

Top 10 Global Business Risks for 2016

Business interruption
(incl. supply chain disruption)



38% ◀ 2015: 1 (46%)

Macroeconomic developments
(austerity programs, commodity price increase, inflation/deflation)



22% ▲ NEW

Market developments
(volatility, intensified competition, market stagnation)



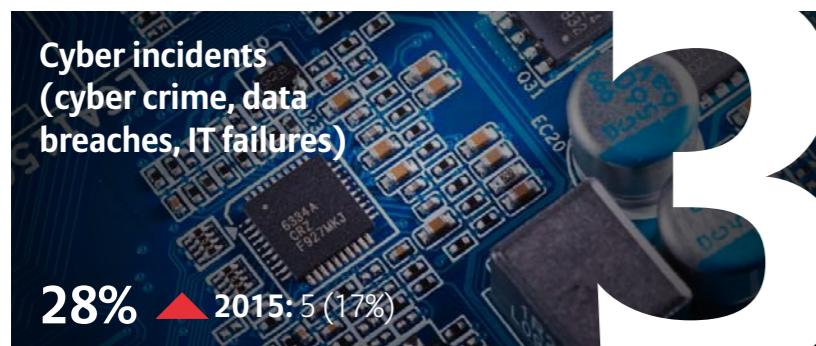
34% ▲ NEW

Loss of reputation or brand value



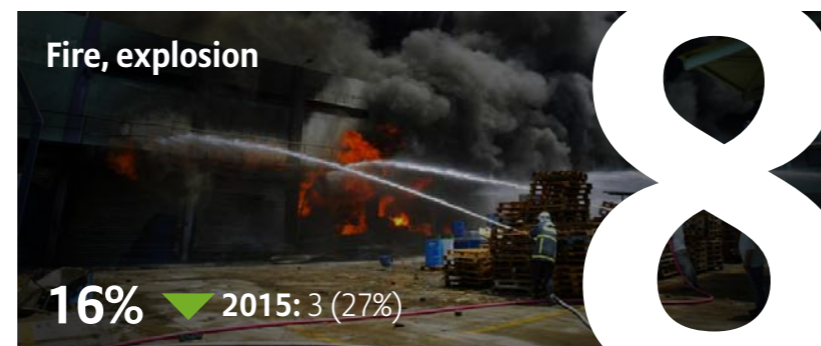
18% ▼ 2015: 6 (16%)

Cyber incidents
(cyber crime, data breaches, IT failures)



28% ▲ 2015: 5 (17%)

Fire, explosion



16% ▼ 2015: 3 (27%)

Natural catastrophes
(storm, flood, earthquake)



24% ▼ 2015: 2 (30%)

Political risks
(war, terrorism, upheaval)



11% ◀ 2015: 9 (11%)

Changes in legislation and regulation
(economic sanctions, protectionism)



24% ▼ 2015: 4 (18%)

Theft, fraud and corruption



11% ◀ 2015: 10 (9%)

Allianz Risk Pulse

Allianz Risk Barometer Top Business Risks 2016

Executive Summary

The fifth annual Allianz Risk Barometer identifies the top corporate perils for 2016 and beyond, based on the responses of more than 800 risk experts from 40+ countries around the globe.

Business interruption (incl. supply chain disruption), **market developments** (volatility, intensified competition and market stagnation) and **cyber incidents** are the top three global business risks. Business interruption (BI) is top for the fourth year in succession. [▶ page 3](#)

The risk landscape is changing. Businesses face a wider range of disruptive forces in 2016 and beyond. The effects of globalization, digitalization and technological disruption pose fundamental challenges to many business models. [▶ page 4](#)

Businesses and insurers must review their insurance and risk mitigation needs to reflect this new risk management reality. Refining existing, and developing new, risk services will be necessary. [▶ page 4](#)

Interconnectivity of risk continues to grow. Many of the top 10 risks such as natural catastrophes, fire, explosion, cyber incidents and political risks can have severe BI implications. Businesses are increasingly concerned about the impact political instability can have on supply chains. [▶ page 5](#)

Market developments is the second top risk. Many industrial sectors are facing tougher operating conditions, including intensified competition from new areas. [▶ page 7](#)

Businesses are more concerned about cyber incidents, which is the top long-term risk and the peril most likely to increase the threat of BI. Hackers are not the only problem. Operational technology issues also result in major system interruptions. [▶ page 10](#)

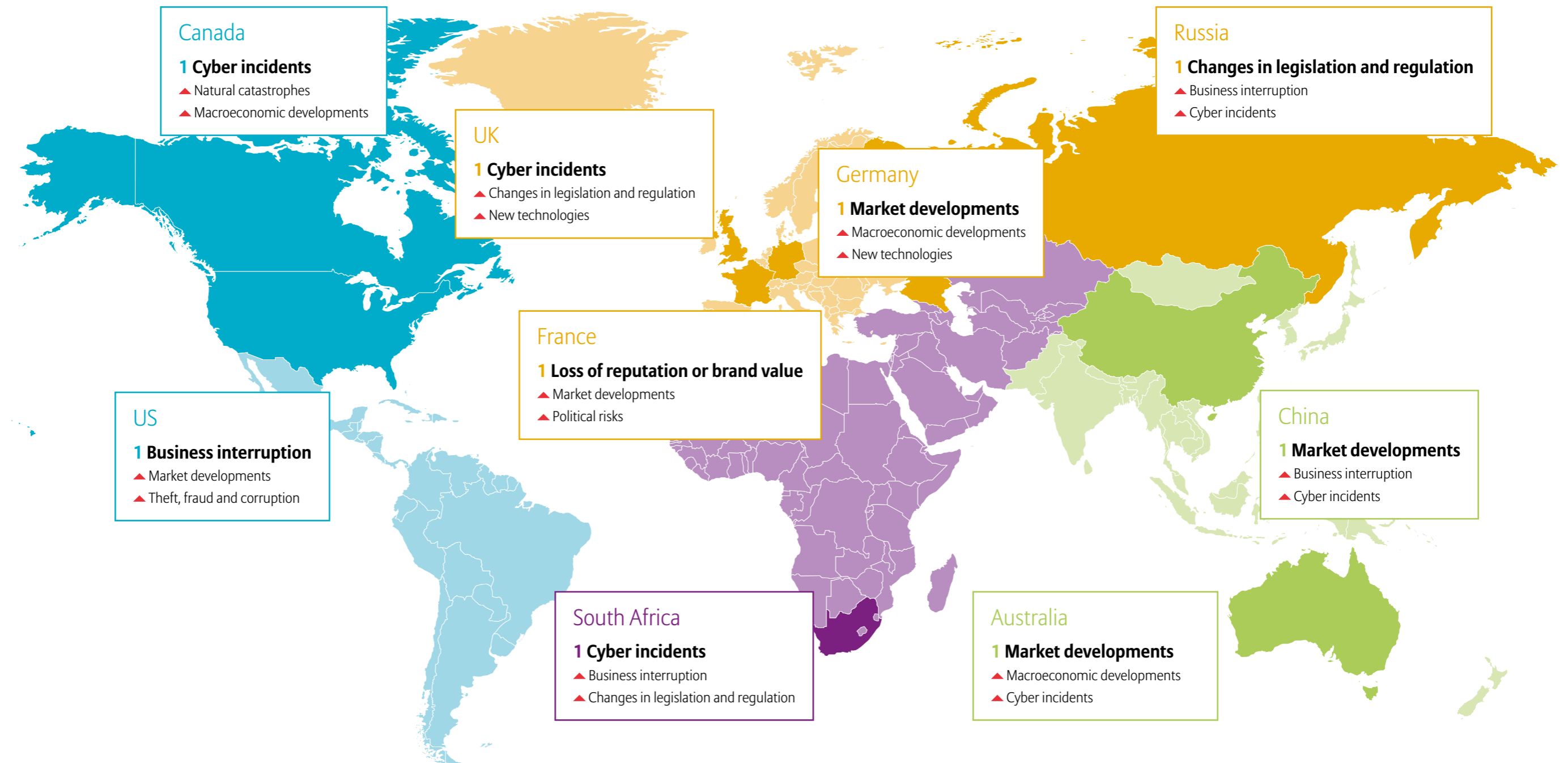
Digital and technological innovations and transformations, such as **Industry 4.0**, bring new risks in addition to benefits. Increasing sophistication of cyber-attacks is the impact of increasing digitalization businesses fear most. Many companies have insufficient knowledge and budget to mitigate this risk, as the threat continues to evolve. [▶ page 12](#)

