Allianz Global Corporate & Specialty

Global Claims Review 2014

Loss trends and emerging risks for global businesses

Bingham Canyon mine, Utah
scene of the largest non-volcanic landslide in North America

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Allianz

Scope of the Report

This report focuses on global developments in insurance claims over the period 2009 to 2013, identifying the top causes of losses and other trends across a number of different business sectors. It also examines a number of emerging risks that will impact global businesses and the insurance claims landscape in future.

The findings detailed in this report are based on the analysis of 11,427 insurance claims from 148 countries (with a total value of more than €21.5bn) recorded for the accident years 2009-2013, each with a total value after deductible of €100,000 or higher. All claims figures quoted are 100% (not only the Allianz Global Corporate & Specialty share but including coinsurers' shares) and exclude deductible (i.e. they represent the full payment made).

While the losses analyzed are not representative of the industry as a whole, they give a strong indication of the major risks which dominate industrial insurance.

Allianz Global Corporate & Specialty business scope

Allianz Global Corporate & Specialty (AGCS) is the Allianz Group's dedicated carrier for corporate and specialty insurance business, focusing on large corporate and individual risks, often with multi-national or specialist exposures.

Insurance product lines covered – herein referred to as lines of business – include:

- Aviation (including space)
- Energy
- Engineering
- Financial Lines (including directors' and officers' [D&O])
- Liability
- Marine
- Property

In addition AGCS also provides alternative risk transfer coverage through its subsidiary Allianz Risk Transfer.

The claims analyzed in this report cover all these lines of business, except Allianz Risk Transfer.

Exchange rate: €1:US$1.36455

Allianz claims analysis reported in €.

Cover Photo: Rio Tinto Kennecott

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Introduction

The business of industrial and corporate insurance across international markets presents a uniquely complex and challenging environment.

International regulations, established and emerging risks, natural and man-made hazards, not to mention the inherent complexity of 21st century business, all combine to create a constantly evolving environment for insurers, brokers and clients. At Allianz Global Corporate & Specialty (AGCS), we believe that this challenge can only be met by continuing to evolve our own claims services to keep pace with the change.

Today, claims management is a strategic role, not just a servicing one and is a key part of the risk management and insurance process alongside other customer-facing functions such as underwriting, risk consulting and market (client and broker) management.

At AGCS, we believe a claim is the true test of an insurer – the "moment of truth" in a client relationship which defines our service and reputation – and so this demands a proactive engagement with our clients and their advisors to ensure optimal service.

To deliver this service, we field over 450 claims experts worldwide, covering the full spectrum of corporate and industrial risk. This expertise places us in a unique position, in that we are able to draw on our collective experience to provide qualitative and quantitative insight into these risks. When managing complex claims, there really is no substitute for experience – and experience is most useful when it is analyzed and shared.

This is why we are now publishing our inaugural *Global Claims Review 2014*, the first in an annual series in which we analyze our unique claims portfolio and draw on our experts' knowledge to identify and review trends which directly affect our clients' businesses.

The *Global Claims Review 2014* is part of Allianz's wider *Results for the Customer* initiative, which aims to go beyond the usual reporting of financial results to focus more on the service we deliver and particularly on the insights and learnings which we can share with our clients from this process.

By sharing this expertise, we hope to not only demonstrate the value of our claims services, but also to help our clients, and others, benefit from these insights. This review therefore looks both at the latest trends we see in our business from claims paid in nearly 150 countries and at the data-derived evidence of over 11,000 large claims of over €100,000 with which we have been involved since 2009.

I am therefore pleased to present the AGCS *Global Claims Review 2014*. We hope you find the results interesting and useful. As always, we welcome your feedback and suggestions for future editions.

Alexander Mack
Chief Claims Officer and Member
of the Board of Management

Allianz Global Corporate & Specialty SE.

Executive Summary

Global businesses face an increasingly complex risk landscape. As well as having to combat the threat posed by a host of natural and man-made hazards, companies also have to deal with the demands of a less forgiving regulatory and legal environment. All of these factors can combine to impair successful running of operations. Insurers have a vital role to play in ensuring any disruption following a loss event is minimized.

This report examines global developments in insurance claims, highlighting the top causes of loss, and other trends, for businesses. It also examines a number of emerging risks that will impact the claims landscape in future.

Top 10 losses analysis

Ship groundings – reflecting the high values of modern maritime risks – fires and plane crashes are the top causes of business losses by total value, based on analysis of over 11,000 major business claims from 148 countries over a five-year period, across six sectors – Aviation; Energy; Financial Lines; Liability; Marine; and Property and Engineering.

Top causes of loss by total value (2009-2013)

1. Grounding
2. Fire
3. Aviation crash
4. Earthquake
5. Storm
6. Bodily injury (including fatalities)
7. Flood
8. Professional indemnity
9. Product defects
10. Machinery breakdown

Based on insured losses over €100,000

The top 10 losses account for almost 70% of financial losses, with the list dominated by non-natural catastrophe causes (7).

Recent loss activity/trends

To date in 2014, 80% of the 10 major reported losses, (*see page 8*) have come from aviation incidents or fire, particularly in the oil and gas (energy) sector with the largest loss – a fire at a Siberian refinery complex in June – reported to be around $800m (€586m).

In 2013, the 20 largest losses reported across the insurance industry totaled around $8.1bn (€5.94bn), excluding those caused by natural catastrophes. Incidents from the oil and gas sector dominate this total, accounting for 40% ($3.2bn/€2.34bn). Fire and/or explosion caused eight of the top 20 losses, the costs of which totaled almost half of the total loss bill ($4bn). North America was the location of seven of the top 20 losses.

The highest losses are seen in the oil and gas (energy) sector, which is responsible for the largest insured losses on average €20.8m ($28.4m) - over 10 times the average loss amount across all lines of business analyzed (€1.9m/$2.59m).

The growing relevance of business interruption (BI) as a consequence of losses in property insurance, heightened by lean supply chains and globalized manufacturing, is shown with average losses from BI at €997,602 ($1.36m), 32% higher than those from direct property damage (€755,198/$1.03m).

Losses by business sector

Aviation

Improvements in airline safety are leading to fewer catastrophic losses overall, despite 2014's extraordinary loss activity. However, the cost of aviation claims is rising, driven by the widespread use of new materials, ever more-demanding regulation and liability-based litigation.

While plane crashes are the top causes of loss in terms of number of claims generated (23%) and value (37%), on-the-ground incidents also account for a significant portion of claims in number and value (18%/15%).

Bird strikes are a notable cause of loss in the analyzed claims averaging €16.7m ($22.8m) every year – with a total of 34 incidents (27 to airlines). Annual damages have been estimated at $400m (€293m) in the US. Birds are not the only animals that can cause aviation losses, with claims arising from zebras in Africa and cows in Asia and Latin America.

Energy

Higher asset values combined with increasingly complex and interrelated risks means that the cost of energy claims is increasing, particularly from large installations. The rising cost of BI and emerging risks from new technologies will also make for a more challenging future environment.

Fire is the number one cause of energy losses – both by number and value (45%/65%) – followed by blow-out (18%/19%). Machinery breakdown, explosion, natural hazards (storm) and contingent business interruption (CBI) are the other main causes of loss.

The energy industry's increasing reliance on technology also presents risks. Rigs, floating production, storage and offloading units (FPSOs), onshore refineries and pipelines all rely on information systems and networks, which create cyber exposures. These facilities are increasingly exposed to property damage and BI from malicious cyber attacks, operator error or data corruption.

Financial Lines

Financial institutions and directors' and officers' claims face two major challenges, a far less forgiving regulatory environment and the spread of collective actions, driven by a growing claims culture and increasingly savvy litigators and litigation funders.

In many countries around the world AGCS is seeing an increase in professional indemnity claims, which are the top cause of loss in the sector (74% by number/72% by value). Germany is an exception, with the loss landscape currently being driven by D&O activity.

There is also a notable trend towards class or collective actions in new areas, with new legal landscapes emerging outside of the US. Collective remedies were once unheard of in many markets but AGCS sees more countries adopting them.

Emerging markets in Asia and Latin America are still relatively benign in terms of claims trends, but this will change as they develop. Insured vs insured actions are likely to become more of an issue in Brazil, as they have in Germany.

Liability

Liability claims are becoming more international, complex and costly as awareness of compensation and US-style litigation continues to spread.

Although not large in number, personal injury and wrongful death claims resulted in more than 40% of the claims costs. Claims from product defects are high in volume. Automotive recall cases are becoming more frequent and more expensive.

Although the largest liability claims still emanate from the US, there is a gradual trend towards more significant claims from other countries, including those in Asia. Globalization and consolidation of industries means that claims, in general, are getting bigger, spanning different lawyers, jurisdictions and legal systems.

"Average losses from business interruption are 32% higher than those from direct property damage"

Fire is the major cause of property losses by number of claims and value

Photo: Shutterstock

Marine

Rising claims inflation, the growing problem of crew negligence and the high cost of wreck removal have all been contributing to a worrying rise in the cost of marine claims.

Crew negligence is often a main driver behind three of the top five causes of loss (grounding; hull damage; and collision), with it being a potential contributing factor in over 60% of claims over €1m ($1.36m). In the UK alone it is estimated that 60% of all hull and machinery claims are for machinery damage and the vast majority of these are due to crew negligence.

The Costa Concordia loss in 2012 drives grounding to the top of the top causes of loss list by value. However, this cause of loss is relatively infrequent (8%). Wreck removal is becoming more complex and expensive as environmental concerns and improved salvage technology place greater demands on ship operators and their insurers. As Costa Concordia demonstrated, wreck removal costs can easily be a multiple of the hull value.

A shift in piracy trends from hijack off Somalia to thefts off West Africa has resulted in a drop in the value of claims. Costs to release vessel and cargo are significantly higher than the thefts of oil. Often the West Africa thefts are to fulfil an order, so it is not unusual for only part of a cargo of oil to be stolen.

Property and Engineering

The cost of large commercial property and engineering claims is rising with the trend towards ever-higher values and risks that are increasingly interconnected and concentrated on areas with exposure to natural hazards. The cost of natural catastrophe claims is likely to rise as economic activity and the value of assets in hazard zones increases.

Property and engineering claims are following the trend set in the oil and gas sector, where major BI claims and high values have been a significant feature for some time. There is now increasing potential for similar size claims in certain manufacturing industries, such as the semiconductor and automotive industries.

