BUILDING BLOCKS

Real Estate: risk and reward

Risk. Reinsurance. Human Resources

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INTRODUCTION: BROADENING HORIZONS

Whether you gravitate towards yield or appreciation, the highly transactional world of real estate is ripe with risk and reward. These transactions are driven by factors that are perpetually evolving, making mitigating risk fundamental to success and knowing what to prepare for crucial.

Globalisation has undoubtedly transformed the real estate industry in countless ways. With the shifting landscape and continued growth, all of the major players in the real estate industry – owners, developers, investors, and brokers – have been forced to broaden their horizons, expanding operations and transitioning from local markets to a worldwide base. But what are the driving factors pointing us to the global market?

There are a multitude of factors propelling market trends:

- New construction materials
- Foreign investment
- Rising middle class
- New technologies
- Political uncertainties
- Emerging economies
- Changes within households
- Restructuring business operations
- Urbanisation & growing communities
- Lifestyle
- Lowering unemployment rates
- Offshoring
- Millenial market share

Understanding how these drivers may change the demand within the real estate world is essential to conducting high-yielding industry plays. Additionally, as pricing in first tier markets begins to peak, many investors will aggressively seek opportunities in secondary and tertiary markets, locally and internationally, as well.

Through all of the uncertainty, one constant we can rely on is that the market trends will continue to evolve. This means that real estate investors must adapt in order to survive. By anticipating this need, firms can maintain a competitive advantage and ensure they are prepared to act and transact. This brochure provides an overview of the industry's challenges as well as Aon's available resources and ways we can support your organisation. We have the capacity, capabilities and extensive network to offer global platforms and match the needs of any organisation's international assets. Our goal is to protect our clients' portfolios and manage risk, while allowing real estate firms to focus on securing higher yields.

Kevin Madden, *Aon New York*

WAKING UP TO CYBER RISK

As technological innovation continues to become an area where companies seek to create a competitive advantage, it is no coincidence that cybercrime is also fast becoming a global epidemic.

There is a direct link between innovation and cyber risk and while the pace of change should not be shackled by security fears, there is a clear need to address this evolving challenge. As the costs associated with major cybersecurity breaches continue to hit the headlines globally, businesses are becoming increasingly aware of the need to insulate themselves against cyber risks.

The real estate sector is lagging behind others in terms of its purchase of cyber insurance, with comparisons to power, oil, gas, energy and utility providers - all of which have a clear failure to supply exposure – providing some indication of the gap. However, as buildings become increasingly connected to the internet, this stance is becoming dangerously outdated and the industry now faces several major cyber challenges.

Innovation versus risk

One major area of innovation within real estate has been intelligent buildings and the use of building management systems (BMS) and data centre infrastructure management systems (DCIM) to manage and control heating, lighting, lifts, escalators and even access control in buildings.

Despite their growing interconnectedness, these systems still tend not to fall under the remit of IT teams and therefore do not undergo the same rigorous security governance as traditional IT systems. The industry remains reluctant to invest in expanding IT security infrastructure, leaving these systems vulnerable. Consequently, it is unsurprising that entities involved in organised crime, extortion, terrorism or even pure mischief view these systems as soft targets.

Hackers are becoming increasingly adept at scanning networks to pinpoint exposed systems. There was a recent incident in Finland where the BMS of two buildings were hit by a cyber-attack. The attack temporarily disabled the computer systems that controlled the central heating and hot water distribution of both buildings and, in an attempt to repel the attacks and remain functional, the targeted systems went into an endless cycle of rebooting, leaving residents without heating for two days.

Much has been written about SMART metering, which provides yet another way to access information about how buildings operate. While there are numerous benefits to having greater access to data in order to optimise energy use, the use of smart meters can provide another gateway for hackers.

Labelled by some experts as dangerously insecure, SMART meters communicate with networked devices inside buildings and if a hacker can infiltrate the internet, then in theory there would be nothing to stop them controlling any of these devices.

Beacon technology has been heralded by Business Insider as “the fastest growing in-store technology since mobile card readers”. Shopping centres and other structures are increasingly taking advantage of this new technology, primarily to track shopper activity.

This location-based software uses low energy Bluetooth technology and has proven incredibly popular with retailers looking to target their advertising and discounts directly to customers.

The problem lies in the fact that the data submitted by these beacons can be used not only by legitimate software applications, but also by malware programmes, which in turn can be accessed by hackers intent on using this information to target individuals.

Limiting access

As technology continues to evolve, it is clear that accessibility is likely to become the most important issue when it comes to cyber protection. As buildings become ever more interconnected, the number of entry points for would-be hackers is only set to increase. Building managers should be concentrating their immediate efforts on limiting accessibility, but the list of major attack vectors remains lengthy. All too often the situation is compounded by: weak passwords; lack of intrusion detection; systems that do not send alerts to an organisational cyber security event and incident management (SEIM) system; and a lack of round the clock monitoring and dated technology.

Organisations that are ahead of the curve are already treating these systems as critical IT infrastructure. This means they reap all the benefits that come with this, including access to experienced IT teams that will work to remove the weak links in the infrastructure. For example, if one of these industrial control systems is insecure, the team will project manage a replacement as they would with any insecure IT infrastructure. Everything is connected on today's networks and any connected system could potentially be compromised. This is especially daunting when we are considering critical infrastructure like BMS, DCIM and resources and utilities.

Cyber protection

At present, there is a lack of buy-in from real estate owners regarding cyber protection and this is likely due to the inability of the insurance market to clearly articulate a cyber strategy linked to real estate specific risks. It is apparent that there is an opportunity to develop a more focused solution and this is an area Aon is currently exploring in great detail.

For the time being, take-up is likely to be a slow burn as the industry plays catch-up compared to more obviously exposed sectors like finance and energy. There are already the tools and resources that the industry needs from an IT security and resiliency perspective; it is a matter of finding the budget, desire and resources to implement them in the face of rising exposure to cyber attack.

Stefan Toi, *Aon New York*
Fergus Brooks, *Aon Sydney*

Cyber crime: by the numbers

USD 3 trillion

Global annual cost of cyber attacks in 2015

USD 4 million

Average cost per breach
(USD 7 million in the US)

USD 80 trillion

Global spending to combat cyber crime in 2016

Sources: Cybersecurity Ventures, Ponemon Institute and Gartner

FOUR STEPS TO *REDUCING* YOUR CYBER **VULNERABILITY**

1

Identify your critical assets and have alignment from the board and executive team down to the individuals who are responsible for protecting them. Organisations must assess what data is critical, where it is stored, how it flows across the organisation, and who really needs access to it. This could include customer data and intellectual property which could be stolen, or operating and manufacturing technology which could be sabotaged.

This can help to serve as the foundation for any organisation as they develop, test, and validate their security programme. Furthermore, organisations must recognise the impact to the business should these critical assets be compromised and be prepared to respond to limit the impact to the organisation while restoring normal business operations.