There are significant differences in the top 10 risks around the world. Macroeconomic developments tops the Africa & Middle East rankings. Cyber incidents is the number one risk in the UK. [▶ page 14](#)

Snapshot: Top Business Risks Around The World

[Click here to see the full list of top 10 business risks for each region and for 16 different countries](#)

[Click here to see the 2015 Snapshot: Top Business Risks Around The World](#)



Americas
1 Business interruption
▲ Cyber incidents
▲ Theft, fraud and corruption

Europe
1 Business interruption
▲ Market developments
▲ Cyber incidents

Africa & Middle East
1 Macroeconomic developments
▲ Market developments
▲ Natural catastrophes

Asia Pacific
1 Business interruption
▲ Market developments
▲ Cyber incidents

This risk map shows the top risk for businesses per geographical region and in selected countries. It also shows some of the risks that are of increasing concern to businesses year-on-year.

Source: Allianz Global Corporate & Specialty

Response findings: Changes in risk perception

Industry 4.0

Also known as the fourth industrial revolution, it refers to the digital transformation of industry, in particular the global manufacturing sector, and the merging of virtual and physical worlds.

The impact of **business interruption (incl. supply chain disruption)**, **market developments (volatility, intensified competition and market stagnation)** and **cyber incidents** are the major risks occupying the attention of companies at the start of 2016, according to the fifth annual **Allianz Risk Barometer**, which surveys over 800 risk managers and corporate insurance experts from more than 40 countries.

Business interruption (BI) remains the top peril for the fourth year in succession, with 38% of responses rating this as one of the three most important risks companies face. In today's increasingly complex and interconnected corporate environment many of the top 10 global business perils in the 2016 Risk Barometer

rankings, such as cyber-incidents and political risks, for example can also have severe BI implications.

However, businesses appear less concerned about the impact of traditional industrial risks such as **natural catastrophes (storm, flood, earthquake) and fire, explosion** compared with previous years, according to responses. These perils are two of the biggest fallers in the 2016 rankings. Natural catastrophes drops two positions to fourth year-on-year, down six percentage points, reflecting the fact that insurance claims from natural disasters fell to \$27bn during 2015 – with nat cat losses at their lowest level since 2009 – according to reinsurer Munich Re. Fire, explosion drops further, falling from third in 2015 to eighth in 2016, down 11 percentage points.

Allianz Risk Barometer methodology

The fifth annual **Allianz Risk Barometer** survey was conducted among global businesses, as well as risk consultants, underwriters, senior managers and claims experts within both AGCS and local Allianz entities during October and November 2015. Its focus is on the corporate insurance sector for both large and small to mid-sized industrial companies.

There were a record **824** respondents from a total of **44 countries**. As multiple answers for up to two industries were possible **1,146** answers were delivered. Participants were asked to name industries about which they are particularly knowledgeable and then name up to three risks they believe to be of most importance.

Most answers were for large enterprises (over **€500m/\$540m** revenue) [**674 responses 59%**] next to small and mid-size enterprises (up to **€500m** revenue) [**472 responses 41%**].

Ranking changes in the Risk Barometer are determined by positions year-on-year, ahead of percentages.

[View the 2015 Risk Barometer rankings here](#) ➔

Rising risk priorities

The 2016 Risk Barometer results show businesses are more concerned about a number of operational issues which are placing increasing pressure on their markets and challenging business models.

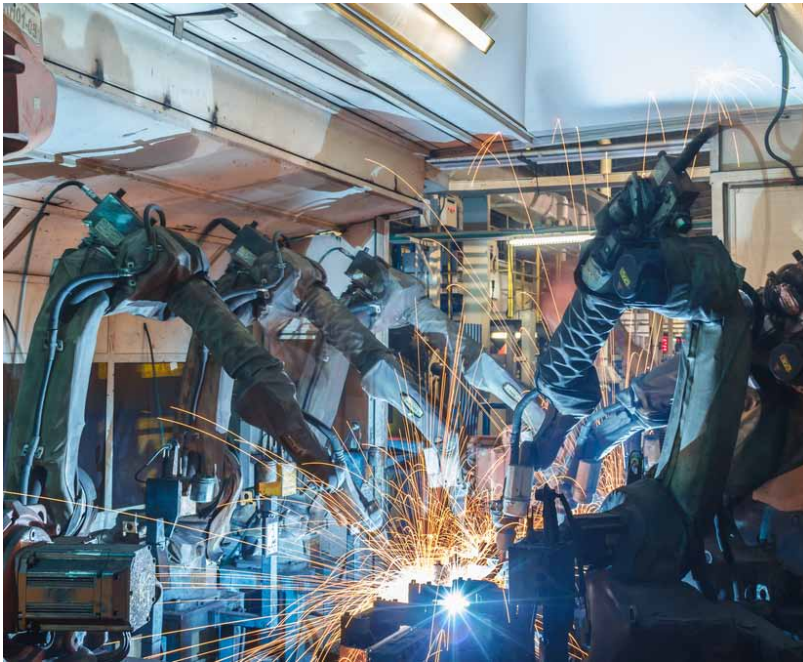
Intensified competition, particularly from non-traditional competitors and agile start-ups, is one of the drivers behind market developments appearing in the top three risks for the first time, ranking second with 34% of responses¹.

