



Emerging Risks Initiative

Major Trends and
Emerging Risk Radar

2024



Executive Summary

We are pleased to present the 2024 update of our Emerging Risk Radar.

Emerging Risks are risks which may newly develop or which already exist and are continuously evolving. They are characterised by a high degree of uncertainty in terms of impacts and likelihood and may have a substantial potential impact on underwriting, investments and/or operations of an insurance company. Impacts may vary per company, depending on products sold, presence in markets and composition of the investment portfolio.

The Radar is a summary of emerging risks and associated major trends that could affect the insurance sector over the next five years and beyond. Risks are classified low, medium or high according to their perceived materiality. Both the list of risks and the assessment of impact and timing are based on the expert opinion of the Emerging Risk Initiative (ERI) working group of the CRO Forum, using a survey amongst CRO Forum members as the basis for the assessment.

The major trends have been assessed and updated and compared to 2023 largely remain unchanged.

All risks have been assessed and updated as part of working group sessions.

The following changes were made to risks that were already included in 2023:

- [Blockchain Technology and Digital Currencies](#) and [New insurance competition](#) have been removed.
- [Climate engineering](#) and [Energy storage systems](#) have been merged.

The following new risks were added to the Radar in 2024:

- [Social Fragmentation](#)
- [Economic Trade Conflicts and Sanctions](#)


We hope you find the report useful and welcome your comments and feedback.

This also marks the 20th Anniversary of the Radar!





Emerging Risk Radar 2024

Trends

 Ageing and Health Concerns

 Economic Instability

 Environment and Climate

 Sustainability

 Shifting Geopolitical Landscape

 Technological Development

 Demographic and Social Change



Key

Impact Assessment:
Bullet colour corresponds to potential impact of risk

- Risk category: High
- Risk category: Medium
- Risk category: Small

Time Horizon:

- Significant impacts already seen on the insurance sector
- First significant potential impacts on the insurance sector expected within 1-5 years
- First significant potential impacts on the insurance sector expected within 5-10 years

* New risk in 2024

Major Trend Descriptions



Ageing and Health Concerns

Although Covid has resulted in a spike in mortality, wider medical advances in prevention, diagnostics and treatments continue. There are, however, a number of factors that may offset the improvements in life span. In particular, lifestyle patterns (including sedentary habits, unhealthy diets, sleep disorders, and substance abuse) are contributing to a rise in chronic diseases in younger populations, with populations in developed countries increasingly exposed to age-related risks such as neurodegenerative diseases and chronic conditions associated with aging. Physical health is also closely linked to mental health, which is also deteriorating in many places. Hazardous chemicals and small particles, such as per- and polyfluoroalkyl substances (PFAS), endocrine disruptors and microplastic or nanoparticles, also pose risks that are not yet fully understood, and climate-related factors such as the increasing prevalence of heatwaves pose a threat to vulnerable populations. Socio-economic conditions and access to modern healthcare are other key elements in disease development and disease prevention.



Economic Instability

Post the financial crisis, lower income groups have yet to see a return to income growth, and for many, standards of living have stagnated. This rising inequality compounds instability in economic systems, and politically, these factors fuel the rise of populism and a backlash against multinational institutions, leading to nationalism and fragmented regulation. Prolonged low yields and the stimulus tool of massive quantitative easing have led to elevated levels of debt and stoked inflation and asset bubble risks. Interest rates, having risen recently to levels unprecedented since the 2008 financial crisis, may remain elevated slowing down the global economy and increasing the risk of widespread debt defaults, which may lead to an economic recession. The financial sustainability of social security and pension systems could be more at risk in the future.



Environment and Climate

Environmental issues are firmly in the spotlight, dominated by climate change, resource scarcity, biodiversity loss and pollution of the biosphere. There is growing concern about the consequences of unchecked emissions of greenhouse gases driving climate change, with the more frequent occurrence of extreme weather events, which over time could give rise to tension between climate change-related risks and insurability. To mitigate climate change, new technologies in the green energy transition such as energy storage systems are taking centre stage in the global economy. Pressure on the planet from a growing human population is causing resource scarcity, driven by unsustainable practices in mineral extraction and food and energy production. Anthropogenic activities are also polluting the land, rivers and sea with non-biodegradable waste such as plastics, and the air with particulate and gaseous pollutants. All forms of pollution are becoming ubiquitous, with harmful consequences for life on Earth, including a decline in biodiversity, with the potential to disrupt entire ecosystems.



Sustainability

As well as responding to environmental challenges, the sustainability (or ESG) agenda requires among other matters, consideration of human rights violations, bribery, corruption, social divides and unethical corporate behaviour. How organisations respond to these factors is coming under increasing scrutiny from stakeholders such as investors, regulators and consumers, with the expectation that companies both manage the risks to which they are directly exposed and contribute to broader sustainable economic and social development goals. Organisations are also expected to engage wider societal groups in their stakeholder management. Failure to respond adequately can have a negative impact on the brand and reputation.

Major Trend Descriptions



Shifting Geopolitical Landscape

The recent period of Western-based globalisation and liberalisation is being challenged by a global trend towards fragmentation of financial markets with regionalisation of trade, friend shoring and financial weaponization and towards more conservative social policies. Tensions between the US and China are on the rise, with both countries increasingly flexing their economic and political clout, and overall global economic power shifting from the West to the East, adding to the complexity and instability of global balances and impacting supply chains. Conflict escalation is becoming more likely. This has been demonstrated by Russia's invasion of Ukraine. Heightened conflict risk is also visible in many other areas of the World, such as the recent tensions around Taiwan and between Serbia and Kosovo, in addition to long-standing tensions in the Middle East and in parts of Africa. Escalation to a military conflict of global proportions and even the use of nuclear weapons seems possible. In the current geopolitical landscape, with a global increase in military spending, evolving terrorism threats become more concerning when state-owned military means and AI are available. Finally, increasing attention to environmental and social matters may fuel protests and violent unrest.



