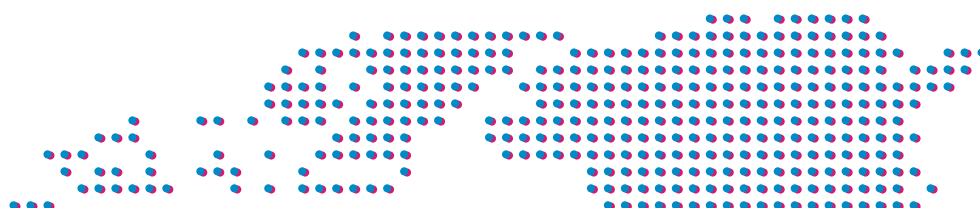




**Surveying the landscape: Terrorism threats of the future**

Foreword	2
Global threat analysis	4
The terrorist threat to the United Kingdom: Quiet on the surface but what's going on underneath?	8
Right-wing extremism: What do we know	12
Modelling an evolving terrorism landscape	16
Rising threats require a robust response	20
An insurance modelling response to the changing threat landscape	24
Summary of pools	28
Agenda	31
Speakers	32



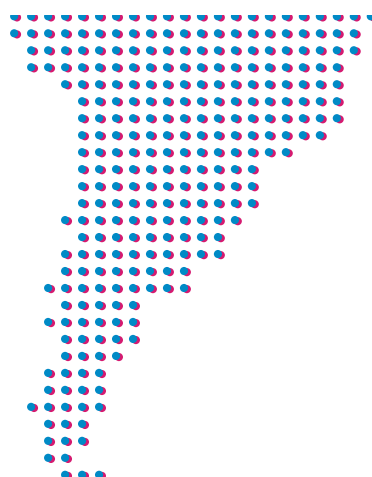
Julian Enoizi (CEO, Pool Re/Secretariat, IFTRIP)


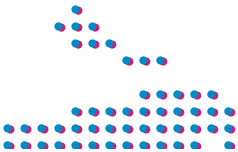




François Vilnet (President, IFTRIP)

Dear Delegate,

It is with great pleasure that we welcome you to Brussels, and to the 3rd annual conference of IFTRIP - the International Forum for Terrorism Risk (Re)Insurance Pools. Our community continues to go from strength to strength and will once again constitute the largest gathering of international terrorism reinsurance pools, insurers, reinsurers, academics and thought leaders in the global industry. As the threat from terrorism becomes increasingly international, and a world order reliant on a geopolitical equilibrium is increasingly undermined, IFTRIP's gathering momentum and growing participation is not only encouraging, but essential.





IFTRIP was established in 2016 with the goals of promoting initiatives for closer international collaboration and sharing expertise and experience to combat the threat of economic loss resulting from terrorism. This year's conference is our most ambitious yet. We have assembled a highly distinguished set of speakers, with expertise and experience from a broad range of sectors and disciplines. Global terrorism has become, after all, a more complicated and diffuse threat than ever before, and requires a broad church to come together to understand it and unite against ideologies which above all seek to de-stabilise and divide.

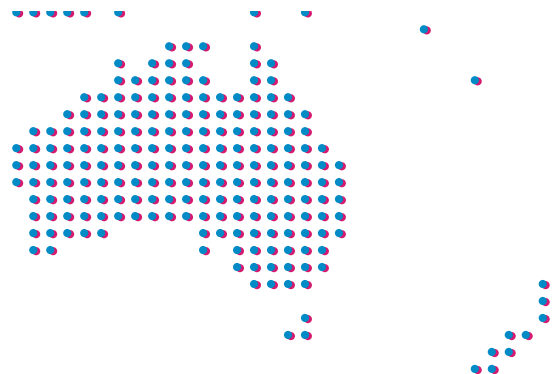
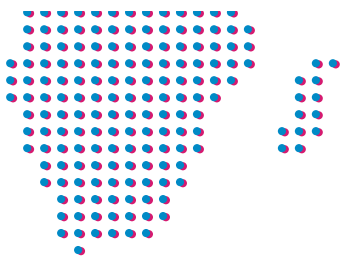
Pools must continue to adapt in order to remain relevant and valuable to the countries and markets they serve. As such, many of the conversations at this year's conference will revolve around emerging or emergent risks such as cyber, motor vehicles and drones, and how technological advances in modelling capabilities can help to bridge coverage gaps. The constantly evolving terrorism landscape, comprised of a diverse group of threat actors, exposes new vulnerabilities for societies and businesses, SMEs in particular. The threat of 'spectacular' CBRN attacks remains a tangible risk. At the same time, however, rather than focusing exclusively on destructive damage to the organs of state (such as Government buildings, financial infrastructure, or targets associated with the army, police and judiciary,) modern

Islamist and, increasingly, right-wing extremists are opting for soft, civilian targets in crowded places. The Easter bombings in Sri Lanka this year was a shocking expression of this now established trend.

These shifts increase the industry's focus on Business Interruption (BI), liability and casualty exposure. The broad spectrum of liabilities now posed by global terrorism necessitates the introduction of innovative risk financing solutions and greater capacity to protect the economic interests of sovereign nations. Capital markets are likely to play an increasing and welcome role in augmenting the value chain offered by (re)insurance in the form of insurance-linked securities, and exciting ventures are already taking place in this space.

The sad fact is that the challenges posed by terrorism to the individual pools and countries represented at this conference represent national facets of an international problem. But as the risk grows and becomes more interconnected, so too does the collaboration and solidarity of the world's reinsurance pools committed to ensuring that terrorism may never achieve its goals through economic means. We hope you enjoy the conference and are sure you will join us in thanking all the organisers and contributors for their work in bringing IFTRIP to the Concert Noble in 2019.

**Julian Enoizi** (CEO, Pool Re/Secretariat, IFTRIP) **François Vilnet** (President, IFTRIP)







# Global threat analysis

This review examines the most recent data relating to terrorism events and considers the implications for IFTRIP members. Rather than focus solely on those nations represented at IFTRIP, an assessment has been made of the trends seen across Advanced Markets, defined as those nations with the greatest insurance penetration as a proportion of GDP. The top thirty countries have been included to provide a representative geographical distribution.

## Headlines

The latest Global Terrorism Database (GTD), published by the University of Maryland, has produced some interesting results within the 2018 data. As the Department of Homeland Security's Emeritus Centre of Excellence for terrorism research, its definition of terrorism is similar to that used across the (re)insurance market.

The main observations from the 2018 data are:

- Globally, terror attacks fell by 11.9% from 10,901 in 2017 to 9,607 in 2018. This is the lowest they have been since 2012. In Advanced Markets, the number fell more sharply by 30.4% from 283 events in 2017 to 197 in 2018; the lowest level since 2014.
- There has been a dramatic decline of events by so called Islamic State in Syria (ISIS) and Iraq. However, this group and its affiliates still conducted 688 attacks; killing over three thousand people in 34 separate territories.
- In the US and Western Europe, there has been a marked increase in the proportion of events being conducted by Far Right Terrorists. 71% of all deaths in Advanced Markets in 2018 were caused by these right wing extremists. Motivation across these groups is not homogeneous and there are strong regional biases.

The data show a peril which is reducing in frequency globally, including in Advanced Markets. The impacts of larger events continue to be orientated towards fatalities and injuries, rather than property damage and business interruption; but most events have limited impacts. With this in mind, we

might reasonably expect non-damage business interruption types of cover to continue to be relevant.

The long-term picture suggests that the underlying intent of terrorist groups in Advanced Markets could change this dynamic. In particular, any separatist or single-issue groups intending to change government policy in IFTRIP nations, could reasonably decide to again shift towards targeting property rather than people, in order to achieve their political aims.

## Advanced Markets

Whilst the number of attacks globally is still over twenty-five every day, the rate in Advanced Markets is around one every two days. The headline reduction in capability of the Islamic extremist organisations, including Al-Qaeda and ISIS, hasn't prevented the continuing 'franchise competition' for supporters in many jurisdictions. The role of information and communications technology in recruiting and directing supporters means that, in the absence of trained and capable members to conduct large scale terror attacks in Advanced Markets, there will continue to be encouragement for locally based radicals to conduct attacks with whatever means they have available.

When considering event numbers, the relatively steady state seen recently across Advanced Markets may simply be a reflection of a broad "equilibrium" between terrorist groups continually evolving their approach to conducting attacks, being matched by nation states maintaining a commensurate level of defensive capability. »



## Macro Events

Given the role of the IFTRIP members to provide (re) insurance of terrorism risk, the primary area of interest is not expected to be in the attritional data, but in the study of the macro events. Consideration of events with >11 fatalities or an estimated financial impact of >\$50m over a prolonged timeframe provides meaningful conclusions for Pools and schemes, who are required to plan over strategic timeframes.

In the last 6 years, since the overall frequency of global attacks has increased significantly, the vast majority of the attacks generating macro impacts have qualified as macro events not because they have generated significant financial impacts, but because they have generated large numbers of fatalities. It is also apparent that almost all of the high impact – or macro events, have been conducted using low sophistication attack types. In 2018 in Advanced Markets, 96% of all fatalities were caused by low sophistication attack types, for example vehicle as weapons, bladed weapons or the use of firearms.

## Evolving Actors

Study of related data and wider reporting suggests there are a number of strategic factors which IFTRIP members may wish to consider in relation to Actors, which may be impactful in the next twelve months.

The marked rise in Right Wing Terrorism is discussed elsewhere, but it is clear that whilst this threat is still dwarfed by other actors, it is on the rise. Identifying Right Wing Terrorism accurately can be challenging. National definitions

often draw distinction between domestic and international groups, or class certain far right motivations as criminal rather than terrorist. In certain geographies, there is also a public perception imbalance, between events of similar impacts conducted by Islamist groups, versus other groups – including the far right.

The apparent blurring in difference between state and non-state actors not only makes macro events more possible, but also creates challenges for the production of relevant insurance wordings. By way of example, in April 2019, the USA announced that it had designated the Iranian Revolutionary Guard Corps (IRGC) a terrorist organisation. This has in effect immediately created one of the largest, best trained, technically sophisticated and well-financed proscribed terrorist organisations in the world.

There have been no reported terrorism uses of chemical, biological, radiological, or nuclear (CBRN) materials in 2018 or 2019 to date. EUROPOL recorded in their 2019 terrorism report that there were three CBRN-related terror plots in Europe in 2018. Whilst detailed examination suggests that these threats were probably unlikely to be physically impactful, the propaganda of any release as part of an attack is likely to be hugely disproportionate to any damage caused or casualties inflicted. EUROPOL did state that there had been an observable rise in the use of CBRN terminology and topics online; but this could be simply due to raising of awareness; almost certainly due in part to the global publicity of the Salisbury / Amesbury events in the UK, the assassination of the North Korean Leader's sibling in Kuala Lumpur airport and the wider-spread use of toxic industrial chemicals as weapons in Syria.■

This information was powered by CHC Global

<sup>1</sup> <https://www.europol.europa.eu/activities-services/main-reports/terrorism-situation-and-trend-report-2019-tesat>



chcglobal.co.uk



## Working to understand, manage and transfer special risks

CHC Global is an independent insurance intermediary and advisor, dedicated to special risks including kidnap for ransom, terrorism, cyber and other security related perils.

Headquartered in London, the in-house advisory team delivers a range of terrorism analytics and consulting to meet the needs of the insurance and reinsurance industry.


### **GTD** GLOBAL TERRORISM DATABASE

CHC Global is the exclusive commercial distribution partner for the Global Terrorism Database (GTD), the most comprehensive unclassified database of terrorist attacks in the world.

The GTD is produced by the National Consortium for the Study of Terrorism and Responses to Terrorism (START) at the University of Maryland in the United States.

CHC and CHC Global are trading names of CHC Insurance Services Limited which is an appointed representative of Ambant Limited, a company authorised and regulated by the Financial Conduct Authority under firm reference number 486865 to carry on insurance distribution activities. CHC Insurance Services Limited is registered in England and Wales company number 10942687. Registered office 7th Floor Minster Court, Mincing Lane, London EC3R 7AA.





