On the FrontLine

The 360° view of risk

China comes to terms with one of its worst ever industrial accidents in the port of Tianjin

Crawford & Company
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Crawford

On the FrontLine

Welcome to the first edition of *On the FrontLine*, a new global thought leadership magazine produced by Crawford & Company.

On the FrontLine provides you with 'ground-level' insight from across the insurance industry, government and academia into the very latest in risk management thinking. Each edition aims to take you as close as possible to the threats we face by speaking to those hands-on in dealing with these on a daily basis.

Combining our own unique perspective and internal data gained from more than 70 years of handling complex losses, with the views of leading experts from across the risk management spectrum, we offer a 360 degree perspective. By providing insight from every angle, our mission is to help advance understanding of business risks and facilitate strategic decision-making.

In today's ever more volatile world, in which threats can come from every direction and from a multitude of sources, it is no longer possible to simply build our defensive walls higher and hope that these will not be breached. Rather we must go on the offensive, push forward from a position of strength – a position built on knowledge – and join forces on the frontline.

Kara Grady
Vice President, Corporate Communications
Crawford & Company

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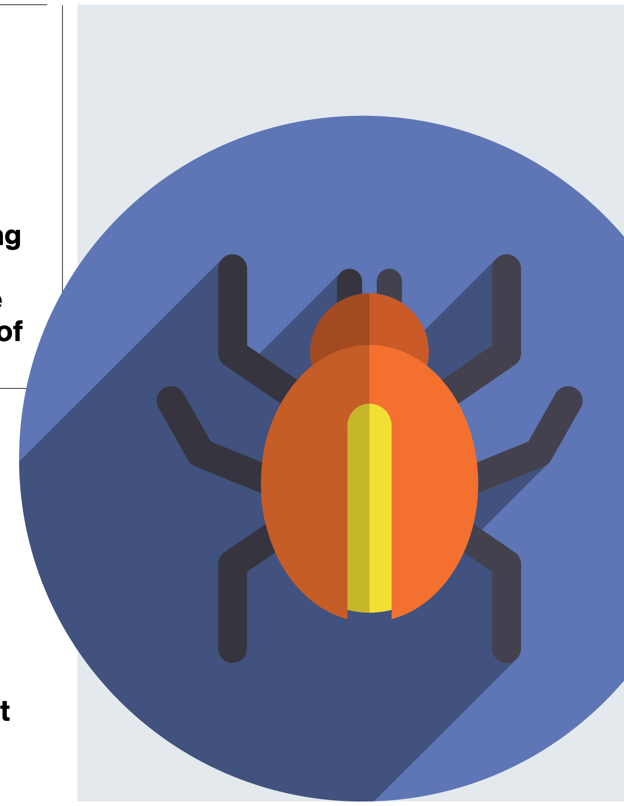
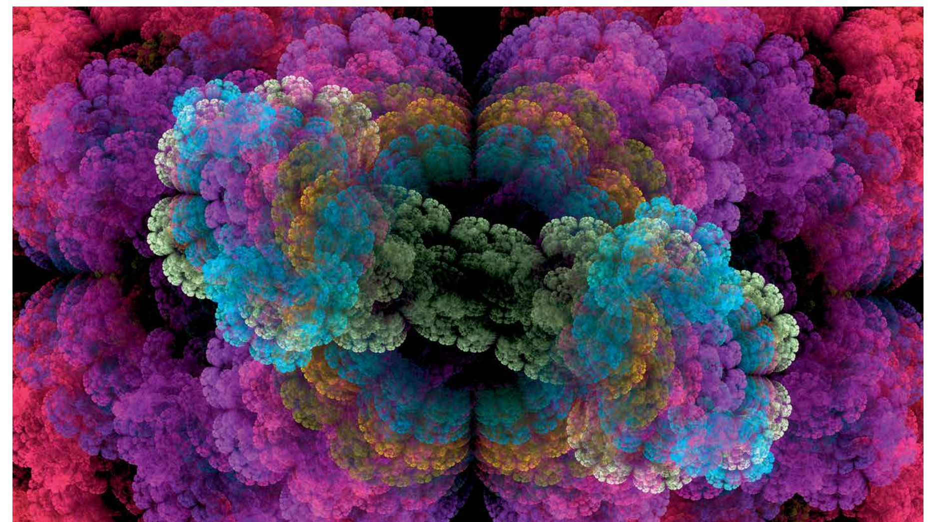




Asia

Growth of Asian D&O as global regulators flex their muscles

LITIGIOUSNESS REMAINS LOW BUT SEVERAL COUNTRIES HAVE ADOPTED CLASS ACTION MECHANISMS

A trend towards greater regulatory action and growing potential for class action lawsuits is driving more awareness of directors' and officers' (D&O) liability in Asia

When the Chinese Amazon - Alibaba - debuted on the New York Stock Exchange in September 2014 it was quickly followed by a wave of litigation as the record-breaking listing attracted the attention of the U.S. plaintiffs' bar. A similar fate awaited the IPO of Malaysian online payment firm MOL Global a month later. On its first day of trading in the U.S. the organisation found itself embroiled in four separate class action lawsuits.

Securities class actions against companies headquartered outside the U.S. increased in the first half of 2015, according to Cornerstone Research. Twenty filings, or 24 percent of the total, targeted foreign firms. Asian firms were named in more than half of these cases.

The long arm of the U.S. regulator in implementing the Foreign Corrupt Practices Act has proved another prodigious source for claims against Asian directors. Eight out of the 10 companies that settled FCPA actions with the U.S. Department of Justice and Securities and Exchange Commission in 2014 had an Asia Pacific connection.

Growing consumer rights, shareholder activism and the introduction of class action mechanisms, such as those introduced by the Indian Companies Act, 2013, are also encouraging the spread of U.S.-style litigation. However, outside of Australia, the level of litigiousness remains comparatively low.

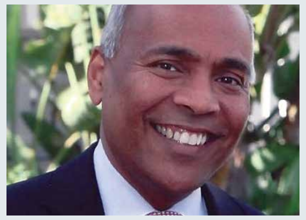
"In Asia the demand for D&O insurance is growing, but in terms of premium volume and size of claims Asia is still quite far behind the U.S.," said Arati Warma, vice president, Chubb Insurance Financial Institutions and Professional Risks, in an interview with the Professional Liability Underwriting Society (PLUS).

Jack Ma, founder and executive chairman of Alibaba Group

REXFEATURES

U.S.

Crawford names Harsha V. Agadi interim CEO



In August, the Crawford Board announced Harsha V. Agadi as interim chief executive following the departure of Jeffrey T. Bowman. A member of the Board since 2010, he will take the helm until a permanent replacement is confirmed.

Addressing employees shortly after the announcement, Agadi said he would focus on ensuring that Crawford remains on course with its strategic plan, although stated that there may be minor adjustments to the direction to accelerate the process.

During his extensive career, Agadi has amassed significant experience establishing global brands and improving operations of companies, and is also chairman and chief executive of GHS Holdings, an investing and consulting business.

The Board thanked Bowman for his dedicated service to the organization, its clients, employees and shareholders, during his 24 years with the Company and eight years as CEO. Further, they acknowledged his extensive work to help enhance the firm's operational efficiencies through the launch of multiple global initiatives.

Commenting on the search for his successor, Agadi said: "If the candidate comes from within the Company, I call that hitting the jackpot. The search is going to take as long as it takes. It could be six months or 18. It is important that we get the best and right candidate for the job."

Europe

Nat cat fear as U.K. rolls out fracking

After its success in the U.S. other countries, including the U.K., are ramping up their fracking – or hydraulic fracturing – activities. Permission for test drilling at onshore shale gas sites has been given in dozens of locations across the country, and planning applications are to be fast-tracked under new government measures.

The British Geological Survey has revealed vast shale gas reserves with its upper estimate at 2,281 trillion cubic feet, almost the total estimated American shale reserve of 2,500 tcf.

But the concerns about the potential fallout from the activities remain, including the potential for fracking to cause earthquakes as well as potential environmental impact on groundwater. Fracking activities were unofficially suspended in the U.K. between June 2011 and April 2012 after tremors in Lancashire in 2011 were linked to shale gas test drilling.

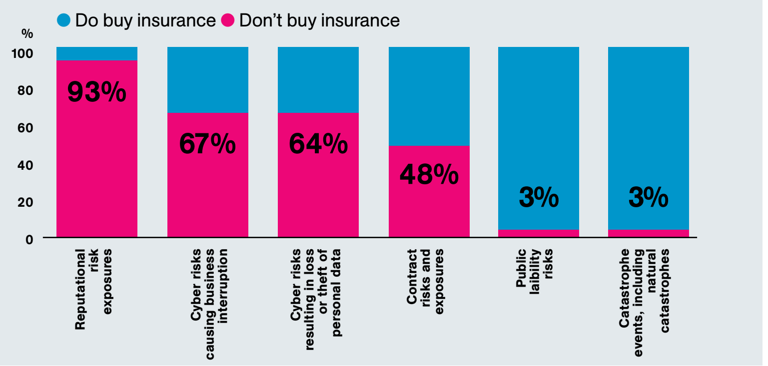
In the U.S., a spike in earthquakes across Oklahoma in June 2015 forced the state's energy regulator to curb drilling activities. Between June 17 and 24 there were 35 earthquakes of magnitude 3.0 or higher in the state.

For its part, rating agency Standard & Poor's has warned the growing incidence of manmade earthquakes in states like Oklahoma could impact credit quality. "The earthquake trend has and will continue to have sharp economic consequences for home and business owners, mortgage lenders, insurance companies, and investors exposed to real estate in earthquake affected areas," analysts warned in a report.

South Africa

Risk managers get a grip on intangibles

Insurance purchasing for top risks



Reputational risk tops the list of strategic risk concerns for South African organizations, according to a survey by Deloitte. The results back similar studies from around the world. With intangible assets accounting for more than 25% of an organization's market value and the rapid spread of news via social media, there are clear reasons why reputation has risen to the top of the agenda.

But it remains a risk that is largely underinsured, according to U.K. risk managers' association Airmic. "A company's reputation is in many ways the most important risk to tackle because it underpins a company's entire business model – and thereby its licence to operate," said Airmic chief executive John Hurrell. "At the moment there is not enough understanding of the risk among businesses, risk managers or insurers."

As a standalone product, reputational risk insurance is still in its infancy. As a result, some multinational firms are using their captive insurer to manage reputation risk, according to Marsh's latest captive benchmarking survey. It found the number of captives writing non-traditional coverage lines rose by 11% in 2014.

"As more companies use data and analytics to better quantify their emerging risks and optimize their retained risk, the utilization of a captive to finance retained traditional and emerging risk is a logical next step," said Christopher Lay, president of Marsh Captive Solutions.

News in brief

A 1-in-100 year flood event in California's Central Valley could result in potential damage of $24.1bn, according to the latest emerging risks report from Lloyd's - a figure that does not include demand surge or business interruption losses.

The removal of trade sanctions on Iran could generate significant opportunities for the international re/insurance market, according to AM Best. The scheduled lifting of restrictions comes after Iran reaffirmed it would not seek to develop or acquire nuclear weapons.

Organizations are demonstrating a greater understanding of the nature of vendor/supplier risks and the measures required to mitigate them. But they need to do more, according to the latest Vendor Risk Management Benchmark study.

Counting the cost of a monster El Niño

THE FALLOUT FROM THIS YEAR'S EL NIÑO IS ALREADY BEING FELT AS RESTRICTIONS ARE IMPOSED ON TRADE THROUGH THE PANAMA CANAL

The development of an El Niño climate oscillation in the Pacific is expected to influence weather extremes in many parts of the world. In August, the Panama Canal Authority announced it would be restricting trade following drought in the Canal Watershed, which has caused the water levels of Gatun and Alhajuela Lakes to fall substantially below their average for the time of year.

