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- › WEGENER: THE MAN AT FERMA'S HELM
- › BHP'S ROBB EADIE IS A BORN FIXER
- › #CHANGINGRISK THOUGHT LEADERSHIP
- › SPECIAL REPORT: THE SMART FACTORY, AN EVOLUTION OF HEAVY INDUSTRY



## FLAMES OF CONTROVERSY

This year's Amazon rainforest fires ignited public interest and outrage. But when social media spreads spin and misinformation like wildfire, can we hold focus on vital climate change lessons? >

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## Contents

### LEADER P2

#### SMOKE WITHOUT FIRE?

Fake news goes against everything real journalists hold dear. And it can have devastating consequences for so many.

### ANALYSIS >P4

#### COVER: WHEN FAKE FACTS FAN FLAMES

Will the public outcry over this summer's Amazon fires be unjustly dampened by accusations of 'fake news'?

#### AMAZON FIRES EXPLAINED

Conservation experts dig into the causes of the fires blazing through the Amazon and how we can tackle them.

#### CROOKED CONSTRUCTION

If the Belt and Road Initiative is to succeed, China must work harder to combat corruption and transparency issues.

### PROFILES >P12

#### A NEW DIMENSION OF RISK

Ferma's incoming president-elect Dirk Wegener is on a mission to attract new talent and diversity to our industry.

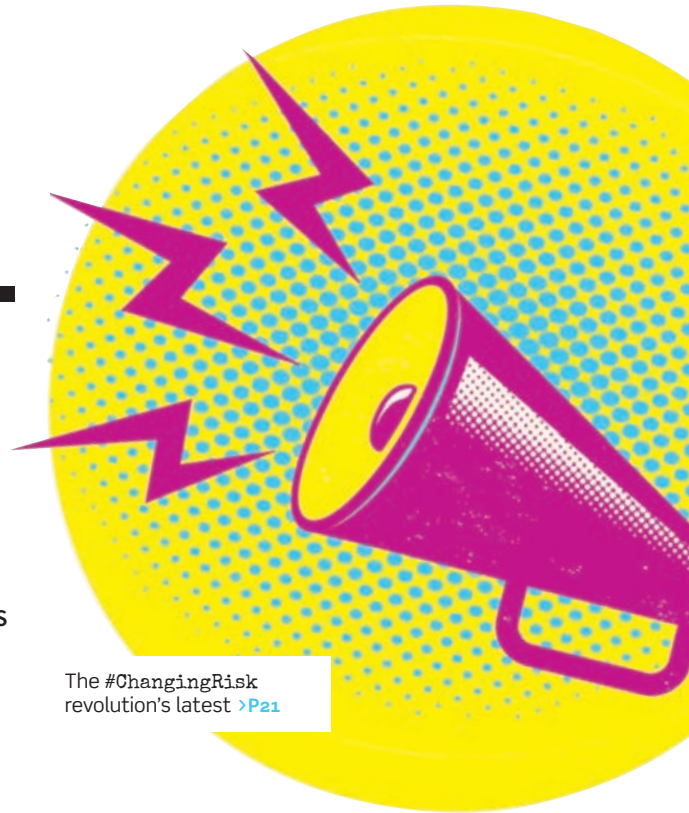
#### CAN HE FIX IT?

Wherever BHP's Robb Eadie lays his hat – he finds problems and sets about solving them.

### VIEWPOINTS >P20

#### OUR EQUAL OPPORTUNITY FUTURE?

In tomorrow's leadership, we should expect to see a truly even gender balance. And this will benefit everyone.



The #ChangingRisk revolution's latest >P21

### RISK FOCUS >P21

#### THE REVOLUTION MARCHES ON

Our #ChangingRisk campaign continues to energise and motivate our profession towards real change.

### SPECIAL REPORT >P28

#### DIGITISED INDUSTRY

Heavy industry is becoming leaner and smarter as it makes better use of the IoT and AI. But with these advancements come inevitable vulnerabilities.

### RISK FINANCING >P32

#### SAILING CLOSE TO THE WIND

Surety bonds provide the reassurance needed to fully embrace renewable energy investment.

### RISKS >P34

#### DATA DEPARTURES

Cathay Pacific's 9.4 million-customer breach offers an eye-opening story on how not to handle your data. Could it now influence Hong Kong's notification rules?

#### COMPLAINTS - WHO TO CONTACT

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# Smoke without fire?

We all know: Don't believe everything you read. But in a social media-led world where fake news works so hard to be king, how do we avoid getting burned? Because the most crucial messages could be lost if we can't discern the facts from the fiction.



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**A**s part of the press, we pride ourselves on accuracy; on bringing our readers scrupulously fact-checked news and intelligence. We discern opinion from facts; striving to be the observers of history, an impartial eyewitness to key events, who relays the facts precisely as they play out.

These were the stern instructions of my journalism tutors – the *raison d'être* of the news media and the very ethics upon which journalists build their careers and reputation. And for me they ring louder now than they ever did, years after I graduated and every single time I put pen to paper, or fingers to keyboard, to compose our news, features, analysis, blogs and reviews. Even my opinions (and sometimes my emails) I subject to fact-checking and challenge.

Of course, we journalists do make mistakes. We are humans, after all. But what is happening in the world of news right now falls far beyond slipping up. And it is happening constantly.

As I review this latest edition to inspire these paragraphs in my Leader, there will be writers out there cooking up the latest click-bait fiction.

As I consider the impact of fake news on business – reading numerous articles, opinions and research, and replaying interviews I've conducted with risk managers to form my views – some writers will be creating their views from scratch, conjuring fact-less prose of sensationalist nonsense.

Despite only recently becoming such a well-worn buzz phrase, fake news is really nothing new. But – and just for the record here, I'm happy to call this my opinion and not necessarily label it fact – today's proliferation of alternative facts has created its own thriving and disturbing market – a churning pit of rumours that can bring down reputations, people and companies, with far-reaching consequences.

It is a very real threat. So agree 84% of businesses surveyed by Kroll, who say they feel threatened by

market manipulation as a result of fake news, most commonly fuelled by social media.

Then there is the type of fake news that is perhaps even more insidious and potentially damaging. The type that may have elements of truth but is not completely accurate. This type of fake news is probably less easy to spot but it can be used to great effect to discredit real facts caught in the blaze. It is this very type of false reporting that the Brazilian Amazon fires have been marred by this summer (see our Analysis 'When fake facts fan flames', pp4–5).

Fact: Parts of the Brazilian rainforest are ablaze.  
 False: All of the photos shared were of this summer's fires. And this is the worst the rainforest has seen.

When worldwide celebrities such as Leonardo DiCaprio and Madonna tweeted photos of what appeared to be the current Amazon rainforest fires raging but turned out to be more dated, what ensued in the world's media and across social media platforms was a maelstrom of misinformation, accusation and confusion.

Some commentators appear to be politicising the situation for their own gain, using the fires as an opportunity to discredit Brazilian president Jair Bolsonaro's policies. Others wish to use the uncertainty to detract from the very real climate change concern that was sparking a public outcry.

It's a complex story, one where sources are hard to pin down and facts are hard to discern, but if it is prompting serious debate about the risk of deforestation and climate change, then we must continue to fight for the facts.

As Sarah Gordon, chief executive at risk consultancy Satarla, says: "Attention drawn to something like the destruction of any natural resource is a good thing. The problem comes when incorrect or misleading information discredits those facts that are correct. This can then be used by opposing parties to derail initiatives that are attempting to solve problems."

Fact fans, stay vigilant.



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# When fake facts fan flames

The Amazon forest fires have sparked a public outcry and a worldwide call to get serious about climate change. But now, the spread of misleading information and politically motivated angles threatens to undermine this message.

**S**everal reputable news sources, including the BBC, initially reported that this year had seen a record number of Amazon fires. Many of these articles later ran corrections online, to say that this year actually had the highest number of fires since 2010.

So 2019 is not the worst year in recent history; Brazil experienced much more fire activity in the 2000s. In 2005 there were 133,000 fires in the first eight months of the year. In fact, US space agency NASA argues that overall fire activity in the Amazon basin was actually slightly below average this year – while there had been more fire

activity in Amazonas and Rondonia, there were fewer fires in the states of Mato Grosso and Pará.

It seems likely that 2019 has not been a particularly bad year for fires of this nature.

## **PUBLIC IS GALVANISED**

Does that mean the fires should not be cause for concern? No. But the fear is that such misinformation, confusion and political intrigue could cloud the issues really at hand – the impacts of deforestation in the Amazon, and growing fears around climate change.

On the 22 August, the French president, Emmanuel





Macron tweeted: "Our house is burning. Literally. The Amazon rainforest – the lungs which produces 20% of our planet's oxygen – is on fire. It is an international crisis. Members of the G7 Summit, let's discuss this emergency first order in two days! #ActForTheAmazon."

What followed was an international outcry, with celebrities like actor Leonardo DiCaprio, football star Cristiano Ronaldo and singer Madonna tweeting about the burning rainforests and the perils of climate change.

The public was united behind the cause. Social media exploded and fears around climate change reached dizzying heights. Public scrutiny was at a peak, with people taking great interest in what was causing the fires and what could be done.

### 'FAKE NEWS'?

Unfortunately, it was at this point that things took a dramatic turn, as it emerged that many of the images and figures that had captured the public imagination were fake, out of date or just plain wrong.

The photo posted by Ronaldo was taken in Southern Brazil, not the Amazon, and was from 2013. The image shared by Macron and DiCaprio was over 20 years old, and the picture used by Madonna was over 30 years old.

Meanwhile, reports that a blackout in the city of São Paulo – more than 2,700km away – had been caused by smoke from the Amazon fires were also called into question, with some meteorologists arguing that it came from major fires burning in Paraguay.

Suddenly, the story of the Amazon fires became another case of 'fake news', leading to fears that the real issues at hand would be overlooked.

Danny Wong, risk manager and founder of Goat Risk Solutions, says: "Social media, with its many platforms, while useful and fun, lacks the controls of fact-checking. This then moves into mainstream media with varying credibility and seriousness, and with many articles focused on the celebrity aspect of the issue."

Independent risk consultant Gareth Byatt says: "It's important that we use reliable sources of information and data to find out what's really happening. We mustn't rely on 'sound bites' made off the cuff by people not in possession of the proper facts. The fact that the thousands of forest fires burning across the Amazon this year has been brought to global attention will hopefully mean that the global community will become more curious as to why this is taking place."

Risk consultancy Satarla CEO Sarah Gordon adds: "Attention drawn to something like the destruction of any natural resource is a good thing. The problem comes when incorrect or misleading information discredits those facts that are correct. This can then be used by opposing parties to derail initiatives that are attempting to solve problems."

Most experts have been suggesting the root cause of the Amazon fires is deforestation, but it is not clear whether this has been legal or illegal, or who has been starting the fires. Political machinations have ruled the day. Conservationists blame Brazilian president Jair Bolsonaro, saying that he has promoted development over conservation. The president has hit back, accusing NGOs of setting the fires to make him look bad.

Amazon fire expert Daniel Nepstad is concerned the coverage of the fires will worsen the situation,

alienating Brazilian farmers and failing to focus on the difference between accidental and intentional fires. He told *Forbes* magazine: "I don't like the international narrative right now because it's polarizing and divisive. Bolsonaro has said some ridiculous things and none of them are excusable but there's also a big consensus against accidental fire and we have to tap into that. I don't mind the media frenzy as long as it leaves something positive."

"Sending in the army is not the way to go. People forget there are legitimate reasons for small farmers to use controlled burns to knock back insects and pests."

Gordon agrees: "To a controlled extent, we need deforestation and man-made fires for our soil to remain fertile and productive. But we also need to ensure that those around us truly understand what we are doing."

### THE HEAT IS ON YOU

Public scrutiny of climate change and deforestation is at an all-time high. Risk managers must therefore interrogate their business practices and check what potential pitfalls there are, particularly from a reputational perspective.

Byatt says: "On the subject of deforestation, businesses should be looking at the specifics of what they do and how they can play their part to help the planet to be more responsible and to protect forests."

Wong adds: "Businesses need to understand that serving the society and communities they operate in is part of their remit, it's not just about profits and shareholder returns."

Companies must also examine their policies on climate change. Environmental activism is on the rise and businesses that fail to plan for this may find themselves on the receiving end of unwanted media and political attention.

Byatt says: "Investors, the public, your local communities, your employees and supply chain – everyone is taking an active interest in sustainability. Businesses must play their part in helping tackle climate change and the broader matters of sustainability. It makes good business sense to do so."

The Amazon fires should also sound a warning bell for companies about the importance of social media monitoring. The spread of information through social media – whether true or otherwise – can exacerbate a crisis situation. Risk managers should think about including 'fake news' on risk registers and have strategies in place to deal with fast-moving issues.