Fire is the major cause of property losses both by number and value (26%/28%), with machinery breakdown a large driver of claims in terms of the number generated. Earthquake and human/operating error are the top causes of engineering losses by value (65%) and number of claims generated (30%) respectively.

Non-damage BI will become a much bigger issue in the future, with businesses looking to mitigate against a range of exposures, such as the financial impact of events like a government authority closing down an area linked to an outbreak of communicable disease, or from political risks like civil commotion and riots.

Emerging Risks

Technology, economic growth, climate change, societal change and the fast developing legal and regulatory framework are all affecting risk and making insurance claims more challenging, particularly with the increasing number of intangible risks such as loss to reputation and supply chain damage.

For property casualty insurance and claims, rising natural catastrophe exposures and climate change, the increasing complexity and interconnectivity of risks, especially for BI, and the growing importance of cyber threats will be among the most relevant emerging risk trends to watch.

Aggregation of risk is a major issue for cyber risks and one of the big challenges for the insurance industry. A single virus or network infrastructure blackout could potentially affect whole sectors or many companies across sectors.

Global Loss Atlas - 10 Major Non-Nat Cat Losses 2014*

The 10 major reported losses of 2014 from across the insurance industry, excluding those caused by Natural Catastrophes.

4 February
UK, Shropshire
Biomass Power Station
Fire
$230m

7 July
USA, Texas
Chemical Complex
Fire
USD TBC

24 July
Mali
Air Algerie AH5017
Aviation Crash
USD TBC

22 March
Argentina, Mendoza
Refinery Fire
$180m

17 July
Ukraine
Malaysia Airlines MH17
Aviation Crash
USD TBC

15 June
Russia, Siberia
Refinery
Fire
$800m

16 April
South Korea,
en route to Jeju
Sewol (ferry)
Sinking
$140m

16 May
Kazakhstan
Satellite Loss
$217m

14 July
Libya, Tripoli
Tripoli Airport
Aircraft damage from fighting
up to $750m

8 March
Indian Ocean
Malaysia Airlines MH370
Disappearance
USD TBC

KEY: Dollar figures are approximate insured losses from third party public sources

- Aviation Incident
- Fire & Explosion
- Flooding
- Mine Collapse
- Rig Incident
- Satellite Loss
- Shipping
- Train Derailing

*As of August 30, 2014

All information is taken from public sources, and loss estimates, as shown here, should not be taken as confirmation by AGCS of reported losses.
Sources include: *BBC, Insurance Insider, theindependentbd.com, The Shropshire Star, www.ogj.com, Willis*

Where loss figure is stated as TBC this indicates no loss estimate had been identified at time of writing. This loss atlas does not include liability or financial lines losses.
Loss locations are approximate for illustrative purposes.

Operators aboard an Australian navy vessel ready an autonomous underwater vehicle in the search for the missing MH370 flight

Photo: Wikimedia Commons

2014 loss activity

The 10 major reported losses of the 2014 accident year to date from across the insurance industry, excluding those caused by Natural Catastrophes, have been dominated by a number of aviation losses.

This year's loss activity has, to date, been dominated by a number of extraordinary and tragic events including two featuring Malaysian Airlines flights and the capsizing and subsequent sinking of the Japanese-built South Korean ferry MV Sewol.

On March 8, 2014 Malaysian Airlines flight MH370 left Kuala Lumpur bound for Beijing China with 239 passengers and crew on board. An hour later it vanished with the fate of all those aboard the aircraft unknown, triggering a huge international search operation across vast swathes of the Indian Ocean.

Then four months later Malaysian Airlines flight MH17, a scheduled international passenger flight from Amsterdam to Kuala Lumpur crashed – reportedly after being shot down by a missile – on July 17, resulting in the deaths of 283 passengers and 15 crew.

1 Source: Insurance Insider - August 8, 2014

The plane lost contact over eastern Ukraine before crashing near Torez in Donetsk Oblast, Ukraine, a short distance from the Ukraine/Russia border.

Further aviation activity

Investigations into both of these extraordinary and unconnected incidents are still ongoing. At the same time the aviation sector has sustained further losses including a reported potential bill of up to $750m[1] (€550m) from another extraordinary event at Libya's main airport in its capital city of Tripoli. Fighting between rival militia battling for control led to the damaging of many aircraft through shelling.

Although the aviation sector is responsible for four of the 10 major non-natural catastrophe losses of the year at time of writing (the Air Algerie AH5017 crash being the fourth) this year's loss activity is contrary to the low catastrophe rate of recent years.

The Japanese-built South Korean ferry MV Sewol capsized while carrying 476 passengers
Photo: Wikimedia Commons


A refinery fire in Siberia constituted a major loss
Photo: Wikimedia Commons

Despite a big increase in airline fleet sizes, the long-term trend shows that fatal or catastrophic passenger airline losses are now less frequent, especially in the US and Europe. However, the cost of aviation claims is rising, driven by widespread use of new materials, regulatory demands and growth of liability-based litigation.

Oil and gas sector activity

Meanwhile, the oil and gas (energy) sector, which was responsible for nine of the top 20 losses on the non-catastrophe loss list in 2013 (*see page 16*), collectively accounting for $3.2bn (€2.34bn) or 40% of the top 20 total, has continued to see loss activity through this year, despite a relatively benign first quarter.

To date it is responsible for the largest insured loss on the 2014 list – an explosion and fire at a refinery in Siberia, Russia. Insured losses are currently estimated to be in the region of $800m[1] (€586m).

1 Source: Insurance Insider - July 8, 2014

Of the 10 major insured losses to date fire and/or explosion is the main cause, accounting for four losses (Refinery, Siberia, Russia; Chemical Complex, Texas, US Refinery, Mendoza, Argentina; and a Biomass Power Station, Shropshire, UK).

Shipping loss

Meanwhile, the sinking of the MV Sewol on April 16 en-route from Incheon towards Jeju is currently the largest reported insured shipping loss of the year *(see page 9)*. It capsized while carrying 476 people, mostly secondary school students from Danwon High School (Ansan City). Around 300 people died in the disaster, which has since seen the captain and three crew members charged with murder and the other 11 members of the crew indicted for abandoning ship.

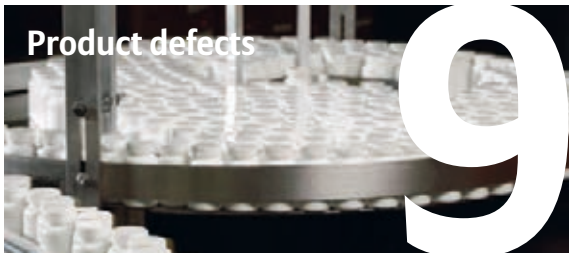
Allianz Claims **Dashboard**

At-a-glance claims data identifying the top causes of losses for business and breakdown of claims by business sector including the average value of an insurance claim over **2009-2013** accident years across 11,427 claims.

Top causes of loss across all **lines of business***

Lines of business analyzed across AGCS portfolio:

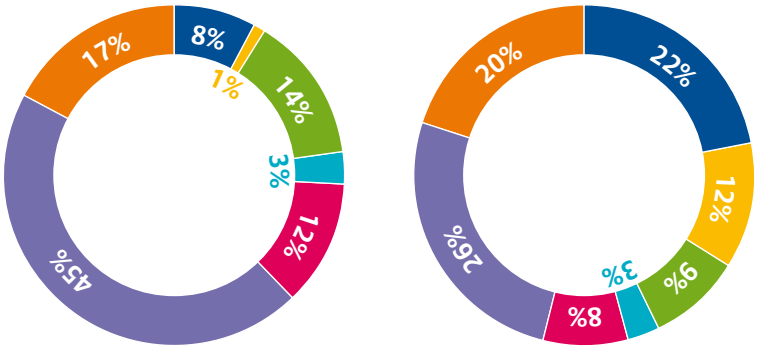
- Aviation
- Energy
- Engineering
- Financial Lines
- Liability
- Marine
- Property



Top causes of losses by value. All Losses >€100,000 2009-2013.

Breakdown of claims by business sector

Claims Value >€100,000



By number		By value	
Marine	45%	Marine	26%
Property	17%	Aviation	22%
Engineering	14%	Property	20%
Liability	12%	Energy	12%
Aviation	8%	Engineering	9%
Financial Lines	3%	Liability	8%
Energy	1%	Financial Lines	3%

Average Value of Claim per line of business

Claims Value >€100,000

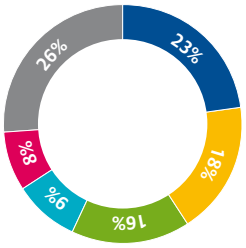
Average value	
Energy	€20.8m
Aviation	€5.27m
Financial Lines	€2.47m
Property	€2.18m
Engineering	€1.23m
Liability	€1.21m
Marine	€1.1m
Average	€1.9m

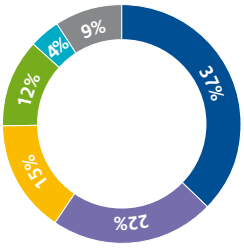
The high values at risk in the oil and gas industry are highlighted by the high average claim value seen across the energy line of business.