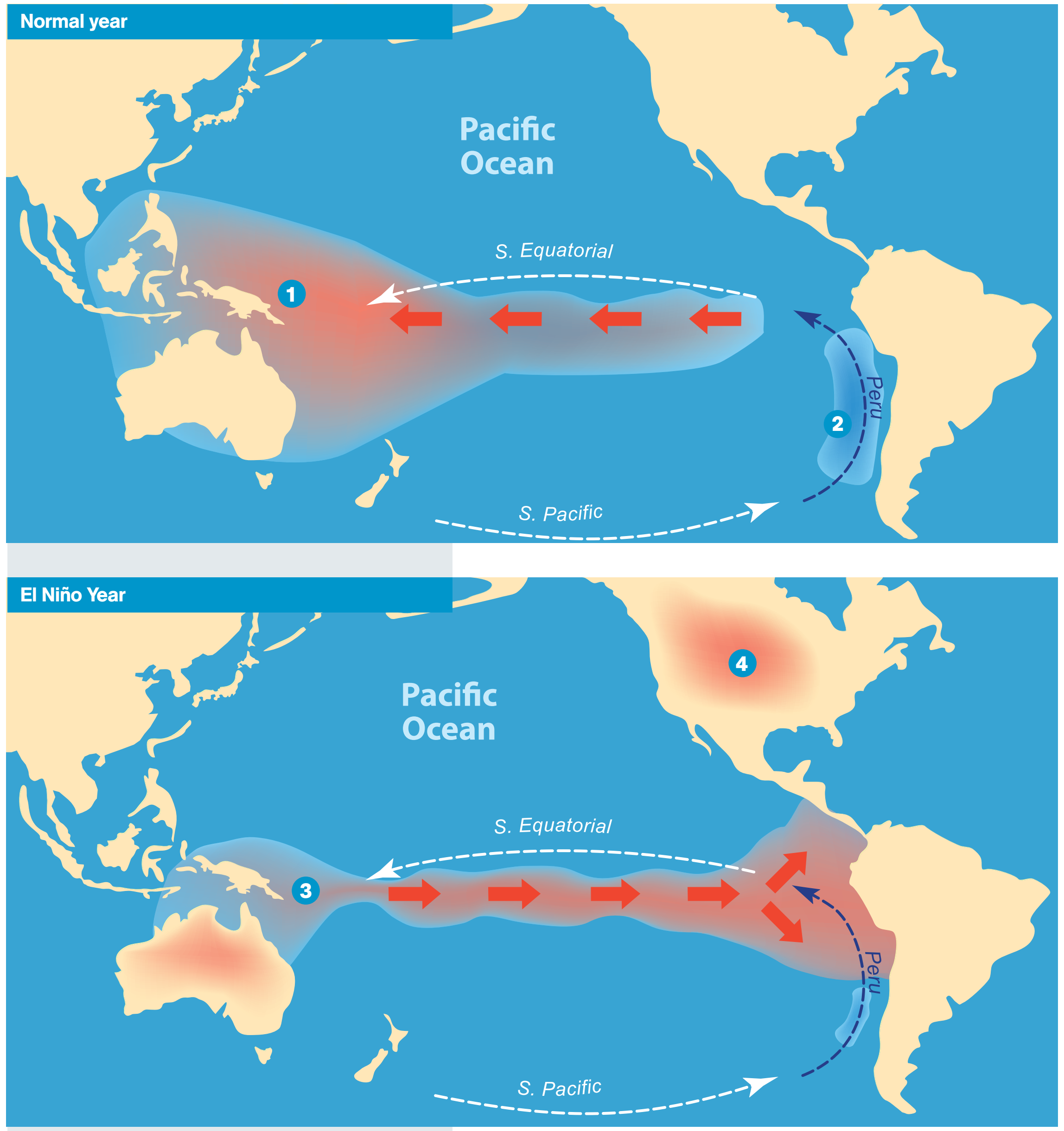
As a result, the maximum allowed transit draft will be reduced to 11.73 meters, from the usual 11.89 meters. This will affect nearly 20% of vessels using the busy trade route, which saw 13,482 vessels pass through the canal during 2014, carrying cargo of 326.8 million tons and recording revenues of $1.91bn.

The most recent El Niño phenomenon involving similar conditions took place during the 1997-1998 season, according to the Authority. This was the most powerful El Niño on record, but scientists believe the current cycle is on track to rival it.

"These temporary and preventive measures are due to an anticipated climatic variability event related to El Niño, a climate phenomenon resulting in periodic warming of the tropical Pacific Ocean," it said in a statement. "When this occurs, El Niño changes the pattern of rainfall in many regions of the planet."

The currently already intense El Niño phase is expected to become even stronger as we head into the autumn, and then to abate at the beginning of next year, according to Munich Re's Geo Risks Research. The stronger an El Niño is, the more likely it is that the ENSO oscillation will switch to a La Niña phase in the following year. The influences on the different weather extremes then tend to be reversed.

"So the trends for 2015, with a large number of severe weather events in the South of the U.S., and little hurricane activity in the North Atlantic so far, could therefore



Normal Year
1. Equatorial winds gather warm water pool toward the west.
2. Cold water along South American coast

El Niño Year
3. Easterly winds weaken. Warm water to move eastward
4. Warmer winter

The already intense El Niño phase is expected to become even stronger as we head into the autumn

be expected," explained Peter Höppe, head of Geo Risks Research at Munich Re. "Likewise, the severity of the heatwave in India and Pakistan was probably partially influenced by the El Niño conditions."

While heatwaves in India and Pakistan are not uncommon before the start of the monsoon season, the temperatures were exceptional, reaching as high as 49°C. It caused the deaths of approximately 3,600 people and also claimed the lives of countless agricultural livestock.

While the latest forecasts anticipate a below-average hurricane season in the North Atlantic, the 2015 Pacific hurricane season has already broken records, in part thanks to El Niño. Since late May the region has been active, not just with hurricanes, but major hurricanes – with three forming before the middle of June. Only 1956 had seen a quicker start to the season.

Hurricane Andres strengthened into a category 4 storm on June 1 before weakening and dissipating as it moved north. It was followed by Blanca, which also achieved category 4 status and made landfall briefly on the southern tip of the Baja California Peninsula as a tropical storm on June 8: the earliest landfall of a tropical system since records began in 1949. Carlos followed, reaching hurricane status on June 13.

Pursuing recoveries in the Big Data age

U.S. captive insurers continue to outperform the commercial insurance sector, according to a report from AM Best. However, after the low level of loss in 2013, the loss ratio for a number of larger U.S. captives increased in 2014, resulting in a 12 point decrease, suggesting more could be done to reduce the cost of claims.

"Although 2014 wasn't as good a year for captives as 2013, the captive composite has extraordinarily outperformed the commercial composite," said assistant vice president Steven Chirico. "Net premiums written increased from about $5.8bn to nearly $6.8bn in 2014. This increase is attributable to some rate increases, supplemented by several single parent captives and some expansions in coverages."

While loss expenses rose in 2014, over a five and ten-year period captive insurers have enjoyed significantly lower loss and loss-adjustment expense ratios when compared with commercial lines insurers. This suggests many global corporates are winning when it comes to captive claims management.

"There is a trend for these organizations to capture more accurate data - both structured and unstructured so-called Big Data - and to do more with this information using predictive analytics," said Neil Allcroft, senior vice president of Global Markets at Crawford. "This can help identify pinch points and reduce losses. It is where third party administration (TPA) comes into its own."

"TPA is simply a large volume of small risks," he continued. "It's the 3,000

Big Data: Big Numbers

90%
The proportion of the world's data that has been generated in the last two years

21%
The estimated amount the insurance combined ratio could be reduced as a result of big data and technology

26-30bn
The number of devices that will be wirelessly connected to the internet by 2020

Sources: Morgan Stanley, BCG, Gartner and IBM

slips and trips each year in a supermarket or restaurant franchise, it's all about data and what they can learn from it, and if you stop the frequency you can stop the severity. It's logistics: getting tens of thousands of claims from around the world and making some sense of them."

Drilling down

One example is a global energy company that has an international network of more than 40,000 gas stations. In the past, damage to the pumps caused by third parties was simply written off, but by analyzing the cost of these claims the case was made to do more to pursue such recoveries.

"We showed our client that by using CCTV and automatic number plate recognition they could pursue these recoveries," explained Allcroft. "We now recover millions of dollars for them every year, whereas they used to write it off. And as part of the process they get any damage repaired faster so their pumps are out of action for less time."

"What some organizations find when they look at the claims data is that a product or service that appears profitable, could be unprofitable, because they are having too many claims around it," he continued. "Drilling down into the claims data can help to reveal these issues and sometimes, with drug companies for instance, the claims cost is built into the price of the product."

As well as assisting with the pursuit of recoveries, predictive analytics can also help determine the best way of handling a claim. For a retail organization, for instance, it is important the customer has a good claims experience. One negative tweet from a disgruntled customer could be disastrous from a reputational and brand perspective.

However, with the growing incidence of fraud in many sectors, there is also a need to determine whether a claim is genuine. Unstructured and partially structured data can offer a whole new level of insight as part of this process. A personal injury claim could quickly be repudiated if the individual posts pictures on social media of him or herself on the ski slopes for instance.

Predictive analytics uses a combination of rules and modeling to identify these potentially spurious claims, which can then be flagged as requiring further investigation by TPA claims managers. It picks up patterns in the data that may not be apparent to the naked eye. Genuine claims on the other hand, can be settled quickly and fairly, to the benefit of both parties.

Hard lessons to learn

KATRINA CHANGED THE INDUSTRY APPROACH TO MAJOR CATASTROPHE LOSSES

This year marks the ten year anniversary of Hurricane Katrina, an event that tested the reinsurance industry to the limit. It exposed flaws in the most robust of operating strategies and led to a period of industry-wide introspection, which still reverberates today. On the eve of this anniversary, a new Crawford report, '*10 Years after Hurricane Katrina: A Retrospective on Claims Handling*', considers how both the market and Crawford itself have advanced from the lessons learned from this unprecedented loss event.

In total, Crawford handled more than 38,000 assignments from Katrina/Rita/Wilma. Assessing hundreds of claims on a daily basis, some spanning multiple locations and with loss potentials of over $100m, the rapid series of losses pushed the Crawford team harder than any previous event.

"Katrina was the most complicated event I ever worked on, including even Andrew," says Richard Lafayette, chief technical officer of Crawford's Global Technical Services® unit. "The logistics made it nearly impossible to get work done. At times it was almost overwhelming."

Virtually every aspect of handling the losses proved challenging, from locating claims sites, to handling system bottlenecks, to tackling the wind vs. flood damage dilemma. While Crawford was able to rally in response to the extreme event, like many others in the industry it knew that changes had to be made.

In the aftermath, Crawford set about creating "the Katrina model". Designed to enable the firm to deploy capabilities quicker and handle claims more efficiently, the model spans resources, logistics, infrastructure and processes, as well as issues such as causation and handling consecutive events.

Investment in business process management tools has helped enhance and automate critical processes, while also boosting analytical capabilities to support dynamic decision making in the midst of losses. Technological advancements have included CAT Connection, a proprietary event resource management system that enables constant contact between adjusters, and the Performance Management Center, which allows Crawford to monitor global events and claim activity in real time.

The Performance Management Center "allows us to view every claim at any point in time," explains Bud Trice, Crawford's vice president of catastrophe services. "We're handling claims today on a level we never could have before."

Crawford chief information officer Brian Flynn adds: "With CAT Connection, we are able to pre-deploy adjusters, even before an event, and can start deploying them prior to the point of impact." The technology enables automated assignments and scheduling, informing on not only which adjusters are available, but also their location, certification and specific skills to ensure accurate deployment.

Such steps have dramatically speeded up the firm's claims handling capabilities, and under the control of its rapid response 'Pro-Act Team' ensure resource allocation is fully optimized based on the unique loss characteristics. "The Katrina model has worked extremely well," concludes Lafayette. "It's a big part now of our plans for handling similar events in the future."

