



Xebia

Survey Report

The 2024 State of GenAI in Insurance

co-created by Xebia and the Camelot Network



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Years of AI in insurance: How Gen AI and LLMs Are Changing the Game

There are a plethora of papers and articles on the growth of the use of GenAI and, in particular, their potential in the insurance sector. This paper will identify common use cases and focus on the importance of execution and sustainability.

Insurance Industry: Years With AI

Analytics and automation have been the backbone of Insurance underwriting and pricing for many years. The use of artificial intelligence (AI) has enabled coders to progress this at pace on specific areas of the business using structured data sets and targeted rules-based decision-making. Immediate decision-making in claims for fraud analysis and liability decision-making have been in place for a number of years now, providing quick decisions and operational efficiency. Underwriters have also been aggregating labeled data and using AI to automate manual analysis routines.

New Horizons with GenAI and LLMs

GenAI and Large Language Models (LLM) are tools that help generate new data sets, process multiple scenarios, and create content. This content, designed by algorithms, can be used to deliver real-time responses to users (often end customers). These tools can assist underwriters in analysing extensive data sets and in formulating hyper-personalized propositions that precisely meet customer needs.

LLM's are types of machine learning models trained on large amounts of code and human language. They can now predict coding sequences and generate novel content using existing code or natural language prompts.



Use cases

Before we get into our survey results, there are already some basic use cases becoming prevalent in our industry and the emergence of proofs-of-concepts (PoC) to tackle the harder challenges that insurers have to face.

Underwriting

Generative AI (GenAI) has the potential to enhance the underwriting process if integrated into automated systems, by assisting in risk assessment and decision-making. AI models can analyze historical data, identify patterns, and suggest potential risks, which allows insurers to make more accurate and efficient underwriting decisions. While more development is needed for full adoption, those who are leaping into this technology are learning rapidly. We believe these firms are likely to achieve success.

Claims processing automation

GenAI can automate claims processing by extracting and validating data from claim documents, significantly reducing manual efforts and processing time. This technology can be practically applied through image assessment, automated evaluation based on historical data, and matching to coverage and risk factors, which speeds up processing during large-scale events. Although such methods are used today, the introduction of GenAI can enhance their effectiveness for both insurers and policyholders.

If designed correctly, efficiency could be boosted significantly, making for better experiences for customers and overall better service for even the most complex of claims.

Product development and innovation

GenAI facilitates product development and innovation by generating new ideas and identifying gaps in the insurance market. AI-driven insights help insurers design new insurance products that cater to changing customer requirements and preferences. For example, a travel insurance company can utilize GenAI to analyse travel trends and customer preferences, leading to the creation of tailored insurance plans for specific travel destinations.



Image and video analysis

GenAI can analyse images and videos to assess damages in insurance claims, such as vehicle accidents or property damage. Most insurers are adopting tools for car repair and total loss assessments, and the move into property and commercial property has begun. As above, this allows the insurer to provide the 'human touch' on the most complex cases whilst streamlining decision-making on damage in seconds rather than weeks.

Personalized insurance policies

GenAI enables insurers to create personalized insurance policies tailored to individual customers' needs and risk profiles. By analysing vast datasets and customer information, AI algorithms generate customized coverage options, pricing, and terms, enhancing the overall customer experience and satisfaction. For instance, an auto insurer can utilize GenAI to analyse a customer's driving history, vehicle details, and personal characteristics to offer a customized car insurance policy that aligns with the individual's specific requirements and behaviours.



Virtual assistants and customer support

GenAI-powered virtual assistants take the typical chatbot to another level. They provide real-time support to customers, addressing policy inquiries, claims status updates, and general insurance-related questions.

Risk modeling and predictive analytics

GenAI models can simulate various risk scenarios and predict potential future risks, helping insurers optimize risk management strategies and make informed decisions. Predictive analytics powered by GenAI also provides valuable insights into emerging risks and market trends. For instance, a property and casualty insurer can forecast weather-related risks in different regions, enabling proactive measures to minimize losses.

