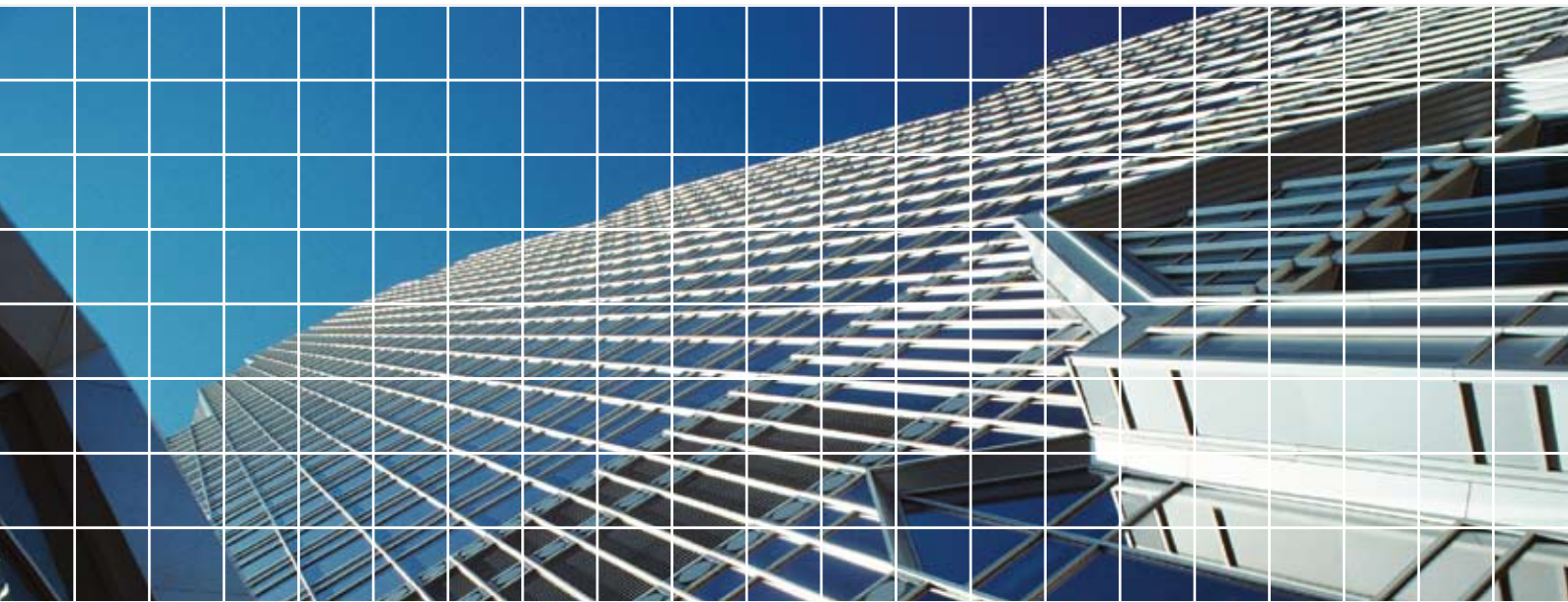


Delivering a new dimension

in Risk Management at RSA



The Lightbulb Moment

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The realisation of the potential of geography

“ I guess the real ‘lightbulb moment’ for me was the realisation that it wasn’t the knowledge of topography, or of river flows, or of insurance, or of GIS that actually made the difference, but it was the combining; the integrating of all that skill and knowledge, to produce something that really made a difference to the bottom line.

We need to work imaginatively with different and multiple datasets, be they topographical, geological, insurance or socio-demographic... but it is the combining of all those datasets with our GIS skill, our mastery of the insurance risk, of actuarial pricing, and of our capital management capability that has truly made a winning formula for us.

Graham Heale, Property Portfolio Director, RSA



The ESRI (UK) Insurance Platform



What it is

A software-based, risk assessment tool for insurers...

The ESRI (UK) Insurance Platform enables insurers to understand the location of a property in relation to a risk far more accurately than ever before. Thanks to the software's sophisticated in-built mapping technology that uses precise xy coordinates to pinpoint the location of a property, insurers can accurately establish the distance between a building and a nearby risk, within 1-2 metres of accuracy, using spatial analysis to measure the effect.