# The terrorist threat to the United Kingdom: Quiet on the surface but what's going on underneath?

Ed Butler, Chief Resilience Officer, Pool Re



## Enduring and multifarious threats

Reflecting on the last 12 months, it would superficially appear that the threat posed by Islamist extremism peaked during 2017 and the followers of Daesh have dispersed to other ungoverned spaces and failed states across the globe. While largely true that Daesh is adopting a transnational, affiliated model, the threat posed to the UK by Islamist extremism remains as high as ever. Of concern is the threat posed by committed Daesh fighters who may return to the UK with battle honed skills and the intent to use them in attacks, as well as by unknown lone actors acting independently of any direction from 'Daesh central'. The threat posed by AQ, in particular its affiliates in Syria, still remains especially its aspiration to commit another spectacular. It is unsurprising then that the UK threat level remains at SEVERE (meaning an attack is "highly likely"); this is evidenced by the police and MI5 undertaking 700 live investigations at any one time and the interdiction of one major late stage attack plot every 4 weeks.

The threat landscape in the UK remains very complex, fast moving and occupied by a diverse group of threat actors, many of whom want to conduct mass casualty' attacks, targeting crowded places and iconic targets. Moreover, it is continually evolving and increasingly unpredictable. These threat actors - be they Islamist extremists, Right Wing (RWT), Left Wing terrorists (LWT) or Violent Dissident Republicans (VDR) - employ a wide array of methodologies, ranging from the unsophisticated (knives and vehicles as weapons) to more complex attacks involving Improvised Explosive Devices (IEDs) and firearms. There is mounting concern about the use of Chemical, Biological, Radiological or even Nuclear (CBRN) material and more 'novel' technologies to achieve a devastating event similar to 9/11.

The defeat of the so-called Caliphate will not have changed the views of core Daesh followers, as demonstrated by ongoing attacks across the globe by its supporters. It would appear that the group has recognised the associated vulnerabilities of trying to defend territorial 'caliphate' from coalition forces. Rather, the group has gone to ground while it regroups in its heartland, carrying out attacks abroad to demonstrate its continued relevance and vitality. The Easter bombings in Sri Lanka reflect this. Elsewhere, the group continues to regularly claim attacks, while reasserting itself in Iraq and Syria through a campaign of revenge and intimidation.

## Where then does this leave the threat to the UK?

Attacks are now being planned at a faster rate than in 2014 and are quicker and cheaper to execute. We are likely to see the continued use of low sophistication techniques - the use of vehicles and knives as weapons - with an increasing appetite and capability for IEDs to inflict greater casualties and generate more media attention. There is a real concern about the high number of returning fighters who could use their battlefield experience in attacks in the UK.

Other threat actors are now occupying an increasing share of UK's CT resources. Right Wing Terrorism (RWT) now accounts for 20% of the police and MI5's workload and this threat has intensified over the last few years; seven of the 22 plots foiled since March 2017 have been RWT and there have been three RWT attacks since the murder of Jo Cox MP in 2016. RWT is becoming more organised, younger, with attacks undertaken by lone actors. RWT covers a multitude of complex and interacting ideological issues.

The threat level from Northern Ireland Related Terrorism (NIRT) to the UK mainland remains MODERATE but is SEVERE in the Province. The frequency of terrorist attacks, mainly by the New IRA but also with some significant attacks from the Continuity IRA, remains constant with 15-40 attacks on average per year. The killing of Lyra McKee in March 2019 and several under car explosive devices and IEDs since is a reminder of the intent and capability that Violent Dissident Republicans (VDRs) possess. A "no deal" Brexit could well exacerbate these tensions.

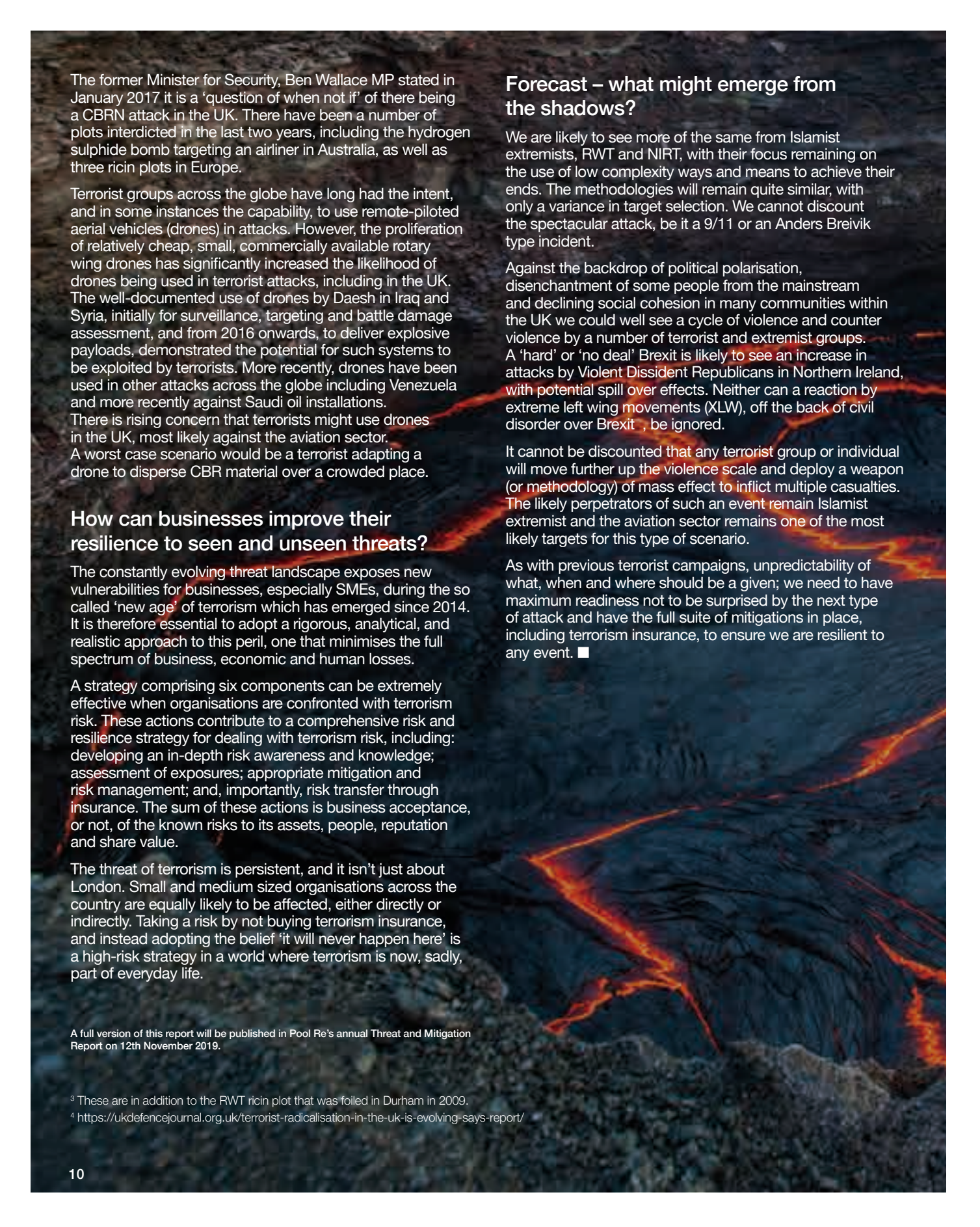
## Unconventional terrorism and future threats

Terrorists are innovating as police and MI5 get better at interdicting plots. This is illustrated by the sizeable growth in the use of information technology and the use of data and encrypted communications in attack planning over the last 2 to 3 years. We are also seeing more technology transfer from the battlefield to the streets, as well as between state and non-state actors. Collusion, especially in the cyber world, between the criminal fraternity and terrorist groups remains a constant concern. As the barrier to entry for malware and cyber tools lowers, along with the introduction of 5G, so does our vulnerability to cyber-attack increase. »

<sup>1</sup> The attack on the 19th August near Wattlebridge in County Fermanagh was the fifth attempt by VDRs to kill police officers this year and followed another attempt on officers at the end of July in Craigavon, County Armagh.

<sup>2</sup> <https://www.telecomstechnews.com/news/2018/aug/14/uk-spy-agency-5g-cyber-terror-threat>





The former Minister for Security, Ben Wallace MP stated in January 2017 it is a 'question of when not if' of there being a CBRN attack in the UK. There have been a number of plots interdicted in the last two years, including the hydrogen sulphide bomb targeting an airliner in Australia, as well as three ricin plots in Europe.

Terrorist groups across the globe have long had the intent, and in some instances the capability, to use remote-piloted aerial vehicles (drones) in attacks. However, the proliferation of relatively cheap, small, commercially available rotary wing drones has significantly increased the likelihood of drones being used in terrorist attacks, including in the UK. The well-documented use of drones by Daesh in Iraq and Syria, initially for surveillance, targeting and battle damage assessment, and from 2016 onwards, to deliver explosive payloads, demonstrated the potential for such systems to be exploited by terrorists. More recently, drones have been used in other attacks across the globe including Venezuela and more recently against Saudi oil installations. There is rising concern that terrorists might use drones in the UK, most likely against the aviation sector. A worst case scenario would be a terrorist adapting a drone to disperse CBR material over a crowded place.

## How can businesses improve their resilience to seen and unseen threats?

The constantly evolving threat landscape exposes new vulnerabilities for businesses, especially SMEs, during the so called 'new age' of terrorism which has emerged since 2014. It is therefore essential to adopt a rigorous, analytical, and realistic approach to this peril, one that minimises the full spectrum of business, economic and human losses.

A strategy comprising six components can be extremely effective when organisations are confronted with terrorism risk. These actions contribute to a comprehensive risk and resilience strategy for dealing with terrorism risk, including: developing an in-depth risk awareness and knowledge; assessment of exposures; appropriate mitigation and risk management; and, importantly, risk transfer through insurance. The sum of these actions is business acceptance, or not, of the known risks to its assets, people, reputation and share value.

The threat of terrorism is persistent, and it isn't just about London. Small and medium sized organisations across the country are equally likely to be affected, either directly or indirectly. Taking a risk by not buying terrorism insurance, and instead adopting the belief 'it will never happen here' is a high-risk strategy in a world where terrorism is now, sadly, part of everyday life.

## Forecast – what might emerge from the shadows?

We are likely to see more of the same from Islamist extremists, RWT and NIRT, with their focus remaining on the use of low complexity ways and means to achieve their ends. The methodologies will remain quite similar, with only a variance in target selection. We cannot discount the spectacular attack, be it a 9/11 or an Anders Breivik type incident.

Against the backdrop of political polarisation, disenchantment of some people from the mainstream and declining social cohesion in many communities within the UK we could well see a cycle of violence and counter violence by a number of terrorist and extremist groups. A 'hard' or 'no deal' Brexit is likely to see an increase in attacks by Violent Dissident Republicans in Northern Ireland, with potential spill over effects. Neither can a reaction by extreme left wing movements (XLW), off the back of civil disorder over Brexit, be ignored.

It cannot be discounted that any terrorist group or individual will move further up the violence scale and deploy a weapon (or methodology) of mass effect to inflict multiple casualties. The likely perpetrators of such an event remain Islamist extremist and the aviation sector remains one of the most likely targets for this type of scenario.

As with previous terrorist campaigns, unpredictability of what, when and where should be a given; we need to have maximum readiness not to be surprised by the next type of attack and have the full suite of mitigations in place, including terrorism insurance, to ensure we are resilient to any event. ■

A full version of this report will be published in Pool Re's annual Threat and Mitigation Report on 12th November 2019.

<sup>3</sup> These are in addition to the RWT ricin plot that was foiled in Durham in 2009.

<sup>4</sup> <https://ukdefencejournal.org.uk/terrorist-radicalisation-in-the-uk-is-evolving-says-report/>



# Reinsuring terrorism risk

Available to Member insurers, covering property damage and business interruption against an act of terrorism in England, Wales and Scotland.