2

Conduct a comprehensive risk assessment. Once alignment on critical assets has been established from the top down, it will be easier to pinpoint vulnerabilities and assess cyber preparedness. Organisations should review cyber security deficiencies and vulnerabilities across all key enterprise areas, including business practices, information technology, IT users, security governance, and the physical security of information assets. Risk could also manifest itself as losses due to business interruption or reputational damage.

3

Take a holistic approach to cyber governance. Mitigating cyber risk is not just an issue for IT teams. The scope of risk means that guarding against attacks should involve key players across all enterprise functions and entities. Educating employees and leaders at all levels on the scale of risk, and getting in place provisional crisis plans will help build a truly cyber-resilient organisation.

4

Keep your defences sharp. A secure environment requires ongoing validation and can become vulnerable in an instant. Deploy techniques such as pen testing or red teaming exercises to ensure your applications, networks and endpoints aren’t vulnerable.

Rocco Grillo, *Stroz Freidberg New York (An Aon company)*

ENVIRONMENTAL CHALLENGES

Environmental liabilities are a concern for every firm in the real estate sector and the exposures facing our clients are diverse.

According to the National Association of Real Estate Investment Trusts and the Multi-Family Housing Counsel, liability for environmental exposures is one of the largest, and most frequently, uninsured risks within the industry. The scope for financial loss is vast and may arise from a multitude of sources, but of particular concern are the development of brownfield sites and indoor air quality.

Developing brownfield sites

Environmental risks can pose a significant challenge in the development of brownfield sites. Depending on the prior use of the site and the historical contaminants, brownfield sites often require careful management to minimise impacts to the community and environment.

Despite the uncertainties around historic contamination, there is now a strong focus on brownfield redevelopment in many countries. A strong market encourages demand for property and, as this has increased, the supply of property has shrunk.

As greenfield land has become more scarce, the real estate industry has had no choice but to focus its attention on the redevelopment of former industrial areas.

This is especially true in Australia, New Zealand and other Asia Pacific countries. Barangaroo is Sydney's largest redevelopment project on land that is highly contaminated, located on the edge of the central business district with broad access to the harbour. This former container port is currently being developed into an economic centre, incorporating the desire for vibrant mixed-use communities.
Barangaroo is owned by the New South Wales (NSW) State Government, extending over 22 hectares, with an approximate transformation cost of AUD 6 billion and completion date of 2023. It is anticipated that the waterfront precinct will inject more than AUD 1.5 billion into the NSW economy annually.

With brownfield redevelopment, regulation plays a key role in how historic or legacy contamination is adequately managed and remediated. Contaminated sites can be anywhere, but typically they are clustered in areas which have been used for heavy industrial activities such as fuel terminals, chemical manufacturing, gasworks and power stations.

Regulation has relaxed somewhat towards the remediation and re-use of contaminated industrial properties, meaning that clean-up and development are possible on properties that require substantial expenditures to correct historic pollution conditions.

Barangaroo Reserve, Sydney

Clean ups to industrial standards for sites that will remain industrial, lower cost remediation alternatives and less complications with governmental supervision; have encouraged developers to look at sites that would have been nearly impossible to clean up a decade ago.

A strict regulatory framework nevertheless still generally applies for former industrial sites which are to be redeveloped into residential or commercial use in order to protect future parties.

Processes vary from country-to-country but generally, the environmental regulatory agency or local council will need to be engaged for approval and sign-off on development plans. Detailed investigation and characterisation of the existing contaminants allows informed decisions to be made with respect to remediation, and in certain countries, it is common practice for jurisdictions to use a third party "site auditor" to evaluate and validate proposed investigation and remediation plans.

In addition, it is extremely important to have effective stakeholder and community consultation with contaminated sites as stakeholders increasingly desire to have more involvement in remedy decisions. Financing can be difficult to obtain from lenders who are wary of contaminated sites. Another aspect of contaminated sites is that even when remediated, there is the potential for 're-openers' as goal posts move and 'new' contaminants are recognised.

Environmental insurance has played a vital role here too, offering long-term protection against third party claims, regulatory reopeners and natural resource damage claims. The market has also developed in combination with indemnity agreements to protect purchasers when sellers retain responsibility for clean-up obligations.

Due diligence is no longer a tick-box exercise and higher end skill sets are needed to assess and address the complexities of contaminated sites. Some companies have found themselves in the position of being an unwitting owner of contaminated land through prior acquisitions without adequate due diligence.

Increasingly, multi-year transactional environmental policies are being placed to minimise the exposures from legacy contamination. These policies can be placed for the buyer, seller or in some cases both parties. In order to place these transactional environmental policies, insurers must be provided with detailed information on the baseline site conditions.

Contractors' pollution liability policies will provide a response to pollution events from demolition and construction activities.

Indoor air quality

While historically more attention has been paid to raising awareness of outdoor pollution, poor indoor air quality (IAQ) is fast becoming a global concern and the World Health Organisation (WHO) estimates that 4.3 million people die a year from exposure to household pollution.

The US Bureau of Labor Statistics states that, on average, people spend at least 10 hours a day in their homes and eight hours at work, equating to over 75% of the day indoors. Since the 1950s, buildings have been designed to be more airtight but the trend hasn't necessarily been offset by increased ventilation. This has led to a build-up of carbon dioxide and other pollutants and the term Sick Building Syndrome was first used in the 1980s. In 1984 the WHO stated that up to 30% of new and remodelled buildings worldwide may be subject to excessive complaints related to IAQ.

Case study: London Olympics 2012

The regeneration of the land included:

2,200 separate land interests and a diverse range of contaminant sources.

The enabling works included over **3,500** sampling locations, creating more than **5 million** chemical test results.

In total, **2.2 million square metres** of soil was excavated, of which **764,000 square metres** was treated by soil washing, chemical stabilisation, bioremediation or sorting.

80% of the excavated material was re-used onsite as engineering fill, while **2,500 litres** of free product (hydrocarbon) was removed and **235,000 square metres** of contaminated groundwater pumped and treated.

As part of the post-2012 legacy, the site has become the largest new urban park in Europe, with **100 hectares** of open land and **45 hectares** of new habitat.

Some **2,800** new residents have now moved into the Athletes' Village.

Source: atkinsglobal.com

Sick Building Syndrome

Sick Building Syndrome (SBS) can be temporary, but tends to have long-term consequences for affected buildings.

The majority of indoor activities and new furnishings produce gases or particles of some form that can lead to SBS.

