GLOBAL RISK DIALOGUE

ALLIANZ GLOBAL CORPORATE & SPECIALTY

ANALYSIS AND INSIGHT FROM THE WORLD OF CORPORATE RISK AND INSURANCE

DAMAGES UNDER THE MICROSCOPE

Scratches, tears, gnarled nubs – what knowledge can be gained by examining pictures of loss perils?

IS THERE A KINK IN YOUR SUPPLY CHAIN?
Slavery and human exploitation are increasing problems. What are a company's exposures?

A LOOK BEHIND THE FLAMES
Iconic cathedral or small manufacturer, a fire or an explosion can devastate in no time. What can be done?

HERE COMES THE (BAD) NEWS
Scandals and reputational loss are universal risks. How should you respond?

Allianz

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What are a company's exposures if there is human exploitation in its supply chain?

Photo: iStock


In a moment, fire/explosion can devastate a building or company; what can be done to mitigate the risk?

Photo: Wikimedia Commons


AGCS is a leading reinsurer on the ambitious Laos-China railway project

Photo: AGCS

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EDITORIAL

Businesses continue to be plagued by both old perils – fire, wind, flood – and new perils – cyber, supply chain problems, reputation risk. This edition of **Global Risk Dialogue** looks at some of the old and new exposures that challenge risk managers and how insurance solutions can help.

From children working in African mines to forced laborers toiling on Asian fishing vessels to women and teens enduring long hours in fetid clothing sweatshops, human exploitation is a growing problem for companies doing business with global suppliers. What liabilities do businesses face and how can they keep their suppliers honest?

One of the oldest types of loss – fire/explosion – is still one of the worst. Analysis of over 470,000 insurance industry claims by AGCS over five years found it to be the number one cause of loss, resulting in almost $16bn worth of damage. Despite the exposure, there are risk management strategies to minimize the threat.

Finally, a trend in manufacturing is the growing deployment of so-called collaborative robots – "cobots" – that work with humans to complete repetitive or dangerous tasks, freeing employees to work at more challenging or cognitive tasks. These machines tirelessly work 24/7 and are faster and much less expensive than traditional robots. But, while there are substantive benefits, what are the risks?

Enjoy the issue.

Chris Fischer Hirs
Group CEO
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NEWS FROM AGCS AND ALLIANZ

NEW HEADS OF MARINE, AVIATION AND ART CLIENT MANAGEMENT

Two new leadership changes for the Specialty business at AGCS include **Ulrich Kadow**, who has been appointed **Global Head of Marine at AGCS**, and **Tom Fadden**, who has been named Global Head of Aviation. Kadow most recently was Chief Agent of Canada (*see below*) and Fadden most recently served as Regional Head of Aviation at AGCS UK and Global Airline Product Leader.

Meanwhile, **Christof Bentele** has been named **Head of Global Client Management for the Alternative Risk Transfer (ART) business at AGCS**. He will manage existing and build new customer and broker relationships across the global ART portfolio. Bentele joined AGCS in 2014 to originate its crisis management unit.


Ulrich Kadow


Tom Fadden


Christof Bentele

AGCS AFRICA CEO RECEIVES FUTURE LEADER AWARD

The **Broad Pool of Ideas (BPI) Foundation** has recognized **AGCS Africa CEO, Thusang Mahlangu**, with the **Future Leader Award** at its inaugural **Iconic Leadership Excellence Awards** ceremony. CEO since February 2017, the business under his leadership has achieved 29% growth between 2017 and 2018.

AGCS Africa CEO Thusang Mahlangu (on the right) receives the award from Gauteng Province (South Africa) Premier, David Makhuara

It has also strengthened its community focus with activities promoting youth and education, such as the **Allianz Maths and Science Center**, which empowered Diepdale Secondary School in Soweto to improve its matric pass rate from 59% in 2017 to 80% in 2018, and the **Allianz Explorer Camp-Football Edition**, which enables youngsters between the ages of 14 and 16 to spend a week in Munich, Germany, to develop their leadership skills through on- and off-the-pitch activities with Bayern Munich players and coaches and AGCS mentors.

NEW CEO FOR SOUTH AMERICA AND CHIEF AGENT FOR CANADA

Glaucia Smithson has been named **CEO of AGCS South America**, succeeding Angelo Colombo. Based in São Paulo, Smithson joins AGCS from Zurich Brazil, where she was Head of Commercial Insurance, Corporate Life and Pensions, as well as CEO of Zurich Reinsurance Brazil.

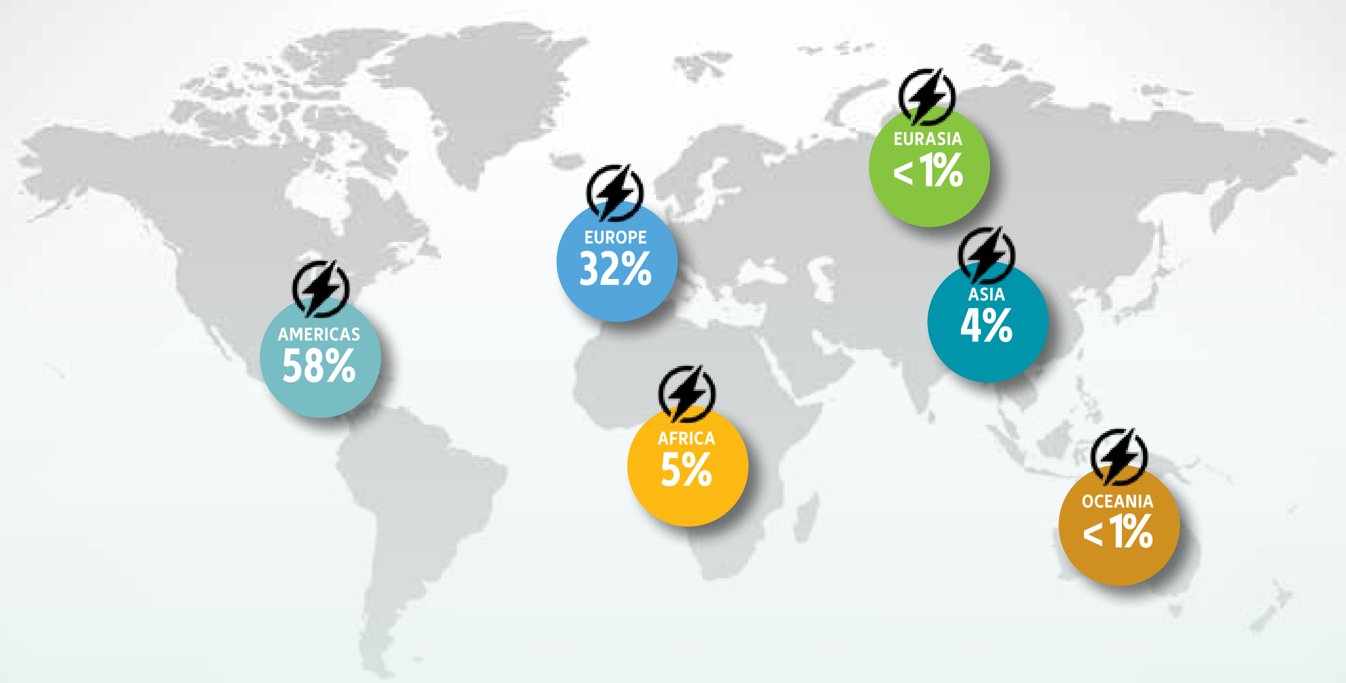
Meanwhile, **Linda Regner Dykeman** has been named **Chief Agent of AGCS Canada**, succeeding Ulrich Kadow (*see above*). Since 2016, Dykeman was the Head of MidCorp at AGCS Canada, where she oversaw strategic development and underwriting management for the Canada portfolio. She has more than 25 years of commercial insurance and leadership experience.

LOSS LOG

LIGHTNING

Lightning never strikes twice? Not if you are an insurer. Although such incidents are not particularly frequent, insurers still have to deal with hundreds of claims a year resulting from strikes, which can cause millions of dollars of damages, particularly in the aviation sector.

LIGHTNING LOCATIONS



Based on analysis of 1,269 lightning-related insurance industry claims between July 2013 and July 2018 with an approximate value of $121mn. Loss total includes the share of other insurers in addition to AGCS. All sectors included, not just aviation.

Source: Allianz Global Corporate & Specialty

Analysis of insurance industry loss data by AGCS shows that there have been more than 1,000 (1,269) claims from lightning strikes in the past five years, resulting in €110mn ($121mn) of damages.

Perhaps unsurprisingly, given the number of planes in the skies at any one time – there is estimated to be around 40 million commercial flights a year around the world – the aviation sector is the industry most frequently impacted by lightning strikes, accounting for more than one in four such claims (339 in total).

Lightning strike damages to the fuselages of aircrafts during flight are among the most expensive claims overall. Claims can be in the single digit millions of dollars even if the event does not pose a serious threat to safety. Meanwhile, helicopter incidents are another particular source of large lightning claims. However, lightning strikes can also cause trouble for the aviation sector on the ground as well as in the air with claims reported due to damage to parked airplanes, vehicles and airport infrastructure.

Overall, incidents in the aviation sector account for well over half (57%) of the value of all reported lightning claims, equivalent to more than €60mn ($66mn) of damages.

Find out more about the top causes of corporate insurance losses in the **Global Claims Review** **www.agcs.allianz.com/insights**

GOING GREEN: RENEWABLE TRENDS

The **Allianz Risk Barometer 2019** annual survey of risk managers, brokers, insurance professionals and Allianz experts identifies the top five risks for the fast-growing renewable energy sector. **Carl Angelo Dill, Senior Underwriter, Renewable Energy at AGCS** comments on the findings.

TOP FIVE RISKS IN RENEWABLE ENERGY

Rank	Risk	Percent	2018 Rank	Trend
1	Business interruption (incl. supply chain disruption)	45%	2 (46%)	↑
2	Natural catastrophes (e.g. storm, flood, earthquake)	41%	1 (51%)	↓
3	Changes in legislation and regulation (e.g. trade wars and tariffs, economic sanctions, protectionism, Brexit, Euro-zone disintegration)	33%	3 (42%)	=
4	Cyber incidents (e.g. cyber crime, IT failure/outage, data breaches, fines and penalties)	31%	4 (29%)	=
5	New technologies (e.g. impact of increasing interconnectivity, nanotechnology, artificial intelligence, 3D printing, autonomous vehicles, blockchain) **NEW**	31%	-	↑

Source: Allianz Risk Barometer 2019, Allianz Global Corporate & Specialty. Figures represent how often a risk was selected as a percentage of all responses for that industry sector. Responses: 51. Figures don't add up to 100% as up to three risks could be selected.

RENEWABLE MARKET TRENDS

1) **BUSINESS INTERRUPTION:** Given the complex and often leveraged financing structures, loss of revenues resulting from business interruption will remain a key risk to the industry.

2) **NATURAL CATASTROPHES:** There is overwhelming scientific evidence that global warming exists and already leads to more frequent and severe natural catastrophes. Hence, the risk of windstorms and floods is constantly increasing.

3) **CHANGES IN LEGISLATION AND REGULATION:** Regulatory risk is key for the renewable energy industry, as many business models are still dependent on feed-in tariffs and other forms of subsidies. Changes in regulation can disrupt business models. On the other hand it is worth mentioning that given the drop in the levelized cost of energy (LCOE – in which the cost of the power produced by a source of energy over the course of its warranted lifetime is measured against that of other sources) more and more projects are competitive without any form of subsidies, which is balancing regulatory risk.

4) **CYBER INCIDENTS:** The power industry is part of vital public infrastructure and thus a potential target for cyber-attacks. Hacking attacks on power grids (for example, in Ukraine) have been widely reported and the imminent risk of power blackouts is a major threat. The evolution of remote control and monitoring systems in the renewable energy industry is likely to open new paths for attackers. Therefore the risk of cyber-attacks is likely to increase over time.

5) **NEW TECHNOLOGIES:** The increasing use of electronic data and algorithms (for example, for predictive maintenance) poses a new challenge and is likely to aggravate the risk of cyber errors. Apart from this, there are a variety of technological risks that can result from the use of new materials and manufacturing methods (for example, around solar panels which are produced with the help of 3D printing).

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IN THE EYE OF THE STORM

How much can hurricanes and windstorms cost and what can businesses do to mitigate their losses?

From hurricanes in the North Atlantic Ocean, to typhoons in the Northwest Pacific Ocean, to cyclones in the Southwest Pacific Ocean and Indian Ocean, to winter storms in Europe, windstorms can have a devastating effect on businesses.

Based on AGCS analysis of more than 470,000 insurance industry claims from over 200 countries around the world over the past five years, windstorm activity ranks as the fourth top cause of loss for businesses overall behind fire/explosion incidents, plane crashes and faulty workmanship/maintenance issues. It is the only natural catastrophe event to appear in the top 10 causes of financial losses for businesses (*see graphic*) the analysis shows.

Furthermore, storm activity is the second more frequent cause of business interruption (BI) loss (again behind fire and explosion incidents), accounting for one in five BI claims.

Indeed, the BI costs arising from a storm can often significantly outweigh the costs of any property damage. AGCS insurance industry claims analysis shows that even the average BI loss from a windstorm event for businesses costs €3.8mn ($4.4mn) compared to around €2mn ($2.26mn) for the average direct property loss.

With the advent of just-in-time management philosophies and lean inventories, losses caused by windstorms can cripple an organization. Property damage and BI may be covered by the insurance policy, but the loss of market share and a damaged reputation cannot be easily recovered.