Technological Development





Modern technologies, including big data and artificial intelligence (AI), digitization, automation and robotics are boosting economic growth, performing repetitive tasks, and making processes and systems faster, cheaper and less prone to errors. Autonomous machines are increasingly being integrated into many areas of society, and AI is also enabling a shift towards the automation of more value-added tasks. The integration of these new technologies into human societies comes with numerous benefits, including an improved customer experience such as greater product and provider choice, and speed of delivery, improved healthcare and facilitated social interactions. However, there are many uncertain consequences of their adoption, including replacing jobs currently performed by people and the need for reskilling of some sections of the working population and changes in education systems. With the use of advanced AI techniques, information reliability is more and more at risk. The increased integration of technology into daily life also raises questions about the equal access of all sections of society to digital resources and services, data security and ethics.







Demographic and Social Change





Several demographic trends are changing the way that society functions. Among them is urban population growth with the development of urban infrastructure, affecting how people move, work and socialize. Social cohesion is declining in many countries partly due to the adoption of social values that emphasize the individual. This trend has been boosted by the use of digital media and services. Depending on the country, the demographic and social make-up is changing, for example, with increasingly ageing populations in many developed countries, a rapidly growing middle class in developing countries and mass migrations of people both within and between countries, fuelled by a range of environmental, economic and geopolitical factors. Although uncontrolled migration could translate into increased pressure on welfare systems and infrastructure and cause political unrest, migration of skilled people is also crucial in the context of skills gaps that will be created by the retirement baby boomers and subsequent generations. These complex and interconnected phenomena have a range of consequences, including the potential for widening wealth gaps, societal and geopolitical conflicts and increasing environmental pressure.



Emerging Risk Descriptions





TOPIC	ASSOCIATED TRENDS	DESCRIPTION	IMPACT ASSESSMENT	ERI PUBLICATION
Antimicrobial Resistance		<p>Drug resistance occurs when microorganisms such as bacteria, viruses, protozoa, fungi, and parasites mutate in a way that renders certain medications ineffective. This can prolong related infections, require more harmful alternative treatments, or even be fatal. Antibiotics, in particular, are needed for both the prevention (e.g. during chemotherapy, hip replacement surgery) and treatment of bacterial infections. Antimicrobials are also required in animal husbandry and food production, and resistance can endanger food security. The supply of antimicrobial drugs is highly dependent on global supply chains and thus vulnerable to geopolitical risks.</p> <p>Main impacts may include:</p> <ul style="list-style-type: none"> • Increased healthcare costs (longer and more complex treatment) • Liability claims (allegations of inadequate infection control practices, over-prescription of antibiotics) • Business interruption in healthcare, farming, agriculture, or food production with supply chain disruptions or product recalls • Higher mortality and morbidity claims 		
Artificial Intelligence		<p>The evolution of Artificial Intelligence (AI) spans from 'weak' AI, designed for specific tasks like winning at chess, to the eventual aim of creating General AI, capable of emulating or surpassing human abilities. For insurance, the ethical and social implications of AI in automated underwriting, pricing, and claims handling pose risks related to data privacy, security, bias, discrimination, and reputational damage for insurers. Decision transfer to AI can lead to unforeseen outcomes and complex liability concerns. There is also the potential for third parties to exploit vulnerabilities in insurers' processes using AI and for insurance applicants to use AI for the support of anti-selective behaviour. Anticipated workforce impacts, including job displacement due to AI, will significantly reshape the operational landscape across all insurance sectors and insurance client companies. The increasing use of AI in various industries has also led to an increase in cyber risks. Insurers also face liability challenges and regulatory compliance, notably the 'EU AI Liability Directive', which aims to reduce evidentiary barriers for AI-related damages and establish a 'presumption of causality' against the developer, provider, or user of the AI system.</p> <p>Main impacts may include:</p> <ul style="list-style-type: none"> • AI in underwriting and pricing may introduce biases and discrimination, impacting risk assessment and pricing fairness and accuracy. • AI-related risks can impact claims handling efficiency and fairness, potentially leading to disputes and legal challenges. • Insurers face increased data privacy and security risks due to AI use, potentially leading to regulatory non-compliance and reputational damage. • Job displacement due to AI could reshape the insurance industry's workforce as well as that of its clients, necessitating retraining and adaptation to new roles. • Insurers must navigate complex liability issues and comply with evolving regulations, impacting their operational and legal frameworks. 		2015

