IF'S RISK MANAGEMENT MAGAZINE 02/2022

Risk Consulting

Insights into risk management and loss prevention

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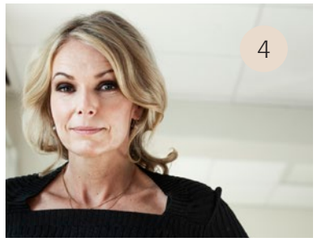

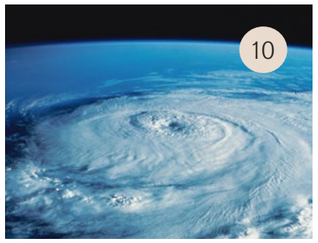

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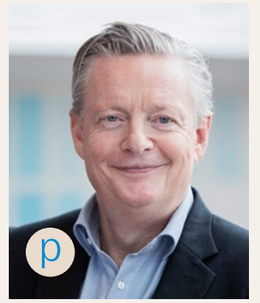
Editorial



Transitioning together

We are living in a volatile and ever-changing world. Whether we talk about the increased prices of fuel, food shortages emerging because of the war in Ukraine, or the rise of extreme weather phenomenon posing unprecedented environmental challenges: our world is transforming from a conventional, predictable reality to one that is far less certain. We can also look at the results of the lockdown during the pandemic and decisions taken as a result, such as travel restrictions, which helped usher in monumental steps in the transformation to a more digital and efficient way of working and living.

In 2022, the theme for the Federation of European Risk Management Associations (FERMA) Forum event is Transitioning together. We can see, for example in the accelerated digital transition mentioned above, that new services are bringing increased transparency while opening new opportunities for businesses.

According to the European Commission's 2022 Digital Economy and Society Index (DESI) report, the European Member States successfully advanced their transition to digitalisation during the pandemic years. However, the study also highlights that there is still plenty of work to be done. For example, 5G network roll-out has been slow to materialise, and industry and businesses are making only moderate progress in the integration of AI (Artificial Intelligence) technologies and Big Data solutions into their operations.

Furthermore, digital skills are still an issue. Simply, without a digitally savvy workforce, the challenge of applying innovative technologies will remain a factor that will hinder transformation and slow progress – this issue must be part of our transition towards a brighter future.

There is notable progress being made as well, let us not forget. Even with the coronavirus still actively circulating, we can see that international travel has rebounded in earnest. Also, with remote working becoming part of everyday life, the transition to a digital reality has taken huge leaps forward over the past two years. Even more recently, while oil and gas prices fluctuate, the renewable energy market continues to grow thanks to increased demand for cleaner energy sources.

PREVENTING LOSSES AND MANAGING RISKS

Disruption is part of the new normal, and clients having a solid business continuity plan is more important than ever when it comes to preventing modern-day losses and managing risks. The risk of underinsurance remains a serious one, having accurate values in place will help clients overcome an accident or incident.

From breaks in global supply chains to issues with securing critical equipment components, there are also more intense and increasingly frequent weather events impacting operations. One contributing factor to weather-related, expensive losses is that we tend to build and operate in areas that are not suitable from a geographical perspective.

Looking at some of lessons we have learned from losses, the availability of spare parts related to various equipment continues to impact the cost of repairs and downtime. There have been cases, during COVID-19 especially, where experts and specialists have not been able to travel to repair damaged or malfunctioning equipment. This has caused added costs and greater business interruption than anticipated.

Another lesson comes with the scarcity of spare parts. As an example, frequency converters were previously readily available "off-the-shelf," however today the product has a delivery time of some three to four months. Similarly, the price of metal is very volatile, which has led to additional costs in multiple cases, as metal is used both as a building material and to produce various products and materials. Let's also not forget the cost of fuel, which continues to fluctuate. In fact, fuel surcharges are starting to appear on invoices from contractors to help them manage the cost increase.

We are on a journey, through challenges and adversity society and businesses alike continue to deliver innovative products, new digital services, as well as inspiring applications and novel solutions. We can deliver a more sustainable economy, through a robust transformation, one that sets the course for prosperity and a healthier society, while further integrating the potential of new technologies, renewable energy sources and digital opportunities.