Byatt explains: "An important thing for organisations to do in times of crisis is to be proactive with their communication. Even though you probably won't know the full details in the early period of a crisis event breaking, you need to start communicating quickly."

"You need to have thought about it beforehand, with good crisis management planning in place, and to have practised it in exercises so that you are ready at any point to 'get into gear' when you need to."

Gordon concludes: "If your actions have a large visible impact, more individuals will jump to conclusions regarding what it is you are doing. Many of these individuals will suspect the worst, especially if you have not engaged with them in any way prior to your activities. Today, everyone is a stakeholder." **SR**



# Amazon fires explained

What are they, why are they so damaging and how can we stop them? Conservation experts Jos Barlow and Alexander C. Lees outline the burning issues.

**I**magine a rainforest at dawn – the tall canopy laden with dripping ferns and orchids, tree trunks covered in spongy mosses and lichens, and the morning mist only slowly burning away as the sun rises. While there is fuel everywhere, it seems unimaginable that such humid ecosystems could ever catch fire.

And without human intervention, they don't. The charcoal record points towards infrequent fires in the Amazon even during periods of pre-Columbian human settlement, and the 8,000 or more Amazonian tree species have none of the evolutionary adaptations to fire found in their savanna or boreal cousins.

But, with thousands of fires currently burning across the Amazon, it's worth looking at how these wildfires behave. In this context, a 'wildfire' is one which has gone out of control, even if started by humans. What do they mean for a forest that hasn't evolved with fire? And what is needed to prevent further damage?

Contrary to many images circulated online depicting blazing canopies, wildfires in previously undisturbed tropical forests do not appear as ecosystem changing events. Flames advance just 200 to 300 metres a day and rarely exceed 30cm in height, burning only leaf litter and fallen wood.

Most mobile animals are able to flee, and firefighters – if present – can bring it to a halt by raking simple fire breaks. Indeed, the humble trails of leaf cutter ants were sufficient to stop forest fires in an experiment in the southern Amazon.

But the intensity of a fire does not necessarily predict its severity. The lack of natural adaptation to deal with wildfires make rainforest species incredibly sensitive. Even a low intensity wildfire can kill half the trees. While small trees are initially most susceptible, larger ones often die in subsequent years leading to an eventual loss of more than half of the forest's carbon stocks. These large trees hold the most carbon, and subsequent regrowth of pioneer species is no compensation – once burned, forests hold 25% less carbon than unburned

forests even after three decades of regrowth.

With such a devastating impact on the trees, it is not surprising that forest-dependent animals and people are also affected. Primates are less abundant in burned forests and many specialist insectivorous birds disappear altogether. And local people, who use forests for game, building materials and medicines, lose one of their most important safety nets.

All this happens when a forest burns for the first time. However, the situation is very different when forests suffer recurrent fires. Then, fuel from previous tree mortality creates a veritable bonfire, tinderbox dry under an open canopy. Flame heights in these forests often reach the treetops, causing the death of almost all remaining trees.

Such a scenario has been likened to "savannization" – but while the resulting scrub and sparse trees may share superficial similarities with fire-dependent tropical grasslands, they contain none of their unique biodiversity or cultural values. Instead, recurrent wildfires are more likely to hasten the Amazon's transition to a low diversity and low carbon ecosystem with a fraction of its current social and ecological value.

## WHY NOW?

We know that forest fires are not a natural process in Amazonia, so why are so many fires happening now? Unfortunately, it is not yet clear exactly what has been burning – satellites detecting active fires and smoke are imprecise guides, and we will only get greater clarity when burn scars are accurately mapped across all land uses. But the current increase is likely to be a mix of three different fire types.

Some of the fires are related to a recent spike in deforestation, when the cut vegetation is burned to create cattle ranches and support land claims. Others will be agricultural burns, when fires are used in rotational agriculture or to clear encroaching scrub from existing pasture.

Alarmingly, and even though this dry season



is considered normal, there is evidence that these intentional fires have led to wildfires in standing forests, including in indigenous reserves.

Addressing these fires is complex as many of the activities are illegal or politically motivated. For example, there was a marked increase in fire detection during the recent "day of fire", and loggers or land speculators have previously been implicated in causing wildfires in indigenous reserves. Furthermore, it is important to separate these illegal fires from the small-scale slash-and-burn agriculture used by Amazonia's traditional and indigenous people. Although these fires can escape into forests, they are also essential for maintaining the livelihoods of some of the Amazon's poorest people.

When fires do enter the forest, they can be fought with low-tech approaches such as fire breaks. Yet effective combat remains rare, and in most cases help is either delayed or fails to arrive at all.

Under Jair Bolsonaro, Brazil's president, funds for the Brazilian environmental protection agency IBAMA have been cut by 95%. This has resulted in a R\$17.5m reduction in funds for fire fighting that has been exacerbated by the loss of an Amazon Fund from Norway and Germany.

#### ADDRESSING FOREST FLAMMABILITY


Reducing wildfires requires going beyond addressing the ignition sources and fighting the flames themselves, and also encouraging actions that limit forest flammability. Tackling deforestation remains key as it exposes forest edges to the hotter and drier microclimate of agricultural land, and contributes to regional reductions in rainfall.

Selective logging also plays a key role in making tropical forests more flammable. Walking in a selectively logged forest in the dry season, you feel the sun's heat directly on your face and the leaf litter crackles and crunches underfoot. In contrast, unlogged primary forests are a shadier world where the leaf litter remains moist. Fire prevention needs to be a key condition of long-term forest stewardship. This will only work if widespread illegal logging is effectively controlled, as cheaper timber undermines the viability of best-practice forest management.

Finally, climate change itself is making dry seasons longer and forests more flammable. Increased temperatures are also resulting in more frequent tropical forest fires in non-drought years. And climate change may also be driving the increasing frequency and intensity of climate anomalies, such as El Niño events that affect fire season intensity across Amazonia.

Addressing these challenges requires integrated national and global actions, collaboration between scientists and policy makers, and long-term funding – approaches that the current Brazilian administration seems intent on destroying. **SR**

**This article was featured in The Conversation. Authors: Jos Barlow, professor of conservation science, Lancaster University, and Alexander C. Lees, senior lecturer in conservation biology, Manchester Metropolitan University.**



**WHEN FORESTS SUFFER RECURRENT FIRES, FUEL FROM PREVIOUS TREE MORTALITY CREATES A VERITABLE BONFIRE. FLAME HEIGHTS IN THESE FORESTS OFTEN REACH THE TREETOPS.**



# Crooked construction

China's ambitious Belt and Road Initiative means huge opportunities for developers and investors. But with so many infrastructure projects in developing countries beleaguered by corruption and crime, can this one stay on the straight and narrow?

China's Belt and Road Initiative (BRI), first announced by President Xi Jinping in 2013, is a global strategy designed to connect the Asian superpower with key trading partners across Asia, Africa and Europe. The major project aims to boost economic growth and integration between China and other nations. Roads, railways, bridges, tunnels and shipping lanes are planned across the continents, as China invests heavily in global infrastructure.

The huge BRI project is expected to require investments of more than \$1 trillion, and aims to revive the Silk Road, an ancient network of trading routes said to have been used by Chinese dynasties thousands of years ago. China is planning or carrying out construction projects in more than 60 different countries as part of the plan.

President Xi's signature foreign policy initiative presents an exciting opportunity for infrastructure developers and construction companies. But despite its vast potential, the World Bank fears the BRI could be hampered by transparency

and corruption risks that are common to major infrastructure projects.

## INHERENTLY RISKY

According to a June report from the World Bank, China needs to adopt "deeper policy reforms" to combat corruption, a lack of transparency, and environmental and social risks, if BRI is to be a real success. The report pointed to opaque deals favouring Chinese companies and questioned the openness of procurement processes.

The World Bank's Belt and Road Economics Report says building infrastructure is "inherently risky", and challenges China to improve its processes for tackling corruption.

"Mitigating these risks will require improvements in data reporting and transparency, especially around debt. It will require open government procurement

**"[ENVIRONMENTAL, DEBT AND CORRUPTION RISKS] COULD BE EXACERBATED BY THE LIMITED TRANSPARENCY OF THE INITIATIVE, AND THE WEAK ECONOMIC FUNDAMENTALS AND GOVERNANCE OF SEVERAL PARTICIPATING COUNTRIES."**

The World Bank's Belt and Road Economics Report











## WORLDLY WISDOM: ENVIRONMENTAL RISKS

Aside from transparency and corruption risk, major infrastructure projects encompass a wide range of environmental risks and liabilities.

The World Bank's Belt and Road Economics Report cites the following major risks faced by the BRI across its vast potential network:

- Greenhouse gas emissions from energy projects
- Pollution from traffic, raising air and noise pollution
- Alternation of habitats at the expense of biodiversity
- Topographical or hydrological damage

## CHINA'S BELT AND ROAD: THE STATS

**\$8trn**

The BRI project's potential value\*

**60**

countries are expected to do business with China as part of the Initiative

**34%**

of BRI projects will be deployed in east Asia and the Pacific\*\*

**46%**

of BRI investments are expected to go into energy and electric power\*\*

\*Source: Hillman

\*\*Source: Bandiera and Tsiropoulous, 2019

and adherence to high social and environmental standards,” the report says.

The World Bank says the BRI risks environmental damage, debt and corruption if improvements are not made. “These risks could be exacerbated by the limited transparency and openness of the initiative, and the weak economic fundamentals and governance of several participating countries,” the report says.

The World Bank called on China to improve transparency and put “ambitious reforms” in place.

“Achieving its full potential will depend on the establishment of policies and institutions that will mitigate risks and support complementary reforms.”

China has downplayed fears the BRI could be high-risk. The Chinese government hosted its second Belt and Road Forum for International Cooperation in April. At the conference, China launched an “Open and Clean BRI” initiative to promote its transparency and integrity. The country promises the BRI will adhere to the UN Convention Against Corruption.

## TRANSPARENCY AT TENDER

Yet major infrastructure projects are always complex and fraught with risks. Lack of transparency and corruption are among the top concerns shared by senior risk professionals.

Vladimir Kilinkarov, Ph. D, who is head of the Russia Public-Private Partnerships practice for law firm Dentons Europe, says corruption and transparency issues in infrastructure projects begin at the tender stage. He says this is a common issue in emerging markets.

“The first transparency issue accompanying most major infrastructure projects in emerging markets relates to the development of the tender documentation. The easiest way for an unfair participant to ensure a good position in the tender is to lobby restrictive requirements.”

He adds restrictive requirements on “the financial condition of participants”, as well as requirements on technologies, materials and equipment, can restrict the number of competing parties.

Kilinkarov says governments should develop “standard recommendations” for tenders. He believes tenders should be overseen by an “antitrust public

service”, “which should be more or less strict depending on the condition of competition in a particular market”.

## PLAYING MONOPOLY

Meanwhile, dominant local players can restrict access to major infrastructure projects in some emerging markets, Kilinkarov says. “In emerging markets, major infra projects can be divided between a number of powerful groups, and the infrastructure in these countries can show signs of oligopoly dominated by a number of companies, groups or oligarchs, which try to restrict access to the market for others.”

He adds: “In these cases, corruption is a way to maintain this oligopoly and status quo between competing groups. We may see corruption traces in the tender documentation, tender evaluation, contract terms and conditions, and changing the contract in favour of the contractor.”

Risk managers say major infrastructure projects are generally more challenging and subject to greater corruption and crime risks.

“Large projects are the worst,” says one risk manager at a leading European construction company, who asked not to be named. “They are all so complex and have the same challenges. Infra projects that are criticized by the public also present more challenges, with potential for sabotage.”

The risk manager says criminal activity is also a common risk on major projects, in both developed and emerging markets. “The main risk in larger projects is the potential presence of black labour, followed by fake invoicing. We know the construction industry attracts criminals, so constant follow-up and background check-ups on subcontractors are essential.”

## WHAT CAN YOU DO?

The risk manager says having a “tight HR process” when recruiting staff is “crucial”.

“Failing to recruit the right staff, and the risk of appointing criminals in projects, will most definitely lead to a vaguer control of subcontractors and suppliers,” the risk manager adds.

While it is challenging to mitigate transparency and corruption risks on major infrastructure projects, Kilinkarov believes developers and national governments can take steps to minimise potential issues. “The first is using respectful tender practices, such as the ones used by international financial institutions (IFC, EBRD, etc.),” he advises.

“The second is the government’s effective control of granting the projects and their implementation. And the third is developing competition in construction and other infrastructure industries, giving access to different national and foreign investors.” **SR**

**“WE MAY SEE CORRUPTION TRACES IN THE TENDER DOCUMENTATION, TENDER EVALUATION, CONTRACT TERMS AND CONDITIONS, AND CHANGING THE CONTRACT IN FAVOUR OF THE CONTRACTOR.”**

Head of Russia Public-Private Partnerships practice, Dentons Europe  
**Vladimir Kilinkarov**







# A new dimension of risk

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Ferma's president-elect discusses past events that formed the risk psychology he has today, and his vision of a diverse, digital and youthful future for Ferma.