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Autonomous Machines		<p>Advancements in mechatronics, machine learning, artificial intelligence and data transmission speed have led to rapid developments in autonomous machines, impacting various industries. These machines, including self-driving cars and drones, could change the demand for traditional insurance products and give rise to new offerings. For instance, the need for conventional car insurance may decrease as the risk of human error-related accidents lessens, while concerns around cybersecurity, software malfunctions and product liability will drive innovative insurance products within an evolving legal landscape. The use of autonomous weapons in military conflicts and terror attacks bring a new dimension to these threats.</p> <p>Main impacts may include:</p> <ul style="list-style-type: none"> • Change in the demand for traditional insurance products and creation of innovative new ones. • Challenges in navigating complex and evolving legal and regulatory frameworks. • Enhanced risk assessment and underwriting processes will be necessary, involving advanced data analytics. 		2017
Climate Change Physical Risk		<p>Rising global temperatures result in changes in the frequency and severity of extreme weather events, such as windstorms, heat, drought, and precipitation, which in turn may create physical impacts to insured persons, goods or investments. Heatwaves are likely to occur more frequently, and last longer as average global temperatures rise, causing more wildfires and extended periods of drought, impacting water supplies and crops. Gradually increasing sea levels in combination with stronger windstorms may amplify the risk of flooding in coastal areas over time. Since the climate system is highly non-linear and may trigger so called climate tipping points (e.g. thawing of Siberian permafrost), climate change patterns are still difficult to predict and uncertain. Current trends may accelerate trends towards more extreme weather and have broader impacts on climate and ecosystems.</p> <p>Main impacts may include:</p> <ul style="list-style-type: none"> • P&C (re)insurers are exposed to higher claims due to changes in frequency and severity of extreme weather events, for example storm, fire and hail damage. Higher claims and reduced reinsurance capacity could lead to higher direct insurance premiums and cause insurability issues. • From an life and health insurance perspective, key physical climate risks are extreme temperatures, infectious diseases, air pollution, and mental health, all resulting in higher claims under morbidity and mortality covers. • Future impacts will also be influenced by government and infrastructure adaptation measures and how insurance companies succeed in supporting clients to prevent losses. • Investments can be directly or indirectly impacted, if invested companies suffer damage to production locations or supply chains. • Physical risks can potentially impact the operations of insurers causing business disruption to offices or IT infrastructure. 		2018

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Climate Change Transition Risk		<p>Transition risks are the risks associated with (the speed of) transitioning to a lower-carbon economy, which may entail extensive policy, legal, technology, and market changes. Transition entails either mitigation or adaptation, where mitigation refers to actions taken to reduce greenhouse gas emissions, while adaptation refers to how customers of (re)insurers adjust themselves to deal with impact of climate change. The transition to a low-carbon economy may have a profound impact on the financial performance of companies across a range of industries. Impact typically depends on how immediate and coordinated the global response to climate action is across sectors and/or countries, as well as how fast climate technologies evolve. Some industries, such as renewable energy and electric vehicles, will likely benefit from the transition to a low-carbon economy. However, other industries, such as fossil fuel extraction and energy-intensive manufacturing, may face significant challenges as demand for their products and services declines, market sentiment of investors changes, government policies impact their business, or legal cases are started by activists or citizens.</p> <p>Main impacts may include:</p> <ul style="list-style-type: none"> • Investment perspective: (re)insurers can face stranded assets or deterioration of investment performance of companies that suffer from the transition to a greener economy. On the other hand, investments in new energy techniques or other sustainable investments might result in financial losses if these techniques are not proven yet. • Insurers are prone to legal risks including liability issues and litigation, as well as political, regulatory and compliance issues (including greenwashing). Reputational risks result from shifts in consumer preferences, stigmatisation of sectors, increased stakeholder concern or negative stakeholder feedback. • From an L&H perspective, upheavals in the economy, reductions in GDP, and struggling market segments could lead to higher claims under disability covers, driven by mental health issues. Underwriting challenges in relation to new technologies and other changes linked to the transition. 		2018

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Climate Engineering and Storage Techniques	  	<p>A wide array of emerging technologies is being developed to help combat climate change and the transition to a low-carbon economy, ranging from innovations in energy storage, to supporting the deployment of renewable energy, to atmospheric interventions and to re-engineering the climate itself. These technologies all share a characteristic of novelty, and all come with prototype risk and many uncertainties, but they vary tremendously in terms of potential insurance threats and opportunities. Climate engineering intervenes with the earth's climate system through carbon capture and storage or solar radiation management, while advanced energy storage systems include innovative batteries, hydrogen storage and other techniques, which are crucial for stabilizing renewable energy use. To sustainably harvest the benefits of the latter, emerging risks around individual storage solutions must be carefully tackled. Similarly, the viability of carbon capture and storage solutions needs careful assessment and emerging risks addressed. For insurers, availability of strong policy frameworks, technological standards and risk prevention measures will define how promising engagement through risk transfer offerings or investments can be. Climate engineering by solar radiation management on the other hand is far from insurable, and poses solely a downside threat, as the unknowns and the potential for unintended negative and irreversible effects abound at largest scale.</p> <p>Main impacts may include:</p> <ul style="list-style-type: none"> • The need for careful risk assessment reflects the novel nature of climate engineering and energy storage systems (i.e. lack of loss experience). • The potential for systemic risks and geopolitical tensions as countries and corporations navigate the complexities of implementing large-scale interventions. • Business continuity impacts on both insurer and customer operations, as these new techniques become part of regular energy supply chains. • The importance of developing a comprehensive policy framework to guide the responsible deployment of these technologies and mitigate the risk of man-made catastrophic events, such as chemical spills. • The opportunity for insurers to play a pivotal role in supporting sustainable projects, while managing reputational risks associated with controversial initiatives. 		2022