Poul Steffensen, Head of BA Industrial, If

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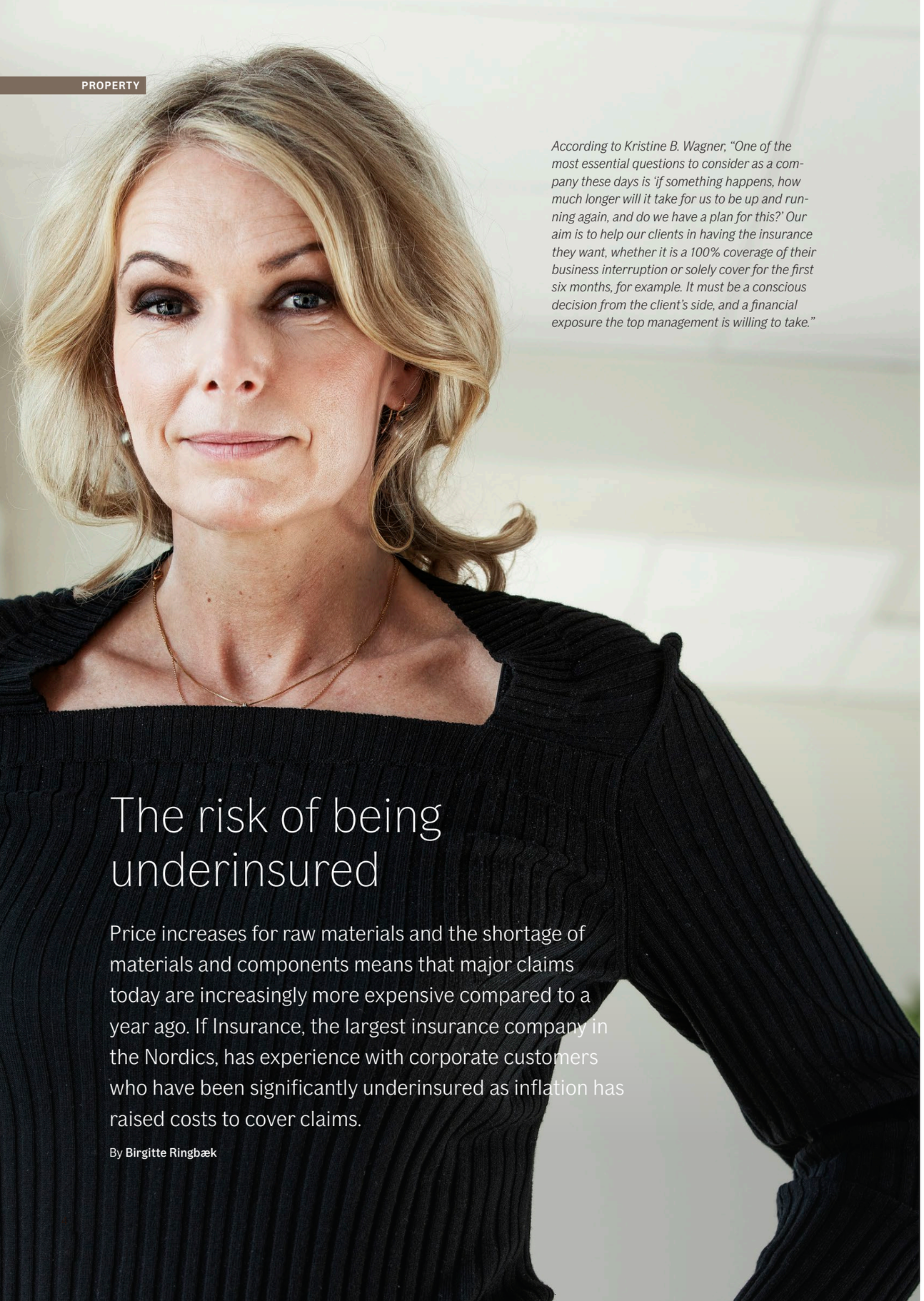


According to Kristine B. Wagner, "One of the most essential questions to consider as a company these days is 'if something happens, how much longer will it take for us to be up and running again, and do we have a plan for this?' Our aim is to help our clients in having the insurance they want, whether it is a 100% coverage of their business interruption or solely cover for the first six months, for example. It must be a conscious decision from the client's side, and a financial exposure the top management is willing to take."

The risk of being underinsured

Price increases for raw materials and the shortage of materials and components means that major claims today are increasingly more expensive compared to a year ago. If Insurance, the largest insurance company in the Nordics, has experience with corporate customers who have been significantly underinsured as inflation has raised costs to cover claims.

By **Birgitte Ringbæk**

Being underinsured is a bigger problem than most people realise. The worst-case scenario is that the insurance solution may be insufficient to cover the damages incurred. This means that rebuilding or purchasing new equipment, so that operations can be maintained, may not be possible at all," says Kristine B. Wagner, Head of Underwriting at If Industrial.

If Insurance is in active dialogue with many large clients in the Nordics, both to review the client companies' values and to discuss whether the insurance solutions correspond to the current conditions in today's market.

In cases where the insurance sum is too low, companies are at risk of not being able to secure the necessary compensation to recover from a fire or flood or other property damages. Therefore, the outcome of being underinsured can, in the worst-case situation, stop the company from completely re-establishing operations.

HEAVY RELIANCE ON SUPPLIERS

At present, the scarcity of materials and components can create a serious dependency on certain suppliers, which is an issue that is providing increasing challenges for many clients.

"The importance of having multiple suppliers for critical equipment cannot be emphasised enough. The strong dependency on single suppliers puts forward a significant risk of facing long periods of business interruption, as many companies cannot get the needed goods from their usual suppliers," notes Wagner.

In general, the current situation has developed over time, and has been further impacted by the disruption caused by the coronavirus pandemic. This troubling development, specifically the number of companies that are underinsured, increased during the second half of 2021 and this trend is accelerating in 2022 due to the war in Ukraine and its resultant global ramifications.

"We have not seen inflation at this high level for 20-25 years. The situation is completely different this year compared to just one year ago," adds Wagner.

RECOVERING FROM BUSINESS INTERRUPTION

"We see this as one of the most important tasks right now. We are committed to ensure that the values our customers are insuring are adjusted to the current price level. Our experience is that almost all companies underestimate the expense to re-establish their operations after an accident or incident. The consequences may be that the company cannot get full coverage and is unable to recover and re-establish their operations," says Wagner.

If reviews the insurance solutions of companies of a certain size on several parameters, such as stock values, longer delivery times and the prices for acquisitioning needed materials and equipment to maintain production.

"Even in cases where the value of the buildings can be assessed relatively easily, we see that it is difficult to calculate the total values accurately. Challenges, for example, with obtaining the components needed to keep production up and running when it comes to critical equipment, or the scarcity of materials and trade restrictions, make it more difficult than usual," notes Wagner.

"It is important that clients act on this, otherwise they risk being significantly underinsured. Our aim is that our customers are not disappointed when damage occurs. And you will be disappointed if you are underinsured," she concludes.

FURTHER INFORMATION:
https://www.if-insurance.com/large-enterprises/insight/if-news/avoiding-underinsurance

Reflecting on the Ever Given incident

By **Kristian Orispää**

In March 2021, one of the world's largest container ships, Ever Given, ran aground in the Suez Canal and blocked this important global trade route for six days. A year on, we take an insurer's perspective on the aftermath of this highly publicised incident.