Claims data analyzed over 2009-2013 accident years.
See page 15 for methodology

Global Losses In Excess of €1m: **Causes by Sector** (Analyzed Portfolio only)

Top Causes of Loss: Aviation Claims (€1m +)



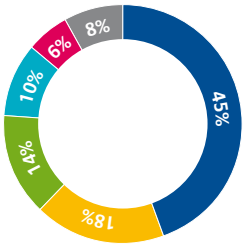


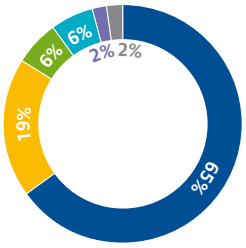
No. of Claims	
Plane crash	23%
Ground handling	18%
Mechanical failure	16%
Hard landing	9%
Damage by foreign object	8%
Other	26%

By value	
Plane crash	37%
Over/undershot runway/taxiway	22%
Ground handling	15%
Mechanical failure	12%
Hard landing	4%
Other	9%

Source: Allianz Global Corporate & Specialty. *Data based on accident years 2009-2013*

Top Causes of Loss: Energy Claims (€1m +)



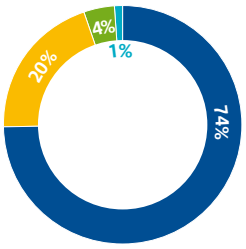


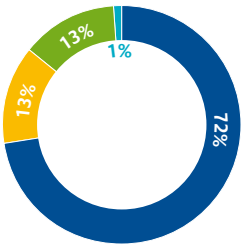
No. of Claims	
Fire	45%
Blow out	18%
Machinery breakdown	14%
Explosion	10%
CBI Loss	6%
Other	8%

By value	
Fire	65%
Blow out	19%
Explosion	6%
Machinery breakdown	6%
Storm	2%
Other	2%

Source: Allianz Global Corporate & Specialty. *Data based on accident years 2009-2013*

Top Causes of Loss: Financial Lines Claims (€1m +)



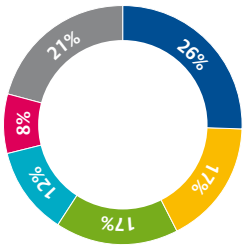


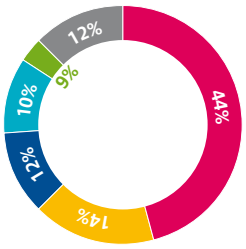
No. of Claims	
Professional Indemnity	74%
Side A Coverage (Insd v Insd)	20%
Side B Cvge (Co. Reimbursement)	4%
Side C (Entity) (securities claim)	1%
Other	0%

By value	
Professional Indemnity	72%
Side A Coverage (Insd v Insd)	13%
Side B Cvge (Co. Reimbursement)	13%
Side C (Entity) (securities claim)	1%
Other	0%

Source: Allianz Global Corporate & Specialty. *Data based on accident years 2009-2013*

Top Causes of Loss: Liability Claims (€1m +)



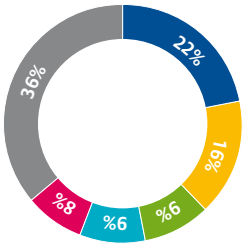


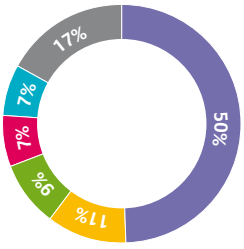
No. of Claims	
Property damage	26%
Product defect	17%
Product defect - property damage	17%
Product defect - financial loss	12%
Bodily injury (inc fatalities)	8%
Other	21%

By value	
Bodily injury (inc fatalities)	44%
Product defect	14%
Property damage	12%
Product defect - financial loss	10%
Product defect - property damage	9%
Other	12%

Source: Allianz Global Corporate & Specialty. *Data based on accident years 2009-2013*

Top Causes of Loss: Marine Claims (€1m +)



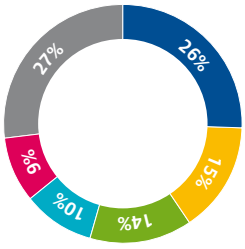


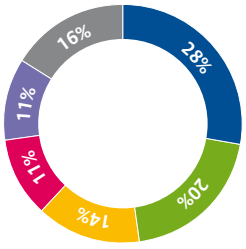
No. of Claims	
Machine damage/breakdown	22%
Fire	16%
Hull damage	9%
Collision	9%
Storm	8%
Other	36%

By value	
Grounding	50%
Fire	11%
Hull damage	9%
Storm	7%
Collision	7%
Other	17%

Source: Allianz Global Corporate & Specialty. *Data based on accident years 2009-2013*

Top Causes of Loss: Property Claims (€1m +)





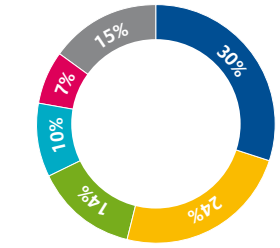
No. of Claims	
Fire	26%
Machinery breakdown	15%
Earthquake	14%
Storm	10%
Exceptional rain	9%
Other	27%

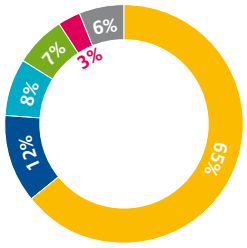
By value	
Fire	28%
Earthquake	20%
Machinery breakdown	14%
Exceptional rain	11%
Flood	11%
Other	16%

Source: Allianz Global Corporate & Specialty. *Data based on accident years 2009-2013*

** Where percentages do not add up to 100% due to rounding up/down*

Top Causes of Loss: Engineering Claims (€1m +)





No. of Claims	
Human/Operating Error	30%
Earthquake	24%
Fire	14%
Explosion	10%
Flood	7%
Other	15%

By value	
Earthquake	65%
Human/Operating Error	12%
Fire	8%
Explosion	7%
Damage by foreign object	3%
Other	6%

Source: Allianz Global Corporate & Specialty. *Data based on accident years 2009-2013*

The top 10 causes of loss for global businesses account for almost 70% of financial losses, according to AGCS analysis, with this list dominated by non-natural catastrophe events (7).

Ship grounding, fire and plane crash occupy the top three positions, based on analyzed claims over €100,000 during a five-year period.

Natural hazards account for the remaining three causes of losses for businesses in the top 10, with earthquake (4) and storm (5) appearing in the top five, followed by flood (7)

Fire is the top cause of losses according to value in two of the lines of business analyzed (based on claims in excess of €1m) – energy and property (65% and 28% respectively).

Plane crash is the major cause of loss in the aviation sector in terms of number of claims generated and value. Professional indemnity claims are the main cause of loss in financial lines, while bodily injuries (including fatalities) generate the biggest losses in the liability sector.

Ship groundings generate 50% of losses by value in the marine sector while quakes are responsible for 65% of engineering losses by value.

Key Statistics: Analysis includes Allianz Global Corporate & Specialty claims and those from other insurers

Total number of claims analyzed: **11,427**

Total value of Claims: **€ 21.5bn**

Average claim value: **€ 1.9m**

Claims >€1m: **2,618.**

AGCS claims as lead insurer: **83%**

Countries in which claims arose: **148**

Average no of claims per year > €1m (lead only): **290**

Average no of claims per year > €1m (lead & follow): **523**

Average Euros paid per day in 2013: **€ 11.1m**

The average BI claim at **€ 997,602** is **32%** higher than the average direct property damage claim (**€755,198**) [based on claims over **€100,000**].

Methodology: AGCS has analysed 11,427 claims from 148 countries with a total value of more than €21.5bn, recorded for the accident years 2009-2013, each with a total value after deductible of €100,000 or higher, including all its traditional lines of business (excluding Allianz Risk Transfer). All claims figures quoted are 100% (not only the AGCS share, but including coinsurers' shares) and exclude deductible (i.e. they represent the full payment made). While the losses analyzed are not representative of the industry as a whole, they give a strong indication of the major risks which dominate industrial insurance.

Global Loss Atlas - 20 Largest Non-Nat Cat Losses 2013

The 20 largest reported losses of 2013 from across the insurance industry, excluding those caused by Natural Catastrophes, totaled up to **US$8.1bn** in reported losses.

Allianz

1 July (8)
Canada, Quebec
Train Derailment
$400m

24 December (6)
Canada, Saskatchewan
Refinery Complex
Fire & Explosion
$500m

6 July (10)
USA, San Francisco
Asiana Airlines
Aviation Crash
$300m

10 April (2)
USA, Utah
Bingham Canyon
Mine Collapse
up to $1bn

27 October (16)
Mexico, Tabasco State
Onshore well
Blowout
$200m

17 April (15)
USA, Texas
Fertilizer plant
Fire & Explosion
$200m

23 July (19)
Gulf of Mexico, off Louisiana
Drilling rig
Blowout
$140m

13 June (5)
USA, Louisiana
Ethylene plant
Fire & Explosion
$500m

1 April (3)
Argentina, La Plata
Refinery
Fire & Flooding
$800m

up to **$8.1bn** loss total

20 January (9)
Norway, North Sea
Compressor Failure
$380m

14 November (14)
UK, Merseyside
Refinery
Fire & Explosion
$210m

1 September (12)
Russia, Moscom Oblast
Power plant
Sagging & Flooding
$250m

2 July (17)
Kazakhstan, Baikonur
Satellite Loss
$183m

1 February (7)
Pacific Ocean
Satellite Loss
$406m

4 September (1)
China, Wuxi
SK Hynix
Fire & Explosion
up to $1.3bn

1 March (11)
Oman, Sohar
Methanol plant
Fire & Explosion
$252m

$3.2bn from 9 oil/gas sector losses

1 July (13)
Angola
Drilling rig
Rig Sinking
$240m

24 July (20)
Spain, Galicia
Train Derailment
$138m

20 June (18)
Saudi Arabia, Jeddah
Refinery
Fire
$180m

17 June (4)
Indian Ocean, off Yemen
MOL Comfort
Ship and Cargo sinking
$523m

KEY: Dollar figures are approximate insured losses from third party public sources

- Aviation Incident
- Fire & Explosion
- Flooding
- Mine Collapse
- Rig Incidents
- Satellite Loss
- Shipping Incident
- Train Derailing
- 1 Loss ranking in terms of value

All information is taken from public sources, and loss estimates as shown here should not be taken as confirmation by AGCS of reported losses.
Sources include: *Swiss Re Sigma 1/2014, Inside Fac, Marsh, Willis, P&C 360, Insurance Insider/Insider Quarterly, The Star (Canada) and Guy Carpenter Global Catastrophe Review 2013*

This loss atlas does not include liability or financial lines losses. Loss locations are approximate for illustrative purposes.

2013 loss trends

The 20 largest reported losses of last year from across the insurance industry, excluding those caused by Natural Catastrophes, totaled up to **$8.1bn**.

The Bingham Canyon mine landslide in Utah on April 10 was the largest non-volcanic landslide in North American history

Photo: Rio Tinto Kennecott

The 2013 non-natural catastrophe insurance loss list is dominated by losses from the oil and gas industry. Nine of the top 20 losses on the list came from this sector, collectively totaling $3.2bn or 40% of the total top 20 loss tab.

However, the biggest loss of the year occurred in the property sector. On September 4, 2013 a fire broke out at South Korean firm SK Hynix's production facility in Wuxi, China, which manufactures personal computer memory chips. The subsequent insured loss was estimated at up to $1.3bn[1] (€953m) after the global supply of memory chips was impacted by this incident, according to reports.