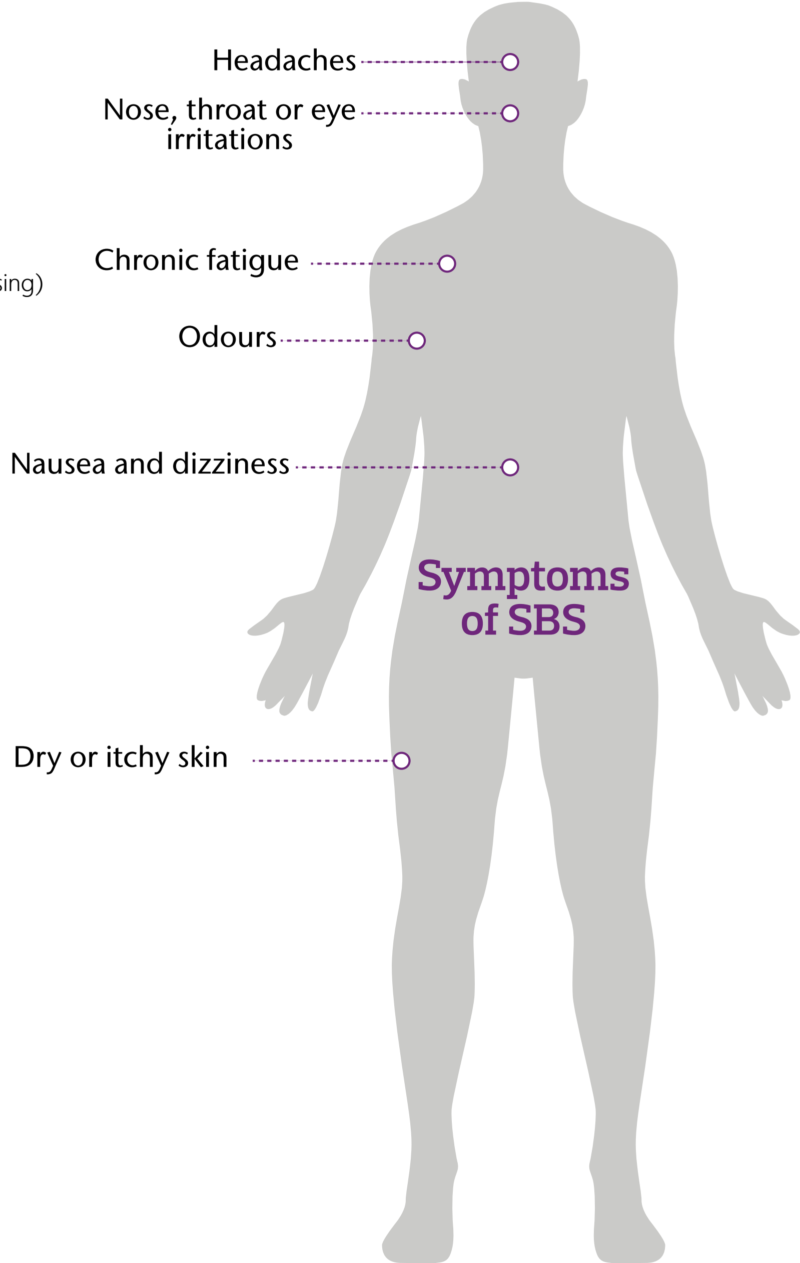
Causes may include:

- Components of a new building's leaching compounds such as volatile organic compounds (VOCs) too quickly (off-gassing)
- Moisture or mould growth
- Ozone release from office machinery (i.e. photocopiers)
- Release of asbestos and other fibrous particles
- Release of human particles (spread of microbes)

Once released, pollutants can spread throughout a building in the following ways:

- Poor building maintenance
- Poor indoor air quality
- Poor building or ventilation design
- Insufficient 'clean' air entering ventilation systems
- Dirty air handling units
- Contaminated air ducts

"The US Bureau of Labor Statistics states that, on average, people spend at least 10 hours a day in their homes and eight hours at work, equating to over 75% of the day indoors"



Now, decades later, governments are counting the cost of poor IAQ. The Australian Commonwealth Scientific and Industrial Research Organisation (CSIRO) estimates that the cost of poor indoor air quality Australia-wide may be as high as AUS 12 billion per year, while the social cost of poor quality indoor air is estimated at EUR 20 billion in France alone.

The US Environmental Protection Agency places IAQ as one of its top five risks to public health and states that the health effects of IAQ can be experienced immediately or some years later. Many different pollutants can be between two and five times stronger indoors while some can be as much as 100 times stronger than outdoor levels.

While regulation on air quality in public buildings has improved in recent years, there is no "quality label" for the air inside a building and that is why there have been calls to make it a requirement to include air quality assessment in a building's environmental impact analysis.

Legislation on IAQ in public spaces may now exist but laws on air quality in the home remain elusive. Unfortunately, this is a very complex area for legislators as much depends on the building type and location – it would require governments to create layers of legislation.

Building engineering services contractors have a range of techniques available for mitigating the impact of poor IAQ. Carbon dioxide monitors are now commonplace and firms are experimenting with VOC sensors. Architects are also designing buildings that incorporate VOC sensors to decide when to draw in outside air and when to clean the air within using new chemical filters, but these are relatively uncommon as tenants are not prepared to pay for it. Those concerned by IAQ feel that more needs to be done to encourage building owners and managers to face up to their responsibilities in this area.

With the continuing escalation of claims arising from exposures related to IAQ, environmental risk management has emerged as a critical component of a comprehensive insurance programme. Specialised environmental insurance coverages fill the pollution gaps real estate owners and property managers are finding in their traditional insurance programmes. Also, environmental insurance is well positioned to assist organisations with their risk financing objectives when complying with reporting and disclosures required by accounting rules.

Catherine O'Leary Smith, *Aon New York*
Claire Juliana, *Aon New York*
Cami Mok, *Aon Sydney*

A SEA CHANGE

With future population and migration trends suggesting that more of the global population will be located in coastal and seismic areas in the future, it is apparent that climate and natural hazards will be of increasing concern to real estate firms with properties in exposed areas.

Climate science continues to evaluate the effect of climate change on specific events. While this is an uncertain exercise with many complexities and one which varies by locality, the broad trend is for increased severity and frequency of meteorological hazards.

The picture is further complicated by the potential convergence of seismic and flooding events – such as occurred in the Tohoku earthquake, when the coastal terrain was altered by metres as a result of the earthquake, which not only enhanced the severity of the tsunami, but also now results in daily flooding at high tide in some locations.

"If an event of the magnitude of Hurricane Andrew (1992) landed in Miami beach today, the damage would be greater than even Hurricane Katrina (2005)"

In spite of scientific data pointing to increased risks, the threat posed by climate change and natural hazards have had only a muted impact on real estate development. In fact, there has been more building in flood and seismic-prone areas in recent years, rather than less, and it is apparent that awareness about the dangers posed by both climatic and seismic events is still some way short of where it should be.

Fortunately, companies such as Aon have been observing, monitoring and reporting on natural hazard conditions worldwide for years and are now able to draw on decades of increasingly granular, recorded data - not just re-analysis - to make predictions about what impact such events may have on a company's portfolio.