The Suez Canal is one of the busiest sea channels in the world, with some 50 vessels passing through it every day. On 23 March 2021, the Ever Given was on its way from Taiwan to Rotterdam with approximately 18,300 shipping containers onboard when the crew partially lost manoeuvrability of the ship amid high winds and a dust storm. The strong winds and alleged "technical or human errors" caused the vessel to crash diagonally on the shore, firmly wedging it across the width of the waterway. For almost a week, all trade through the canal was at a standstill.

The impact of the incident was unprecedented in scale as a significant amount of freight transport between Asia and Europe utilises this artificial waterway in Egypt daily. The Ever Given contained the goods of a wide range of cargoes. In addition, as the ship completely blocked all traffic, around 370 other ships were also delayed and forced to wait for their turn to pass through the canal.

After several attempts, Ever Given was finally freed by tugboats, some six days after the incident. The Suez Canal Authority (SCA) demanded almost EUR 1 billion in compensation for salvage and related costs from the owner of the vessel. However, the owner of the vessel refused to pay this amount.

> *“All the cargoes we insured finally arrived intact, which was a great result for everyone involved.”*
>
> *Pamela Holmström*

UNDERSTANDING THE GENERAL AVERAGE PRINCIPLE

The sharing of the costs following an accident is based on the General Average principle, a practice that can be traced back more than 2,000 years. The concept assumes that when a ship and its cargo are in distress at sea, the overall loss can be avoided, for example by throwing part of the cargo into the sea. If this is successful and the ship with its remaining cargo reaches its destination, the owner of the sacrificed cargo will naturally suffer a loss. In addition to the impacted cargo owner, other cargo carriers and the owner of the vessel will also participate in the sharing of the loss in proportion to the values involved. Procedural rules that articulate the General Average principle established on the island of Rhodes and named the Lex Rhodia (‘Rhodian Law’) have been found that date to around 800 B.C. This law of General Average continues to underlie all shipping, and insurance in general, even though the shipping industry has become significantly more modern across the intervening years.

Naturally, the owners of the cargo on board the ship are also obliged to contribute to the costs of rescuing the vessel. The owners of the cargo must provide a guarantee to the owner of the vessel to unload their own cargo at the destination. In practice, this represents a financial deposit paid by the owner of the cargo. Today, these are handled by the insurance company and even banks provide such guarantees.

Despite its very simple starting points, the General Average principle in its current form is a very complex procedure, or at least time-consuming in its processing. The number of cargo owners with goods involved in the Ever Given incident was considerable. A large part of the goods are likely to have been insured, which brings in transport insurers. In addition, the owner and time-charterer of the vessel and their insurers were also involved.

AN INSURER PERSPECTIVE

The Ever Given incident had an impact on a total of 50 If Insurance customers, all of whom had their insured goods on the vessel. In addition, all of our client’s goods had their delivery delayed as a result of the incident.

According to the International Transport Law Team and its Chairperson, Pamela Holmström, “Normal transport insurance covers the cost of General Average and salvage imposed on the insured goods. As a result, in accordance with existing provisions, these costs will be reimbursed from the transport insurance on behalf of the customers concerned. Their final amount will be reflected in the average adjustment, which we expect will take several years to compile.”

The cargo included a wide variety of customer goods – from furniture to diagnostic tools for petroleum products. The cargo itself is unlikely to have suffered any physical damage to be compensated for under insurance. Delays in transport are only very exceptionally compensated for by the transport insurance.

Notes Holmström, “Any losses that cargo owners may face because of the delay will be borne by them. This is the case regardless of whether the delayed cargo was the cargo on the ship involved in the accident or on another ship that was also delayed.”

The Ever Given event underlines the importance of smooth maritime transport, especially through strategically important routes for world trade. Few companies today keep stocks large enough for such events. Although fortunately this type of event is rare, there have also been other similar bottlenecks in maritime transport and the volume of goods passing through them is significant.

ONE YEAR LATER

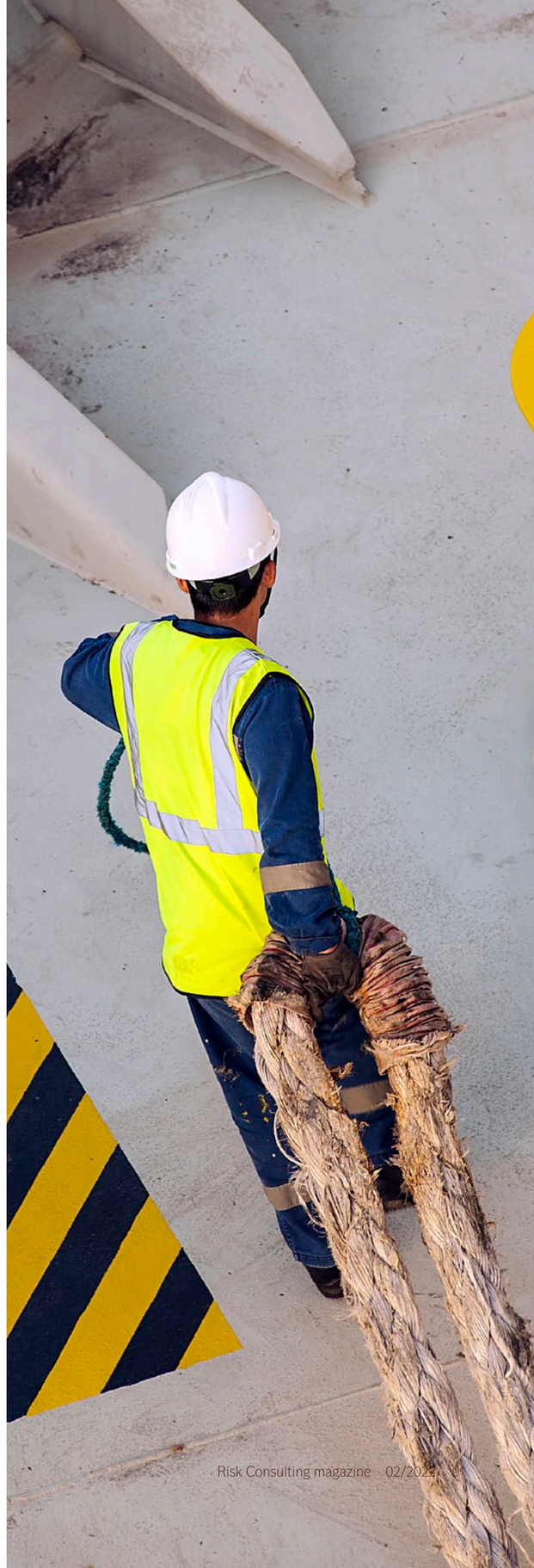
Says Holmström, “For our clients, the biggest challenges raised included delays in receiving and delivering of goods and products, and logistical issues. Additionally, clients faced a lack of up-to-date information from authorities and increased confusion with the situation in the Suez Canal. Some clients were even facing the risk of losing their cargo or having to hire legal assistance in Egypt. In this case, If Insurance reassured its clients that we were monitoring the situation closely and were prepared to take on any legal action that might emerge as a result of the accident.”