Based on AGCS' experience over the past 20 years, windstorms appear to be increasing in frequency and intensity. Certainly, the population growth and expansion of industries, particularly in the developing world, will ensure that losses from windstorms will continue to increase in the future. Obviously, windstorms cannot be prevented from occurring. However, loss can be greatly minimized by adequate preparation before the storm arrives, including the development and implementation of a comprehensive written windstorm emergency plan.

FIVE STEPS TO FOLLOW

1 **Test** and update emergency preparedness plans

2 **Determine** what events to prepare for (e.g. flood, wind, storm surge) and the exposures

3 **Review** and update business continuity plans

4 **Understand** the insurance policy – find any coverage gaps and plug them

5 **Improve** the site ahead of time to minimize the impact of the event.

Photo: iStock

MARINE INSURANCE TRENDS

4 QUESTIONS FOR ...

RÉGIS BROUDIN – GLOBAL HEAD OF MARINE CLAIMS, AGCS

In a volatile marine market with increased claims due to old risks like fire, new ones like cyber and complexities like larger ships, misdeclared and dangerous cargo, higher general average costs and increased subrogation challenges, a good claims team has to play in perfect harmony, explains new marine claims "Chef d'orchestre," **Régis Broudin**.

THE MARINE INSURANCE MARKET IS STILL SOFT AND VOLATILE. DOES THIS VOLATILITY LEAD TO MORE LOSSES AND NOTIFICATIONS? WHAT CHALLENGES YOU IN THESE MARKET CONDITIONS?

We cannot say there are more losses and notifications in the kind of market that we currently find in the marine sector. In general, we see the same causes of loss driving our claims portfolio, but it is clear that claims volatility is higher when premiums are not at their best. Our challenge is to positively contribute to the combined loss ratio while continuing to reduce costs and claims resolution time. Maintaining open dialogue with customers and taking proactive actions with stakeholders help us best minimize loss, although we must also strengthen efforts to increase recovery against liable third parties. We have strong claims teams working in close cooperation with underwriting colleagues who can best serve customers and drive the portfolio.

ARE THERE LOSS TRENDS THAT ARE PARTICULARLY WORRYING? HOW CAN INSURANCE BEST MEET THE CHALLENGES OF THESE TRENDS?

Large losses due to fires on vessels are alarming. Recent major general average (GA) events caused by fires on large container vessels such as *Maersk Honam, Yantian Express*, and *APL Vancouver* have highlighted the importance of fire losses from either physical damage or, in a majority of cases, from impacts by GA contribution. In both the *Maersk Honam* and *Yantian Express* cases, the size of the vessel combined with the complexity of the fire control operation significantly increased salvage and GA costs. Such large container vessels require specialist tugs and port of refuge capacities can be difficult due to their sheer size, which increases the salvage operation costs.

It is also evident that the large size and capacity of container ships increases the risk of cargo misdeclaration and, therefore, the risk of fire loss. In the very near future, digital container tracking system tools could be a solution that addresses this problem.

WHAT IS THE POTENTIAL IMPACT OF INCREASING CYBER ACTIVITY ON THE MARINE INSURANCE CLAIMS ENVIRONMENT?

Although we have not seen claims specifically tied to cyber incidents, it is likely that cyber will become an increasing feature of marine physical damage claims in the future. Cyber risk is a concern for shipping, as more and more technological solutions are introduced. Recent cyber incidents – like with the disruption experienced by Maersk in 2017 – have made the industry realize that cyber security measures and continuity planning are vital. As more shipping systems require connectivity with the shore, more vessels will become vulnerable to hacking, and hence to grounding or collision.

AS A NEW GLOBAL HEAD, WHAT ARE SOME KEY THINGS THAT CAN MOVE AGCS MARINE CLAIMS TO THE NEXT LEVEL?

I see my role as a kind of *chef d'orchestre* – we have the best "musicians" in the world and the "chef d'orchestre" tries to set the tempo, harmonize claims expertise across our global offices and focus the symphony. Global teamwork is essential to our success. Our strong claims expertise and experience allows us to be wherever the loss is anywhere in the world with adjusters, lawyers and other experts on the ground. As we have recently seen with the *Golden Ray* case – a cargo ship which capsized off the coast of Georgia in the US in September – even if the hull and machinery policy of the vessel is written in our South Korea office, if the loss happens in the Port of Brunswick, we have US staff locally to provide immediate help. This is a vital part of our service model and will help improve response times, share best practices, minimize loss and improve subrogation and salvage results. Another key area is to provide our underwriting colleagues with lessons learned and claims advice to maximize our profit potential.

BIOGRAPHY
RÉGIS BROUDIN

Based in Paris, Régis Broudin is the Global Head of Marine Claims at AGCS. He joined AGCS in 2014 as Regional Head of Marine Claims, Mediterranean, which includes France, Spain, Italy, Belgium and the Netherlands. Prior to Allianz, Broudin worked as Head of Marine Claims at AXA Corporate Solutions.

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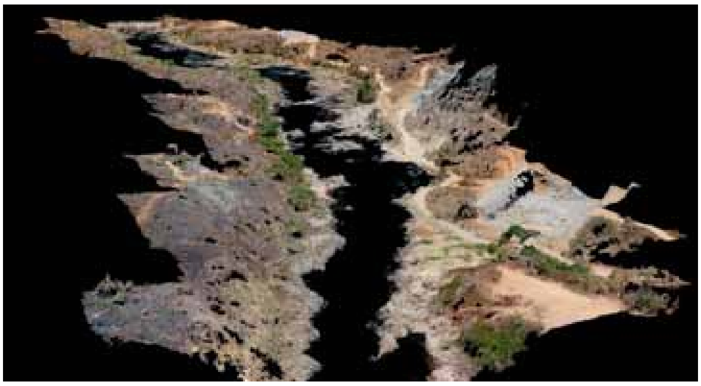
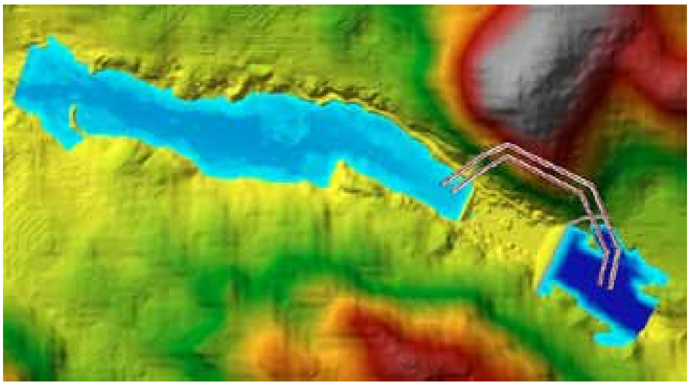
MOVING EARTH, BATTLING FLOOD

Can drones help risk engineers to better assess and model potential flood risks on construction sites? AGCS' risk consulting experts put the question to a simulated test in Angola.

Drone data can help engineers model a project site (left) in order to make a 3D simulation (right) to measure potential flood risks Source: ARC

Depending on topography, the flood risk of construction sites can change during excavation work. Large losses from recent years confirm that more frequent extreme weather events also help increase the exposure of large construction projects to flash flood, river flood or storm surge.

In response to this loss experience, **John Warton, Regional Manager Allianz Risk Consulting (ARC), at AGCS UK**, proposed the idea to use drones to monitor the flood exposure of large construction sites. Together with **Thomas Gellermann, Senior Risk Engineer, ARC Innovation Group, at AGCS**, he looked into the feasibility and benefits of such drone-based topographic surveys.

BACKGROUND

By coupling 3D topographical data with hydrogeological modeling software and rainfall simulation data it should be possible to assess water flow across a construction site or operational facility to determine how effective site drainage and flood defense plans are (including temporary drainage during construction and permanent facilities).

For a first test case, AGCS collaborated with **Industrieanlagen-Betriebs-gesellschaft mbH (IABG)**, an engineering company with expertise in 3D modeling, analysis and flood simulation, to use existing drone data of an ARC site survey of a large hydropower construction project in Angola. The data was captured by **FairFleet**, a professional drone services provider.

METHODOLOGY

In this case, flow velocity was determined by gradient, water volume, shape of the river's channel and friction caused by bed, rocks, and plants. Cofferdams, enclosures built within, or in pairs, across a river to allow the enclosed area to be pumped out, and/or diversion tunnels would be built to accommodate excess water flow safely. Beside the proof of concept, the simulation showed that the diversion tunnel and cofferdam would withstand the highest flood levels of a 50-year high water event. Thereby, the simulation confirmed the design criteria of the temporary structures of the construction phase.

In the case of modeling flash flood risks of construction sites, historical rainfall data is combined with information on terrain, geology and changes in land cover during the construction phase, to determine the likelihood of extreme flash flood events. Potential landslide risks, mostly caused by hydrological events, can be identified and monitored.

RESULTS

The results showed that flood defense plans during the construction phase (such as site drainage) could be evaluated and, if needed, the customer could be supported to develop improvements. The impact of earthworks on actual flood risk can easily be rechecked by using current data from repeated drone flights. Such analysis could be requested by the customer as an additional risk control service.

"We were very pleased with the results of our simulation exercise on a site that was not necessarily a flood-prone site," says Gellermann. "The feasibility study now means that we are ready to take what we've learned into a real-world flood mitigation scenario soon."

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A KINK IN THE CHAIN

An illegal economy based on human exploitation is thriving, affecting commodities we all use – from cocoa to computers. Global businesses are challenged to respond due to the lack of local legislation, lax enforcement, vague means of gathering proof and other factors. How can they mitigate this billion dollar battle – and win? And what risks do they face if they aren't vigilant about what is happening in their supply chain?

40.3 million

Estimated number of people in modern slavery worldwide in 2018

Allegedly, up to two million children under 16 in the Ivory Coast and Ghana harvest cocoa beans that are used to make chocolate confectionery worth $18.27bn—18% of the world's supply – in hazardous conditions involving pesticides, heavy lifting, controlled burns and the use of machetes[1].

The diamond mining and production industry in Tanzania, Ghana, Mali, Burkina Faso, Sierra Leone, the Democratic Republic of Congo and the Central African Republic is estimated to employ as many as a million children between the ages of 5 and 17 while paying them less than $2 per day, if at all, according to the Wilson Center's "Africa Up Close" project[2].

Overall, Africa has the highest number of child laborers at 72.1 million and the highest percentage of its children in child labor at 18.6% of any region[3].

Meanwhile, the cotton industry in Turkmenistan allegedly exploits tens of

[1] US Department of Labor, Child labor in the production of cocoa, 2017
[2] Wilson Center, Africa Up Close, Child Labor in African Mines: Where Are We Now? July 20, 2016
[3] ILO

Photo: iStock

Modern slavery is often seen as a problem that is limited to poorer countries. However, its impact can also be felt in the supply chains of global companies

thousands of people in order to meet the country's rigid production quotas.[4]

While each of these is an example of human exploitation in the supply chain, do companies who buy the cocoa or cotton or diamonds know the ugly truth? A survey in 2017 by the Chartered Institute of Procurement and Supply (CIPS) found that only 6% of managers at British firms were certain their supply chains were untainted by modern slavery.

RISK MANAGEMENT

Although human exploitation can take on many forms, it can be difficult to detect. An estimated **40.3 million people** are trapped in modern slavery globally, according to the International Labor Organization's (ILO) Global Slavery Index 2018. Many more are forced to work against their will, or are children. Industries such as textiles, food and agriculture, electronics, construction, hospitality and housekeeping are especially vulnerable.

According to the **UN's Guiding Principles on Business and Human Rights**, businesses, regardless of size, sector, operational context, ownership and structure, must respect human rights, must not contribute to violations and must address actions when they occur[5].

Businesses need to understand that they are responsible for assessing and if necessary policing their supply chains – who else can do it? They have the relationships and the pertinent information to do so. Insurance risk management can help, but the onus is on them.

"Diligence is key," says **Christopher Bonnet, Head of Environmental, Social and Governance (ESG) at AGCS**. "Companies can institute policies and insurance risk management can help if businesses supply an audit of a supply system. Risk assessment could then determine gaps and suggest solutions."

It's a good idea for businesses to have policies/statements to which they can hold suppliers accountable. These should explicitly prohibit child labor, human trafficking, forced labor, and other incidences of human exploitation, while simultaneously protecting and promoting human rights and occupational health and safety.

Shareholders and customers are demanding far more of companies in terms of how they go about their business and conduct themselves, says **Shanil Williams, Global Head of Commercial Financial Lines at AGCS**. Company boards face the challenge to act appropriately regarding corporate social responsibility and to ensure that suppliers and third-party service providers are similarly compliant.

THE 1 MINUTE DIALOGUE

- Industries as varied as textiles, food and agriculture, electronics, construction, hospitality and housekeeping have been connected to modern slavery, although all sectors are susceptible
- While regulatory action is strong in most developed countries, enforcement is difficult for governments and convictions are low
- Human exploitation in the supply chain can particularly be damaging to corporate officers as shareholders and customers demand compliance to supply chain due diligence
- Businesses can and should hold vendors and suppliers contractually accountable to fair wages, fair working hours, humane treatment and other factors before doing business

REGULATORY LANDSCAPE

The regulatory landscape runs the gamut from countries with progressive and emphatic compulsory statutes – the Netherlands, the US, the UK, Sweden and Belgium make up the five highest responses to modern slavery, according to the ILO – to those that have little or virtually no regulatory restrictions at all – the lowest five countries are North Korea, Libya, Eritrea, the Central African Republic and Iran[6].

Enforcement, however, doesn't always follow suit: convictions are low – they fell by 25% in Europe, for example, in 2016 from 2011 levels (742 in 2016 from 988 in 2011), although the number of identified victims increased from 4,248 to 4,429 over the same period[7]. A study by UK watchdog group, Know The Chain, found that of the 102 information and communication companies analyzed for responding to the **2015 UK Modern Slavery Act** only 14 met the minimum compliance requirements[8].

