

CASE STUDY

**140 YEARS OF DATA  
AVAILABLE DIGITALLY  
AND IN REAL TIME**

Data Operations at Munich Re

**[at]**

alexanderthamm

## CASE STUDY

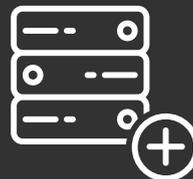
140 years of data available digitally and in real time



Standardization of pipeline development



Professionalization of Data Operations



Expansion of AI-supported data management

**Data operations - This is how Munich Re professionalizes data lake operations and develops data pipelines together with Alexander Thamm GmbH.**

Munich Re is one of the world's leading reinsurers. Practically no other company has more risk information at its disposal than the Munich-based company. Munich Re has developed a data lake to collect this knowledge in a central location and enrich it with additional data. Internal and external systems were connected via data pipelines in cooperation with the data science and AI consultancy firm Alexander Thamm GmbH. Currently, data operations are undergoing further standardization and streamlining so that data pipelines can be line-produced in the future. Data from internal departments and external customers is "pumped" into the data lake via these pipelines and data analysis services are made available.

As one of the leading providers of reinsurance worldwide, Munich Re assumes a share of the risk for primary insurers and advises them on their insurance business. In the course of its 140-year history, Munich Re has generated an enormous amount of data. This includes data covering natural disasters, climate, real estate, and medicine, but also in-depth information on cybercrime. The objective of the data lake was to use this information to gain a better understanding of risks as well as the ability to provide new analytical or data-driven services to primary insurers. To achieve this, the data had to be collected at a central point and data sources had to be connected to the system. "We are in possession of a unique treasure trove of risk data. To leverage this, we have migrated our previously decentralized data into a data lake," explains Andreas Kohlmaier, Head of Data Engineering at Munich Re. A data lake is an exceptionally large data store distinguished by the fact that it stores data in its original raw format. It stores data from a wide variety of sources, regardless of whether the data consists of text, numbers, images, or videos. The data lake obtains the content via data pipelines. To develop and operate these pipelines, Munich Re worked with Alexander Thamm GmbH, one of Germany's leading data science and AI consultancies.

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### Data engineers develop and operate data pipelines

To implement the project, Andreas Kohlmaier put together a ten-person team of his own experts as well as specialists such as Alexander Thamm GmbH. Data engineers are responsible for developing the data pipelines that can be used to transfer and transform data. A data pipeline establishes the connection from the source system, where the data originally resides, to the central data lake. It extracts data from different systems, verifies its quality and adjusts and transforms it before storing the information in the data lake. This enormously reduces the time required for the exploration, preparation and summarization of data and makes comprehensive data analyses feasible altogether.

Data pipelines can be designed in many ways - their potential ranges from the relatively simple transfer of structured insurance data to the AI-supported processing of satellite data. "Artificial intelligence already plays an important role in data management at Munich Re and will continue to grow in importance in the coming years," explains Kohlmaier.

As a result, Munich Re is working intensively on the topic of AI for data management application, so-called augmented data management. One concrete AI-supported use case at Munich Re is the creation of insurance-specific data pools for clients. Munich Re's AI was trained on countless thousands of different Excel sheets and has learned to extract exactly the right information and convert it into a standardized target format.

"This data pool has significantly more knowledge than a single insurer could ever accumulate. Munich Re offers its own data, the underlying technology and the insurance know-how and is therefore able to build pools for clients."



**Andreas Kohlmaier**  
Head of Data Engineering  
Munich Re

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## Standardization and professionalization of data operations

In the past, all data pipelines were individually programmed. The goal now is to build up to 100 new pipelines by the end of next year. "We were asked to develop a concept to standardize pipeline development, including DevOps and efficient analytics operations," explains Andreas Gillhuber, Co-CEO and, on behalf of Alexander Thamm GmbH, the leader of this project.

"In order for further scaling to be possible and costs not to skyrocket, appropriate processes and methods must be established."



Andreas Gillhuber  
Co-CEO  
Alexander Thamm GmbH

Costs can be reduced thanks to standardization and subsequent automation - keyword: economies of scale.

## Advancing digitalization further

"We have made a huge step towards our goal of providing our employees with the right data as efficiently as possible," Kohlmaier describes. Munich Re is already well advanced in the process of digitalization thanks to the new services and has thereby become a pioneer in the insurance industry. AI-supported data management, the efficient development of further data pipelines and the professionalization of data operations are only the beginning on the path to the ongoing scaling of the diverse, new digital services.

# The [at] Data Journey



We have used our experience from over 1.000 projects to develop a holistic system for data & AI projects - our Data Journey. A consistent data strategy forms the basis and the framework for generating real added value from data - we call it Data2Value. The Data Lab is all about speed! The aim is to test use cases as quickly as possible - from concept to prototype using real data. At the Data Factory, use cases are industrialized into finished products. The absolute focus is on scaling and the sustainable generation of added value - which is why the focus here also lies with the user. Our DataOps is where we operate and maintain your platforms and machine learning algorithms.

# About [at]

Alexander Thamm GmbH is one of the leading providers of data science and artificial intelligence in the German-speaking world. We generate real added value from data for and with our customers so that they can remain competitive well into the future. To do this, we develop and implement data-driven innovations and business models. The service portfolio covers the entire data journey - from the data strategy to the development of algorithms and the construction of IT architectures to maintenance and operation.

Contact **Andreas Gillhuber** or **Linh Nguyen** for a free consultation appointment.

## Your contact persons



**Andreas Gillhuber**  
Co-CEO  
Tel: +49 160 530 242 0



**Linh Nguyen**  
Insurance Expert for Data & AI Projects  
Tel: +49 176 434 422 72

or E-Mail:  
[contact@alexanderthamm.com](mailto:contact@alexanderthamm.com)