

## Customer Story



Industry  
Insurance

Focus  
Risk and  
Capital  
Management

### Business Issue

Hiscox needs a global view of its risk exposure to understand how over 100 lines of business from around the world interact with each other. Using SAS® has allowed the company to better understand its capital requirements and assist in the decision making on how to grow the business.

### Solution

SAS® Analytics;  
SAS® Visual Analytics.

### Benefits

- Analytics platform that pulls risk data from individual risk models around the world without duplication of modelling effort
- Substantial reduction in the time required for the group capital model building cycle
- Ability to answer risk exposure and capital scenario questions, which were previously impossible, in 30 minutes
- Ability to explore multiple scenarios, providing a better picture of Hiscox's global risk exposure and the capital required to support it.

## Hiscox Uses Analytics to Insure Against Worldwide Risk

*SAS® helps global insurer get a complete view of total risk exposure in a fraction of the time*



With a portfolio ranging from inter-planetary probes to classic cars and fine art, Hiscox needs to understand as much as possible about the risks associated with its global insurance business. Before SAS® was implemented, Hiscox had faced challenges implementing a group capital model that was able to deliver information in a timely and consistent fashion. Now, a team of four are able to do a lot more, analysing over 10 million data points in just half a day.

Although Lloyd's insurance market remains at the heart of what Hiscox does, in recent years Hiscox's business has diversified, with retail operations in the UK, US and across Europe, as well as expansion into Singapore, Thailand and Hong Kong. This diversification has meant that the data Hiscox deals with has grown in volume and complexity. Using SAS, Hiscox has been able to adapt to these changes.

"We needed to develop a group capital model to reflect the changing nature of our business, and to help make better estimations of the capital we required to support the risk we were taking on," says Jason Doughty, Head of Economic Capital at Hiscox.

To get an accurate estimation of the distribution of this risk, Hiscox has built various models to measure different risk types. These

models are based on simulations. Data is generated from different models to measure risk by simulating years over the different lines of business that Hiscox operates. They then run that data 100,000 times to simulate 100,000 years. For each of the approximately 100 lines of business, they need a full profit and loss account for each year; hence the creation of over 10 million data points, and a mountain of information for actuaries to deal with.

### 100,000 Years of Data

Before implementing SAS, Hiscox had a team working for about a year to develop a model which combined all risk types for the group within one model. Doughty explains: "If you're looking to refresh your model every six months, and a team is struggling to get it done in a year, you've got a real problem. So ultimately, the project got shelved and we realised that either we had to dramatically increase resources, or we needed to look for an alternative solution."



“ Output from the group capital model provides a fresh perspective to answering questions, like ‘Are we growing in the right areas? Are we measuring performance in the right way? Are we carrying enough capital for the entire group?’ It helps challenge our strategic thinking. ”

Jason Doughty, Head of Economic Capital at Hiscox

Having used SAS before, Doughty knew it was up to the task. “Currently I’m looking after a team of four people. From scratch, we were able to deliver the model within three months and, now that it’s built, it takes just 15 hours to completely update. We are able to achieve a goal that previously was beyond us, and we can now provide answers to business questions in 30 minutes.”

Hiscox uses many models for calculating risk across its various operational sectors. For example, a large part of its business is carrying risk associated with US wind storms – the hurricanes and tornadoes that often cause widespread destruction and havoc each year in places such as Florida. With the help of in-house meteorologists, actuaries, data scientists and other experts, Hiscox develops models that reflect the risks involved in insuring against these annual catastrophes. Using SAS, Hiscox combines the data from these models with various other models measuring different risks that Hiscox faces, to give a clear picture of the total risk to which the company is exposed and the capital required to cover it.

## Data Retention, without Work Duplication

“We need a platform that works in tandem with the multitude of models that we have spent many years refining,” says Doughty. “The key is to bring everything together without duplicating work or redoing the modelling. SAS allows us to do that.”

Earlier modelling software used within Hiscox, while highly accurate, didn’t retain all of the data that it generated in order to do the calculations it needed to do. This meant if the team wanted to use the data for a different purpose, the model would need to be run from the start each time. SAS has allowed the Hiscox team to run different scenarios without the need to rerun or modify the underlying models. This has significantly improved the time taken to respond to queries from the business. Doughty explains, “We wanted to be able to repurpose the data at will to see how different types of risk interact with each other. This is vital for my team whose responsibility is the overall exposure for the entire group. We need SAS to pull the data from disparate models – to allow us to analyse the bigger picture of the overall exposure, as well as the individual interactions taking place.”

Hiscox is also now trialling SAS® Visual Analytics, which provides interactive dashboard reporting. Doughty says: “SAS Visual Analytics helps us move away from a team of guys cutting and pasting from spreadsheets and Powerpoint to automated reporting packs delivered directly to mobile devices, desktops, or however we want to report it. We’ve trialled it on tablets, and we have been impressed by the results.”

On top of this, having all the disparate data in a single place is delivering significant results. “When we can see the data from different areas of our business interact, it challenges us to look at how we fund risk and allocate our capital. Output from the group capital model provides a fresh perspective to answering questions, like ‘Are we growing in the right areas? Are we measuring performance in the right way? Are we carrying enough capital for the entire group?’ It helps challenge our strategic thinking.”

**SAS gives Hiscox THE POWER TO KNOW®**