Increasing digitalization and technological innovation is also anticipated to have more of an impact in future, according to responses.

Integration of interconnected digital and physical technology, such as 3D printing, nanotechnology, driverless cars and "smart" cities and factories, for example, is predicted to deliver many benefits including increasing efficiency and service levels, greener technology and reduced maintenance. However, such benefits are also accompanied by a number of potential new operational, security and strategic risks for businesses (see page 12).

Entering the top three business risks for the first time in third position with 28% of responses, meaning it ranks as a greater concern for businesses than natural catastrophes, **cyber incidents (cyber-crime, data**

¹ In the 2015 Allianz Risk Barometer the risks listed as market developments were ranked separately, not as one collective peril.



Impact of technological innovation moves up the Risk Barometer rankings this year.
Photo: Shutterstock

Market and macro factors shape risk agenda

The biggest contraction in global trade since the financial crisis, BRICs and other emerging markets hitting a wall and a subdued knock-on-effect from the drop in commodity prices help ensure market and macro developments rank highly in this year's Risk Barometer, says **Ludovic Subran, Chief Economist at trade credit insurer Euler Hermes**, a sister company of AGCS.

Russia, Brazil, Venezuela, South Africa, Nigeria and Malaysia are among those countries which have been negatively affected by cheaper commodity prices. "However, it is fascinating to see that, in many cases, the decline in oil and gas, iron ore and steel prices has stressed the supply chain more than it has benefited it," says Subran. "Sectors that you would expect to benefit from such a development, such as construction for example, have not done as well as anticipated because of structural difficulties. Further, some sectors, such as machinery and equipment, have been the collateral damage of plummeting investment in the oil and gas industry.

"With regards to many of the macro factors that unfolded through 2015, it seems that the negatives accumulated at a rate that exceeded the positives – a case of 'one step forwards, two steps back' – and this was something that made companies extremely nervous during H2."

[View Euler Hermes' economic research](#) ➔

breaches, IT failures) is the significant mover in this year's rankings, up 11 percentage points. It is also the top future risk, according to responses (see page 13), while the increasing sophistication of cyber-attacks is the impact of digitalization companies fear most (see page 12).

New technologies (impact of increasing interconnectivity and innovation) is also one of the biggest risers in the rankings year-on-year. In 2015 it ranked 19th with just 3% of responses. In 2016, it ranks 11th with 10% of responses.

Macroeconomic developments (austerity programs, commodity price increase, inflation/deflation) also appears in the top 10 global risks for the first time in sixth position¹, driven in part by the fact it is the top risk in the Africa & Middle East region (see page 14).

Political risks (war, terrorism, upheaval) remains a priority concern for businesses, maintaining ninth position. According to 54% of responses, multinational businesses are most concerned about the disruptive impact any instability or incident can have on their supply chains, followed by the impact of an act of terrorism (38%) and the introduction of sanctions (34%).

"Businesses need to prepare for a wider range of disruptive forces in 2016 and beyond," says **Axel Theis, Member of the Board of Management, Allianz SE**. "The increasing impacts of globalization, digitalization and technological innovation pose fundamental challenges to many businesses and business models. The world is becoming increasingly competitive as market entry barriers come down."

"The corporate risk landscape is changing, as many industrial sectors are undergoing a fundamental transformation," says **Chris Fischer Hirs, CEO, AGCS**. "New technologies, increasing digitalization and the 'Internet of Things' are changing customer behavior, industrial operations and business models, bringing a wealth of opportunities, but also raising awareness of the need for an enterprise-wide response to new challenges.

"As insurers we need to work together with our corporate clients to help them to address these new realities in a comprehensive manner."

¹ In the 2015 Allianz Risk Barometer the risks listed as macroeconomic developments were ranked separately, not as one collective peril.

Top risks in focus: Business interruption

Business interruption (incl. supply chain disruption) ranks as the top peril in the Allianz Risk Barometer for the fourth year in succession with 38% of responses rating this as one of the three most important risks for companies. Although the share of responses is down year-on-year

(46% in 2015), this is mitigated by the fact that many of the other top 10 global risks such as natural catastrophes, fire and explosion, cyber incidents and political risks can also have severe business interruption (BI) implications.

Political risks produce business interruption concerns

Political risks (war, terrorism, upheaval) remain a priority concern for businesses in the Allianz Risk Barometer, maintaining 9th position in the global rankings.

Multinational businesses are most worried about the disruptive impact upon their supply chains (54%), followed by acts of terrorism¹ (38%) and introduction of sanctions (34%). Terrorism also ranks as the third top long-term risk (see page 13).

According to responses countries that pose an increasing risk include Russia (25%), China (18%), Ukraine (7%) and Brazil (7%). Instability in some African states, such as Burundi, and parts of South East Asia (Indonesia, Malaysia and Thailand) is also a concern, says **Christof Bentele, Head of Global Crisis Management, AGCS**.

Companies have to actively address the mounting risks. Ongoing evaluation of the global security situation, which is always in a state of flux, including a corresponding assessment of individual risks is imperative. Contingency plans have to be developed for various scenarios involving political violence. Far from all companies have such plans in place.

More companies are working with specialist crisis and risk consultancy firms which provide analytical information and local security experts, ensuring information is accessible before a crisis occurs. This ensures processes can be checked and employees trained – factors which can decide between success and failure in the worst-case scenario.

Geopolitical instability is a major concern for multinational businesses. What risks are businesses most worried about?



Source: Allianz Global Corporate & Specialty. Figures represent the percentage of participants (824 overall) who selected that specific risk. Up to three answers possible.

AGCS insurance claims analysis shows that BI losses are increasing, typically accounting for a much higher proportion of the overall loss than a decade ago. According to AGCS' **Global Claims Review 2015: Business Interruption In Focus** the average large BI property insurance claim is **€2.2m (\$2.4m)**, more than a third higher than the average direct property damage claim of just over **€1.6m (\$1.75m)**.

The primary driver behind increasing BI losses is that interconnectivity of risk is growing day-by-day, as technology, globalization and social change create a complex web of relationships and interdependencies with "just-in-time" and "lean" manufacturing now standard practices," says **Hugh Burgess, Global Head of Mid-Corporate and Head of Corporate Lines North America, AGCS**. "It is also evidenced in the impact of financial crises, as well as in cyber space, with the rise of social networking and the so-called "Internet of Things" (see page 12).

