



Customer success story

Revolutionizing the approach for underwriting risk in specialty insurance

A leading insurer leverages generative AI and intelligent document processing to automate data extraction from complex documents, improving operational efficiency and driving business growth.

About the Customer

Our client is a market leader in global specialty insurance and reinsurance and underwrites across all major classes of commercial insurance, with a strong focus on property, casualty and energy business. A reputable and influential name in the Lloyd's Market, the insurer aims to help its clients thrive in a world of complex risk, by delivering innovative services that are open, honest and fair.

Customer challenge

The insurer receives around 30,000 submissions from brokers each year, providing information about the brokers' clients and the associated risk they would like to insure. Each submission consists of several multipage documents, with additional documents created during the negotiation process between the insurer and brokers. Altogether, the underwriting team handles more than 200,000 documents per year.

The records are received in a variety of formats—including emails, PDFs and spreadsheets—and primarily contain unstructured data that is difficult to consolidate and analyze for insights.

As a result, underwriters spend a significant portion of their time manually extracting key information from documents prior to writing risk. This process is not cost efficient, is prone to errors and limits the ability for the business to scale up and meet its growth plans.

We helped the insurer implement an AI-driven intelligent document processing (IDP) solution, which could automatically extract key information from received documents. This solution needed to mine industry-specific data points presented in multiple formats and rapidly combine it, making it ready for analysis. It also needed to be scalable enough to eventually support all classes of business.

AWS + Cognizant solution

Following an initial four-week proof of concept project to assess feasibility, our team designed and delivered the initial production-grade solution within six months. This first phase aimed to extract a set of 15 pricing data points for two classes of business. Over time, the solution was scaled out to additional business areas and was enhanced with generative AI.

We began by creating a secure AWS environment for the insurer, setting up AWS Control Tower for governance and implementing DevOps and MLOps processes to support solution maintainability and scalability.

An initial set of custom machine learning models was developed using Amazon SageMaker, with Amazon Textract and Comprehend supporting the extraction and interpretation of complex data points.

Once the initial solution was up and running, the team used Amazon Bedrock to enhance the natural language processing capabilities. This enabled improved data extraction, especially when dealing with industry- and broker-specific terminology and varying document formats, which were difficult for traditional models to interpret with the required accuracy.

We also created a user interface to allow underwriters to review the extracted data points and amend if necessary. This enabled a “human in the loop” process, with data points flagged for review based on a confidence score, and comments fed back into the models to improve accuracy over time.

Architectural attributes

Amazon S3, Amazon Textract, Amazon Comprehend, Amazon SageMaker, AWS Lambda, AWS Step Functions, Amazon SageMaker Ground Truth, Amazon Relational Database Service (RDS), Amazon Simple Email Service (SES), Elasticsearch, Amazon A2I, Amazon Bedrock

Outcomes and results

Overall, this highly strategic engagement helped the insurer shift from a document-led business to a more data-driven business, using intelligent document processing powered by AI to revolutionize the way underwriters operate.

This enabled significant operational cost savings and improved underwriter productivity. By drastically decreasing the time taken to process documents, the business was also able to reduce its time to quote, improving broker satisfaction and enabling the underwriting team to write more risk with the same workforce.

By enhancing the solution with generative AI, we were able to significantly improve the accuracy of data extraction, even for highly complex and varied documents. The project also delivered business-wide benefits, leading to insights and innovations that improved the accuracy of rating, forecasting, pricing and binding risk. This enables the underwriting team to write risk in a safer way, driving business profitability, improving the combined ratio and ensuring the business is future-fit.

About the partner

Cognizant (Nasdaq-100: CTSH) is one of the world's leading professional services companies, transforming clients' business, operating and technology models for the digital era. We engineer modern businesses to improve everyday life. Our unique industry-based, consultative approach helps clients transform technology, reimagine processes and transform experiences, ensuring businesses remain agile, relevant and ready to run more innovative and efficient enterprises.

With AWS as our partner, we focus on the outcomes that matter most to businesses and underpin our solutions with deep industry experience and market-leading IP. Cognizant brings more than 13,000 AWS certified professionals, dedicated AWS certified consultants in 43 countries, hundreds of customer launches and successes, and more than 70 transformational blueprints to drive innovation beyond cloud migration.

As a premier consulting partner, Cognizant holds numerous AWS competencies, including AWS Mainframe Migration, AWS SAP, AWS Migration, AWS Financial Services, AWS Healthcare, and AWS Life Sciences. Partner programs include AWS Well Architected, AWS Managed Service Provider, AWS Marketplace Seller, AWS Solution Provider Program, and AWS Public Sector Solution Provider.



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