TOPIC	ASSOCIATED TRENDS	DESCRIPTION	IMPACT ASSESSMENT	ERI PUBLICATION
Collective Redress		<p>Collective redress is defined as a mechanism “which allows, for reasons of procedural economy and/or efficiency of enforcement, many single claims (relating to the same case) to be bundled into a single court action”. The development of collective redress mechanisms in Europe can create an inflation of claims volume and costs, as seen with Class Actions in North America. This legal sophistication may lead to more successful – and expensive – insurance claims and ballooning defense costs for the insurer. This creates challenges for insurers in anticipating outsized losses and accounting for them in underwriting and pricing risks. Collective redress could also become more commonplace for breaches in areas such as data privacy, ESG pledges and so-called greenwashing actions. As many EU member states have mass litigation procedures in place in 2024, the next year could provide a first indication of the potential consequences. However, as it mostly impacts ‘long tail’ lines, it may take several years to determine the impact on insurers. A reputation risk is also associated with these types of penalties with high media coverage of judicial cases.</p> <p>Main impacts may include:</p> <ul style="list-style-type: none"> • Possible inflation of claims. • Increased uncertainty in claims modelling with corresponding premium and reserve risks. • Strong media interest in group proceedings increase reputational risks. 	●	
Critical Infrastructure Failures		<p>In many regions of the world, there is a chronic failure to adequately invest in, upgrade and secure physical and digital infrastructure networks such as electricity provision, water supply, communication or transport infrastructure. The rise in interest rates and high national debt levels place an additional burden on such long-term investments. A lack of capacity, deterioration, and overload may result in failures and outages. In addition, external factors such as the risk of natural catastrophes, cyberattacks or geopolitical conflicts increase the likelihood of disruptions. Furthermore, the transition to renewable energy may impact the stability of the energy supply. Infrastructure failures can have significant effects and may result in business closures, economic loss and clean-up costs, potential health hazards and environmental impacts. Critical infrastructure failures tend to have consequential knock-on effects.</p> <p>Main impacts may include:</p> <ul style="list-style-type: none"> • Higher-than-expected frequency and severity of large property and non-property losses including business interruption. • Failing government services and economic activities, leading to lower insurance demand or loss of economic growth. • Potential to trigger social unrests and affect political stability. • Immediate and long-term impacts on human health, e.g. during power or water outages and due to inadequate health systems or leakages of harmful substances. 	●	2008 & 2011

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Cyber Risks		<p>Cyber risks have already emerged as a persistent threat, spanning geographies, industries, and financial sectors. Continuously evolving elements can be observed in increasingly sophisticated attacks and the expansion of the malicious attack opportunities through new technologies. For instance, quantum computing could disrupt current encryption protocols, while Artificial Intelligence (AI) may be used for activities such as disseminating deep-fake information and creating advanced AI-powered malware. Geopolitical tensions also contribute to the risk of cyber warfare, with politically motivated hacker attacks by nation-state actors for sabotage and espionage purposes. Additionally, supply chain attacks are now attracting cybercriminals seeking to conduct operations.</p> <p>Main impacts may include:</p> <ul style="list-style-type: none"> • Main consequences include financial, operational and reputational losses due to, for example, business interruption, claims on cyber policies and data theft. • Spillovers into the physical realm (e.g. power blackouts) as well as cyber-bullying, disinformation and data leakages can have implications for L&H and P&C insurance claims. • Certain assets can be impaired by cyberattacks, e.g. by causing lasting damage to the operations of companies in which investments have been made • Challenging complex regulatory landscapes related to cyber insurance, including data protection laws and regulatory requirements for cybersecurity risk management. 		
Data Privacy and Data Ethics		<p>The legal landscape and related ethical implications around data privacy and data use are complex and constantly evolving. This, combined with growing customer awareness and the increased integration of technology into everyday life, raises questions about access to digital resources, data security and ethics, loss of privacy, data fraud, and data theft. Data could be used in ways that stakeholders find unacceptable. With the individual more in charge of 'owning their data', it becomes more difficult for insurers to know enough about their customers, potentially increasing the risk of adverse selection.</p> <p>Main impacts may include:</p> <ul style="list-style-type: none"> • Product development for L&H and Non-Life covers could be affected. • Regulators/governments could decide limiting the use of certain data in pricing and in claims handling resulting in endanger the principle of risk pooling and lower access to insurance coverage for certain groups. • Increase in the number of lawsuits regarding the use of data with an impact on claims and own operations. 		

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Economic Trade Conflicts and Sanctions



Across the globe, nations and alliances seek to defend or increase their influence on a global and regional scale and impose economic restrictions and sanctions on goods, services, investments, knowledge and technology. This may be influenced by the result of the numerous elections taking place globally in 2024. In order to reduce dependence on geopolitical competitors and to increase industrial competitiveness, mechanisms such as import tariffs, state aid, subsidies and investment controls may be put in place and regional trade alliances pursued, favouring reshoring versus global trade.

States active in the energy supply chain or providing critical natural resources and know-how for the energy transition and technological development are likely to become more influential.

Following the trend towards a multi-polar world, international transactions are increasingly being settled in regional/local currencies. The petrodollar system, for example, is challenged by the increased interest in trading oil in yuan.

Main impacts may include:

- Complex and evolving sanction regimes restrict international insurance business and increase operational cost.
- Increased regulatory challenges may impact compliance costs and reputational risk for companies.
- Increased economic trade conflicts and sanctions may affect asset values and business volumes, thus causing an economic downturn.
- Supply chain disruptions may lead to price inflation, business activity slow down or even interruption and, from an insurance standpoint, higher exposure or demand for business interruption coverage.
- Increased foreign trade dynamics may impact exchange rate risk and multi-currency transactions.



Emerging Infectious Diseases







Pathogens are constantly evolving, and the impacts of climate change (e.g. defrosted pathogens from thawing permafrost), international trade, travel networks, demographic factors and human agricultural and forestry practices are creating new opportunities for them to spread. There are considerable risks from new communicable diseases that seriously affect human morbidity and mortality and pave the way for new pandemics, especially from pathogens that are poorly understood, highly contagious and difficult to treat or that infect humans who have not been previously exposed to them. Some of the main risks associated with new infectious diseases from an insurance perspective are: Increased Healthcare Costs (hospitalisation, diagnostic testing, treatment), Business Interruption (reduced operations), Travel Insurance (trip cancellations), Entertainment Insurance (Event Cancellations), Reputational Risks, Life and Health Insurance (higher mortality/morbidity rates). Pandemics can also have a significant effect on the whole economic and financial landscape, but the large number of variables influencing the outcome, including non-medical interventions, supply chain resilience, and political and public policy actions, makes it difficult for insurers to predict the severity of the next pandemic. Pathogens affecting major food crops and domesticated animals (including, more broadly, insects such as honeybees) are another emerging risk of growing importance. Additionally, the scarcity of drugs is a further critical risk factor that the insurance industry must consider in the context of emerging infectious diseases.