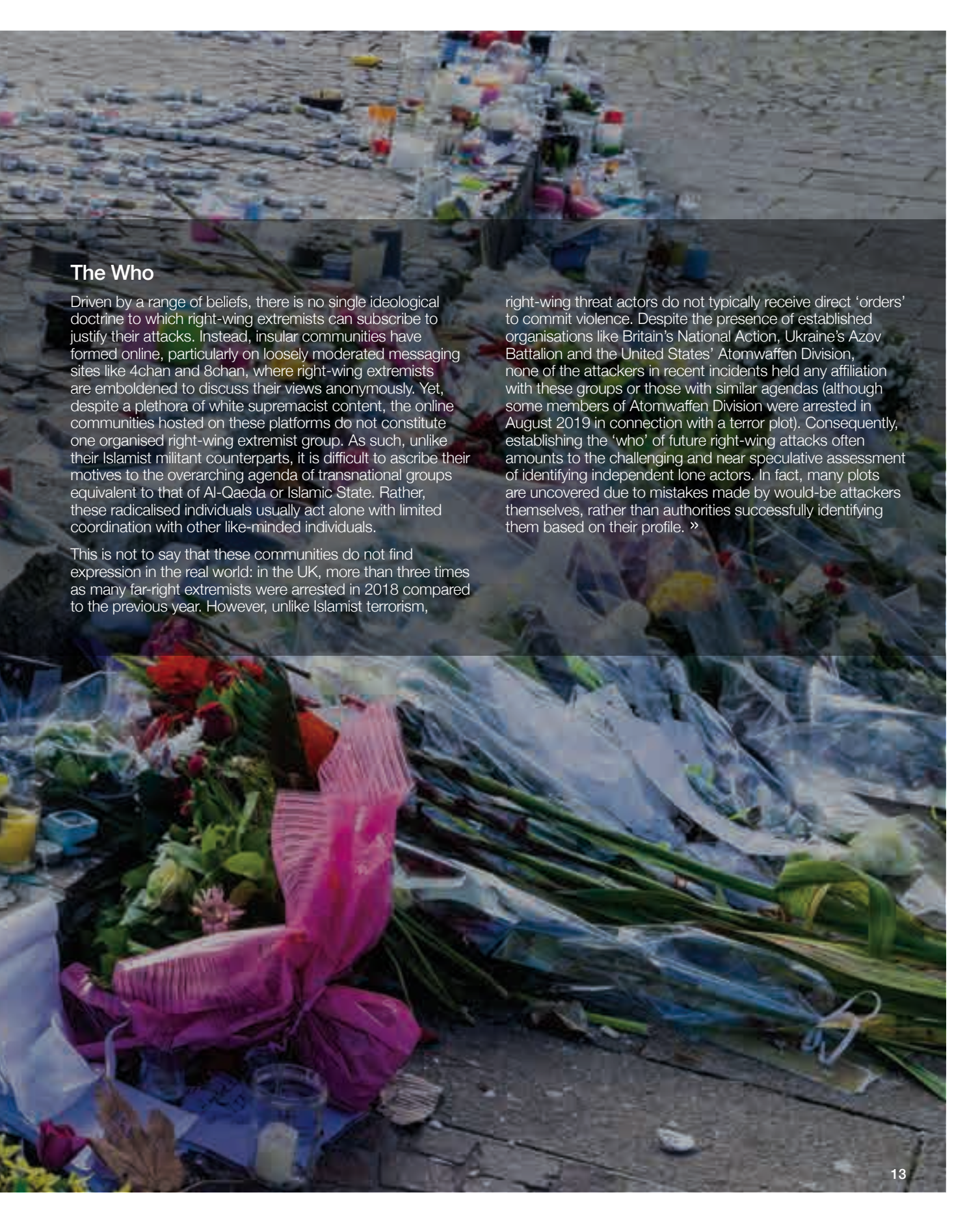


# Right-wing extremism: What do we know?

Three major right-wing attacks, including mass shootings in the United States in August, New Zealand in April, and the assassination of a left-wing politician in Germany in June, have drawn the attention of the international media and governments to the threat of far-right extremism. Since 2018, western intelligence and law enforcement agencies including MI5 and the FBI have increased their monitoring of far-right actors amid concerns over an increase in far-right attacks.

Yet accounting for the motivations, methods and capabilities of far-right extremist actors remains a challenge. The perpetrators of these acts embody a wide array of ideologies, they have varying access to targets and means to execute attacks, and when attacks do happen, they are recorded in diverse ways by authorities in different countries – as a result, analysing these statistics can be challenging. Amid this variance, S-RM grapples with what we can know about the who, what and where of right-wing extremism.





## The Who

Driven by a range of beliefs, there is no single ideological doctrine to which right-wing extremists can subscribe to justify their attacks. Instead, insular communities have formed online, particularly on loosely moderated messaging sites like 4chan and 8chan, where right-wing extremists are emboldened to discuss their views anonymously. Yet, despite a plethora of white supremacist content, the online communities hosted on these platforms do not constitute one organised right-wing extremist group. As such, unlike their Islamist militant counterparts, it is difficult to ascribe their motives to the overarching agenda of transnational groups equivalent to that of Al-Qaeda or Islamic State. Rather, these radicalised individuals usually act alone with limited coordination with other like-minded individuals.

This is not to say that these communities do not find expression in the real world: in the UK, more than three times as many far-right extremists were arrested in 2018 compared to the previous year. However, unlike Islamist terrorism,

right-wing threat actors do not typically receive direct 'orders' to commit violence. Despite the presence of established organisations like Britain's National Action, Ukraine's Azov Battalion and the United States' Atomwaffen Division, none of the attackers in recent incidents held any affiliation with these groups or those with similar agendas (although some members of Atomwaffen Division were arrested in August 2019 in connection with a terror plot). Consequently, establishing the 'who' of future right-wing attacks often amounts to the challenging and near speculative assessment of identifying independent lone actors. In fact, many plots are uncovered due to mistakes made by would-be attackers themselves, rather than authorities successfully identifying them based on their profile. »



## The What

In the absence of support from international networks to lead, fund and arm them, right-wing groups lack the expertise and resources of their Islamist counterparts and typically fail to turn rhetoric into action. While providing a forum for expressing extreme right-wing views, these groups lack the capability to direct, plan, train and equip their members in the way Islamist militant groups do. Since right-wing extremist actors are confined to planning and executing their attacks in isolation, attacks remain relatively rudimentary, and subject to jurisdictional constraints. For example, lax firearm restrictions in the US enable greater access to weapons than in most countries, while outside the US stricter firearm controls typically lead right-wing extremists to carry out stabbings or arson attacks. However, despite the lack of organisational support, the impact of successful attacks remains high.

Nonetheless, right-wing extremists globally have planned and executed a number of high-profile attacks over the past year. In the US, right-wing extremists conducted mass shootings at a shopping mall, three synagogues and a yoga studio, and sent mail bombs to a number of Democratic Party officials and supporters. In New Zealand, Brenton Tarrant shot and killed 51 people at two mosques in Christchurch. And in Europe, right-wing extremists have conducted shooting attacks at mosques in Norway, Spain and France, and perpetrated vehicle rammings in the UK and Germany. Security forces also uncovered two far-right plots to kill French President Emmanuel Macron and Spanish Prime Minister Pedro Sanchez.

## The Where

While the capability of extremist right-wing groups is limited, attacks have become more frequent globally. For example, according to the Centre for Strategic and International Studies, a US think tank, between 2016 and 2017 the number of attacks in the US by far-right extremists doubled, while in Europe over the same period it grew by 43%. A study by the Anti-Defamation League, a US advocacy group, also found that the far-right accounted for 73.3% of fatalities from extremist attacks in the US between 2009 and 2019.

There is a range of complex factors which determines the location of right-wing extremism. Far-right extremist plots, either planned or realised, have recently taken place in the US, across Europe, and in Australasia. While there are multiple motivations for these attacks, particularly given that the far-right is not unified under a single ideology, one consistent theme among right-wing extremists in Europe, North America, Australia and New Zealand is the rejection of immigration. Extremists like Anders Breivik in Norway, Brenton Tarrant in New Zealand and Dylann Roof in the US, released manifestos ahead of their attacks, which railed against the influx of foreign people into their respective countries.

Future right-wing extremist attacks remain likely in locations where formal groups are active. But given that most incidents have been perpetrated by lone actors, as with all active assailant-type attacks, there is inherent uncertainty in identifying where the attacks will occur, what form they will take and who will be responsible. ■

S-RM is a global consultancy that helps clients manage regulatory, reputational and operational risks.

### Corporate intelligence

Combining industry-leading intelligence with unrivalled responsiveness and client service.

### Crisis management

Preventing crises, and safeguarding your people, assets and reputation.

### Cyber security

Helping you manage complex information security challenges through a collaborative and consultative approach.



**XL Reinsurance**

# Think globally

In a fast moving world, it's important to have a partner you can count on to help balance the complexities of risk. With a strong balance sheet, wealth of underwriting experience and a significant presence in all of the world's major reinsurance markets, we're able to provide superior service and innovative solutions to help your business better navigate the globe and beyond.

**Know You Can**

**axaxl.com**

AXA XL is a division of AXA Group providing products and services through four business groups: AXA XL Insurance, AXA XL Reinsurance, AXA XL Art & Lifestyle and AXA XL Risk Consulting. AXA, the AXA and XL logos are trademarks of AXA SA or its affiliates. © 2019 AXA SA or its affiliates.






# Modelling an evolving terrorism landscape

Past terrorist attacks – including the London tube and bus attacks in 2007 and the Brussels airport and metro bombings in 2016 – have meant that terrorism modelling has been heavily focused on understanding the losses that may arise from attacks involving improvised explosive devices (IEDs). In response, computational fluid dynamic (CFD) approaches – that combine detailed knowledge of blast wave dynamics with 3D building and street data – have become increasingly sophisticated to accurately capture the financial losses from a range of bomb sizes.





## Behind the scenes: developing a marauding attack model

Although modelling terrorist attacks seems challenging at an individual level, patterns begin to emerge when seen from a macro viewpoint. Data scientists at Aon have been exploring how to capture these patterns to better understand the risks associated with marauding attacks. This approach follows a history of modelling man-made risks, such as the development of blast models, to accurately capture pressure waves from the detonation of explosives. The difference in marauding attacks is the focus on the human nature rather than the well-defined rules of physics which govern the environment.

Therefore, in Aon's new modelling platform for marauding attacks, a blend of a mathematical framework involving machine learning techniques, together with the latest social science research, is used to capture the various facets. The platform relies on three core components which combine to provide automated results:

### 1. Mapping the streets of key cities

The initial component of the platform is a street network extraction. To fully understand the risk of a marauding attack to a city it was essential to have a machine-readable map on which models can be run. The modeller can define the geographic scale they wish to analyse from a single street level to a city-wide view – anywhere in the world. With this extraction tool, it is possible to analyse some 27,000,000 miles of road network.

### 2. Using machine learning to identify preventative measures

Some types of marauding attacks, such as vehicular, can be restricted via the implementation of security barriers. For example, following the London Bridge attack in 2017 security barriers were erected adjacent to the pavement to repel similar terrorist attempts in the future. On a single street these preventative measures are manually researched.»

However, on a city-wide or multi-road scale manually searching for all security measures can be time consuming and impractical. To overcome the limitations of manual analysis, machine learning techniques are used to teach a computer model how to automatically identify features of interest. It works by presenting examples of images alongside descriptions of the objects they contain and training the model to distinguish those objects independently in unseen images. This helps produce an effective way of identifying risk factors. Specifically, the learned model can automatically scan a range of street view imagery and identify numerous security features which can influence the risks at different locations. Currently the model can identify 91 objects within the images – such as the street barriers in London as seen in the picture below.



*Example of automated barrier detection on London Bridge*

In addition to detecting physical structures the computer vision component of the platform can also capture human risk. In the picture below, the model recognises the number of people in an image.



*Example of automated person detection on London Bridge*

Using the tool to obtain the distribution of people across a city can assist in producing a heat map of possible terrorist targets. Moreover, a measure of geographic risk can be automatically obtained by combining the people density with areas of low security protection.

Having isolated the geographic area of interest in the first component of the model, and automatically assigning the risks of a marauding attack in the second. The final component considers event occurrence.

### 3. Simulating what an attack may look like and estimating losses

By translating the latest social science research on terrorism targeting and crowd behaviours, Aon's data scientists developed a model of how attacks are likely to occur. Within this model the movements of the attacker and its targets are captured using a set of equations which communicate the relative positions of the actors involved in an event. By evolving this model forwards in time, these positions determine a range of possible outcomes from an attack.

The model currently incorporates eight driving factors to determine the interactions between the actors involved in an attack, covering terrorist-pedestrian targeting, avoidance of obstacles in the physical environment, and human psychological traits such as herd behaviour where people head in the same direction as a crowd. From the simulation outcomes it is possible to generate stochastic event sets of likely marauding attack scenarios.