At the same time, the global impact of natural catastrophes is well documented, with increasing concentration of production and economic value in natural catastrophe hazard-prone areas such as South East Asia for example, a continuing trend.

According to Risk Barometer responses the major causes of BI that businesses fear the impact of most are natural catastrophes (51%), closely followed by fire, explosion (46%). Supplier failure ranks third (32%).

"It's not surprising that natural catastrophes top the causes of BI global businesses fear most as these events always lead to business interruption," says **Volker Muench, Global Practice Group Leader, Property, AGCS Property Underwriting**.

Major loss events such as the Japanese earthquake and Thailand floods in 2011 saw hundreds of businesses file such insurance claims, with the majority of these notifications coming from companies based outside of the affected areas.

¹ Responses were collected prior to the terrorist attacks in Paris on November 13, 2015



Claims analysis shows a significant fire, explosion incident costs around €1.7m in business interruption losses on average. Photo: Shutterstock

The impact of fire and explosion

It is also unsurprising that fire and explosion is the second top cause of BI businesses fear most. AGCS analysis of more than 1,800 large BI insurance claims over the past five years shows that this peril is actually the top cause of BI loss around the globe, accounting for around 59% of the value of such claims. Each fire and explosion incident costs around €1.7m (\$1.8m) in BI losses on average.

Whereas a large fire or explosion may once have only impacted one or two companies, today such losses can impact multiple companies in different locations. This was evidenced, both, during 2013, when a fire at a semiconductor plant in China stopped delivery to many electronic equipment manufacturers in North America and, more recently, by the explosions at the port city of Tianjin in China in August 2015, where there have been a number of BI losses as a result of the subsequent interruption of flow in stock and production when the port was closed by authorities.



Top causes of business interruption losses

Addressing and minimizing exposure

“Five years on from the Japanese earthquake and Thailand floods many companies have taken steps to address and minimize their BI exposure. Supply chain management and business continuity plans have become more robust,” says **Thomas Varney, Head of Allianz Risk Consulting Americas**. Some large companies have shifted from a predominantly procurement-driven view of supply chain risk to one that brings together management disciplines to overcome the risks. Businesses are also using a much broader array of early indicators to pick up on supplier problems. These include looking for inconsistencies in product quality as a warning signal of financial problems rather than just monitoring a company’s financial strength rating. Companies are also monitoring their suppliers’ competitors in order to identify the development of any potential problems within the industry environment in question.

However, while there are obviously lessons to be learned from past BI experiences and large losses, as the world becomes increasingly interconnected, there needs to be a more proactive steering of risk management policy in order to actively manage the BI risks of the future that are emerging from the fast-changing environment in which businesses are now operating, according to Muench.

More BI claims resulting from events such as cyber incidents and technical failures (*see page 11*), interruptions caused by import/export restrictions, disrupted production due to strikes, political violence, terrorism, war or the actions of authorities, and loss of reputation due to various environmental, social and governance activities are expected to result in sizable financial losses in future. Insurance can provide protection from such disruptive forces but swift crisis communication and response management are also crucial to mitigate the loss impact.

Which major causes of business interruption do businesses fear most?



Figures represent the percentage of participants who responded (348). Up to three answers possible.

Which trends will increase the threat of business interruption in future?



Figures represent the percentage of participants who responded (343). Up to three answers possible.

➔ [Cyber business interruption \(page 11\)](#)



Digital and technological innovation is transforming industry. Flexibility, agility and rapid innovation based on new technologies and methods will be key to the success of manufacturing companies in future. Photo: Shutterstock

Top risks in focus: Market developments

More than a third of responses (34%) cited **market developments** as one of the three most important risks facing companies in 2016, ensuring it ranked as the second top peril in the Risk Barometer overall.

Businesses are increasingly concerned about the impact of **volatility, intensified competition** and **market stagnation**. It is the first time market developments ranks as one of the top three global perils in the Risk Barometer, although this rise can be partly explained by the fact it is also the first year these risks have been included as one collective peril. In the 2015 Risk

Barometer both market stagnation (15%) and intensified competition (13%) featured in the top 10 global risks, ranking seventh and eighth respectively.

Nevertheless, the responses reveal that many industrial businesses are facing a growing number of wide-ranging challenges. Long-term strategic issues include successfully adapting to, and managing, challenges to business models posed by increasing automation, digitalization and interconnectivity of industry. Then, there is the threat posed by the continuing emergence of potentially more agile start-ups and the ongoing development of **“disruptive**

Top business risks in 2016 by industry

Market developments ranks as the top risk, replacing natural catastrophes which drops to second.

Engineering, Construction, Real Estate			2015 Rank	Trend
1	Market developments (volatility, intensified competition, market stagnation)	39%	NEW	▲
2	Natural catastrophes (storm, flood, earthquake)	34%	1 (42%)	▼
3	Business interruption (incl. supply chain disruption)	32%	2 (39%)	▼
4	Macroeconomic developments (austerity programs, commodity price increase, inflation/deflation)	27%	NEW	▲
5	Fire, explosion	24%	3 (36%)	▼

Market developments replaces changes in legislation and regulation as the top risk.

Financial Services			2015 Rank	Trend
1	Market developments (volatility, intensified competition, market stagnation)	44%	NEW	▲
2	Cyber incidents (cyber crime, data breaches, IT failures)	44%	2 (31%)	-
3	Changes in legislation and regulation (economic sanctions, protectionism)	37%	1 (33%)	▼
4	Macroeconomic developments (austerity programs, commodity price increase, inflation/deflation)	29%	NEW	▲
5	Loss of reputation or brand value	20%	NEW	▲

Source: Allianz Global Corporate & Specialty. Figures represent the number of responses as a percentage of all responses (between 40 and 149 responses per industry). More than one risk selected.

continues on page 8 

technologies", so-called because such innovations help to create a new market and value network, eventually "disrupting" the old one (see page 12). Finally, there is the need to be more innovative themselves in order to more effectively serve the next generation of customers.

At the same time, many businesses are already having to manage a long list of issues, such as having to comply with changing legislative environments, import and export restrictions, more stringent safety requirements and work rules, increasing government involvement and

TRENDS IN FOCUS: Manufacturing (incl. automotive)

Manufacturing (incl. automotive)			2015 Rank	Trend
1	Business interruption (incl. supply chain disruption)	65%	1 (68%)	-
2	Market developments (volatility, intensified competition, market stagnation)	38%	NEW	▲
3	Natural catastrophes (storm, flood, earthquake)	29%	3 (41%)	-
4	Loss of reputation or brand value	24%	NEW	▲
5	Cyber incidents (cyber crime, data breaches, IT failures)	21%	NEW	▲

Source: Allianz Global Corporate & Specialty. Figures represent the number of responses as a percentage of all responses (between 40 and 149 responses per industry). More than one risk selected.