**W**hen asked how he will stamp his mark on the Federation of European Risk Management Associations (Ferma) as he takes the hot seat as its president in November, GVNW's Dirk Wegener is optimistic, excited and resolute.

But first he is putting his energy into the 2019 Ferma Forum in Berlin, which he is chairing. "That happens first. I don't become president until the end, but the theme of the Forum, *Aim for the future: Entering a new dimension of risk*, is a good statement of my vision for my mandate as president," asserts Wegener.

The Ferma president creates a vision and sets priorities for the board. Accomplishing these objectives is a team effort, according to Wegener. "Ferma has a strong board of diverse, experienced, professionally qualified and engaged members," he says.

A collegiate style is well-suited to the role of leading the umbrella body for Europe's risk management associations, which represents the interests of 21 risk management associations from 20 countries. Members range from small, tightly run outfits to large, well-resourced associations with their own annual conferences. Altogether, they have over 4,800 individual members.

Wegener is one of them. His day job is as global head of corporate insurance at Deutsche Bank Group. To put the size of this job into context: the investment banking and financial services powerhouse based in Frankfurt, Germany, generated pre-tax profits of €1.3bn and income of €25.3bn in 2018.

## HOW 9/11 CHANGED US

Having started his career in the German insurance industry, Wegener moved into risk management with Daimler Group and then in 2012 with Deutsche Bank.



Asked about the early experiences that shaped him as a risk professional, he is quickly transported back to the 2000s.

"I am old enough to belong to the 9/11 generation. This was a game-changer if you think about the risk landscape," he says. Wegener was at his desk in the office of Daimler in Stuttgart, Germany, at the moment the hijacked airplanes struck the World Trade Center's twin towers.

"We all remember where we were and what we were doing. I was working as manager of insurance and insurable risk for Daimler. We had business contacts in the US, links to New York. From a personal dimension, it was a tragedy. And if you step back, from the professional standpoint it was a new dimension in risk. The severity of the event was unprecedented. You can see it as a black swan, an unknown unknown. Since then, risk managers can hardly think big enough about potential exposures," he says.

The terror attacks showed Wegener how vulnerable to events insurance companies and the insurance industry could be. "It was one of the largest insured losses ever, and it was a shock to the industry. As a system to respond to the financial outcome of such events, the global insurance industry did survive, but it had to adapt. What we saw thereafter were exclusions for terrorism on traditional insurance policies, and the expansion of terrorism risk solutions backed by governments," he says.

The events altered Wegener's risk psychology fundamentally, reshaping his ways of thinking about risk and insurance. "It produced an awareness that

**"I'M A STRONG BELIEVER IN THE VARIETY OF THE DIFFERENT NATIONAL ASSOCIATIONS AND WHAT THEY CAN BRING TO THE TABLE... WE ACKNOWLEDGE THIS DIVERSITY IN OUR MEMBERSHIP, AND WE FIND WAYS TO ADAPT."**

developments in the risk landscape are very difficult to anticipate. Think of climate change. We struggle to fully envision what can happen in terms of severe weather events. It should remind us all not to underestimate what the future can bring. It's crystal clear that there will always be some unknown unknowns. You just have to accept that you cannot predict everything."

The unfolding of Solvency II emerged as the other significant influence on Wegener's career and risk mindset. "The regulation of captives under Solvency II has been a defining event for those who operate a captive insurance company. It's impossible to deny that it has resulted in greater professionalism in captive management than we were used to before," he says.

"In turn, that has enabled Ferma to focus on the risk management value of captives, including when it comes to our discussions with the Organisation for Economic Cooperation and Development [OECD] on base erosion and profit sharing [BEPS]."

### ACCEPTING DIVERSITY IN LOCAL GROUPS

Wegener's plan for Ferma is to build on the work of his predecessor Jo Willaert, who will step down in November after four years as president. As a board member, Wegener has been part of the team that adopted its current work themes, and as incoming president he looks forward to developing additional projects, especially related to the digitalisation of the profession.

He refers to lobbying on behalf of members as "a core function" of Ferma. "We have already set out a manifesto – a document presenting our priorities



### FERMA: THE STATS

**>40**

years as the recognised voice of European risk managers

**4,800**

individual members

**21**

risk management associations

**20**

countries represented

for policy makers in the EU Institutions for the next institutional mandate [2019–2024]. Sustainable economy, digital transformation and a stable insurance market – these are our key manifesto pillars.”

Ferma also holds conversations with bodies beyond the EU, like the OECD, on topics such as the regulatory regime for global insurance programmes and BEPS, explains Wegener.

“Ferma’s role is to complement and support the work of the national associations. These associations are very diverse in size and approach, but they have common concerns to address at European and sometimes international level.”

The associations present certain challenges to the federation with their differing approaches and membership criteria. “I’m a strong believer in the variety of the different national associations and what they can bring to the table. Historically for GVNW in Germany, insurance management has been very much the focus. Other associations come from a technical risk management or risk engineering point of view.”

“Membership is another variation. Ferma is exclusive for risk managers, but some of our member associations are open to the broader sphere of risk and insurance management and accept brokers. We acknowledge this diversity in our membership, and we find ways to adapt to whatever is presented to us by the member associations,” Wegener says.

The UK’s billed exit from the EU will not affect membership by the country’s Association of Insurance and Risk Managers (Airmic) in Ferma. “Ferma’s statutes do not limit membership to associations in EU member states. Russia’s RusRisk and the Swiss association SIRM are both members, for instance,” explains Wegener. “We are very happy to continue as before and we strongly hope that our friends in the UK think the same thing.”

## HIS HOPES FOR FERMA

Wegener’s visions for a more digitally enabled risk and insurance industry encompass the Internet of Things (IoT), artificial intelligence and blockchain technology. Ferma already has a working group examining the possible impact of AI on the professional, which will present a report to the Ferma Forum in November.

Wegener says AI could be applied to analyse complex datasets used by insurance and risk professionals. “The more data you can analyse, the better your understanding of the exposure and of the underlying causes is likely to be.”

The IoT also has the potential to improve loss prevention. “It uses sensors, enabling machines to communicate. If you understand how long a machine has been operating, and under what conditions, you can build a very good idea of when it needs maintenance to prevent breakdown,” Wegener explains.

He adds that blockchain “might change the risk transfer process significantly” by automating processes throughout the supply chain. “I’m not suggesting that risk managers should become software experts. I mean there will be new techniques available that will be useful to better understand risk and to conduct insurance business.”

Sustainability is another key Ferma topic that the board led by Wegener will continue to address, not just



**“WE REALISE ‘RISK MANAGER’ MIGHT NOT SOUND LIKE THE SEXIEST JOB IN THE WORLD. IT’S A CHALLENGE FOR US TO MOTIVATE YOUNG PEOPLE TO CONSIDER A CAREER IN RISK MANAGEMENT, BUT IT’S CERTAINLY POSSIBLE.”**

from a risk reporting perspective, but also linked with EU proposals on provision for natural catastrophes.

“Climate change is likely to cause more severe weather events and create increased pressure for EU-financial solutions, which have already been proposed. Ferma will continue to represent the perspective of businesses and corporate insurance buyers and contribute to the discussion of risk mitigation.”

## ATTRACTING THE NEXT GENERATION

Career support and education for risk professionals is another Ferma priority. Wegener wants particularly to attract talented young people into the profession.

“We realise ‘risk manager’ might not sound the sexiest job in the world. In that sense, we are in the same boat as insurers and brokers,” he admits. “It’s a challenge for us to motivate young people to consider a career in risk management, but it’s certainly possible. I believe, for instance, that the current emphasis on managing risks related to digital transformation will show them that it can be exciting work that makes a difference.”

Ferma’s European Risk Management Certification, RIMAP, is an essential element in strengthening the position of the risk manager. It’s now fully achievable online, which should be attractive to the generation who work through their smart phones, Wegener believes.

He adds: “We aim to include young risk managers in our working groups and through that to provide an international experience. At Ferma they can work with their European peers, and experience working together on specific risk management topics and in an international team. That is a unique opportunity.” **SR**





# Can he fix it?

A life-long drive to discover what is broken and make it right has taken BHP's Robb Eadie all around the world. Now his sights are set on transforming the risk profession. Meet: The fixer.

“By nature, I’m a fixer,” says Robb Eadie, chief risk officer at multinational mining, metals and petroleum company BHP, as he takes off his distinctive hat and places it carefully on the table in front of him, before shifting it slightly once more to straighten it.

“Whether it’s fixing motorcycles in the garage, fixing risk systems in BHP or fixing human systems in terms of people and culture, it doesn’t really matter to me. I just like fixing things.”

It is hard not to like Eadie from the moment you meet him. His strong Glaswegian accent, sharp wit, charm and self-deprecating humour make it easy to forget we are here in a little windowless room in Melbourne. For a man whose 36-year career has spanned a dozen roles in an astonishing 18 countries, it is really hard to know where to begin to unpick his life. So we simply start at the beginning.

## FROM MEDICINE TO OPERATIONS

“Throughout my childhood, I wanted to be a doctor. I went to Glasgow [University] and lasted one term. University is a huge transition for any young person and I struggled to connect with the people I was placed with.”

“THE BEAUTY OF THE CONSULTING MODEL WAS THAT I GOT TO TELL LOTS OF ORGANISATIONS WHAT WAS BROKEN... BUT WHAT WAS MISSING FOR ME WAS I DIDN'T GET TO FIX IT. BHP WAS THE FIRST TO ASK ME TO FIX IT.”







Eadie is searingly honest about his decision to drop out of medicine or “human engineering” as he jokingly dubs it. “My dad is Sri Lankan and my mum is Scottish. I felt different in many places in Glasgow because a mixed race background was not something that was openly welcomed at that time, and even less so in the upper echelon of medicine.”

“I decided I didn’t like medicine and went to do ‘proper engineering’ – that is, chemical engineering – at the University of Strathclyde. It was a change of university and a change of focus and I never looked back.”

Eadie pauses slightly, amending ruefully: “Actually, there have been moments where I briefly regret the decision, because I think it would’ve been nice to deliver treatment but it was never to be, sadly. I’ve done very well for myself doing what I’ve done.” And just like that, his infectious smile returns.

#### WORLD TRAVELLER

Eadie’s career really began in operations roles, which took him all over the world, quite literally. He takes a deep breath to explain: “From the UK, in Scotland, I went to Canada, moved back to London and then joined BP back in Scotland.”

“And from Scotland I went to Laverne in France, then to Düsseldorf, and Düsseldorf back to London. Then from London I went to the US for the first time, to Cleveland, Ohio. From Cleveland I went back to Scotland, and then to South Africa. South Africa to Singapore, Singapore to Houston, Texas, then to London, and London to Turkey. After Turkey I went back to London again. And from there back to Singapore, before a short spell in Perth, Australia and then back to London.” Phew.

Dare we ask, how did you end up in Melbourne?

“THE 2 A.M. INTERNAL CONVERSATION DOESN’T OFTEN OCCUR BECAUSE I’M EITHER STILL AWAKE TRYING TO FIGURE OUT HOW TO FIX SOMETHING. OR I FOUND A WAY TO FIX IT AND SO WHEN IMPLEMENTATION MOVES IN I SLEEP LIKE A BABY.”

Eadie laughs: “Well, this actually came about quite interestingly. I knew that I had the opportunity to take all this risk experience I had gained but I also understood what I wanted to do in the latter stages of my career, so I set up a consultancy and did some work with various organisations, from Apple through to Shell. It was a whole variety of organisations over a three-year period, the last of which was BHP.”

“The beauty of the consulting model was that I got to tell lots of organisations what was broken and what they have to fix. I was very good at telling them what was broken.” He laughs again, then adds: “But the downside of it and what was missing for me, as a fixer, was I didn’t get to fix it. They paid me for my knowledge and my information, but as a fixer that really doesn’t satisfy. BHP was the first to ask me to fix it.”

#### MIXING MODELS AND BLAZING TRAILS

In terms of mending things, which model does Eadie subscribe to – traditional or agile risk management? “I’m probably a one stroke, two stroke, three,” he says, smiling. “Okay, let me explain. I do recognise that there’s a definitive place for risk registers and the rest of the traditional tools. But a risk assessment, for example, you can do in a relatively agile way, and the same with a risk review.”