...that offers value across the enterprise...

Importantly, the accuracy of this geographical data can offer value across the business – when managing exposure to risk, optimising capacity, handling claims, purchasing re-insurance, assess accumulation and even for helping to develop profitable marketing campaigns.

...delivering rapid results...

The solution is fast and responsive to user requirements, able to cope with the pressures and demands of an enterprise environment. Data retrieval is rapid – within a few seconds – and updates made to the system (such as risk model amendments and changes to customer details) are designed to take place in real time, with no loss of service.

...thanks to its integration with all new and existing systems...

ESRI (UK)'s Insurance Platform is designed to be interoperable with leading standards-based platforms and mapping data formats. The solution can interoperate with Microsoft and Java platforms, and reads digital maps from a number of suppliers as well as Ordnance Survey. What's more, it is designed to interoperate with key legacy systems in use by insurers today, both in server and mainframe environments.

...a tool which doesn't need extensive user training...

Importantly, because the system integrates fully with all existing systems in use, little user training is required as the vast majority of the processing is performed 'behind the scenes', without the underwriter knowing or needing to perform any new tasks.

...and which can easily be managed in-house

The Insurance Platform is designed to be wholly managed in-house. This enables commercial property insurers to have full control over their sensitive data at all times.

How it works at RSA

The solution comprises a number of modules providing spatial support to the business functions, RSA refer to these as hubs.

A customer service agent takes an address from a caller over the phone. This address is entered into the locator hub, which immediately interrogates

that address data, comparing it to a list of highly accurate geocodes, or geographical coordinates. The agent is then returned an address or list of addresses from which to choose, allowing the system to verify the precise location of the caller's premises.

This verified data is then passed to the perils hub, which overlays the location data with RSA's four perils datasets: arson, crime, flood and subsidence. This hub gives the accurate location data a 'score' against all of these perils, rating it for its exposure to these risks.

Once that action has been completed, the data is then passed to the accumulation hub, which checks the amount of RSA's existing exposure at the identified location.

This information is then returned – in real time – to the agent: not in map-form, but in data form. If there is adequate capacity at this location then the new risks will automatically be approved. Where there is insufficient capacity then it is flagged for further manual investigation. Maps are not used in these transactions as they happen behind the scenes, but are available through a web based application should the underwriter need them.

Importantly, once a policy is written, that xy location is automatically written back into the accumulation hub – ensuring that the data is always up-to-date and available for the next accumulation check.

Helping RSA...

... Better manage exposure to risk

Postcodes. Insurers have trusted them for decades to verify a property's location, in order to carry out a risk assessment for underwriting purposes. But the trouble is, they're just not accurate enough to empower an insurer to fully protect its interests – especially in commercial property insurance.

A postcode, for example, won't always tell you whether a commercial property in, say, a high rise block, is in fact adjacent to another that is already on your books; you could have several located together. But the owners may have each chosen a different postcode, for business purposes, therefore giving you no visibility.

Conversely, a postcode won't help you establish whether that same property you're assessing is – to use a topical example – at risk of flooding. Whilst every premise in the building could have a different postcode, there's as much chance of twenty premises all sharing the same one. That means the property you're looking at could be up on the fifth floor as easily as it could be down at ground level.

The results are ambiguous at best.

ESRI (UK): accurate, transparent, faster

With ESRI (UK)'s solution, RSA has left behind the ambiguity of postcode-based risk assessment. Through accurate coordinates-based location data layered with other maps of risk information – such as flood plain locations, crime statistics and subsidence data – ESRI (UK)'s solution allows the organisation to better understand risk at an individual property location level and this means that appropriate premiums can be charged.

This helps RSA manage its exposure to risk much more effectively.

“At RSA, it's very important to us to have highly accurate data concerning where our policyholders are located, in order to assess our exposure to risk,” explains Graham Heale, Property Underwriting Director (UK Commercial). “But postcode information didn't give us that accuracy. And that meant it was hard to see how the risks were aggregating.”

“Thanks to ESRI (UK)'s technology, we can assess our accumulation and our exposure to such risks as flood, subsidence, arson and crime over much broader areas and in much more granular detail, predicting more effectively where we might be exposed to loss. Having that much more granular idea of where our risks are – and where they are approximate to each other – ensures we don't over-expose ourselves.”