“I believe that the customer service area can significantly benefit from GenAI technology. At Xebia, we developed a PoC in the form of a chatbot for a client in the insurance industry. Our goal was to infuse their existing solution with a more human touch, thereby enhancing customer satisfaction. This GenAI-enhanced chatbot delivers responses that are customized to the unique circumstances of each customer rather than offering standard, generic answers. Additionally, it possesses the capability to continuously learn about the customer throughout the conversation. It was rewarding to witness the solid impact it brought, as we could feel the excitement from the technical insurance team all the way to the co-founder of the company.”



Caio Benatti
Data science consultant, Xebia



Survey results

Our industry-spanning survey set out to establish where companies were in their journey using GenAI capabilities and what specific problems they were tackling first.

Have you deployed GenAI in your business?

Whilst there are many emerging examples of how computing power and GenAI could change insurance fundamentally, many of our respondents were still in the PoC phase. 70% of respondents were trialing it in specific areas and/or at PoC stage in their journey, whereas 26% had not started their journey yet. Only 4% of respondents had it in production and they had plans to deploy it more widely.

Have you deployed GenAI in your business?

70%

Trialling via small, targeted areas or Proof of Concepts (POC)

26%

Not at all

4%

In play with further plans to deploy widely

What do you consider to be the biggest challenges in optimizing Gen AI??

56%

Data governance and data quality

30%

Building an effective business case

12%

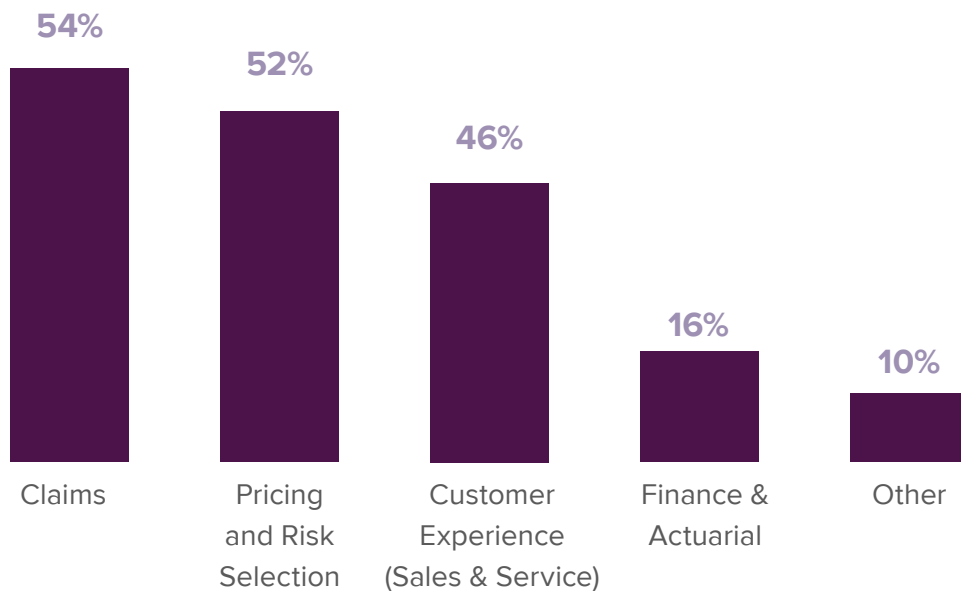
Customer reaction to and usage of capability

Data governance and quality were the most common issues cited as a major barrier to moving forward, with over 55% mentioning it.

The 30% who stated that the business case was proving difficult may have also had to resolve data issues before they could leverage the full value of their AI capability. In our view, data governance and quality should be the industry focus. Without it, they could be left behind over time.

Where in your organization has/will AI/GenAI have the biggest impact in your view?

The deployment areas were as expected in pricing, risk selection, service, and claims. These have been the areas most developed in applying analytics to decision-making, and it is natural to see GenAI PoCs developed in these areas. 16% of respondents were seeing activity in finance and actuarial, which provides some hope that there are leaders out there asking GenAI and their LLMs to answer complex questions for their business.



Where in your organisation has/will AI / Gen AI have the biggest impact in your view? (Multiple selection allowed)



Have the results of investing in GenAI in your company justified the investment?

Over 50% stated that it was 'early days' in their activity and too early to predict results, whilst the 8% that were seeing good results already had plans to deploy more widely within their organization. Disappointingly, 14% were seeing that the investment was outweighing the benefits at this stage. Though there was no indication that they were stopping their PoC activity, a 'short-term' mindset could thwart some of the urgent investment needed to address more fundamental issues in these businesses to compete over the longer term.

