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## CASE STUDY

# Getting Ahead of the Curve on Data Quality

Incomplete or inaccurate data assessment can bias model results. In our latest Illustrate case study, we look at how RMS worked with Securis to enhance the quality of its cedant-provided data

Securis Investment Partners, a leading insurance linked securities (ILS) manager, is committed to ensuring best-in-class analytics throughout the business. As part of this, the private non-life origination team wanted to understand how the latest exposure data augmentation tools and techniques could be used to enhance quality of cedants' underlying exposure data, and what impact this could have on their risk selection and pricing strategies.

"Catastrophe model output is still the common language of risk for risk transfer," says Paul Wilson, Head of Non-Life Analytics at Securis. "This was an opportunity to explore the value of assessing and potentially investing in augmenting the data we receive."

In 2019, Securis commissioned the RMS Consulting Team to analyze and enhance some of their cedant data and come up with practical recommendations for improving their data assessment processes.

## DATA QUALITY ASSESSMENT

To understand Securis' cedant data, RMS ran a series of data quality analytics across all portfolios to assess the data for both completeness and accuracy. The RMS data quality analytics are informed by the catastrophe models and score the data based on the impact that unknown or inaccurate data could have on modeling results, providing greater insight than more basic metrics.

"If you are looking at the exposure data for running a hurricane model, the locations on the coast

in Florida will have a far greater impact on modeled losses than inland locations, so you need to have data quality scores that account for this," says Edwina Lister, Lead Consultant for the project, "Similarly, you need to take into account which attributes drive the model results"

Accuracy is harder to assess than completeness but inaccurate data can introduce far greater bias in results. RMS assess accuracy in a few different ways, this includes running a set of >120 validation heuristics, and comparing individual locations to the RMS ExposureSource Database.



Understanding data quality helps us to make thoughtful and considered investment decisions

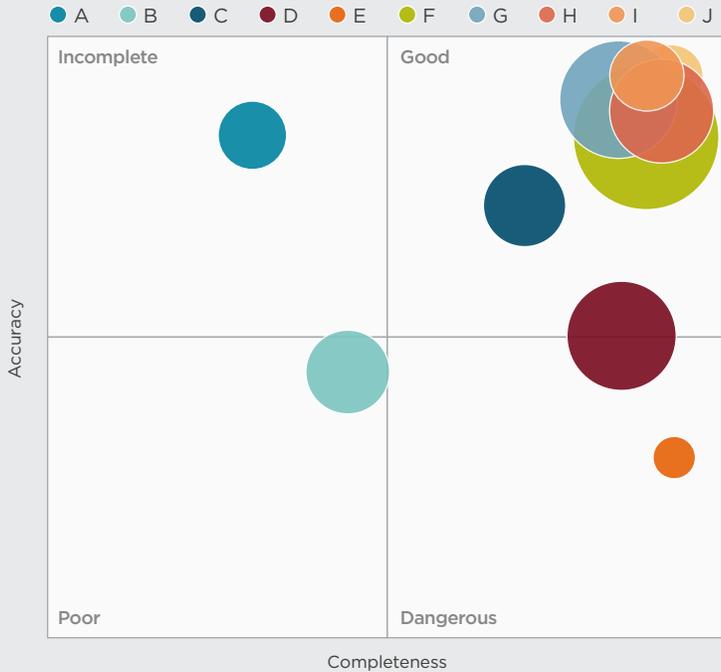
"It is easy for a cedant to improve completeness at the expense of accuracy and this can introduce material bias into the portfolio" says Will Mayes, head of Business Consulting at RMS.

## DATA ENHANCEMENT AND DEEP DIVE

The project team worked with Securis to identify cedants to enhance using the RMS data enhancement engine, and through manual investigation. The aim was to get to the best

### Illustrative Cedant Data Quality Comparison

This graph plots completeness and accuracy for some sample portfolios. The most dangerous quadrant is complete and inaccurate data as this can lead to unexpected bias in model results



Illustrative: Not based on Securis cedant data.

possible representation of the selected exposure sets, and understand the change in loss associated with each update. “This helped us understand the materiality of the data quality challenges and informed our recommendations to enhance Securis’ process,” says Lister.

### RECOMMENDATION FORMATION

RMS Consulting and Securis worked to develop pragmatic recommendations that can be implemented within Securis’ underwriting workflow. These recommendations leveraged the RMS Risk Maturity Benchmarking framework and defined both short term and longer term objectives.

“We provided detailed recommendations to help Securis improve their data assessment process and developed a data quality loading framework based on the cedant analysis – this allows Securis to have greater insight into the model results and make better informed investment decisions,” explains Mayes.

### CLIENT PERSPECTIVE

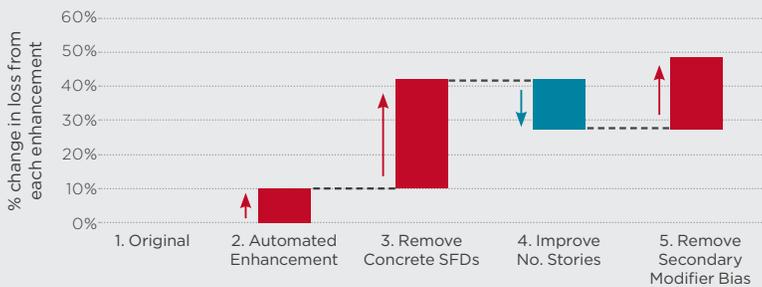
It was important to have senior buy-in for the project to be a success, and this came from Securis’ Chief Underwriting Officer and throughout its Origination and Analytics team.

Growing and enhancing analytics is an overriding goal within Securis which has driven numerous investments in recent years. Wilson, who joined the firm in 2018, has a background in modeling, which has given him a unique perspective into the importance of data quality, he explains. “At RMS, I built models from the ground up, and that obviously is going to be beneficial when we talk to cedants about how they have dealt with data. This project gives us a few more concrete data points around that as modeling data is still such a currency in the market.”

“We do expect to get some real value from this, and it will change how we approach some specific investment opportunities,” he concludes. “This project has given us some interesting insights into the potential of data augmentation and how small changes in our workflow can make a positive difference.”

### Illustrative Change In Loss From Data Enhancement

This graph shows the change in modeled average annual loss for a sample portfolio as data is enhanced



Illustrative: Not based on Securis cedant data.



#### About RMS

RMS is the world’s leading catastrophe risk modeling company. From earthquakes, hurricanes, and flood to terrorism, agriculture, and infectious diseases, RMS helps financial institutions and public agencies understand, quantify, and manage risk.



#### About Securis

Securis Investment Partners LLP is one of the leading Insurance-Linked Securities (ILS) managers globally. The Firm is authorised and regulated by the Financial Conduct Authority and manages assets on behalf of a wide range of investors.