What's more, working with the automated system is much faster. “Where before we would expect a risk assessment to be performed in, say, seven days, the response from the new system is pretty much instant as in most cases no manual assessment is needed,” Graham explains.

The system has also been designed to be scalable, enabling RSA to implement a whole new range of data models. “We can add many more layers of data; for example, we're investigating the potential of geographic assessment in windstorm risk at the moment. In the near future, there's a lot more for us to explore,” he concludes.

... Manage and optimise capacity

An insurer's capacity to underwrite risk is arguably the cornerstone of their business. The available capital must be used as judiciously as possible.

Yet without accurate location data for a property, it's extremely hard to assess and therefore price its risk. It's also difficult to understand potential accumulation issues within a portfolio, which means it becomes a real challenge to ensure that appropriate reinsurance protection is purchased.

Using capacity to the maximum

ESRI (UK)'s solution is helping RSA allocate capital and manage reinsurance far more effectively. This means that instead of relying solely upon estimates and historical forecasting, the business can ensure its capacity is used judiciously.

“Our philosophy is to use our capacity to the maximum – and no more,” says Graham. “In the past, we have adopted a necessarily conservative approach to exposing the capital of the organisation to losses from, say, a fire, by building contingency into our assumptions. However, the ESRI (UK) solution enables us to have a precise view of our exposure, with pinpoint accuracy.”

Because of this, RSA can choose to free up some of that contingent capacity and sell more insurance. “Alternatively, we may decide to write more insurance in a particular location. Whichever option we go for, both are beneficial to the business,” he adds.


The accuracy of the risk assessment also gives RSA the power to cost out various reinsurance options, according to the precise nature of the risk. “The greater the granularity of the data, the greater the understanding of risk, and the more effective we can make our reinsurance purchase,” explains Graham. “This doesn't mean we do away entirely with the contingency – it's still going to be an estimate – but we can be more refined in our purchase; use the rapier rather than the bludgeon, if you like.

“In any case, irrespective of whether the data tells us we've been buying too much reinsurance or not enough, we're still much better off.”



Helping RSA...

... Boost competitive edge



Insurance is by its very nature a speculative business, which can provide substantial returns. But that risk can also fail, sometimes spectacularly, eating into the business profits as a result. Indeed, it's the peaks and troughs of profit and loss which characterise the larger market cycle today.

Short of being able to see into the future, there's absolutely no way to overcome this entirely in order to guarantee profitability. However, ensuring the positional accuracy of a property does give you a greater chance of a profitable return – even on the highest risks in the market.

Greater accuracy... greater competitive edge.

Taking advantage of the positional accuracy enabled by ESRI (UK)'s solution, RSA is now in a position to assess risks much more effectively. "Our ability to assess individual risks such as arson, flood and so forth is much stronger; we can now price those risks much more accurately," explains Graham.

"The more accurate risk assessment enabled by ESRI (UK)'s system might actually enable us to attract business that our competitors may be pricing higher than us – purely because they cannot verify the specific location of the risk. Properties that, for example, are in a postcode area which flooded in the past, may not have actually been affected by that flood themselves. Our system can identify those customers and enables us to offer an appropriate premium that takes into account the risks at that specific location."

... Respond more effectively to large scale claims events

There are some large scale events that no insurer can truly plan for. Flash floods, arson or sabotage, terrorist attacks and, of course, plain and simple accidents can have a devastating effect upon many people at the same time. The ensuing surge of property claims almost certainly troubles the property insurance community, who are keen to deliver the service their customers deserve, but who undoubtedly worry about the unknown exposure in their portfolios. Indeed, during all of these events, simply being able to deal with the sheer volume of contact received from the general public is a challenge in itself, requiring claims teams to man the phone lines adequately and keep the public fully informed. Without doing this effectively, customer service – and company image – is almost certainly compromised.

Lower exposure. Better customer service.

RSA, however, has already seen the power of ESRI (UK)'s GIS tools to help deal with large scale claims events – the first time was following the explosion at the Buncefield oil storage terminal in 2006. This was the largest explosion in Europe since the Second World War.

"This was clearly a major incident in the UK insurance market," says Graham. "I knew that by Monday, 9am, I would be faced with the inevitable question 'how much is this going to cost?'" However, Graham and his team were able to prepare rapidly. That's not the only impressive feat.

