

NOT IF, BUT HOW

Munich RE 

# Accelerate your AI journey

A structured approach for  
insurers to accelerate ideation  
of Generative AI use cases

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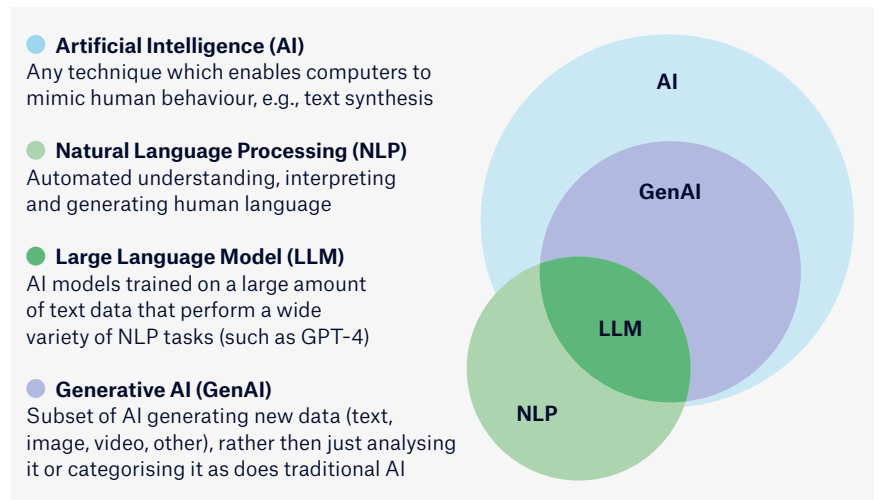


# 1 Intro

Insurers have analytical minds. The hype around ChatGPT has quickly subsided, giving way to focused efforts. Our industry recognises that Large Language Models like ChatGPT and, more broadly, Generative AI, are powerful – especially in our environment dominated by data, analytics and modelling. Generative AI will have a significant global economic impact – potentially surpassing the internet’s impact. It has the potential to create US\$ 2.6–US\$ 4.4 trillion annually (Source: McKinsey “The economic potential of Generative AI”).

Generative AI models come in all shapes and sizes with different purposes but have one thing in common: they generate new content with never-before-seen realism and accuracy, rendering otherwise established manual processes obsolete. Pictures, text, software code, music, 3D objects – the possibilities are endless and so is the impact on the insurance industry.

Generative AI has the potential to automate and thus speed up operational processes and lower costs significantly. New levels of personalised customer service and consulting that were science fiction just a few years ago are now possible. Strategically implemented, Generative AI will enhance customer experience, risk management and massively drive industry growth in the coming years.

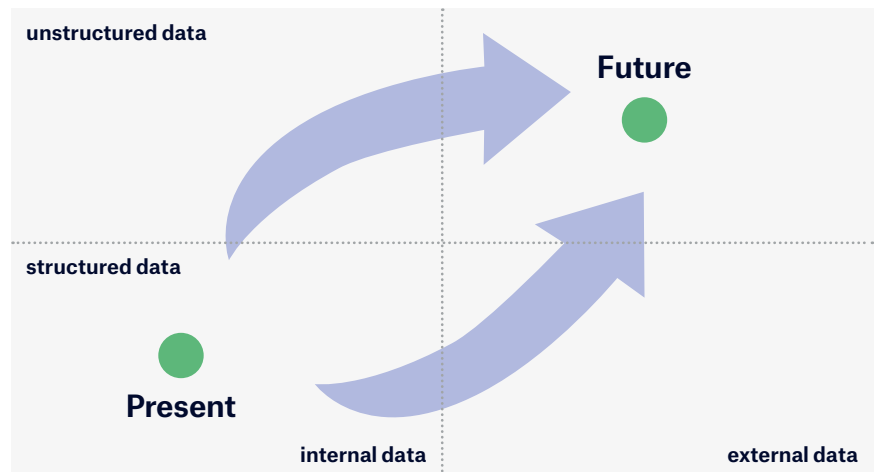


Especially Large Language Models, which are a subset of the Generative AI space specialising in language, have seen rapid development in recent years. Their human-like ability to understand and generate unstructured data such as human language and any other text-based content has left few people in doubt that this will change knowledge work forever. It is not enough to watch this dawn closely. That’s why Munich Re’s latest Tech Trend Radar specifically expressed that insurers should enter the trial phase for Large Language Models and Generative AI. Even before the launch of ChatGPT, digital players in the industry had begun building use cases around Large Language Models, including underwriting, fraud detection and claims processing. Now, at the latest, all insurers must explore and experiment with Generative AI models for competitive reasons.