While the US has done the most to curb modern slavery, the UK's is by far the most robust statute, requiring businesses with over **£36mn ($44mn)** in global

[4] The Economist, Supply chains based on modern slavery may reach into the West, July 19, 2018
[5] United Nations Office of the High Commissioner on Human Rights, 2011
[6] ILO, Global Slavery Index 2018
[7] The Guardian, Trafficking convictions fall 25% despite rising number of victims in Europe, January 8, 2019
[8] Know The Chain, What progress have companies made under the UK Modern Slavery Act?, March 25, 2018

Children are made to assist in subsistence mining operations in the Kailo region of the Democratic Republic of Congo
Photo: Wikimedia Commons

turnover to disclose the steps taken to identify and address slavery and human trafficking in their supply chains.

The law introduces a new reporting requirement for businesses to be transparent – potentially even holding company officers responsible for failing to act with reasonable care, skill and diligence when signing off on transparency statements, not having the correct processes and not having the risk management framework in place to monitor and react to any specific issues, says Williams.

Despite its strength, however, an annual assessment of transparency statements by the UK's Financial Times Stock Exchange (FTSE) top 100 companies by the Business & Human Rights Resource Center (BHRRC) in 2018 found that the Act has failed to lead to the real change that was originally intended while finding the majority of transparency statements to be vague, generic or omitting crucial details.[9]

In France, a statute introduced in 2017 establishes a duty of vigilance obligation for companies and sub-contractors that requires them to publish annual plans to tackle risks in the areas of the environment, human rights and health and safety[10]. And in late 2018 Australia passed a law like the UK's requiring companies with annual consolidated revenues over AUD$100mn ($67.7mn) to annually report on the risks of modern slavery in their supply chain and report on step-by-step plans to address those risks[11].

Elsewhere, Brazil has a "bad list", which publicizes firms found to be using forms of modern slavery and blacklists them from public tenders, while the US State of California has a **Transparency in Supply Chains Act** which stipulates that any large retailer and manufacturer doing business in the state with annual global gross receipts above $100mn must verify that its supply chain is free of human exploitation, conduct annual audits of suppliers, hold employees and contractors accountable and provide training to managers and procurement staff. Nonetheless, such policies only work if they are enforced.

For example, US confectioners, Nestlé, Hershey and Mars, continue to face accusations of forced labor and child labor conditions in their supply chains and each has been or is currently embroiled in lawsuits, one of which is a $550mn Toronto-based class-action suit against Hershey. For all of the attempted suits, however, most are dismissed because of the extreme complexity of proving negligence and finding the true culprit in the fast supply chain.[12]

Legislation and governance codes in many countries also require far more transparency and accountability from suppliers in terms of reporting requirements on their efforts to deal with human trafficking and modern slavery.

REPUTATION RISK

"Say I'm a large multinational manufacturing company doing business with a wide range of tier two, three, four and down suppliers located all over the world," says Bonnet, referring to tiers in a company's supply chain – with tier one being a direct relationship supplier and tiers two and down being those suppliers with whom the tier one supplier does business but which the manufacturer does not. "It can be very difficult to keep up with what each supplier is doing and whether or not they are exploiting employees. Human relations and ESG teams can be challenged to assess non-compliance of policies and procedures."

The main hit that a business might take with human exploitation in the supply chain, besides the liability risk that any company faces doing contractual business with suppliers, is a knock to their reputation, especially in light of heightened consumer advocacy, protests, social media and even so-called "public-shaming" exercises, many spearheaded by non-governmental organizations (NGOs) to rally public awareness. There has even been a rise in strategic civil litigation. Monetary damage and reputational damage that influences consumers and investors work hand-in-hand to keep businesses aware – and honest.

"It's important that organizational leadership from the board level down to middle management fully embrace the need to comply with regulations and even take it upon themselves to self-police their policies and procedures," says Bonnet. "Create policy that stipulates in a concrete way that the firm will not tolerate non-compliance of slavery or human exploitation in its supply chain and, if discovered, back it up with action."

D&O IMPLICATIONS

While human exploitation in the supply chain is not a named peril in a director's and officer's (D&O) all-risks insurance policy, it is definitely becoming a boardroom concern and a major exposure for directors and officers – especially for companies in the UK, the US, the EU and Australia, says Williams.

"At a time when regulators and investigatory authorities are focusing

[9] Business & Human Rights Resource Centre, FTSE 100 & the UK Modern Slavery Act: From Disclosure to Action, 2019
[10] ILO, Ending child labor by 2025
[11] The Conversation, At last, Australia has a Modern Slavery Act. Here's what you'll need to know, December 2, 2018
[12] Now, Slaves to chocolate: The child labor in your Hershey's bar, March 7, 2019

HUMAN EXPLOITATION TAKES MANY FORMS

FORCED LABOR – work performed involuntarily or under coercion, including situations of debt-bondage, limited free movement or sexual exploitation (estimated **24.9 million** people globally).

Photo: Wikimedia Commons

MODERN SLAVERY – the status or condition of a person over whom any or all powers attaching to the right of ownership are exercised including debt bondage, serfdom, the selling of women for marriage, and the situation of parents or guardians delivering a child to another person for the exploitation of their labor – 25% of all victims are children (also, involves human trafficking) (estimated **40 million** people globally).

CHILDREN IN EMPLOYMENT – children under 17 working in any form of production, including those in forms of work in the formal or informal economy, inside or outside family settings, for pay or profit and domestic work outside the child's own household for an employer (estimated **218 million** children globally).

CHILD LABOR – children in employment who are in permitted light work with limited hours and those above the minimum age for work whose work is not classified as a worst form of child labor, or, in particular, as "hazardous work". Worst forms include slavery, human trafficking, debt bondage/serfdom, forced/compulsory (including in an armed conflict); sexual exploitation; drug production/trafficking (estimated to be **152.4 million** children aged 5 to 17 globally – **64 million** girls and **88 million** boys).

CHILDREN IN HAZARDOUS WORK – night work, long hours of work, exposure to physical, psychological, or sexual abuse; work that is underground, under water, at dangerous heights, or in confined spaces; work with dangerous machinery, equipment, and tools, or which involves the manual handling or transport of heavy loads; and work in an unhealthy environment (estimated **73 million** children globally).

Source: International Labor Organization, 2018

unprecedented attention on personal accountability for company directors, issues such as slavery in the supply chain could create major problems for senior managers if this global issue is not addressed," says Williams.

"We can expect to see more enforcement in the area of human rights and community impacts and holding directors responsible for transparency in supply chains. Companies will be expected to manage this risk including auditing the supply chain and implementing appropriate due diligence of suppliers."

To do this, a company might insist on supply chain transparency: hold vendors and suppliers contractually accountable to fair wages, fair working hours, humane treatment and other factors before doing business. By implementing the right checks and balances to address violations, companies can be compliant and forthright to customers, vendors, suppliers and investors, alike.

"It's very difficult to spot potential hotspots," says Bonnet, "so protection against liability is a good first step. Statements of policy can be good backup procedural documentation, which can be instrumental in sending a message to all suppliers who aren't always on the up-and-up."

For example, AGCS has a vendor integrity screening process, which includes prevention of corruption, bribery and other forms of noncompliance, including modern slavery, human trafficking and child labor, and has a vendor code of conduct in place complying with the UN Global Compact, essential human rights and standards of the ILO. AGCS maintains a system of quality assurance and auditing activities which cover an internal mechanism to ensure adequate controls for various types of global risks.

Most importantly, however, when an infraction is discovered, businesses must act. Companies can state publicly that they won't tolerate violations of its supplier code of conduct and can promise to regularly assess suppliers by internal and independent auditors to monitor compliance and improvement. Statements of transparency must be public, approved by the board of management and signed by a director. But, despite requirements and government guidelines, 34% of businesses surveyed by the Chartered Institute of Procurement and Supply (CIPS) in 2017 that were required by the UK Modern Slavery Act to publish an anti-slavery statement had failed to do so, while 37% of supply chain professionals in businesses required to publish a statement had not read the government guidance.[13] In the final analysis, self-policing is key.

Corporations that fail to take appropriate steps to eliminate human exploitation from their supply chains may also face shareholder derivative suits. Given more and more D&O claims result from reputational events or bad news that were not disclosed to the market, this concern will not go away, says Williams.

OUR EXPERTS

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13 Supply Management, Third of firms fail to comply with slavery law, September 6, 2017

A LOOK BEHIND THE FLAMES

The Notre Dame Cathedral blaze may have shocked the world but, for businesses, it should be another reminder of why fire/explosion risk is their number one cause of loss. With all structures at risk, **Global Risk Dialogue** looks at how businesses can better protect themselves and prevent any subsequent business interruption from burning a substantial hole in their balance sheets.

$15.7BN
Damages to businesses from fire/explosion in the last five years

"We were the caretakers of Notre Dame. We failed," announced a *New York Times* article reacting to the fire that ravaged the almost-eight-centuries-old cathedral in Paris last April. It summed up the feelings of regret and shared blame that came in the fire's wake.

Images of the gothic cathedral as it crumbled from one of the world's most-visited and beloved attractions to a hollowed-out ruin shook the world, leaving many asking how it could have happened.

It is a prevailing question when it comes to the failure to prevent fires. How can it be, especially in the case of Notre Dame – a particularly precious jewel in the French and European landscape – that, even with higher fire protection standards than ever before, such incidents continue to devastate buildings and businesses throughout the world?

Fire/explosion incidents rank as the number one cause of loss for businesses worldwide, having caused in excess of €14bn ($15.7bn) worth of damage from more than 9,500 claims over the previous five years, according to the **AGCS Global Claims Review: The Top Causes of Corporate Insurance Losses**. This comes in contrast to the inception of the first

Despite improved fire protection standards, blazes like the one at Paris' famed Notre Dame Cathedral continue to devastate buildings around the world

THE 1 MINUTE DIALOGUE

- Fire/explosion incidents are the number one cause of loss for businesses worldwide, over the previous five years, according to insurance claims, even as fire prevention has made significant strides
- Business continuity plans developed with risk consultants after a thorough analysis of the key processes of the business can minimize risk and help businesses get back on their feet after a fire
- A significant cost to businesses after a fire are business interruption and contingent business interruption losses – even more than physical damages
- Only by assessing and maintaining a regular upkeep of fire mitigation practices onsite can companies lower the risk of loss

ever International Fire Safety Standard (IFSS) coalition in July 2018, as worldwide standards of protection continue to evolve.

Should we be questioning the effectiveness of protections? Revisiting mitigation practices? Or is there a simpler explanation as to why fire is a perpetual source of loss for businesses?

ALWAYS EVOLVING

"There are three types of fire mitigation," explains **Stephen Clark, Global Technical and Expertise Manager Property Risk Consulting at AGCS.** "Preventative measures before the blaze, methods to extinguish the fire once it has started, and contingency planning to ensure the business can recover as quickly and as smoothly as possible."

Each of these steps (*see page 16*) can be fairly simple in what they require from site managers and the business; however, the key to their effectiveness is not complexity, but in their regular practice and inclusion in the day-to-day running of the business.

"You can always tell which clients have experienced a serious fire loss before from those who haven't," says Clark, citing complacency as a primary cause of many large losses. In his view, diligence and repetition are key in preventing and reducing the impact of a fire.

In particular, business continuity plans should not be viewed as one-time documents that just "sit on the shelf," adds Clark.

Typically, these plans are developed with risk consultants after a thorough analysis of the key processes of the business so that, in the event of a fire, they can minimize its impact and help the client return to business-as-usual status as quickly as possible.

Clark advises that, as the business evolves, so too should the continuity plan and other mitigation practices so that new fire risks do not go undetected. An effective, well-rehearsed continuity plan can be the difference between minimizing damage and experiencing significant losses.

MORE THAN BRICKS AND MORTAR

Although the actual physical impact of fire is often costly, the increasingly interdependent nature of processes between businesses means that the costs derived from business interruption (BI) and contingent business interruption (CBI) caused by the fire, are typically even higher.

Overall, from the claims data analyzed by AGCS, BI losses caused by fire/explosion incidents amounted to an average of over $6.5mn per incident – nearly a third more than the actual property damage caused directly by such fires ($4.4mn). So the question that businesses should be asking themselves is not only how best to prevent fires, but also how their impact can be reduced.

It's essential that the firm identify an alternative onsite location to pick up processes disrupted by a potential fire, as well as another location in the event of complete destruction of the main premises.

However, as **Juergen Wiemann, Regional Head of Property Underwriting, Central and Eastern Europe at AGCS**, points out, as there is a cost associated with such an asset, it can often be overlooked in competitive markets.

"During boom periods, many companies prefer to operate at full capacity to capitalize on the market, meaning no redundancies such as unused premises. While this is great for maximizing profit, in the event of a disruption – such as a fire – it can lead to a complete stop to production and, consequently, huge losses," says Wiemann.

While business resilience and the ability to supply in the face of disruption will require contingency planning and certain actions that cost businesses up front, they can ultimately be invaluable assets.

CONFLAGRATION

As businesses continue to streamline, the reliance on third party contractors and suppliers has become much higher than ever before. This is most visible in the automotive industry where manufacturers, in lieu of paying to produce and store all components and materials of vehicles in-house, are instead relying on external companies to produce and supply parts.