Main impacts may include:





- Increased mortality and morbidity.
- Higher claims costs in some non-life lines of business, such as travel and business interruption.
- Potential strong impact on economic and financial landscape, depending on factors such as disease profile, economic vulnerabilities, and political responses.









TOPIC	ASSOCIATED TRENDS	DESCRIPTION	IMPACT ASSESSMENT	ERI PUBLICATION
Environmental Pollution		<p>Environmental pollution has major damaging impacts on the human population and the wider nature and biodiversity of the planet through the introduction of harmful materials or actions into the environment. Different types of pollution exist and are typically described by the environment impacted (e.g. air, water, and soil pollution) or by the source (including but not limited to light, noise, and plastic pollution). They all have implications for human health as well as nature and biodiversity.</p> <p>Main impacts may include:</p> <ul style="list-style-type: none"> • Increased liability claims (in frequency and severity). • Supply Chain Disruption (quality of raw materials). • Higher life and health claims. • Social Unrest (potentially leading to protests, boycotts). • Reputational damage for insurers involved in the underwriting of polluting companies. • Investment in polluting companies can reduce the value of the asset and impact reputation. 	●	2009
Evolving Terrorism		<p>The risk of terrorism is an evolving threat, making it difficult and subjective to assess. Its inventive and adaptive nature undermines probabilistic modelling inferred from the past. Future terrorist attacks may aim at any type of target and leverage old methods and new developments, for example, digital innovations like drones and AI-based technologies, which may also take the form of cyberterrorism and even space terrorism. Other non-conventional methods include Electromagnetic Pulse (EMP) and NBCR (Nuclear, Biological, Chemical, Radiological) attacks. All these threats become even more concerning in the current geopolitical landscape with significant investments in weapons. Nuclear terrorism, for example, can have even more disruptive consequences if state-owned military means are available. The increasing attention towards environmental matters has also led to a rise in 'eco-terrorism', acts of violence committed in the name of an environmental cause. Finally, State-sponsored terrorism adds another layer of complexity (more advanced technologies, intelligence, and military-grade weaponry) to this risk landscape, increased by the high number of wars and armed conflicts in various countries.</p> <p>Main impacts may include:</p> <ul style="list-style-type: none"> • Direct threat to Property Business (incl. Business Interruption) • Increase of Life and Health claims 	●	2007



TOPIC	ASSOCIATED TRENDS	DESCRIPTION	IMPACT ASSESSMENT	ERI PUBLICATION
Geopolitical Tensions and Conflicts		<p>In a European context, public attention is on the persisting armed conflicts in Ukraine and Israel-Gaza. Tensions in the South China sea over Taiwan and in North Korea, as well as in the Red Sea and in the broader Middle-East are also in the spotlight.</p> <p>Further threats arise from proxy war and unconventional warfare (e.g. through cyber attack, sabotage, espionage, guerrilla). The increased geopolitical risk is compounded by nuclear proliferation, a global rise in military expenditure and new military technologies, such as autonomous weapons.</p> <p>Escalations and geopolitical crises threaten financial markets and political stability and likely disrupt global supply chains and trade relationships showing high interconnectivity among all related elements. This may increasingly lead to further polarization between states and regions and to contagion effects on looming conflicts in neighbouring countries and areas.</p> <p>Main impacts may include:</p> <ul style="list-style-type: none"> • Escalation of armed conflict may lead to mass migration and to accumulation and concentration of risk in certain areas. • Increased sanctions (e.g., on Russia and Iran), may lead to compliance challenges. • Naval conflicts may lead to increased maritime insurance rates and transportation costs; • Increased military expenditure may conflict with other budget priorities, such as public infrastructure, welfare and sustainability efforts. • Increased tensions may impact losses under property schemes (including Business Interruption/Contingent Business Interruption (BI/CBI), but also Strikes, Riots and Civil Commotions (SRCC) that result in asset damages). 	●	
Global Debt Crisis		<p>To tackle high inflation, in 2023 central banks hiked interest rates to levels not seen since before the 2008 Financial Crisis. Interest rate hikes coincide with historic highs in public debt accumulated during the post-Financial Crisis low interest rate era culminating with high government spending during the Covid-19 period. Servicing such record high debt and new debt obligations at higher interest rates further increases the risk of mass bankruptcies or insolvencies, liquidity crises or defaults and sovereign debt crises. Elevated debt levels also pose significant risk to economic growth, global resilience, public services and infrastructure investment. Weakening purchasing power of consumers amid stretched social safety nets and increased income and wealth gaps within and across countries could increase social and political tensions.</p> <p>Main impacts may include:</p> <ul style="list-style-type: none"> • Lower insurance demand and higher lapses from lower-risk individuals and businesses and potentially higher claim ratios. • A debt crisis may lead to a flight into safe haven assets (high rated government bonds) and high losses on risky assets like equities, real estate and alternative credits. • A decline in public investments may trigger losses in public infrastructure and health services and social unrest leading to impact losses under property schemes. 	●	