### Where does Generative AI make the key difference?

Historically, AI models classify and distinguish data, like marking an insured person's name in a document. However, the emergence of Generative AI has shifted the paradigm. These new models do more than identify; they deeply comprehend the underlying patterns and intricacies of data, enabling them to reproduce it in creative ways.

The advent of Large Language Models marks a significant leap in this direction. Including more and more data into the models, they are trained on more and more text (unstructured and external data), leading to richer insights and outputs based on the learned knowledge. For industries like insurance, this means transforming traditional processes. Instead of just dealing with internal unstructured or external structured data, AI now informs and generates, providing a depth previously unimagined, based on external unstructured data. This evolution has particularly enhanced areas like code generation, bringing about both efficiency and innovation in automation.



### Implementation

To safely unlock these potentials, the application of Generative AI must be adequately deployed to the task. The type of Generative AI application that is appropriate depends on data sensitivity, compliance classification, and the nature of the use cases and needs. These must be evaluated on an enterprise-specific basis.

- The deployment of Generative AI by using commercially available tools on non-sensitive data has a low entrance hurdle – thus can be implemented straightforwardly and data-compliantly by any company. Those applications are useful for answering ad hoc queries on topics such as market or customer trends, inflation trends, or general efficiency improvements. They help extract insights from Excel data and create meeting summaries.
- Sensitive data and intellectual property, on the other hand, must be handled differently in a prudent manner aligned with the level of protection to safeguard critical information while enabling efficiency.

In the future, it can be expected that AI will no longer feed on just one model, but rather it will require a system of models that must be intelligently orchestrated. This is where combining suitable technological solutions with individual domain expertise may create a competitive advantage.

### How do insurers accelerate ideation for Generative AI use cases?

Companies seek to develop a Large Language Model landscape rapidly and structurally. Insurers should define unique use cases for Generative AI to leverage strengths and reduce operating costs.







Munich Re's experts started using AI and implementing an NLP strategy early on. The Munich Re Group has been investing in advancing the knowledge of all colleagues on AI and data analytics for years. Munich Re has identified use cases for Generative AI/Large Language Models for its own business development.

→ In this document, we present a framework for a structured Generative AI use case ideation and hope to inspire you on how to accelerate the AI journey in your own organisation.

## 2 Domains to explore Generative AI

### The main challenges – where to begin?

Generative AI holds enormous opportunities for insurers along the entire value chain – from strategy, product design and marketing to pricing, underwriting and operations. The task of identifying use cases can seem overwhelming, and practitioners may feel they are overlooking relevant use areas for Generative AI. We have thus identified six core ways Generative AI can provide benefits: create, simulate, transfer, modify, enhance and reduce.

 <p>Create</p>	 <p>Transfer</p>	 <p>Complement</p>
<p>Creating original, custom synthetic data, text and media</p>	<p>Translating input from one medium into another while preserving content</p>	<p>Restoring or enhancing input</p>
 <p>Simulate</p>	 <p>Modify</p>	 <p>Condense</p>
<p>Testing a system or environment in order to predict actual behaviour</p>	<p>Modifying the content or characteristics of the input</p>	<p>Filtering the essence of the input</p>

We used this classification to streamline our own ideation process and invite insurance practitioners to use it as a source of inspiration and a guideline for their own strategy workshops or brainstorming sessions. In the following sections, we will detail each benefit area and provide use cases to deepen understanding of the potential of Generative AI.

## 2.1 Create

Perhaps the most impressive function of Generative AI is the creation of new content like text, audio and video, based on given instructions (e.g. a prompt for a Large Language Model). The type of generated content depends on the respective training data. Thus, a Generative AI model trained on a large quantity of insurance documents can generate new insurance-specific texts.

### Use case inspiration

**Claims communication:** Generative AI can produce individualised documents and automate a big part of the claims communication. Not only will the processing be faster, but customers benefit from smooth, guided communication.

**Primary insurance wording drafts:** Leveraging Generative AI can simplify the complex task of drafting insurance policies. With the right inputs, AI can produce clear, compliant and tailored wordings for various policies, ensuring regulatory adherence and customer-centricity.