Pedestrian factors captured in the model

- Pedestrian repulsion from the attacker
- Pedestrian attraction towards exits
- Pedestrian obstacle avoidance
- Pedestrian-pedestrian proximal avoidance
- Pedestrian herd mentality

Terrorist factors captured in the model

- Terrorist obstacle avoidance
- Terrorist-terrorist proximal avoidance
- Terrorist attraction to closest pedestrian

This simulation component of the model also generates loss statistics so that the consequences from a re/insurance perspective can be obtained. Currently the model outcomes being considered are business interruption, loss of life and injury.

### From modelling to mitigation

In conclusion, the attack methodology of terrorists has shifted to the utilisation of lower technology weaponry over recent years. For the re/insurance industry to keep pace with the evolving nature of the terrorism threat landscape, new models must be produced. Machine learning, mathematical modelling techniques and social science research are all part of an insurer's armoury to help improve the industry's understanding of marauding terrorism attacks and mitigate the potential losses. ■

### About the Author

Dr Stephen Tench works within the Catastrophe Modelling team at Aon leading terrorism R&D. Before joining Aon, Stephen was a PhD candidate at University College London (UCL) where his research focused on applying mathematical techniques to study temporal and spatial dynamics of terrorist attacks.

[stephen.tench@aon.com](mailto:stephen.tench@aon.com).



As a trusted adviser, we utilise unmatched risk data and market insights to reduce our clients' exposures. Visit [aon.com](http://aon.com) to learn

how our award-winning teams provide solutions that measure every possible risk, challenge and meet your business on the best course.

Find safe

# HARBOUR

with the power

of 

# DATA

**AON**

Improve Results<sup>SM</sup>



# Rising threats require

**Almost by definition, terrorism and sabotage, political violence, strikes, riots and civil commotion are among the most difficult risks to predict. Unlike other risks which can be modelled and their impact assessed on assets and in territories we know are at risk; there is a random, human element in political violence and terror threats that makes it impossible to gauge with any certainty how a risk will manifest, when or where.**

Joanna Hitchcock, Senior Underwriter at Liberty Specialty Markets, France.





# a robust response

Recent events around the world demonstrate the scale of the issues the market faces. Two mass shootings on one day in the US in August, one of which was classed as domestic terrorism, resulted in the death of at least 31 people, prompting the President, Donald Trump, to condemn “racism, bigotry and white supremacy” and to call for the death penalty to apply to such incidents. These shootings followed suicide bombings in churches and luxury hotels in Sri Lanka on Easter Sunday earlier this year, raises concerns that ISIS is switching out of Syria into other territories.

The insurance industry faces the difficult task of helping businesses ensure that they have adequate cover in place for these unknown threats. If these recent events have taught us one thing, it is that these threats need a robust and highly specialist approach – our perspective is they cannot be adequately addressed by a simple extension to an existing property or liability policy. »



## Risk is rising

Although it is impossible to predict how threats will evolve, the sad fact is that political violence in every form is on the increase.

World peace has been declining over the past four years, according to the Global Peace Index\*. In the last year, four regions that were historically the most peaceful – Europe, North America, Asia Pacific and South America – all recorded deteriorations, with terrorism and internal political conflicts the biggest factors driving the decline.

Political unrest related to the struggle for independence by Catalonia; protests by the so-called Gilets Jaunes movement in France and demonstrations related to Brexit in the UK are all examples of the kind of activity that has contributed to the rising threat.

But alongside these civil disturbances, we have also seen a concerning increase in lone-wolf type terrorist attacks with unsophisticated devices, or hand-held weapons in Europe and other parts of the world. These have resulted in indiscriminate killings in London (March and June 2017), Manchester (May 2017), Barcelona (August 2017) and most recently New Zealand in March 2019.

Sectors typically and most frequently targeted as part of terror, political violence or strike-type protests often include hotels and luxury brands, entertainment centres, sports venues or transport networks which attract large numbers of people. Other sectors, for example life science, energy and telecoms are also frequent targets.

Although it is larger businesses, often with multinational operations in areas where terrorist activity is more prevalent that tend to carry more cover, it is smaller businesses that are increasingly most exposed. As modes of attack change, we are seeing shops and cafes in malls and outdoor markets coming under attack or suffering the consequence of a mass terror event.

## Market responding to changing nature of threats

As the nature of the threat changes and businesses are impacted in different ways, so the terrorism and political violence market is evolving.

Born in the aftermath of the attack on New York's Twin Towers in 2001, what began as protection for physical damage to property caused by terrorist attacks has grown rapidly over the years, as the nature of the threat has evolved and weaknesses or coverage gaps have been exposed.

Active assailant insurance, for example, was introduced in response to the school shootings in the US and was designed to close a gap in general liability policies that neither specifically included or excluded such attacks. Non-physical damage business interruption cover likewise was pioneered in response to the recent shift in focus from attacks on property to attacks on people.

Another evolving area is the liability exposures for those targeted by terrorism. Business owners and managers have a duty of care to their employees, to customers and to others that interact with their business. Customers expect that staff will know how best to help them take cover or escape from a building; tourists and pedestrians expect that pavements outside popular attractions will be protected from vehicular attack.

In response to the changing pattern of risk, evolution in this market is constant. In 2018 the London market changed its definition to omit the requirement for an attack to have a religious, ideological or political motivation. In Spring 2019 the UK government risk pool, Pool Re, added non-physical damage business interruption to its range of cover.

## The \$64m question

The \$64m question for terrorism and political violence insurers is of course – what next?

The expectation is that the majority of terrorist attacks will be simple in their methods, making use of accessible, improvised weapons, including vehicles. In terms of strikes, riots, civil commotion and full-blown political violence, the picture is mixed. The rise of extremist far-right and left political movements is a well-documented feature of many modern-day democracies. It is difficult to predict to what extent they may destabilise the status quo and cause losses for business.

What we do know, however, is that in 2017 the economic impact of violence on the global economy was \$14.76 trillion in purchasing power parity (PPP) terms. This figure is equivalent to 12.4% of the world's economic activity (gross world product) or \$1,988 for every person.\*

Against this backdrop, our task is to educate businesses, small and large, around the world about the evolving nature of the threat. In particular, we want to encourage more dialogue with brokers and insureds about how best to structure the cover for different sizes of business in different sectors and territories which we know will be needed. ■

\*<http://visionofhumanity.org/app/uploads/2018/06/Global-Peace-Index-2018-2.pdf>





## FOR MUTUAL ADVANTAGE

[libertyspecialtymarkets.com](http://libertyspecialtymarkets.com)

Liberty Specialty Markets (LSM) is a trading name of the Liberty Mutual Insurance Group (LMIG).  
For more information, please see [www.libertyspecialtymarkets.com](http://www.libertyspecialtymarkets.com).



# An insurance modelling response to the changing threat landscape

Terrorism, political violence and other malicious acts differ from other insurable perils in that they are dynamic and adaptive; there is human intent driving the probability and willing the impacts to change. The type of threat will continue to evolve as new technologies and opportunities reveal themselves to terrorist organisations. Historic incidents show past trends, but those are only partial drivers of future trends as terrorists adapt their tactics in response to past effectiveness and current circumstances. Additionally, the frequency of past successful attacks does not reveal the entirety of historic threat: some attacks were prepared but not executed; were redirected to an alternative target; were unsuccessful or had unintended consequences; or were foiled by security authorities.

The nature of terrorism is changing. The ideological drivers of terrorism are now more diverse, or at least less unipolar, than a decade ago. While Islamist extremism is a persistent threat, right-wing terrorism has increased and the will of citizens and states to pursue political aims through disruptive and violent means is increasing. The activity of protesters in Hong Kong and Western countries, demanding democracy and climate change, respectively, has increased the volatility of low-impact, high-frequency events. Also the willingness of foreign governments to enter a grey zone of conflict has increased the potential likelihood and impact of certain scenarios.

There are further challenges in relying on historic frequencies as a proxy for future probabilities. Short return period events, such as riots, arson, shootings or small explosive devices, can be highly volatile, clustering one year and not the next. Long return period events, such as nuclear events or very large vehicle borne explosive devices, have little or no data points to inform frequency. It is understood, however, that these large scale events have remained a threat despite the volatility of smaller event frequencies: it is expected that large scale events will continue to impact insurance markets at a rate independent of broader terrorism frequency.

Recently we have seen a spate of smaller, less sophisticated, acts of terrorism across geographies that involve mass casualties and cause shock and publicity. While the scenarios that could cause property damage are still a threat, there is increasing concern for those that cause mainly disruption and loss of attraction.

Cyber threats are becoming more advanced. WannaCry and NotPetya exposed a systemic risk and affected a broad cross-section of businesses. The former had self-propagated widely, and the latter based on specific targeting of a Ukrainian software programme, which then cascaded to all users. These two events clearly demonstrate the potential for escalation in the impact of cyber attacks. Modern society and the cyber domain in particular, relies on broad networks of connections that enable attacks to have more far reaching impacts.

The evolving market and peril present continuous modelling challenges to an industry that, to a significant degree, is reliant on those models to support underwriting and the deployment of its capital. The conventional terrorism market

has, to a degree, provided a case study for the cyber market to follow as it addresses current challenges relating to identifying and classifying affirmative, silent and non-affirmative coverages. The conventional terrorism market is more mature, however, it is important that modelling is not static between incidents and that it adapts creatively and proactively in identifying new and emerging scenario types.

The structure of a catastrophe model for natural perils is applicable to terrorism and political violence. Modules are required for hazard, exposure, vulnerability and damage and financial impact. The challenge in creating a terrorism risk model is achieving sufficient precision and refinement of each module to make the model credible. Cyber catastrophe loss modelling faces some challenges that are comparable to natural catastrophe modelling but additionally tackles an amorphous risk with little relevant historical data with a rapidly changing nature.

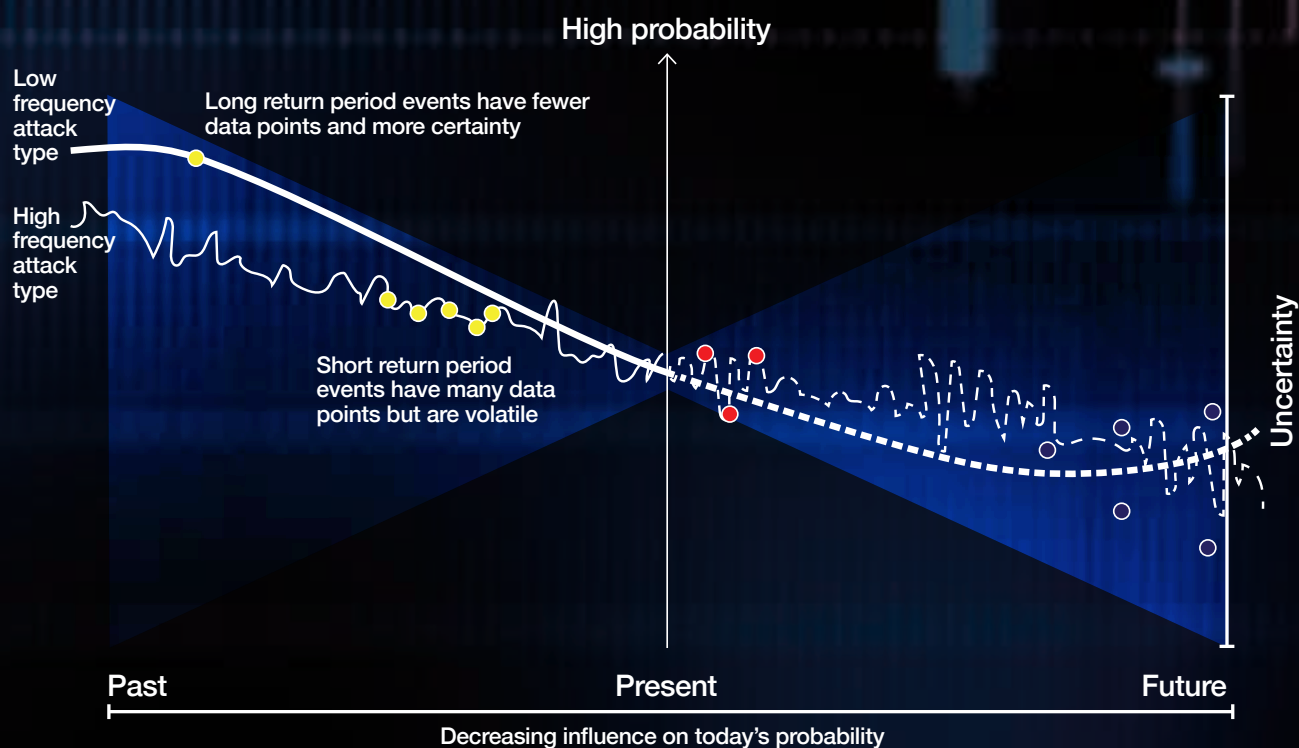
Vulnerability is the most absent element of terrorism risk modelling in the insurance sector, which in this context, is the structures, people and processes most vulnerable to attack. For cyber risks in particular, key single points of failure could lead to the costliest losses, including operating systems providers, email service providers, cloud service providers and critical utilities providers. Vulnerability data would ideally be provided by insureds alongside their schedule of values. If this does not occur, the alternative is for the insurance industry to research and inject the information. Clearly, the quantity of assets being managed highlights the scale of the challenge.