These models are global in their scope – moving away from a focus on key perils such as US hurricanes and Japanese earthquakes – and consider a diverse set of catastrophe events that are empowering clients to better understand the impact catastrophic events may have on their portfolio.

While climate change has upended some of the existing assumptions that firms have worked to, catastrophe models – such as those developed by Aon's Impact Forecasting team – have been good at capturing the 'what ifs' of catastrophe events, even if at times they have under-estimated the severity.

Regulatory changes afoot

In December 2016, the Financial Stability Board (FSB) of the G20 released recommendations regarding climate risk disclosure. These disclosures are now to be included in financial statements, rather than as separate sustainability reports. Physical climate risk, driven by both natural catastrophe risk and chronic issues such as drought and sea-level rise, is a key component of these disclosures.

As owners of high-value fixed assets, real estate investors are particularly affected by these developments. In addition to any disclosures real estate owners might have to make, other businesses affected by climate risk disclosure will be looking at their corporate real estate portfolios. Analytics and modelling have helped the insurance industry look at aggregated portfolio risk for nearly 20 years. The day may be coming where a wider set of industries will have to follow suit.

Looking at past losses through the prism of today can be eye-opening. If an event of the magnitude of Hurricane Andrew (1992) landed in Miami Beach today, the damage it would cause would be greater than even Hurricane Katrina (2005), thanks to the increasing level and values of real estate located in and around the city.

Real estate firms need to be aware of these realities and should begin factoring them into their risk management plans. With more people, more value and more exposure in coastal areas, they need to be cognisant of the extreme vulnerabilities facing these locations.

And flood vulnerabilities aren't only found in coastal areas. Incidents such as the flooding in Ellicott City, near Baltimore in the US (2016) provide some indication of the potential exposures that urban areas in river locations face. While abnormally high levels of rainfall played their part, losses at Ellicott City were greatly accentuated by excessive urbanisation in the area and the construction of elevated retention ponds that burst their banks and deluged the city's historic downtown.

A resolution of such issues will require greater cooperation between the public and private sectors – with organisations such as the Federal Emergency Management Agency (FEMA) in the US set to play a central role – as well as a willingness to expand mandated flood insurance into areas that are now increasingly at risk.

This will require more regular and timely assessments by organisations like FEMA and greater public awareness of the risks posed by flood; but real estate firms can play a part in considering the potential implications of their location strategies.

Australia: a growing concern

In Australia, most catastrophic insurance losses are linked to weather – whether they are from floods, thunderstorms, cyclones or bushfires – and as such the implications of climate change are closely watched.

At the same time, the Australian population is expected to almost double by the end of the century, with the increase being most significant in urban and coastal areas. A growing population in these areas will provide a dynamic risk landscape that is likely to be impacted by weather events – a factor that will have significant implications for the real estate sector.

Data points to an increase in the frequency and severity of meteorological hazards, but also a changing emphasis on the hazards affecting a particular area.

"In Australia, most catastrophic insurance losses are linked to weather – whether they are from floods, thunderstorms, cyclones or bushfires – and as such the implications of climate change are closely watched."

Aftermath of Tohoku earthquake, Japan

According to the Commonwealth Scientific and Industrial Research Organisation, a mean temperature increase of 1°C may increase the number of 'very high' and 'extreme' fire weather days by 15-30% across southern and eastern Australia, which would result in an increased frequency of potential losses. Similarly, a 5% increase to sustained wind speed of a tropical cyclone impacting Australia may increase insured losses by as much as 30%.

Complicating matters is the impact of El Nino, a major climatic cycle influencing meteorological conditions in the Pacific. It has led to reduced mean rainfall, particularly in the east of the country; and warmer and more extreme temperatures in the east and south of the country.

The consequences of El Nino range from increased frosts and snowfall, greater potential for drought and an increasing prevalence of bushfire weather, all of which may change the risk profile of clients with assets and people in Australia.

Stephen Bowen, *Aon Chicago*
James Knight *Aon Sydney*
Ben Miliauskas, *Aon Sydney*
Greg Lowe, *Aon London*

JLL: AN INTERVIEW

Janice Ochenkowski
Managing Director,
Global Risk
Management,
Jones Lange Lasalle

JLL is a US-headquartered professional services and investment management specialising in the real estate sector. It is a member of the Fortune 500 operating in 80 countries worldwide.

What is keeping you awake at night?

A number of issues keep me up at night, but perhaps the most pressing is the unknown posed by emerging risks. It's the 'not knowing what you don't know' whether you have not properly identified, or perhaps aren't thinking about the potential threats posed by these emerging challenges.

Technology is one such emerging risk that has brought enormous positive benefits for society, but which also poses unique and evolving challenges to our sector and the global economy. We need to consider what risks technological change will usher in and how we as an industry can work to mitigate these challenges.

What do you see as the key growth levers for the real estate sector globally?

Across industry verticals and geographies there is a marked constant when we talk about growth levers in the real estate sector, and that is the health and stability of the local and global economy. Economic stability is what attracts real estate investors, serving as the engine of growth for the sector.

While the real estate sector can be opportunistic and there will be those that seek out deals when the economic situation is more troubled, stability in the economy and the capital markets underpins the health of real estate.

What do you wish insurers understood better about your business?

The key impediment to working with the insurance sector is the speed at which many real estate transactions are completed. This contrasts with the slower and more deliberate pace taken by the insurance industry, which can prove frustrating.

Often we are not able to provide insurers with all the data they would like to underwrite opportunities that arise at short notice, but moving forward with the transaction and backfilling with requested data later is challenging to the insurance underwriter. Understanding transactions and working with the risk manager to find accommodations that satisfy both parties and allow the transaction to flow is the ideal.

Insurers would also benefit from being more creative in the way they work with the real estate sector – and this is particularly true in the face of emerging risks and in challenging markets.

This need for creativity is not helped by the fact that insurers tend to operate in siloes that add an additional layer of complexity when transactions require a multi-risk or multi-disciplinary approach.

Underwriters need to anticipate these needs and create pathways to solutions that will allow transactions to progress more quickly.

Finally, it would also be helpful for insurers to better understand the nuances of the real estate market and its various components, as our capital markets, fiduciary and management segments are all very different from one another and each requires specialist risk transfer support.

What impact is politics – Trump's election and Brexit being examples – having on real estate investment?

Any time there is instability in the political arena, institutional and opportunistic investors take pause. That pause gives them time to better understand the new landscape and what it might mean for them – will it result in a new regulatory environment or will there be impediments to certain asset classes or transaction types?

Pauses are rarely good for transaction-driven organisations such as ours however, but the sector is opportunistic and whenever there is a pause there will be individuals and organisations that see an opportunity to create value.

Most investors however will inevitably want to scan the horizon and take stock, particularly considering the political uncertainties evident in Europe, the UK and US.