Another significant event was the Bingham Canyon mine landslide in Utah, US on April 10. More than 165 million tons of earth dropped more than a half mile at the copper mine, the largest North American landslide on record, according to the University of Utah. Insured losses from this event have been reported as totaling up to $1bn[2] (€733m).

Of the top 20 insured losses fire and/or explosion was the main cause, accounting for eight of the losses including SK Hynix – (Refinery, Argentina [$800m], Refinery Complex, Canada [$500m], Ethylene Plant, US [$500m], Methanol plant, Oman [$252m], Refinery, UK [$210m], Fertilizer Plant , US [$200m] and Refinery, Saudi Arabia [$180m] being the others). Collectively, this equates to almost $4bn ($3.94bn), almost half the total loss tab of the top 20 losses.

Aviation and shipping activity

North America was the location of seven of the top 20 losses (five in the US, two in Canada) including the year's largest aviation loss, the Asiana Airlines crash on July 6 in San Francisco. Asiana flight 214 struck a seawall just short of the runway, which sent the plane spinning and skidding, after which a fire broke out. Three people died in the incident which may result in insured losses of approximately $300m[3] (€220m), according to recent reports.

Meanwhile, the largest shipping loss of the year, occurred in the Indian Ocean, off Yemen on June 17. The 86,692 GT MOL Comfort container ship broke in two and sank in deep water after sustaining a major midship crack. The exact cause of the sinking is still unknown at time of writing. However, the loss raised questions over the structural integrity of large vessels and the risk that some container ships are unknowingly overloaded. The current estimated insured loss for MOL Comfort is $523m[4] (€383m), comprising $440m in cargo losses and $83m for the hull.

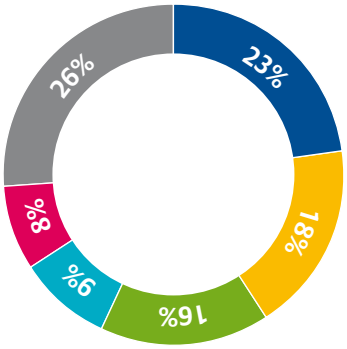
1 Source: Insurance Insider, Guy Carpenter Global Catastrophe Review 2013

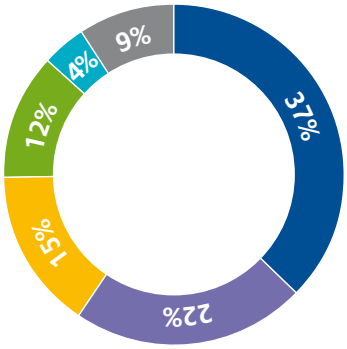
2-4 Source: Insurance Insider

Plane crash is the third top cause of loss across all business lines

Almost a fifth (18%) of aviation claims relate to ground handling incidents

Top Causes of Loss: Aviation Claims (€1m +)





No. of Claims	
Plane crash	23%
Ground handling	18%
Mechanical failure	16%
Hard landing	9%
Damage by foreign object	8%
Other	26%

By value	
Plane crash	37%
Over/undershot runway/taxiway	22%
Ground handling	15%
Mechanical failure	12%
Hard landing	4%
Other	9%

Source: Allianz Global Corporate & Specialty. *Data based on accident years 2009-2013*

Aviation claims trends

Improvements in airline safety are leading to fewer catastrophic losses overall, despite 2014's extraordinary loss activity. However, the cost of aviation claims is rising, driven by the widespread use of new materials, as well as ever more-demanding regulation and the continuing growth of liability-based litigation.

Airline safety has improved massively over the past two decades. Despite a big increase in airline fleet sizes, fatal or catastrophic airline losses are now far less frequent, especially in the US and Europe.

Although, the 2013 global western-built jet accident rate (measured in hull losses per million flights) was 0.4 – the equivalent of one accident for every 2.4 million flights – up from 0.21 a year earlier – when it was the lowest in aviation history – the number of fatalities (210) almost halved (414 -2012) last year, according to the International Air Transport Association (IATA)[1].

Prior to 2014, in recent years there have been very few catastrophic passenger airline losses – most notably the 2009 Air France Flight 447, in which an Airbus A330 crashed into the Atlantic Ocean killing all 228 people on board.

"The increasing complexity of aircraft design has implications for claims costs"

Bird strikes are a notable cause of loss averaging €16.7m ($22.8m) every year (2009-13) with a total of 34 incidents (27 to airlines) in the analyzed claims. Most accidents occur when birds hit the windscreen or fly into engines. Annual damages have been estimated at $400m in the US[3].

Asiana Airlines Flight 214, which crashed on landing at San Francisco airport in July last year, constituted an insured loss potentially in excess of $300m, according to reports

Photo: Shutterstock

The most recent fatal airline loss in the US was Asiana Airlines Flight 214, which crashed on landing on July 6, 2013, in San Francisco, resulting in three fatalities and 49 serious injuries. This incident, also constituted the largest insured loss of the 2013 year for the sector – potentially in excess of $300m[4] – and was a significant contributor to the estimated $1.5bn[5] (€1.1bn) worth of insured losses the sector sustained last year, according to market reports.

The story in Europe is similar, with the last major airline accident being the Turkish Airlines Flight 1951 which crashed during landing at Amsterdam Schiphol Airport in 2009, resulting in the death of nine passengers and crew.

While safety has improved worldwide, some countries continue to have a higher loss rate than the US and Europe with those in Africa among the worst performers. Although IATA reported that the Africa region as a whole saw an improvement in its safety performance hull loss rate in 2013, at 2.03 this is still significantly higher than elsewhere in the world[2].

1-2 Source: IATA Releases 2013 Safety Performance www.iata.org
3 Source: www.independent.ie -
4-5 Source: Insurance Insider

Positive trends

A long-term improvement in global airline safety is due to a combination of several positive trends, notably higher standards of training for crew, better airline operations, more reliable and safer aircraft, improved safety systems – for example, the increasing number of fly-by-wire controlled aircraft in operation has had a significant impact – and more effective safety inspections.

Better inspections and aircraft reliability in particular have been significant contributors to an overall reduction in catastrophic losses. Aircraft inspections are now much more detailed and stringent than in the past and have been quick to incorporate improved technologies, according to Roland Wehner, Aviation Claims Specialist, AGCS.

"This means problems are increasingly being identified and dealt with long before they become a significant issue," adds Brian Hogan, Aviation Claims Specialist, AGCS.

However, one of the biggest factors behind the reduction in major losses has been the increased use of recurrent training – additional on-going training that can refresh the skills of pilots and crew, as well as help them prepare for unusual or emergency situations.

"Recurrent training has had a significant impact on reducing accidents, and therefore claims, in both mature and emerging markets," says Hogan. "It has resulted in much higher operational standards and increased safety across the airline and general aviation industry.

"Most airline and general aviation insurers now require policyholders to carry out recurrent training and operators typically send their pilots and crews back to school on a regular basis."

EMERGING RISKS: UAV growth poses increasing challenges

Growing awareness of the potential commercial applications of Unmanned Aerial Vehicles (UAVs) is likely to lead to much greater use of this emerging technology in the future, taking aviation claims into unchartered territory.

The technology has already found a wide range of potential uses, including border and coastal patrols, filming news and sporting events, crop dusting and surveys.

For UAVs to gain wider usage, technology and current regulation will need to adapt. And there are already discussions in Europe and the US to gradually accommodate UAVs in airspace and establish an appropriate liability regime and insurance requirements.

Federal Aviation Administration (FAA) integration of UAVs into US airspace by 2015 is the single most important factor that will influence how this technology is ultimately used by the civilian population and the eventual size of the industry. The FAA has previously estimated that by 2020, about 30,000 small, unmanned aircrafts will be used for all types of business purposes.

With commercial UAV usage currently restrictive, and with most vehicles being relatively small, claims are currently infrequent and not costly. However, incidents and near misses have occurred between UAVs and commercial aircraft[1], sparking concern if more UAVs were to share airspace with the latter.

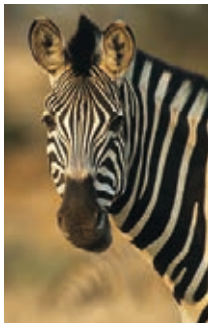
Meanwhile, a 2014 study[2] of accidents among military aircraft in US airspace (i.e. not in active operational environments) notes that the increased participation of unmanned aircraft in US Air Force usage has resulted in a dramatic increase in the percentage of overall "Class A mishaps", defined as a non-combat accident that results in a death, a permanent total disability or damage of at least $1m. During the 10-year study period (2004-2013) there were a total of 75 "Class A" Air Force mishaps in relation to unmanned aircraft. At the start of the study set in 2004 UAVs accounted for around 21% of all "Class A" Air Force mishaps. By 2011 this had grown to 50%, although the past two years have shown an improvement. While the increased number of such accidents may reflect the increased usage of UAVs in US airspace, the study provides insights into potential causes of loss for UAV activity.

Pilot/human error accounted for 27.5% of the recorded mishaps with 58% due to failure issues with the hardware of the aircraft.

The potential risks are obvious, namely collision or third party damage or injury and resulting liability. AGCS sees a potential risk in the loss of control due to frequency interferences as there have been such incidents in the past with radio control models including fatalities.

1 Source: www.edition.cnn.com/2014/05/09/travel/unmanned-drone-danger/

2 Risk, Product Liability Trends, Triggers and Insurance In Commercial Aerial Robots study - David Beyer, Donna Dulo, Gale Townsley, Stephen Wu



Animal impact
Birds are not the only animals that can cause aviation losses. Both zebras and cows have been responsible for insurance claims, particularly in Africa, Latin America and Asia, where there have been a number of incidents of pilots swerving on runways to avoid collisions or even striking animals in some cases

Attritional losses increasing

While there has been a significant reduction in catastrophic losses, every-day (attritional) losses have not improved, reflecting the increasing cost of repairs and the growth of the airline industry, particularly in emerging markets.

Aircraft are now far more complex. On average there are approximately 600,000 parts on an airline-type aircraft, employing new materials and technology and this is resulting in significant changes in claims handling and costs, according to Wehner.

For example, the latest generation of aircraft, such as the Airbus A350 XWB and the Boeing 787 Dreamliner are built using composite materials (such as carbon fibers encased in toughened resins). Such materials are more light-weight yet stronger than traditional materials (such as aluminum), but repairs can be comparatively more time-consuming and costly.