Where you have deployed AI / Gen AI have the results outweighed the investment?

50%

Early days but so far so good

8%

Good results with further potential
OR results as expected

14%

Investment currently outweighing
returns

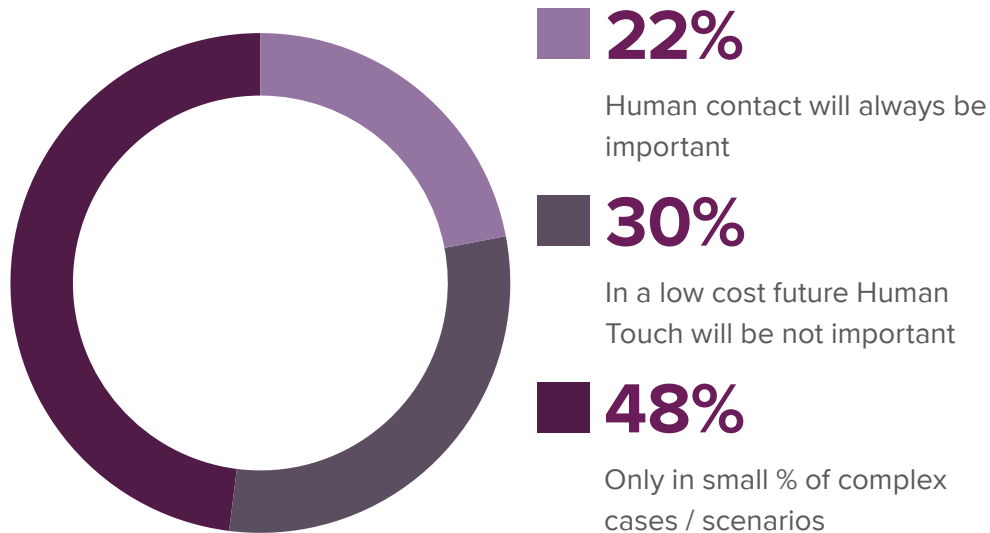
28%

Not specified or investment not
executed



How important will human contact be in the future if customers are happy to be supported by significantly better self-service capability (supported by GenAI)?

Despite the relatively gradual implementation of GenAI amongst our respondents, almost 30% predicted that in a low-cost future that human touch will not be important, whereas 48% expected human touch will only be needed in the most complex of cases. The vision is there, but the application, from our respondents, still needs working through in the majority of cases.



Does your organization have a clear view on how to approach the ethics surrounding Gen AI?

82%

“dont know” or “No view at all”

16%

“Emerging thoughts via Ethics (or similar) committee”

Does your organization have a clear view on how to approach the ethics surrounding GenAI?

Almost all of the respondents were not aware of their ethical position on this subject, or they recognised that they were still emerging.

Moving forward during PoCs, this should not be looked at as a barrier to progress. As advanced tooling and decision-making have a bigger impact on the performance of the business, it will be critical for organisations to understand and abide by the conduct they have set for their customers in line with regulation.

Regarding projects leveraging GenAI, over the next 1-3 years how are you planning to deliver these and develop competencies?

38%

With external partner

58%

We will establish a Center of Excellence (CoE), or provide internal training for future engineers working on GenAI-based projects, or otherwise deliver and develop these skills internally

4%

Don't know



Beyond the Hype to Effective Problem Solving



Over the past year, we have observed significant advancements in the capabilities of GenAI models. These models now surpass our earlier assumptions, offering advanced functionalities in text analysis, information summarization, data categorization, extracting key insights from large data sets, and text generation.

Choosing the Right Use Case

However, GenAI is not a silver bullet for every problem. The reliability of data generated by LLMs is still far from perfect, and their processing speed can be a hindrance. This is precisely why Xebia has developed a framework to support companies in finding the right use case. Our framework supports clients in aligning solutions with their company values, assessing the potential impact of the solution, and evaluating the technical feasibility of its successful implementation. We also support them during the PoC phase and prototype development; within 2-4 weeks of design sprints, they receive insights into the technical feasibility of the project, gather user feedback, and are able to demonstrate the project's business value.

