



# ACTUARIS: computers and actuaries can complement each other perfectly

Michaël Noack, senior consultant at ACTUARIS International, highlights ways in which the insurance industry is changing, how actuaries are adapting and introduces a new pricing tool, ACTU-Pricing.

## Is it fair to say insurance is a more competitive industry than it was 10 years ago?

The intensity of competition between insurance companies today is a level above what it was in the past. The proliferation of price comparison websites and the progress of new technologies have increased competition on price and price transparency, making it harder to win business – and to keep existing clients. Business has become much faster, while customer behavior has also been changing.

This has made it more important than ever that actuaries get the price right, meaning they are adequately compensated for the risk they take, while remaining competitive. The actuary must also make decisions knowing a single error could potentially lead to significant losses.

## Should actuaries worry about technology making them redundant?

Insurance companies have always faced the challenge of pricing products without knowing their eventual cost, and have always used sophisticated predictive models to help them, even if the level of sophistication has increased. But even the most advanced technology is focused on providing the best possible description of the past. The actuary must judge which aspects of the past will be repeated and which will not, and how a whole range of different scenarios will impact the business.

Computers and actuaries cannot work alone but complement each other perfectly. Computers can conduct a lot of calculations accurately and quickly, but they cannot cope with the subjective element: which historical events will repeat themselves, or which factor is more important in given circumstances. The actuary must react to changes in legislation and environment and anticipate what implications they will have on the market in question.

## Regulation must be a big factor for actuaries to consider?

Regulation is an obvious example, clearly forthcoming regulatory changes will affect the insurance market. But the advantage of regulation is that it moves so slowly. There is plenty of time to prepare for regulatory changes, they are discussed for months, even years, before implementation.

Obviously it requires some expertise and good judgment to correctly ascertain how relatively small changes might influence a given insurance market. Sometimes the impact can be amplified. But there are many significant global changes taking place that will have implications on a similar scale, and many of them move much faster.

## What other factors are influential?

There are too many. But changing economic conditions, for example, have far-reaching implications.

All economic indicators will have some impact on future claims. Take the unemployment rate: unemployed people drive less than employed people, either because they are not traveling to work or are looking to save money on gas, which means fewer accidents.

Advances in technology mean new safety features for cars, for which there is no historic data to build models. By 2020 Nissan is expected to have released its first driverless car onto the market. That is going to massively alter pricing.

A lot of the most influential factors are local. It can be time consuming monitoring different markets for things like changes in speed limits or how traffic fines may affect driving licenses or new toll systems restricting access to city areas. These factors may influence claims data, but proper analysis of them is only possible when the actuary is freed from the routine work.

Having European expertise is vital because experience from one country can often be useful in another, and that is one real advantage we have at ACTUARIS International.

## What solution does ACTUARIS International offer to face these new challenges?

ACTU-Pricing is our new pricing tool which can handle pricing as a process, making life easier for actuaries. It manages the data preparation, cleaning, mining and analysis processes of the model with a powerful GLM/GAM engine, consolidating the models with different scenarios and impact analysis. This provides insurers with a powerful but easy to manage system that will help them arrive at the right decision - and to arrive there fast. The fundamental task of an actuary is to prepare business decisions, not to handle data or to program.

## Have the underlying models changed as much as the world around them?

The mathematical basis for the models was developed in the 70's. What has changed is processing power, which means data that would have taken hours to process now takes only seconds. This means larger samples can be used, new functionalities and generalisations can be included and the same data can be run multiple times to test different scenarios. Information provided by clients can be supplemented with a large range of external information, improving the predictive power of the models. ■