“I also like to solve and fix issues that remain in my opinion unsolved. So the conundrum of risk appetite, for example, is where many people have to use the binary analogy you gave, either a one model or a two model. One model is a generic paragraph statement that says we take risk wherever we choose to take it and we manage it properly. Full stop. Model two is a 184-page analysis and quantitative assessment of which risk and what value and what

## LESSONS SOUGHT FROM SAMARCO LEGACY

**On 5 November 2015, an iron ore mine tailings dam in south-eastern Brazil, operated by Samarco (a subsidiary of BHP and Vale) suffered a catastrophic failure, devastating the town of Bento Rodrigues with mudflow, killing 19 people and displacing more than 700. Though this occurred prior to Eadie joining BHP, we asked for his reflections on handling such tragedies.**

“One thing as a fixer is to be able to repair these things that have gone wrong and make sure they don’t go wrong in future,” says Eadie. “This is the one part that satisfies me most in doing the job that I do. No matter how big or how small the disaster, there’s always learnings to be had. In my opinion, many organisations are not great at truly being willing to learn.”

“We talk about lessons learned, we demonstrate lessons learned, we document lessons learned. One

element of this, in my experience, is that the same symptoms lead to the same outcomes. Many organisations treat the symptom without treating the cause, so consequently the cause remains undiagnosed and the symptoms reappear at some point in the not-too-distant future. My overriding principle is: Don’t treat the symptom, treat the cause.”

He continues: “The second part of that is many organisations don’t actually look at eliminating the risk,

as opposed to managing the risk. The first phase is: Can I eliminate this? Yes, tick. If I can’t eliminate it, I then have to prevent it. Tick. If I can’t prevent it, then I have to mitigate it. Tick. That’s the order. It’s a fixer thing, as opposed to: ‘How can I better manage this?’”

“Having said that, I can’t get rid of everything, because some are a strategic imperative or an integral part of the business. Obviously, it’s very difficult to get rid of a mine if you’re a mining company.”

KRI and what metric and all the rest of it.”

“Neither of those worked for me, because model one isn’t enough and model two feels too cumbersome. In my view, risk appetite is a bit like a cake recipe in that it has many ingredients. It’s why my solution to the risk appetite at BHP is a 10-page document. That 10-page document links to the risk categories, which have executive ownership. In turn, that executive ownership is directed by the qualitative statement, which is defined by the board. That then goes to the 51 group risks, which then cascade to 770 KI’s.” He pauses to take a breath.

Eadie’s enthusiasm is clearly evident, but is it really this easy to achieve? He thinks so: “It’s a very simple process that allows you to see quite clearly and quite categorically what the appetite of the board is and how management has interpreted that and implemented that. So you can see why I have an element of traditional, and I have an element of agile, but I actually also like to solve the conundrums that currently exist.”

Innovation is clearly a driving force behind his enthusiasm but it doesn’t come without its complications, admits Eadie.

“The problem with fixing, especially in the innovative world, is most organisations and most corporate professionals will ask you a very basic question when you innovate: ‘Who else does this?’ If the answer is no one, because it’s new, then invariably they will say, ‘Well, we should wait until somebody does it and then we’ll just let them do the learning.’”

“It’s more challenging and it can be more risky in terms of setting yourself up for some degree of challenge, scrutiny and analysis. But that’s what risk is all about. Risk is about taking the right sort of risk, not taking no risk.”

But is the struggle worth the reward? “It’s rewarding to me because it’s my passion. So, if I see something that I think needs fixing then I’m barely unable to stop myself from doing so. But I don’t think that’s the case for most people.”

### HIS DEFINITION, AND REDEFINITION, OF RISK

We move on to the inevitable question of the perception of risk management as a profession; another area Eadie has strong views on.

“The perception that risk is just a compliance exercise... the truisms, or the equations as the engineer in me would say, that define my approach to risk are: You need good process plus capable people. Plus a culture that rewards, acknowledges and encourages and incentivises the right sort of behaviour. Variability equals cost plus risk, and performance equals process plus capability plus culture. Those are my learnings, which I take from the many, many incidents that I’ve had to deal with in my career.”

The sheer breadth of Eadie’s experience means he approaches his ‘worst-case scenario’ situation in a very different manner to many risk managers. “The

2 a.m. internal conversation in my own head doesn’t often occur because I’m either still awake trying to figure out how to fix something anyway, or I found a way to fix it and so when implementation moves in I sleep like a baby. I’ve had lots and lots of bad things happening in both my career and in organisations that I’ve been in. Invariably, if you’re thinking about it, you shouldn’t be thinking about it, you should be fixing it.”

On that note, Eadie has his sights set on transforming the risk profession. Like *StrategicRISK*, he believes the changing nature of risk means risk management also needs to change.

“I think we should be pursuing and supporting the creation of risk as a professional endeavour in the same way as accounting or law or engineering. I don’t think we are joined up as a faculty from a thought process perspective and I don’t think we’ve sorted the theory. I want the basic principles and tenets of what it is we do to be clearly articulated.”

“I would like to see a situation where we as a faculty have leaders in this arena and actually get our act together and start structuring it as a subject matter in its own right.”

But Eadie is not marching blindly into the abyss and is acutely aware of the profession’s limitations. “I’m still waiting to see whether it is a vocational categorisation. Let’s be honest, I don’t think you spend your childhood wanting to be a chief risk officer in the same way I spent my childhood wanting to be a doctor. However, I do think it is similar to wanting to be an engineer. It is quite an ancient activity that is only newly developed as a profession; that is the way I’d articulate it.”

So where to next for this fixer? He probably won’t be at BHP forever, he admits. “My track record says I fix things and I go. Do I ever think I will stop being a fixer? No. I’ve not stopped in 36 years and I don’t see it changing any time soon.”

“One of the downsides of being the way I am is once I’ve fixed it, I just move on and do something else, which is why I’ve done so many roles in my life, in so many places in my life. I quite like the process of fixing but once that’s done, I’m not afraid to move on. This is something again that a lot of people have as a barrier, but I don’t.”

We would say “watch this space” but chances are, Eadie will be on to his next fixer-upper. **SR**





# Our equal opportunity future?

A more human approach will transform the service we offer. From there, a better gender balance, and trendsetting performance in our leadership will follow naturally, argues Patrick Aubrey.

**M**y mentors in risk were all men. The brand of risk I was taught was one of analytics, was results orientated and required an aggressive stance to force it into process and to be bold about the need to formalise risk management into delivery.

Today, my team is a 50:50 balance of men and women and I am of the belief that women will be the dominant gender for the industry moving forward, thereby having a very positive impact on the profession.

I am not in advocacy for positive action/discrimination, but there is an admission from today's leaders that we are about to reach a point where tomorrow's leaders need to be both men and women. There will be a tipping point where women will embrace leadership positions, and this will be the catalyst for an increased gender climate in the industry.

## SHOW OUR HUMAN SIDE

I believe that we, as an industry, have overly relied upon scientific methods to create risk management fundamentals and have not leaned into the more philosophical approach to risk management. We will reap the rewards if we are prepared to embrace doing the basics differently in this way, and the bigger picture of gender equality will naturally take care of itself when it counts the most.

We can create an equal opportunity future, but this future will be rooted by an emphasis on the skills that women often naturally have. These are sometimes referred to as soft skills but I believe that they should be referred to as human skills. These are skills we all need to embrace, regardless of gender.

As the environment and culture grows around us, the



**“TRADITIONAL ‘MASCULINE’ OR HARD SKILLS WILL BECOME LESS DOMINANT AND THE SERVICE WE PROVIDE WILL IMPROVE FOR OUR CLIENTS.”**

Risk manager,  
Turner & Townsend  
**Patrick Aubrey**

more traditional ‘masculine’ or hard skills will become less dominant and the service we provide will improve for our clients.

The next evolution of risk management will be a shift to new approaches and technology in parallel with a culture change, which will see a societal movement towards a more collaborative approach to risk.

## LET’S SET LEADERSHIP TRENDS

If I was asked what the skills required to be an exceptional manager were (irrespective of profession), I would say they are: strong communication, a collaborative approach with the client, a reasoned decision-making process, and an intuition for exploration. These are great skills for any leader, so why should risk be a follower in the gender equality challenge, when we can easily be the trendsetter?

We need reasoned thinkers, people who understand the big picture and excel with the softer skills, and I believe we are missing a trick as an industry by not ensuring we have the best candidates for risk leadership roles, irrespective of gender.

Current leaders will need to find, shape and define the motivation for the next generation and support their development. We will be the ones to create the world in which new leaders will emerge and have the capability to develop the new norm. This will not contradict the efforts of today, it will lay the foundations for the new risk world order.

## AS LEADERS WE NEED TO:

- Identify future leaders of both genders
- Create a safe environment, where risk professionals can act on instinct and trust their motives rather than question them against the baseline we have set
- Remain flexible to different approaches; some may want to adapt what is the norm, others may want to break the mould
- And in the case of our female team members, understand that being a pioneer in any industry will be incredibly daunting and look for exemplar role models to guide them

My advice to all those who are thinking about being a future leader is to remember that best practice risk management is about technique, role, passion and effort and, with a constantly shifting landscape, you should be flexible to how your career will play out. **SR**



RISK FOCUS > #ChangingRisk

THE REVOLUTION  
MARCHES ON

# #ChangingRisk

Our #ChangingRisk campaign continues to inspire our community to push ever forward, applying serious thought and energy to discovering what risk management's future must be.

## CONTENTS

---

Change challenge p22

Alexander Mahnke  
**We are exciting! p24**

Ralf Mareczek  
**Time to define yourself p25**

Benedikt Hintze  
**The hunt for Black Swans p26**

Matthias Beck  
**Are you welcome? p27**



# Change challenge

We are galvanised to move forward, to meet the demands of a globalised, digitally connected world. In the second part of our #ChangingRisk survey, you explain what must be different.

**R**isk management is on the precipice of change. As the landscape changes, businesses will rely more than ever before on robust risk management to help them take more informed risks, bring new opportunities to fruition and gain keen competitive advantage.

Our readers feel challenged by this change and many recognise that risk management needs to evolve. They've told us what they think needs to change, what's slowing down progress, and what the community needs to do to improve the effectiveness of risk management. **SR**

## WHAT DO YOU THINK IS SLOWING CHANGE IN RISK MANAGEMENT?

### TOO FAST FOR CHANGE

"Business is probably changing too fast for risk management to really add value. It is not a parallel process, it is always one or two steps behind, not ahead of the game."

### BOARDROOM BARRIERS

"Risk managers need to have the courage to push forward to their execs and senior management (or government managers in the public sector) how they can help with decision-making for high performance. For example, get involved in sustainability and climate change for your organisation. It's a big issue today!"

### WRONG PRIORITIES?

"Risk management prioritises the needs of the board committees over and above the organisation's needs. Cascading the risk process through organisation takes time. With every tweak of this process (often through consultants), it takes longer to embed, mature and become fit for purpose."

### AN AFTERTHOUGHT

Risk management is still considered a supporting role and sometimes as an afterthought after critical decisions are made."

## WHAT ELEMENTS OF RISK MANAGEMENT ARE OUTDATED / INEFFECTIVE?

### ART NOT SCIENCE

"Risk management is an art. It is not a question of which elements of risk management are outdated or ineffective - it is the deployment and lack of risk strategy that are ineffective."

## WHAT CAN THE PROFESSION DO TO FACILITATE CHANGE?

### FIND COMMON GROUND

“Start developing common ground: identify the things that unite us and build on that. There are so many bodies claiming ‘ownership’ of risk management, no wonder organisations get confused when seeking assistance.”

### BUILD STANDARDS AND TOOLS

“Develop better ERM standards and more practical tools for emerging risks and upskill the profession with regards to digitalisation and new technology platforms.”

### NEW FOCUS

“Focus less on ‘risk specialisms’ and more on how organisations achieve success and how risk management can and should assist.”

### CHALLENGE THE STATUS QUO

“Advocate for challenging the status quo and not simply rolling out the same thinking around current standards.”

### NO MORE JARGON

“Make it less technical or complicated, make risk management easy to embed into business as usual and improve conversations and help the business areas join the dots.”

### EVIDENCE-BASED APPROACH

“Demonstrate, through case studies, how companies that have mature RM practices actually benefit from reducing the impacts of risks and in facilitating/optimising opportunities. This could prompt others to emulate this effective behaviour.”

### GET AWAY FROM SILOS

“Many good practices exist within risk management. But what we need to get away from is anything that is ‘separate’ to how organisations operate, and focus on the activities, skills, techniques and capabilities that will equip us to be truly integrated as trusted advisors to the organisations we work for. Basic risk procedures that focus on risk registers and heat maps are outdated. We have to move past these so we can integrate into our organisations at all levels.”

## WHAT WOULD YOU CHANGE TO IMPROVE RISK MANAGEMENT’S EFFECTIVENESS?

### INTEGRATE ERM

“ERM should be implemented as part of the overall business management suite and work in co-ordination with strategic planning and budgeting cycles. There is great opportunity in simplifying tools and leveraging them at various levels of the companies so that ERM is seen as something that creates value and not a ‘nice to have’ silo.”