Dealing with GenAI Hallucinations

There are methods to minimize the risk of GenAI hallucinations. Besides certain technical solutions, we use Retrieval Augmented Generation (RAG) for cross-verifying results with external sources. Building solutions that always cite the data sources for their responses also enhances credibility. Adding an extra layer of reliability can be achieved by keeping a human in the loop.

Challenges in Implementation

The biggest challenge for companies implementing GenAI is ensuring data availability. Imagine a big insurance company wanting to enable customers to interact with a GenAI-based chatbot, allowing them to ask about their customer history, purchased policies, filed claims, and the personal data processed about them. To accomplish this, a company would need to make all such data available to the LLM model, which is an impossible task for many large companies.

Our Experience

At Xebia, we've helped numerous customers develop GenAI PoCs. In the insurance sector, we enhanced a chatbot to answer customers' policy-related questions using their documents (for example, "Does my policy cover me when driving abroad?"). For a pharmaceutical firm, we built a chatbot to help patients search their database for information such as prescription instructions and provide answers to their questions in simple and understandable language. We also created a solution for a pension fund management company that enables rapid information extraction from a wide range of documents, eliminating the need for lengthy dataset creation and traditional machine learning training.

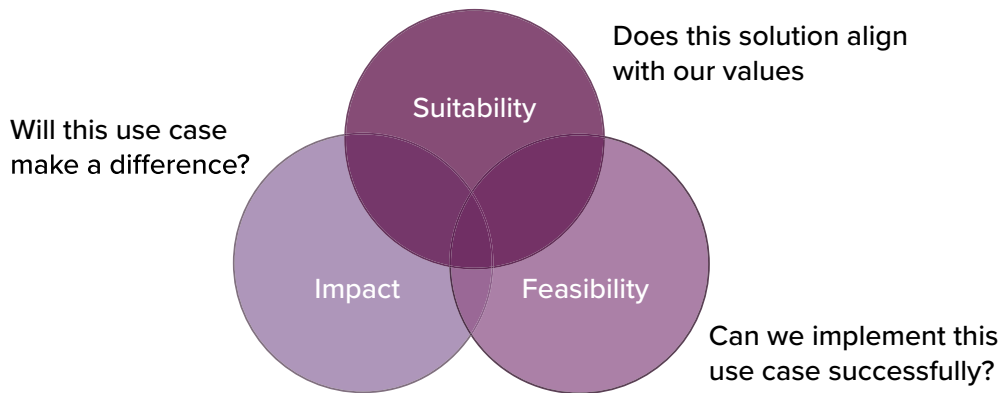
Data infrastructures are key to enabling business change. Xebia has created data platforms and pipelines for more than twenty years and can help you bring the GenAI revolution to your company. We offer a Maturity Scan, Data Roadmap, Data Engineering, Machine Learning, as well as NextGen Analytics (BI) Assessments, leading to a plan for a solution to harness the power in your data.



A Checklist to Building GenAI Solutions with Success

Though having tremendous upside, GenAI is not a perfect elixir that can solve every problem. In some cases, it will be an excellent solution that streamlines work and speeds up processes, but there are also cases that should be avoided.

In implementing GenAI projects for its clients, Xebia ensures that three important questions are answered before beginning work:



Does this solution align with our values?

We check a project’s aims against our organization’s mission, vision, and strategy, and additionally complies with regulations, principles of Trustworthy AI, and safeguards against biases outlined in the checklist below.

1 – Strategy	<ul style="list-style-type: none"> ○ Mission & Vision ○ GenAI Policy 	How does the LLM use case fit into and enhance the organizational strategy? Is it in line with the organizations policy of using Generative AI?
2 – Laws & Regulations	<ul style="list-style-type: none"> ○ Current vs. Expected ○ Trustworthy AI principles 	What current and expected laws and regulations concern the LLM usecase? Is the usecase assessed against Trustworthy AI principles?
3 – User Perception	<ul style="list-style-type: none"> ○ Inclusivity & Fairness ○ Transparency 	Have we tested the model against bias? (e.g., racial, gender, age). Are there any demographic groups that are excluded from using the solution by including the use of GenAI? Does our end-user want to interact with a GenAI solution?