To download the report go to: crawfordandcompany.com/katrina.aspx

Katrina in numbers

1,833 lives lost	**$41bn** in insured losses
$100bn total economic impact	**172mph** maximum wind speed
1.7m claims	**75%** of New Orleans flooded

"Katrina was the most complicated event I ever worked on, including even Andrew. The logistics made it nearly impossible to get work done"
Richard Lafayette, CTO, Crawford Global Technical Services®

First on the scene

Taking stock in Tianjin

THE DEVASTATING EXPLOSIONS AT THE PORT OF TIANJIN COULD PROVE TO BE CHINA'S COSTLIEST-EVER MANMADE CATASTROPHE, WITH CLAIMS BETWEEN $1.6BN AND $3BN EXPECTED. *ON THE FRONTLINE* INVESTIGATES

Crawford executive general adjuster Paul Spurdle's experience dealing with the aftermath of bombs in Northern Ireland during the Troubles helped prepare him for the devastation he was to find in the north east Chinese port city of Tianjin, home to 15 million people. "I'm familiar with explosion and blast damage and the ensuing problems to be expected," he says.

On August 12 2015 two massive explosions left behind an enormous crater and caused an inferno that damaged and destroyed warehouses, containers and thousands of cars. It is understood the warehouse at the center of the blast stored hundreds of tons of hazardous chemicals and sodium cyanide was found as far as 1km from the site.

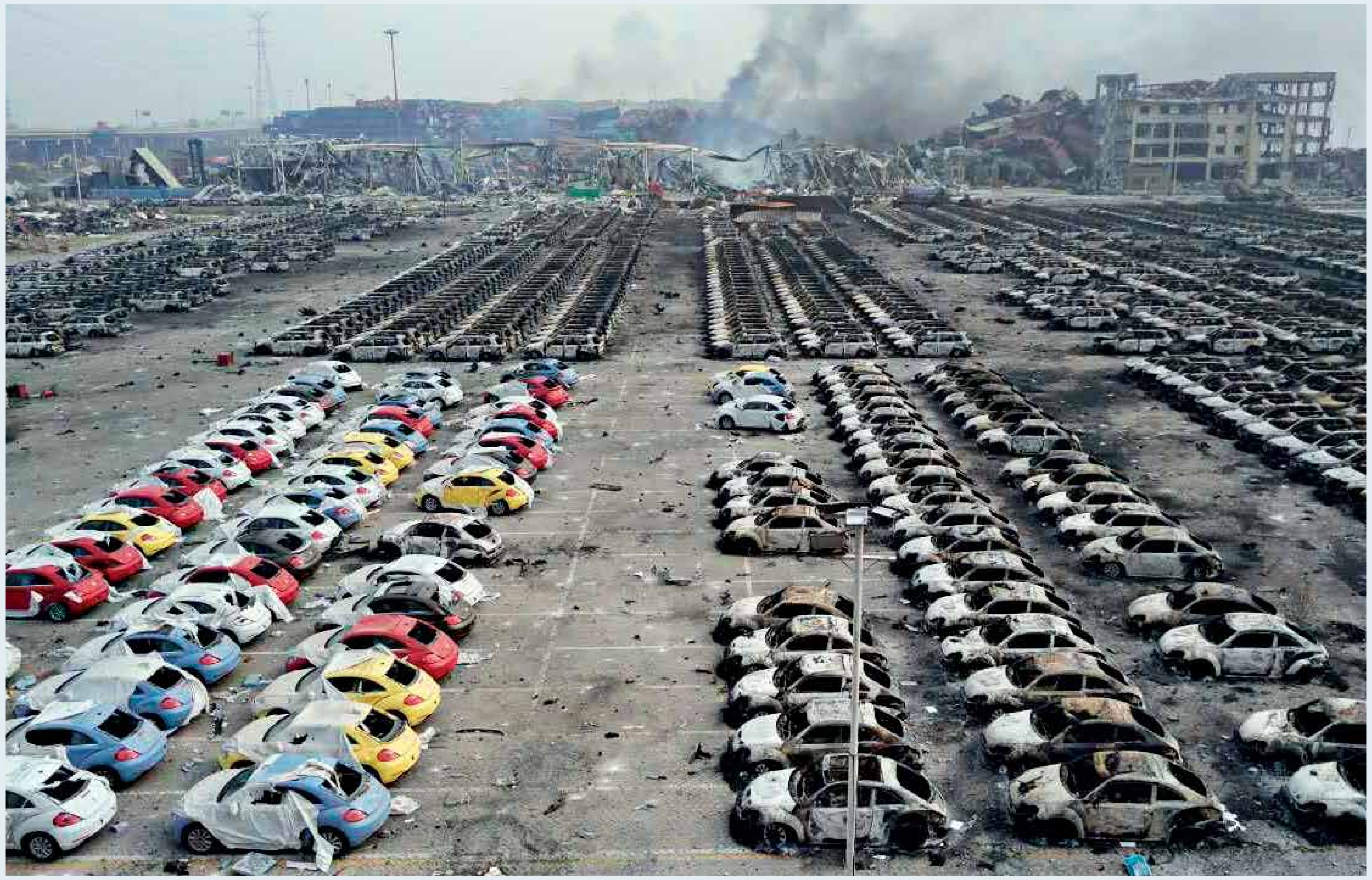
Hundreds of local residents were evacuated and a three kilometer exclusion zone was imposed. At the time of writing, the death toll was at 161 with many more injured and 12 people still missing.

Crawford Global Technical Services® (GTS™) adjusters were on the scene shortly after the incident occurred and have since been working around the clock to handle claims for many multinational corporate clients and for insurers from both the Chinese and Japanese market. The team is being led by Spurdle. He is working side-by-side with the Crawford team based in Tianjin, headed up by Allen Liu, manager of Crawford's Tianjin office.

The explosion devastated a vast area of the port - the tenth largest and sixth busiest in the world - where shipping containers were thrown around like match sticks, thousands of new cars

Port of Tianjin

The Port of Tianjin is the largest port in Northern China.



were torched and port building were left as burnt out shells, according to Reuters. "It's still early days," says Spurdle. "Outside the exclusion zone we've got a reasonable feel for the extent of damage sustained, which includes a lot of uninsured private apartment buildings."

"However, there are also several multinational and local manufacturing facilities within the five-mile blast band," he continues. "They have invariably suffered damage from the explosion shock-wave, which includes broken windows along with distortion to external walls, roof panels and other structural elements. In addition, there has also been ensuing damage caused by water escaping from ruptured sprinkler systems. Production machinery has been shaken around and will need repair/recalibration and there are business interruption issues following the property damage and also the closures of factories due to general environmental safety concerns relating to toxic gases."

Noxious chemicals and restricted access

Rather than sitting back and waiting for claims to come in, the Crawford China team has taken a hands-on approach in responding to the disaster, explains Spurdle: "Our employees in Beijing and Tianjin offices were on site fairly quickly to assess the extent of the problem, however, the government authorities had placed a 1.8 km exclusion zone around the immediate port area where the explosion occurred, and access was only possible some two weeks later, on August 25."

> The lion's share of claims arising from the disaster are expected to come from motor, cargo, liability and property insurance

"Our local response has also been proactive and the risk managers of our multinational accounts, with a presence in the area, were contacted immediately after the explosion happened, and they were briefed regarding the situation on-the-ground and their potential exposure at an early stage," he continues. "Several of these multinationals also had cargo passing through the port (including around 10,000 new vehicles) and our inspections of this damage are continuing however, much is clearly a total loss."

The warehouse devastated by the explosions is believed to have stored 700 tons of sodium cyanide - well above what was actually permitted - 800 tons of ammonium nitrate and 500 tons of potassium nitrate. An investigation is underway.

A team of 217 chemical and nuclear experts have been drafted in, as well as professionals from producers of the material to help handle it, and the neutralizing agent hydrogen peroxide has been used. The existence of noxious chemicals has made the loss adjusting task even more of a challenge, explains Spurdle.

"The warehouse that exploded inside the port was storing large quantities of sodium cyanide and if it mixes with water it turns into cyanide gas," he explains. "There were therefore concerns that any heavy rain might mix with the sodium cyanide deposits, and that cyanide gas would be taken on the wind to other areas outside the port vicinity. But the government authorities have recently advised that the chemical deposits have now been identified, removed and neutralized."

Bird's eye view

Because access to the exclusion zone was restricted in the days following the disaster, Crawford has made use of drone footage gathered by the media and others as well as satellite imagery to get a sense of the extent of the devastation. Reinsurance broker Guy Carpenter was able to brief its clients on the container, vehicle, factory and transportation damage based entirely on data and imagery gathered from such sources.

Through CAT-VIEW℠ it was able to utilize high resolution pre- and post-event satellite imagery to understand what exposures were present at the time of the blast. Using a traffic-light style system it color-coded assets based on this initial property damage analysis, where red indicated complete destruction or major structural damage, amber indicated visible roof damage and debris through to green, where there was no visible damage.

"The explosions that occurred in Tianjin, China are likely to constitute one of the largest insured man-made losses to date in Asia and will certainly be considered one of the most complex insurance and reinsurance losses in recent history," commented James Nash, CEO of Asia Pacific Operations for Guy Carpenter.

On August 25, when GTS™ loss adjusters were given limited access to the blast zone, the decision was made to keep the visit relatively short due to concerns over safety. "It has been a little dangerous so we have to be cautious regarding allowing employees into the exclusion zone," says Spurdle. "But they have been in and they are actively counting vehicles and looking at the damage now."

"We have equipped our adjusters with safety equipment but we are somewhat reliant on the government to inform us when it is safe to go into these areas and when toxic gases have been neutralized," he adds.

The lion's share of claims arising from the disaster are expected to come from motor, cargo, liability and property insurance. These losses will be shared with both local and international reinsurers. Significant disruption to global supply chains is also expected. If current claims estimates of $1.6bn to $3.3bn prove accurate, (figures released by Guy Carpenter, which are reported to exclude business interruption and supply chain losses) this represents about 88% of total direct premiums written in Tianjin in 2014.

The disaster highlights the concentration of risk that exists in areas such as busy ports, where heavy industry and petrochemical plants sit alongside high value assets such as cars. Media reports available at the time of going to press indicated the number of vehicles destroyed could be as high as 18,000, with losses sustained by Chrysler, Hyundai, Jaguar Land Rover, Mitzubishi, Mazda, Renault, Toyota (Lexus) and Volkswagen among others.

As media images have shown, many of the thousands of imported cars parked at the Tianjin port have only their frames remaining following the violent explosions. "Having seen the footage it looks as if they are a total loss - in fact I'm pretty sure all of them are a total loss primarily due to the fire damage ensuing after the explosions," says Spurdle.

Industrial accidents are not uncommon in China. Last year's crude oil pipeline explosion in Dalian and an explosion in 2013 in Qingdao which killed more than 60 people are recent examples of the kind of losses that have punctuated China's accelerated economic growth. But for Spurdle, the disaster in Tianjin is on a scale that has not been seen before. "There have been similar events in China but none of this size."

Interview:
The Honorable Tom Ridge

Facing the cyber sun

WHY COMPANIES MUST ACKNOWLEDGE THE NEW CYBER REALITY

"There are only two types of company," believes Tom Ridge, CEO of Ridge Global LLC and Chairman of Ridge Insurance Solutions, and the first U.S. Secretary of Homeland Security and 43rd Governor of Pennsylvania, "those which have been hacked and know about it, and those which have been hacked and don't."