The proprietary terrorism model, Sunstone, addresses these challenges for conventional terrorism and our cyber team are making advances in cyber modelling, utilising a variety of vendor and proprietary tools and models. Sunstone meets this challenge by being truly global; modelling the full spectrum of attack types; continually developing to better represent threat, vulnerability and impact; and, as a result, consistently providing a more credible assessment of loss compared to other models. »



Concentric ring modelling is a reasonable simplification of the effects of a blast in a flat, open field-type location. But insurance exposures rarely exist as such, and most often occur in dense urban environments where an explosive blast may be confined by surrounding buildings, reflected off their surfaces and channelled down canyons of city blocks, shielded by intervening buildings. Guy Carpenter has responded to this challenge by utilising 3D cityscape blast modelling and other sophisticated techniques to accurately model the peril and asset response. The 3D cityscape also provides the environment for accurate modelling of crowd flows and chemical plumes.

Guy Carpenter is working to integrate variable resolutions to impact assessment by employing sophisticated modelling at key areas of risk within a portfolio with more simplistic techniques elsewhere. This approach enables delivery of targeted, sophisticated and efficient exposure management to our clients. This variable resolution approach is also being applied to threat and vulnerability assessment, applying greater effort where market exposure is greatest, in order to achieve increased certainty and precision in these areas. Also, where it is not possible to measure factors directly, correlatory factors can indicate the trend. ■



- Key**
- Historic attacks data (excluding failed and unfulfilled attacks)
  - Immediate and direct influence on near future attacks
  - Correlatory factors for future events

Making an assessment of terrorism probability is a combined assessment of past and future factors. There is less relevance and certainty further back in time and further forward. Data points in the form of historic attacks only indicate part of threat – foiled, failed and otherwise unfulfilled attacks should also be included. Future factors include those with immediate and direct influence and those correlatory factors on the horizon that provide the indirect potential for threat. Short return period events have many data points but are volatile. Long return period events have fewer data points and more uncertainty. As with vulnerability and impact, the variable resolution approach is relevant for threat – applying greater precision to near time probabilities where it is most critical to a client's exposure.



# Turning Risk Into Success | **Growth**

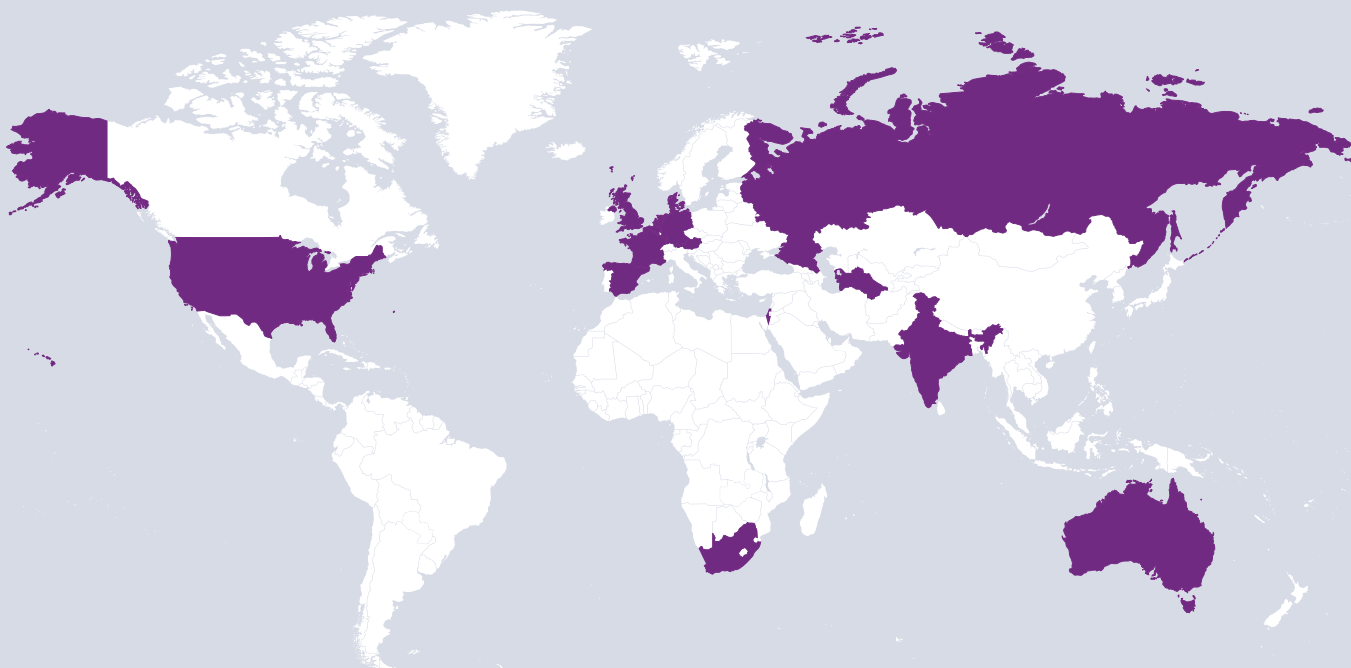
As the public sector seeks to reduce the protection gap and new terror, cyber, flood and climate change threats emerge, data and analytics are advancing our understanding of previously uninsurable or underinsured risks. Guy Carpenter is deploying new modeling platforms, dedicated capital resources and specialized distribution channels to help clients achieve profitable growth.



**MARSH & MCLENNAN  
COMPANIES**



# Summary of pools



## About Willis Towers Watson's Terrorism and Political Violence Practice

With the industry's largest dedicated team of 32 terrorism specialists in London, New York, Dubai and Singapore, we strategically negotiate with the global markets best suited for client's risk profile. As a part of our larger global Financial Solutions team, comprised of more than 160 specialists in the global crisis management space, we support the placement of specialized terrorism, active assailant and political risk insurance for over 1,500 clients worldwide. As a group, we believe the protection of global physical assets, personnel, income streams and networks against the consequences of terrorism and other crisis risks events should be a dynamic process for clients. We are strategic in our placement activities and rely on a combination of advanced analytics, direct market access, placement facilities and captives to ensure that coverage negotiated represents best in class while ensuring economies of scale.

Country/Pool	Scope of cover	NCBR cover	Exclusions
<b>Australia</b> Australian Reinsurance Pool Corporation (ARPC)	Commercial risks, industrial risks, construction risks and farming (where the farmer has business interruption insurance covering their farm)	Chemical and biological covered, nuclear and radiological are not	<b>Perils:</b> Nuclear risks, radiological risks, travel, cybercrime <b>Classes:</b> Residential property, government assets, marine, motor, workers compensation, professional indemnity, life, aviation, prime movers, trailers, railway stock and tram stock, financial products
<b>Austria</b> Oesterreichischer Versicherungspool zur Deckung von Terrorisiken	Most property lines (industrial, commercial and private) other than transport insurance	Not Covered	<b>Perils:</b> Biological risks, chemical risks <b>Classes:</b> Non damage business interruption, liability, marine, aviation and transportation
<b>Belgium</b> TRIP (Terrorism Reinsurance and Insurance Pool)	Most property and casualty lines	Bacteriological and chemical risks covered, nuclear risks are not covered	<b>Perils:</b> Nuclear <b>Classes:</b> Nuclear facilities and energy, railway rolling stock, aircraft, ships
<b>Denmark</b> TIPNLI (Danish Terrorism Insurance Pool for Non-Life Insurance)	NCBR only	Covered	<b>Perils:</b> Non-NCBR <b>Classes:</b> Life insurance
<b>France</b> GAREAT (Gestion de l'Assurance et de la Réassurance des Risques Attentats et Actes de Terrorisme)	Comprehensive cover for damage and business interruption to industrial, commercial and homeowner properties	Covered	<b>Classes:</b> Construction liability, aircraft hull insurance, marine hull, cargo and railway rolling stock insurance, bodily injury, third party liability, non damage business interruption, overseas business interruption
<b>Germany</b> Extremus	Commercial property damage and business interruption	Not Covered	<b>Perils:</b> NCBR <b>Classes:</b> Marine, life, personal accident
<b>India</b> Indian Market Terrorism Risk Insurance Pool (IMTRIP)	Fire, industrial all risks insurance, property section of engineering insurance and property section of package/ miscellaneous insurances	Not Covered	<b>Perils:</b> Loss by seizure or legal or illegal occupation, voluntary abandonment or vacation, loss or damage caused by confiscation, commandeering, nationalization, requisition, detention, embargo, quarantine or result of any public or government authority order, pollutants or contaminants, NCBR, riots, cyber attack, hoax, theft <b>Classes:</b> Non-property risks in fire and engineering, and miscellaneous policies, consequential loss
<b>Israel</b> The Victims of Hostile Actions (Pensions) Law and The Property Tax and Compensation Fund Law	Direct damage to property and household contents	Covered	<b>Classes:</b> State-budgeted body, health, government, higher education, public institutions or non-profit organization
<b>Netherlands</b> Nederlandse Herverzekeringsmaatschappij voor Terrorismeschaden N.V. (NHT - Dutch Terrorism Reinsurance Pool)	Terrorism, malevolent contamination or precautionary measures, or any conduct in preparation for terrorism	Covered	<b>Classes:</b> Aviation hull, aircraft liability, nuclear risks and specific insurances which cover terrorism as a named peril, other than the terrorism clause
<b>Russia</b> RATIP (Russian Antiterrorism Insurance Pool)	Most property and casualty lines	Not Covered	<b>Perils:</b> NCBR, cyberattack <b>Classes:</b> Airplanes/other aerial devices or vessels, ships or riverboats, animals
<b>South Africa</b> South African Special Risk Insurance Association - SASRIA SOC LTD	Personal and commercial property, material damage, business interruption, money, goods in transit, and motor and construction	Not Covered	<b>Perils:</b> Nuclear, chemical, biological and radiological <b>Classes:</b> Life, personal injury
<b>Spain</b> Consorcio de Compensacion de Seguros (CCS)	Most property lines, life, personal accident and business interruption	Implied Coverage	<b>Classes:</b> Third-party liability, transport, construction, aircraft, marine, agricultural and travel
<b>United Kingdom</b> Pool Re	Commercial property damage and business interruption	Covered	<b>Perils:</b> War <b>Limited cover:</b> Computer hacking, virus and denial of service attack <b>Classes:</b> Marine, aviation or transit policies, motor (auto) policies, reinsurance business and life or personal injury insurance
<b>United States</b> TRIP (Terrorism Risk Insurance Program)/FIO (Federal Insurance Office)	Most property and casualty lines	Covered	<b>Perils:</b> War. No other perils are excluded, but a peril excluded by the policy would not be subject to reimbursement under TRIP <b>Classes:</b> Crop insurance, flood insurance, earthquake insurance, private mortgage, medical malpractice, health or life, reinsurance, commercial automobile insurance, professional liability