“According to our information, all the cargoes we insured finally arrived intact, which was a great result for everyone involved,” Holmström adds. “We are especially proud of our team, as claims handlers were actively in contact with their customers, relaying updates and information on the situation as new details became available. Our claims teams also, for example, forwarded guarantees well in advance, to make sure the process would move forward smoothly as soon as the goods were released. Most importantly, we stood by the side of our clients during the Ever Given incident.”

Meet our expert

Pamela Holmström

Claims Lawyer, International Transport



Extreme weather events will increasingly risk lives and property

The most recent IPCC impact assessment report provides insights into the potential suffering humanity will face due to the increasingly adverse effects of climate change. During his opening words at the World Meteorological Day in 2022[1], UN Secretary-General António Guterres highlighted the fact that 50% of the world's population is now living in areas that are, or will be, impacted by more frequent and more extreme weather phenomena.

By **Kristian Orispää**

With the help of early warnings from modern weather detection systems, people can better prepare for flooding, heatwaves, drought, and other extreme weather events. Weather information plays a key role in saving lives and protecting property, which will allow civilians and authorities alike more time to prepare for a natural catastrophe.

"Early warning and action save lives," Guterres noted. Unfortunately, around one third of the world's population, and mainly those living in less developed countries and smaller developing nations, are currently still not protected by early warning weather detection systems.

Guterres said, "In Africa, the situation is even worse, as 60% of people lack coverage. This is unacceptable, particularly with climate impact sure to get worse."

“Extreme weather events are becoming increasingly frequent and more severe, with many events occurring as a direct result of global warming.

His opening remarks included an announcement that, “The United Nations will spearhead new action to ensure that every person on Earth is protected by early warning systems within five years.”

Guterres also stated that “Keeping the 1.5-degree limit alive, requires a 45% reduction in global emissions by 2030 to reach carbon neutrality by mid-century. However, in fact, global emissions are set to rise by 14%, ...the world must end its addiction to fossil fuel, especially coal.”

ACCELERATING IMPACTS OF GLOBAL WARMING

The World Meteorological Organisation (WMO) is set to lead this effort. In his opening remarks, Professor Petteri Taalas, Secretary-General of the WMO, provided insights into key facts and indicators that illustrate the current state of the global climate.

“Firstly, greenhouse gases are currently at record levels. Also, the previous seven years (2015-2021) have been the warmest ever recorded.” He further highlighted the fact that 90% of the heat is stored in the ocean, resulting in the increasing number of tropical storms being recorded. In addition, sea levels have continued to rise by 3-4 millimetres during this seven-year period, increasing the amount of flooding. As our oceans and seas continue to warm, the melting of glaciers and sea ice continues to accelerate. Finally, 23% of carbon emissions are absorbed by our oceans and forests, which has been at a heavy ecological cost because of ocean acidification.

In his presentation, Taalas noted that, “Between 2010 and 2019, over 23 million (people) have been displaced by climate change per year. Furthermore, food production has been severely impacted, as the world faces severe agricultural drought twice as often as before, when such events occurred once every ten years.”

PREPAREDNESS AS A PRIORITY

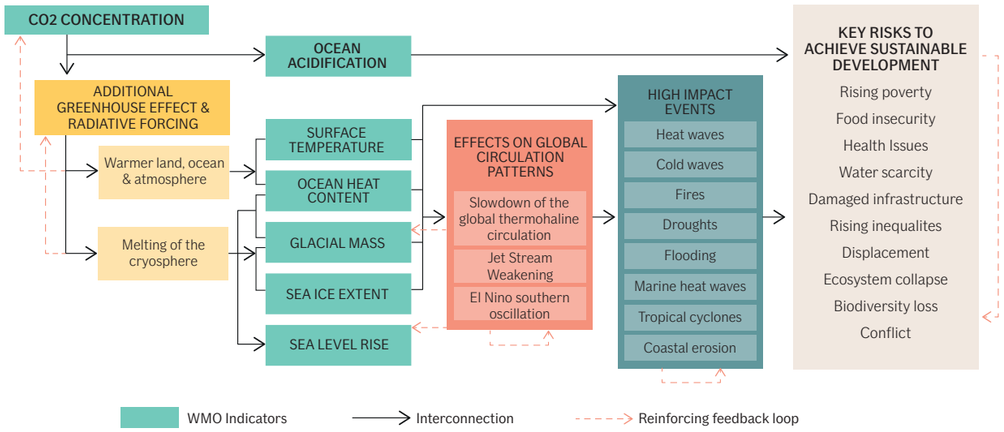
Humanity needs to adapt to the coming changes caused by global warning. This means reducing CO_2 emissions, but also by making the necessary investments into preparedness and resilience. Having the capabilities in place to protect lives and property in the event of extreme weather events, such as major thunderstorms, heavy snowfall, increased lightning events, flooding and heatwaves, will be critical to maintain resilience, even in areas that have previously been free of such events.

