Analyse this!

Richard Clinton, president of risk management consultants EQECAT, explains how technology is evolving to help insurers, reinsurers and risk managers quantify and transfer a wider range of risks

What kind of technology is available to model natural and man-made hazards?

The technology exists today to credibly quantify natural hazard risks, such as earthquake, hurricanes, winter storms and floods as well as man-made risks such as explosions due either to industrial accidents or terrorist acts. These risks can be quantified on a site-specific level, sometimes with the help of engineering site evaluations. All sites can be combined into a portfolio of risks to quantify the total exposure in order to evaluate the various risk transfer strategies now available to risk managers.

Is it possible to model such risks in all areas of concentrated economic activity, as well as North America, Europe and Japan?

With the growth of globalization, modellers have been pushed to expand and refine model capabilities to keep up with increasingly geographically diverse supply chains. Critical manufacturing and distribution facilities are frequently located in high hazard regions. At EQECAT, we've invested substantially to update and improve models for Central and South America, Eastern Europe, India, Taiwan, mainland China and other Pacific Rim areas, for example.

Modelling risks associated with natural hazards used to be the preserve of the insurance industry. Are big corporations also developing their own modelling capabilities?

We serve the growing corporate market by providing global risk analyses and by enabling them to evaluate a variety of mitigation strategies ranging from engineered risk reduction initiatives to alternative risk transfer into the capital markets.

We've also noted an increasing demand for modelling in certain financial sectors. For example, mortgage lending institutions are increasingly concerned about measuring the risk of mortgage defaults due to damage from natural hazard events as part of their underwriting and portfolio management practices. We have a web-based risk analysis service called Property RiskTM designed specifically to serve this growing market.

Can computer models help insurers and reinsurers better understand their business interruption exposures?

BI and CBI are the most challenging aspect of CAT modeling. This is because the drivers of risk are more complex and have greater uncertainty. The difficulty of pricing the risk has led to a chronic shortage of capacity for coverage. We have leveraged our 1st hand engineering familiarity with the operational environment for each occupancy class. Getting reliable BI numbers requires the insight of people who understand specific machinery, equipment and work-flows and what the critical drivers of risk are and their vulnerability to various hazards. Therefore, when this is a critical risk or there are unique interdependency risks, we strongly recommend that companies conduct a detailed engineering analysis in conjunction with risk modelling. This is one of the reasons why we have a very strong engineering practice that supports our risk management work.

The Gulf of Mexico and its energy sector, is now identified as a high risk area by risk carriers after hurricanes Katrina, Rita and Wilma. Is it possible to model event outcomes in such a unique environment?

There is no question that the market was disappointed with the level of unexpected offshore energy losses from KRW, which some blame on inadequate modelling of the risk. We saw this as an opportunity to provide a better tool for the market to understand this unique risk along with other highly correlated vulnerabilities in the distribution network. Our parent, ABS Consulting, has a major engineering practice in the energy and offshore market. Working with their experts, we were able to model not only the platform and topside vulnerabilities to wind and waves but also the probabilities and impact of resulting pipeline damage, which is the main cause of BI and CBI loss through shut-in capacity.

This type of insight into the underlying cause of BI loss enabled a new and previously unavailable ability to quantify and price the risk.

Can big corporations use catastrophe modelling techniques to tap the capital markets for alternative risk transfer?

EQECAT has provided the analytical support for several corporate catastrophe bond issues, including a major theme park in Japan, a California movie studio, a major Japanese railroad and a portfolio of offshore energy assets. We have found that corporations use capital markets when there is inadequate insurance capacity available at affordable rates or because their exposure could not be covered by traditional insurance. Also, capital market solutions can offer multi-year structures that insulate buyers from insurance pricing volatility.

However, because we provide an independent view of risk, we have also helped companies who were initially considering a cat bond to make the decision to go with traditional insurance. ●