Premium rates	Reinsurance and government	Compulsory or Elective
<b>Insurance:</b> Insurers can set commercially <b>Reinsurance:</b> Between 2.6% and 16% dependent on location/postcode	<b>Reinsurance:</b> AUD 3,315 billion <b>Government:</b> AUD 10 billion guarantee	<b>Insurance:</b> Compulsory to include cover <b>Reinsurance:</b> Elective for insurers to participate in ARPC scheme
<b>Insurance:</b> Insurers can set commercially <b>Reinsurance:</b> Between 0.75% and 12% dependent on membership	<b>Reinsurance:</b> EUR 100 million (EUR 200 million in the aggregate)	<b>Insurance:</b> Elective for most lines <b>Reinsurance:</b> Elective for insurers to participate in the scheme
<b>Insurance:</b> Insurers can set commercially <b>Reinsurance:</b> Proportional contribution for pool reinsurance and running costs	<b>Reinsurance:</b> EUR 680 million <b>Government:</b> EUR 300 million government surety	<b>Insurance:</b> Compulsory to include cover in mass insurance policies <b>Reinsurance:</b> Elective for insurers to participate in TRIP scheme
<b>Insurance:</b> Insurers can set commercially <b>Reinsurance:</b> Proportional contribution for pool tariff	<b>Government:</b> DKK 13.4 billion	<b>Insurance:</b> Elective <b>Reinsurance:</b> Compulsory for Danish companies who write NCBR cover
<b>Insurance:</b> Insurers can set commercially <b>Reinsurance:</b> Pre-set rates depending on sums insured per policy	<b>Reinsurance:</b> EUR 2.1 billion large risks scheme, EUR 355 million small/medium risks scheme <b>Government:</b> Unlimited guarantee	<b>Insurance:</b> Compulsory to include cover <b>Reinsurance:</b> Compulsory for large risks, elective for small/medium risks
Differentiated by risk class and location	<b>Reinsurance:</b> Purchased within first EUR 2.5 billion market retention <b>Government:</b> EUR 7.5 billion	<b>Insurance:</b> Elective <b>Reinsurance:</b> Elective
Fixed rates are decided by a Pool Underwriting Committee and differentiated by risk class and location	<b>Reinsurance:</b> INR 36 billion in excess of INR 4 billion	<b>Insurance:</b> Elective <b>Reinsurance:</b> Compulsory for all Indian insurers to cede to the pool
Payable by taxes. Additional cover between 0.3% and 4.5% of property value	<b>Government:</b> Percentage of the purchase tax collections allocated to the fund each year	Coverage is guaranteed for all Israeli residents
<b>Insurance:</b> Insurers can set commercially <b>Reinsurance:</b> Proportional contribution for pool reinsurance and running costs	<b>Reinsurance:</b> EUR 750 million <b>Government:</b> EUR 50 million	<b>Insurance:</b> Elective <b>Reinsurance:</b> Elective
Differentiated by risk class and location	<b>Reinsurance:</b> USD 220 million	<b>Insurance:</b> Elective <b>Reinsurance:</b> Elective for insurers to participate, but all members must cede to the pool
<b>Insurance:</b> Between 0.003% and 0.0528% dependent on risk profile <b>Reinsurance:</b> Above rates paid to SASRIA, less a processing fee	<b>Reinsurance:</b> Protection varies by cover <b>Government:</b> ZAR 1 billion guarantee	<b>Insurance:</b> Elective <b>Reinsurance:</b> All terrorism insurance must be purchased via SASRIA
<b>Insurance:</b> Between 0.00025% and 1.63% dependent on risk profile. Flat rates for motor, between EUR 0.30 and EUR 26.60 <b>Reinsurance:</b> Above rates paid to CCS, less a processing fee	<b>Government:</b> State guarantee, never been invoked	<b>Insurance:</b> Compulsory <b>Reinsurance:</b> All terrorism insurance must be purchased via CCS
<b>Insurance:</b> Insurers can set commercially <b>Reinsurance:</b> Between 0.006% and 0.033% dependent on location/postcode	<b>Reinsurance:</b> GBP 6.5 billion <b>Government:</b> surety in case of exhaustion	<b>Insurance:</b> Elective <b>Reinsurance:</b> Elective for insurers to participate, but all members must cede to the pool
<b>Insurance:</b> Insurers can set commercially <b>Reinsurance:</b> No set rates but recoupment plan to apply after a loss	<b>Government:</b> USD 100 billion per year	<b>Insurance:</b> Elective (unless required as a matter of State law) <b>Reinsurance:</b> Elective but automatically available to US licensed insurers

# Agenda 10 October 2019

---

**08.15 Registration**

---

**08.45 Welcome Address:** François Vilnet – Chairman, IFTRIP

---

**08.55 Introductions:** Paula Jarzabkowski, Professor of Strategic Management, Cass Business School, City, University of London

---

**09.00 Keynote Address:** Michaela Koller - Director General, Insurance Europe

---

**09.20 The view from Belgium: Belgian (insurance) landscape** - Hans De Cuyper, CEO, AG Insurance, Chairman ASSURALIA, Belgium

---

**09.40 The view from Belgium: Belgian (threat) landscape** - Stephan van Hauwe, Managing Security Consultant, OpSec bvba

---

**10.15 Session 1: Technology and Modelling How technology can help map terrorism to enable insurers to assess, price and retain risk. (GeoMe, computational fluid dynamics etc.)** Expert panel led by Steve Coates – Chief Underwriting Officer, Pool Reinsurance Company; **Panel:** Mark Weatherhead, Managing Director, Head of Model Development, Guy Carpenter & Company Ltd, Andrew Coburn, Chief Scientist, Cambridge Centre for Risk Studies, Judge Business School, University of Cambridge, Robert Muir-Wood, Chief Research Officer, Risk Management Solutions

---

**11.00 Break**

---

**11.15 Session 2: Cat Bonds Connecting capital markets to reinsurance risk** Florian Steiger, Head of Cat Bonds, Twelve Capital AG

---

**12.00 Session 3: Proposition/Cover** Expert panel led by Dr Christopher Wallace, Chief Executive, ARPC **Panel:** **NBDI** - Michael Burle, Head of Marine, Liberty Specialty Markets; **Motor** - Dominic Clayden, CEO, Motor Insurers' Bureau; **CBRN** - Jerry Smith, Head of Advisory, CHC Global Ltd; **Drones** - Dr Monica Casado, Senior Lecturer in Integrated Environmental Monitoring, Cranfield University; **Biological** - Jake Jordan, Senior Director, NTI

---

**13.00 Lunch**

---

**13.45 Session 4: Cyber** Expert panel led by Julian Enoizi, Chief Executive, Pool Reinsurance Company Ltd; **Panel:** Leigh Wolfrom, Policy Analyst (Insurance), OECD, Conrad Prince – Senior Cyber Adviser, Pool Reinsurance Company Ltd., Eric Durand – Head Cyber Centre of Competence, Swiss Re, Bruce McConnell, Executive Vice President, EastWest Institute, Dr Manuela Zweimueller Senior Advisor on International Affairs, EIOPA

---

**14.30 Session 5: Hot Topics A discussion from the perspective of the customer, the insurer and the broker on the current issues in the terrorism insurance space** Insurer panel led by Emma Karhan, Head of terrorism Specialty and Public Sector Partnerships, Aon UK; **Panel:** Richard Cutcher, Research & Development Manager, AIRMIC, Will Farmer, Strategic Head of Crisis Management, AXA XL, James Edward Skinner, Chief Underwriting Officer, Talbot Underwriting, James de Labilliere, Managing Director, Hiscox MGA

---

**15.30 Break**

---

**15.45 Session 6: What have the extreme right learned from Islamist terrorists?** Suzanne Raine - Affiliate Lecturer, Forum on Geopolitics, University of Cambridge

---

**16.15 Session 7: Radicalisation and victim compensation** Brendan Cox, Co-founder, Survivors Against Terrorism

---

**16.45 IFTRIP Update:** François Vilnet and Julian Enoizi

---

**17.00 Closing Speech:** General Sir James Everard KCB CBE, Deputy Supreme Allied Commander Europe, NATO Supreme Headquarters Allied Powers Europe

---

**17.30 Closing Remarks:** Paula Jarzabkowski, Professor of Strategic Management, Cass Business School, City, University of London

---

**17.40 Drinks reception followed by Gala Dinner:** with guest speaker Jamie Shea, Friends of Europe and University of Exeter, Senior Fellow and Professor of Strategy and Security

---

**23.00 Carriages**



# Speakers



**Antoine Baronnet**  
**The Geneva Association**  
**Deputy Managing Director**  
**and Head of Research**

Antoine was appointed Deputy Managing Director and Head of Research at The Geneva Association on 1 October 2017.

Before joining The Geneva Association, he was Head of Client Business at VP Bank (Luxembourg) SA. From 2008 to 2013, he led the Private Banking Solutions pillar at Zurich Financial Services.

Antoine is an expert in Insurance, Pensions and Private Banking. Prior to joining Zurich, he was CEO of ABN AMRO Life and a Board Member of ABN AMRO Private Banking in Luxembourg. He spent the first part of his career at Athena Assurances France in various senior leadership roles.

Antoine holds an ESSEC IMD MBA and a Bachelor's degree from Sorbonne University in Paris. He is a French citizen.



**Robert Bassett Cross**  
**Adarga**  
**CEO & Founder**

Rob is the CEO and founder of Adarga. Adarga's proprietary artificial intelligence technology allows organisations to analyse vast volumes of data more quickly and accurately. Adarga's software automates time-intensive tasks, and understands and learns from the data it reads but at speeds humans are unable to achieve, transforming the value that users are able to discover in their data.

Adarga was established in 2016 and is based in London and Bristol (UK), with a team of 45 software engineers and data scientists.

Rob is a former J.P. Morgan investment banker and British Army Officer.



**William Braniff**  
**START, University of**  
**Maryland Director**

William Braniff is the Director of the National Consortium for the Study of Terrorism and Responses to Terrorism (START) and a Professor of the Practice at the University of Maryland. He has previously served as the director of practitioner education at West Point's Combating Terrorism Center (CTC) and an instructor in the Department of Social Sciences, as a foreign affairs specialist within the National Nuclear Security Administration, and as an armor officer in the United States Army. Braniff is a graduate of the United States Military Academy and the Johns Hopkins School of Advanced International Study.



**Michael Burle**  
**Liberty Specialty Markets**  
**Head of Marine**

Michael is Head of Marine at Liberty Specialty Markets (LSM). He has over 27 years' experience as an underwriter in Marine, Fine Art & Specie and War & Terrorism insurance. Based in London, he is responsible for managing a global portfolio, supported by an international team of market-leading specialist underwriters accustomed to dealing with high value and often sensitive risks. The risk of terrorist attacks, hijackings, sabotage, war and political instability continues to grow across the globe. LSM War and Terrorism risks are underwritten through Lloyd's of London and through their global distribution network of offices.



**Dr Rachel Anne Carter**  
**The Geneva Association**  
**Director (Cyber)**

Rachel Anne Carter is the Director (Cyber) responsible for cyber research and cyber industry initiatives coordinated by the Geneva Association. She has research, strategy, underwriting, policy, consulting, regulatory and corporate experience. She co-founded the Journal of Terrorism and Cyber Insurance.

Her prior experience includes working at the OCED, Pool Re, Lloyd's, Tokio Marine Kiln, AmTrust International and was a subject matter specialist (cyber terrorism) for Cambridge University Centre for Risk Studies. She is a regular speaker at conferences globally. She began her career as a university academic.

She holds a PhD in Law (Insurance).



**Dominic Clayden**  
**Motor Insurers' Bureau**  
**CEO**

Dominic Clayden joined the MIB as Chief Executive in May 2018. He has been in the insurance industry for over 20 years.

The MIB is at the heart of the fight against Uninsured driving, and manages claims related to Uninsured and Untraced driving. The organisation also provides management services to other industry bodies, especially focused on data asset management.

Dominic joined MIB from QBE, where he most recently held the role of Group Chief Claims Officer. He has also worked at Aviva as their Claims Director for its General Insurance business, and co-ordinated their claims best practice globally.

He has had a leading role in major negotiations in respect of personal injury reform in the UK and represented the Insurance industry at the Advisory Committee on Civil Costs.



**Andrew Coburn**  
**Cambridge Centre for Risk**  
**Studies, Judge Business**  
**School, University of**  
**Cambridge**  
**Chief Scientist**

Andrew leads the research team at Cambridge Centre for Risk Studies that develops scenarios and analytics on emerging risks in business. The team has worked with the UK's Pool Re on extending coverage to cyber-terrorism and with Australian Reinsurance Pool Corporation on cyber risk. Prior to becoming Chief Scientist, Andrew was with Risk Management Solutions, where he led the development of the RMS Terrorism Risk Model. Andrew has a long career in risk analytics, having been one of the leading pioneers of catastrophe models in financial services. His published books include Solving Cyber Risk (Wiley 2019).