"The global nature of many companies has resulted in them optimizing their value chains through setting up manufacturing locations and focusing their supply chains in the emerging economies, resulting in greater cost efficiencies and proximity to growth markets," comments **Michele Williams, Global Practice Group Leader, Heavy Industries & Manufacturing, Property Underwriting, AGCS**. "This has inadvertently resulted in a greater exposure to natural disasters and increasing uncertainty around areas such as demand, volatility and supply chain disruptions."

Regional production standards and legislative requirements can vary considerably, and in some regions there is also a requirement for compulsory joint venture businesses. There are advantages to this but also the potential to limit the influence of the parent company and lose some of the technological lead competencies. "This means that there is a need to reassess the balance between the efficiency gains and locality to growth markets which comes from these globally optimized value chains, and the control and resilience of less fragmented and dispersed operations," says Williams.

Automotive developments

There are a number of major trends in the automotive industry which are representative of the complex trends in the manufacturing industry as a whole, including:

Government influence in manufacturing policy. Many governments in key markets are legislating for safer, cleaner

transportation. Their incentives and penalties are forcing a change in consumer demand which requires manufacturers to invest in new materials, technologies and production techniques to meet these demands.

Changing global mobility needs. Increasing disposable income and the need for personalized transport in some parts of the world is fueling the growth of individual car ownership, and the demand for smaller cheaper models. Whereas continuing urbanization in other societies is leading to the demand for alternative options to individual car ownership. The resulting need is for companies to focus and invest in more diversified portfolios and partnerships which could include services like car sharing.

Digital is changing demand and purchasing patterns.

Society's need to be connected to electronic devices and social media does not stop in a car and the driving experience must reflect this need. In addition, uncensored feedback online is directly impacting the way people research and purchase vehicles, and changing their expectations.

Future competition. This will come from areas not traditionally seen as competition in this industry. Technological developments, for example electric driving and driverless vehicles, have resulted in new entrants to the market like Tesla Inc, Google Inc and Uber Technologies Inc. The newer technologies may also reduce the level of competencies required for new producers, allowing for faster development and shorter time to market.

approvals, and environmental restrictions – such as the growing trend to move investment assets away from fossil fuel companies, for example – which are already impacting business models.

Therefore, it is unsurprising that market developments is ranked as a top three business risk for 2016 in the engineering, financial services, manufacturing, marine

and shipping, pharmaceutical (see *Risk Barometer Appendix*) and transportation sectors, and is the top risk in the engineering, financial services and marine and shipping industries. In addition, it ranks as a top two concern across all industries questioned in the Africa & Middle East, Asia Pacific and Europe regions (see page 14) and fourth in the Americas.

Market developments is the top risk, replacing intensified competition, which was ranked #1 as a single peril in 2015.

Changes in legislation and regulation is the top risk, replacing business interruption.

Theft, fraud, corruption (48%) remains the top risk for the third year in succession.



Insolvencies in the global marine sector rose by 10% in 2015, while investments dropped by 7%

Ludovic Subran
Chief Economist, Euler
Hermes

Top business risks in 2016 by industry

Marine & Shipping			2015 Rank	Trend
1	Market developments (volatility, intensified competition, market stagnation)	46%	NEW	▲
2	Theft, fraud, corruption	33%	4 (27%)	▲
3	Business interruption (incl. supply chain disruption)	31%	NEW	▲
4	Natural catastrophes (storm, flood, earthquake)	30%	3 (27%)	▼
5	Political risks (war, terrorism, upheaval)	20%	5 (21%)	-

Power & Utilities			2015 Rank	Trend
1	Changes in legislation and regulation (economic sanctions, protectionism)	48%	2 (34%)	▲
2	Business interruption (incl. supply chain disruption)	42%	1 (47%)	▼
3	Natural catastrophes (storm, flood, earthquake)	35%	5 (18%)	▲
4	Fire, explosion	31%	4 (18%)	-
5	Cyber incidents (cyber crime, data breaches, IT failures)	27%	NEW	▲

Transportation			2015 Rank	Trend
1	Theft, fraud, corruption	48%	1 (47%)	-
2	Natural catastrophes (storm, flood, earthquake)	33%	2 (37%)	-
3	Market developments (volatility, intensified competition, market stagnation)	30%	NEW	▲
4	Macroeconomic developments (austerity programs, commodity price increase, inflation/deflation)	24%	NEW	▲
5	Cyber incidents (cyber crime, data breaches, IT failures)	22%	NEW	▲

Source: Allianz Global Corporate & Specialty. Figures represent the number of responses as a percentage of all responses (between 40 and 149 responses per industry). More than one risk selected.