Composite repairs require the relevant expert technicians, often in limited supply. As a result, new generation aircraft take more time to assess damage and repair, leading to more down time and more expense.

"Composite aircraft are very different in terms of damage assessment and incur much higher costs of repair. At the same time, the cost of repairing older aircraft is also increasing. Aging fleets are more expensive to repair as the availability of parts becomes more problematic," says Hogan.

MRO and regulatory issues

The increasing complexity of aircraft design has other implications for claims costs. For example, manufacturers and Maintenance, Repair, and Overhaul (MRO) contractors keep fewer spare parts in stock, while an increasing number of components have to be made to order.

The use of MRO companies is a topical issue for aviation claims right now, according to Wehner. "MROs require the consent of manufacturers before carrying out repairs, but manufacturers increasingly prefer to carry out repairs themselves," he says.

"For major claims it may be appropriate to go with the manufacturer because they are more likely to have the required spares in stock and can work faster. But for standard claims it could be more cost-effective to use an MRO," adds Hogan.

"As an insurer we cannot influence the manufacturer's decision on whether to use an MRO which can result in a more expensive claim. This trend is likely to continue, especially with the introduction of more complex new generation aircraft."

The cost of aviation claims has also been rising with more stringent regulation, according to Wehner. "For example, manufacturers and MROs can no longer use the same approved technician to carry out both the repair and inspections, which leads to yet more additional cost," he adds.

Claims settlement best practice

Both airlines and operators of corporate jets need to be back in operation as quickly as possible in the aftermath of an incident and effective and efficient settlement of claims is an important factor in ensuring this occurs.

According to Brian Hogan, Aviation Claims Specialist, AGCS one of the major obstructions to prompt settlement is when insureds present their insurers with a bill before the insurer has been properly notified of the actual claim and received the relevant damage information.

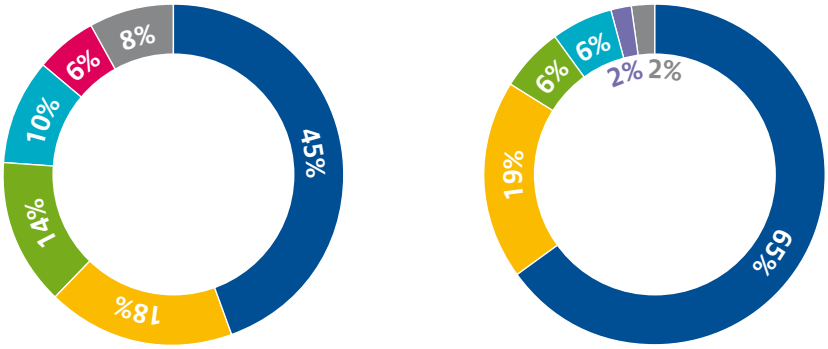
"It is important to bring the insurer into the loop from the start," Hogan notes. Involving insurers in the immediate aftermath of an incident can not only get planes operational faster, it can also help to control costs, adds Roland Wehner, Aviation Claims Specialist, AGCS.

"We can influence important decisions that have a bearing on the cost and the time it takes for recovery and repair," Wehner says.

Top Causes of Loss: Energy Claims (€1m +)

Fire is the number one cause of energy losses by both number (45%) and value (65%)

Storm damage accounts for just 2% of claims by value



No. of Claims		By value	
Fire	45%	Fire	65%
Blow out	18%	Blow out	19%
Machinery breakdown	14%	Explosion	6%
Explosion	10%	Machinery breakdown	6%
CBI Loss	6%	Storm	2%
Other	8%	Other	2%

Source: Allianz Global Corporate & Specialty. *Data based on accident years 2009-2013*

Energy claims trends

Higher values combined with increasingly complex and interrelated risks means that the cost of energy claims is increasing. Business interruption and a number of emerging risks will also make for a more challenging future environment.

One of the most significant trends over the past five years, and continuing through the last year, has been the steady increase in business interruption (BI) claims as a proportion of the total loss. Energy companies are buying more BI cover, while the high price of oil, complex supply chains and a trend for clients to seek independent consulting advice are among the key drivers.

The increasing cost of BI claims is linked to the complex and sometimes concentrated supply chains in the energy sector. Petro chemicals are used in an increasing number of products and processes, with many sectors and companies relying on their timely delivery, a risk that can be picked up by supply chain and customer extensions.

Operations are also growing more complex and interrelated in other ways, explains Steve Hanley, Energy Claims Specialist, AGCS.

For example, there can be three or four oil fields all feeding into one offshore processing facility. As a result, one event can impact many facilities and lead to claims for a number of insureds.

Fire is the major cause of loss in the energy sector while the cost of business interruption claims is increasing

Photo: Shutterstock

"We see more and more claims from large, interrelated installations," adds David Wilson, Energy Claims Specialist, AGCS. "There are complex interdependencies to understand - plants are getting bigger and have more clients and customers," he says.

As BI claims have become more meaningful, more time and resource is required to settle them, according to Hanley. "Without a shadow of a doubt, energy claims are getting more complex to handle, a reflection of the economic climate and clients increasing use of professional advisors when making a claim," he says.

"It's now a much longer and more drawn out process to get to the numbers of BI claims."

Physical damage

Physical damage exposures are also growing in the energy sector, with more sophisticated technology, bigger vessels and more extreme environments.

"The potential for higher physical damage losses has been around for a while, but we are now beginning to see such claims come through," Wilson says.

"For example, the move into deeper water has seen the cost of larger support vessels and specialist equipment rise. With the cost of vessel spreads running as high as $2m (€1.47m) per day, it doesn't take long to rack up a big bill."

But while values have been increasing, deductibles and waiting periods have not kept pace in the competitive insurance market, he adds.

Impact of changing technology

Today, technological developments continue to drive energy operators into uncharted waters.

"Increased technology is always present in the energy sector," says Hanley. "Companies are looking to drill deeper, better and longer – it's a natural part of the industry's development. We just have to stay alert to the fact technology will keep changing," he says.

When new technologies are introduced into the sector they often impact claims, making them yet more complex and expensive. For example, advances in sub-sea technology are allowing energy companies to operate in ever deeper water, but pipelines in deep water are much harder to access and repair.

Since the Deepwater Horizon explosion four years ago, tighter regulatory controls have contributed to fewer Gulf of Mexico claims

Photo: Wikimedia Commons

The Arctic region is an emerging risk area for energy claims.

Photo: Shutterstock

The energy industry's increasing reliance on technology is also a risk. For example, floating production, storage and offloading (FPSO) units typically use global positioning systems (GPS), which could potentially be disrupted by massive solar storms.

Rigs, FPSOs, onshore refineries and pipelines all rely on information systems and networks, which create cyber exposures. These facilities are increasingly exposed to property damage and business interruption from malicious cyber attacks, operator error or data corruption.

Emerging territories

New technologies and higher oil prices are also leading oil companies to operate in new areas, including more challenging environments, such as deeper waters and more remote locations.

For example, one area which will challenge energy claims in the future will be oil and gas exploration in the Polar regions. The Arctic has huge oil and gas reserves, but drilling in the extreme conditions poses a whole host of technological, operational and environmental challenges.

"The Arctic is an emerging risk area for energy, and one that we are keeping a close eye on. It is something that we will see more of in years to come, and it could be quite challenging from a claims perspective," says Hanley. The Arctic environment is pretty tough, with some areas only accessible for a few months of the year, adds Wilson. "The effects of the cold and ice on rigs and FPSOs are largely unknown, while the remoteness of operations would make it difficult to resolve issues in the event of a claim. Pollution could also be an issue because oil breaks down differently at lower temperatures."

Advancements in fracking technology have also opened up shale oil and gas exploration in the US on a massive scale, but potential reserves are found in other countries, like China, Argentina and the UK. Meanwhile, oil sands are already another frontier for the energy sector, with developments in Canada.

"The energy industry's increasing reliance on technology poses cyber risks"

Emerging markets

The energy sector is becoming more global as emerging markets become more important as both consumers and producers. Large reserves are being opened up in Brazil as well as parts of Asia Pacific and Africa.

Operating in new, and often remote, parts of the world has implications for the cost of claims, says Wilson.

"When drilling in the North Sea or Gulf of Mexico you will have access to lifting equipment, spare rigs and relief wells. But in emerging markets you may have to bring in equipment from far away. Even in Australia, if there is a fire on a FPSO it might have to be towed to Singapore or Korea for repairs, which results in a higher repair bill," he says.

In addition, another challenge posed by many emerging markets is that there can often by greater legal and contract uncertainty due to a lack of precedence and challenges in interpreting laws, Wilson adds.

Catastrophe claims and large losses

Energy claims were relatively benign in the early part of 2014, at least in terms of frequency and a lack of catastrophes.

Since the spate of hurricanes in the Gulf of Mexico in 2005 and 2008 – which included the devastating Hurricanes Katrina, Gustav and Ike – there have been relatively few large catastrophe losses. "Catastrophe losses have not been a major concern for the energy sector in recent years and are far less of an influence on claims activity than in the past," Hanley notes. According to AGCS, storm damage accounts for just 2% of claims by value in the energy sector.

However, when there are claims in energy they can be very large indeed, and the cost of those claims has been rising. "Excluding natural catastrophes, claims appear to be increasing in severity, and when it comes to energy claims, we can be talking big numbers," Hanley continues. The average claim in the energy sector is in excess of €20m, according to AGCS.

There were no significant losses during the first five months of 2014 but from early June there were four loss incidents in a month (Refinery, Siberia; Refinery, India; Refinery, Thailand; and a Chemical Complex, US. which are now all under close investigation. There were also a number of large losses in 2013 *(see page 16)*.

EMERGING RISKS: Hydraulic fracturing

Hydraulic fracturing or "fracking" is an emerging risk in terms of media interest, but the process has actually been in commercial usage since 1949 in the US. Although an established technology, its recent development in new regions to exploit previously inaccessible shale oil and gas reserves has brought it into the media spotlight, fuelling a highly-charged debate about its risks and benefits.

From an industrial insurance perspective, and when carried out to best practice standards, hydraulic fracturing presents risks which are comparable with other land-based conventional oil and gas extraction techniques. However, while it shares many of the same risks as conventional approaches, it can also introduce new risks, such as exposures for liability or specialized equipment.