### COLLABORATE

“There is a desperate need for the profession to come together rather than disagreeing on what works and what doesn’t. For instance, the answer isn’t qualitative or quantitative risk assessment: it’s both, or more appropriately, whatever is relevant for the circumstances. This would be greatly assisted by a globally recognised, tertiary-level qualifications framework to ensure that the practitioners are held in the same standing as other professions.”

### CONNECT WITH INTERNAL AUDITORS

“I’d like to connect risk management and internal audit more closely. In my company, due to budget constraints, these two functions sit in the same department and are carried out by the same team, although, ideally, they should be separate. We think that these two functions can help each other, certainly in my company. That is, risk management will lead and steer internal audit to look at high-risk areas and internal audit can gather evidence for risk management.”

### FIND UPSIDE RISKS

“Risk managers should consciously seek out opportunities for upside risk that the business has either not seen or where the business has used conservative assumptions. Risk managers should never hide behind the three lines of defence but should instead strive to be the most passionate advocate for doing the best business for the company.”

### OVERCOME RISK BIAS

“At the most senior level of the organisation: address the issues of bias in risk identification, so you’re looking at the right things. Include scenario analysis and cumulative risk assessment (even if only conceptual), make appropriate deep-dives mandatory for the ‘top risks’.”

“At the operational level of the organisation: prioritise control management, monitoring and assurance (bring in more bowtie analysis and critical control management). With respect to the three lines model (and the various derivatives) – do away with reliance on horizontal risk oversight (i.e., blend Line 1 and 2), give more attention to vertical ‘oversight’/monitoring (what else should management be doing). Maintain third line independent assurance.”

### MOVE AWAY FROM THE PAST

“Boards of directors need to start focusing on the risks that matter, moving away from the ways of the past and how they have viewed risk. A big focus of their attention should be focused on really ensuring management are analysing the risks to their strategies as these will ultimately determine the success of the organisation. In non-financial organisations, risk management needs to transition to decision quality by ensuring the business is supported in its decision-making processes, which includes the consideration of risk.”



# We are exciting!

So spread the word. It's up to risk professionals to make sure others know the value in what we do, says Siemens' Alexander Mahnke.

## IF YOU HAD THE POWER TO CHANGE THE FUTURE OF INSURANCE RISK MANAGEMENT, WHAT WOULD YOU CHANGE AND WHY?

One of our biggest challenges is around our future talent and having the right diversity in people and professions in our market. I know this sounds a lot easier than it actually is. If I look at our market, I still see the same sort of people coming from the same sort of background. So, we must become a lot better if we want to attract the right talent in the future.

Many people fall into insurance risk management. I am a lawyer by training and I have specialised in international and European law, and when I first met my predecessor at Siemens I really didn't know anything about corporate insurance. But he told

**“It's not your CEO or CFO's job to understand you, it's your job to make yourself understood.”**

me the right things; that this is a very international business where you can meet people from different countries and different backgrounds. And that not one day in this market is like another. It's a very interesting industry, but no one had told me that before when I was at school or university.

## IF I GAVE YOU THE CHALLENGE OF WRITING A RISK MANIFESTO FOR THE FUTURE. WHAT WOULD BE THE NUMBER ONE POINT THAT YOU WOULD PUSH?

To be able to phrase what we do in such a way that people understand that this is one of the most interesting and exciting professions that you can choose. I can talk to everyone in my company, in the core business of my company, and they explain to me what they do and it's my job to understand if this is a risk and if the risk is insurable. So, we are at the interface of everything that can be defined as a risk and that's quite exciting. There are very few

professions within a corporation that are as diverse and as broad as insurance risk management.

## WHAT IRRITATES YOU THE MOST ABOUT HOW INSURANCE RISK MANAGEMENT IS PERCEIVED BY STAKEHOLDERS?

There is a tendency to maybe talk a little too much and do too little, and this is also a frustration that I can see and hear when I talk to the younger generation in the market. People have great ideas and great propositions to do things differently and make things better. But the culture of doing things the way we've always done them is so strong that it's sometimes very frustrating to come across that, especially if you have a short patience span.

## IS IT A PROFESSION THAT HAS ENOUGH OF A VOICE AT THE SENIOR LEVEL WITHIN ORGANISATIONS?

I would always tell people to look in the mirror and ask yourself: what can I do better? Because it's not your CEO or CFO's job to understand you, it's your job to make yourself understood.

At a GVNW level, we are constantly emphasising to our members that they need to be able to understand and to explain the value of insurance to whoever is asking – and perhaps more importantly to explain it to those people who aren't asking. Because at the end of the day we, as insurance risk managers, are spending money that the companies we're representing have to earn first. That's quite a responsibility.

## WHAT'S THE MOST IMPORTANT LESSON THAT YOU'VE LEARNED IN YOUR CAREER?

If you do your job right and you lean on the right people, you can probably find a solution for every risk your organisation faces, whether that is self-insuring, insuring or taking the risk on your own balance sheet. I take that approach and as a result, there is very little I'm afraid of and very little that keeps me awake at night. **SR**

**Alexander Mahnke is president of the German risk management association GVNW and CEO of insurance (controlling & finance, financing) at Siemens.**

# Redefine yourself

We are so much more than insurance, believes Ralf Mareczek of Bertelsmann. And we must ensure we are involved in all aspects of our businesses.

## IF YOU HAD THE POWER TO CHANGE RISK MANAGEMENT, WHAT WOULD YOU DO?

I would like to increase the awareness of all involved parties, such as the supervisory board, in all facets of risk management. You have issues in legal, in finance... so we have to work closely across all units. Sometimes there is a lack of communication between different departments. There's room for improvement between insurance carrier, broker and the insured.

## WHAT IRRITATES YOU ABOUT HOW RISK MANAGEMENT IS PERCEIVED?

Sometimes there's a perception that risk management is limited to buying insurance coverage. We are thinking about the whole risk situation. It's a challenge to get the right opinions in the company. Risk managers are more focused on other issues than insurances.

## IF YOU WERE TO WRITE A RISK MANIFESTO, WHAT WOULD BE YOUR NUMBER ONE POINT?

I would like to have the right clarification of the role of risk and insurance management inside an organisation. You need a defined position in the corporate centre or headquarters. Sometimes the insurance or risk management has not a main role in organisations. It is part of finance or legal. If you can build it on a greenfield then you can write a definition of a clear role in your organisation. It's very important. You also need a high awareness of cyber risks.

## IF YOU COULD RELAUNCH RISK MANAGEMENT TODAY, WHAT OPERATING MODEL WOULD YOU ADOPT?

Today, it's very important to combine enterprise risk management and insurance risk management. It should be one department or one part of a finance department. In finance, there you have a variety of risks such as currency risk. You should be involved in all developments of a company. With mergers and acquisitions, you should be involved at the very early stages, so that you can manage the risk. You have a target,

you think about the operations, and then you can model different aspects of this.

## HOW DO YOU CONVINCe BUSINESS LEADERS OF THE VALUE OF RISK?

It's really about showing that a risk value is an estimate of a potential cost of a risk. That is

**“If you can build it on a greenfield then you can write a definition of a clear role in your organisation.”**

calculated by multiplying the probability by impact. You have to evaluate the risk and then calculate it on different models, such as the Monte Carlo Simulation. You are working with figures, with estimations, and sometimes you have soft facts. With climate change, we don't know what will happen in the future. You can calculate natural catastrophe risk on an actual basis or current basis, but what happens in three years' time? We don't know.

## WHAT'S THE BIGGEST RISK YOU'VE TAKEN?

An earthquake risk in California. We built a big warehouse for Arvato, our software company. It was a really high risk that we had to calculate in our books. We have fire risk of printing machines – that's probably the biggest risk we have. In the future, it will be more cyber and liability risks.

## WHAT'S THE MOST IMPORTANT LESSON YOU'VE LEARNED?

You have to think creatively, be open minded and find alternative solutions. In this way, in a negotiation with different parties, it's sometimes possible to turn a 'no' into a 'yes'.

## WHAT'S ON YOUR MIND RIGHT NOW?

Digitalisation. For us, it's thinking about what the risks of digitalisation could be and how to optimise cyber insurance coverage. **SR**

Ralf Mareczek is vice-president, corporate insurance, at Bertelsmann.





# Persuade with action

Ask what the big risks are for the future, says Benedikt Hintze of Georgsmarienhütte Holdings. Because risk management doesn't just stop in 2020.



## IF YOU HAD THE POWER TO CHANGE RISK MANAGEMENT, WHAT WOULD YOU DO?

If I had the superpower of time traveling, I'd use it to show which damages we avoided because of loss prevention and how much we increased our company longevity. You are never able to tell what were the right decisions. Let's say it's a fire in a factory, then it's clearly visible. You can ask 'why did it happen and what did we fail to do?' But suppose with our actions we avoid this damage. You never know that you avoided it.

## WHAT IRRITATES YOU ABOUT HOW RISK MANAGEMENT IS PERCEIVED?

When risk management is considered to be a legal requirement. This frustrates me because apparently it seems to have no other benefit. Maybe, it would

solutions. How can you compete in today's highly competitive marketplaces by using mainstream solutions and benchmarking? I would have a risk management strategy and process that's as tailor-made and unique as the overarching business strategy is. It's what differentiates us from competitors.

## DO BOARD-LEVEL EXECUTIVES UNDERESTIMATE THE VALUE OF RISK MANAGEMENT?

If you've reached a state of needing to persuade top management then it's already too late. It's a structural deficiency in risk culture. Of course, you can provide charts, diagrams and graphs, showing this and that. But in the end, convincing is not enough. As risk managers, we have to persuade with actions, not with words.

## WOULD YOU LIKE TO CHANGE THE NAME 'RISK MANAGER'?

I despise the terms 'risk management' and 'risk manager'. Because yes, risk seems negative, and manage is so meaningless and unexciting. And actually the entire company deals with risks. No person alone owns a risk. Unfortunately, so far I have not found a better title for the job. And so, we are still risk managers.

## WHAT'S THE MOST IMPORTANT LESSON THAT YOU'VE LEARNED?

Being human is all about taking risks since risk is only the other side of taking an opportunity. Sometimes I get the impression that risk management is about risk avoiding or worse – being risk averse. This is nonsense.

## WHAT'S ON YOUR MIND RIGHT NOW?

My new book, *Insurance Manager Convinces Company Boss*. It begins with a company boss asking: 'Why is this claim settlement taking so long?' A risk manager is explaining to a company boss how the world of industrial insurance and risk management works. It evolves to the question of whether there will still be insurances in future, or if it will evaporate because the insurance market can no longer produce what we as risk managers need. It has been written in cooperation with GVNW. **SR**

**Benedikt Hintze is senior risk and insurance manager at Georgsmarienhütte Holdings.**

be better if it was not legally required. Then top management and shareholders would want to have risk management in place only if it provides value.

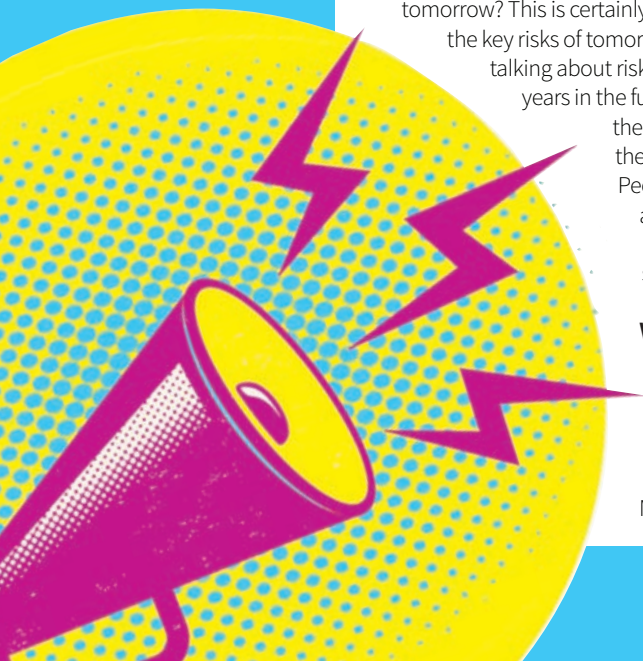
## IF YOU WERE TO WRITE A RISK MANIFESTO, WHAT WOULD BE YOUR NUMBER ONE POINT?

Hunting black swans. What are the key risks of tomorrow? This is certainly a major topic and usually the key risks of tomorrow are the strategic risks. I'm talking about risks that can occur 10, 30 or 50 years in the future. For example, evaluating the consumer marketplace or the competition in the market. People are usually looking only at the next business year, but risk management does not stop in 2020.

## WHAT RISK MANAGEMENT OPERATING MODEL COULD BE ADOPTED IN THE FUTURE?

Probably no model at all. Models are off-the-shelf

**"I despise the term 'risk manager'.  
No person alone owns a risk."**



# Are you welcome?



Würth Group's Matthias Beck discusses why you must be seen as an enabler, not a hinderer, if you want risk's value to be understood.