According to the UN[2], an early warning system (EWS) is “an adaptive measure for climate change, using integrated communication systems to help communities prepare for hazardous climate-related events. A successful EWS saves lives and jobs, land and infrastructure, and supports long-term sustainability.”

Essentially, an early warning system will effectively alert communities about hazard events, communicate accurate monitoring information based on observations and data from e.g., sensors, to enable warnings that will then be disseminated by radio, television and other networks to households. Successful EWS require coordination across multiple authorities and sectors, supporting evacuation, search and rescue, as well as the supply of emergency relief goods to impacted areas, for example.

An EWS is part of an emergency system, which aims to protect both property and human lives. Also, by utilising existing tools, such as flood maps which include historical data, companies can understand the likelihood of a flood event in the area. Satellite data during an event will also help clients understand the extent of the impact caused by the event. Modelling tools provide quantitative data on the expected loss of a potential event. Insurers can use this information to make an assessment, based on the number of clients in that specific geographical region, of the potential overall exposure that exists in that particular area. Calculating the likelihood of an event helps focus on the critical preparedness and business continuity planning-related details for clients. Working together with clients, If Insurance helps clients manage these risks, putting the data to work to further protect lives and property.

Cascading effects of global warming



Source: WMO, World Meteorological Day March 2022

LONG-TERM SOLUTIONS NEEDED

According to Jukka Forssén, Senior Adviser at If Insurance, "There are several global climate change drivers, including urbanisation and economic development, and we can expect that climate-related risks will increase. Natural catastrophe events will continue to impact businesses; we see that global warming is a reality that we must learn to live with in the long term. We also expect the number of climate change related incidents and accidents to increase in the future."

Climate change affects us all, and therefore requires long-term solutions that actively involve the insurance industry in partnership with other stakeholders. If supports and participates in a number of research projects in the Nordic region in order to better understand the risk of climate-related damage and to develop preventative measures.

"Sufficient mitigation and adaptation measures are needed to tackle climate change-related hazards," says Forssén. "The consequences of failing to prepare for NatCat risks are already visible. In fact, according to the Swiss Re Institute, global insurance industry losses from natural catastrophes amounted to USD 105 billion in 2021."

With our internal Natural Hazard Competence Centre, at If we aim to increase our competence and expertise regarding natural hazards. As part of this, we offer our clients a service to tag and monitor insured property and cargo storage locations worldwide using geo-coordinates. The locations are visible on a scalable natural hazard world map in our digital If Login portal. When a major natural disaster happens, or when one is about to happen, both we and our clients can zoom into the affected area and identify locations at risk. We also contact our clients directly to inform them about recommended actions prior to, and after, severe events.

"Sustainability ambitions are rooted deep in If culture, and as part of this we have put great focus on supporting the renewable landscape. This has been extremely important for If Insurance and we have taken several steps over the past year to be a part of the transition and help push ESG (environmental, societal and governance) targets towards a cleaner and greener future," concludes Forssén.

Meet our expert

Jukka Forssén
Senior Adviser

[1] *WMO press release, 23 March 2022*
https://public.wmo.int/en/media/press-release/%E2%80%8Bearly-warning-systems-must-protect-everyone-within-five-years
[2] *United Nations, Climate solutions, early warning systems*
https://www.un.org/en/climatechange/climate-solutions/early-warning-systems

Securing your critical equipment

If Insurance offers insurance solutions that help to protect clients from sudden and unforeseen issues with their critical equipment.

By **Caroline Bødkerholm**

A significant part of the mitigating work entails that our clients maintain their critical equipment with due care, have spare parts available and access to alternative suppliers," says Kristine B. Wagner, Head of Underwriting at If Insurance.

"In today's world, and following Russia's invasion of Ukraine, it is more evident than before that you cannot rely necessarily on the suppliers that you thought you could rely on. This is not only in terms of supplying materials and components to support production of your own projects, but also with regards to maintenance of your manufacturing equipment. Clients need to be mindful about where they will get replacement parts from, and to have an understanding of the risks relating to possible delivery times or quality issues with these parts, if sourced from alternative suppliers," notes Wagner.

If's Risk Engineers are well positioned to support clients in this regard, working by your side to ensure business continuity when supplier risks are also faced. A well-prepared organisation pays careful attention to critical equipment with regards to risk management and loss prevention. This is done by focusing on recognising potential show-stoppers thoroughly and mitigating possible impacts across various scenarios.

MANAGING RISKS TOGETHER

According to Laura Rastas-Jansson, Head of Property Risk Management Services; "In the current global situation especially, it is of utmost importance that clients carefully assess the critical parts of their own production processes, as well as scrutinise the resilience of their supply chain."

"Some essential questions to find answers to include 'What spare parts are so critical that you need to have them on-site in reserve?'; 'How reliable are your existing spare part suppliers in today's world considering the current situation?'; 'Which relevant alternative suppliers exist?'; 'How simple or complex would the process be if you were to switch to an alternative supplier?'; 'What would be the likely availability of alternative suppliers?'

It is also important to look at these scenarios holistically, and to ask the same questions with regards to raw material and component suppliers," concludes Rastas-Jansson.

Meet our expert

Laura Rastas Jansson
Head of Property Risk Management

How to prevent hydraulic oil fires

Hydraulic oils are not generally considered a serious fire hazard, because they have high ignition temperatures. This fact can lead, however, to a false sense of security, since spraying hydraulic oil will burn just as fiercely as other hydrocarbons.