> "What we are facing today is a unique challenge from outsiders–*disruptors*– who aren't burdened by the traditional thought processes and structures that have been in our DNA for so many years"

Further complicating this picture is the impact changing currency valuations are having on real estate portfolios. Foreign investors will inevitably be wary about the potential implications; and fluctuations will serve as an additional transactional headwind.

What do you see as the key challenges facing the real estate sector in the coming decade?

Technology is the single, greatest challenge facing the sector. When we think about the way technology has revolutionised not only our sector but the broader economy and society, its impact cannot be underestimated.

What we are facing today is a unique challenge from outsiders – disruptors – who aren't burdened by the traditional thought processes and structures that have been in our DNA for so many years. Companies such as Airbnb, Lift and Uber are all shaking up the existing landscape. And for those industries that are yet to be disrupted, there needs to be a keen awareness that this is the future.

In response, JLL is investing time and resources, either to stay on trend or to drive that trend ourselves. Investment in technology and talent is our opportunity to bring about our own revolution, shaking up our existing business practices and models in order to thrive in this emerging environment.

Traditional bricks and sticks in real estate – malls, hotels and office space – are already challenged by these disruptors and it is incumbent on us all to evolve or we will find ourselves overtaken by these new and innovative market players.

TRANSACTIONAL POTENTIAL

Private equity and sovereign wealth funds have been using transactional liability as an integral component of real estate transactions for some years now, with coverage helping to limit liabilities, deliver tax advantages and support a clean exit from holdings.

Warranty & indemnity (W&I) or reps and warranty insurance is particularly popular within real estate sector, with industry transactions accounting for around 30% of the transactional liability market globally.

The cost of this cover has tended to come off the sale price, but in particularly sought after real estate locations, sellers have been successful in getting buyers to pay for transactional liability policy - and it is apparent that there is increasing appetite among sellers to consider offering this cover if it is able to tip the scales in particularly tricky transactions.

It has helped that in the European real estate space W&I cover has been extremely competitive, with many policies offering nil excess and a relatively small amount of exclusions. Conditions have created an invaluable backstop against future liabilities for those looking to acquire real estate holdings through and special purpose vehicles (SPVs) and it is apparent that there is also strong appetite in the US and – increasingly – Latin America and Asia.

Competitive coverage has prompted strong growth in transactional liability take-up after a decade of sluggish growth following September 11th and with the recent entry of title insurers into the W&I space in the UK and Europe, there is a fresh vein of competition that is helping to make already competitive rates still more attractive.

In the US, real estate investment trusts (REITs) are using transactional liability insurance to insulate themselves against emerging tax issues resulting from it no longer being possible to spin-off property holdings into tax-advantaged real-estate investment trusts. These developments are leaving many REITs with sometimes sizable tax exposures, prompting real estate owners to divest holdings and creating a healthy pipeline of M&A deals.

In Latin America, there is significant interest in the potential of real estate investment - particularly in light of depressed real estate prices thanks to regional instability, falling commodity prices and corruption – creating further opportunities for transactional liability to come into play. Firms are increasingly considering such coverage as part of their wider due diligence toolkit, mirroring trends already apparent in Europe and the US.

Uncertainty in the tax world is meanwhile leading many firms to consider solutions that provide greater comfort around transactions globally. Regulatory issues, such as the end to REITs' tax beneficial position and the introduction of Base Erosion and Profit Shifting legislation, which will bring to an end the exploitation of tax differences across international jurisdictions, are encouraging firms to consider transactional liability cover when pursuing M&A deals.

Challenges associated with the need for fiscal unity or tax consolidation, which groups associated companies as a single entity for tax purposes and the potential for restructuring as a result of Brexit, are adding further impetus to firms' desire for tax certainty when entering into transactions.

Developments are encouraging many firms to run tax coverages in tandem with more traditional warranties coverage, challenging brokers to create policies that provide certainty in the face of evolving conditions.

Looking ahead, it is evident that there will be an increasing focus on applying insurance solutions to smaller deals, with the market already speeding up the turnaround of transactions, opening up greater opportunities in the M&A space. There is also growing appetite among publicly-traded companies to consider transactional liability insurance. Whereas in the past the product tended to be the reserve of the private equity world, Aon has seen a marked uptick among US traded firms seeking coverage, with such clients representing around 35% of US deals in 2016 – and there are expectations that 2017 will be busier still.

Your coverage *optimised*

While many firms may spend a million dollars on insurance cover for a transaction, very few consider managing or monitoring how their programme will react should an issue arise or a claim occur. Clients should talk with their broker to better understand both their claims track record, capabilities and the security of those insurers backing their policy. Coverage tends to be considered within the context of the M&A transaction, but considering the values involved, clients can benefit from close attention to both the broking and insurer capabilities underlying these solutions.

Nuala Read, *Aon London*
Simon Tesselment, *Aon London*
Gary Blitz, *Aon New York*
Alejandro Marmorek, *Aon Miami*

In the US, real estate investment trusts (REITs) are using transactional liability insurance to insulate themselves against emerging tax issues

TERRORISM: EVOLVING DYNAMICS

With increasingly high-profile terrorism incidents occurring in geographies as diverse as France, Pakistan and the US; and the potential for political violence linked to civil unrest apparent in places as diverse as Brazil, Greece and Thailand; real estate firms need to be aware of the potential impact of terrorism and political violence on their people and property.

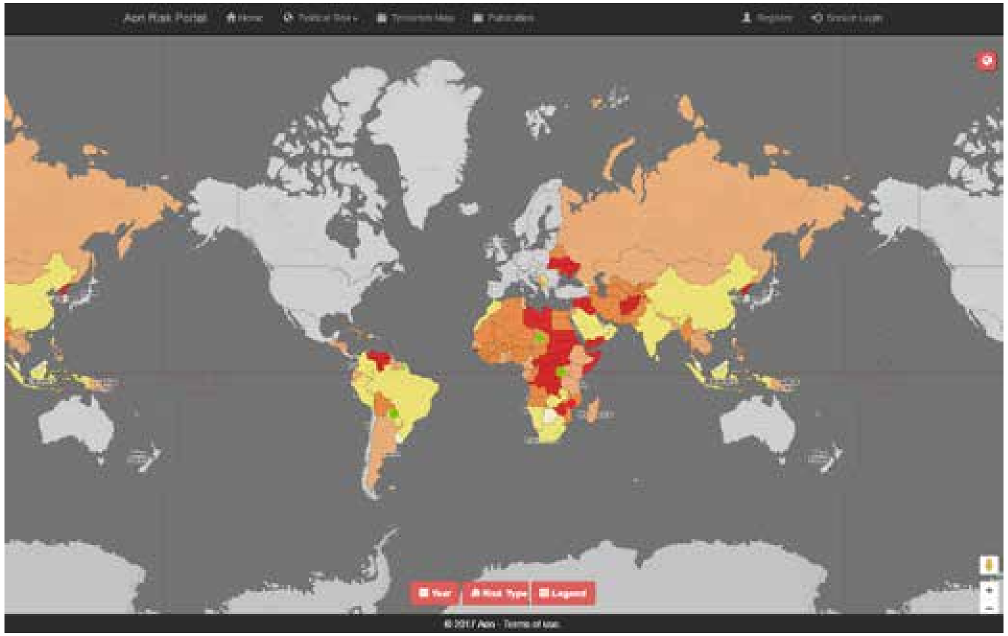
From lone wolf shootings, riots and acts of civil disobedience; to orchestrated terrorist assaults, bombings and hostage-taking, there are a host of security threats facing firms, particularly where properties are located in high-risk territories.