"Following seven months of actual physical assessment of the damage and loss adjustment, the number that we gave is still within 7% of the final cost," Graham affirms. Since that event, Graham and his team have used the same capability to support customers during the recent floods...

"Because the system helped us to gear up quickly, we were able to send an emergency response vehicle to the scene within a couple of hours, with some of our experts on board to help everyone in the local area – not just our customers – with their insurance queries. "Clearly, this has benefits in terms of our level of service."

“Purely as a result of our GIS capability, which enabled us to model using zones of damage from the epicentre of the loss, we were able to give a reliable estimate of our loss at 12 noon that day – within three hours of being asked the question at 9am on Monday morning.”

Graham Heale, Property Portfolio Director, RSA

Helping RSA...

... Better monitor and demonstrate solvency and exposure to risk

The insurance industry certainly understands the pressures of compliance more than many. Legislation such as Contract Certainty and Solvency 2 are demanding proof from insurers that they have a clear understanding of the risks they underwrite – and that those risks are selected for maximum profitability.

With its strength lying in the accuracy of its risk assessment for underwriting purposes, the ESRI (UK) Insurance Platform can be used to provide an added layer of assurance to regulators – and shareholders – that all investments are properly calculated to deliver a good return.

Before GIS... and after

Before RSA's GIS capability was in place, for example, an event like the Buncefield explosion would have been handled very differently to how it's handled today. "We would have waited a week or two before we had a market estimate of the total damage to have been put on the loss. This would have been based on estimates of numbers, on experience, and we would have used it to declare our rough market share of the loss," Graham explains. "However, we know from past experiences that the number could have moved significantly."

Through ESRI (UK)'s GIS tools, however, that is no longer the case. "Our ability to speak with confidence about our involvement in major events, and to be able to stick to that number gives our stockholders the confidence that we're managing their investment in a highly professional way, and therefore fulfilling our promises."

Indeed, Graham may investigate this potential further in the future. "I do believe that through the absolute granularity of the data, the system may be able to assist us in our discussions with regulators around how effectively we are managing the risks in our portfolio; it's one further control."

... Improve the efficiency of marketing through more targeted campaigns

For any company, regular sales and marketing activity is essential to ensure good mind share and successful business. But in the insurance market, sales and marketing activity is often performed on a 'blanket' basis. Campaigns are typically aimed at a broad audience, employing compelling sales propositions with the objective of converting prospects.

This usually costs the organisation a great deal of money and time, with only a moderate conversion rate from prospect to customer.

Hot spots and cold spots

An area which RSA still intends to explore using ESRI (UK)'s insurance solution is its ability to help the business target its marketing activities more effectively.

"One of the benefits of the system is its ability to identify 'hot spots', i.e. areas where we already have some accumulated risk," he confirms. "But importantly, the geographical mapping tools can also be used to identify 'cold spots', or areas in which we could write more business without affecting our accumulated risk."

"Our view is that this capability is really powerful."



Helping RSA...

... Handle a higher volume of business, more effectively

Quantity versus quality; which is best? In the insurance market, there is an argument for both. The risks you underwrite must promise a good return, and be properly analysed. Yet handling a high volume of business will give you greater revenues, and typically offer you a greater opportunity for return.

Nevertheless, ensuring both quality and quantity becomes a challenge when using traditional postcode-based risk assessment. Not only does it leave your business exposed to higher risk thanks to the inherent vagaries of the postcode system, but it is also painstakingly slow. Risk assessments can take days, enabling your organisation to handle only a very specific amount of business.

Quality and quantity

When RSA first introduced GIS-based flood risk assessment tools into the business, it was as a defensive measure. But underwriters found that by using GIS, they could actually write more business, not less. "That was because we found that our competitors – without this capability – would actually apply exclusions to, or seek to exclude coverage, from large areas where they suspected there might be an enhanced flood risk," explains Graham. "With GIS, we were able to underwrite down to the individual property level – right down to within a metre of the actual location – so we were able to make flood insurance available to a wider range of customers than we thought," he confirms.

That's not all. Thanks to the automation of the ESRI (UK) GIS system, Graham is confident that geocode-based assessment should be able to automatically approve an even higher quantity of good quality business.