## 2.2 Simulate

Generative AI learns from past data about how objects and systems are affected by time or changes in the environment and can simulate future or not yet existing scenarios. The capacities of AI applications go beyond simple statistics. By analysing millions of data, the AI models discover hidden influencing factors in data sets and can generate much more accurate prognoses than human analysts can. This eliminates the need for experiments in physical environments and producing prototypes, helping insurers save costs and streamline processes.

### Use case inspiration

**Customer conversation:** Simulating customer interactions and scenarios allows insurers to anticipate potential outcomes and optimise customer service strategies. By inputting various scenarios and variables, Generative AI can predict likely customer responses and aid in designing more effective communication strategies.

## 2.3 Transfer

Generative AI data models can be trained to understand the relationship between data in different formats and transform one into the other without changing the content, for example transfer text to audio or audio to video. It's an easy way to reach more people and present messages according to different consumption preferences. The time-consuming production of multimedia content can be reduced to just writing a script and giving the AI application some additional directions.

### Use case inspiration

**Agent training:** There is a growing number of platforms based on Generative AI, allowing users to upload text and transform it into videos. This can significantly enhance training for insurance agents, e.g. for practising real-life situations. Instead of relying on text-based online courses, they can converse with an AI-based avatar, allowing for a much richer experience as the avatar can display mimics, gestures and facial expressions.

**Claims visualization:** Pictures offer a very limited view of a damaged object. AI models are able to transform several pictures or a video into a realistic 3D visualisation and thus allow insurance agents to get a better picture of the damage and discuss the claims on a more solid base.

## 2.4 Modify

Generative AI can modify existing content. Details in pictures or videos can easily be blurred or replaced with artificial information. The modification capabilities offer a broad range of valuable use cases in data protection or accessibility.

### Use case inspiration

**Accessibility:** Insurers can adjust insurance documents for different target groups, making them more inclusive, e.g. by offering documents in simple language.

**Data protection:** AI applications can anonymise personal information in text, video and photos, ensuring compliance with regulations.

## 2.5 Enhance

Generative AI models learn by comparing different attributes of given input data. With enough training data, AI tools are able to complete or enhance given content. They not only improve written documents but also fill in missing pieces of audio or video in a logical way. There are lots of use cases in insurance where content was destroyed or went missing, or quality of content shows room for improvement – instead of perfecting or reconstructing content in hours of work, Generative AI is an ideal tool to shorten and simplify the way to success.

### Use case inspiration

**Claims processing:** If claim documents or pictures are of poor quality, they can easily be restored. Unreadable passages of text or unidentifiable parts of pictures can be enhanced and streamline claims processing.

**Marketing:** AI can assist in copywriting and editing, enhancing marketing materials for better clarity and style.

## 2.6 Reduce

As Large Language Models allow Generative AI to understand language on a meaning level, AI applications can condense large amounts of information in text, video or audio. In an era of rapidly expanding data, it becomes economically essential to retain only the most crucial data, reducing costs and facilitating informed decision-making.

**Underwriting:** Underwriters must evaluate voluminous documents (contracts and correspondence, court rulings, etc.). Generative AI using natural language processing can drastically shorten the research by filtering out key statements on files and making them available to the underwriter in a central assessment document.

**Data compression:** Insurance companies process and store an increasing amount of data. Generative AI can compress data in a way that is superior to traditional methods and formats, i.e. zip files, and thus help reduce storage and processing power.

## Deep dive: Large Language Models

### Additional benefit: Answer

Uniquely distinguishing Large Language Models from traditional Generative AI is the ability to answer in an enriched natural language format. Large Language Models are far more than algorithms producing outputs; they simulate conversational partners. Their unparalleled prowess in engaging in natural, human-like dialogue is attributed to the extensive training on a mass of written knowledge. This seamless integration of conversational flow and vast information access fundamentally reshapes real-time data querying and makes the power of AI also accessible to non-AI experts (democratization).

### Use case inspiration

**Customer support:** If Large Language Models are trained on guidelines for customer support and are connected with CRM data, they can enhance smart chatbots by answering a large proportion of customer queries about products, current contracts and the processing status of claims and thus relieving staff in customer support.

**Terms and conditions Q&A:** Dense insurance wordings often leave customers puzzled. With the prowess of Large Language Models, key terms and obligations are quickly highlighted. More than mere summarisation, Large Language Models can interpret and answer client questions, ensuring clarity and confidence in understanding their policies.