## WHAT IS YOUR TAKE ON RISK MANAGEMENT TODAY AND WHAT COULD CHANGE OR IMPROVE?

The reputation of risk management should be on the same level as other group functions. We are a big company of almost 80,000 employees in 80 countries and more than 400 individual entities. Our risk management approach is practical, hands-on and implemented across the group. My perception is that I have the same reputation as other group functions when I talk about insurance management. But when it comes to risk management, there is still some way to go.

## IF YOU HAD THE POWER TO CHANGE RISK MANAGEMENT, WHAT WOULD YOU DO?

It's about the level of awareness and identifying what falls under 'risk management'. Management take a lot of decisions that are directly linked to risk management. But they may not be aware that risk management is part of what they're doing. Risk information has unconsciously influenced their business or strategic decisions.

## IF YOU WERE TO WRITE A RISK MANIFESTO, WHAT WOULD BE YOUR NUMBER ONE POINT?

The top point would be the organisational positioning of risk management, which should be clear and transparent, and that roles and responsibilities should be clearly communicated. An important success factor in that regard is trustful, efficient and effective communication and interlink with other risk management functions, such as corporate safety, quality, compliance and IT. Existing policies and procedures are supporting this communication and are really playing an active part in influencing business decisions.

## DO BOARD LEVEL EXECUTIVES UNDERESTIMATE THE VALUE OF RISK MANAGEMENT?

No, I don't think they underestimate the value, as they are always considering risks and risk management when making decisions. What's sometimes missing is a structural and sustainable process.

We have around 400 companies in the group. Most of them have their own risk inventory, with an assessment of the main risks, the amount and the measures in place. The risk manager is the owner of the process but not the owner of the risk inventories. The output of this risk reporting, needs to be used

in order to support business decisions in a more structured way.

## WHAT IS YOUR VIEW OF RISK MANAGEMENT OPERATING MODELS?

They're a good starting point to identify potential risks. But more important is lifting risk a bit higher within the corporate structure. I started with being responsible for corporate insurance management, and risk management was added 10 years ago. We developed a good and efficient enterprise risk management process that suits well our decentralized organizational structure.

## WOULD RISK MANAGEMENT BENEFIT FROM A REBRAND?

I don't have an idea of what it could be rebranded to and maybe there is not really a need. If you are able to convince stakeholders with your actions, it doesn't matter under what brand you do it. The challenge in our function is to make the additional business value more transparent – where and in what way are we able to support the business to make more risk-based decisions in a structured and well-reported way.

## WOULD YOU LIKE TO CHANGE THE NAME 'RISK MANAGER'?

It's not the job title, it's whether you are a hinderer or an enabler in your organisation. Do you walk into the



**“Do you walk into the room and they say: ‘Oh no, here’s the risk manager coming,’ or ‘Thank goodness, it’s the risk manager, he’s helping us?’”**

room and they say: ‘Oh no, here’s the risk manager coming,’ or ‘Thank goodness, it’s the risk manager, he’s helping us?’ This is very important. What we have been able to achieve within our group is that whenever people and top management are talking about risk and insurance management, they see us as a valuable resource. **SR**

**Matthias Beck is head of group insurance and risk management at Würth Group.**



# Heavy industry becomes agile

Production lines and power plants are now using digitalisation to predict and prevent issues before they happen, remove human error and limit costly shutdowns. Introducing: the smart factory.

**T**echnology is revolutionising the way we do business, with heavy industries reaping the full benefits of digitalised machinery and production processes. From the internet of things (IoT) and automation, to artificial intelligence (AI) and big data, production lines and power plants are more technologically advanced.

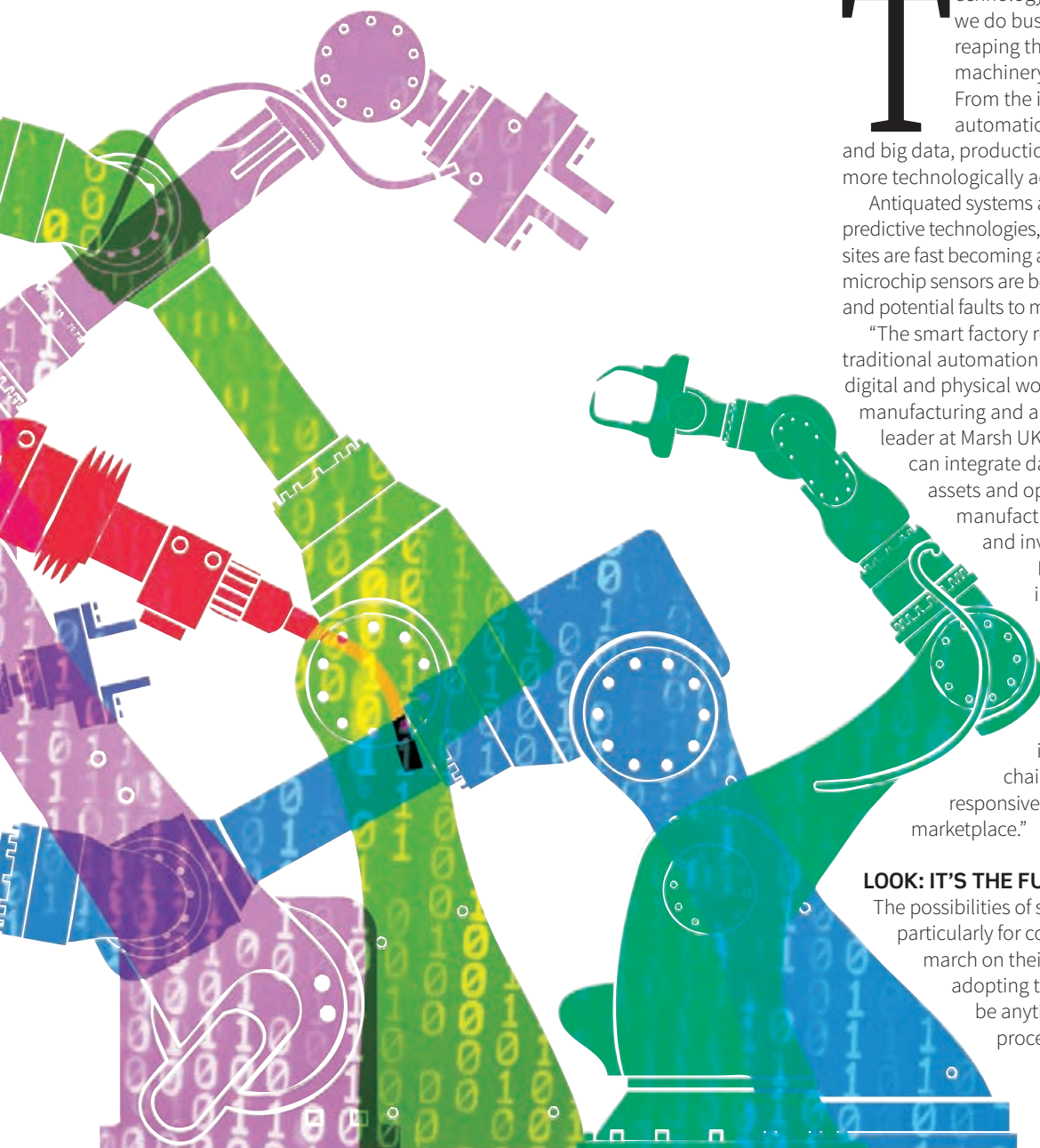
Antiquated systems are being replaced with predictive technologies, manufacturing and production sites are fast becoming automated factories, and microchip sensors are beginning to predict maintenance and potential faults to machinery before they happen.

“The smart factory represents a jump forward from traditional automation to the convergence of the digital and physical worlds,” says Anthony Monaghan, manufacturing and automotive industry practice leader at Marsh UK & Ireland. “A smart factory can integrate data from physical and human assets and operational processes to operate manufacturing processes, maintenance and inventory tracking.”

Monaghan continues: “This increased connectivity can result in a more efficient and agile system, less production downtime, reduced human elements, and an ability to predict and adjust to changes in the manufacturing supply chain, which can lead to a more responsive operation in a competitive marketplace.”

## LOOK: IT'S THE FUTURE

The possibilities of such advances are endless, particularly for companies that want to steal a march on their competitors. The benefits of adopting technologies such as these can be anything from more streamlined processes to higher quality products and even better decision making. For instance, good data analytics can help an organisation predict customer



demand better, meaning there's less chance of too much stock when there's low demand or not enough when there's a surge.

Another core advantage is the ability to spot problems before they become a reality. Tiago Dias, EMEA cyber consultant at FM Global, gives the example of how one client is using new innovations to help predict and prevent faults on the factory floor. "We have a customer that is looking for increased automation, but also machine learning where the quality process is based on robots that are able to inspect the product along the production line and detect defects during that process," Dias says.

"This customer is looking at 80 control points for a single product, which means there is extreme complexity involved. The difference between using these technologies and having human intervention is the level of complexity that is involved and the ability to learn using a trial and error approach. The machines are able to be taught to evaluate for certain things that have been missed previously and ensure a continuous improvement in that process."

It's not just manufacturing that is reaping the rewards of digitalisation, either. The defence and security sector is using cyber solutions like intrusion detection systems and intrusion prevention systems to minimise the significant threats it regularly faces.

Meanwhile, organisations that rely heavily on boilers find themselves able to avoid outages that could otherwise shut down entire plants.

Dias continues: "We will definitely see more and more industrial control system devices connected. Failures in these devices can lead to an entire plant shutdown, so we need to be able to anticipate issues. By using predictive analysis we can detect possible equipment failures in critical time. This is crucial."

## WHEN TO GO ALL IN

Of course, some companies are faster than others when it comes to adopting new technological approaches. Indeed, many are still dipping their toes in the water, weighing up the pros and cons before they go fully native.

Hans Læssøe, principal consultant at AKTUS and former risk manager of The LEGO Group, says that the use of AI, robotics and predictive analytics is only going to grow. "I am certain more and more uses and methodologies and integration will materialize in the years to come. The more fragile or dependent on 100% uptime a process is, the greater the need for smart technologies, predictive analytics and so on."

"I foresee a higher degree of autonomy in this equipment, enabling it to detect upcoming issues before they become issues (that is, predictive analytics) and automated adjustment, optimisation, and call for maintenance."

Clearly, from a risk management perspective, being able to use predictive analysis or natural language processing to not only react quickly to interruption – but also to stop it before it happens – is a powerful new weapon in your armoury.

Danny Wong, founder and CEO of Goat Risk Solutions, says: "Big data and AI has helped to advance our understanding of how materials and combinations of materials behave, their resilience and attributes to make better quality products – this can be seen in continued improvements in batteries and reducing size of electronic devices."

As well as automation helping to reduce downtime, big data can also be a useful tool for risk managers who want to better understand their exposures and plan to mitigate against them.

Læssøe says: "Big data is just another source of facts, and predictive analytics was formerly in the risk management area known as Early Warning Indicators. These tools can improve the validity, thoroughness and timeliness of processes already established."

Wong adds: "Data and analytics can be used to model risk-adjusted outcomes, forecasts and decisions. When clients' data maturity is ready and the appetite is there, we will introduce artificial intelligence/machine learning and robotic process automation so that business decisions can benefit from the collective wisdom of internal and external data, success drivers, considerations and risks. It sounds complicated, but the technology already exists."

Of course, as with any new advancement, there are challenges alongside the opportunities, and risk managers will have to add these to the long list of factors that need their attention.

## THE ROUGH WITH THE SMOOTH

One core risk is that of cyber interruption. As businesses connect more and more devices to each other, to headquarters and even to the internet, there is an increasing concern that attackers could gain access and cause real physical damage.

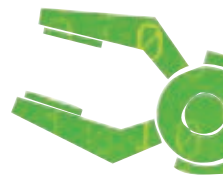
There are other new risks on the horizon. For instance, as more companies start to introduce technologies such as facial recognition or voice recognition (both of which have garnered attention for the airline industry recently), there are significant privacy concerns. And a connected world means that businesses need to be careful of GDPR legislation, too.

Dias explains: "Understanding data flows, understanding where data is being processed, understanding the interdependencies of systems and organisations processes and so on means it is very challenging to keep track of the huge changes that we see in a digital world."

**SR**

**"FAILURES IN [BOILERS] CAN LEAD TO AN ENTIRE PLANT SHUTDOWN, SO WE NEED TO BE ABLE TO ANTICIPATE ISSUES. BY USING PREDICTIVE ANALYSIS WE CAN DETECT POSSIBLE EQUIPMENT FAILURES IN CRITICAL TIME."**

EMEA cyber consultant,  
FM Global  
Tiago Dias







## EXPERT VIEW: SMARTER THE DATA, BETTER THE BUY-IN

The smart tech now being used in heavy industry brings risks as well as rewards. But these risks actually give the risk manager what they need – more data on what can go wrong and quantitative information to take to the C-suite, says FM Global's Philip Johnson.