As exemplified by a fire at the Meridian magnesium plant in the US State of Michigan in May 2018, this approach carries huge potential for BI. As a key supplier of automotive parts to a number of manufacturers, the Meridian plant's destruction caused major disruption to, among others, BMW,

A single fire at a magnesium plant in Michigan caused major supply shortages for automotive manufacturers
Photo: Lansing State Journal

General Motors and Ford, who had to temporarily halt production of their popular F-150 model truck as a result[1].

Triggering a number of explosions, the fire destroyed part of the plant, injured two workers and was the catalyst for hundreds of millions in BI losses throughout the industry, according to reports[2].

NEW SOLUTIONS

While external suppliers and contractors can have varied levels of protection in terms of their approach to fire risk, it is often difficult for their clients to have a close overview on these suppliers' mitigation practices, meaning that there can be a considerable unseen BI and CBI risk.

In such an environment, the business and its insurer must therefore work together to improve risk management practices.

Detailing a current project with a large vehicle manufacturer, Wiemann explains that, while, like most customers, the automaker had good in-house risk management programs for their own production facilities in place, the fire mitigation practices of critical product-relevant suppliers were not immediately known.

For these reasons, AGCS has launched **CBI Risk Transparency**, a risk quality categorization matrix for supplier properties, to give customers a fuller understanding of their CBI risk.

In the course of the project, risk information from relevant suppliers was obtained through online surveys in combination with onsite risk inspection

Photo: Wikimedia Commons

FIRE AWAY!

THE BEST WAYS TO PREVENT, PREPARE AND PROTECT YOURSELF

PREVENT: General ***housekeeping*** practices, such as moving flammable materials (e.g. paper waste) away from potential ignition points is a simple solution, while the establishment of ***common procedures*** and management programs relating to the inspection of equipment, training, and hazard analysis is essential.

CONTAIN: Automatic ***sprinkler protection*** can be the most effective way to stop a fire in its tracks. Contrary to scenes from Hollywood movies, sprinkler systems do not soak the entire building in the event of a small fire, instead they limit the spray and water damage to the affected area.

PLAN: *Pre-emergency* ***planning***, and comprehensive ***written procedures*** that employees are familiar with, are also effective in making the job of the local fire brigade easier, and ensure that nothing more than the structure gets caught up in the flames.

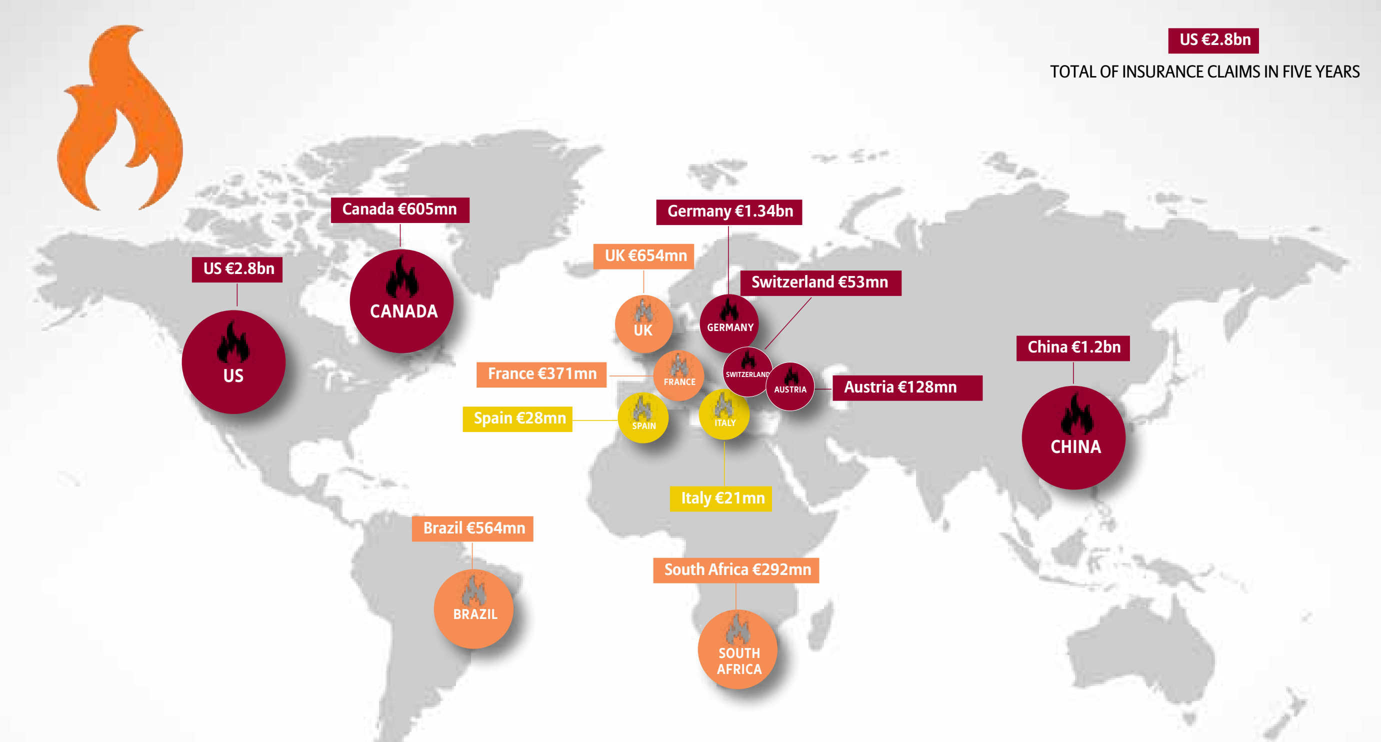
RECOVER: After the fire has been extinguished, an effective ***business continuity plan*** will map out the quickest road to business-as-usual recovery for the company. Here, insurers develop scenarios for customers and create a loss estimate so that, even when the unexpected happens, there are no surprises.

Find out more about business continuity planning at **www.agcs.allianz.com/insights**

[1] Auto News, Ford to restart F-150 output Friday following supplier fire, May 16, 2018
[2] Lansing State Journal, Official: No cause found in Meridian magnesium fire by fire investigators, May 21, 2018

WHERE FIRE/EXPLOSION IS THE TOP CAUSE OF LOSS

BASED ON THE VALUE OF INSURANCE CLAIMS (€)*



* Selected countries only. AGCS analyzed over 470,000 insurance industry claims in over 200 countries with which it was involved between July 2013 and July 2018. These claims had an approximate value of €58.1bn ($66.5bn). The largest single cause of loss was fire/explosion (excluding wildfires), causing in excess of $15bn worth of damages.

Source: Allianz Global Corporate & Specialty

programs, which was then fully integrated into the client's supplier management program. Over 2,000 suppliers could be qualified as insurable or not on this basis.

$6.5MN

Average business interruption loss due to fire/explosion

AN EGALITARIAN THREAT

Risk assessment continues to evolve in respect to fire/explosion, such as, with the current use of 3D scanning to remotely assess buildings and the growing use of warning sensors for machinery.

These kinds of innovative technologies are viewed as the building blocks for a future where risk assessments can be fully automated and carried out by artificial intelligence.

The Notre Dame blaze shocked the world

However, despite these developments, it is still unlikely that there will be a magic cure for fire risk.

Whether it is the growing number of electrical fires resulting from faulty batteries and electric car charging points, or because stock is so tightly packed and concentrated in these automated storage warehouses that fire containment becomes extremely difficult, practices will always be playing catch-up to new risks.

Only by assessing and maintaining a regular upkeep of fire mitigation practices onsite can companies lower the risk of loss.

As Clark says, preparing for the worst can be the most effective protection.

"Every plant, no matter the size, will have a fire. It is just a question of how big it will be and how much you have done beforehand to limit the damage."

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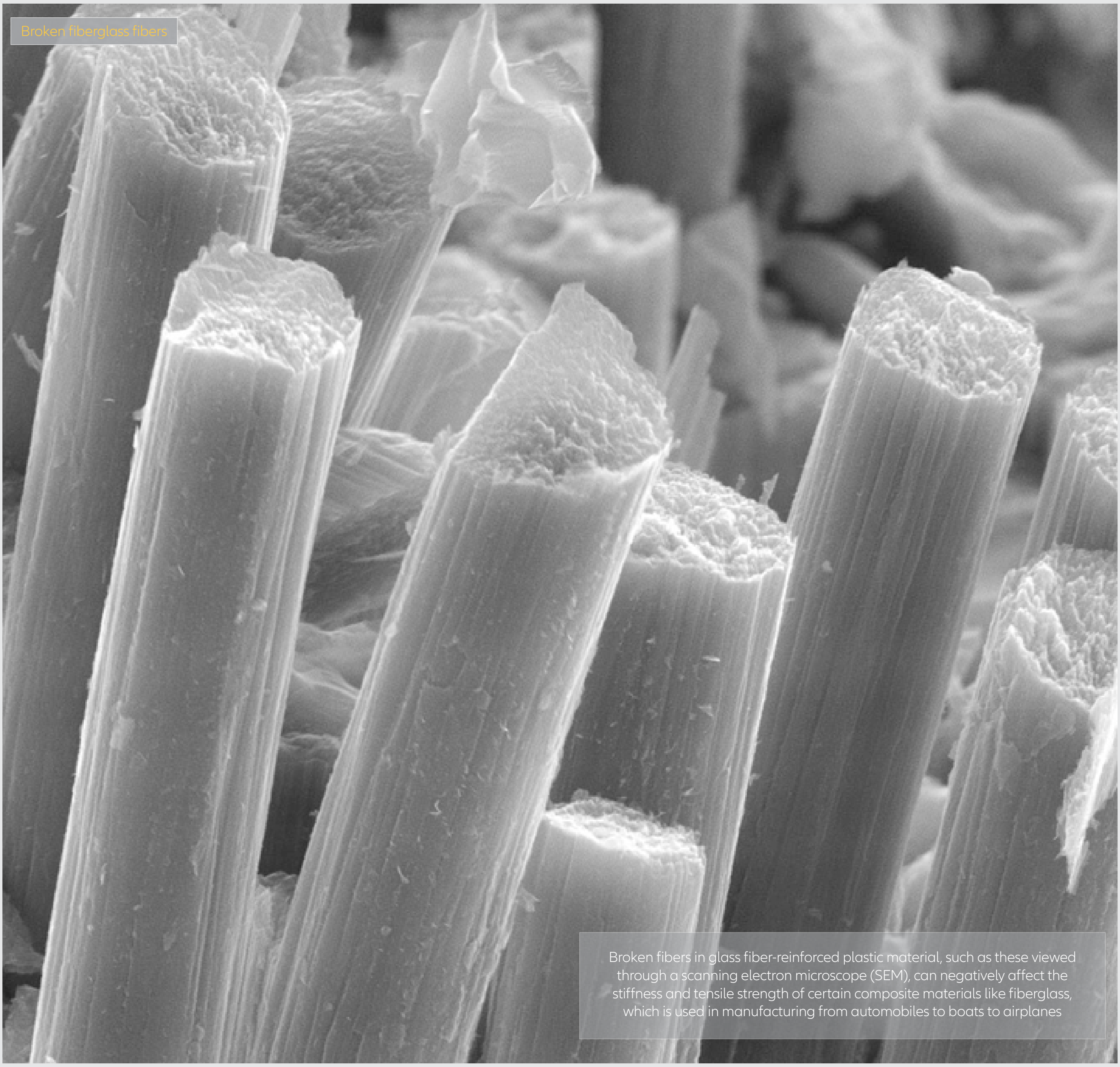
DAMAGES UNDER THE MICROSCOPE

Accidents happen. And when they do, insurers ask why, in order to build strategies for avoidance next time. At the **Allianz Center for Technology**, the leading consulting and research institute for risk engineering at AGCS, damage is an opportunity for knowledge. Scratches, tears, breaks and gnarled nubs of metal become art – painting a picture of perils that became losses.