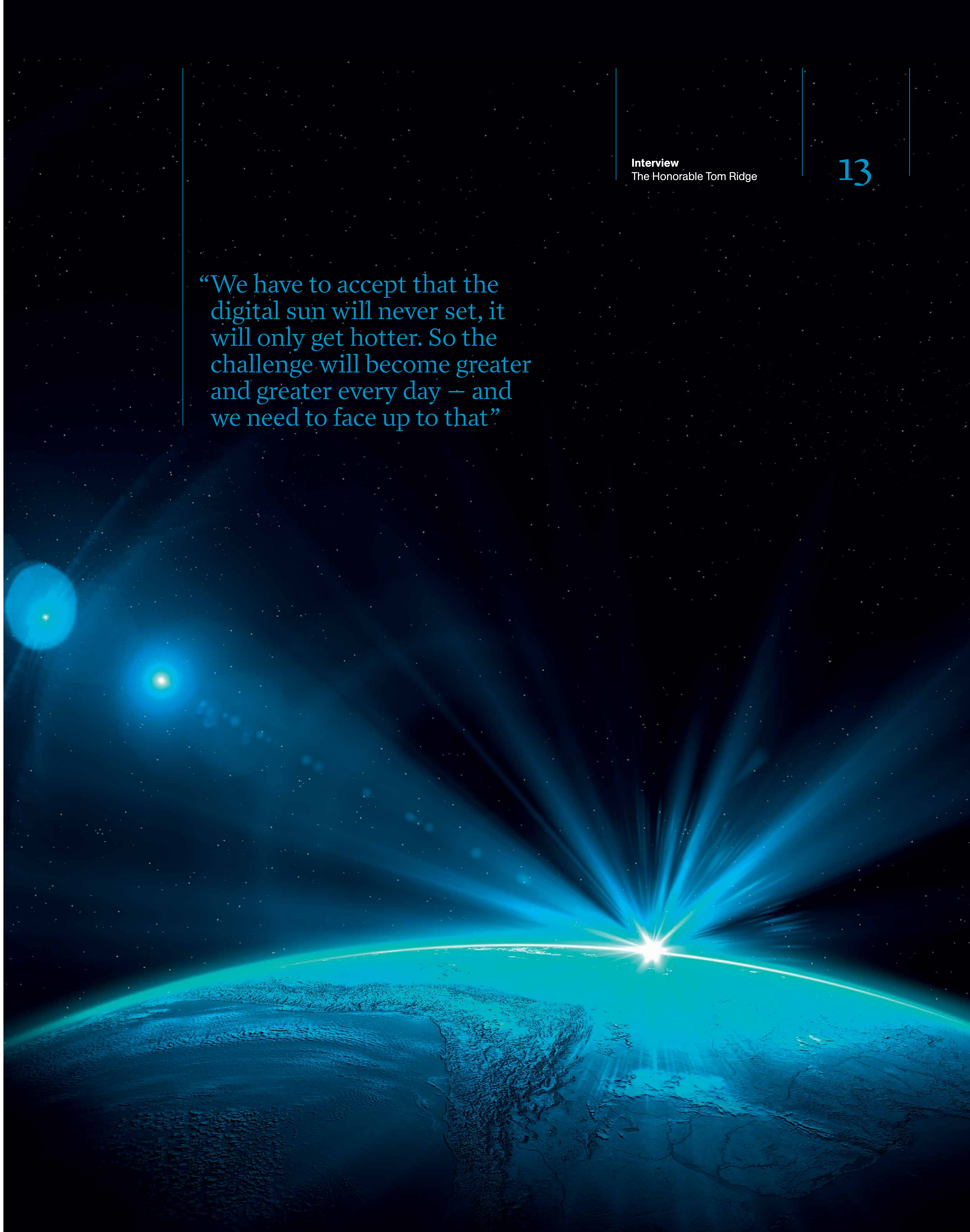
It is not an exaggeration to say that cyber attacks have reached epidemic proportions. For example, PwC's latest Global State of Information Security Survey reported a 48% increase in the number of security incidents detected by respondents in 2014 to 42.8 million. Yet establishing a clear picture of the overall scale of the threat is a significant challenge.

"We will probably never really know the potential magnitude of the risks posed by cyber attacks," believes Ridge. "The known unknown in the cyber space is its potential scope. While we may have an understanding of the actors involved and the information they are after, what we don't know is where, when and how they will attack. The nature of the threat changes constantly as the attackers adapt to and overcome our cyber defenses. What we do know is this: it is a permanent reality of living in a hyper-connected digital world – and we must accept it."

Acknowledgement of this cyber reality at the corporate level is growing, but Ridge does not believe it is growing fast enough. "We have looked at how prepared a number of major organizations are at an enterprise-wide level for this new digital world, from governance processes to strategic planning down to day-to-day operations, and have been amazed at how slow some are to accept this new reality."

Recent public revelations of major cyber breaches have certainly changed the corporate mindset. The digital onslaught is no longer viewed as a technology issue, but rather a direct threat to the overall integrity of the organization, with the ability to disrupt at every level from brand strength right down to basic administrative capabilities.

Tackling such an invasive threat requires more than simply building higher walls, he says. "You cannot simply think about how you try to defend against these attacks, but how you build the capability to respond and recover. These are risks that cannot be elimi-



nated, they can only be managed – the barbarians are no longer at the gate, they are inside your network and they are concealed."

The goal is to build a digitally-resilient organization. "Such companies have switched from reactive to pre-emptive mode, constantly managing their risk environment rather than letting it manage them." No matter how sophisticated, elusive or aggressive the cyber assailant might be, he adds, "by building your cyber resilience foundations based on people, process and technology, this should still provide you with a sufficiently robust defensive mechanism to withstand even the most concerted of attacks."

He likens this evolution to W. Edwards Deming's concept of 'total quality management'. This philosophy challenged companies to view every stage and process as a critical juncture, and to hold everyone to the highest possible performance standards. "This was transformative in 20th century business culture, and I fully expect the evolution of digitally-resilient organisations to be equally transformative in the 21st century."

Growing acknowledgement of cyber attacks as a business risk rather than a technology issue is helping drive this cultural evolution. However, simultaneously, greater government oversight is playing a prominent role. In the U.S., for example, the Securities Exchange Commission has established increasingly prescriptive measures regarding the digital responsibilities of financial organizations; while in Europe the *Directive on Network and Information Security* is looming large on the digital horizon. However, Ridge finds these developments troubling.

"I am fearful of the day someone in government believes they can be prescriptive when dealing with the cyber threat. I have been proud to serve in government most of my life, but there is no way such a body can conceivably move with the same degree of speed and alacrity that the cyber attackers employ. But I do foresee a day that government will not only require companies to undergo a fiscal audit, but also a digital one."

A potentially more positive driver he believes is insurance. "I think the insurance market can be as much a catalyst for change in the cyber arena as anything government can do." While robust actuarial cyber data remains

Tom Ridge, chairman of Ridge Insurance Solutions

> Growing acknowledgement of cyber attacks as a business risk rather than a technology issue is helping drive this cultural evolution

limited, a better understanding of individual companies' cyber profiles and improved threat intelligence is bolstering the effectiveness of cyber insurance solutions.

"If an organization wants to purchase comprehensive cyber cover for this business risk with few exclusions, then they must demonstrate they are managing it aggressively, it is embedded within their governance structure, integral to their overall business strategy and spans people, process and technology."

This raises an interesting question. How deep into its digital framework will the insurer need to go before writing cover, and how deep will the organization be willing to let them go? "The client may have to undergo a very rigorous cyber 'interrogation', or complete extensive cyber questionnaires. The insurer may also wish to place a tool on their network to gain informed, consent-based intelligence on vulnerabilities and the effectiveness of existing cyber-protection procedures. Will companies be willing to accept such a thorough examination? They may have to if they want to secure the necessary level of coverage."

The risk posed by cyber intrusion places an even greater onus on the duty of organizations to protect their employees, clients and shareholders, Ridge adds, and they must respond. "Corporations have a responsibility to manage this threat of attack aggressively and the insurance industry must stand side-by-side with them on the defensive line."

The challenge facing corporations is not simply having in place robust procedures, protocols and digital perimeters, but also ensuring these are constantly shifting and adapting to the evolving dynamics of the threat. "The threat evolves at machine speed, and companies must have the technology and processes in place to match that," Ridge believes. "They must see this as a continual investment in resilience and not simply a cost. Most companies dedicate considerable expenditure to R&D – that same level of expenditure must be dedicated to cyber resilience."

The greatest strength of the internet, he concludes, it also its greatest weakness – ubiquity. "We have to accept that the digital sun will never set, it will only get hotter. So the challenge will become greater and greater every day – and we need to face up to that."

When the clock starts ticking

WHAT DO YOU DO IN THE CRITICAL 48 HOURS FOLLOWING A CYBER BREACH? COMPANIES NEED TO FACE THE REALITY THAT SUCCESSFUL ATTACKS CAN AND WILL OCCUR, AND DEVELOP AND PRACTICE THEIR RESPONSE, DISCOVERS *ON THE FRONTLINE*

The cyber threat landscape continues to evolve as companies face up to a new reality amidst an environment of tightening data protection laws. Organizations that handle sensitive information – such as those in the healthcare, financial services and retail sectors – are particularly cognizant of the risks and use multiple levels of encryption and security to ensure their data is protected.

The aim for most firms is to avoid being the low hanging fruit – to have enough information security and protocols in place so they are not easy prey for hackers. But more and more, there is a realization that to some extent at least, security breaches are inevitable.

"There are very few companies that don't communicate electronically or have any kind of confidential information or aren't reliant on different software systems," says Sarah Stephens, head of cyber at JLT Specialty. "So the cyber threat is a fact of life for everyone that they are going to have to get to grips with."

"But it's also a fact that you can't have perfect security," she continues. "So within the information security community the focus has shifted somewhat from 'prevent everything' to 'prevent most things' and get really good at detecting and stopping things when they do happen. There's this admission and understanding that you can't prevent all intrusions. It's as much about knowing when something is going wrong and being able to react very quickly than having this

> More and more, there is a realization that security breaches are inevitable

false sense of security that we can prevent everything."

According to one piece of research by cyber security experts FireEye and Mandiant, 97% of organizations had been breached, meaning at least one attack had bypassed all layers of their defence. Such hacks can go undetected for some time.

"In 2014, the average length of time that victims were compromised before the breach was discovered was 205 days, down from 229 days in 2013 but still some average of seven months of free rein the threat actor had within the environment prior to discovery," says Darren Gale, EMEA lead for Mandiant Consulting Services. "Think about how much information a hacker could have access to or steal given that length of time within your environment."

Too many organizations neglect their incident response planning, according to McKinsey & Company. It argues that more firms should operate like the U.S. Department of Defense, which spends over $3bn a year on cyber security and operates under the assumption that its unclassified networks may be penetrated. It therefore concentrates its efforts on how it will maintain operations and minimize the damage from a breach.

"The Mandiant philosophy is breaches are inevitable, but becoming a headline is not, with the goal being that a breach event actually becomes just another alert that is dealt with before the hacker can complete their mission and impact business or steal data," says Gale.

Human fallibility

One reason companies striving for perfect cyber security will ultimately fail is the human element, impossible to eliminate with even the most stringent protocols. One statistic suggests only 11% of cyber insurance

> “The worst thing a company can do when it’s been hacked is try and think on their feet”
> **Benedict Burke, head of global markets, Crawford**

claims do not involve a human error or deliberately malicious act. These are the naive employees who fall for a phishing attack, the executives who leave their company laptop on the train and the disgruntled staff member who leaks sensitive information.

“These human elements are things people are exploiting,” says Geoff White, cyber underwriter at Barbican. “More and more, people are living their lives via social media and putting information into the public domain, such as if you hire a new member of staff. Hackers are able to profile someone and send a socially-engineered phishing email and it’s becoming ever easier for them to do that.”

“I’ve heard people from a security background say that for a company on average that runs a simulated phishing attack for the first time, their expectation is that 60% of the employee base will fail and click on the link,” he adds.

Such actions are keeping risk managers and the C-suite awake at night, according to numerous surveys. Cyber attacks were in the top ten most likely global risks in this year’s World Economic Forum Global Risks Report while Aon’s Global Risk Management Survey ranked computer crime/hacking/viruses/malicious codes in ninth position.

“There’s a whole set of challenges for a risk manager to be looking at when it comes to cyber,” says Benedict Burke, SVP and head of global markets at Crawford. “They include: Do I have real risk? Can I transfer that risk? Can I get real help around that risk… is there a market to go to? Can I get my C-suite to think about this? And then, when I buy it – what happens next? Do I buy it with a substantial retention or without a significant retention – how does the incident get managed above and below the retention?”