**Brendan Cox**  
**Survivors Against Terror**  
**Co-founder**

Brendan Cox is a campaigner for more cohesive communities. In the last two years he has co-founded More in Common, which works to build more inclusive communities in France, Germany, the US and UK; Survivors Against Terror, a group of survivors of UK terror attacks committed to tackling terror and the hatred that leads to it; and the Jo Cox Foundation.

Brendan started work in the aftermath of the civil war in the former Yugoslavia, working with children who lost their parents in the war. He went on to work on conflict and atrocity prevention around the world with Oxfam and later as Chief Executive of the international conflict and genocide prevention organisation Crisis Action. He served as Special Advisor to the British Prime Minister Gordon Brown between 2008 and 2010 where he advised on international development, conflict and foreign policy. He has worked for and advised a number of organisations including Save the Children, the UN and the Bill and Melinda Gates Foundation. Brendan is the husband of the late Jo Cox MP and lives with their two kids on a boat on the River Thames.



# Speakers



**Richard Cletcher**  
**Airmic**  
**Research & Development**  
**Manager**

Richard is research & development manager at Airmic, the association for risk and insurance managers in the United Kingdom. In this role, he oversees the development and production of all content on Airmic's technical agenda. Richard also manages Airmic's Captive Special Interest Group. Prior to joining Airmic in 2019, Richard was editor of Captive Review from May 2014 to November 2018, including two years based in New York. He is an experienced speaker on captive insurance topics in North America, the United Kingdom, Continental Europe and Asia. Richard is also the founder and producer of the Global Captive Podcast.



**Hans De Cuyper**  
**AG Insurance**  
**CEO**

Hans De Cuyper holds a Master Degree in Actuarial Sciences from the University of Leuven (1993) and an Executive MBA in Financial Services from the Vlerick Leuven Gent Management School (2004).

Hans joined Ageas group in 2004 as Director Insurance Management Asia in Hong Kong. In 2007, he moved to Malaysia as Chief Financial Officer in Etiqa Insurance & Takaful, the joint venture between Maybank and Ageas. From 2011 till 2013, he was member of the Executive Committee of Maybank, the leading Malaysian bank, and Chief Executive Officer for Etiqa.

From September 2013 until September 2015, Hans held the position of Chief Financial Officer of AG Insurance, Belgium's leading insurance company.

As from 1 October, 2015, Hans is Chief Executive Officer of AG Insurance. Hans is also chairman of Assuralia (the professional association for insurance companies in Belgium) since end 2016.



**James de Labilliere**  
**Hiscox MGA**  
**Managing Director**

Hiscox Managing Agency (MGA) underwrites specialist risks worldwide on behalf of Hiscox and other capacity markets. This includes Space and Satellite risks, Mega Yachts and International Terrorism risks. Prior to this appointment James was the Group Product Head for War, Terrorism and Political Violence.



**Charlotte Dixon-Sutcliffe**  
**Survivors Against Terror**  
**Chair**

Charlotte Dixon-Sutcliffe is a trained therapist. She spent over a decade working with vulnerable adults, specifically those with substance misuse and alcohol issues within the criminal justice system and non-statutory settings.

After her partner David, was killed in the Brussels terrorist attack in 2016, she co-founded Survivors Against Terror. This group aims to be a voice for those that have been affected by terrorism. Survivors Against Terror campaigns to ensure that these survivors get the support they need and for there to be more effective policies in place to tackle terrorism. She is the current Chair of the group.



**Rowan Douglas**  
**Willis Towers Watson**  
**Head of Capital, Science & Policy Practice**

Rowan is Head of Capital, Science & Policy Practice at Willis Towers Watson, supporting the management, regulation and financing of risks from climate, terrorism, cyber and other perils. Previously, he served on the Board of the Group's reinsurance division, Willis Re, as CEO Global Analytics and was appointed onto the UK Prime Minister's Council for Science & Technology 2011-2016. He founded the Insurance Development Forum with the World Bank, UN and global industry leaders in 2015 to address the UN 2030 Sustainable Development Goals and Paris Agreements. He received a CBE in 2016 for services to the economy through risk, insurance and sustainable growth.



**Eric Durand**  
**Swiss Re**  
**Head Cyber Centre of Competence**

Eric Durand joined Swiss Re as a research scientist for Natural Catastrophes. He then worked for Swiss Re Australia as a cat specialist for two years before returning to Zurich as Underwriting Manager for Property/Casualty business and then as Chief Underwriting Officer for the Iberian Peninsula in Madrid for three years. In 2014 Eric transitioned to Swiss Re's Group Underwriting to shape the Cyber Centre of Competence at Group Level. Eric Durand grew up in Neuchatel (Switzerland) and graduated in Electrical Engineering at the ETH in Zürich. He holds a PhD from the same institution in Biomedical Engineering.



**Francisco Espejo-Gil**  
**Consorcio de**  
**Compensacion de Seguros**  
**(CCS)**

**Deputy Director, Studies and International Relations**  
 Deputy Director for Studies and International Relations at CCS since May 2018, joined CCS in 2015 as Senior Expert in Natural Hazards after a 22 year-long career as a meteorologist and climatologist at Spain's National Weather Service. Francisco has a Master's Degree in Physical Geography.



**General Sir James Everard** KCB CBE

**NATO Supreme Headquarters Allied Powers Europe Deputy Supreme Allied Commander Europe**

General Everard commissioned into the 17th/21st Lancers in 1983 and spent his formative years in the British Army on the Rhine as a Cavalry Officer. He has commanded at every level of the British Army and in March 2017 assumed the role of Deputy Supreme Allied Commander Europe. He is primarily responsible for generating military capabilities for NATO missions, operations and activities.

An avid reader of history, he is interested in military symbology – collecting badges from around the world. He enjoys dog walking, swimming, skiing and shooting. He is married with three children.



## Speakers



**Chris Holt**  
**CHC Global**  
**CEO**

Chris is the CEO of CHC Global, having founded the business in 2016. He is widely recognised in the field of terrorism, political violence, kidnap for ransom and hostile environment risk management and insurance. He has led the development of a number of award-winning insurance technology platforms, designed to leverage data to form a better understanding of complex risks. As well as leading the business, Chris runs our partnerships and portfolio activity and our Special Projects work. Chris joined the London insurance market in 2008 after an initial career in the British Army.



**Richard A. Ifft**  
**Federal Insurance Office,**  
**United States Department**  
**of the Treasury (Terrorism**  
**Risk Insurance Program)**  
**(TRIP)**

**Senior Insurance**  
**Regulatory Policy Analyst;**  
**responsible for day to day**  
**administration of TRIP**

Richard Ifft joined the Federal Insurance Office (FIO) of the U.S. Department of the Treasury in June 2015 as a Senior Insurance Regulatory Policy Analyst. FIO administers the Terrorism Risk Insurance Program (TRIP), and Richard's principal responsibility is with respect to the general administration of TRIP, including a variety of issues arising from TRIP's reauthorization by Congress in January 2015. An attorney, Richard was previously a partner with the Washington D.C. firm of Wiley Rein LLP where he was a member of the firm's insurance practice group. Prior to his government service, he represented and advised direct insurers and reinsurers for 30 years regarding a range of contract and regulatory matters and related business issues, involving both domestic and international insurance disputes and regulatory matters. He has a B.A. from The College of William & Mary in Virginia, and received his J.D. from the Georgetown University Law Center. He is married with one daughter.



**Paula Jarzabkowski**  
**Cass Business School,**  
**City, University of London**  
**Professor of Strategic**  
**Management**

Paula Jarzabkowski is Professor of Strategic Management at Cass Business School, City, University of London and University of Queensland Business School. Professor Jarzabkowski is an expert in insurance and reinsurance markets, having studied different aspects of the global industry, and released a range of industry reports, Masterclasses, academic papers, and a widely acclaimed book "Making a Market for Acts of God" with Oxford University Press. Her current research examines how Governments and Markets around the world can better work together to address the growing threat of natural and manmade disaster, and to increase the links between insurance and resilience.



**Jake Jordan**  
**Nuclear Threat Initiative**  
**(NTI)**  
**Senior Director**

Jake Jordan is NTI's senior director for global biological policy and programs, supporting NTI's work to improve biosecurity innovation and reduce biological risks associated with advances in technology.

Jordan previously consulted a senior science and technology advisor for the U.S. Defense Advanced Research Projects Agency (DARPA). There, he assisted strategy and planning for a research and development portfolio of emerging biotechnologies including synthetic biology and gene editing as well as infectious disease and pandemic prevention.

Jordan holds a Ph.D. and M.S. in Chemical Engineering from the University of Virginia and a B.E. in Chemical Engineering from Vanderbilt University.



**Emma Karhan**  
**Aon**  
**Head of Terrorism**  
**Specialty & Reinsurer**  
**Relationships London**

Emma joined Aon in 2018 to head up the Terrorism Specialty and also the Public Sector Partnerships for Aon UK. She joined from GC where she had built the terrorism specialty to be the market leader. She has worked with all the major reinsurance pools in various stages of their development.

Aon under Emma's leadership is looking to broaden their offering in terrorism to look at areas associated with the evolution of terrorism threat.

Emma spent 15 years at Guy Carpenter working in both New York and London, and latterly in leading client management for the Nordic Practice in the EMEA division. She began her career as an underwriting assistant in Sydney working for ReAC and then moved to New York to work as a consultant for KPMG Insurance Practice. She joined Guy Carpenter in New York in the Global Retrocession team, moving to London with GC 2 ½ years later.



**Michaela Koller**  
**Insurance Europe**  
**Director General**

Michaela Koller is director general of Insurance Europe, the European insurance and reinsurance federation. She is also secretary of the Global Federation of Insurance Associations (GFIA).

She chaired the Insurance and Reinsurance stakeholder group of the European Insurance and Occupational Pensions Authority (EIOPA) during its first two-and-a-half-year mandate and she was a member of EIOPA's Occupational Pensions stakeholder group for the last two mandates. She is currently vice-chair of EIOPA's Insurance and Reinsurance stakeholder group and testifies regularly at hearings organised by EU institutions.



**Daniel Marshall**  
**California Earthquake**  
**Authority**  
**Special Consultant**

For 22 years General Counsel and Director of Legal & Compliance for the California Earthquake Authority, I now consult with CEA on selected projects, including matters of state and federal legislation, and (under contract) with the Government of Canada, Department of Finance.



**Bruce W. McConnell**  
**EastWest Institute**  
**Executive Vice President**

Bruce McConnell is the Executive Vice President of the EastWest Institute. He leads and manages the institute's work to prevent and mitigate security conflict among nations, engaging with government and corporate policymakers in China, Europe, the Middle East, Russia, South Asia and the United States. Prior to becoming EVP, McConnell led EWI's Global Cooperation in Cyberspace program, working with governments and companies to increase the safety, security and stability of life in cyberspace. McConnell joined EWI in 2013, having served for four years at the U.S. Department of Homeland Security, where he was Deputy Under Secretary for Cybersecurity.



# Speakers



**Barry McConway**  
**Pool Reinsurance**  
**(Nuclear) Ltd**  
**CEO**

Currently CEO PRNL since 2010. Previously with RSA principally as Commercial Insurances Director for the European Division and Director Marine Division.



**Robert Muir-Wood**  
**Risk Management**  
**Solutions**  
**Chief Research Officer**

Robert has more than twenty five years experience of catastrophe risk modelling for a wide range of perils and geographies and was at the heart of the work to develop the original RMS probabilistic terrorism insurance risk model. He has the mission to identify how to build better risk models, to develop new areas of risk modelling and identify new applications for the models. He is the author of more than two hundred articles and blogs, and seven books: including most recently 'The Cure for Catastrophe, how we can stop manufacturing natural disasters'. He was lead author for two IPCC Assessment reports on climate change impacts and is Chair of the OECD's High Level Advisory Board for the Financial Management of Catastrophe Risks.



**Conrad Prince**  
**Pool Reinsurance**  
**Company Ltd**  
**Senior Cyber Adviser**

Conrad Prince is senior cyber adviser to Pool Re. Between 2008 and 2015 he was the Director General for Operations at GCHQ, the UK's cyber intelligence and security agency, and the deputy head of the organisation. From 2015 to 2018 he was the UK's first Cyber Security Ambassador, leading capacity building work on cyber security with key international partners of the UK. Since leaving Government service in 2018, he has taken on a range of cyber security advisory roles including with British Aerospace and Nationwide Building Society. He is a Distinguished Fellow of the leading UK think tank, the Royal United Services Institute.



