reasoning for certain business tasks and activities.

Conclusion

Our global AI survey of the insurance industry underscores that while insurers are making progress in AI and GenAI adoption and implementation, challenges such as skill gaps, data quality, security and fragmented roadmaps persist. Thanks to AI's transformative potential, there is an urgent need for a strategic approach to accelerate adoption and demonstrate quantifiable business results.

By prioritizing leadership, organizational readiness, governance and strategic use cases, insurers can advance AI programs and build AI as a strategic competency and sustainable competitive advantage now and in the future.





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