Broken fiberglass fibers

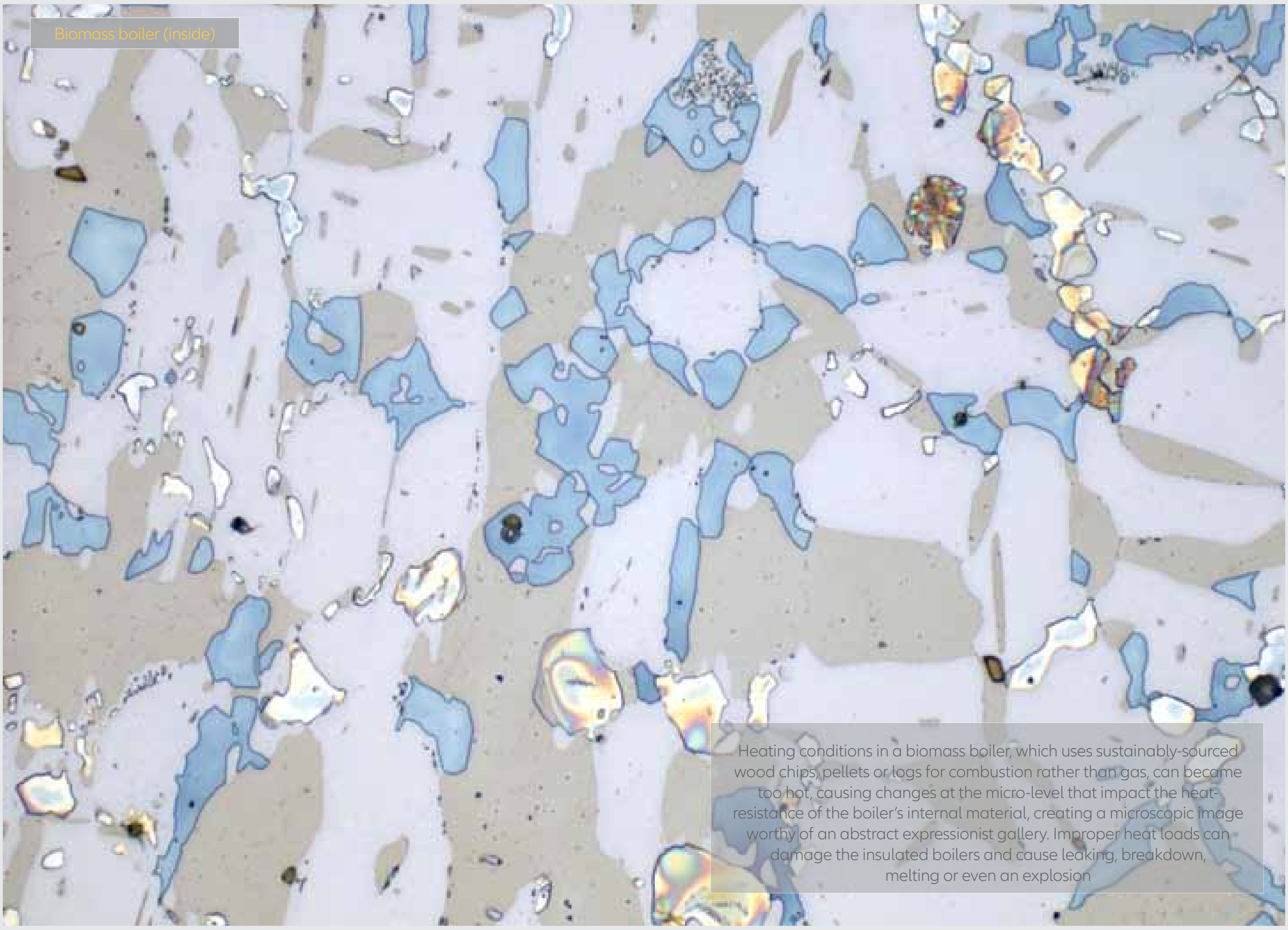
Broken fibers in glass fiber-reinforced plastic material, such as these viewed through a scanning electron microscope (SEM), can negatively affect the stiffness and tensile strength of certain composite materials like fiberglass, which is used in manufacturing from automobiles to boats to airplanes

WHAT IS THE AZT?

The **Allianz Center for Technology (AZT)** is part of AGCS and has been providing damage analysis, loss prevention and industrial risk management services for over 80 years. Learn more at **www.agcs.allianz.com/services/allianz-center-for-technology**

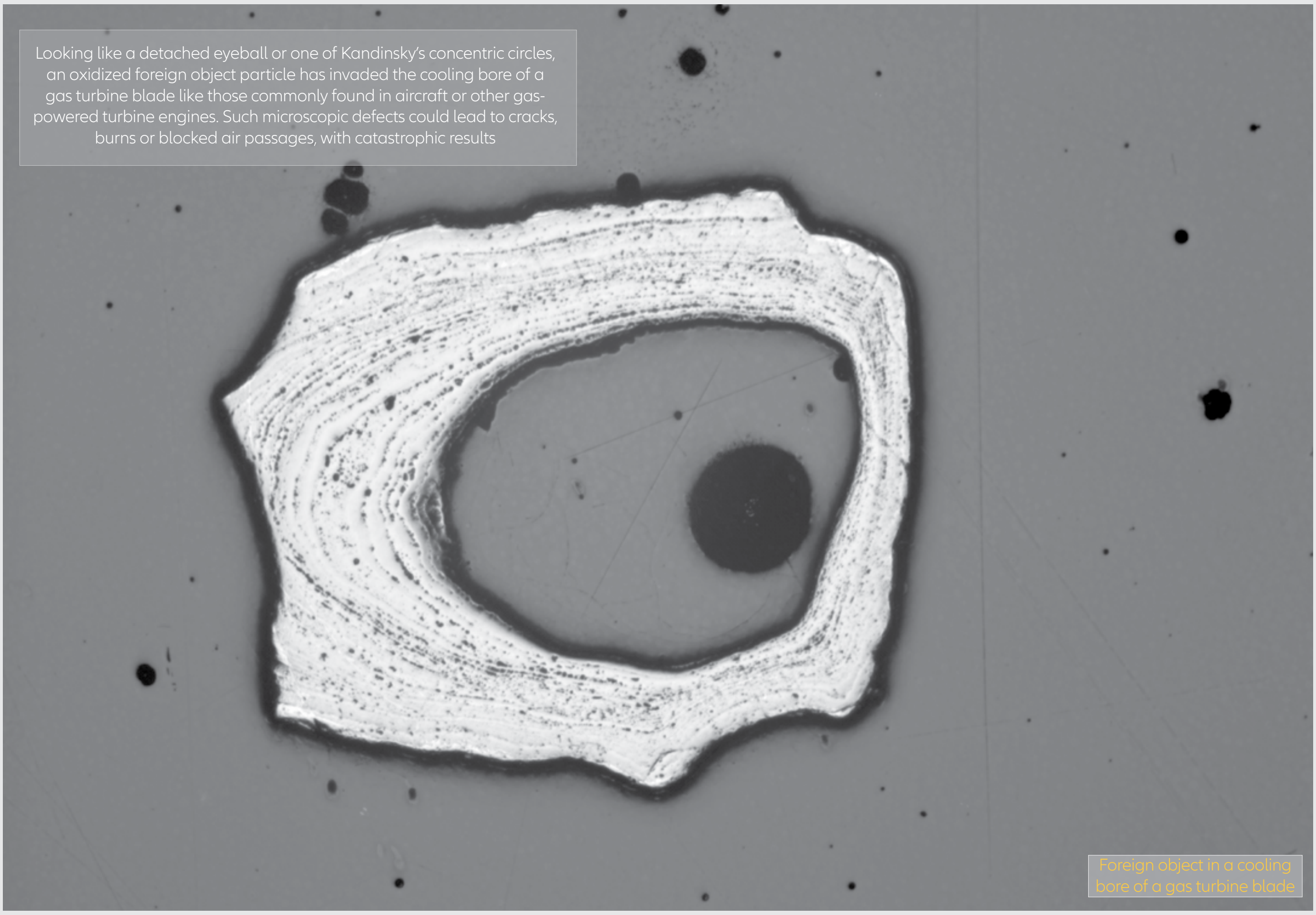
Pearlite – a structure composed of layered ferrite (a type of iron) and cementite (iron-carbon compound) – together with lamellar ("snake-like", black) graphite is found in materials like this grey cast-iron casing that seals a pump's inside. Microscopically, it looks like a Jackson Pollack abstract. If cast-iron cracks or breaks, it could leak air or water

Gray cast iron pump casing



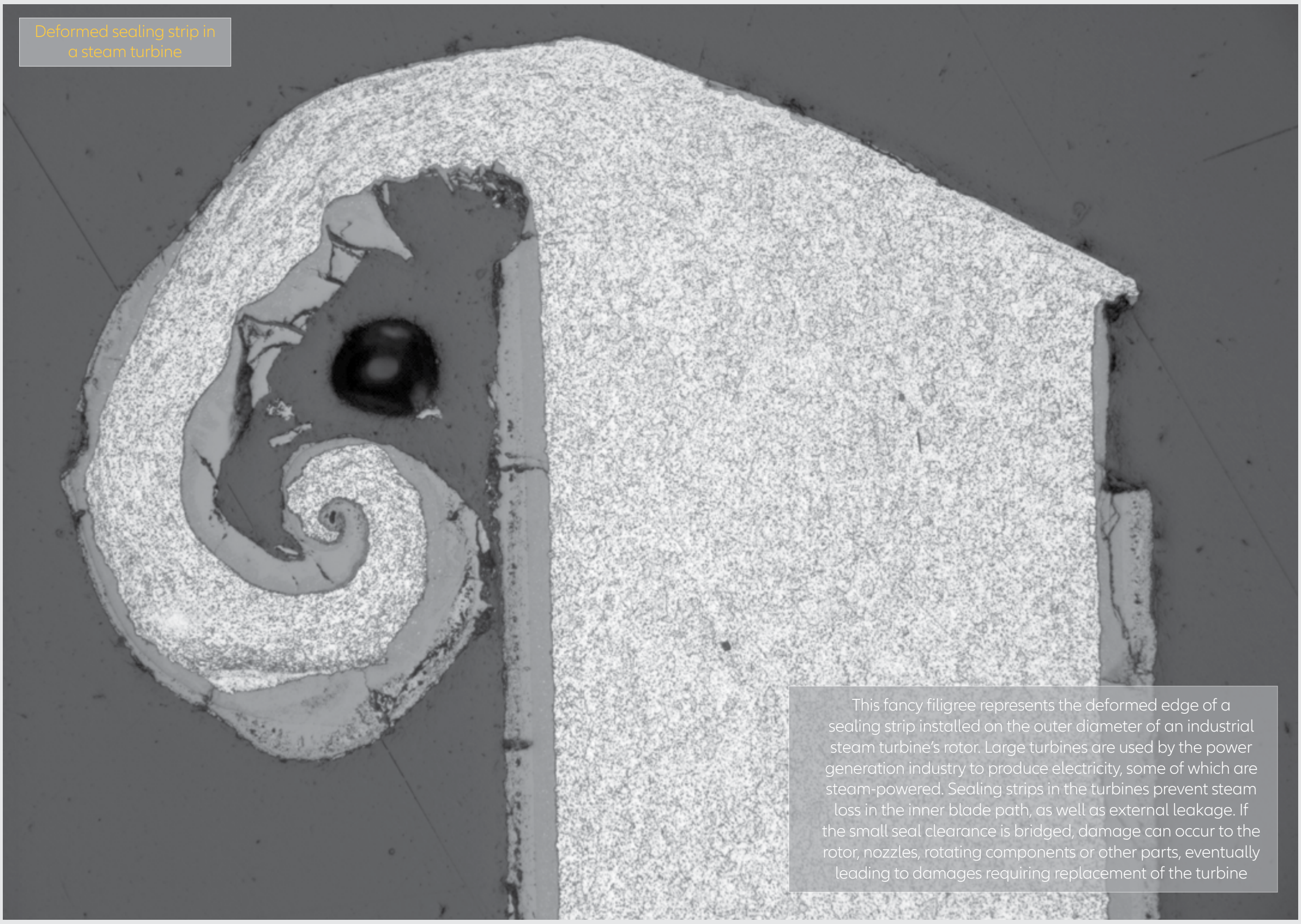
Biomass boiler (inside)

Heating conditions in a biomass boiler, which uses sustainably-sourced wood chips, pellets or logs for combustion rather than gas, can become too hot, causing changes at the micro-level that impact the heat-resistance of the boiler's internal material, creating a microscopic image worthy of an abstract expressionist gallery. Improper heat loads can damage the insulated boilers and cause leaking, breakdown, melting or even an explosion



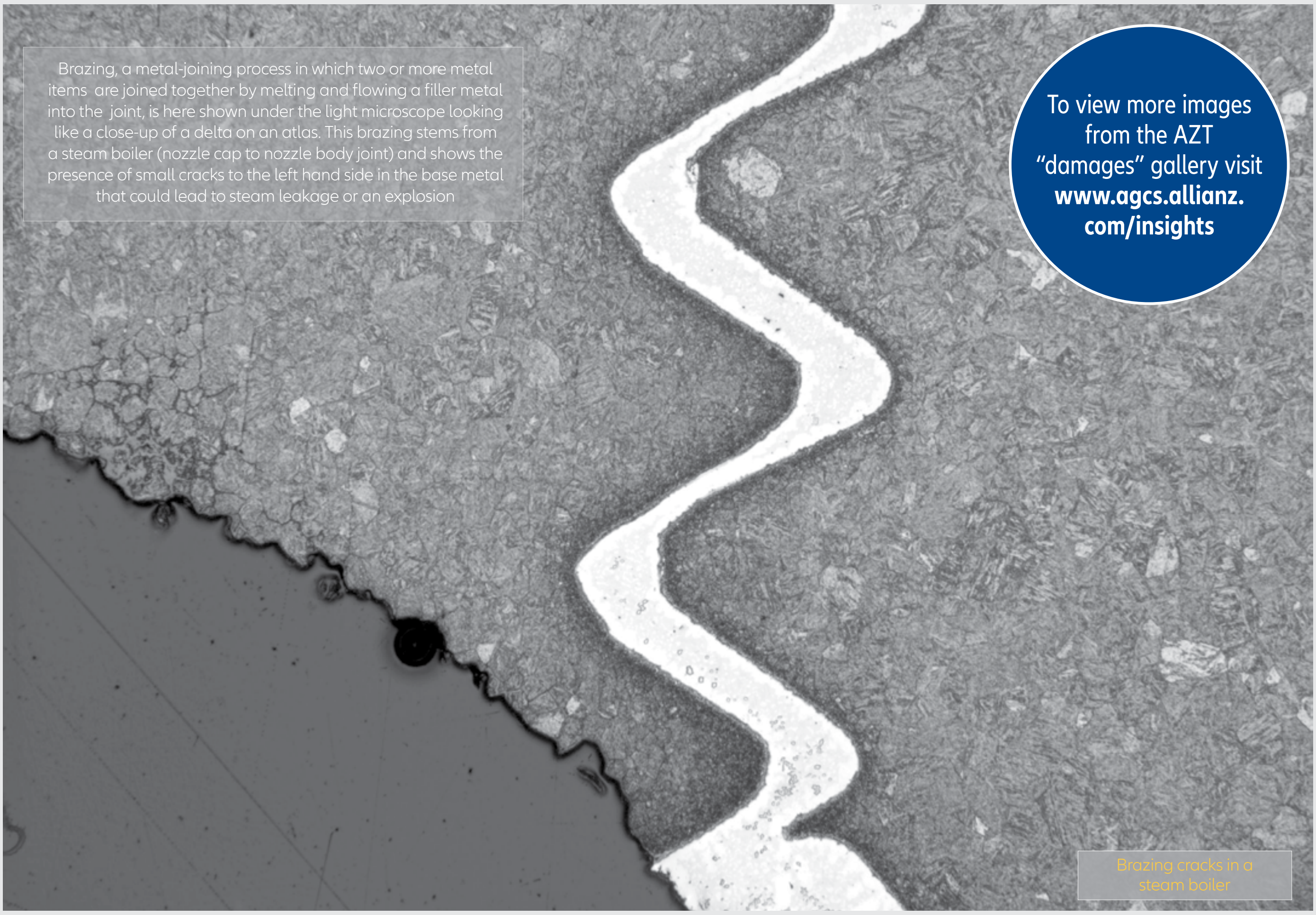
Looking like a detached eyeball or one of Kandinsky's concentric circles, an oxidized foreign object particle has invaded the cooling bore of a gas turbine blade like those commonly found in aircraft or other gas-powered turbine engines. Such microscopic defects could lead to cracks, burns or blocked air passages, with catastrophic results