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Hazardous Chemicals and Small Particles	 	<p>Many chemicals can be harmful to the environment or to health if inhaled, ingested or absorbed through the skin. They can be carcinogenic, act as endocrine disruptors and can be bio-accumulative and persistent, such as per- and polyfluoroalkyl substances (PFAS) also referred to as “forever chemicals”. Small particles like fine dust, microplastics or nanoparticles can also be harmful. For many substances, their widespread use, chemical stability and accumulation through the food chain and long lifespan make them prone to serial and cumulative losses.</p> <p>Main impacts may include:</p> <ul style="list-style-type: none"> • Increase in liability claims from policies underwritten before scientific links to environmental and health harm had been identified. • Higher morbidity and mortality claims due to long-term health impacts. • Higher risks for assets linked to these substances. • Uncertain (prototype-) risk from new substance innovation. 		2010 & 2012
Information Reliability		<p>New digital abilities to manufacture fake content e.g., photos, videos, audio, text are proliferating, and the speed and ease with which sophisticated fakes can be produced and distributed are increasing, particularly with the recent boom in generative AI applications. Deep fakes e.g., AI-enabled simulated videos or fake information can be used for fraud, to harass individuals, defame social groups, blackmail organisations or destabilize political systems and markets, boost cyber-crime and incite social unrest. Another aspect of information reliability relates to historical data. Erasing online data, for example, on past wrongdoings committed by individuals or companies, can lead to false representation. For insurance companies, this has consequences for underwriting, claims handling, and reputational risk. More broadly, trust in objective evidence may be eroded, and false information could overshadow the facts necessary for making informed decisions, thus affecting both consumer behaviour and democracies.</p> <p>Main impacts may include:</p> <ul style="list-style-type: none"> • Risk selection/underwriting and pricing errors • Reputation and credibility of the insurance industry • Losses from social unrest and cyber events • Potential impact on mental health 		



TOPIC	ASSOCIATED TRENDS	DESCRIPTION	IMPACT ASSESSMENT	ERI PUBLICATION
Legal and Regulatory Complexity		<p>New regulations can lead companies to review the effectiveness of their governance and processes. The continued adoption of new regulations, often with regard to ESG, data, AI or conduct, can lead to compliance and operational challenges and to increasing complexity. As regulation becomes increasingly principles based demonstrating compliance has become more complex for insurers and leads to a residual risk that customer or regulatory expectations exceed the customer service and outcomes delivered by an individual company since approaches can deviate across an industry. Furthermore, overregulation, mis-regulation, nonregulation, and the extraterritoriality of regulation have been identified as risks in some areas. These changes have wide impacts on the investment chain and the insurance business (from operational consequences with reporting and disclosure obligations, to design of products and provision of insurance). There could also be impacts on litigation risk (such as allegations of greenwashing) and D&O coverage.</p> <p>Main impacts may include:</p> <ul style="list-style-type: none"> • Litigation risk (such as allegations of greenwashing) and D&O coverage. • Competitive disadvantages with different regulatory approaches in other jurisdictions or differing approaches within a jurisdiction due to the use of principles-based regulation. • Operational costs for insurers to comply and adapt. 		
Medical Advances		<p>Significant advances that have recently been made in several medical fields could bring considerable benefits in predicting, preventing, diagnosing, and treating illnesses and thus will improve human health and longevity. As an example, diabetes/weight loss drugs may have wider benefits for other chronic diseases and possibly add significantly to longevity. However, adverse selection and information asymmetry between insurers and applicants may arise, affecting the availability, accessibility and affordability of insurance policies, and an increase in claims. At the same time, these advances could increase the cost of some insurance products, such as health covers, and present new opportunities for other products, such as life insurance in the form of Long-Term Care coverage. Improvements in data processing algorithms and artificial intelligence are expected to increase the accuracy and reliability of predictive genetic testing, although the legal landscape and related ethical implications are complex and constantly evolving and could impact Liability insurance and brand reputation.</p> <p>Main impacts may include:</p> <ul style="list-style-type: none"> • Increase in the average cost of claims for some insurance products, such as health and liability coverage. • Uncertainty in the underwriting assumptions used to set limits and deductibles on predominantly healthcare products. • Challenges in setting proper assumptions for long-tail lines such as annuities, due to an increase in longevity risk. • Reputational impact stemming from the legal landscape and related ethical implications for some methodological processes, e.g. predictive genetic testing. • Longer life expectancy leading to an increased need for LTC coverage. 		2019

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Mental Health		<p>Mental health is not just the absence of mental illness but rather a complete mental ability and state of wellbeing. Accordingly, being mentally healthy is fundamental to performing everyday activities. Yet 20% of the world's population suffer from a mental disorder at some point in their lives. Many mental health issues are neither severe nor lasting but mild to moderate short-term mental health conditions such as depression, anxiety, stress, and burnout. Although most mental illnesses are treatable, many people suffering from mental health issues go unsupported. Furthermore, mental health risks are increasing worldwide. Stress and isolation caused by the Covid-19 pandemic outbreak have exacerbated this trend, as has increased reliance on social media to interact and inform, exposing users to addictive software applications. Moreover, long-term exposure to air and noise pollution is associated with increased risks of mental disorders, as well as psychopathological manifestations associated with climate change effects and biodiversity loss, which is a determining factor for human health and general well-being. Research shows that the current healthcare system is not sufficiently prepared to cope with the impacts of mental disorders. Consequently, an increase in claims related to medical expenses for Health insurance, occupational disability claims, Life insurance claims (because of higher suicide rates), and P&C claims (e.g. Workers' Compensation, Employers' Liability, Accident and Health, etc.) can be expected, as the focus shifts on insurance companies to take on the coverage. This shift in insurance claims from somatic to mental illnesses over the last few years highlights the implications relevant for insurers and their role in addressing the related evolving and costly risks.</p> <p>Main impacts may include:</p> <ul style="list-style-type: none"> • Increase in claims for Life, Health and P&C products. • Potential burden for insurers own operations, also due to absenteeism and loss of productivity. • Challenges in introducing parameters with little historical series in product pricing and reserving. • Potential reputational impact for companies not covering this type of risk. • New market opportunities in the realm of mental health and more generally wellbeing / welfare. 		2021
Metabolic Syndrome		<p>Metabolic syndrome is generally understood as the combination of three out of five conditions: Obesity, Hypertension, type 1 or 2 Diabetes, low levels of high-density lipoprotein (HDL) cholesterol and high Triglyceride levels in individual patients. It is associated with the risk of developing severe and chronic complications such as cardiovascular disease, myocardial infarction, stroke or kidney and liver disease. Many factors, such as inactive lifestyle, age, race, and gender, play a role in exacerbating the risks. About 20-25% of the world's adult population may be affected by metabolic syndrome, and its prevalence is predicted to increase in the future. Metabolic syndrome has a negative impact on life expectancy and healthcare costs, but it also has a liability aspect. Some of the associated risks can be reduced with prevention measures, which insurers should promote, such as public education, physical activity, not smoking, moderating alcohol consumption and a healthy diet.</p> <p>Main impacts may include:</p> <ul style="list-style-type: none"> • Negative impact on life expectancy and L&H claims. • Higher healthcare costs. 		

