

Artificial intelligence penetrates all areas of daily life and the business world. The (re)-insurance industry will be affected in all areas

## Artificial Intelligence

Artificial Intelligence (AI) aims at building intelligent entities which imitate human intelligence. The main areas of AI are knowledge representation and reasoning, perception, linguistic ability and machine learning. AI is increasingly adopted across many industries and will have a huge impact on business strategies and success, new products and customer expectation.

Existing examples for insurance applications are chatbots or product recommendation systems.

A chatbot is a computer program that allows users to conduct a conversation via speech or text. The computer program replies to the user within milliseconds because the rules of the communication are predefined. In contrast to call centres, chatbots can handle large amounts of user requests and can respond in real time. One possible application scenario is a FAQ chatbot that answers frequently asked questions from customers so they are not required to chat with a call centre agent.

A product recommendation system seeks to predict and show the items a user would like to purchase. AI algorithms allow insurers to analyse individual clients, their habits, likes and dislikes, claims history and of course their financial behaviour. They can draw conclusions quickly of how to engage with them and which products they are likely to purchase.

There are also several challenges for the (re)-insurance industry resulting from AI.

For Artificial Intelligence to change business, it needs to be fuelled with quality data. Even machine learning and deep learning technology – which can make decisions and adjust their actions without explicit programming – need exposure to data in the first place. These require data to be both carefully selected and meticulously prepared. Another sometimes even more critical issue is data bias. The problem of bias in machine learning is likely to become more

significant as the technology spreads to critical areas like medicine and law, and more people without a deep technical understanding are tasked with deploying it.

Some experts warn that algorithmic bias is already pervasive in many industries, and that almost no one is making an effort to identify or correct it.

Several initiatives and projects work on automated underwriting and claims handling systems. Main issues in this field of AI application are data quality, data security and compliance with regulatory implications. The new EU General Data Protection Regulation (GDPR) requires meaningful human interaction during otherwise solely automated processes. According to the GDPR rules insurance applicants have the right to receive a decision not solely based on an automated decision.

Artificial intelligence is commonly sold as a method which automates whole processes. After an evaluation phase, people can be disappointed that AI cannot automate the whole process completely error-free. Hence, one should set the right expectation - AI will not replace all human labour in all processes. In most cases, it automates or optimises a part of a process to free resources to subtasks which require more human intelligence. To find the right balance between automated and human processes is a major task while implementing AI processes.

Underwriters have to deal with a changing risk landscape related to AI applications. To understand the combined effects of several technologies and their contribution to the overall risk is a major challenge for (re)-insurance underwriters. The evolving environment will lead to exposures that are more complex.