Foreign object in a cooling bore of a gas turbine blade



Deformed sealing strip in a steam turbine

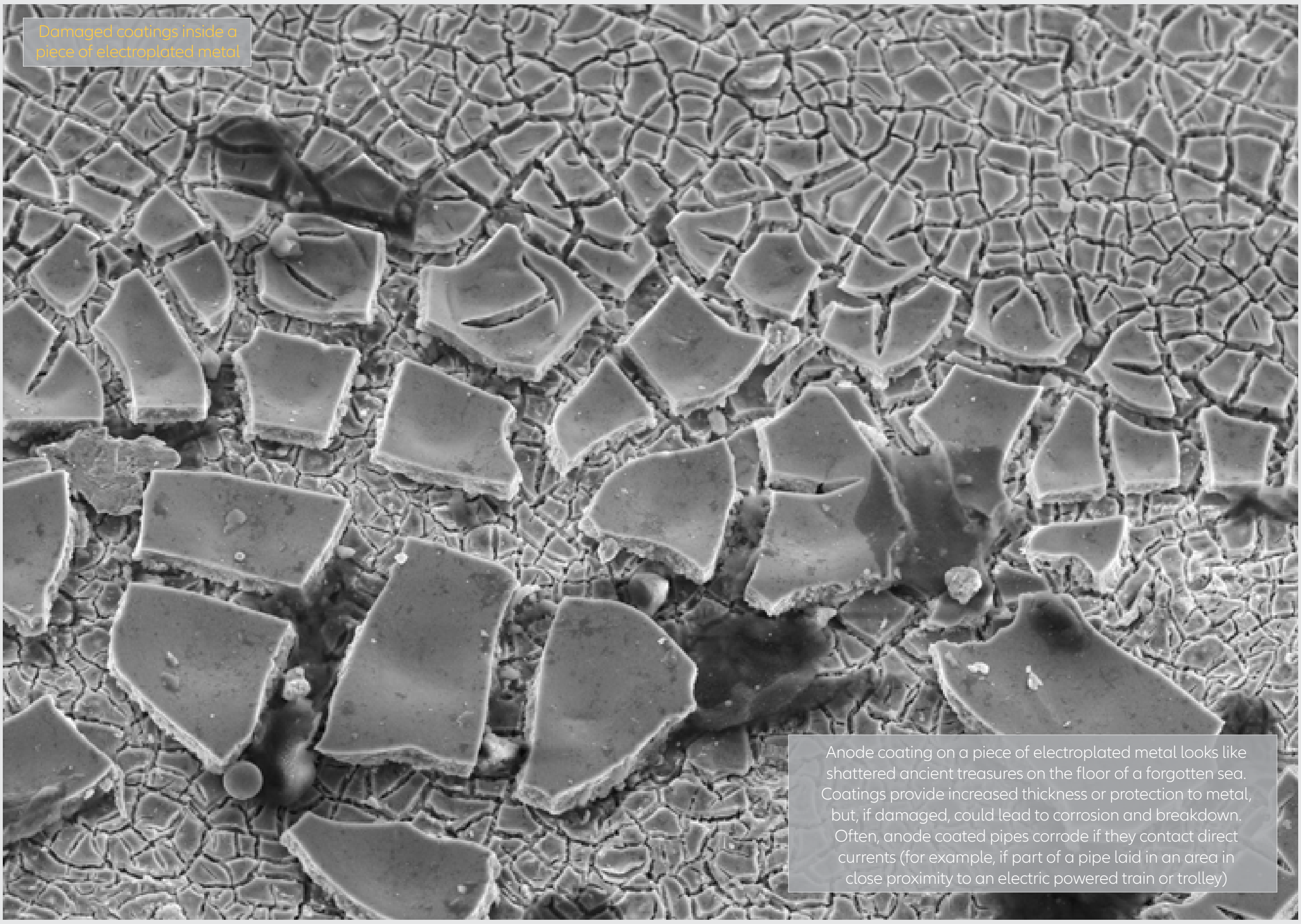
This fancy filigree represents the deformed edge of a sealing strip installed on the outer diameter of an industrial steam turbine's rotor. Large turbines are used by the power generation industry to produce electricity, some of which are steam-powered. Sealing strips in the turbines prevent steam loss in the inner blade path, as well as external leakage. If the small seal clearance is bridged, damage can occur to the rotor, nozzles, rotating components or other parts, eventually leading to damages requiring replacement of the turbine



Brazing, a metal-joining process in which two or more metal items are joined together by melting and flowing a filler metal into the joint, is here shown under the light microscope looking like a close-up of a delta on an atlas. This brazing stems from a steam boiler (nozzle cap to nozzle body joint) and shows the presence of small cracks to the left hand side in the base metal that could lead to steam leakage or an explosion

To view more images from the AZT "damages" gallery visit **www.agcs.allianz.com/insights**

Brazing cracks in a steam boiler



Damaged coatings inside a piece of electroplated metal

Anode coating on a piece of electroplated metal looks like shattered ancient treasures on the floor of a forgotten sea. Coatings provide increased thickness or protection to metal, but, if damaged, could lead to corrosion and breakdown. Often, anode coated pipes corrode if they contact direct currents (for example, if part of a pipe laid in an area in close proximity to an electric powered train or trolley)

HERE COMES BAD NEWS

Natural disaster, cyberattack or accounting irregularities – it doesn't take much for a company's reputation to be left hanging by a thread. One of the biggest risks that companies face is the loss of a good name, and that cannot be insured against – until now.

6%
increase in company value a year after effective crisis management of an event

Corporate scandals of the past few years have sullied many businesses. Environmental incidents, workplace casualties, litigation and more have dragged the names of others through the media, destroyed shareholder value and ended careers.

"As recently as the 1970s, the value of a company lay primarily in physical items, such as ships and cargo, that fostered global trade," explains **Susan Crabtree, Regional Head of Product Development, Financial Lines and Entertainment, at AGCS**. "But in the 21st century, the value of companies is less about solid objects than of intangibles such as intellectual property (IP), data and reputation."

Such assets are hard to define, let alone value in dollar terms. But when bad news comes and a company suffers a blow to its reputation, their value becomes obvious – market value can collapse with astonishing speed. For

Photo: iStock

THE 1 MINUTE DIALOGUE

- Corporate scandals involving reputation can come from cyber breaches, social media, corporate misconduct, or even supplier misconduct – bottom line: losses can be huge
- Even major corporations with processes in place and staff trained in reputational risk management can be overwhelmed by the speed and reach of a crisis
- It is estimated that the impact of reputation events on stock prices has doubled since the introduction of social media
- New Allianz product provides a financial loss coverage on reduced net operating profits related to a reputational event

A company's reputation can change quickly after a crisis – but good risk management can make a difference

example, credit bureau giant, Equifax, to date has spent $1.4bn on clean-up costs and updating its IT security in the wake of its devastating 2017 data breach that affected half of all US residents[1].

The company's 2018 earnings of $300m were a 49% decrease from 2017[2] and its stock price tumbled 31% in just a week after it first announced the breach, erasing $5bn in market capital. It was also down 60% a year later, in the third-quarter 2018[3], and was still trading at about 15% less than that by the end of the first-quarter 2019[4].

Negative compliance events can quickly turn into a reputational risk – a cyber-attack that compromises user data now leaves firms open to eye-watering fines under the European General Data Protection Regulation (GDPR) – for example, the UK Information Commissioner's Office (ICO) fined British Airways a proposed $230mn for the data compromise of half a million customers. It also fined Marriott a proposed $123mn for the loss of 339 million guest records[5] (both companies plan to appeal the fines). Those proposed fines may pale in comparison to what the Irish Data Protection Commission could levy against Facebook, Google and Apple later in 2019, rumored to be in the billions of dollars.

Businesses are also finding that, as they rely more on outsourcing, they may be held responsible for the sins of subcontractors. Major clothing labels and retailers found themselves in the press in 2012 due to sub-standard garment manufacturing after a fire in a Bangladesh factory killed 112 workers.

IMPACT ON THE FINANCIALS

Apart from any financial penalty, a company with its name splashed across social media will see a significant dent in its annual numbers. It doesn't take much thought to reel off a list of organizations that have had their reputations trashed online, including airlines, banks, car

[1] Bank Info Security, Equifax's data breach costs hit $1.4 billion, May 13, 2019
[2] NY Times, Equifax to pay at least $650 million in largest-ever data breach settlement, July 22, 2019
[3] Market Watch, Equifax's stock has fallen 31% since breach disclosure, erasing $5 billion in market cap, September 14, 2017
[4] Investor Place, Equifax stock investors are still paying for 2017 data breach, March 29, 2019
[5] CNBC, Europe's huge privacy fines against Marriott and British Airways are a warning for Google and Facebook, July 11, 2019

manufacturers and charities. A 2018 study by Pentland Analytics and Aon of 125 reputational events over the past decade found the impact of reputation events on stock prices has doubled since the introduction of social media.[6]

"In the age of social media, what starts as a small incident or even as 'fake news' can reverberate rapidly around the world, wiping out brand value in seconds," says **Steffen Lochner, Financial Lines Underwriter at AGCS**.

It is estimated that more than one quarter of reputational crises spread within an hour and over two-thirds within 24 hours.

A growing awareness of the potential damage for reputational risk for businesses is seen in results of the **Allianz Risk Barometer 2019**, an annual survey of risk managers, brokers, insurance professionals and Allianz experts, in which reputation was ranked the ninth top risk garnering 13% of responses. "Really, it is a unique risk because it is linked to all other risks by the blowback that such things as social media can cause to reputation," says Lochner.

Effective planning and crisis management have become essential during reputational crises. Almost a quarter of a company's value (24%) is estimated to lie in its brand.[8] Pentland Analytics suggests that a company can lose close to 30% of its equity value in the year following a reputational crisis – clearly, there is a lot on the line if a crisis occurs.

Unfortunately, even major corporations with processes in place and staff trained in reputational risk management can be overwhelmed by the speed and reach with which crises develop in today's ever-evolving 24/7 news cycle.

PROTECTING A GOOD NAME

In recent years, there has been growth in reputation insurance products seeking to address the costs of bringing in a crisis communication agency to minimize the fallout. However, these products have often been restricted to specific markets or only address the cost of dealing with a reputational crisis, not the value damage caused by the event.

"The market has really only provided piecemeal solutions," says **Joachim Albers, Head of Product Development, Financial Lines, AGCS**. "I think one of the main criticisms is that while existing products provide access to crisis communications firms, they don't indemnify organizations against financial losses to income they may suffer as a consequence of the incident."

A new product, which Albers developed with AGCS regional experts, aims to address exactly this aspect. **Allianz Reputation Protect PLUS** provides an effective way for companies to access the crisis communications services they need to professionally navigate the complex and sensitive issues that can arise in a crisis.

"The 'PLUS' aspect is optional, but having it means that whereas reputational damage cannot be prevented, it offers compensation for the loss of profits arising from the crisis – and that is around the world," explains Crabtree.

"The product protects companies for up to 180 days of falling net operating profits, starting from the initial discovery of the reputational harm. This includes the cost of hiring an external expert to prepare and present the quantity of financial loss."

THE REPUTATIONAL PERFECT STORM[7]

Speed	News of a crisis spreads with lightning speed	2/3 of all crises spread around the globe within 24 hours
Reach	Crises easily transcend borders	A crisis has an impact in 11 countries on average
Citizen Journalist	Every smartphone-user can spread news instantly	Today there are more than 2 billion smartphone users

NINE REPUTATIONAL EXPOSURES

- FAILURE TO MANAGE SERIOUS NEGATIVE INCIDENTS
- ALLEGATIONS AND INVESTIGATIONS
- SECURITY THREATS (INCL. CYBER AND TERRORISM)
- DISGRUNTLED EMPLOYEES (CURRENT OR FORMER)
- PRODUCT SAFETY / QUALITY CONTROL
- LABOR CONDITIONS
- ETHICAL, SOCIAL OR ENVIRONMENTAL VIOLATIONS
- BEHAVIOR OF KEY STAKEHOLDERS
- MISCONDUCT

[6] Aon and Pentland Analytics, 2018 Reputation Risk In The Cyber Age Report
[7] Freshfields, Bruckhaus Deringer LLP, 2013: Statista
[8] Brand Finance Global 500 Report 2012

Reputational risks can come in the form of a negative compliance event, a cyber-attack, a financial crisis, risks around a company's culture and behavior, product safety concerns, labor conditions, ethical/social/environmental (ESG) violations and corporate misconduct. An organization's reputation is constantly vulnerable.