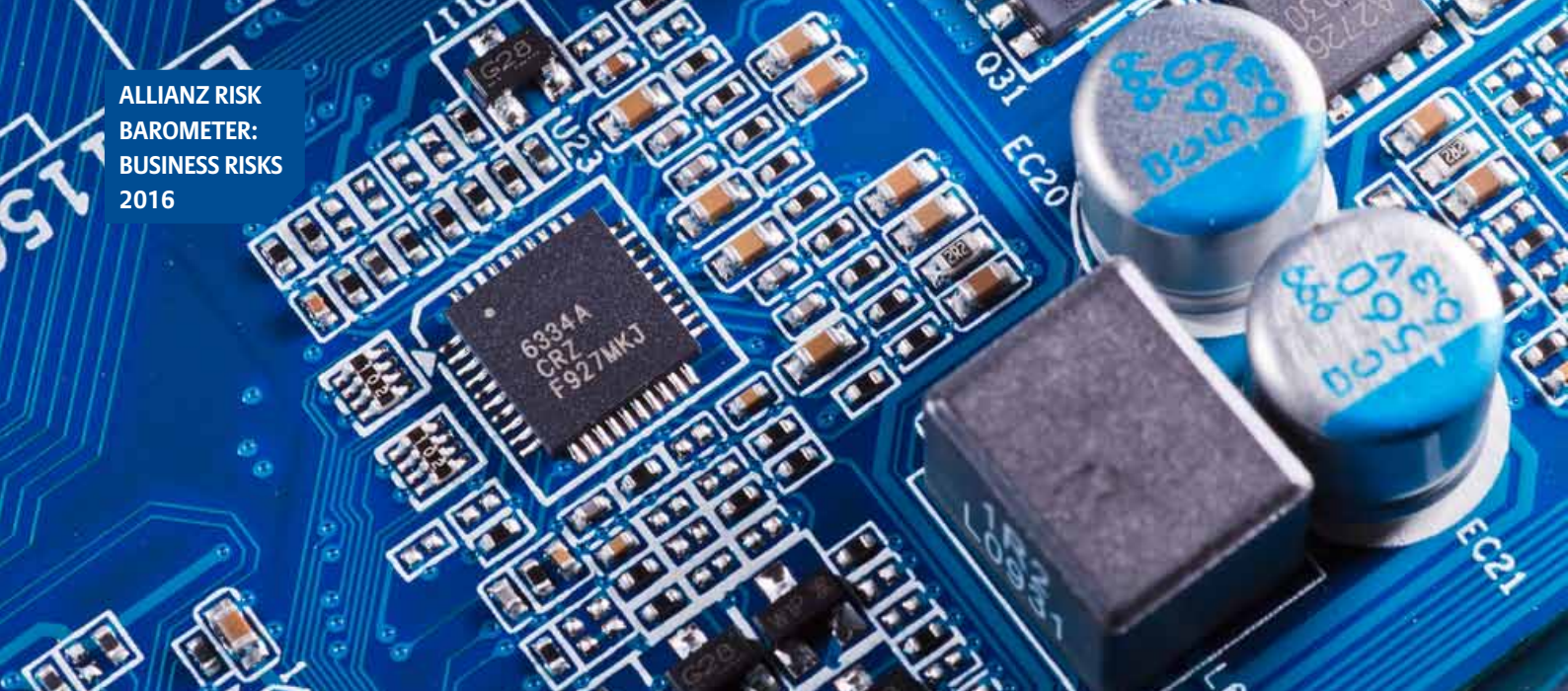
TRENDS IN FOCUS: Marine & Shipping

“The **Baltic Dry Index** – the global freight rate index for dry bulk shipping – recently plummeted to its all-time low, meaning freight and charter rates for dry bulk vessels are as low as ever,” says **Sven Gerhard, Global Product Leader Hull & Marine Liabilities, AGCS**.

“Often the charter income is below the vessels’ operational expenses. Lower commodity demand in China but also overcapacities in the worldwide fleet are contributing to this. Many container liner

operators announced losses for Q3 2015 and the situation with crude tankers is similar.

“The low oil price results in fewer offshore exploration activities and lower demand for offshore supply vessels. Based on the overall still weak outlook of the industry, both banks, as well as financial investors, take a restrictive approach on ship financing, limiting the access of ship owners to new funds. The overall weak outlook is likely to continue in 2016.”



In today's interconnected world of internet-based supply chain management, a simple technical failure can result in a major system interruption.
Photo: Shutterstock

Top risks in focus: Cyber incidents



Cyber risk connected: 12 ways in which a business can be exposed ➔

Cyber risk appears in many forms, all of which can represent major threats to business. Companies increasingly face new exposures, including first- and third-party damage, business interruption and regulatory consequences.

It is estimated that cyber-crime alone costs the global economy approximately **\$445bn a year**¹ with the world's largest economies accounting for around half of this, data analyzed in an AGCS report **A Guide to Cyber Risk: Managing The Impact of Increasing Interconnectivity** ➔ shows. The threat posed by such incidents is expected to increase further during 2016.

According to Symantec Corporation² risks associated with the increasing use of Apple devices and the **"Internet of Things"** are among the factors which will drive this increase. The US software security firm predicts that attacks on critical infrastructure will also rise.

"Internet of Things"
Describes a future where all the devices we use are connected to the internet, allowing them to send and receive data.

This increasing risk is reflected in the Risk Barometer with **cyber incidents (cyber-crime, data breaches, IT failures)** gaining 11 percentage points year-on-year to move into the top three risks for the first time (28%). Three years ago this peril ranked just 15th (6%).

Loss of reputation (69%) is the main cause of economic loss for businesses after a cyber incident, according to responses, followed by business interruption (60%) and liability claims after a data breach (52%).

Due to the almost automatic blow a company's reputation can sustain in the event of a cyber incident many attacks still go unreported. However, many network outages and disruptions, that are not caused by cyber-attacks, but by technical issues, are not made public for similar reasons.

A lack of understanding (48%) of the complexity of the risks involved is cited as the main factor preventing companies from being better prepared to combat cyber threats. Not having a concrete assessment of the cost of the risks involved (46%) ranks second. Budgetary constraints (39%) ranks third.

"Attacks by hackers are becoming more target-oriented, lasting for longer and can trigger a continuous penetration," says **Jens Krickhahn, Practice Leader Cyber & Fidelity, at AGCS Financial Lines Central & Eastern Europe.**

"Studies show that it takes, on average, 90 days for businesses to discover they have been hacked. Often the incident is identified, not by the business itself, but by the customer or another stakeholder, which is another reason why cyber risks pose a huge threat to a company's reputation.

"The fact that companies often only recognize the loss when an attack has already happened means all they can do is try and prevent further damage. This is why prevention is such a key element in IT security. Managing cyber risk has to be an integral part of any company's risk management strategy."

¹ Net Losses: Estimating the Global Cost of Cyber-Crime, CSIS/McAfee

² www.symantec.com/connect/blogs/Symantec-predictions-2016-looking-ahead

What are the main causes of economic loss after a cyber incident?



Source: Allianz Global Corporate & Specialty. Figures represent the percentage of participants who responded (281). Up to three answers possible.

What is preventing companies from being better prepared against cyber risks?



Source: Allianz Global Corporate & Specialty. Figures represent the percentage of participants who responded (281). Up to three answers possible.

Increasing impact of technical failure and user error

According to almost 60% of responses, an increase in cyber incidents is the major trend that will increase the threat of business interruption (BI) risk in future.

“Cyber incidents can have a huge impact on BI,” explains **Volker Muench, Global Practice Group Leader, AGCS Property Underwriting**.

“We know cyber-attacks are increasing. However, cyber risk not only includes the threat from hackers. As automation of industry continues, **operational technology (OT)** issues such as technical failure and user error, for example, also pose an increasing challenge.

“OT is the capability that directly controls the value-add, or transformation, of goods in real-time. In today’s interconnected world of internet-based supply chain management, a simple technical failure can result in a major system interruption.”

“Early warning systems and better monitoring systems are necessary in order to prevent large BI losses,” Krickhahn adds.

Assessment of cyber BI risk involves many factors including financial analysis of the health of the company, service/production processes and their bottlenecks, computer/network infrastructure management, as well as discussion of loss scenarios and modeling.

Harsher penalties for loss of data

Data protection rules around the world are becoming tougher as governments bolster cyber security. This has a significant impact for businesses, as penalties for falling foul can be severe.