**Suzanne Raine**  
**Forum on Geopolitics,**  
**University of Cambridge**  
**Affiliate Lecturer**

Suzanne worked for 24 years in the Foreign and Commonwealth Office on foreign policy and national security issues. This included postings in Poland, Iraq and Pakistan. She specialised in counter-terrorism, holding a number of senior domestic appointments, including as Head of the UK's Joint Terrorism Analysis Centre from 2015-17. She was also a senior member of the government assessment community. She is now an affiliated lecturer at the Forum on Geopolitics in Cambridge.



**Julien Rencki**  
**French Guarantee Fund**  
**Managing Director**

Julien Rencki has been Managing Director of the French Guarantee Fund since 2016. He spent most of his career in the French Ministry of Economy and Finance. Since 2012, he has served as the Prime Minister's Economic, Financial and Corporate Advisor and then as Secretary General for Policy Modernization. At age 49, he is an alumni student of the Ecole Nationale d'administration (ENA) and holds diplomas from the Institut d'études politiques (IEP) and the University of Paris (law department).



**Dr Monica Rivas Casado**  
**Cranfield University**  
**Senior Lecturer in**  
**Integrated Environmental**  
**Monitoring**

Dr Monica Rivas Casado is a Senior Lecturer in Integrated Environmental Monitoring with expertise in the application of statistics to environmental data. Her academic career has been built around the integration of emerging technologies, advanced statistics and environmental engineering for the design of robust monitoring strategies.

Monica has an MSc in Environmental Water Management and a PhD in applied geostatistics from Cranfield. She is a Chartered Environmentalist (CEnv), a Chartered Scientist (CSci), a Chartered Forestry Engineer and a Fellow of the Higher Education Academy (FHEA). She holds a Postgraduate Certificate (PGCert) in teaching and learning and a National Examination Board in Occupational Safety and Health (NEBOSH) qualification. Monica is a fully qualified RPQs (drone) pilot.

She is currently leading Research Council (RCUK) and industry funded projects on the use of emerging technologies and statistical science for robust environmental monitoring. She is the Cranfield lead for the Building Resilience Into Risk Management (BRIM) EPSRC Grand-Challenge network (2015-2019).



**Jamie Shea**  
**Friends of Europe and**  
**University of Exeter**  
**Senior Fellow and**  
**Professor of Strategy and**  
**Security**

NATO official from 1980 until 2019  
 NATO Spokesman 1993 to 2000  
 NATO Director of Information and Press 2000 to 2004  
 NATO Director of Policy Planning 2004 to 2010  
 NATO Deputy Assistant Secretary General for Emerging Security Challenges 2010 to 2018.



**James Edward Skinner**  
**Talbot Underwriting**  
**Chief Underwriting Officer**

CUO of Talbot and Board member. Joined Talbot in 1990, became Active underwriter in 1996 shortly after they were acquired by Validus. Joined the Board in 2010.

Throughout his time Underwriting he has written Terrorism business and represented Talbot on the Lloyd's Terrorism Panel, also represented Talbot on the Marine War committee.

Talbot has participated on many of the Government Terrorism Pools, hence being well positioned to represent Talbot at the International Federation of Terrorism Pools (IFTRIP) annual conference.



# Speakers



**Jerry Smith**  
**CHC Global**  
**Head of Advisory**

Jerry is a Senior Partner and Head of Advisory at CHC Global. A former bomb-disposal officer and WMD inspector, Jerry has over 30 years' experience of risk management, crisis response and organisational resilience within the British Military and UK Civil Service as well as the United Nations and the Private Sector. He has worked globally; including in some of the most challenging non-permissive environments. Jerry holds an MBA and BEng(Hons) as well as PGDip in Weapon Effects on Structures. He is a member of the Institute of Explosive Engineers and a visiting fellow of Cranfield University.



**Florian Steiger**  
**Twelve Capital AG**  
**Head of Cat Bonds**

Florian Steiger joined the portfolio management team of Twelve Capital in May 2017 with a principal concentration on Catastrophe Bond strategies.

Prior to joining the firm, Florian worked in London and Zurich in various roles in fixed income and structured credit. Florian started his career at Goldman Sachs in London as part of the bank solutions and credit structuring team with a focus on regulatory capital relief transactions, where Goldman Sachs acted as principal investor. Afterwards, Florian joined ZAIS Group, a structured credit hedge fund, before moving to Zurich to set-up and manage the Cape Fixed Income Fund at Cape Capital, a multi-family office and asset manager. Florian's focus throughout his previous positions has been structured and illiquid credit, such as CLOs and credit derivatives, as well as subordinated bonds of European financials.

Florian holds a B.Sc. degree in Management & Finance from the European Business School in Germany. During his studies, Florian spent time abroad studying at Harvard University in the US and undertook internships at McKinsey and HSBC.



**Hans van der Wouden**  
**Nederlandse**  
**Herverzekeringsmaats-**  
**chappij voor**  
**Terrorismeschaden**  
**NV (NHT)**  
**Manager NHT**

Hans is manager of the Dutch Terrorism Pool.

Hans joined the Terrorism Pool in 2015. Prior to joining the Pool Hans worked as a senior specialist insurances at BAVAM, a Dutch professional indemnity insurance company. He was involved in both claims handling and underwriting. Prior to BAVAM he was manager liability and casualty underwriting at AXA in the Netherlands. Prior to AXA he was Manager claims handling at Nieuw Rotterdam, an industrial insurance company.

Hans is a graduate of the University of Rotterdam on Dutch Law and the University of Montpellier on International Nuclear Law.



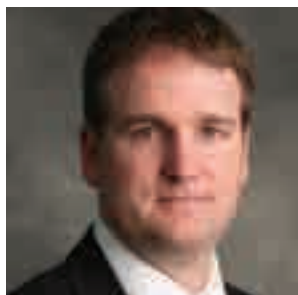
**Stephan Van Hauwe**  
**OpSeC bvba**  
**Managing Security**  
**Consultant**

Stephan started his career with the private security company Securitas, after which he was recruited as a Special Investigator for the DSS/Regional Security Office at the US Embassy in Brussels. Securitas hired Stephan again to manage Proximus, the largest telecom operator, the US Army bases and the European Parliament. Stephan then started his own security consultancy firm specialising in large national and international companies and organisations facing complex and dynamic threat landscapes.



**Dr Christopher Wallace**  
**Australian Reinsurance**  
**Pool Corporation (ARPC)**  
**Chief Executive**

Chris is Chief Executive of Australian Reinsurance Pool Corporation, a public sector owned reinsurer of commercial property losses for terrorism incidents. He is a Board Member of MIPS Insurance Pty Ltd, a medical indemnity insurer. Chris is a Member of the OECD High-Level Advisory Board on the Financial Management of Catastrophic Risks. His previous roles have included leadership and consulting roles in the insurance sector. Chris has a Doctor of Philosophy in Economics, is a Fellow and Certified Insurance Professional of the Australian and New Zealand Institute of Insurance and Finance and is a Graduate of the Australian Institute of Company Directors.



**Mark Weatherhead**  
**Guy Carpenter &**  
**Company Limited**  
**Managing Director, Head**  
**of Model Development**

Mark Weatherhead joined Guy Carpenter in 2006 and is Head of Model Development in London. Mark leads a dedicated team responsible for the development of catastrophe models used to quantify risk and price reinsurance for countries and perils where commercial models are unavailable or unsuitable. Before joining Guy Carpenter, Mark worked as an environmental scientist at the National Institute of Water and Atmospheric Research in New Zealand where he specialising in risk and resource management consultancy. Mark holds a Master of Science degree in Environmental Science from the University of Canterbury, New Zealand.



**Leigh Wolfrom**  
**Organisation for Economic**  
**Cooperation and**  
**Development (OECD)**  
**Policy Analyst (insurance)**

Leigh Wolfrom is a policy analyst in the OECD's Directorate for Financial and Enterprise Affairs, focused on undertaking research and policy analysis on the financial management of disaster risks. In this role, he has provided analysis and reports to the OECD Insurance and Private Pensions on a variety of disaster risk financing issues, including the financial management of flood risk, the contribution of reinsurance markets to managing catastrophe risks and financial instruments for managing disaster risks related to climate change. He recently developed a report on the cyber insurance market, examining the types of coverage available as well as the challenges to the further development of the market, and is currently examining the availability of insurance coverage for cyber-terrorism. Prior to joining the OECD, Mr. Wolfrom worked in the Financial Sector Policy Branch at the Canadian Department of Finance and at Global Affairs Canada on international financing issues. Mr. Wolfrom has an M.A. in International Affairs from Norman Paterson School of International Affairs (Carleton University) and a B.A. in Economics from the University of British Columbia.



**Dr Manuela Zweimueller**  
**EIOPA**  
**Senior Advisor on**  
**International Affairs**


Manuela was recently appointed Senior Advisor on International Affairs. She represents EIOPA globally, and is a member of the IAIS Policy Development Committee. Previously, as Head of Department, she was responsible for EIOPA's regulatory and policy tasks in insurance, pensions, consumer protection & financial innovation as well as for cross-sectoral topics such as PEPP.

Prior to EIOPA, she worked for more than 15 years in the (re) insurance industry, in various senior management positions, including responsibility for accumulation control and cross-balance sheet catastrophe scenarios such as pandemic, terrorism and climate-related disasters.

Manuela holds a PhD in Biochemistry and a Certificate in Economics for Scientists from the University of Hagen.



## Notes



## Predicting and managing exposures from terrorism events remains a complex challenge.

Our approach allows us to develop crisis response and risk transfer solutions that respond to and reflect the changing terrorism risk landscape. This ensures you have the most appropriate and cost effective risk management strategy.

**Let's talk about how we can help you unlock your potential.**

Learn more at:

**[www.willistowerswatson.com](http://www.willistowerswatson.com)**



## Notes

A background image showing a person's face and hand interacting with a digital network overlay. The person's hand is pointing upwards, and the network consists of white lines connecting various points, creating a mesh-like structure over the person's face and hand. The overall color palette is blue and white, with the network lines being white and the background being a soft blue.

Your  
vision

+

Our  
know-how

=

Different  
solutions for  
new realities



Progress always offers the same choice: to embrace new technologies or not. Our choice is to do what we always have done and develop a keener understanding of what new technologies mean for the global risk landscape. By doing so we can harness new opportunities for our clients and stakeholders but also help them deal with the risks. To us, change means finding ways of doing things better. Whether that is refining risk assessments, developing new risk transfer mechanisms or reducing the protection gap. In a constantly changing world, we offer the stability of a partner you can trust to keep you ahead of the game. **We're smarter together.**

[swissre.com](https://www.swissre.com)



## Notes



# Get involved

Join the event



Ask questions



Vote on live polls



For this event, we will be using Slido, an interactive platform for audience questions and voting!  
Ahead of the event please follow these simple steps to get you ready:

Take out your phone

Go to the web address: [slido.com](https://slido.com)  
(It works on any device and you don't need to install anything)

Enter the event code: IFTRIP19

You can then vote on poll questions and ask some of your own.

Also available to download from:





## Notes

# adarga



Adarga develops powerful AI analytics technology to help organisations analyse huge amounts of data - discovering deep insights and driving faster, better decisions.

Our products enable organisations to harness the power of natural language processing and machine learning to effectively and efficiently deal with complex data.

The result? Our customers stay ahead of fast evolving situations, make better decisions and anticipate emerging threats.

This is actionable intelligence. This is Adarga

[adarga.ai](https://adarga.ai)





**In the spirit of our desire to form closer international working relationships, we are pleased to be able to round off the event with an evening of excellent locally-sourced food, fine wine and grand company here in the heart of Brussels.**

Experience the city's rich culture as we spend the evening in The Ballroom of the majestic venue, Concert Noble. Breathe in the perfume of lavish balls, hear the notes of grandiose concerts, and feel the pomp of royal weddings.

Imagine the world's greats who have walked on the sublime floors before us; King Baudouin, the Shah of Iran, Lord Mountbatten, Monseigneur Forni and the Dalai-Lama to name but a few!