Therefore, as with other complex extraction processes, hydraulic fracturing requires a holistic and comprehensive risk management approach, which should consider not only the risks posed by the hydraulic fracturing operations, but also the extended social and environmental impact of such operations in the local area.

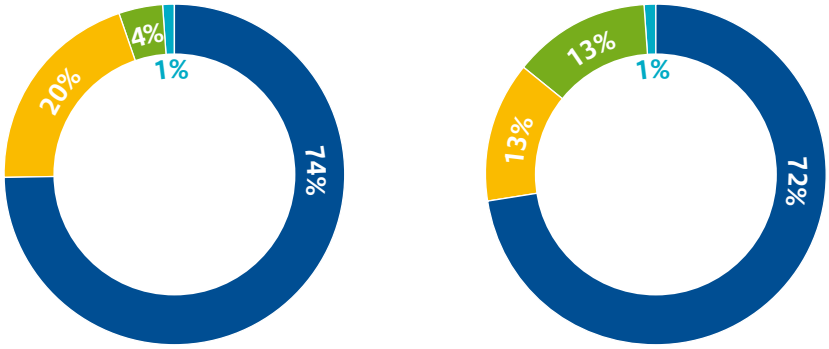
To date, insurers have not seen disproportionate claims activity arising from fracking but AGCS is monitoring developments in this industry closely, and regards risk management as the key to preventing future claims from fracking operations. The blow-out risk for the fracking process is relatively small, although there are some heightened risks associated with the increased concentration of topside equipment used to generate the pressure required, says Steve Hanley, Energy Claims Specialist, AGCS. "Effective risk management is the priority as with all complex industrial processes, because prevention is always better than cure," he adds.

"The risk of drilling and fracking previously inaccessible shale oil or gas is typically no greater than traditional onshore oil exploration, but fracking does involve additional risks such as for equipment and transportation – with each fracked well requiring as many as 2,500 tanker trucks of fluid transporting, often through areas not accustomed to industrial traffic," adds David Wilson, Energy Claims Specialist, AGCS.

Professional indemnity claims account for 72% of claims by value

Claims against directors and officers are the second major cause of loss

Top Causes of Loss: Financial Lines Claims (€1m +)



No. of Claims		By value	
Professional Indemnity	74%	Professional Indemnity	72%
Side A Coverage (Insd v Insd)	20%	Side A Coverage (Insd v Insd)	13%
Side B Cvge (Co. Reimbursement)	4%	Side B Cvge (Co. Reimbursement)	13%
Side C (Entity) (securities claim)	1%	Side C (Entity) (securities claim)	1%
Other	0%	Other	0%

Source: Allianz Global Corporate & Specialty. *Data based on accident years 2009-2013*

Financial Lines claims trends

Financial institutions and directors' and officers' claims face two major challenges, a far less forgiving regulatory environment and the spread of collective actions, driven by a growing claims culture and increasingly savvy litigators and litigation funders.

Over the past five years the global economic financial crisis has been the dominant force affecting the financial institutions sector.

"The financial crisis was a catastrophic event for the financial services sector, impacting all areas with losses," says Matthew Lamplugh, Financial Lines Claims Specialist, AGCS.

However, while many expected a huge wave of claims, the actual impact has not been as great as many initially feared. "Following the crisis there was a spike in professional indemnity and directors' and officers' claims worldwide, but generally global financial crisis claims are now beginning to taper off," adds Joerg Ahrens, Financial Lines Claims Specialist, AGCS.

For example, professional liability/indemnity claims for financial institutions increased by around 30% in the downturn. According to the analyzed portfolio these claims now account for 72% of total claims by value and 74% by number. However, these increased levels have stabilised and remained manageable. Claims directly related to the crisis should also now reduce as statutes of limitation are reached in some key jurisdictions.

Insured vs insured actions are likely to become more of an issue in Brazil, as they have in Germany
Photo: Shutterstock

Regulatory activity

The global financial crisis will have a lasting legacy, however, as governments and regulators step up their regulatory activities to stave off future crises, as well as clamp down on bribery and corruption and market conduct abuses.

"The expected bow wave of claims following the crisis may not have materialized quite in the way many expected, but we have seen a regulatory response to the crisis with more legislation and supervisory activity in almost every jurisdiction," says Lamplugh.

Regulators around the world have been strengthening their supervisory institutions in an attempt to avoid a repeat of past mistakes. For example, in Singapore, which saw only a limited impact from the crisis, the government has sought to increase standards of corporate integrity, conduct and culture, with initiatives such as extending the application of insurance corporate governance regulations.

Governments and regulators have bolstered their powers in a number of areas, chiefly around market conduct, consumer protection and anti-bribery and corruption. The most significant legislative changes have included the Dodd-Frank Act in the US, the UK Bribery Act and the US Foreign Corrupt Practices Act.

What is:
Side A Coverage? D&O Insurance:
Non indemnifiable liability of directors and officers

Side B Coverage? D&O Insurance:
Company reimbursement of directors' costs

Side C Coverage? D&O Insurance:
Company liability for securities claims

Increased enforcement

In addition to new legislative powers, regulators and supervisory bodies have increased their enforcement activity, while civil and criminal penalties have grown. There has also been a trend towards greater co-operation between regulatory bodies across jurisdictions.

"Since the global financial crisis there has been an explosion of regulatory activity against directors and officers and financial institutions," says Ahrens. "Regulators are now more active than ever before, and in many jurisdictions have been given more powers to pursue institutions and individual directors and officers," he says.

Market conduct and consumer protection are two big areas for increased regulatory scrutiny. The alleged manipulation of the London Interbank Offered Rate (LIBOR) has widened to include an increasing number of financial institutions and jurisdictions. Similarly, there have been some big regulatory penalties for breaches of sanctions rules, high-frequency trading errors, mis-selling and rogue trading.

Bribery

An area that has seen a notable increase in regulatory attention in recent years has been that of bribery and corruption. New laws and increased enforcement has resulted in a number of companies entangled in costly bribery and corruption cases, both in the US and Europe, and in emerging markets like China.

"There have been some high profile anti-bribery and corruption actions, particularly in Asia, involving multinational companies. This is now a big topic in financial lines and one that is not likely to go away anytime soon," says Ahrens.

There has also been a strong emphasis on the criminalisation of corporate conduct in recent years, according to Ahrens.

Regulators are also encouraging more self-reporting and whistleblowing, which can increase the cost of such claims. "What starts as an internal investigation can quickly snowball," he says.

Class actions

In addition to increased global regulatory activity, there is also a notable trend towards class or collective actions in new areas.

"There are new legal landscapes emerging outside of the US," says Ahrens. "Collective remedies were once unheard of in a European context, but now we see more and more countries allowing for similar-style remedies such as the collective mass claims settlement act, the WCAM 2005, in the Netherlands or the capital investor sample proceedings, KapMug, in Germany," he says.

Securities class actions have long been a feature of the US market, but the potential for such actions outside the US has been growing.

A number of European countries have introduced limited forms of collective redress. There is also the possibility to connect claimants across jurisdictions, and an increasing number of collective actions are being fought in multiple jurisdictions. There have been some high-profile class actions in the US, Australia and Europe targeting Asian companies.

Singapore has launched initiatives to increase standards of corporate integrity, conduct and culture

Photo: Shutterstock

Sophisticated litigation model

Linked to the trend towards collective actions is the growing sophistication of litigation outside the US. "We see the US litigation model being exported to other jurisdictions," explains Lamplugh.

Experienced US litigators and corporate law firms are looking to operate outside the US, while litigation funding is also becoming a feature.

Australia lends itself perfectly well to this development, as litigation funding has been part of its domestic litigation model for quite some time now.

"There is a business model and there is increasing opportunity with changes in legislation," says Lamplugh. "And there is an opportunity for litigation funders to get behind collective actions in jurisdictions which may now include the UK," he adds.

Claims patterns

The biggest losses for financial institutions continue to originate from class actions in the US and Australia, although there have been some large claims in Germany around anti-trust and bribery cases.

The severity issue of class actions is demonstrated by the average settlement sums encountered in a lot of jurisdictions, some of which also see an increasing frequency, explains Ahrens. Further, there has been a notable development in the past in class action claims relating to Asian companies on matters such as accounting irregularities, which have been targeted by US plaintiff groups specialising in Asian companies.

Emerging markets in Asia and Latin America are still relatively benign in terms of claims trends, but this will change as they develop. For example, insured vs insured actions are likely to become more of an issue in Brazil, as they have in Germany.

In many markets outside the US there has not historically been a culture of litigation, but with growing cross border relationships this will change, Ahrens concludes.

D&O loss activity in Germany and claims trends

Professional indemnity claims may be the major cause of losses in the financial lines insurance sector, according to the analyzed portfolio, accounting for 74% of claims by number and 72% by value, but in Germany the landscape is markedly different, due to market dynamics and the AGCS underwriting portfolio.

For German companies internal liability cases against directors' and officers' (D&O) – or Side A coverage claims – are currently the main cause of loss activity in financial lines, accounting for approximately 80% of claims by number, according to claims analyzed by AGCS.

Such claims activity is being driven by an accommodating legal environment, increasing interest in the behavior of senior management and board members and the growth of specialized law firms, according to Stephan Kammertoens, Financial Lines Claims Specialist, AGCS, who also notes that such cases often have the highest exposures, accounting for 90% of claims according to value.

"The increasing numbers of claims against directors and officers means individuals will need to give careful thought before accepting such positions," says Kammertoens. "One of the first things an individual considering such a position should do is to check the contents of their D&O insurance policy. This coverage should be an important part of any director's contract."