There are clear links between data breach and reputational risk (damage to reputation/brand took the top spot in Aon’s survey), and incident response plans typically include external public relations and crisis management expertise. In the U.S., where companies are mandated to notify the authorities and their customers when data has been compromised, there is a clear impact on share price as consumers vote with their feet.

“You can see the public reaction to data breaches and the press coverage they get,” says JLT Specialty’s Stephens. “If somebody from a company starts talking about what’s gone wrong without a real knowledge of what’s going to happen next, you see companies getting into trouble over that. The scripting or timing of some of those conversations can have a big effect on the reputational impact.”

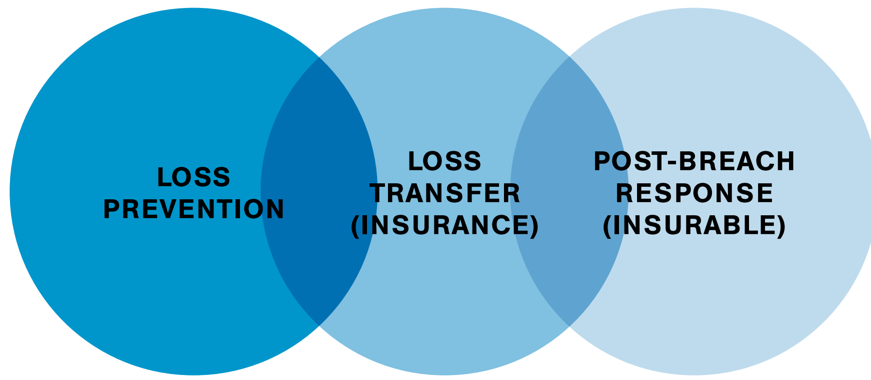
Practice makes perfect

Knowing what to do and who is in charge when your systems have been compromised is essential in today’s business environment. Most cyber insurance policies today offer access to IT forensic, legal, public relations and crisis management experts to guide organizations as they carry out their response plan.

Going a step further, Crawford recently launched its end-to-end incident management solution in partnership with Zurich. The insurer’s cyber customers are given 24-hour access, via Crawford Global Technical Services®, to a pre-approved and contracted panel of experts in legal, cyber extortion, PR, forensic investigation and credit monitoring, as well as Crawford’s own forensic accountancy team.

The three basic elements of cyber coverage: Prevention, Transfer, Response

Cyber risk management today involves three essential components, each designed to reduce, mitigate or avoid loss. An increasing number of cyber risk products offered by insurers provide all three.



Source: Insurance Information Institute Research

“When I read anything about cyber I don’t see enough about the execution of the promise – how to manage the incident,” says Burke. “These partners are experts in their field at IT forensics, legal, identity protection and PR etc, so we have brought them together under our wrapper.”

The worst thing a company can do when it’s been hacked is try and think on their feet, says Burke. “Imagine you’re the CEO of a retail business and you’ve got ten million records that have just been hacked. You’re a B2C corporate and the hackers are in there. Do you quarantine your system or not quarantine your system?”

“Say you answer ‘Yes’. Who knows you’ve just quarantined it? The hacker. So you’ve just told the hacker you know they’re there,” he continues. “So you’ve just turned off your consumer access, which can have a massive reputational issue and cause a reduction in revenues because consumers can’t buy online anymore – and you told the bad guys that you know they’re there.”

> In Europe, proposed new data protection laws mandate notification of a breach within 24 hours

“There’s no right or wrong in this situation, but thinking on your feet is most definitely the wrong thing to do – you need to pre-plan and scenario play like this,” he adds. “Ask questions like: A journalist calls you and says, ‘I’ve just been told you’ve been hacked’. What do you say? Do you deny, accept, or buy time? Do you notify?”

The decisions and actions taken in the first 48 hours following a hack can significantly minimize the fallout, which can range from business interruption and damage to IT infrastructure to costly lawsuits, loss of reputation and regulatory fines. Firms with a tried and tested plan of action have the best chance of mitigating the consequences, thinks Stephen Wares, EMEA cyber risk practice leader at Marsh.

“Having a detailed incident response plan documented in advance of an incident is certainly going to help,” he says. “But these things can be a bit dry and dusty and bottom drawer and forgotten about, so it’s important that the stakeholders are aware of what their role is going to be. There’s no better way of helping them to become aware than to test the incident response plan and run a live scenario to deliver the experience of what they’re going to have to do in the event of a breach.”

“The ability of the organization to mobilize both the internal incident response team and ensure they get the IT forensic team onsite very quickly is essential,” he continues. “You need to discover very quickly what the parameters of that breach might be - where you think the hackers have come into your network, what may have been compromised and therefore what your obligations are in relation to data breach notification law - because the clock is ticking. There is often a time limit for U.S. entities to notify individuals following discovery of a breach.”

European-based firms will also soon be required by law to notify stakeholders in the event of a breach. Proposed new data protection regulations are currently being thrashed out, with a final set of rules expected by the end of 2015.

In their current form, firms must notify national supervisory authorities within 24 hours of a serious breach, where feasible. Those found guilty of failing to adequately protect sensitive data will be fined up to 2% of their global annual turnover, with the European Parliament proposing this should be raised to 5%.

“Although there is a two-year implementation period, once the legislation is published it will fire a starting gun and set the standard that large corporations might be expected to deliver against,” thinks Wares.

“The U.S. firms have set the benchmark in terms of what is reasonably expected in the event a large brand and organization loses a certain amount of data,” he continues. “Many U.K. organizations that I speak with tell me that they would consider implementing a comparable response to that of U.S. companies in the event of a major breach in order to protect their reputation, even in the absence of specific law mandating certain actions.”

A winning approach in workers' compensation

MEDICAL MANAGEMENT SERVICES IMPROVE OUTCOMES FOR INJURED WORKERS AND EMPLOYERS

> "Medical management programs enable early engagement on a claim and a faster return to work"
>
> **Danielle Lisenbey, president and CEO, Broadspire®**

An injury or illness arising out of one's work can be costly. For claimants and their employers, a complete recovery and return to work, as quickly as possible, are ideal, but how do we ensure this happens? The answer lies in medical management programs.

Historically, the longer a workers' compensation or employers' liability claim remains open, the greater its expense. As occupational health care costs rise, employers and health care payers want to contain expenses.

"Medical management programs enable early engagement on a claim and a faster return to work, which is good for both the employer and the employee. It's a win-win for everybody," says Danielle Lisenbey, president and chief executive officer of Broadspire, a Crawford company.

In medical management, the aim is to get the patient on the right track. This involves a combination of the right price, care coordination and optimizing outcomes. Broadspire also encourages employers to have a return-to-work plan in place, with senior management support, and clear responsibilities for the injured worker and employer.

"Medical management is not about securing the cheapest care; it's about securing the most appropriate care," said Jim Andrews, executive vice president of prescription benefit management services at Healthcare Solutions, an Optum company. The company, which provides data and care management services to Broadspire, focuses on improving care coordination, which ultimately produces better outcomes at less cost.

"Care coordination is a problem, especially in workers' compensation. If you can coordinate care in a workers' compensation claim, you can reduce the redundancy of services," he says. "It's a win for the employer because they get the injured workers back to work sooner."

In workers' compensation claims especially, medical management is an effective way to contain costs. "The medical component is becoming the

Top five cost drivers in Workers' Compensation/ Liability/Disability

Source: Broadspire

dominant factor in a workers comp claim," explains Paul Braun, managing director at Aon Risk Solutions. "From a concentration standpoint, it used to be that about 70% of the claim was for indemnity, and 30% was for medical. Now, it's almost reversed."

There has been a significant rise in medical costs over the past decade. Currently, U.S. healthcare spending is on track to hit $10,000 per person or $3.207 trillion in total in 2015, according to a Forbes report. "With the rise in medical costs, there has been a greater focus and need for medical management in all aspects of claims," says Lisenbey.

"Claimants often are confronted with a lot of different information, from their doctors as well as employers," she continues. "We help them understand what's going on with their case, we engage them at the family level and help them understand what questions to ask in order to get the right care."

Joining the dots

Medical management services also deliver advanced analytics to employers, Lisenbey notes. Broadspire uses e-triage, a detailed interview process that captures claimant information including co-morbidities that might not be observable. "For example, the e-triage process might reveal that a claimant has a smoking habit, and medical evidence shows that smokers take longer to heal from injuries," she explains.

That kind of data can help in applying different strategies to further improve the outcome. Similarly, provider analytics enable employers to maximize their physician networks by comparing factors such as durations and costs related to services the physicians provide.

Another tool that Broadspire utilizes is the 'virtual peer', a composite of data points that enables comparisons of employers' experiences and claims trends, even among organizations in different industries. Data that is helping produce better outcomes also involves prescription drugs – one of the fastest-growing components of medical claim costs.

"Our data is available in almost real time, which means it becomes available for analysis in near real time," says Healthcare Solutions' Andrews. "Paper-based medical bills take much longer to receive and analyze. Although data analysis on prescriptions can quickly show trends, "it doesn't always mean that you can do something about it immediately."

Worrisome drug-related trends in workers' compensation include: physician dispensing, increasing use of compound pharmaceuticals and use of narcotics to relieve pain. "With narcotics and opioids, it's important to manage those from an injury and recovery standpoint. You need to offer other services to help people with intractable pain. You can't just say no to the drugs without offering something else, or coordinating care with the primary physician," says Andrews.

Modern day nursing

Broadspire's senior nurse reviewer (SNR) program has also driven significant savings since its launch in 2005. It reviews cases and determines an appropriate medical management intervention, with periodic review until a favorable outcome is reached. Among its benefits are: an average reduction in claim payments exceeding 10%, improved closure rates, and reduced litigation rates.

"In workers' compensation, a cost-saving factor is a return-to-work program," Aon Risk Solutions' Braun says. "Return to work is critical, and getting someone like a nurse case manager to assist and support that model is very important."

In the UK, Broadspire provides medical management services that help employers and claimants navigate the single-payer National Health Service. "The NHS is the first port of call for anyone who's injured, and hospital and point-of-service medical treatment is covered," says Deborah Edwards, head of rehabilitation at Broadspire.

"As patients progress through the NHS, the rehabilitation and recovery process becomes patchier," she continues. "If someone is out of work, they might be waiting six months for surgery in the NHS that could be performed in a week if privately paid. We juggle those services with the goal of rapid return to work."

Change in the air

LAST YEAR'S AVIATION LOSSES BELIE AN UNDERLYING TREND OF IMPROVING SAFETY AND REDUCING CLAIMS FREQUENCY. BUT WHEN INCIDENTS DO HAPPEN, THEY ARE INCREASINGLY COMPLEX AND EXPENSIVE, DISCOVERS *ON THE FRONTLINE*

We have recently witnessed a period of some of the most high profile and unusual losses the airline industry has ever seen. Acts of war, terrorism, human error and pilot suicide – the major aviation losses of the past 18 months have grabbed headlines and cost the insurance industry an estimated $1.67bn in claims, according to Willis (comprizing $414m of hull losses, $791m for liabilities and $465m for attritionals).

Nevertheless, the underlying trend is one of increasing safety and a reducing number of claims overall. Improvements in technology, training and risk management are credited for the reduction, according to Allianz Global Corporate & Speciality. In 1959, one million flights taking off in the U.S. resulted in 40 fatal accidents. Today this statistic is 0.1, according to AGCS's *Global Aviation Safety Study*.

"When I started in the business almost 30 years ago, my boss had one basic message: 'You have to expect an average of 20 jetliner losses around the world every year','' recalls Josef Schweighart, head of Aviation Germany, AGCS. "Thankfully, such statistics are now history. There has been a staggering reduction in the numbers of both fatal accidents and fatalities in the intervening decades."

A new era of air travel

The improvements in safety are an even bigger achievement against the backdrop of the explosive growth in air travel which has taken place over the past 65 years. In 1950, flying was a luxury and just 31 million people took flights. By contrast, over three billion people took to the skies in 2014, a number which is expected to grow to 16 billion by 2050.