Strict laws in the US already require companies to notify individuals of a breach and there has been recent heightened focus on cyber liability across the Middle East, Singapore and Australia. Elsewhere, the European Union is moving ahead with plans to harmonize its regime – the **General Data Protection Regulation** is expected in 2018. A current provision proposes fines of up to 4% of a company’s global turnover for breaching the rules – which could run to billions of dollars.

Such developments are also predicted to drive growth in the cyber insurance market, as companies seek to protect against the increasing costs associated with responding to a breach.

Around The World in Cyber Regulation ➔

Addressing and minimizing exposure

All organizations need to consider their cyber exposures and prepare for a potential incident.

Monitoring tools, improved processes and greater employee awareness can help companies be more prepared. Businesses should identify key assets at risks and potential weaknesses – such as human error or overreliance on third party service providers.

Different stakeholders from the business must share knowledge. Insurance can mitigate the impact of many cyber risks but after a security incident or loss of data an immediate response is required to manage the incident successfully. Companies need a crisis or breach response plan, which should be regularly reviewed and tested.

Top risks in focus: Digitalization, interconnected technologies and Industry 4.0

“Smart” factories

Where products ‘talk’ to each stage of the production process are the next big thing in automation. Manufacturing-related data becomes available in real time for making business decisions.



Smart ships - how big data will transform shipping 

Digital innovation, introduction of new technologies and the emergence of the “Internet of Things” - an ever-growing network of interconnected devices, people and machines - which has been forecast to result in more than 50 billion devices being linked by 2020¹ is transforming industry and bringing a wealth of opportunities elsewhere.

The world is embarking on what many commentators are calling the fourth industrial revolution, **Industry 4.0** or the industrial internet. Integration of digital and physical technology (as evidenced in driverless cars, unmanned aerial vehicles, “smart” cities and factories, nanotechnology, artificial intelligence, 3D printing and increasing use of “big data”) can deliver many potential benefits, such as increased efficiency, greener technology, reduced maintenance, increased service levels and reduce the risk of human error.

“Industry 4.0 creates enormous new value potential, especially for industrial companies and not least for our

global economy and society,” says **Michael Bruch, Head of Emerging Trends, AGCS.**

“These new trends will change communication, the working environment and industrial development radically. Production in future will be done in “smart” factories. Businesses and value-added processes will transform fundamentally.”

The merger of physical and digital worlds also means a growing reliance on technology and increasingly sophisticated production processes, which are accompanied by a number of new operational, security and strategic risks for businesses.

While production will potentially become more customized, efficient, robust and safe, there is a growing vulnerability to cyber-attacks and infrastructure breakdown in a highly interconnected world.

“The current level of security of connected devices is still low. Cyber security risk will increase as each device is a potential entry point for data breaches and interconnectivity can increase the damage significantly, creating high accumulation potential,” says Bruch. “This will also fuel the demand for specific cyber insurance solutions.”

Technological risks are prominent in this year’s Risk Barometer results. As well as entering the top three business risks for the first time, cyber incidents also ranks as the top long-term risk (see page 13), while impact of digitalization and new technology also feature in the top 10 risks identified here.

New technologies (impact of increasing interconnectivity and innovation) almost entered the top 10 risks for the first time in the 2016 Risk Barometer. With 10% of responses this risk is one of the biggest risers in the rankings year-on-year in 11th position. In 2015 it was ranked 19th, with just 3% of responses.

What impact of increasing digitalization do companies fear the most?



Increasing sophistication of cyber attacks is the trend businesses fear most. Many companies face the challenge of having insufficient knowledge and budget to mitigate this risk at the same time as the threat is rapidly evolving.

Source: Allianz Global Corporate & Specialty. Figures represent the percentage of participants (824) who selected that specific risk. Up to three answers possible.

¹ Source: Cisco IBSG April 2011, device per person, AGCS Expert Days presentation

Impact of disruptive technologies and the VUCA world

Digitalization and technology progressing at a rapid pace also poses a significant challenge to many companies' business models as well. As the Risk Barometer results show, many businesses believe the world is becoming increasingly competitive. Market entry barriers are coming down with non-traditional competitors such as Airbnb (tourism), Apple (automotive), Google (insurance) Paypal (financial services), Skype and WhatsApp (telecommunications) and Uber (transportation) entering industry sectors. These new players are turning business models "upside down", says Bruch, as they start from the perspective of the customer first.

"We have been talking about the digital revolution for some time now and sometimes this means we miss the point that the real revolution and disruption is coming from the user contributor situation," adds **Ludovic Subran, Chief Economist, Euler Hermes**. "It is not just about the tool, it is about people as well. Peer to peer businesses are increasing. People want to disintermediate because they are not happy with the go-between: they want to change the goods and the services, customize and share.

"For many businesses the biggest asset will be their community and the fact that they can leverage millions of people from one platform. Businesses who put the consumer back at the center of everything also get feedback that improves their services for free. The

businesses and industries that will benefit the most in future are the ones that understand this reality."

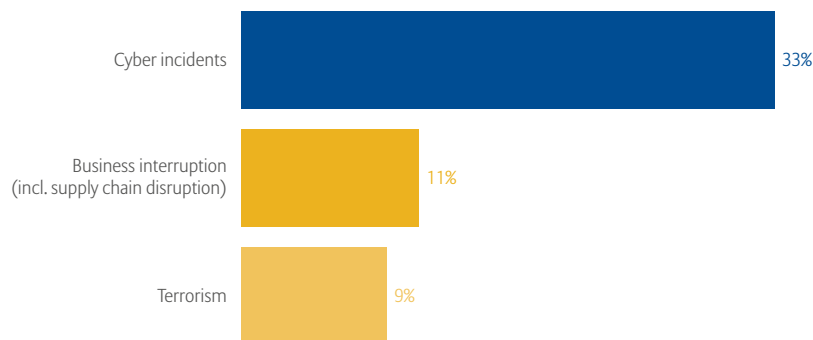
"Businesses have to perform in a volatile, uncertain, complex and ambiguous (VUCA) environment," says **Bettina Stoob, Head of Innovation, AGCS**.

"Economies of scale as a business mantra will be replaced by speed to market in the fourth industrial era. Innovation cycles are becoming rapidly shorter, which means that businesses constantly have to be on their toes, turning out new products, services or solutions. In order to stay relevant to the customer, and to thrive in this rapidly changing and globally competitive environment, businesses have no option but to be innovative and agile," she concludes.

Future effects of connected industries on the insurance industry

- ▶ Connected industries are likely to drive changes in customers' insurance needs affecting the type and amount of coverage
- ▶ While production will be more customized, efficient, robust and safe, there is a growing vulnerability to cyber-attacks and infrastructure breakdowns in a highly interconnected world
- ▶ The insurance industry could see a change in loss patterns towards low frequency, high severity losses
- ▶ Frequency losses will be reduced due to increased predictive/pre-emptive maintenance, driven by real time monitoring and data analytics in "smart" factories. Malfunctions can be detected earlier and even prevented. This will boost demand for new risk and consulting services
- ▶ Higher losses are possible due to cyber-attacks, greater disruption from (contingent) business interruption and potential infrastructure breakdown.