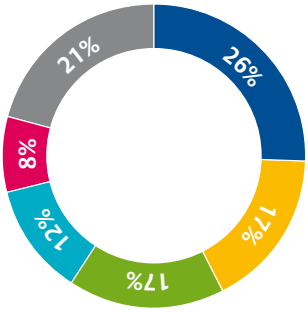
Recent D&O claims trends include:

- Regulatory investigations
- Antitrust violations
- Misleading offering documents
- Breach of fiduciary duties
- Breach of supervisory duties
- Breach of loyalty duty vis-à-vis third parties and the employee's own company (public statements)
- Lack of judgment regarding corporate acquisitions
- Delay in filing for insolvency
- "New board versus Old Board"

Top Causes of Loss: Liability Claims (€1m +)

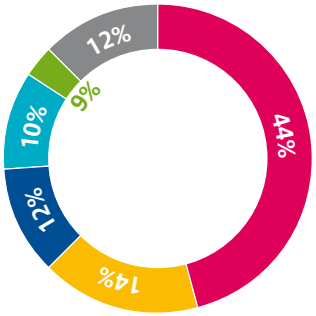
Although not large in number, personal injury and wrongful death claims result in more than 40% of claims costs

Claims from product defects are high in volume. Automotive recall cases are becoming more frequent and more expensive



No. of Claims

Property damage	26%
Product defect	17%
Product defect - property damage	17%
Product defect - financial loss	12%
Bodily injury (inc fatalities)	8%
Other	21%



By value

Bodily injury (inc fatalities)	44%
Product defect	14%
Property damage	12%
Product defect - financial loss	10%
Product defect - property damage	9%
Other	12%

Source: Allianz Global Corporate & Specialty. *Data based on accident years 2009-2013*

Liability claims trends

Liability claims are becoming more international, complex and costly as awareness of compensation and US-style litigation continues to spread.

The US has long been associated with a compensation culture, but there is a growing trend outside America towards consumer protection. As people become wealthier, especially in emerging markets, they are more likely to seek compensation when they suffer bodily injury or a loss of income.

"The trend for globalization will not stop and awareness of consumer protection and a culture of compensation will grow in emerging markets," explains Peter Oenning, Liability Claims Specialist, AGCS.

"Even though the largest claims are still from the US, we have seen a gradual trend towards more significant claims from other countries," he says.

"In some parts of the world, like Russia, it is still uncommon for people to seek compensation, but in others, like some countries in the Asia region, it is now becoming everyday practice for people to make a claim if they suffer personal injury or if a product is found to be faulty."

Examples of recent large claims include: damages to homes and dwellings by annual flooding in Brazil, allegedly caused by a nearby construction development; worldwide claims for replacement of defective ear implants versus an Australian manufacturer; hundreds of claims for wrongful death due to pulmonary diseases allegedly caused by a sterilizer for a humidifying device in South Korea; and big losses for an European meat producer due to an import ban in China since leftovers from metal earmarks were detected in pig ears.

New cars on a production line. Automative recall cases are becoming more frequent and more expensive.
Photo: Shutterstock

Growing awareness and new laws

Consumers in emerging markets like China are growing more aware of their rights and are increasingly more likely to seek compensation.

For example, a recent case of contaminated whey for baby formula from New Zealand drew media attention in China, Thailand, Malaysia, Vietnam and other Asian countries and resulted in some large legal cases, as well as the active involvement of the country's consumer associations.

At the same time national governments are also growing more aware of the need to protect consumers.

In recent years, China has passed a number of laws to increase consumer rights and give people improved access to justice. As a result there has been a gradual increase in claims against manufacturers for faulty products, and these can include sizable punitive damages.

Collective actions are being allowed in an increasing number of countries. For example, there is now class action law in Italy and the Netherlands. There are also tendencies in Europe for increased bodily injury awards. For example, the highest compensation awards for pain and suffering in Germany have nearly tripled to around €1m ($1.36m) over the past two decades.

"Trends such as globalization and consolidation of industries means claims are getting bigger, spanning different jurisdictions and lawyers"

Forum shopping

International forum shopping is also becoming more of an issue for liability claims as awareness of other jurisdictions increases. For example, product liability claims against a French breast implant manufacturer have been made elsewhere in Europe and as far away as Latin America.

"Law firms are becoming more international and we increasingly see related claims being litigated in multiple countries," Oenning explains.

"Plaintiff lawyers are looking to make connections and bring claims in other countries. They are going to where compensation awards tend to be highest and where they are most likely to secure a favourable verdict."

As liability claims become more international, there is a tendency to use the services of international law firms, but these are more expensive than local alternatives. "An international product recall for a motor or pharmaceutical business would need an international law firm to steer the claim globally, but you have to pay a premium for global service," Oenning adds.

Bigger, more complex claims

Some of the biggest claims in recent years have involved pharmaceutical product liability cases, most notably a number in the US including a most recent case involving birth control pills. Automotive industries have also experienced a high number of product liability, recall and bodily injury cases.

Cases against the automotive and pharmaceutical industries are representative of a wider trend in liability claims, that of increasing size and complexity.

"Trends like globalization and consolidation of industries means that claims are getting bigger, spanning different lawyers, jurisdictions and legal systems," says Larry Crotser, Liability Claims Specialist, AGCS. "This is making claims much more complex, requiring legal expertise and knowledge of requirements in multiple countries."

Rising legal costs

The US continues to produce the largest liability claims, although measures to curb class action claims have helped stem the rise in class action litigation in the country.

"Reforms in the US have had a chilling effect on mass tort," Crotser adds. "The Class Action Fairness Act of 2005 and a number of supreme court cases have made it more difficult for claimant lawyers to file class action law suits, in particular for personal injury claims."

However, while there are fewer filings, legal costs have continued to rise and have in some cases wiped out the benefits of recent tort reforms.

"Litigation in the US is becoming more expensive as legal costs continue to rise," says Crotser. Legal costs have multiplied by a factor of two or three in some instances in the US.

The increased cost of claims also reflects rising medical inflation in the US, which has been in the double digits for the past 10 to 20 years.

Rising legal and medical costs are also a feature of other markets. "This is a global trend," Oenning notes.

"Legal and medical costs are increasing in the US, but also elsewhere. For example, the cost of care has increased dramatically over the past two decades, meaning medical costs in Germany can now run into seven figures for bodily injury claims," he adds.

"Many of the biggest liability cases are related to bodily injuries, for example adverse events caused by a drug in a pharma case."

The pharmaceutical industry is responsible for increasingly complex claims

Photo: Shutterstock

Economic solution in the US

In the US decisions are increasingly coming down to economic reasoning, explains Crotser.

"In the US you can't pay for 15,000 lawsuits on one product, so you need to look for an economical solution. Some types of claims in the US are now too difficult to defend, while in other countries it may still be a realistic option to defend a claim," he says.

The financial crisis did not have an impact on general liability and other non-financial institutions liability claims. As the economic activity picks up, however, liability claims typically increase.

"The US economy has been recovering and some clients are enjoying record sales. But the recovery is not as great as some in the media believe, and we have not seen the uptick in claims that we might otherwise have expected," says Crotser.

Notifications in the US have been increasing, in particular for professional liability claims were there has been an uptick in claims volumes. "US insureds and their brokers are more proactive in notifying claims," Crotser concludes.

Claims settlement challenges: Increasing need for cross-border expertise

The growth in cross border litigation and the internationalisation of liability claims requires increasing levels of knowledge and expertise.

"There are still very big differences between legal jurisdictions and claims handlers need to understand these to have the best chance of defending a claim," says Peter Oenning, Liability Claims Specialist, AGCS. "It is important as an insurer to be able to deal with cases in multiple jurisdictions," he says.

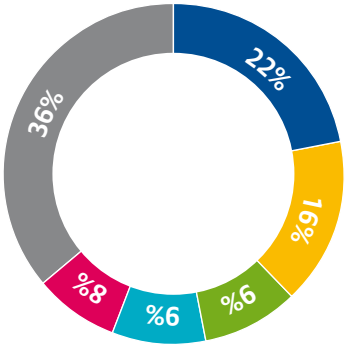
The increasing complexity and cross border nature of cases requires all parties to keep on top of documentation and ensure consistency, adds Larry Crotser, Liability Claims Specialist, AGCS.

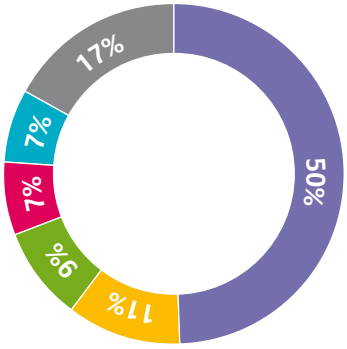
"Risk managers and insurers need to review and co-ordinate documents and discovery responses consistently across jurisdictions," he says.

Top Causes of Loss: Marine Claims (€1m +)

Crew negligence is a main driver behind three of the top five causes of loss by value

The Costa Concordia loss in 2012 drives grounding to the top of the list by value. However, this cause of loss is relatively infrequent (8%).





No. of Claims		By value	
Machine damage/breakdown	22%	Grounding	50%
Fire	16%	Fire	11%
Hull damage	9%	Hull damage	9%
Collision	9%	Storm	7%
Storm	8%	Collision	7%
Other	36%	Other	17%

Source: Allianz Global Corporate & Specialty. *Data based on accident years 2009-2013*

Marine claims trends

The MOL Comfort container ship broke in two and sank in deep water, becoming the largest insured loss of 2013
Photo: gcaptain.com

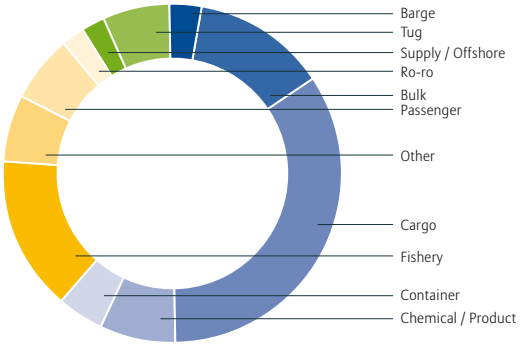
Rising claims inflation, the growing problem of crew negligence and the high cost of wreck removal have all been contributing to a worrying rise in the cost of claims.

Marine hull and machinery (H&M) claims, in particular, have shown a tendency towards increased frequency of large claims, and a general trend toward a rising cost of claims.

An increase in groundings and incidences of machinery damage involving crew negligence has also been of growing concern for insurers, according to Kevin Whelan, Marine Claims Specialist, AGCS. Over the past five years there has been a steady increase in claims in this area. For example, around half of all blue-water (ocean-going) H&M claims involve groundings related to crew negligence, with 25% from heavy weather and the balance from machinery breakdown.