The number of aviation claims has continued to reduce steadily, even in 2014 in spite of the big headline losses. However, when incidents do occur, they are generally more complex to handle and more expensive. This reflects higher values (with exposure rates expected to top $1trn by 2020), increasing repair costs, rising compensation payouts and more stringent litigation.

It remains the case that 70% of fatal accidents in commercial aviation are related to human error, with pilot fatigue a major contributor, according to AGCS. It expects pilot training to become an even bigger issue in the future and there are calls for pilots to undergo more upset prevention and recovery training (UPRT) to reduce their reliance on simulator training and increased automation in the cockpit.

While improvements in technology have undoubtedly improved safety in the skies, new technologies also present emerging risk challenges that can result in significant business interruption. This includes the expected increase of commercial drones (UAVs) and the increasing likelihood of cyber attacks.

"At Crawford, we have elected to get our operators of these drones properly qualified as pilots," says Trevor Light, chief executive officer of aviation at Crawford. "It's important that you have regulation and that it's not draconian in all circumstances, but certainly where you're near either general aviation of major airports you need to be cognizant of what the risks are."

"In the U.S. they are pushing to get legislation in place," he continues. "It's an interesting time to see what will develop and like most things in life, it's like a pendulum. There's a development which is really helpful and has great application but there has to be regulation of that – it's a balance between the two."

Technical faults

Problems with an aircraft component can have a significant impact in today's industry where expensive composite materials are used and many parts are made to order. In 2013, problems with its on-board lithium-ion batteries saw the new Boeing 787 Dreamliner fleet grounded for three months while a solution was found.

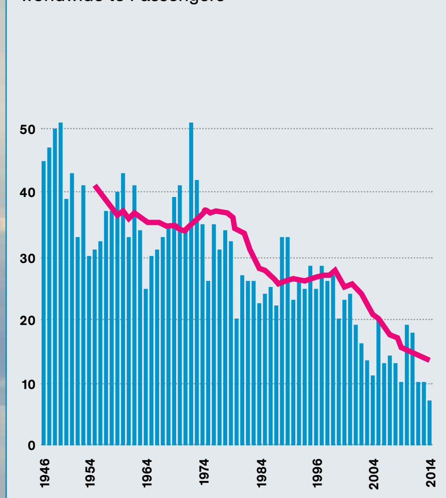
It followed the grounding of Qantas' A380 six-strong fleet in 2010 and 2011 after an engine failure incident at Singapore's Changi International. Emergency safety checks were carried out on the aircrafts' Trent 900 Rolls Royce engines. The resulting $70m worth of repairs to the new generation aircraft took many by surprise, signalling a change in claims trends.

Aircraft ownership also plays a role, with aircraft increasingly likely to be owned by banks and consortiums and leased out to airlines. Today's aircraft owners are more likely to write off a damaged aircraft than to leave it sitting on the ground waiting for what could be several months for a new part.

"My impression is that it has become more complex, with more parties involved," says Paul Hayes, safety and insurance director of Ascend Flightglobal Consultancy. "There are fewer total losses and fatal accidents - that's my impression - there are more constructive total losses (CTLs) because of more cash-in-lieu-of-repairs settlements."

Annual Fatal Accidents to Passengers

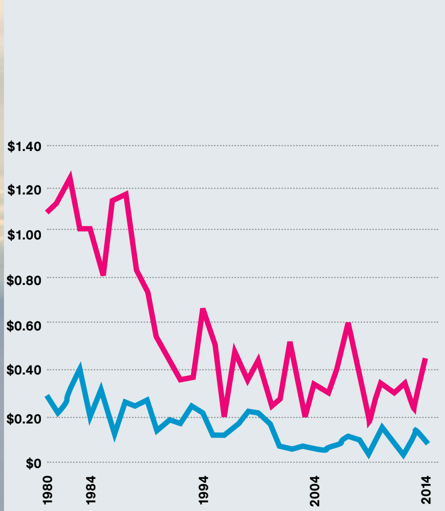
On revenue passenger flights worldwide to Passengers



Source: Ascend Flightglobal Consultancy

Hull All-Risk Burning Cost per $100 at Risk

Western-Built Jets and Turboprops



Summary of recent major Hull War losses

Risk	Date of Loss	Comment
LAM Airlines	29/11/13	LAM Airlines 29/11/13 Suspected suicide (currently settled 50/50)
Malaysia (MH370)	08/03/14	Unknown cause of loss (currently settled 50/50).
Karachi Airport	08/06/14	Insurgent attack at airport.
Tripoli Airport	13/07/14 (Various)	Islamist-led militia attack at airport.
Malaysia (MH17)	17/07/14	Shot down over Ukraine.
Germanwings	24/03/15	Suspected Pilot suicide.
Yemen	02/04/15	Presidential aircraft destroyed by coalition bombing.
Felix Airways	28/04/15	Aircraft destroyed by fire following an air strike.

Source: JLT

It remains the case that 70% of fatal accidents in commercial aviation are related to human error

The $2bn aircraft

Claims costs are also affected by aircraft values, which have been steadily increasing across the board, from the largest airliner to corporate jets. An Airbus A380 was the first aircraft to require an insured limit in excess of $2bn while the hull of a Dassault Falcon 7X business jet is now typically insured for around $60m to $70m.

The trend towards a more litigious society in parts of the world and growing compensation payouts are also driving up the costs of claims. With improved accident investigation, it is now easier to determine liability and potentially sue a number of parties involved in a loss – including the airline, manufacturer and the general aviation firms that provide components and services.

"Exposures in aviation are changing. Safety is improving, which reduces frequency of losses, but severity has been increasing. Today we are seeing a significant change in the underlying risk," says Henning Haagen, global head of aviation, AGCS. "New materials can lead to new losses, but it is the speed of innovation and the need to keep pace with understanding the risks that is the major challenge today compared with the past."

4D Question:

What source of disruptive innovation has the greatest potential to shape the risk environment?

WE ASK FOUR INDUSTRY EXPERTS FOR THEIR VIEWS ON DISRUPTIVE INNOVATION

Eric Schuh
Head of the Casualty Centre, Swiss Re

We see drones as having significant disruptive innovation potential. However, while they open up a large number of commercial opportunities, the inconsistent regulatory environment governing their use means that fully capitalizing on these opportunities will take time.

The regulations relating to the commercial use of drones vary significantly from one region to the next. In Switzerland, for example, there are no specific requirements regarding private use, which is rather unusual. However, one area where there is a degree of consistency is the requirement that there be a line of sight from pilot to drone.

While this is not an issue if I am using the drone to conduct an assessment of a roof or an electricity line quickly and safely; it does prevent me from using drone technology to, for example, transport goods over large distances. However, if this requirement was to change then such technology could become a major disruptor.

Drones could make a huge difference in the aftermath of a catastrophe to view affected areas. Further, they could be used by the emergency services to quickly deliver life-saving medication or equipment to patients in remote locations. We know that drones were used effectively in the aftermath of the Nepal earthquake.

There are risks, however. These are flying objects and we all know what can happen if they fail. Crashes could lead to the pilot or organization being potentially liable for any damage or injury caused depending on the circumstances of the incident. The lack of consistency in terms of regulation is also evident in insurance for such risks, and more often than not drones are excluded from most policies today.

Drones could make a huge difference in the aftermath of a catastrophe to view affected areas

Richard Boseley
Application development manager, Crawford Australia and Asia Pacific

The Internet of Things has become increasingly prevalent. As larger players such as Google enter the IoT arena, this will drive up adoption while driving down prices. IoT devices provide insurers with more data and controls to enable better risk management. This value can be passed onto customers through lower premiums. Once you hit that tipping point where more people than not are linked to the IoT, then those not connected will be at a disadvantage – and may end up paying higher premiums.

In-built monitors in cars mean when an accident occurs, the parts required to repair it can be ordered and sent to the mechanic almost instantaneously. Further, driverless technology could see claims experiences improve due to the predicted reduced risk of human error.

Wearable tech offers the potential to provide premium discounts to "healthy" customers if people are willing to wear a monitoring device and to hit daily health targets. The lower premiums create an incentive to share this information with insurers.

The smart home also has a number of insurance implications. If you have a leak in your basement, a moisture detector could notify your smart phone or shut it off as well. Such capabilities should drastically reduce property damage.

Who owns the data within the IoT is, however, a key issue. Will individuals be willing to share data? I benefit by using Google's free email system, and in return, they use the data they gather to show me relevant adverts. If users of the IoT can see the benefits of sharing data, through reduced premiums or free gym membership, then it is likely they will be more open to sharing.

The Internet of Things has become increasingly prevalent

Jeremy Hindle
Head of enterprise risk aggregation, XL Catlin

One area which I firmly believe will have significant implications for the way the insurance industry operates is the use of mobile phones to access financial products and services. In Africa, for example, some mobile phone companies are currently selling innovative products which are actually disintermediating banks and potentially insurance companies at the same time.

One such mobile system is called M-Pesa ('M' for mobile, 'pesa' the Swahili for money). My son has recently returned from Kenya and Tanzania. While he was there, he had to install the money transfer system as paying by text via an enabled phone was the only way he could pay for certain things.

If you take this process to its logical conclusion, it could, for example, be possible to buy and sell insurance via a phone using a mobile bank account. You don't physically have to have a bank account or a land line. If you no longer need a bank account what then is the role of the banks? From an insurance perspective, such systems could clearly have a fundamental impact on how we do business.

Such an approach also has the potential to create significant opportunities for the sector. Insurance companies are simply not selling enough of their products to those customers who need them – for example, products such as earthquake insurance in California or flood insurance in parts of the world prone to such events.

If we as an industry can find a way of packaging these sorts of solutions so that they can be purchased via a mobile phone, we could greatly expand the potential size of the insurance market – which is something we must do.

If you take this process to its logical conclusion, it could be possible to buy and sell insurance via a phone using a mobile bank account

David Knowles
IT director, BGL Group

New technologies have had a major impact on how many sectors do business. However, in terms of the insurance market, I think companies are somewhat late to the party, and have a long way to go to catch up.

As an industry, we believe that we've got great insight capability, but in fact what we've probably got is a great pricing ability given our focus on cost. I spent four years in retail before coming to insurance. Companies in the retail sector are much more customer-centric and their insight teams are more mature than their financial teams.

One company in particular which fascinates me is Google. So far, it has chosen not to take the insurance market on; but if it decided to offer insurance-type solutions to customers this could have a major impact on our market. It could significantly alter certain parts of the 'value chain', particularly given the amount of data companies like Google or even Amazon have on people and their lifestyles.

Another interesting proposition is the concept of communities coming together to carry risk or to carry excess. Facebook, for example, has the potential to become quite a powerful force in this area as it enables people to come together to create large online communities, uniting them via their particular interests, geographical location, etc.

Distribution is key and the aggregator challenge is a massive one for our industry. We have significant amounts of data at our disposal, but we need to be able to convert this into usable information to ensure what we provide delivers what our customers need. We need to become more focused on insight and learn from the approach of the retail sector if we are to catch up.

One company in particular which fascinates me is Google

Dusting off the shop window

WHY PUTTING CUSTOMERS BACK AT THE HEART OF THE CLAIMS PROCESS REQUIRES A SHIFT IN CULTURE

The insurance industry has habitually fought against negative associations with poor service that consistently weigh on its reputation. But could a shift in culture point the way to improving client satisfaction, rebuilding trust from consumers and businesses?

Viewed through the "shop window" of claims, the insurance industry hasn't always enjoyed a gleaming report from customers. Countless losses have led to the industry reassessing its public image, but the dilemma is perhaps best illustrated by the fact that a single lost soul stranded in a flooded home will act like a magnet for any passing media crews, while dozens of customers whose claims have been dealt with quickly, receive little or no attention. People doing their jobs well rarely make headlines.

In the U.K., the spotlight on claims has shone even brighter during 2015. The Financial Conduct Authority commissioned its own research as part of a 'Thematic Review' into the handling of claims for small and medium-sized businesses.