Industry and commerce are in the midst of profound transformation perpetuated by super smart technologies that are wirelessly connecting one piece of equipment to another; and where complex procedures are being automated through the use of AI and the IoT.

Businesses that operate and rely on heavy and critical machinery are beginning to reap the commercial and operational benefits. Control systems are being optimised by remote control, enabling temperature and speed adjustments to be made more quickly; and real-time data to be accessed at any time, from anywhere in the world.

Of course, as businesses rely more on these smart technologies, they grow more vulnerable to cyber risks. It is easy to imagine a scenario where a criminal gains access to and takes control of critical systems – increasing the temperature in a power plant or the speed of a wind turbine – which can lead to loss in revenue, market share and shareholder value, as well as the damage to physical property.

But AI, IoT, sensors and automation are also boosting risk management capabilities. As this tech gains momentum, it is generating critical data points – information that can be used to make more incisive risk management decisions. In fact, insurers are using big data and predictive analytics to build new risk management tools. This is precisely what we have done – created a new suite of predictive analytics capable of identifying locations that are predisposed to loss, relative likelihood and environmental factors.

There is, of course, a big difference between data and good data: we conduct approximately 100,000 location visits every year and this has resulted in more than 7 million individual data points. This means that we can provide more accurate loss scenario predictions. For instance, our predictive analytics tool has told us that of the top 1,000 locations likely to suffer a loss, 43% of these locations did suffer a loss. This rate is 15 times more

frequent than the median location on the list.

In a volatile economic environment, where it is tough to obtain budgetary sign-off for losses that have yet to occur, critical information such as this provides risk managers with compelling data to present to the C-suite on where time, money and resources should be prioritised. It helps risk managers convey the potential loss scenario and the associated financial implications.

We pride ourselves on helping risk managers make more accurate decisions, using data and tech to develop tools. For example, we've worked with our clients to build a total financial loss model. This helps risk managers take a quantitative approach to prevention.

We take a proactive approach to helping our clients prevent, manage and mitigate risks because we believe resilience is a choice.

**Philip Johnson is senior vice-president, EMEA division manager, at FM Global.**

### “UNAUTHORISED PARTIES OR HACKERS COULD CAPTURE DATA OR ALTER RECORDS OR INTERRUPT THE MANUFACTURING PROCESS, CREATING A NEW DIMENSION TO BUSINESS INTERRUPTION.”

Manufacturing and automotive industry practice leader, Marsh UK & Ireland  
**Anthony Monaghan**

access to a system until a sum of money is paid. It can be levelled against individuals, but organisations such as the NHS have been targeted, too. FM Global says 41% of cyber losses this year have been ransomware based.

Even though machine or boiler-reliant industries are rising rapidly up the hackers' agendas, these sectors are somewhat behind the curve when it comes to protecting themselves.

Generally speaking, the operations technology world has lagged behind the information technology world on the identification and mitigation of cyber threats. This is unsurprising, but definitely a cause for concern. This means risk managers need to make sure cyber risk is firmly on the corporate agenda. Risk professionals need to understand the board's appetite for risk and translate this into tangible actions that can minimise exposures.

Dias suggests that risk managers should take these pre-determined steps to managing potential cyber exposures. “For risk managers, any significant change to the operating model, such as a merger or acquisition, should serve as a red flag for a potential increase in cyber exposure. An immediate reassessment of this risk, across all operations, business units and equipment,

should be a priority, with appropriate resilience building steps taken where required. Insurers should be notified as soon as possible so that existing policies can be adapted to the changed model, ensuring continuity of coverage and protection for the business.”

### TREAT LIKE ANY OTHER RISK

Of course, risk managers must also identify and contextualise the risk in a way that the board can understand, as well as educating leadership about how digital opportunities can be taken in a way that also keeps risks under control. Usually, this means working with other departments, particularly IT and security.

Hans Læssøe, founder of AKTUS, says: “The more dependent the industry/company is on 100% uptime of equipment, the more vulnerable they are to any cyber issue – be it an attack or accident. Process-wise, risk managers can do to these risks exactly what they do to all other risks. Ensure the relevant people address the issues and take appropriate steps to ensure risk taking does not exceed risk tolerance. The actual management of the risks lie in the hands of the business.” **SR**



# Sailing close to the wind

European countries are embracing renewable energy and investment is booming. But there is no reason to throw caution to the wind. Surety bonds provide the protection green energy companies need.

**T**he business of renewable power is growing at an unprecedented rate. More than \$2trn in investment worldwide will be ploughed into renewable energy technologies by 2030 and 75% (that's 900 GW) of this will be in the solar and wind sectors – both onshore and offshore.

It's easy to see why the business case is so strong. The environmental and corporate social responsibility arguments alone – to drive down global pollution and carbon emissions and reduce the reliance on fossil fuels as the world's population grows into the billions – should be enough to steer businesses in this direction.

The 2015 COP21 Paris agreement and the COP24 climate change talks in 2018 have added political pressure on UN nation states to take "urgent action". It strengthens the global response to the threat of climate change, and for the first time, it brings all nation states together to limit greenhouse emissions to no more than 2 °C and keep temperature increases to 1.5 °C by the end of this century.

## WHO IS LEADING THE WAY?

Most countries have embraced this challenge. And commitments to meet these targets are becoming easier as public and private equity investments are increasing and constructing such technologies is becoming more cost-efficient.

In 2018, the wind energy industry invested €65bn in Europe – €16.4bn went into new onshore wind

projects (38% of the total new power investment in Europe) and €10.3bn (24% of the total new power investment) was pumped into offshore wind farms.

Furthermore, investment is expected to increase in 2019, driven mainly by onshore wind projects, which have gained public financial support, according to the Brussels-based association Wind Europe.

The fruits of this labour can be seen across Europe. The Republic of Ireland, for example, is one of many European countries leading the way in wind energy, with more than 20% of its electricity generated by wind each year. It is targeting 40% by 2020.

In the UK, one-third of the country's power is generated by renewable energy, of which half comes from wind energy, according to the UK-based membership organisation RenewableUK. It says that the country's offshore wind powers the equivalent of 4.5 million homes annually and will generate more than 10% of UK electricity by 2020.

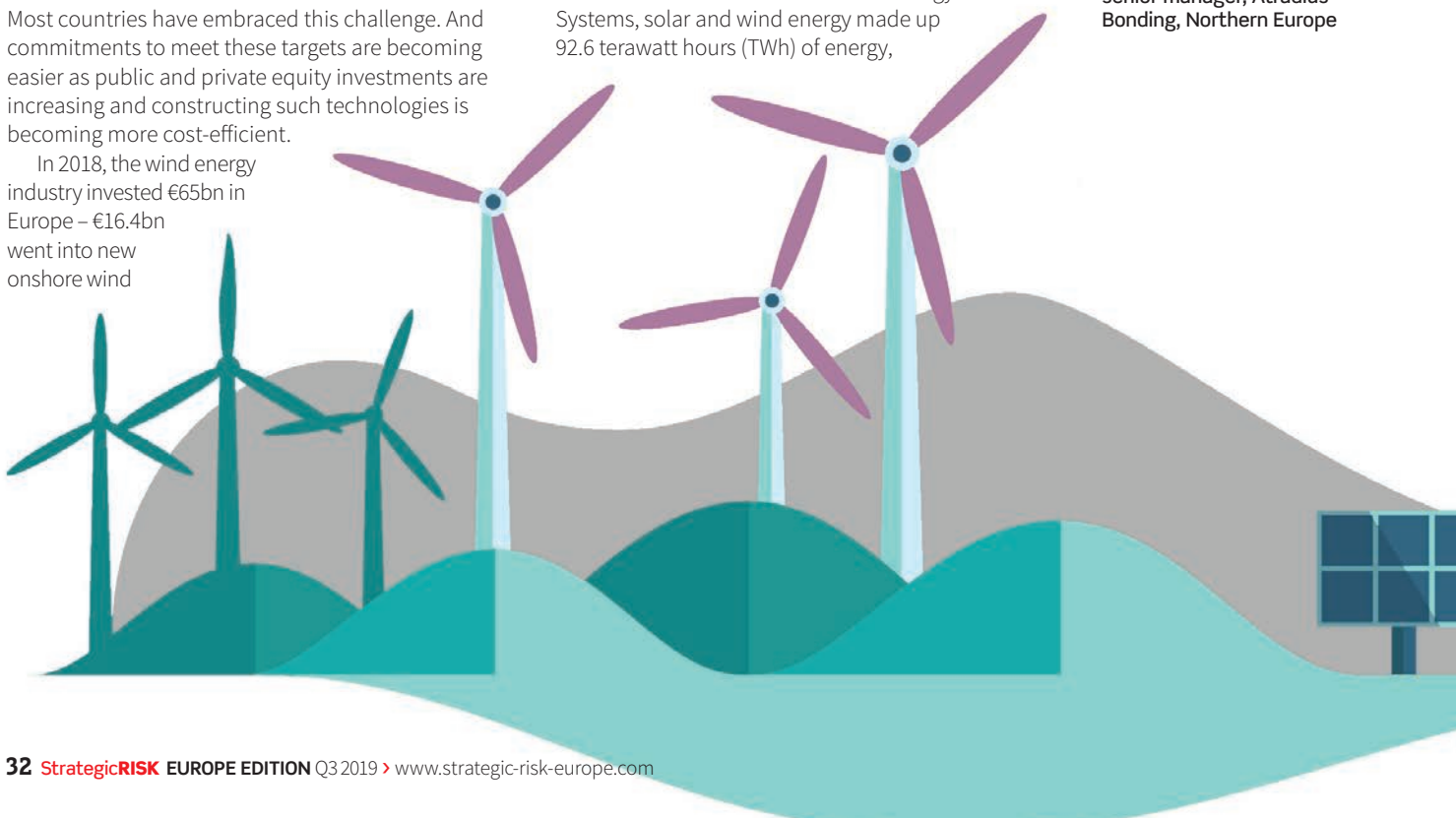
Germany's renewable energy efforts are also worth a mention. Renewables overtook coal as Germany's main source of energy in 2018. According to the Fraunhofer Institute for Solar Energy Systems, solar and wind energy made up 92.6 terawatt hours (TWh) of energy,



**Stefan Rundström,**  
Atradius Bonding country  
manager, Sweden



**Christian Gloessner,**  
senior manager, Atradius  
Bonding, Northern Europe



compared to 80.1 TWh in the first half of 2018 – more energy than lignite and coal in total.

### NOT ALL PLAIN SAILING

But it is not all good news. Renewable energy companies are just as susceptible to financial risks as many other sectors. Danish company Total Wind went bankrupt in 2018 after failing to meet financial obligations and losing about DKK60m, according to local news reports. A proportion of Total Wind's business has since been acquired by Global Wind Service.

In Germany, two companies have gone into administration. Wind turbine manufacturer Servion applied for self-administration proceedings earlier this year, with more than €1bn of debt. At the time of writing, the company said it had received "several advanced offers for various substantial core parts of its business" and that it is in the "final stages of the M&A process".

Weinreich, once Germany's largest offshore wind farm developer, is another that suffered bankruptcy, back in 2013.

There are protections that can reduce the financial risks of constructing renewable energy projects – they come in the form of surety bonds. Stefan Rundström, Atradius Bonding country manager, Sweden, and Christian Gloessner, senior manager, Atradius Bonding Northern Europe, walk us through the benefits.

### What are the three biggest risks connected to renewable energy projects?

Financial loss and insolvency is one of the biggest risks. This can be further compounded by three main things: the complexity of projects; the performance of suppliers; and the robustness of investment models. The fast-evolving regulatory environment can also present as a risk, which can rapidly change the conditions of the market.

### What bonds are available for wind energy projects?

During the different phases of a renewable energy project, four bonds needs typically arise. Each bond cover the risks involved in each phase of the project.

- **Bid bonds**
- **Advance payment bonds**
- **Performance bonds**
- **Maintenance bonds**

**Restoration bonds** are also an important consideration. They provide essential funds for any

## ATRADIUS BONDING: THE STATS

MORE THAN  
**55k**  
customers supported

MORE THAN  
**300**  
types of bonds issued

MORE THAN  
**240k**  
active bonds

outstanding restoration works upon insolvency. Bonds related to contractual obligations are agreed between the contractual parties, mostly to reduce the financial risk in the projects.

### How have you helped your renewable energy clients?

We have been working with Sweden-based renewable energy company OX2 for almost 10 years and are heavily involved in many of its projects. For example, Valhalla is OX2's largest project to date and one of the largest onshore wind farms in Europe. When completed in 2020, its 85 wind turbines will produce 1.1 TWh annually, almost 7% of all wind power production in Sweden and enough to power up to 250,000 households.