Published in Risk Consulting magazine in 2013, article updated in 2022 by Eero Kankare

Hydraulic fluid has been a factor in many fires and is often responsible for markedly increasing the extent of fire damage. Because hydraulic systems are highly pressurised, flames from a hydraulic oil fire can spread over dozens of metres. On factory premises, such a conflagration will unavoidably reach cables or other combustible material, which will catch fire and be rapidly destroyed.

It is therefore essential to assess the risks related to hydraulic oils to ensure sufficient protection methods. In fact, the risk of an oil fire can be completely eliminated by shifting to non-combustible hydraulic fluids or adopting electrically or pneumatically operated equipment.

REPLACING MINERAL OIL WITH NON-COMBUSTIBLE FLUID

Since mineral oil has several technical benefits – not to mention its price – it is used in most hydraulic systems. Equipment manufacturers have so far chosen non-combustible fluids only for certain special applications.

When purchasing new systems, it is advisable to agree the preferred fluid in advance with the manufacturer. It is difficult to change the hydraulic fluid type at a later stage because the manufacturers' warranty conditions require that the fluid specified by the manufacturer be used. If this happens to be mineral oil, switching to another fluid falls under the user's responsibility and may void the warranty.

HOW DAMAGE OCCURS IN THE METAL INDUSTRY

Hydraulic oil fires most commonly occur when oil sprays towards a hot surface. This can happen when a hot slab, liquid metal or hot slag drops onto hoses, which ignites the oil. A fire can also start due to an oil hose or pipe failure, with oil being sprayed onto a hot slab or another hot surface.

In most cases, oil ignites as soon as a leak occurs. In a recent loss case, oil from a system sprayed over a production line for a protracted period. After the leak was detected, the line was stopped, and employees went to inspect the burst pipe. During the inspection, the oil vapour ignited and the resulting explosion caused serious injuries and property damage. In this case, the ignition was caused by an overheated bearing, and indeed, a broken bearing is statistically one of the most typical ignition sources of mineral oil fires.

ATTENTION TO THE PUMP ROOM

When anticipating loss scenarios, it should be noted that a hydraulic system consists of three main elements: the hydraulic pack, the piping system, and the drives. Sometimes pumps and hydraulic drives are installed in the same place, as in the case of metal working and plastic injection-moulding machines.

If an oil fire causes immediate damage to pump cables, the pump will stop even if the operator does not activate an emergency stop. When pressure accumulators are emptied or isolated, the oil fire will cease to escalate intensively.

In other cases, pumps and hydraulic drives are located at a distance from each other. Pumps will then continue to fuel the flames until the flow is stopped either by closing the line in question or switching off the pumps. In the worst-case-scenario, the only stop button is located in the hydraulic room, which might be inaccessible due to the fire. In such cases, the oil flow will not stop before the tank is emptied or the low-level switch activates. In addition, stopping the system can take time. Such a fire typically leads to the collapse of the roof surrounding the fire area.

A SYSTEM-WIDE EMERGENCY SHUTDOWN MAY CAUSE TECHNICAL PROBLEMS

In the case of large central systems, it should be noted that a system-wide emergency shutdown may cause technical problems and even damage elsewhere in the system. Each sector should therefore have its own separate set of emergency stop valves. An oil fire can also break out in the hydraulics room due to a broken pump or cable fire. An oil fire in an unprotected pump room will destroy all equipment extremely rapidly.

Normally, the pumps are equipped with suction hoses or rubber bellows, which will burn and break at the very early stages of a fire. After the pumps stop, the fire will not die out since the discharged oil continues to burn.

The time taken to repair a hydraulics room after a fire depends, to a large extent, on the equipment in question. If large servo valves need to be replaced, as much as three to four months may be required before the equipment is restored. Renewing standard equipment normally takes only one, or at the most, two months. It is easy to protect hydraulic pump rooms with water sprinklers. In less critical locations, it may be sufficient to ensure control of the pump temperature and tank fluid level alongside the use of a fire alarm system.

PIPING SYSTEM AT RISK OF BURSTING

A piping system normally consists of steel pipes, high-pressure hoses and non-pressurised return pipes and hoses. Piping systems for hydraulic oil are exposed to the risk of bursting for various reasons. Consider, for example, the following real-life examples:

- The dust extraction hose of a grinding machine was lying on hydraulic hoses. Sparks ignited the dust extraction hose from the inside. The hose burned through and set fire to the high-pressure hoses. Subsequently, the hoses burst and the spraying oil set fire to the entire hall. The hall and its contents were destroyed in the fire.
- The last slab was not quite straight when it was transferred onto a roller table. The slab struck the roller table, which was on hoisting cylinders. The resulting pressure shock burst a rusty steel pipe. A pin hole leakage from the steel pipe caused oil to jet onto a steel plate, before being deflected onto a hot slab. This lit a blowpipe flame which reached the wall and then the ceiling of the hall, before advancing to another wall and further downwards. The narrow flame set fire to cable trays on both sides of the hall.
- Due to vibration, a steel pipe wore through and broke. The resulting oil spray hit the chimney of a waking beam furnace and caught fire. Adjacent pump cables burned, breaking in two. However, oil continued to flow because the large cylinders were in an upright position. The damage remained relatively minor, since the majority of heat escaped through a staircase out of the furnace pit.