After surveying 100 SMEs who had made insurance claims the FCA found "there was a gap between the claims service received and SMEs' expectations… in contrast to what we found in the retail claims review". The most common cause of dissatisfaction was a lack of clarity over who was responsible for driving the claims outcome.

Karl Bollard, customer service delivery director for EMEA/AP at Crawford, says he understands this concern. "For a variety of reasons, the process behind insurance claims – particularly those of a more complex nature – has meant that customers were perhaps unintentionally removed from that purpose, often leaving them as the ones asking all the questions."

The FCA review found that on the whole SME customers were less likely to be sophisticated insurance buyers and that many have similar knowledge and experience to retail consumers. Such customers typically need to be guided through the claims process, with regular contact from adjusters and claims handlers. It also means claims need to be dealt with quickly and effectively.

"In an area where any delay could have a serious impact on a business or someone's livelihood, it is vital that claims are taken seriously and processed promptly - that means putting customers at the heart of the process," says Linda Woodall, acting director of supervision at the FCA.

Customer First

This is precisely the objective of Crawford's Customer First initiative, which is to put customers at the heart of service and provide its people with the skills, processes and technology to deliver what matters to customers. As Clive Nicholls, chief executive of U.K. and Ireland for Crawford explains, the aim is to bring about a change of culture within the organization, rather than simply improve the processes.

He wants adjusters and employees to ultimately think about how their decisions during a claim will impact the customer. "It's as much cultural as it is procedural," says Nicholls. "It's the same challenge in a lot of companies and industry sectors where the business is centred around technical tasks. You can very easily get lost in the complexity of a claim and forget that it's someone's livelihood or house that has subsided."

Part of the challenge in delivering claims satisfaction is "doing the right thing and doing it promptly", adds Nicholls. Crawford reviewed its own process maps, and looked at ways in which it could deliver reduced time and cost of settlement in subsidence claims.

This involved the need to redesign and implement ways of working that put the customer back at the heart of the service. In doing so, employees were encouraged to identify new processes and remove barriers in order to deliver strong levels of communication to customers, brokers and clients throughout the lifecycle of a claim.

"Customer First is based on the premise that most workplace systems are not designed properly and just 'emerge' over the course of time," explains Pauline Holroyd, vice president, Human Resources, EMEA/AP at Crawford. "The initiative identifies activities within a system and considers whether they are in line with the business purpose (ie settling claims quickly)."

Training is an integral part of the Customer First initiative, with programmes designed to give employees the skills and techniques needed to deliver a high quality technical claims service. Holroyd explains: "Customer First hits all the outcomes an HR Director wants; talent emerges from an organization, it becomes easier to achieve customer 'delight' and employees receive spontaneous recognition which is extremely important for overall job satisfaction."

Following its success in applying Customer First to subsidence claims - namely shorter settlement times, reduced costs and a significant increase in positive feedback from customers - Crawford was invited by Aviva to deploy a similar process with its teams in the U.K.

Paul Sell, head of Supply Chain at Aviva, oversaw the project at the insurer. "This required an awful lot of trust in both directions and customers are benefitting in two ways," he explains. "If they don't have a subsidence claim, we can now tell them quicker. If they do have a subsidence claim, we can react much faster, settle their claim more quickly and mitigate the problem because the field resource is now only being used where they actually need to add value to the customer."

"On top of that," adds Sell, "about 18% to 20% of the total cost of claim has been removed from the process. We didn't set out looking to reduce costs, the purpose was to design something new, but this was an unexpected benefit."

Global view

In Australia, Crawford has supported a major client on a similar project, supporting customer service advisors at the company's Global Business Services Center in Manila. Andrew Bart, CEO of Crawford Australia, explains: "Customer First has prompted a review of systems and processes which allow us to improve the customer experience. This is fundamental for our customers and we're looking forward to supporting them further."

Bart adds that it's important for companies to consider such initiatives in the context of wider performance management. One such project is the development of Claims Manager 2, which has been created in Australia with the support of software supplier Appian.

"Claims Manager 2 is a bespoke workflow tool designed to improve the customer experience and translate many of the concepts identified within one of our Customer First process reviews. An intervention is only part of the solution; the next step is to provide the tools, training and personnel. With all of those elements aligned, we're confident that customers can be placed at the heart of the claims process."

"You can very easily get lost in the complexity of a claim and forget that it's someone's livelihood or house that has subsided"

Clive Nicholls, CEO, Crawford U.K. and Ireland

Pandemic: A plan of Action

RECENT OUTBREAKS DEMONSTRATE THE NEED FOR A DIFFERENT PLANNING APPROACH TO MEET THE UNIQUE CHALLENGES POSED BY PANDEMICS, EXPLAINS DR ANDRIES WILLEMSE

There are few risks more resilient and more difficult to control than pandemic. It is by its very nature unpredictable, often emerging virtually undetected, travelling quickly from human to human, crossing continents at the speed of international travel, and resisting most forms of medical intervention. Even attempts to define pandemic have proved problematic, as witnessed during the H1N1 influenza outbreak in 2009 when many questioned the World Health Organization's decision to declare the event a pandemic.

The recent surge of Ebola cases in West Africa, the growing threat posed by the Middle East Respiratory Syndrome coronavirus (MERS-CoV), and the multi-state measles outbreak in the U.S. have once again escalated the need for robust pandemic planning, but have also exposed deficiencies in preparedness strategies. It requires a resilience approach which goes far beyond the parameters of standard business continuity planning.

Planning for pandemic

Planning for a pandemic event presents a number of unique challenges. Unlike other disruptive events, such as natural catastrophes, malicious attacks or terrorist events, determining the potential scale and scope of a pandemic event is extremely difficult. Further, its impact can spread far beyond the actual reach of the virus itself, driven by the public fear it generates, which can be almost as debilitating as the pandemic.

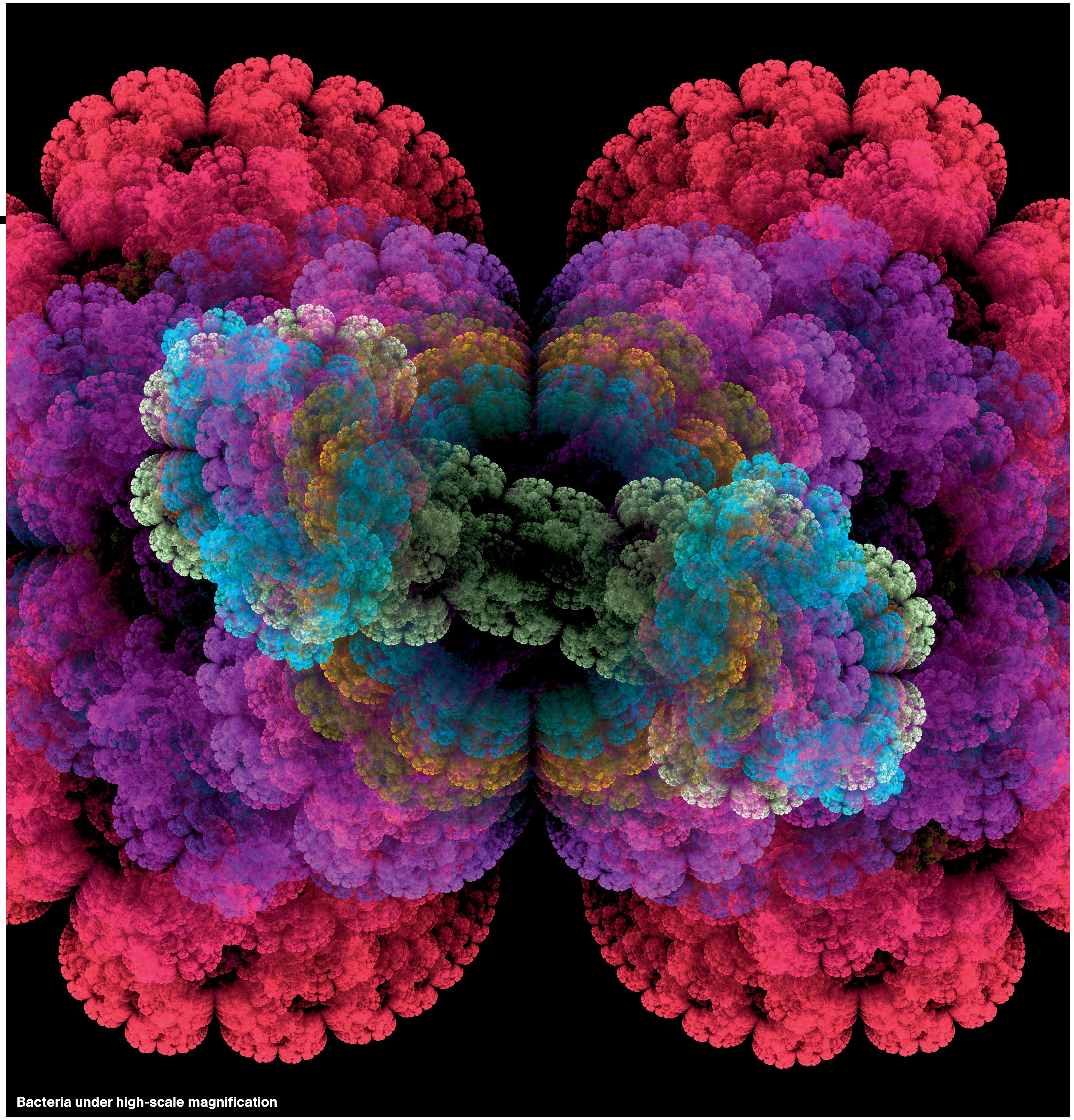
To address these challenges, the pandemic plan must incorporate a number of core elements:

Prevention Program

The program spans a number of critical components, including steps for monitoring potential outbreaks, a strategy for educating employees, as well as clear processes for communicating and coordinating with critical service providers and suppliers. In addition, it must provide appropriate hygiene tools for employees.

Documented strategy

The strategy provides for the escalation of pandemic efforts to reflect the particular phase of the outbreak. It is imperative that clearly defined trigger points are developed to identify when preparedness activities should move to the next level, for example when the first case is confirmed, confirmed in a particular region, or confirmed within the organization itself. The strategy must also span the recovery phase from a pandemic wave and proper preparations for any following wave(s).


Bacteria under high-scale magnification

Comprehensive framework of facilities, systems or procedures

The framework must outline the capabilities and procedures required to maintain critical operations in the event that large numbers of staff are unavailable for prolonged periods. This may include social distancing to minimize staff contact, telecommuting, or conducting operations from alternative sites.

Exercise program

To ensure the organization's pandemic planning practices and capabilities are effective, and will allow critical operations to continue, regular exercises should be conducted, where possible involving key suppliers.

Oversight program

The program ensures ongoing review and updates to the pandemic plan so that policies, standards, and procedures include up-to-date, relevant information provided by governmental sources.

Given the multiple moving parts within the pandemic plan, a central coordinator role should be established to oversee all elements, ideally supported by a pandemic team including representation from across the organization, including HR, legal, communications.

The insurance response

A pandemic outbreak has the potential to impact a broad range of insurance programs. Below is an outline of some of the traditional P&C coverages that could respond:

Business Interruption (BI): While most BI policies are triggered by direct physical damage to or loss of property stemming from a covered peril, specialty BI policies with pandemic-related triggers which do not require physical damage are available – although cover is limited.

Workers' Compensation: Workers' compensation will likely be triggered in the event of an employee contracting a virus in the course of their employment. This would cover costs including treatment, loss of wages and, in worst case scenarios, death benefits.

Employers' Liability: Employers' Liability could apply in situations where an insured employee choose to file a suit against their employer for negligence.

Directors' & Officers' Liability (D&O): D&O cover will generally apply in cases of perceived mismanagement. For example, an employer may face allegations of failing to implement proper protocols, or to safeguard employees' wellbeing.

Medical Errors & Omissions: Medical E&O coverage could apply in circumstances where a patient alleges they were exposed to a pandemic-related illness due to a medical facilities' errors or omissions in their medical care.

A duty of care

At the core of pandemic planning is the duty of care placed on an organization – the social contract between employer and employee that ensures the health and safety of each and every member of staff, as well as their families, before, during and after a pandemic event occurs.