Leading the list of concerns for real estate firms is the threat posed by active shooters or assailants looking to gain access to properties in order to commit mass casualty attacks. Many such assailants will be disgruntled individuals unaffiliated to terrorist organisations; although the changing focus of terrorist groups away from attacks on government assets and people, to a focus on civilian targets, is complicating matters.

This changed focus has been perpetuated and promoted by terrorist organisations such as Islamic State and Al-Qaeda, with the threat exacerbated still further by fighters returning from conflict zones such as Iraq, Somalia, Syria and Yemen and by homegrown terrorists radicalised by online propaganda.

Such groups have also changed the focus of terror attacks. Rather than focusing on the organs of state - government buildings, financial and infrastructure targets, the army, police and judiciary – modern jihadi extremists are opting for soft, civilian targets. Property is no longer the only exposure at risk. Civilian casualties are now the primary target, increasing the focus on liability and casualty exposures – and forcing real estate firms to consider the exposures facing both their people and infrastructure.

And it is apparent that geographically, targets are becoming more diverse as terror groups seek to export radical ideologies and terrorism to 'the West'. For real estate firms this means that geographies that have traditionally been seen as relatively safe from terrorist attacks – North America, Western Europe and Australia among them – are now seeing a rise in incidents and threats, with attackers targeting civilians and public spaces.



Aon tracks global threat levels in partnership with Risk Advisory Group, a leading independent global risk consultancy, with insights freely available through our dedicated Risk Map Portal, which can be found at ***riskmaps.aon.co.uk***

The portal examines terrorism, political violence and political risk, with country and industry-specific insights available on a quarterly and historical basis.

"The evolved approach of the recent spate of Islamist inspired attacks and plots focusses on mass casualty attacks. This has been the driver for the broader spectrum of impacts now affecting property, revenue, life and liability – even where there has been no attack and so no property damage"

- Scott Bolton, Director of Business Development, Crisis Management, Aon Risk Solutions

Preparing for the unthinkable

When it comes to reducing the impact of terrorism incidents, preparation is paramount. There is a very clear need to understand the specifics of your risk exposures and to prepare your people to manage an incident should one arise. Crisis management protocols need to be in place that clearly set out how your staff should respond to limit the impact of an act of violence on, or near, your property and people.

This need is all the more pressing, taking into account that terrorism is – in many territories – now considered a foreseeable risk. As a result of this changing perception, firms may now also potentially face liability claims if they are considered to have failed to protect or prepare for terrorism incidents.

Crisis Management checklist

If you don't have a crisis management plan, then you need to put one in place.

1 Key stakeholders need to be aware of their roles and responsibilities should an incident occur ☑

2 Plans need to be up-to-date and reconsidered annually. Don't rely on an old, outdated crisis management plan ☐

3 Your crisis management team should initially undertake crisis management training, building up to a live exercise that should get progressively harder each year. This should be run internally, but with external support to ensure appropriate calibration and implementation. ☐

4 Build links with local security forces. This enables the police and military to become familiar with key strategic locations and high-value targets and gives them an opportunity to work with building security personnel so that should an incident occur they can hit the ground running, rather than attending to an incident at an unfamiliar location. ☐

Public perceptions around the need to properly prepare for, and protect against, terror incidents, mean having a clear response plan in place is of utmost importance.

Despite this heightened focus on terrorism exposures, most real estate companies tend to miss their key exposures. It is not property damage, rather the threat of fatalities and reputational damage. Of particular importance is crisis communications – through both mainstream and social media – as a component of the crisis management plan and companies should consider how exactly they intend to communicate with colleagues and the broader public in the event of an incident.

Open communication, acknowledgement and reassurance should be key considerations when responding to an event – as well as careful management of messaging in real time.

Risk transfer options

Fortunately, the insurance market offers a competitive and comprehensive backstop to companies' risk mitigation efforts, with a broad range of bespoke covers available for real estate firms facing challenging risks. Insurance is available to provide coverage against terrorism and political violence, but solutions are also possible for nuclear, radiological, biological and chemical incidents, active assailants, and even threat and loss of attraction as a result of a terror incident, with the latter three covers not requiring damage to property in order to be triggered.

With the current focus on civilian targets by terrorist groups globally, firms may also want to consider contingency coverage such as kidnap, ransom and extortion. This cover is particularly valuable due to the response consultancy support provided to insureds in the event of a hostage crisis, the long-term detention of personnel or threats addressed directly to the insured.

Finally, clients may also want to consider Aon's dedicated facility for terrorism and political violence risks, Alpha, which provides guaranteed capacity, broad coverage and competitive pricing for global terrorism perils.

Daniel Bould, *Aon Singapore*

In focus: Australian terror threats

Despite being relatively threat-free for years, Australia now faces a rising terror threat from radicalized home-grown jihadists intent on carrying out attacks on Australian soil. According to Australia's National Terrorism Threat Level, the chances of an attack remain 'probable', adding that "credible intelligence, assessed by our security agencies, indicates that individuals or groups continue to possess the intent and capability to conduct a terrorist attack in Australia. The public should continue to exercise caution and report any suspicious incidents."

Since 2014 there have been 4 attacks – including the Lindt Café Siege in Sydney - and 11 plots to commit terrorist attacks in Australia and it is apparent that further incidents are possible – particularly in light of attacks in places such as Germany, France and Turkey.

The challenge is that state insurance back-stops do not always trigger as a result of terror incidents, leaving companies potentially exposed should an attack occur. Most state back-stops for terrorism risk require eligible property to be damaged before being triggered, as well as requiring incidents to be designated as a terror attack before paying out.

Matters are different in the commercial market, where there is no requirement for an incident to be state-designated as an act of terrorism or for eligible property damage, creating greater certainty should a firm be impacted by a terror attack.


VICTORIA UNIVERSITY

URBAN LAND INSTITUTE: AN INTERVIEW

John Fitzgerald
Chief Executive Officer,
Urban Land Institute, Asia Pacific

What are the key emerging trends for 2017?

Without doubt, the two most important emerging trends in Asia Pacific this year are the amount of capital chasing core real estate in the region and the limited number of opportunities to invest this capital.

Core assets may be safer investments but these opportunities are just not that widely available, and when they are, there is significant competition. This is a predicament we believe will continue to develop over the next year and it is forcing investors to look at alternatives – like niche assets, such as student housing or logistic centres, and emerging sectors where there are opportunities but also more risk.