### Outlook: Orchestration with Large Language Models

In the future, Large Language Models can act as interfaces by “answering” questions. Beyond isolated functionalities, the future sees AI leaning on a harmonised orchestration of multiple models. Large Language Models can seamlessly integrate structured internal data, diverse internal and external machine learning models, and intricate internal APIs. This microservices approach amplifies decision-making and refines processes.

Designed for unparalleled accessibility, Large Language Models transform complex processes into enriched interactions, offering holistic solutions. The balance between versatile foundational models and specialised ones tailored for specific use cases becomes crucial.

As insurers strategically integrate models and diverse data sources, they position themselves at the forefront of innovation, augmenting adaptability and emphasising customer-centricity. This orchestrated deployment of Generative AI is set to redefine industry processes, elevate experiences, and catalyse growth, offering insurers a definitive competitive edge.



## 3 Insurers' path towards Generative AI

### Examples from the Munich Re Group

Munich Re has created an internal platform to use language models in a cost-effective and fully data privacy-compliant way. Hosted internally, a set of compact pre-trained language models (NLP) implement specific requirements. They enable data to be processed, interpreted and acted upon in natural language, covering tasks such as machine translation, text generation, sentiment analysis and information extraction. It is also feasible to improve and speed up risk assessments as well as claims processing, or enhance underwriting models by incorporating current information from publicly available media.

Just to name three specific projects: an AI-controlled chatbot retrieves natural language information and thus provides fast, targeted answers in the interaction of insurance agents with our CyberSalesKit. Our life colleagues designed augmented underwriting and launched the cloud-based AI platform PREDICTOR in Asia. Our digital underwriting and product-building platform REALYTIX ZERO enables underwriters – supported in the latest version by an AI co-pilot – to describe and then create their own insurance products in natural language, without any programming skills of their own.

With over 80 AI use cases, ERGO also has great expertise in the field of artificial intelligence (AI) and in the use of language models and rule-based language assistants. The ERGO Advanced Analytics and AI unit, for example, uses Large Language Models to classify and extract information from documents. ERGO's Conversational AI unit has been designing AI-based voice assistants (e.g. Phonebots) for customer service since 2020 and is working on further cross-divisional solutions for the use of Large Language Models at ERGO. In addition, ERGO uses language models to improve its own AI algorithms as part of its data protection-compliant ERGO AI Factory.

## 4 Outlook

Generative AI is here to stay and is poised to dramatically reshape our daily lives and the insurance industry. Now is the time for insurers to explore opportunities and ideate use cases shaping their own business model in a conscious, focused and responsible way. In order to balance the interests in an advantageous way, three perspectives on the change process can be helpful.

### → For the insureds

Over a quarter of private customers in Germany, particularly younger, well-educated individuals with higher incomes, are open to AI adoption, with this number expected to rise. (Survey by the Institut für Transformation und Weiterbildung in der Assekuranz). Trust is strengthened with transparent explanation of why, where and according to which ethical standards AI is used and what impact this has for the insured.

→ **With the team**

Expertise related to Large Language Models and AI needs to diffuse as much as possible – throughout the organisation from management to the team of experts and across the entire value chain. Underwriters and actuaries will be significantly upskilled – combining with their domain knowledge is critical to succeed in developing an AI approach. New requirements from new technologies should turn quickly into a working best practice within the company.

→ **Built on data strategy**

In the target picture, data and AI systems should improve risk understanding, expand insurability, and create an even stronger foundation for insurance along the value chain. Based on a solid data strategy, AI system developers must be aware of the assumptions, weaknesses, and limitations of data, as well as of the technology that creates insights.

Generative AI is ushering in new opportunities for insurers across the value chain – reshaping insurance processes, customer experiences and business models. The rise of Generative AI has been rather sudden, however, it will require some time for insurers to tap into its full capabilities and potential.

Munich Re has started its own Generative AI journey. Munich Re has named six core ways in which Generative AI can provide benefits as a rough orientation framework for the ideation process: create, simulate, transfer, modify, enhance and reduce. We share our simplistic approach and some examples with the intention that it may provide initial anchor points to help guide development in other insurance organisations.

Any feedback and conversation about how such ideation processes can be guided differently, more creatively, or more result-oriented will be welcome.

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