Will this use case make a difference?

To prevent a situation where the investment in GenAI outweighs the results, it's crucial to ask questions such as which KPIs will improve (and by how much), how long will it take us to build a PoC, and how much might the final solution cost.

1 – Value type	<ul style="list-style-type: none">○ Faster○ Better○ Cheaper	How is the usecase generated business value? What KPIs are improved by how much? How will the value-type be measured?
2 – Measure	<ul style="list-style-type: none">○ Validate	What should you measure to assess the quality of the solution and validate the business case? principles?
3 – Cost	<ul style="list-style-type: none">○ Build○ Run○ Improve	How much does it take to build a first solution? What about the run costs once it goes live? Have we factored in the engineering costs required to maintain and improve it?
4 – ROI	<ul style="list-style-type: none">○ Expectations	How fast should the usecase be valuable? What are the expectations from the business? Are these realistic?



Can we implement this use case successfully?

GenAI is capable of much more than the technologies that came before it, but it also has its limitations related to response time and data reliability. When considering feasibility, we consider whether a standard model vendored via API should be used, or tune our own model.

1 – Level	<ul style="list-style-type: none"> ○ L1 – Just a Prompt ○ L2 – RAG (Retrieval Augmented Generation) ○ L3 – Agents 	Agents chain multiple prompts resulting in a compounding effect of errors, which negatively impacts reliability.	5 – Task	<ul style="list-style-type: none"> ○ Specific ○ Open-ended 	UI's, metrics, and output validators are easier to make for specific tasks as opposed to generic assistants.
2 – Deployment	<ul style="list-style-type: none"> ○ Batch ○ On Demand 	Latency of LLMs is slow, the faster a response is required the less feasible a use case is.	6 – Model	<ul style="list-style-type: none"> ○ Vendored via API ○ Open Source ○ Tuned models 	Easier to get started when consuming a standard model via an API.
3 – Automation	<ul style="list-style-type: none"> ○ Human in the Loop ○ Fully Automated 	Reliability, of LLM outputs is far from perfect. Riskier use need a higher accuracy to go Fully Automated instead of Human in the Loop.	7 – Data	<ul style="list-style-type: none"> ○ Public ○ Company sensitive ○ User sensitive 	Terms & Conditions for using off-the-shelf models should be carefully read. Tuning should only be done on public or company specific data.
4 – User	<ul style="list-style-type: none"> ○ Internal ○ External 	Responsibility is easier with internal users. You can reach them more easily. And they are less likely to abuse your service.			

Survey Methodology

Our survey gathered insights from 50 individuals. About 48% occupy high-level C-Suite positions, such as Chief, Head of, or President. Another 42% are in middle management, and the remaining 10% are in areas like sales, marketing, claims, or otherwise unspecified roles.

In terms of the organizations these individuals are part of, 62% work in insurance companies, 22% work with insurance brokers, and 8% are associated with MGA firms. The remaining 8% either didn't specify their organization, or are employed in other types of companies.

As for their experience in the insurance industry, 68% have been in the field for over a decade. 20% have 6-10 years of experience, and 12% have five or fewer years of experience.

About Xebia

Xebia is a leader in the digital transformation arena, serving top 250 companies worldwide with end-to-end IT solutions. The company has experts specializing in Technology Consulting, Software Engineering, Product Development, Data & AI, Cloud, Low-Code, Agile Transformation & DevSecOps along with Quality Assurance. In addition to high-quality IT Consulting & state-of-the-art Software development, Xebia has a host of Standardized Solutions that substantially reduce the time-to-market for businesses. Xebia also teaches what it practices through its Academy offering, which trains modern companies to fulfill their need to work better, smarter, and faster.

Xebia's services include in-depth analysis of customer requirements, technology consulting, solution architecture, and providing software development and solutions to drive end-to-end digital transformation. The company currently operates from 24 offices spread across the US, Canada, Colombia, the Netherlands, Spain, Poland, Switzerland, the UK, Nordics, Dubai, India, Vietnam, Australia and Singapore.

Find more information on how Xebia is driving innovation at xebia.com.

A man with glasses is working on a laptop in a modern office setting. The background features digital overlays and a blurred office environment. The Xebia logo is visible in the bottom right corner.

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