As part of our partnership, we also work closely with OX2's investors, financing institutions and authorities to ensure we deliver the required guarantees. We pride ourselves on being a trusted guarantor to all parties.

### What risks are not covered by bonds?

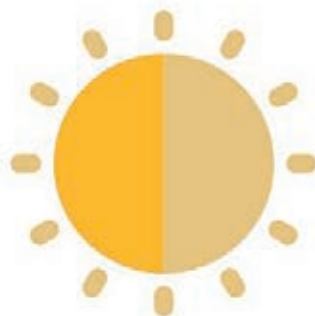
Bonds and insurance cover different risks. For example, we do not cover entrepreneurial risk, such as the yield of a windmill park or risks related to damages. This is where liability insurance would be helpful. Bonds, on the other hand, cover the financial risks related to the contractual obligations. Another difference is the recourse to customer. In insurance, there is no recourse.

### Why should I choose Atradius as my bonding partner?

Our long-held experience in renewable and wind energy is unmatched by many other bond providers. We have demonstrated our ability to meet the needs of our customers who operate on large and complex renewable energy projects and we do so quickly and efficiently.

We have earned the trust of major organisations and boast strong credit ratings by A.M. Best and Moody's, all of which has propelled us to become a leading bond supplier in Europe. In today's volatile economic environment, we give our clients piece of mind.

OX2 said: "Atradius knows our industry and provides us with an excellent service and tailor-made solutions. Their strong financial rating and expertise give us and counterparties piece of mind." **SR**





# Data departures

Cathay Pacific's 9.4 million-customer breach was a perfect storm of data security fails. Could it prompt Hong Kong to make breach notification mandatory?

In June, the Privacy Commissioner for Personal Data of Hong Kong (PCPD) issued an enforcement notice against Cathay Pacific Airways (and its affiliate Hong Kong Dragon Airlines) after a data breach compromised the personal data of some 9.4 million customers.

The enforcement notice concerned two aspects of the Personal Data (Privacy) Ordinance (PDPO):

- **Data security:** An organisation must take steps to ensure that personal data is protected against unauthorised access; and
- **Data retention:** An organisation must take steps to ensure that personal data is kept no longer than necessary to fulfil the purposes for which it has been lawfully collected.

The Cathay Pacific breach related to more than one vulnerability in the airline's systems and probably involved more than one party. It had also been under way for some time before being detected, and concerned some 9.4 million individuals from over 260 jurisdictions.

The attacks affected four systems: the customer loyalty system, a shared back-end database used to support web-based applications, a reporting tool that extracted and compiled data from other databases, and a database used to allow customers to redeem non-air rewards through the Asia Miles loyalty scheme.

The airline notified the PCPD of the breach on 24 October 2018 and started notifying affected people the next day.

## IMMEDIATE LESSONS

The enforcement notice raises key practical compliance points for those assessing and managing data security risk:

- An organisation's failure to have completed a data inventory could amount to a breach of the PDPO;
- Multi-factor authentication may now be a requirement under the PDPO for remote access to personal data by company employees; and
- PDPO compliance may require organisations to take appropriate professional advice on information security matters and ensure that best practices are being followed.

Further, because of the scale of the Cathay Pacific data breach, as well as the lapse of time between discovery and reporting, there is speculation that Hong Kong may introduce a mandatory data breach notification obligation to the PDPO.

Comprehensive mandatory data breach notification obligations already exist in Australia, the Philippines, Taiwan and South Korea, with Singapore likely to adopt this soon. The PCPD encourages breach notification, but as in China and Japan, this remains a recommended best practice rather than a mandatory requirement.

The decision may also support class action civil suits in some jurisdictions and rekindle the debate about Hong Kong's stalled efforts to create a class action regime.

## TROUBLING CONCLUSIONS

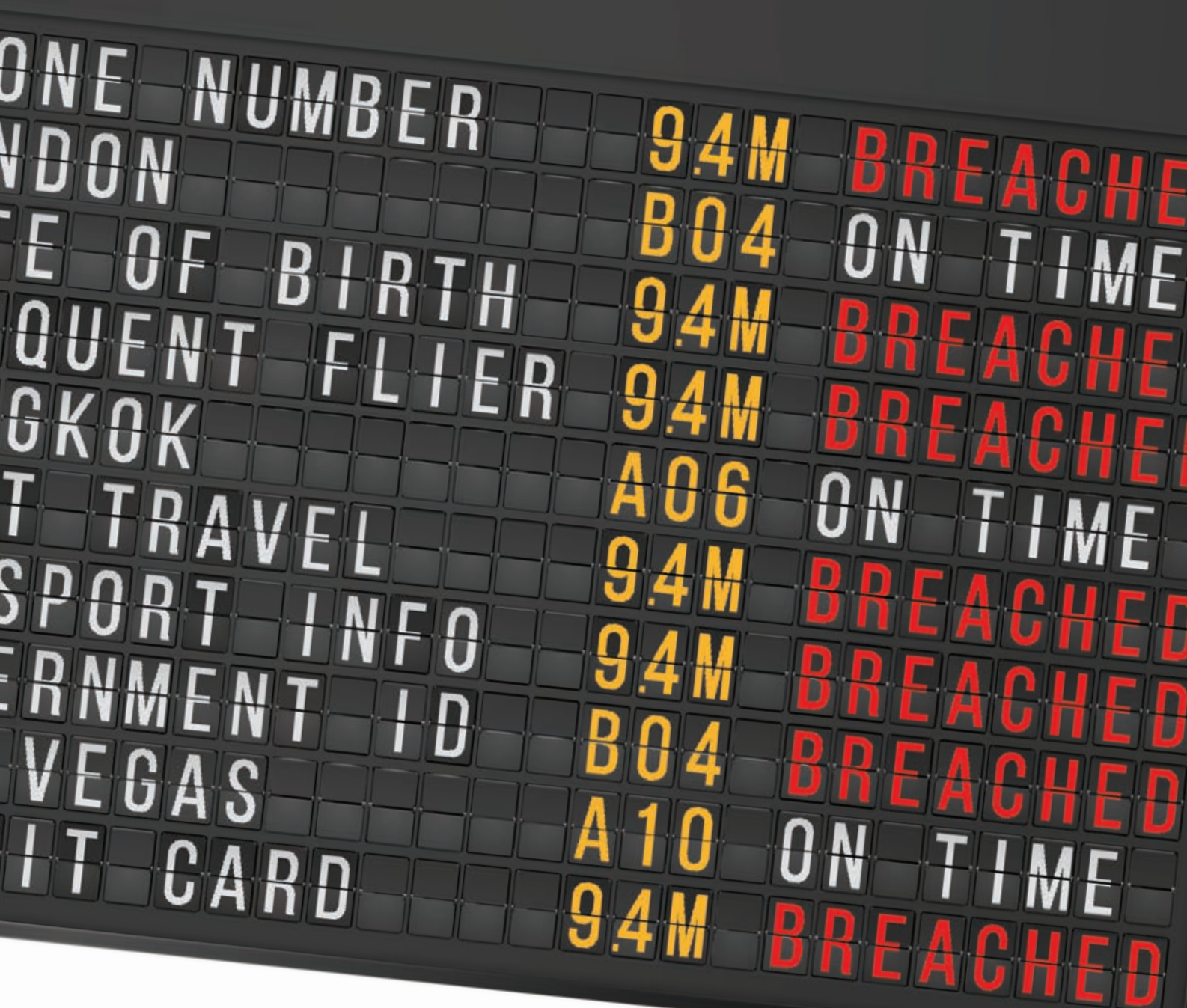
There is currently no mandatory breach notification requirement in the PDPO. The PCPD's investigation therefore focused primarily on Cathay Pacific's compliance with its data security and retention obligations.

In respect of data security, the PCPD came to the following conclusions:

## HOW TO: MITIGATE A DATA BREACH

**There are steps you can take to prevent a breach and also ensure you are prepared, should the worst happen. As part of your internal cyber incident response plan:**

- Know your risk profile – identify internal and external factors that make your company susceptible to a data breach.
- Develop internal and external monitoring systems to detect a cyber incident early.
- Deploy regular data breach prevention, procedure and protocol training to key stakeholders.
- Conduct regular security risk assessments.
- Create a cyber incident response team.
- Prepare internal and external communication channels/strategy, including social media control strategy.
- Devise a business continuity plan.



A vulnerability scan of the internet-facing server Cathay Pacific carried out in 2017 had not detected the critical vulnerability, even though details of this vulnerability had been widely published since 2007 and so was well known to the industry at this time, and the airline's scanning tool was equipped in 2013 to detect this vulnerability.

The annual scan of the internet-facing server was insufficiently frequent. The administrator console was accessible externally rather than limited to internal network access, which was deemed deficient.

Before spotting the vulnerability, only Cathay Pacific's IT support teams had to use multi-factor authentication to access internal systems remotely (an oversight remedied in July, 2018).

Database back-up files used to support database migrations carried out between 2016 and 2018 were not encrypted. A personal data inventory was not started until August 2017, but this exercise had not

**240k**  
ID card numbers were held for 13 years after use

completed when the breach was discovered.

Based on these points, the PCPD found that Cathay Pacific had breached the PDPO.

Cathay Pacific was found to have retained about 240,000 Hong Kong identification card numbers for 13 years after halting use of this data to verify identities. This unnecessary retention breached the PDPO.

Cathay Pacific notified the PCPD of the security breaches on 24 October 2018 and started notifying affected data subjects the next day – seven months after the initial attack and five months after its internal investigations detected unauthorised access. The PCPD found that Cathay could have made its notification sooner, although this did not in itself breach the PDPO.

#### CATHAY'S NEW TO-DO LIST

According to the enforcement notice, it must:



- Engage an independent data security expert to overhaul the systems containing personal data to ensure that systems are free from malware and known vulnerabilities.
- Implement effective multi-factor authentication for all remote users of its systems and undertake regular reviews of remote access privileges.
- Implement an appropriate vulnerability scanning program.
- Engage a data security expert to conduct regular reviews on the security of its networks.
- Devise, implement and enforce a clear data retention policy.
- Provide the PCPD with documentary proof of compliance of items 1 through 5 within six months of the date of the enforcement notice.
- Erase all unnecessary Hong Kong identity card data from its loyalty program systems and provide independent third-party certification of having done this within three months from the date of the enforcement notice.

The PCPD noted the increasing risks posed by data security breaches and recommended that organisations redouble efforts to be accountable for personal data, including efforts by the PCPD to ensure that data protection is a matter of high-level governance within organisations (and not just within

their IT departments), including as recommended through the PCPD’s Privacy Management Programme.

#### CONTINUED SCRUTINY

The spotlight on Cathay Pacific continues to shine, information having recently surfaced of its practice of recording passenger activity through its in-flight entertainment system, including collecting images of passengers.

In a world where organisations obtain, retain and process more and more personal data, and cyber attacks become increasingly sophisticated and difficult to combat, there are clearly lessons to be learned from the Cathay Pacific breach. The sheer scale of the breach shows how badly things can go wrong without proper internal controls and the PCPD has been at great pains to point out where Cathay Pacific fell short and what an effective data security policy should look like.

Cathay Pacific is by no means alone. Both Marriott and British Airways have recently received significant fines related to substantial data breaches and, sadly, they will not be the last. **SR**

**Authors: Mark Parsons, Mark Lin and Byron Phillips of Hogan Lovells in Hong Kong.**



## A QUESTION OF CLASS (ACTIONS)?

**Specialist class action lawyers in the US and Europe have been readying themselves for mass claims against Cathay Pacific since the data breach was announced. The PCPD’s findings will only add fuel to that fire.**

This case will also no doubt reignite the discourse around whether Hong Kong should implement a class action regime for consumer cases.

In 2012, the Law Reform Commission of Hong Kong (the LRC) recommended the introduction, under an incremental approach, of a class action regime, following which the Department of Justice created a cross-sector working group.

The working group’s current view is

that more in-depth analysis is needed, including of the proposed definition of “consumer cases”, certification criteria for a class action to be adopted by the courts, the design of the procedural rules and other ancillary measures.

A draft public consultation is said to be in development, although there is no timetable for its completion yet.

It is unsurprising that the Department of Justice is taking its time: there are competing public

policy considerations. A class action regime would likely enhance access to justice and provide an efficient (and faster) mechanism for dealing with consumer cases.

However, there is a concern about inadvertently creating a more litigious society, like that in the US. The LRC’s recommendation of an incremental approach was designed to ameliorate the risk of the latter but the concern is real.

This is definitely a space to watch. From our experience defending class actions in the US and elsewhere, any move towards a similar regime would significantly alter Hong Kong’s legal landscape. Whether that is for the better or not remains to be seen.

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