In the ULI's annual report Emerging Trends in Real Estate Asia Pacific 2017, we noted for the first time that emerging markets such as Mumbai, Bangalore and Manila were being ranked as top investment destinations. Mature markets like Sydney, Hong Kong and Singapore will always court interest but there aren't many investible assets at acceptable prices that deliver higher returns.

Investors are increasingly prepared to move up the risk curve. There is renewed confidence in India and this is likely to be due to the increased transparency of the political system. Previously, many had perceived Indian real estate projects to be too risky and opaque but there is now a renewed commitment from Government to support sustainable investment which has created confidence and belief in the nation's long term scalability. Considering the growth in population and economy, India has been likened to China from 10 years ago with potential for significant returns and scale.

Another continuing global trend in Asia is capital going outbound- both cross border in Asia but also there is an increasing amount of capital going out to the West- and this is on the rise. It definitely feels as though we are on the beginning of the wave on this still. There's still untapped capital in countries like China, Japan, Korea, and Taiwan.

What impact is technology having on the real estate sector?
Technology is finally having a tangible and significant impact on the real estate sector. We have already seen this in retail where online shopping has created the challenge of attracting people to malls when they can get customised orders at home. This has forced the retail industry to think differently about their role. At ULI this is something we always look into with our members. It offers both opportunities and challenges and those who balance technology to enhance what they do will be better off than those who don't.

> "There is another issue with green building, and that is affordability. Due to urbanisation, growth and migration of cities, the question remains: how do you balance bringing people in and affordability, transportation, offering the amenities they will need?"

Smart building information technology is really making its mark on all aspects of the industry. With the Internet of Things, everything is now connected, meaning that operations can run more efficiently and this is true of both existing and new developments.

We have also been looking at the impact of autonomous vehicles and 3D printing and how they will potentially change the way cities and building infrastructure are built. We are always keen to engage on innovative disruptions that are impacting members and the industry.

How important is green building?
Green building is becoming standard practice these days. The industry has gone away from merely certifying buildings and they are now monitoring building performance. In the current climate investors wouldn't even think about investing in a development unless it is a green project. It just wouldn't be competitive. I have worked in Asia for 10 years and have seen mindsets change over this period and really accelerate over the last five years. Due to competition for core assets, gateway cities just wouldn't be developed to a standard of anything below this now.

The ULI puts in a lot of effort in building efficiency and sustainable building. The ULI Greenprint Centre for Building Performance provides major real estate companies with a forum in which they can pool ideas and efficiencies to mitigate carbon impact.

There is another issue with green building, and that is affordability. Due to urbanisation, growth and migration of cities, the question remains: how do you balance bringing people in and affordability, transportation, offering the amenities they will need? Cities are growing so fast and those that get this balance wrong or right will stand out.

ULI is working with the public and private sector, trying to improve the environment and liveability of cities to attract more talent, jobs and companies. Real estate development decisions will impact competitiveness of cities moving forward.

What do firms need to do in order to succeed over the next decade?
Things are happening so quickly. Cities, and the real estate industry in general, need to work out how they can continue to perform successfully in the present while positioning themselves for the future. They need to assess and embrace the worthwhile innovations that are fast becoming available, all the while maintaining a profitable business that attracts new talent.

CONSTRUCTION & INFRASTRUCTURE: *A RISKY LANDSCAPE*

As the construction sector emerges from the global financial downturn, it must now consider the new landscape and determine how best to navigate these new, uncertain times. Faced with both risks and opportunities, the Real Estate industry must choose its path carefully.

Project delays have always been a major concern for the construction industry. However, in the current economic climate, and with increasing competition for projects, it is not uncommon to see substantial penalties written into contracts for delays in completion. In addition, there is a trend in 'design and build' projects for contractors to be required to take on a greater proportion of the risk, even though many of these risks (such as weather, industrial disputes and geotechnical issues) may be beyond the contractor's control.

Faced with rigidly fixed project deadlines as well as the myriad unknown risks that could lead to construction delays, contractors need to be confident that common issues are deftly in hand. These include:

- Having access to sufficient funding before project commencement
- Getting the numbers right when estimating the project
- Undertaking a comprehensive risk management analysis and implementing effective risk transfer strategies
- Committing to vigilant cash flow management throughout the project lifecycle

Contractors should also consider how new and emerging technologies could be utlised to provide early warning signals that might lead to delays, while also enhancing efficiency and reducing costs.
Some of these technologies include:

- Building Information Modelling to evaluate projects and identify potential design, construction and safety risks before – and during – construction
- Radio-frequency identification (RFID) tags, which can be used to control and track the movements of materials and resources (including people) on a site, or enable accurate CAD modelling of the building under construction which can then be compared with the actual build
- Drones that can provide aerial mapping of sites, or be used to scope-out potential structural issues that would be difficult to assess without a high-resolution aerial view

Private public partnerships
Although there may be a perception in certain areas that there is no real movement in the government infrastructure sector, Aon is seeing a significant increase in Public Private Partnerships (PPPs) globally.

In Australia, one of the issues with PPPs has been the high cost of preparing and submitting a tender, which has excluded all but the largest contractors from making a bid. Likewise, several high-profile consortium failures (such as the sponsor of the AUS 1.1 billion Lane Cove Tunnel in Sydney), have raised questions about overly onerous risk allocation on the private sector participants via the PPP model.

However, governments now seem to be adopting a different approach to PPPs, reducing the costs of tendering to make them more attractive to the market, and developing compensation models based on more consistent and predictable revenue streams. Increasingly, the model is being changed to accessibility – the consortium is paid a fixed rate over the contract term based on the facility's accessibility.

Another change is the emergence of PPPs being used for projects with lower upfront investment costs, some as low as AUS 200-300 million. We have also seen greater flexibility in the long-term management of PPPs, such as Transurban's proposal to fund a portion of the Victorian CityLink Tullamarine Widening Project (which will reduce congestion and improve travel times) in return for changes to existing tolling arrangements.

PPP legislation is also improving in certain US states such as Florida and Texas and many states seem to be increasingly relying on PPPs to complete infrastructure projects. Government funding is at an all-time low though so the industry is now waiting to see if the administration under Trump will generate more funds.

"There is a trend in 'design and build' projects for contractors to be required to take on a greater proportion of the risk, even though many of these risks (such as weather, industrial disputes and geotechnical issues)"

Construction defect: the millennium tower, San Francisco

A key risk the Real Estate industry must contend with is construction defect. For a developer holding assets for the long term this is less of an issue as they are unlikely to sue themselves. However In residential areas there is a high degree of construction defect and litigation is rife.

One extreme example of construction defect that has shocked the industry is the Millennium Tower, which ceremoniously opened as San Francisco's most luxurious condo tower in 2008 only then to announce to residents in May last year that the building had sunk 16 inches into the earth, tilted over 15 inches at its tip and 2 inches at the base.

