



Structured AI Retrieval for Complex Regulations

SUMMARY

A leading crop insurance provider needed a faster, more consistent way for underwriters to navigate a large and continually changing body of regulations stored primarily in unstructured documents. Traditional searches required significant subject-matter expertise, while early AI approaches struggled to distinguish between highly similar policies and regulations. Source Allies developed a custom AI solution to improve access to trusted information and support a rapidly expanding user base.

APPROACH

Our team moved beyond basic vector search to create a retrieval architecture designed for complex regulatory content. The solution combined improved document structure and search techniques with continuous evaluation to increase accuracy and support long-term performance.

- **Structured Document Processing:** Cleaned and organized complex source documents while extracting metadata to improve how regulatory information was identified and retrieved.
- **Advanced Retrieval:** Combined keyword and vector search with metadata filtering and self-querying to distinguish between similar regulations across crops, policies, and locations.
- **Continuous Evaluation:** Built evaluation tooling that compares responses against subject-matter-expert answers and tracks accuracy over time.
- **Designed for Scale:** Built a scalable, modular architecture supporting multiple regulatory data sources with automated document ingestion to reliably support growth from 50 internal users to 5,000 external agents.

SOLUTION

Source Allies built a custom Retrieval-Augmented Generation solution that turns complex crop insurance regulations into accessible, cited answers. Rather than relying on vector search alone, the system uses structured document processing, metadata, and multiple retrieval techniques to find the right information before generating a response. Built-in evaluation continuously measures answer quality, while a scalable, modular architecture and automated ingestion made the platform's rapid user growth possible.

Results

800%

Improvement in
answer accuracy

95%

Lower operating costs vs.
comparable off-the-shelf
solutions

100x

Increase in supported
user base

3x

Faster chat
response speed

20x

Faster evaluation
processing