To enable it to maintain its CSR commitment, a company must adopt an integrated strategic approach to managing its duty of care obligations. Policies and practices must be established to provide a support framework to employees in the event of a pandemic outbreak. These can range from telework agreements allowing employees to work from remote locations, and absenteeism surveys to identify staff members most likely to be unavailable for work in the event of a pandemic; through to international travel policies tracking employee trips and imposing travel restrictions, and employee health policies detailing contact procedures in cases of infection and compensation plans for time off work.

However, the implementation of such procedures must be carefully managed. Policy agreements must recognize the specific circumstances created by a pandemic. For example, international policies must address how and when the company may restrict an employee's travel to outbreak areas. Further, employees travelling to high-risk areas must receive training to reduce the risks of exposure and potential infection. In terms of teleworking agreements, companies should also consider how the potential for remote working might impact information security requirements if employees are using their own devices.

Such policies must reflect the prevailing regulatory framework both at a national and international level. From a U.S. perspective, there are numerous pieces of legislation which have the potential to impact on pandemic-related policies. For example, the *Family and Medical Leave Act* allows (during a flu pandemic) for employees caring for infected relatives to be absent from the workplace; while the implications of the *Occupational Safety and Health Act* on policy decisions are extensive, given that it requires employers to provide a safe and healthy work environment for all employees.

Legislation also imposes data restrictions on employers that could affect their pandemic strategy. The *Health Insurance Portability and Accountability Act* contains numerous federal privacy protections for individually identifiable health information; although does allow for disclosure to public health officials in specific circumstances. Extending out into the international arena, data privacy laws such as those in place in the EU can restrict the ability of European-based subsidiaries to share medical information with parent companies outside of the EU.

Pandemic numbers

Virus	No. of countries impacted	No. of cases reported	No. of deaths reported
Ebola	12	27,886	11,287 *At August 02, 2015*
H1N1	214	NA*	18,449 *At August 01, 2010*
H5N1	16	844	449 *At July 17, 2015*
SARS	29	8,096	774 *At July 31, 2003*

Source: World Health Organization

Andries Willemse

At the core of pandemic planning is the duty of care

A question of when

Pandemic is an ever present threat – and yet it is one that many are simply not ready to respond to. To prepare effectively, companies must generate pandemic-specific plans, building on the foundations of a robust business continuity strategy, but encompassing the unique characteristics of this threat. The Ebola outbreak proved that even in the face of a unified, international response, countries remain critically exposed. As Jim Yong Kim, president of the World Bank, declared in the aftermath of the event, the world is "dangerously unprepared" for the next major pandemic.

Dr Andries G. Willemse is senior vice president of Global Technical Services at Crawford

Clear Thinking

Virtual learning

THE SIMULATED CLAIMS ENVIRONMENT OFFERS A TOTALLY NEW LEARNING EXPERIENCE

For Douglas Dell, senior vice president of Crawford Educational Services, the value of a comprehensive learning program is clear – "Learning correlates directly to performance". This is perhaps more true of the insurance industry than others as the highly technical nature of the sector demands a rigorous approach to training.

While traditional learning practices form the bedrock of most programs, advances in virtual technology, online capabilities and simulation software are taking the training environment beyond the classroom. Further, they are bringing the learning experience closer to the individual, creating a more integrated, personalized experience.

Crawford has a rich history in the delivery of integrated training programs, dating back to the 1940s and extending beyond the company itself. "Our programs have evolved significantly to a point where they are not only supporting our needs, but those of our clients and even our competitors," explains Dell.

The most recent evolution sees Crawford push further into the area of 'experiential learning'. "We are at the early stages in this process," he explains, "but our goal is to allow for the learner to immerse themselves into the learning experience, a virtual lab. We want them to be able to interact more, to be hands-on, to make mistakes in a controlled environment and to really get a feel for what they are learning."

To create this more immersive learning, one development has been the creation of a virtual claims environment in which the learner can explore, measure and scope an 'actual' fire or water-related loss. "Existing within a virtual room, one simulation provides the learner with a 360 degree view of a kitchen fire loss," explains Dell. "They can zoom in on specific elements within the room, open drawers and cabinets, assess materials and even shine a Maglite into hard-to-see areas. We also provide a virtual measuring tape and notepad to gather all of the data they need to effectively scope the loss."

Accessible online via a free downloadable player, users can explore the virtual loss scene as often as they like, for as long as they like. "It's a practice area in which you can test your capabilities without fear of making mistakes," he adds. It also offers an opportunity to assess performance by providing an expert commentary by a property product manager explaining how the loss should be scoped.

Douglas Dell, SVP of Crawford Educational Services

While only in the prototype phase, Dell is happy to 'go public' on the development. "We are currently gathering feedback from learners using the system and are showcasing it in our classrooms." Once the first virtual losses – fire and water – have been completed, the next phase will be to expand the loss library to include events such as hail, windstorm and subsidence.

Dell firmly believes transparency is essential in the loss adjusting arena. "We all operate in a highly specialized niche of the industry. Our aim is to be a partner to the business, working openly and collaboratively not only with clients, but others in the sector, to solve the learning challenges we face." Sharing ideas, expressing views, tackling problems – isn't that what every learning experience is about?

"We want them to be able to interact more, to be hands-on, to make mistakes in a controlled environment"

Crawford Matters

At full speed

GAB ROBINS INTEGRATION ON TRACK FOR NOVEMBER 1

The rationale behind the GAB Robins acquisition was simple, according to Crawford executive vice president and CEO, EMEA/AP, Ian Muress. "We wanted to be the clear market-leader in the world's most dynamic insurance market." And Crawford has certainly outgrown its market peers.

Ian Muress, EVP and CEO, EMEA/AP, Crawford

Achieving this scale is critical in today's market, particularly given the spate of recent ground-shaking consolidations. "Our clients are getting bigger and bigger," Muress explained, "and we have to have the scale necessary to remain relevant and to meet the demands of their ever-expanding global footprints."

Crawford's reach and range of capabilities were key to the successful acquisition. "It was a coup for Crawford," he added. "There were many others keen to acquire GAB Robins, but what set us apart was our expansive global platform and extensive technological capabilities. The investment required to maintain the rate of technological advancements required today is phenomenal; but Crawford has always ensured it keeps pace."

Since receiving the green light in March from the Competition and Markets Authority, extensive work has already been carried out to achieve the seamless integration of teams and systems, focusing on taking full advantage of the best of both companies.

The new leadership team was established early on. "Right from the initial discussions, there was a fantastic chemistry between the two senior teams and we were keen to capitalize on this," said Clive Nicholls, CEO for Crawford U.K. and Ireland. Kieran Rigby, former GAB Robins CEO, has taken up the post of CEO for Europe; while the firm's COO Mike Jones transitioned into the same role in the newly combined business.

In addition to rationalizing the office footprint, a significant amount of work has taken place to ensure the successful unification of the two firms' multiple systems; a challenge made even harder given the stiff compliance requirements placed on Crawford as a U.S. head-quartered and publically-listed company.

"We have replicated the data sets and workflows captured within the GAB Robins system in our own," said Nicholls, "which is Sarbanes Oxley compliant, and fed this into the firm's data warehouse system. This new infrastructure now provides us with a fantastic ability to conduct forensic-level data analysis."

The fact that many major players have simultaneously put their supply chains under review following the CMA green light suggests there is a ground-swell of support for the combined operation. "This acquisition and the success of the integration has only been possible due to the support and vision of the Crawford Board," concluded Muress. "And now it is down to us to ensure that we deliver on that vision."

Crawford/LWI partnership continues to mature

Two years after Crawford's acquisition of specialist energy adjusters Lloyd Warwick International (LWI), the company is looking to expand. Firmly established in the U.K., Europe and the USA, the multi-disciplined business – which focuses specifically on onshore and offshore energy, marine, ports and terminals, power generation, mining, renewables, special risks and forensic accounting services – is utilizing Crawford's global network of more than 700 locations in 70+ countries to expand further.

Currently, LWI has a strong European presence with its headquarters in London and offices in Paris and Geneva, as well as in the US, with offices in Houston and New York. While Asia is supported from LWI's offices in Perth and Singapore. "The next focus will be on expanding into South America and the Middle East," said Joe McMahon, CEO of LWI.

On the acquisition trail

Key Crawford acquisitions:

- 1999 GCG
- 1999 Contractor Connection
- 2006 Broadspire
- 2006 Specialist Liability Services
- 2011 ClaimHub
- 2013 Lloyd Warwick International
- 2014 Crawford Buckley Scott
- 2014 GAB Robins

Crawford launches new Financial Lines Team

In an environment of growing regulatory action and tightening legislation, Crawford has responded with a new Financial Lines Claims Service.

From professional indemnity, D&O and E&O through to fraud and cyber breach, today's corporates are faced with a changing risk and exposure landscape. The less forgiving regulatory environment and spread of collective actions from the U.S. into Europe are just two trends challenging organizations and their directors and officers.

In this environment, the risk and insurance community needs an experienced team of experts to evaluate and assess financial lines claims in microscopic detail. The Crawford Financial Lines Team is highly skilled and includes lawyers, accountants and engineers with expertise that has been built over many years.

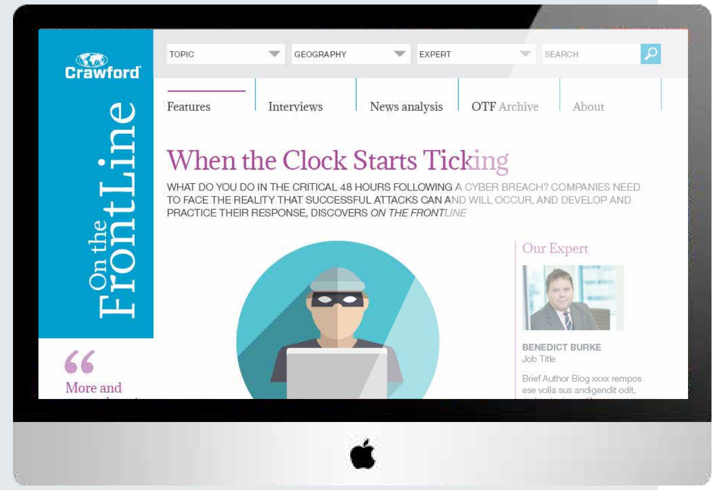
The team acts for insurers, reinsurers, captives and multinational clients, based in U.K. and Europe, but also globally and offers extensive experience of multi-insurer, multi-layer, reinsured and captive-led covers.

Able to deal with claims of any size or complexity, the team's capabilities include structured investigations; technical reviews of legal and policy liability; assessment of subrogation opportunities; and rigorous pursuit of recoveries. In addition, the team offers a 24-hours cyber breach response solution.

Clients also benefit from access to Crawford's global resources, as well as management information through Crawford iQ™.

Crawford Americas CEO to speak at FIDES

In late October 2015, Crawford executive vice president and chief executive of the Americas, Vince Cole, will join a panel on "Trends in insuring, financing and managing catastrophic risk" at the bi-annual meeting of the Inter-American Federation of Insurance Companies, FIDES, in Santiago, Chile. The region's leading insurance event, FIDES attracts national insurance industry organizations from the United States, Mexico, and Central and South America.



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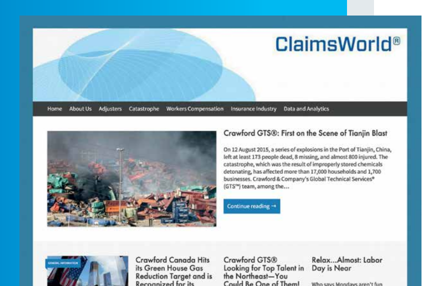
Our expertise in handling complex claims and getting our clients back on their feet gives us a unique insight into the changing nature of global risk.

Crawford blog

Also visit Crawford's online blog ClaimsWorld® to access news and views on developing trends and topics of interest in claims and risk management.

Find out more at: http://blog.crawfordandcompany.com



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