There is disagreement about what is causing the building to sink and tilt. The developer, Millennium Partners, has blamed the Transbay Joint Powers Authority (TJPA), a public agency overseeing the construction of a new transit centre for the city. The agency dug a 60-foot hole next to the tower, which Millennium Partners maintains is the cause of the problem.

The TJPA has refuted these claims and argues that it is Millennium Partner's poor structural design that is directly at fault. The city is suing the developer on behalf of the agency.

Specifically, the agency maintains that the foundation of the tower consists only of concrete slab supported by short piles that fail to reach the bedrock below, which it says cannot prevent settlement of a structure of this weight.

With no-one accepting responsibility, all parties are waiting for the result of an investigation that is currently being undertaken by an engineering firm hired by the developers. Meanwhile, 20 homeowners filed a class action lawsuit in August 2016 against Millennium Partners and TJPA and other residents have been urged to follow suit. There are strict time limits imposed by law for the homeowners to bring their claims against the responsible parties that caused or contributed to their damages.

The tower had a total construction value of USD 600 million and in 2013 the building was fully sold for a reported total of USD 750 million. Questions have been raised over whether there is sufficient liability coverage in place and whether any such coverage will even be available as it may be voided by the flaws in the building. One thing is certain: whatever is causing the building to tilt is going to cost hundreds of millions of dollars to correct, if finding a solution is even possible.

Aon is well positioned to take advantage of this marketplace and has advised six of the eight recent PPPs in the US. These projects have focused on transport infrastructure. While the US is not as advanced as Canada in terms of social infrastructure, this sector has been earmarked as an area of growth going forward.

The insurance market

Insurers can continue to support the construction industry by refusing to focus on selling policies and approaching risk in a holistic way. The market is becoming more flexible and open to tailoring cover to meet the needs of individual projects.

In the US, large projects can benefit from adopting consolidated insurance programmes where owners take overall responsibility for the project, rather than passing this onto contractors, but there is reluctance to take on this risk in some areas. The approach is more akin to the European model – in the US it is still more common to transfer the risk to the contractor. Controlled insurance programmes are increasing in popularity as they can provide a more cost effective model. Some large Real Estate developers now opt to run consolidated programmes across all of their projects on rolling programmes.

Professional liability is a major issue for professional architects, designers and engineers in small, privately held firms as they do not enjoy the protection of a big balance sheet. In any construction claim, Professional liability is always the weakest link in the chain and this situation can be aggravated if projects are delayed or go over budget, increasing the chances of litigation.

Engineers and designers in small firms tend to take out policies with fairly low limits, for example USD 1-3 million, on an annual basis. If they are found liable for a design fault in a major project, this level cover will be nowhere near sufficient. Therefore claimants end up pursuing whoever has the deepest pockets in the chain, whether they are liable or not.

In Australia, the dramatic fall in engineering construction projects has led to a soft insurance market. Over the past two years insurers have taken on more risk at a lower transfer cost, in an attempt to achieve their budgets. Now, however, with rates almost as low as they can go, many of them are looking to retain market share through innovation, new product developments, and substantial coverage enhancements.

Another trend is the emergence of longer, project-specific professional liability terms, to meet the needs of contractors involved in complex projects that have a construction phase of more than three years. In the past, this has led to issues in the final stages of runoff, as contracts require such cover to be in place for the construction period plus seven years. To meet this need, insurers without treaties — such as Berkshire Hathaway, Munich Re and Swiss Re — are now offering these longer policies, while some other insurers have renegotiated their treaty insurance to be able to do the same.

Jim Dunn, *Aon Atlanta*
Alister Burley, *Aon Australia*

"Insurers can continue to support the construction industry by refusing to focus on selling policies and approaching risk in a holistic way. The market is becoming more flexible and open to tailoring cover to meet the needs of individual projects"

AON SOLUTIONS

Pollution Liability

Aon works with clients to deliver environmental impairment liability (IL) site coverage, which helps to insulate them against environmental risks stemming from owned properties or facilities.

Contractor's professional liability

Contractor's professional liability provides coverage for acts, errors and omissions arising from professional services performed on behalf of the contractor, as well as pollution arising from services rendered by, or on behalf of, the contractor. Policies are also written to cover the professional liability of design-build projects arising out of the design activities associated with work.

Warranty

For those in the real estate sector looking for additional security, there are opportunities to add a homebuilder's limited warranty to traditional general liability coverage, enhancing available coverage.

Green building property

Green building property programmes offer all-risk coverage for green buildings, providing reimbursement for the full repair or replacement of certified green building components damaged or destroyed by insured perils. In the case of non-certified buildings, it allows the insured to elect an upgrade to environmentally friendly and energy efficient components.

Contractor's pollution liability

Contractor's pollution legal liability (CPL) provides clients with a financing mechanism to respond to envionmental liabilities airisng from their operations.

Cyber

With market-leading capabilities, Aon works with real estate companies to help them understand and mitigate the threat posed by cyber attacks to data, systems and physical assets.

Transactional liability

Coverage insulates clients against issues associated with warranty breaches, adverse tax consequences and contingent liability claims when entering into M&A deals, either as a buyer or seller.

D&O

Aon works with real estate clients to identify corporate and personal exposures to liability, creating programmes that incorporate risk mitigation recommendations as well as the broadest D&O insurance coverage available.

Terrorism

Real estate companies working in politically volatile parts of the world can benefit from in-depth consultancy and an ability to secure coverage for threat, property damage, business interruption, cyber and loss of attraction linked to terrorism.

Surety

For real estate operators who prefer not to rely on bank guarantees, Aon's surety solutions offers opportunities for clients who seek to improve on terms and conditions against traditional standard banking products, while minimising impact to their balance sheet.

CONTACTS

Americas

Kevin Madden, USA
+1 212 441 1605
kevin.madden@aon.com

Peter Kennedy, Canada
+1 416 868 5685
peter.kennedy@aon.ca

Andres Silva, Latin America
+1 571 6381 934
andres.silva@aon.com

Asia Pacific

Andrew Bisconte, Singapore
+65 6645 0180
andrew.bisconte@aon.com

Troy Bates, Australia
+61 292 537 192
troy.bates@aon.com

Europe

Tim Scoble, UK
+44 207 086 0339
tim.scoble@aon.co.uk

Remi-Mathieu Prizzon, France
+33 625 791 085
remi-mathieu.prizzon@aon.com

Daniel Eich, Germany
+49 692 9727 6320
daniel.aich@aon.de

Roberto del Mastro, Italy
+39 0245 434 620
roberto.delmastro@aon.it

Wessel Loos, Netherlands
+31 104 487 796
wessel.loos@aon.nl

Pablo Fuertes De Gilbert, Spain
+34 913 405 605
pablo.fuertesdegilbert@aon.es

About Aon

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