CLOSING THE STABLE DOOR

When companies invoke the Allianz service they have immediate access to **Media Tenor International**, a 24/7 media monitoring consultant which assesses the severity and tracks the development of the crisis.

If a reputational risk unfolds, companies can also access a choice of leading crisis communications firms to help frame the response and ensure a company speaks with one voice so that the reputational damage is minimized. Insurance covers consulting fees, as well as costs for crisis responses such as media interviews, client information campaigns or advertising.

Albers says that interest in Allianz Reputation Protect PLUS is growing, particularly among companies in Europe, and specifically in the food, IT and tourism industries.

"There is no shortage of examples of reputation damage we can point to when talking to customers," says Albers, "but usually businesses themselves highlight cases where they have been adversely affected or come close to suffering damage. It may seem like a case of 'closing the stable door after the horse has bolted,' but having had a scare once, they see the value."

He adds that reputation management is no longer just a topic for the marketing or communications team, but one that should be on every risk manager's agenda.

Many companies are still inadequately protected against the consequences of a reputational crisis and a professional response can make a difference. Research shows the value of a company that effectively manages a reputational crisis can rise by 6% the following year.[8]

Allianz Reputation Protect PLUS is also driving take-up of cyber insurance," Lochner notes, since with a policy companies are more cyber aware and keen to ensure they have their reputation covered."

REPUTATION INSURANCE - WHAT IS COVERED?

Insurance is designed to assist with proactive management of a company's reputational risks; specifically:

- **FINANCIAL REPUTATIONAL LOSS** – protection for up to 180 days of reduced net operating profit related to a reputational event, including the cost of hiring an external expert to quantify the loss
- **RECTIFICATION ADVICE COSTS** – associated with external expert advice on the underlying cause of a crisis and future preventive measures
- **24/7 REPUTATIONAL CRISIS RESPONSE** – by a pre-agreed panel of consultants supported by real-time media monitoring that assesses the reputational effect of the crisis during and after the incident
- **A STRATEGIC MEDIA ANALYSIS REPORT** – designed to highlight senior management's awareness of risks, detect vulnerabilities and deliver an impartial communication strategy.

FIVE KEY STEPS TO MANAGING REPUTATION RISK

Scandals and reputational loss are universal risks that can affect every business. Therefore, it is imperative that companies and boards take a proactive approach to risk management:

1. Appoint a **"Reputational Executive"** who has the credibility and all the necessary resources to manage a crisis
2. The Reputational Executive's first role is to **assess** the company's reputation across all functions and **identify** major risk exposures using media analysis, clipping services, surveys, opinion polls and focus groups, along with strategic media intelligence to determine the firm's public perception
3. **Ensure that brand reputation and performance are aligned.** This can help manage stakeholder expectations to meet fiduciary obligations and determine how well the media strategy is going
4. **Create an effective reputational risk management strategy** to ensure immediate and appropriate action in the case of a scandal. During a scandal, unexpected costs can be covered by corporate reputation insurance including; lost revenue, consulting fees and PR/crisis response costs. Having a comprehensive insurance solution can also provide tangible benefits in the form of a strategic media analysis report, which exposes any potential vulnerability in the plan to rectify
5. How a CEO responds to a reputational crisis can make or break a company's reputation and have an immediate effect on revenue and share value. It is important to **act decisively and respond with sincerity.**

[9] Aon and Pentland Analytics, 2018 Reputation Risk In The Cyber Age Report

For further information:
www.agcs.allianz.com/solutions/financial-lines-insurance/reputational-risk-insurance

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A COBOT WALKS ONTO A PRODUCTION LINE ...

Collaborative robots – or “cobots” – are a key manufacturing technology for tasks requiring human and machine cooperation and have been identified by the **AGCS Trend Compass** as a trend that will gain significant traction in a number of industries over the next five to seven years. What are the benefits and risks associated with increasing adoption? And how will insurance respond?

A textile worker’s head is crushed between the primary swinging arm and a stationary component on an industrial robotic machine.

A worker in an automobile plant is injured when a resting robot unexpectedly powers up and strikes him as he cleans a welding tip on a second robot, resulting in a fractured hip.

A worker in a paper manufacturing plant is injured when a robot loading 100 lb. bags of flour accidently drops one on him, breaking his back and dislocating his shoulder.

These[1] are only a few examples of human accidents caused by robots which are monitored by the US Department of Labor’s Occupational Safety and Health Administration (OSHA). The numbers aren’t staggering – only 40 such incidents going back to 1987[2] – but even one mishap can be devastating for workers, their families and the company.

WHAT IS THE AGCS TREND COMPASS?

More than 200 AGCS managers and risk experts identified and ranked 25 important trends in terms of the impact they will have on business over the next five to 15 years.

Development and growth of cobots is one of the highlighted trends (*see page 31*).

To discover more about the other trends, visit **www.agcs.allianz.com/about-us/digital-transformation-and-insurance/trend-compass.html**

[1] US Depart of Labor, Occupational Safety and Health Administration (OSHA), Accident Search: Robots, July 24, 2019
[2] OSHA

Photo: iStock

$1BN

Projected cobot market value by 2020

One of the three main uses of cobots in industrial workplace settings is to "pick and place" boxes and other items

THE 1 MINUTE DIALOGUE

- Cobots are used in manufacturing to work closely with humans on repetitive, painful or monotonous tasks, freeing humans for decision-making and other difficult-to-program tasks
- The **AGCS Trend Compass** has identified cobots as a future trend that will be increasingly adopted across a number of industries in the next five to seven years
- Market growth of cobots is mainly driven by increasing demand for light-to-moderate capacity cobots that are faster, cheaper and more versatile than most robots: perfect for the SME market
- Any company implementing cobot technology should conduct a thorough risk assessment of the entire system, the cobot, the workspace and employees; insurance can help

Robots are relatively safe to use in the workplace but measures for employee welfare must be built in for robotics to become more dependable – especially as increasing numbers of them are brought into production for use in the workplace. That's where cobots can help.

BEGINNINGS AND MARKET TRENDS

Collaborative robots – "cobots" – were first introduced into automobile manufacturing in the early 1990s to help reduce a disturbing trend in workers losing production time due to nagging pain caused by performing repetitive tasks like lifting heavy loads without proper support. Even today, it has been estimated that just a third of all days lost due to musculoskeletal disorders and mental illnesses still leads to €20bn ($22.4bn) in production downtime costs[3].

Amid industry cries for more ergonomic working conditions, General Motors (GM) introduced robots to work hand-in-hand with humans with each contributing what they did best. The result was robots that could fully support a load, but were dependent on the human worker to provide the motion force to move it from place to place. The cobot was born – first patented in 1999.

Cobots have steadily been deployed into the workplace since then – predominantly in the automotive and electronics sectors but increasingly in the life sciences, logistics, chemicals and pharmaceuticals, food and beverage, and other industries – even in military applications such as on the International Space Station or for bomb disposal in war zones.

"Cobots need to be both safe and smart to be attractive for industries," says **Thomas Berning, Senior Risk Consultant within ARC Liability CEE, at AGCS**. "Safety and ergonomic solutions are not convincing for investors if those solutions entail only costs and not benefits. Avoiding costs is the benefit. Being smart makes cobots more flexible than human employees." In addition, cobots aren't restricted and can work 24/7 performing different tasks for which they've been programmed. But cobots need humans to collaborate with them."

Primary uses of cobots consist of three general tasks: picking and placing items from one location to another, handling materials, and assembling – tasks which will account for 75% of all cobot revenues in the next five years. Small-to-medium enterprises (SMEs) continue to drive global growth in a

[3] Fraunhofer IFF, Digitale Assistenzsysteme, AGCS Trend Compass, Cobots, 2019

HOW DO COBOTS STACK UP?

market that was worth less than $400mn in 2017 but grew by more than 60% in 2018 to almost $600mn. It should reach $7.5bn or more by 2025[4] – when it is estimated that nearly 35% of all industrial robots on the market will be cobots[5].

As an example of their proliferation, says Berning, a welding robot's only purpose is welding but several are needed to perform all the welding tasks an automotive industry plant will need. Depending on the workload, however, only one cobot may be needed – a significant cost-saving.

The market is expected to surge to $1bn in total revenue in the coming year, with over 40,000 cobots entering the industry[6]. Europe, especially Germany, the UK and France, lead the cobot market share, followed by North America. Although the Asia-Pacific region has not grown as quickly, it is expected to see the most growth in coming years as demand for automation expands in China, Japan and India. "Robots and other industrial processes have arrived late in Asia, with the exception of Japan, but they have arrived," adds Berning.

Market growth is mainly driven by the increasing demand for light-to-moderate cobots with payload capacities between 5kg and 10kg (11lbs and 22lbs) – the weight a cobot's arm can lift without damage. These lightweight applications are easy to start up and are safe, highly adaptable, relatively affordable (averaging $24,000 each), and easy to plug-and-play. Such characteristics will help SME-sized businesses better compete with larger manufacturers[7].

"A cobot is a good investment for a manufacturer because it is less costly, more safe and more efficient than standard robots," says **Oliver Lauxmann, Chief Underwriting Office – Liability, Global Practice Group Leader at AGCS**. "Not only to mediate overstretched tendons and other occupational injuries but to increase performance and revenues. But safety was the original purpose of cobots when lost-time injuries became a key industrial measurement. Trained employees are key to their value."

SAFETY, RISK MITIGATION AND INSURANCE

Cobots don't require safety cages to keep humans protected but can work virtually hand-in-hand with them. They can sense obstacles and adjust their speed or reverse to avoid crashing into humans or other hindrances.

"Robot-related severe industrial accidents have occurred globally over

[4] Interact Analysis, Collaborative Robot Market, 2018
[5] Research and Markets, 2018 (AGCS Trend Compass)
[6] ABI Research 2015 (AGCS Trend Compass)
[7] Forbes, The future of work: Are you ready for smart cobots?, August 29, 2018

the past several decades, but the numbers have been low, even in countries with the highest per-capita robot deployment such as Germany or the US," says Lauxmann.

"But that number is even lower when it comes to cobot-related accidents which are very rare but do happen, such as in 2016 when a roving security cobot at a shopping center in California ran into a toddler, knocking him down and running over his foot."

There are no standard regulations regarding cobots. Hence, safety standards, minimum requirements and protection principles (e.g. labor protection laws) vary across geo-boundaries. Manufacturers and users of cobots, however, strive to comply with respective legal frameworks and legal norms to achieve marketing authorization approval.

As an example, says Lauxmann, the German mechanical engineering industry association, *Verband Deutscher Maschinen- und Anlagenbau (VDMA)*, supports the German government's engineering standards with four protection principles for deploying cobots together with humans:

1) **Manual guidance:** Cobot movement actively controlled by employee with suitable equipment

2) **Speed and distance monitoring**: Contact between employee and moving cobot prevented by cobot

3) **Safety-related, supervised standstill:** Cobot "freezes" in place if employee comes into its immediate space

4) **Power and force limitation:** Contact forces between employee and cobot technically limited to safe level.

Elsewhere, the *International Organization for Standardization (ISO)* guidelines which have governed robot and cobot applications since 2011 are in need of enhancement, in light of fast-changing new robotic technologies. Updated standards are currently in the works to address collaborative operations.

COBOTS IN ACTION

ASSISTING BUILDERS: Japanese company Shimizu is testing robots for use on building sites, given a shortage of workers in the Japanese building industry. The robots will be capable of transporting building materials and welding girders.

MAINTAINING AIRCRAFT ENGINES: Rolls-Royce has partnered with the University of Nottingham and Harvard University to develop insect-like robots that will simplify the maintenance of aircraft engines. With a diameter of approximately 10mm, such robots ensure a visual inspection can be carried out in minutes rather than hours.

Various other factors to the safe industrial application of cobots include ensuring data network stability to avoid issues related to integrating new systems, safeguarding a stable power supply to avoid technical problems leading to downtime issues, maintaining data security to avoid too many people having proprietary production knowledge and protecting against cyber-attacks, as security weaknesses such as default configurations, authentication mechanisms and open source components could allow hackers to easily take-over industrial cobots[8]. In addition to these scenarios, product recall is also an issue, as cobots play an integral role in product quality, but a malfunction or programming flaw could introduce inconsistencies and increase product liability exposure.

"Where cobots and humans share the same workspace and work closely together," says Lauxmann, "the main safety precautions that are needed while operating robots (e.g. safety technology, protective fences, buffer spaces, and physical barriers) become superfluous. That's a big advantage for cobots."

Still, he adds, cobots are no lone component in a production system but a piece of the whole and, as such, form one part of a general risk assessment process that businesses need to follow.

Bottom line is that any company implementing cobot technology should conduct a thorough risk assessment of the entire system – application, tooling, controlling mechanism, peripheral equipment, and the robot itself, not to mention the workspace and the employee.

Depending on the respective local legal framework, various insurance products provide coverage for cobot-related and -caused accidents.

Standard commercial general liability (CGL) premises and operations policies cover third-party injuries by a cobot and, depending on employee injury or fatality, workers compensation and employers liability policies could provide coverage. Regarding product liability or recall coverages, insurance would cover the integrity of cobots produced by companies, whether using cobots or not, as well as the products produced by cobots.

"AGCS does not see a need currently to develop a separate liability insurance product exclusively for cobots," says Lauxmann. The amount of cobots used in industrial production processes, services and other activities will definitely increase further and insurance will continue to play a role in risk mitigation, Lauxmann adds.

The next level of cobots will be cognitive robots that deal with unforeseen situations even in complex environments and that will be equipped with a wide range of sensors so the cobots can perceive their environment. These machines will also be able to improve their behavior through learning.