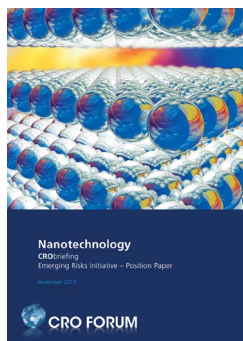
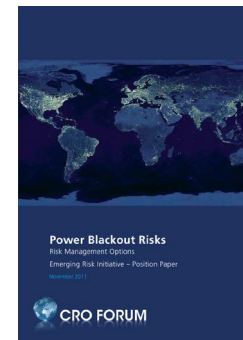
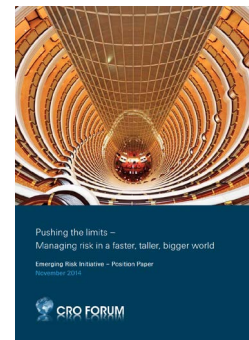
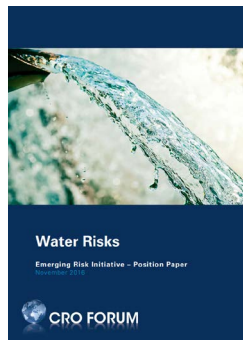
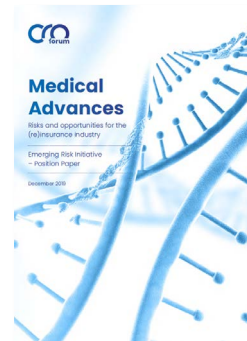
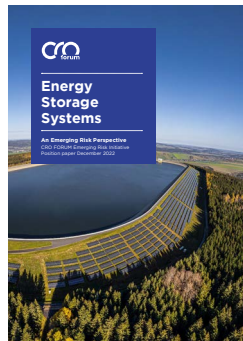
TOPIC	ASSOCIATED TRENDS	DESCRIPTION	IMPACT ASSESSMENT	ERI PUBLICATION
Nature and Biodiversity Loss		<p>Nature encompasses all elements of the natural world, such as plants, animals, mountains, and seas, while biodiversity is the richness of the living part of nature on which all human wellbeing is reliant. Biodiversity continues to decline in every region on the planet. This is due to changing land use (particularly conversion to agricultural land and urbanisation), the overuse of natural resources (particularly through overfishing and deforestation), and the introduction of invasive species, as well as due to pollution and climate change. As all life depends on nature, the impacts of nature and biodiversity loss will work upwards through the ecosystem and become relevant for insurance companies gradually and indirectly across all areas of activity. At the same time, stakeholders' expectations of insurers are increasing, especially with respect to working with clients and investee companies in high impact sectors such as agriculture and mining. The Reporting frameworks are also evolving, e.g. with the Taskforce for Nature-related Financial Disclosures.</p> <p>Main impacts may include:</p> <ul style="list-style-type: none"> • Potential liability claims linked to physical impacts such as decline in soil or water quality. • Reputational impact if insurers do not contribute sufficiently to improving nature and biodiversity. • Investment portfolios could be impacted. • Operational impacts e.g., disruption of value/supply chain, relocation of activities. • Impact on mental health as well as on food quality and availability having negative effects on morbidity and mortality. 	●	
Resource Management		<p>Pressure on many resources is increasing due to population growth, industrialization and technological progress, climate change, nature and biodiversity loss and geopolitical conflicts. Resource shortages can lead to wide-ranging effects: societal, such as reduced quality of life, migration and geopolitical disorder; economic, such as rising commodity prices affecting consumer spending capacity; and environmental. The latter is also linked to the potential damages resulting from unconventional oil and gas extraction (e.g. drilling in the Arctic, fracking, tar sands) and using new technologies in extreme environments (e.g. subsea methane hydrates and mineral deposits). Scarce resources play a role in geopolitical conflicts and can hamper the transition to a low-carbon economy (e.g. lithium for electric vehicle batteries).</p> <p>Main impacts may include:</p> <ul style="list-style-type: none"> • Prototype risk related to new ways of resource management including new types of claims. • Fewer new business opportunities. • Market volatility and negative impact on assets. • Reputation risk for insurers covering disputed operations. • Indirect negative impact on human wellbeing leading to higher morbidity and mortality. 	●	