What are the top emerging risks for the long-term future (10yrs+)



Cyber incidents is the top long-term risk for businesses. Impact of digitalization and new technology also feature in the top 10 risks identified.

Source: Allianz Global Corporate & Specialty. Figures represent the percentage of participants (824) who selected that specific risk. Up to three answers possible.

Regional Analysis

The 2016 Allianz Risk Barometer analyzes responses from **44** countries and there are some significant differences in the top 10 risk rankings around the world.

While business interruption (incl. supply chain disruption) remains the top risk year-on-year in the Americas, Asia Pacific and Europe regions, concerns about both macroeconomic developments (austerity programs, commodity price increase, inflation/deflation) and market developments (volatility, intensified competition, market stagnation) top the risk agenda in the **Africa & Middle East** region, for which the top 10 business risks appear for the first time. Business interruption ranks fifth. Meanwhile political risks (war, terrorism, upheaval) rank higher than in any other region (7). The region is the only one to rank

power blackouts (10) in the top 10 risks.

Across the **Americas** region cyber risk is the biggest mover year-on-year in the top 10 risks, climbing to second position, up 21 percentage points. Theft, fraud, corruption (9) and human error (10) are among the new entries in the top 10 risks, as talent shortage/aging workforce and loss of reputation or brand value drop out.

In the **Asia Pacific** region market developments ranks as the second top risk, just one percentage point behind business interruption. Businesses are concerned about intensified competition from new market entrants and increasingly competitive pricing in some emerging territories. At the same time businesses are having to

NEW Top 10 business risks by region in 2016: Africa & Middle East

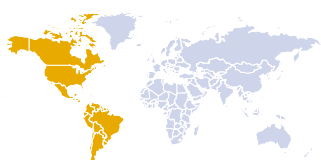


Top 10 business risks

1	Macroeconomic developments (austerity programs, commodity price increase, inflation/deflation)	44%
1	Market developments (volatility, intensified competition, market stagnation)	44%
3	Changes in legislation and regulation (economic sanctions, protectionism)	32%
3	Natural catastrophes (storm, flood, earthquake)	32%
5	Business interruption (incl. supply chain disruption)	30%
5	Cyber incidents (cyber crime, data breaches, IT failures)	30%
7	Political risks (war, terrorism, upheaval)	27%
8	Fire, explosion	25%
9	Theft, fraud, corruption	20%
10	Power blackouts	14%

Top 10 business risks appearing for the first time. Last year's Africa & Middle East responses were included as part of the Europe, Middle East and Africa region.

Top 10 business risks by region in 2016: Americas



Top 10 business risks

		2015 Rank	Trend
1	Business interruption (incl. supply chain disruption)	58%	1 (55%) -
2	Cyber incidents (cyber crime, data breaches, IT failures)	46%	4 (25%) ▲
3	Natural catastrophes (storm, flood, earthquake)	37%	2 (35%) ▼
4	Market developments (volatility, intensified competition, market stagnation)	35%	NEW ▲
5	Changes in legislation and regulation (economic sanctions, protectionism)	28%	5 (17%) -
6	Fire, explosion	25%	3 (27%) ▼
6	Loss of reputation or brand value	25%	6 (16%) -
8	Macroeconomic developments (austerity programs, commodity price increase, inflation/deflation)	20%	NEW ▲
9	Theft, fraud, corruption	20%	NEW ▲
10	Human error	14%	NEW ▲

Source: Allianz Global Corporate & Specialty. Figures represent a percentage of all relevant responses. Responses for Africa & Middle East: 79; Americas 204; More than one risk selected.

adapt in order to service the changing profile and needs of their customer base, as the so-called “**millennial**” generation comes of age.

Cyber risk is also a big mover, ranking fifth in Asia Pacific after not appearing in the top 10 in 2015. This peril is also a

top three risk in the **Europe** region for the first time, driven by increasing concern in territories such as the **UK**, where it now ranks as the top risk. Impact of new technologies (9) such as increasing interconnectivity and disruptive innovation appears in the European top 10 risks for the first time.

To see the full appendix of the top 10 risks per selected countries in each region click here ➔

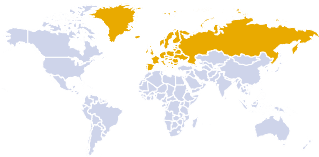
Top 10 business risks by region in 2016: Asia Pacific



Top 10 business risks

		2015 Rank	Trend
1	Business interruption (incl. supply chain disruption)	56% 1 (42%)	-
2	Market developments (volatility, intensified competition, market stagnation)	55% NEW	▲
3	Natural catastrophes (storm, flood, earthquake)	36% 2 (34%)	▼
4	Macroeconomic developments (austerity programs, commodity price increase, inflation/deflation)	35% NEW	▲
5	Cyber incidents (cyber crime, data breaches, IT failures)	32% NEW	▲
6	Loss of reputation or brand value	26% 4 (23%)	▼
7	Changes in legislation and regulation (economic sanctions, protectionism)	25% 9 (10%)	▲
8	Fire, explosion	20% 3 (25%)	▼
9	Talent shortage, aging workforce	14% 8 (13%)	▼
10	Political risks (war, terrorism, upheaval)	12% NEW	▲

Top 10 business risks by region in 2016: Europe



Top 10 business risks

		2015 Rank	Trend
1	Business interruption (incl. supply chain disruption)	53% 1 (44%)	-
2	Market developments (volatility, intensified competition, market stagnation)	52% NEW	▲
3	Cyber incidents (cyber crime, data breaches, IT failures)	40% 5 (17%)	▲
4	Changes in legislation and regulation (economic sanctions, protectionism)	39% 4 (20%)	-
5	Macroeconomic developments (austerity programs, commodity price increase, inflation/deflation)	31% NEW	▲
6	Natural catastrophes (storm, flood, earthquake)	31% 2 (28%)	▼
7	Loss of reputation or brand value	29% 7 (15%)	-
8	Fire, explosion	22% 3 (27%)	▼
9	New technologies (impact of increasing interconnectivity and innovation)	19% NEW	▲
10	Political risks (war, terrorism, upheaval)	17% 8 (13%)	▼

2015 Europe figures included responses from Middle East and Africa, as part of the Europe, Middle East and Africa region.

Source: Allianz Global Corporate & Specialty. Figures represent a percentage of all relevant responses. Responses for Asia Pacific 138; Europe 403. More than one risk selected.

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