PUMPS SHOULD BE STOPPED ONLY WHEN SAFE TO DO SO

- A hot band machine had a ½" high-pressure hose about 20 cm long. A pressed fitting detached, causing oil to discharge onto a hot coil and ignite. The hydraulic system of the hot band machine was shared with the main rolling line, with no separate emergency circuit. The pumps could be stopped only when to do so was safe for the rolling line. For that reason, the emergency stop was not pushed before the strip on the rolling line was fully coiled.
- Due to a malfunction, a hot billet was lifted away from a hot extrusion press, after which it fell onto high-pressure hoses. The flames blocked access to the hydraulic cellar, where the stop button was located. At high risk, an operator managed to enter the cellar and stop the pumps.
- A hot rolled strip passed the guide of a down coiler and cut through the hydraulic hoses of a mandrel. As the operator fled the scene, he managed to open the valve of the four water cannons pre-aimed towards the down coiler. The hand valve was installed in a risk zone, only 10 metres away from the coiler. The damage remained minor since the fire was put out almost instantly.
- A small gap had been left between a casting platform and an embedded slag pot. Hot metal ran through the gap onto the hydraulic pipes of the mould oscillator, leading to a fierce fire which destroyed all cables, hoses, and other equipment under the casting platform.

HOT OIL BURST THE PIPE

- For maintenance purposes, a manual valve in hydraulic piping had been closed off. When the continuous casting line was restarted, another automated valve shut off. This meant that oil remained in the closed part of the pipe. As the oil heated, it expanded and caused the pipe to burst. The pressure then lowered, which in turn made the automated valve open. This allowed oil to flow out of the burst pipe. The resulting fire destroyed the instrumentation and other parts of the machine.
- During hot rolling, the front-end of a billet split, forming a 'crocodile'. It deviated from the rolling track and then hit and broke the coupling of a guide cylinder. The oil fire spread onto the control room's door. The operators managed to exit through a back door serving as an emergency exit. The fire also spread under the roller table, where the hydraulic pack with its 200-litre pressure accumulators were located. When the suction hoses burned through, the full contents of the 1,000-litre tank discharged into the sump and continued to burn there.

The most affected items were damaged very rapidly after the outbreak of the fire, the burning non-pressurised oil having no major impact on the overall damage. Production would have been interrupted for much longer if the control room equipment had been destroyed, but luckily this did not happen.

PREVENTION MEASURES

As mentioned above, the most simple and reliable way to prevent a hydraulic oil fire is to replace mineral oil with non-combustible fluid. The risk of oil fire can be eliminated by using electric or pneumatic drives instead of hydraulic drives. Some fire risks are also related to alternative technologies, but not risks of fierce and uncontrolled fires.

Fluids considered non-combustible consist of water-based solutions, including less than 20% of glycol or oil. With water-based emulsions, however, it must be understood that the residues of such fluids are combustible when their water content has evaporated. Control of fluid leakages is important for several reasons: fire safety, the functionality of the machines and soil protection.

CONSIDER THE FOLLOWING ISSUES

If combustible hydraulic fluid is used, at least the following factors must be considered:

- Hydraulic systems, which are equipped with pressure accumulators, must be provided with block and bleed valves to bring an instant halt to the flow of oil from the accumulators to the fire upon activation of an emergency shutdown.
- Hydraulic pipes and hoses must be installed in safe places and should be screened off from potential ignition sources such as hot surfaces. A pin-hole leakage can also be deflected from a steel surface. All exposed high-pressure hoses should be installed in pyro-jackets, which prevent oil from spraying around if the pressure hose bursts.
- In so far as possible, piping should be made of steel pipes rather than hoses. Hoses should only be used for achieving the required flexibility rather than because they are easy to install.
- In humid and corrosive locations, stainless steel pipes are recommended.
- Pipes should be fastened properly to prevent wear due to vibration.
- The area around hydraulic hoses should always be kept clear of litter and other combustibles. Naturally, this also applies to the hydraulic pump room.
- Hydraulic pipes and hoses shall not be kept pressurised when not needed. In some applications hydraulic power is used only for setup motion and after that the piping can be non-pressurised.

Meet our expert

Eero Kankare
Risk Engineer

Preparing for the unexpected

In this article we review a recent claim regarding a collapsed crane. The incident highlights that critical equipment can also include offloading machinery.

By **Kristian Orispää**

A ship delivering production materials for a metal manufacturing company recently experienced a significant incident when failure of the ship unloader boom occurred during unloading.

As the large manufacturing plant produces very high volumes of products, with operations running 24/7 – 365 days a year, the impact of the incident went beyond the challenges of unloading the remaining raw materials. Additionally, the incident also had the potential to affect production at the plant, as it directly impacted the planned and continuous discharge of two 70 000 ton ships per month through one single designated berth in the port. This berth was customised with two ship unloaders and a conveyor system in a public harbour.

DAMAGE CONTROL

Following the failure of the ship unloader, the unloader's boom effectively locked the ship to the berth. This made the unloading berth and the unloading facilities, as well as the adjacent loading berth inaccessible. As a result, the only berth with shore-based mechanical unloading capacity was blocked.

Working together, the ship owner, the client and contractors, set clear objectives to stabilise the situation and remove the ship unloader. As a priority, the crew aimed to mitigate any further damage to the ship unloader, which was unstable and constantly under pressure, and with its structural integrity deteriorating further due to the tidal movement of the ship. Support was established to help remove the loader boom and the bucket elevator.

The ensuing operation was done with two heavy lift salvage vessels to first free the vessel and berth, and then to dismantle the damaged ship unloader. This project featured multiple challenges, and beyond the difficult and time-consuming work that lay ahead, it was also an expensive operation, which included multiple risks, not least of which was the potential total collapse of the unloading boom and ship unloader. Adding to the challenges, weather conditions were not ideal, with persistent heavy rain and high winds impacting operations. In addition, the boom collapse happened in the middle of the COVID-19 pandemic.

Throughout the entire operation, root cause analysis (RCA) monitoring was also both required and implemented.

MAINTAINING OPERATIONS

Facing a risk of massive business interruption loss, mitigating actions were quickly required. This involved the chartering of alternative vessels to deliver raw material for the duration of the salvage operation. Furthermore, alternative berths were needed to prevent any further negative impacts occurring due to the incident.