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Skills Shortage and Reskilling		<p>Skills shortages across different industries are difficult to identify and measure, resulting in an impact on insurance claims that may go unnoticed and unattributed. Mismatches and shortages in engineering and medical skills have been reported for decades and are now exacerbated by retirement waves and technological advances. In the absence of lifelong learning and adaptation to new technologies and work trends, more industries could see a growing skills gap. The interaction of this development with the growing use of AI will bring additional challenges. For Property and Casualty business, skills shortages may result in the inability to sustain risk prevention measures, longer business interruption periods, costlier repairs and more product failures. Inappropriate decisions or mistakes made by inexperienced or overworked medical staff and reduced or delayed medical services could lead to an increase in medical malpractice claims and worsening mortality and morbidity. Mental health impacts on overtired or under-skilled employees could be another longer-term consequence. From an operational perspective, the insurance industry relies on highly skilled actuaries, loss adjusters, underwriters and asset managers and is thus directly exposed to this risk, in particular, with expected upcoming waves of retirement of specialists and experts (e.g. underwriters).</p> <p>Main impacts may include:</p> <ul style="list-style-type: none"> • Inability to sustain risk prevention measures, longer business interruption periods, costlier repairs, more product failures, and as a result higher Property & Casualty claims. • Inappropriate decisions or mistakes could lead to an increase in medical malpractice claims, or worsening mortality and morbidity. • Longer-term impacts on mental health of overtired employees • Operational Risk for insurance industry, which relies heavily on highly skilled employees. 	●	
Social Fragmentation		<p>Societal divisions (i.e. different level of access to resources and opportunities) and disparities (e.g. income and life expectancy differences) have become more pronounced, with more polarisation (e.g. irreconcilable political views), while social cohesion is reducing. From a macro perspective, democratic processes and market stability are particularly influenced by increasing social tensions and movements. These divisions can also significantly impact insurers in various ways.</p> <p>Social fragmentation can influence the risk profiles of individuals and communities. Factors like income inequality, urban-rural divides, and social unrest affect the likelihood and severity of claims (e.g. riots in Chile, France and South Africa).</p> <p>Social fragmentation can also lead to changes in regulations and government policies that could impact the industry (e.g. UK FCA's guidance on fair treatment of vulnerable customers).</p> <p>Main impacts may include:</p> <ul style="list-style-type: none"> • Risk of SRCC (strike, riot, civil commotion) events leading to property damage and loss of life with potential substantial losses for society and the insurance industry. • Need to adapt product design, underwriting and pricing according to regulatory requirements. • Fewer business opportunities for insurers (insurance protection gap). 	●	

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Space Risk		<p>Private space companies, space tourism, and microsatellite mega-constellations are contributing to the proliferation of space risks. In particular, the increasing deployment of satellite mega-constellations by commercial space companies has the potential to significantly increase the number of objects in orbit, thereby increasing the risk of collisions with space debris, other operational systems, or meteorites, with the potential to damage operational systems, in addition to creating even more space debris. Other factors creating space risks include solar storms and cyber-attacks, that could damage the space infrastructure that is relied upon for critical services on Earth such as communications systems, defence, GPS systems and Earth observation missions. Deliberate cyber-attacks on a nation's critical space infrastructure could contribute to geopolitical tensions.</p> <p>Main impacts may include:</p> <ul style="list-style-type: none"> • Direct physical damage to insured space infrastructure, such as satellites and spacecraft. • Wider secondary impacts on Earth, resulting from outages of critical space infrastructures essential for example communications systems, GPS systems and defence, and including electricity blackouts. • Escalation of geopolitical tensions due to companies from a small number of countries dominating the space resource or nation-state backed attacks on the critical infrastructure of a rival country. 	●	
Substance Abuse		<p>Substance abuse is usually defined as the use of illegal substances or the misuse or excessive use of legal substances. These substances can range from opioid drugs, prescribed medications to alcohol and nicotine. They cause addiction and harm all parts of the body, in particular the brain. Currently, the United States and many other countries are facing a significant 'Opioid Crisis' with millions of Americans suffering from an addiction to prescription opioids and heroin. Drug overdoses are the leading cause of death of Americans under the age of 50. E-cigarettes (vaping), which were promoted as an aid to help smokers quit, have had the opposite effect by making more people, especially young adults and teenagers addicted to nicotine, particularly through use of flavoured vapes. The abuse of illegal drugs poses a particular risk, as they very quickly lead to addiction and considerable social problems (e.g. acquisitive crime). For insurers, there were and still are many health-related risks in addition to a negative economic impact. Furthermore, it appears that illicit drug use is increasingly implicated in traffic accidents, also affecting motor insurance.</p> <p>Main impacts may include:</p> <ul style="list-style-type: none"> • Increase of morbidity and mortality • Higher healthcare costs • Potential impact on P&C lines such as motor • Additional burden to social systems 	●	

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Supply Chain Complexity		<p>The high degree of optimisation and interconnectivity makes global supply chains vulnerable to risk concentration and disruptions that may lead to higher-than-expected insured losses. Cyberattacks pose a further existential threat to digital networks. Geopolitical events can create trade barriers. Non-economic disruptors capable of reshaping the global supply chain network include pandemic events (as evidenced by experience of the Covid-19 pandemic), international sanctions, increased public scrutiny of ESG compliance and the rise of geopolitical turmoil. To achieve greater resilience, alternative solutions are adopted, including nearshoring, regionalisation, the build-up of strategic storage and diligent sourcing of scarce resources.</p> <p>Main impacts may include:</p> <ul style="list-style-type: none"> • Trade finance or transport insurance may be impacted through higher premiums and claims. • Companies may suffer business interruption, leading to higher claims and/or impact on outsourced process of insurers themselves. • Changing supply chains or building resilience may drive up prices and inflation in general and risk premiums for specific industries, which both could lead to negative impact on investments and insurance claims. • Quality of operational services to clients may suffer if required resources are not available to repair, e.g. cars or houses. 		

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