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[8] Security Intelligence, Cybercriminals could easily take over industrial cobots, researchers warn, August 24, 2017

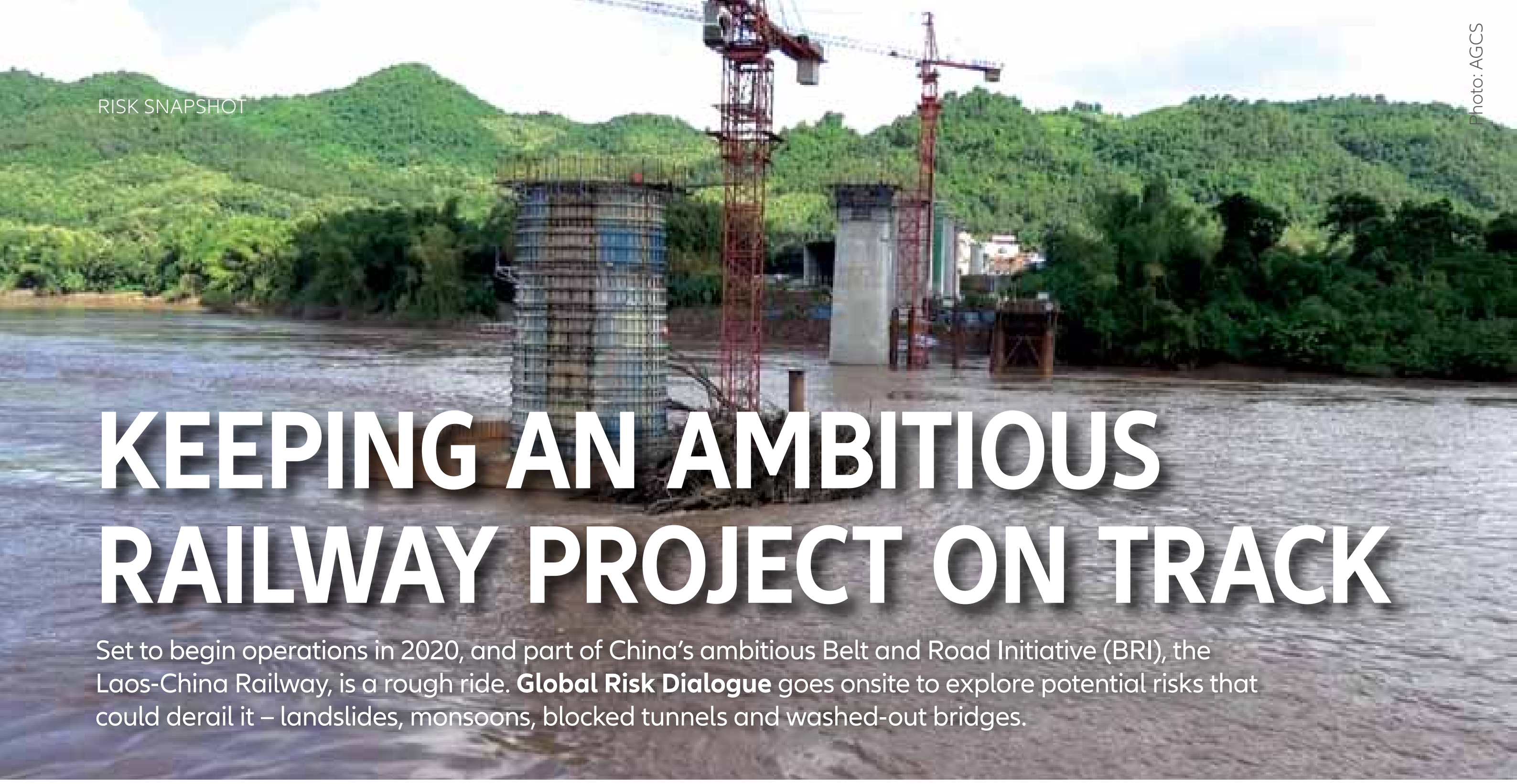

Photo: AGCS

KEEPING AN AMBITIOUS RAILWAY PROJECT ON TRACK

Set to begin operations in 2020, and part of China's ambitious Belt and Road Initiative (BRI), the Laos-China Railway, is a rough ride. **Global Risk Dialogue** goes onsite to explore potential risks that could derail it – landslides, monsoons, blocked tunnels and washed-out bridges.

Heavy rainfall and high water levels, in addition to causing debris buildup which can stress bridges, also prevent regular maintenance work from being done.

A journey of a thousand miles famously begins with a single step. And a hard hat.

The **Laos-China Railway**, part of China's ambitious trillion-dollar Belt and Road Initiative (BRI) that will bring infrastructure improvements and investment opportunities to Chinese interests on five continents, consists of overland road and rail routes in the eventual Pan-Asia Railway Network connecting China to all of Southeast Asia.

AGCS is the project's leading reinsurer, providing Construction All-Risk (CAR), as well as the primary layer of Third Party Liability coverages, plus risk consulting services. **Gordon Lee, Senior Engineering Risk Consultant at AGCS**, and **Vincent Liang, Senior Engineering Underwriting Manager at AGCS**, are exploring the BRI's progress up close on a thousand kilometer (621mi) trek across Laos. Joining them, on his first onsite visit, is **AGCS Marketing & Communications Officer, Lim Jin Kai**.

Measuring 414km (257.2mi) in length, the railway begins in the northern city of Boten, bordering China, and extends south to Laos' capital city, Vientiane. Urban perils include road and utility diversion works and even relocation of homes (about 4,000 families along the entire rail route, according to the Laotian government[1]).

BY THE NUMBERS[2]

2020	Estimated project completion date
32	Number of new rail stations in Laos
$7bn (€6.19bn)	Estimated final cost of the project
99 mph (160 km/h)	Operating speed of new high-speed rail upon completion
32,000	Jobs created by the project
4,300	Local jobs created by the project

Third-party exposures exist, also, as infrastructure is tested all along the route. Rural perils involve jungles, raging rivers and steep slopes up to 2000m (6,562ft) high.

With nearly half of the railway running through 72 tunnels in remote mountainous regions, there is considerable risk of project delays. Narrow, unpaved roads sometimes damage equipment. Often, roads have to be built before work can begin. Landslides are particularly worrying and can be considerably costly to the project, preventing supplies from reaching the site and causing roadwork delays.

Bridges – 170 total along the route – can be a concern, also. Heavy rainfall, especially during the May to October monsoon season, causes rising water, debris and potential bridge over-stressing and damage. "Business interruption is always a possibility in such challenging terrain, given the transport obstacles," says Lee. "Such disruptions can cost millions and lead to delays in project completion down the line."

At a bridge traversing the Mekong River, the site manager leads them to the edge of a temporary bridge which abruptly ends mid-river. The prolonged rainfall has caused debris buildup and structural deformation. Debris removal and reconstruction could delay the project by months.

The real impact of the railway project on Laos and the region will only be clear in the years to come, but the potential is enormous. Some say Laos will be able to ride the BRI into the 21st century and away from a largely agrarian culture; others warn that China and Chinese workers will be the major beneficiaries. Either way, despite a bumpy ride, the railway is on track to becoming a reality.

1 Earth Journalism Network, Photo story: The China-built railway cutting through Laos, February 22, 2019
2 People's Daily Online, China-Laos railway to make Laos a 'land-linked' country, February 18, 2019

CONTENT SHOWCASE

Visit **www.agcs.allianz.com** for the latest AGCS news and expert research on risk topics. Check out some of our most read content online.

THE AGCS TREND COMPASS

Which are the most important technological, business and socio-economic trends in future? A new strategic tool from AGCS has the answers.

All major industries and sectors are undergoing major change that will redefine the way business is conducted today. Disruptive technologies and socio-economic trends are driving this transformation – whether it's the demand for customization, the growth of autonomous mobility, the increasing focus on sustainability and a low-carbon economy, the rise of the Internet of Things and artificial intelligence and cobots (*see page 26*), to name just a few examples.

In order to better understand what are the most important trends that will shape business in the next five to 15 years AGCS has launched its new **Trend Compass** report, the findings of which are based on the insights of more than 200 AGCS managers and risk experts from all over the world. The interactive report ranks 25 selected trends in terms of the impact they will have on business and the speed at which they will be adopted.

The AGCS Trend Compass can be found at **www.agcs.allianz.com/about-us/digital-transformation-and-insurance/trend-compass.html**

The **AGCS Trend Compass** sheds light on emerging trends over the next five to 15 years

WAR (INSURANCE) – WHAT IS IT GOOD FOR?

Political rivalries and conflicts are increasingly being played out on the high seas, expanding risks for ship owners and seafarers, as demonstrated by a number of hostile incidents involving vessels in one of the world's most important shipping channels, the Strait of Hormuz and the Persian Gulf. Marine hull, cargo and war insurance policies can help protect vessels sailing into risky waters, but how do they work and how have recent events impacted the insurance market?

The **Stena Impero** tanker was detained by Iranian forces.

Find out more **https://www.agcs.allianz.com/news-and-insights/expert-risk-articles/war-insurance.html**

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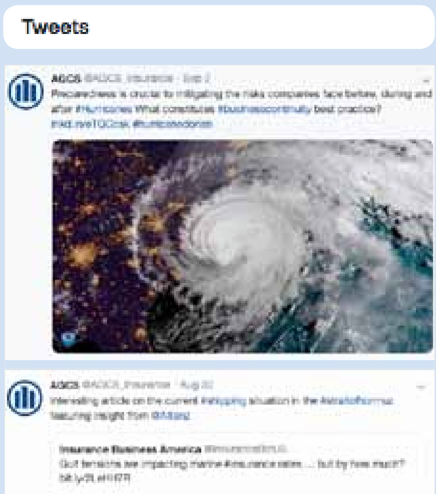

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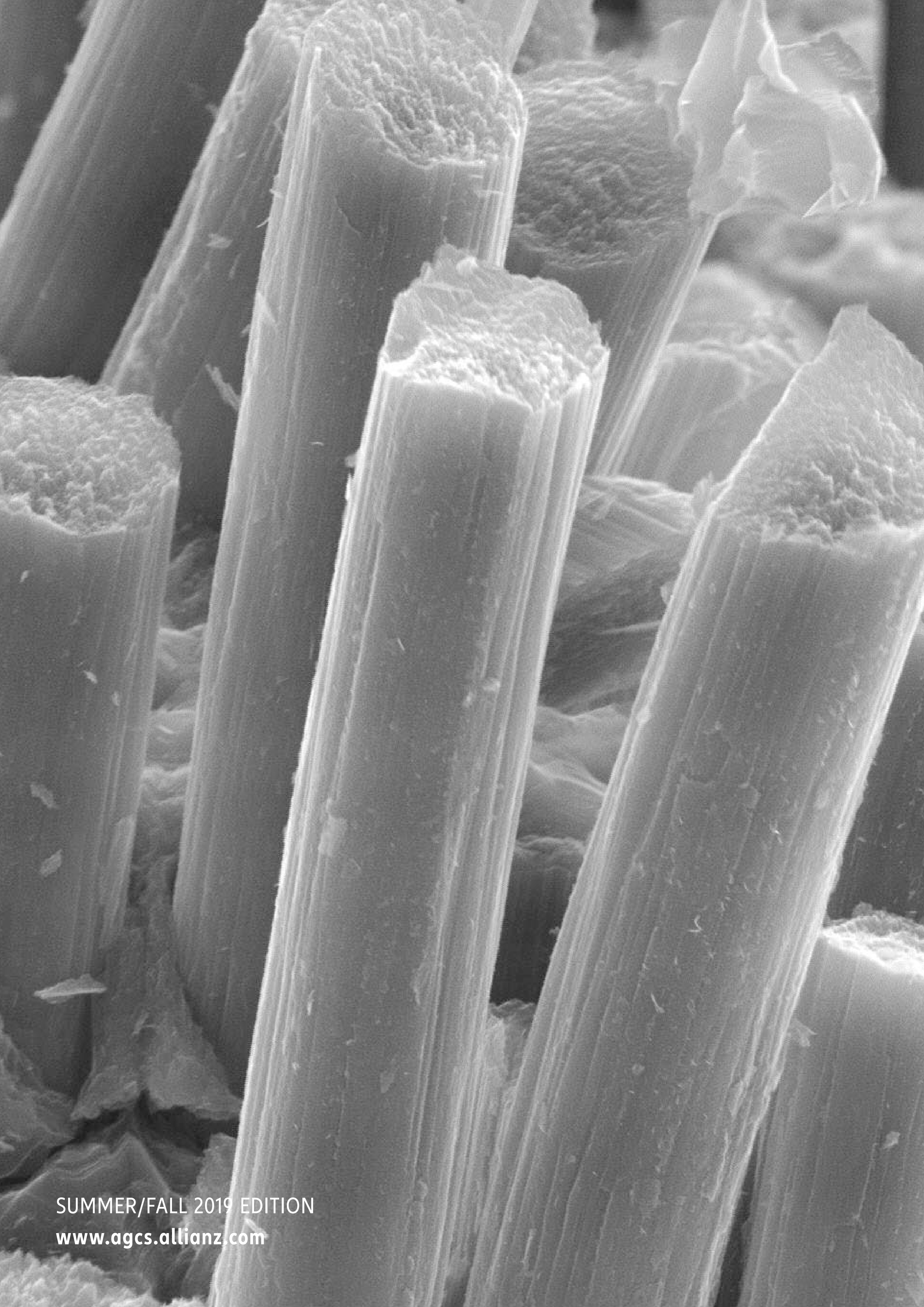
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