The damaged ship unloader proved to be a total loss and the replacement of the unloader was estimated to take approximately two years. A second original and undamaged ship unloader was available once the berth was accessible, however with insufficient capacity to replace the damaged unloader. To resolve the issue, the parties involved decided to install a mobile harbour crane and hopper.

A highly challenging logistics operation was initiated, which included the search for available and suitable vessels, as well as the enabling of access to other parts of the busy harbour. Other considerations included the slower speed of the operations and reduced volume of material, as well as the added complexity in transferring materials from the harbour to the plant, not to mention the further added costs that were the result of the revised logistical procedures (such as demurrage).

SUCCESS REQUIRES TRUST

Despite the costs involved in the operation, actual production loss would have generated significantly higher business interruption losses. In this case, the client saw only a minimal impact on production. This case highlights the importance of business continuity planning and how being thorough in evaluating potential risks will help prepare for the unexpected.

Understanding that a crane might collapse by the jetty might not be the first consideration for clients, but the possibility of such, and the complexity involved, should not be underestimated. There may be legislation involved that limits what can and cannot be done, varying language barriers with e.g. contractors. Frequent meetings with all interested parties including re-insurers are necessary to keep everyone involved.

When a vital part of an industrial process line falls out of operation, it is important to have ongoing, constant and good communication between insurers and the client/broker, as this is absolutely key to successful loss mitigation activities and RCA.

Some other learnings include the importance of having an experienced loss adjuster, as well as the possibility to deliver "remote" claim handling services, for example, as witnessed often during the pandemic. Although challenging, this proved to be a feasible alternative when frequent meetings and flexible decision-making are required to support an ongoing salvage and loss mitigation operation. With systematic progress monitoring, to track activities, these types of projects can be run more effectively.

Understanding the forest industry

In this Q&A, we look at the forest industry together with Joakim Troive, Account Executive at If Sweden. Troive is also Chairman of the Forest Competence Centre at If Insurance. Learn more about the forest industry from an insurance point of view.

By **Caroline Bødkerholm**

WHAT ARE SOME OF THE POSITIVE TRENDS IN THE INDUSTRY?
"Awareness of risk management in the forest industry is increasing significantly, which is a very positive trend. I believe this new level of awareness goes hand in hand with the fact that claims costs are also rising. Furthermore, the delivery time of new machinery and various equipment has increased to a level never seen before. This means that when a company experiences a machinery breakdown, they may face a longer standstill period than previously. I believe the severity of this risk has sparked the incentive for our clients to analyse loss prevention work more carefully. One additional positive trend is that the maintenance of machinery has improved over recent years."

WHAT ARE SOME OF THE MORE NEGATIVE TRENDS IN THE INDUSTRY?
"Another part of loss prevention that does not receive the same level of attention, relates to the redundancy solutions. A client operating without redundancy at their mills, for example, have a so-called one-line set-up. This one-line set-up creates a vulnerability in the entire supply chain of the operation, as when there is a machinery breakdown it can have costly consequences for the client's business. We experience a tendency of prioritising, meaning to build one large mill to increase capacity, rather than paying attention to the redundancy plan. In an ideal situation, you would have redundancy all the way, as the alternative creates high dependency on one line of machinery to keep the business going. This is linked to having the correct business interruption cover and understanding the importance of this cover."

WHAT WOULD BE YOUR KEY ADVICE TO CLIENTS?
"Good advice is to keep track of your indemnity periods and to do quarterly forecasts. This will help to foresee whether there is a need for longer indemnity periods and broader cover. What we have experienced among clients is that the indemnity periods have increased from 12 months to 18 months, and at the moment some clients are even talking about 30 months. In other words, if you experience a loss, it can take up to two years, or sometimes even more, to reinstate operations to the previous level."

WHAT ARE SOME OF THE EMERGING RISKS IN THE FOREST INDUSTRY?
"Cyber risk is one of the emerging risks to take into consideration, as the severity of the attacks are continuing to both develop and increase, hackers are constantly finding new ways of attacking, and each attack looks different every time. In addition, the growing number of catastrophic natural events has proven that natural hazard risks are on the rise. It will become increasingly important to consider the impact of land use, extreme weather, and natural hazards when assessing regional risks."

ANY OTHER HIGHLIGHTS REGARDING RISKS IN THE FOREST INDUSTRY?
"There are many new risks related to the transformation to renewable energy sources and solutions. At If Insurance, we perceive this to be a positive transformation, and we work by our client's side every step of the way. However, there are specific risks that should be taken into consideration, and these include the risks relating to the installation of solar panels on the roof of a paper mill, or to the implementation of wind energy solutions, for example."

Meet our expert

Joakim Troive
Account Executive
Chairman of the Forest Competence Center

Short news

Ready for FERMA!

On October 9th, the Federation of European Risk Management Associations (FERMA) Forum will open its doors for the first time since the pandemic began. Over three days, Copenhagen will bring together risk management professionals from all corners of Europe. The theme for FERMA Forum 2022 is Transitioning together.

We welcome our clients, stakeholders and partners to visit our stand, located in Hall C2, Booth 107. Join us for interesting conversations, catch up with our experts, learn about If's Digital Services, check out our cool activities or just stop by and say hello. Meet with colleagues for a great cup of coffee!

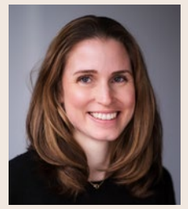
We look forward to seeing you at FERMA!

Strong growth for If Insurance

"If continued to deliver very strong results and showed a growth of 8.4 per cent during the second quarter. For us, the spring and summer of 2022 were characterised by volatile markets, the increased importance of insurance, and now that the pandemic has finally relented, the shift towards 'the new normal," says If's CEO, Morten Thorsrud.

Read the Q2 results press release using the QR code.

Appointments



Johanna Mola
Head of Property & Cargo Underwriting

Erik Nordblom
Head of Reinsurance