"Once we've fully migrated all of our customer data onto the new system – and changed all of our postcode data to geocode data – we are confident that we can trust the system to run the simpler transactions by itself, with no manual intervention. Processing a quote would then be done almost instantaneously, potentially enabling our underwriters to use their time to underwrite a much higher volume of business."

Automated risk assessment will also free up underwriter time. This means that the more complex risks that the system flags for further analysis can be given a high quality, manual risk assessment.

Batch processing is also fully risk-assessed "In time, all renewal quotes for existing customers will go through the new GIS system. This is effectively delivering both high volume and high quality at once," adds Graham.

It's early days for this capability, but Graham sees no reason to doubt its abilities. "We trust the models we've built. As we sit here today, we have no reason to assume anything other than 100% confidence. It's going to be fantastic."

What about the future?

ESRI (UK) GIS technology has been used by the team at RSA for many years. But as Graham explains, there are plans to do much more. "We've been using ESRI (UK) technology to measure a location's proximity to perils for some time. But the long term plan is to integrate this capability into a much more comprehensive, end-to-end location-based system that will underpin a great deal of activity within the business. As part of this, we are currently undertaking a vital exercise to convert all of our postcode data into geocoded data," he affirms.

Access to the system should also become more flexible. "At the moment, it's accessed only from RSA offices in the UK, but eventually we may offer access to underwriters via web services, for example," Graham adds.

The success of the ESRI (UK) partnership

As far as RSA's relationship with ESRI (UK) is concerned, Graham feels the two parties have developed a strong partnership over the course of the project. "Our relationship with ESRI (UK) was originally very much a customer-supplier relationship. But the thing about ESRI (UK) that always impresses us is the quality of the people they put on the ground. Today, we get a great deal of support out of them – and by that I don't just mean technical support, but also strategic support."

RSA is now a regular attendee of ESRI's user conference in San Diego, and has presented there for the last couple of years.

"We've developed a true partnership," Graham concludes.



About ESRI (UK)

“GIS has a massive future in my industry; we are really only just dipping our toe in the water, and I genuinely believe that my organisation is one of those leading the way.”

Graham Heale, Property Portfolio Director, RSA

When making an investment in a solution that is designed to underpin every activity in the business – particularly in the highly critical insurance market – it’s vital to choose a supplier that can be trusted to deliver.

As part of the largest and most advanced supplier of Geographical Information Systems (GIS) solutions in the world, ESRI (UK) has the commercial scale, geographic expertise and technical excellence required in order to create a solution that will truly deliver on its promise.

Rather than a loose collection of components from different suppliers, the ESRI (UK) Insurance Platform – based upon its groundbreaking work with RSA – is a tightly integrated and tailored package, designed to work together and meet the precise needs of the commercial property insurance market.



Interested?

The ESRI (UK) Insurance Platform can help you better manage your exposure to risk. To find out more, please contact us today.

Email: insurance@esriuk.com or Call: 01296 745500

Executive summary

“Geography really is at the heart of our business.”

RSA is one of the world’s largest quoted multinational groups, with over 20 million customers in more than 130 countries. In the UK, it’s the largest commercial insurer, with UK Property as its largest individual portfolio.

This is a reputation that is hard-earned. And does not warrant exposure to unnecessary risk.

That’s why RSA has chosen to radically transform the way risk assessment is conducted in its commercial property arm, by putting geography at the heart of its business.

Using technology from ESRI (UK) – the UK’s leading supplier of Geographic Information Systems (GIS) software – RSA has been able to dispense with traditional postcode-based risk assessment, and now verifies the precise location of risks with pinpoint accuracy.

This offers RSA more accurate pricing, greater visibility of individual risk accumulation, and greater profitability.

But that’s not all. ESRI (UK) is now working closely with Accenture to implement a brand new, end-to-end system that will enable RSA to do much more besides.

In this case study, you will be able to read how this ground-breaking work with ESRI (UK) is enabling RSA to:

- Better manage exposure to risk
- Manage and optimise capacity
- Increase profitability, lower costs and boost competitive edge
- Respond more effectively to large scale claims events
- Better monitor and demonstrate solvency and exposure to risk
- Improve the efficiency of marketing through more targeted campaigns
- Handle a higher volume of business, more effectively