Total Losses* by type of vessel

Jan 1 2013 - Dec 31 2013



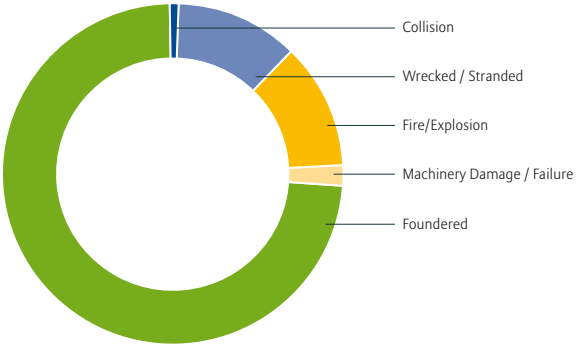
Barge	3
Bulk	12
Cargo	32
Chemical / Product	7
Container	4
Fishery	14
Other	6
Passenger	6
Ro-ro	2
Supply / Offshore	2
Tug	6
Total	**94**

More than a third of losses were cargo ships (32) with fishery (14) and bulk carriers (12) the only other vessels recording double-digit losses. Fishery and bulk losses are up year-on-year.

Source: Safety and Shipping Review 2014, Allianz Global Corporate & Specialty. Based on Lloyd's List Intelligence Casualty Statistics

Causes of Total Loss

Jan 1 2013 - Dec 31 2013



Collision	1
Wrecked / Stranded	11
Fire / Explosion	11
Machinery Damage / Failure	2
Foundered	69
Total	**94**

For the 12th successive year foundering (69) was the most common cause of loss, accounting for almost three quarters of all losses (73%). This was up on both 2012 – 55 (47%) and the previous 10-year average – 62 (44%).

Wrecking/running aground (11) and fire/explosion (11) were the cause of the majority of the remaining losses, although both were down on the prior year.

**Total losses are defined as actual total losses or constructive total losses recorded for vessels of over 100 gross tons (excluding, for example, pleasure craft and smaller vessels)*

Hail in Dubai?
Hail is a common cause of loss to cargo, with an average of **37** claims per year, even including one in Dubai. The average value is **€500,000 +**

Indeed crew negligence is often the main driver behind many of the top causes of losses, excluding natural hazards and many fires according to Whelan, with it being a potential contributing factor in over 60% of claims over €1m ($1.36m) in value.

The increase in crew negligence-related claims is one by-product of ship operators' efforts to more effectively manage their costs. This has seen an increasing proportion of crew and masters recruited from around the world. "Training and experience of crew sourced from various regions around the world becomes more and more of a concern, as standards and quality may be lower in many cases," says Ute von Briel, Marine Claims Specialist, AGCS.

Claims inflation

The increasing cost of large hull claims in recent years also reflects claims inflation, which is being fuelled by the rising cost of port facilities, labor and materials and the increasing costs of the goods themselves. For example, in a number of cases AGCS is seeing increase in values of 30% to 50% compared with previous declarations 12 months earlier.

"For the UK portfolio alone we estimate that 60% of all H&M claims are for machinery damage and the vast majority of these are due to crew negligence," adds Whelan.

"This trend is on the increase and these claims are becoming more expensive for the reasons outlined.

"In reality these are unlikely to be big severity claims and will never reach the level of a Costa Concordia loss, for example, but for insurers it is the level of frequency with

which these claims occur that is of concern. It is difficult to see how this trend will be reversed and it's a trend that seems to impact most ship operators, irrespective of where they are domiciled."

Whelan believes crew negligence is a complex issue that is not necessarily resolved by shipowners spending more money. He notes that a number of factors including consumers demanding the lowest prices for goods and a shortage of well-trained quality crew in the first place and the fact that seafaring is not seen as an attractive career by many graduates has resulted in a number of issues. For example, crews with lower standards of qualifications and training; language problems leading to issues with communication and understanding maintenance manuals; and modern crew relying too much on computer data.

"Underpinning all of this is the fragmented regulatory environment concerning the operation of ships and crew. Many bodies have little teeth in enforcing any regulations which often take a long time to get passed in the first place," he adds. "It is relatively easy for the less diligent ship operator to circumnavigate the blue chip classification and flag states which means a vessel can be crewed with cheap labor and charge competitive freight rates which can be attractive to shippers."

Containers and wreck removal

The largest loss in 2013 was the 86,692 GT MOL Comfort container ship which broke in two and sank in deep water after sustaining a major midship crack.

The exact cause of the sinking is still unknown at time of writing, but the loss raises questions over the structural integrity of large vessels and the risk that some container ships are unknowingly overloaded. Misdeclared cargo and overweight containers are still a problem in the maritime industry. The current estimated insured loss for MOL Comfort is $523m, comprising $440m in cargo losses and $83m for the hull *(see page 17)*.

Another particular area of concern for marine insurers is the cost of dealing with groundings, especially the potentially high cost of wreck removal.

"Wreck removal is becoming more complex and expensive as environmental concerns and improved salvage technology place greater demands on ship operators and their insurers," says von Briel.

The Costa Concordia loss is a case in point. The vessel, which struck a reef and capsized off the Italian island of Giglio in January 2012 – but was recently successfully raised from the undersea platform on which it has been resting for the past year – resulted in one of the largest marine claims in history.

According to reports, the cost of re-floating and removing the wreckage of the Costa Concordia is likely to hit $1.5bn, with the total claim, including the hull value and passenger compensation, approaching $2bn (€1.47bn), according to a number of insurance market reports.

Piracy claims falling but cargo threatened in West Africa

Piracy claims have been falling, due in large to the dramatic reduction in hijackings by Somali pirates, although the threat remains high.

However, the positive trend in East Africa has been partially offset by an increase in piracy in other areas, most notably in the Gulf of Guinea in West Africa, but also in parts of South East Asia, including Indonesia, which has seen a 700% increase in attacks in five years (106 in total).

Piracy in West Africa is not new. However, hijackings and theft of cargo have been on the rise, in particular in the Niger Delta region, as well as Benin and Togo. There were 48 incidents in the Gulf of Guinea in 2013, equating to 18% of all attacks around the globe. Four years ago it accounted for 7%.

Pirate gangs in the region have also been changing their mode of operation. They are growing more organized, although attacks are still largely limited to vessels with a low freeboard, such as chemical and bulk carriers. Unlike Somali pirates, those in West Africa are more inclined to hijack a vessel to steal the cargo rather than hold the crew or the ship and demand a ransom.

According to Kevin Whelan, Marine Claims Specialist, AGCS the shift in the piracy trend from hijack off Somalia to thefts off West Africa has resulted in a drop in the value of such claims. "The costs paid to release vessels and cargo are generally significantly higher than the thefts of oil," he says. "Often the West Africa thefts are to fulfil an order, so it is not unusual for only part of a cargo of oil to be stolen."

Superstorm Sandy hit the marine insurance market hard

Increasing natural catastrophe impact

Despite a recent quiet period for US hurricane activity, small- to mid-sized weather related claims have been increasing in frequency, with a notable impact on cargo and hull and machinery claims.

Of course, Superstorm Sandy in 2012 hit the marine insurance market hard with its estimated $2.5bn to $3bn cost effectively wiping out the entire US marine insurance premiums for the year[1].

More recently, a number of separate hail storm events in Germany have resulted in claims for the automotive industry after vehicles awaiting delivery suffered damaged windscreens and water penetration. For example, last year a heavy end-of-July hailstorm in the region of Volkswagen's headquarters in Wolfsburg affected a total of 28,000 cars[2].

Natural hazards are likely to remain a feature for marine claims in coming years as climate change combines with increasing concentrations of risk and assets in catastrophe-exposed zones.

"In 2008 a hailstorm damaged some 60,000 vehicles at a cost of €80m. Previously, the marine industry might have expected to suffer such a major hailstorm loss once in every 10 years. However there have been three such losses in excess of €50m in just the past few years," says von Briel.

Sanctions still a major challenge

Trade sanctions have been a major challenge for marine claims handling in recent years, requiring every claim and payment to be rigorously checked.

Sanctions imposed by the US and the European Union on trade with Iran and Syria have been a particular issue for the marine insurance industry but in recent years the numbers of countries subject to sanctions has been increasing and fines for breaching sanctions can be very expensive. At the time of writing both the US and the European Union have 25+ countries under sanctions.

Emerging risks: "Mega ships" and low sulfur fuels

Given the challenging operating environment, ship operators are looking for efficiencies and economies of scale, a trend that is driving a number of innovations in marine, such as larger ship sizes and the use of alternative fuels.

Larger ships have implications for marine claims handling, both in cargo and hull. Claims arising out of maritime emergencies of "mega ships" could be huge, especially if an accident was to block the entrance to a port, generating sizable business interruption claims. Structural integrity of untested designs is also a concern, as is salvage.

Wreck removal of large ships is technically feasible. However, the Costa Concordia grounding showed wreck removal costs can easily be a multiple of the hull value. And this is before considering the concerns about the salvage limitations for the latest and largest generation of container ships.

For example, it has yet to be seen how the industry would cope with the salvage of almost 18,000 containers from a grounded "mega ship". A salvage of such scale would take time, requiring new salvage techniques and equipment.

There are also concerns around crew safety and training with regard to large ships, with the required experienced crew in short supply.

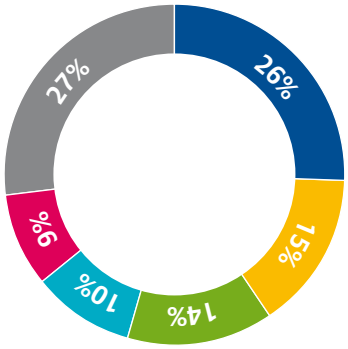
Another emerging risk that claims practitioners in the sector are closely following is the increasing use of low sulfur fuels, which is exacerbating the problem posed by cat fines – one of the greatest threats to engines. Cat fines are a by-product of refining made up of small particles of metal. As low sulfur fuels require additional refining more cat fines are present in the fuel. Once a cat fine finds its way into engine parts it is very difficult to dislodge, causing serious damage and even engine failure.

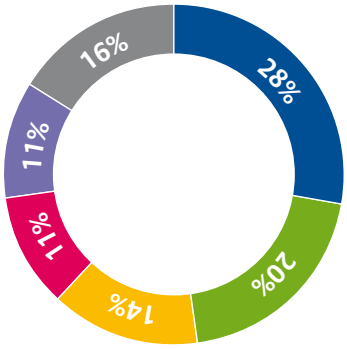
1 Source: International Union of Marine Insurance, March 2013
2 Source: www.dw.de - Hailstorm damages a nuisance

Top Causes of Loss: Property Claims (€1m +)

Fire is the top cause of property losses by number and value of claims

Natural hazards account for three of the top five losses by value





No. of Claims		By value	
Fire	26%	Fire	28%
Machinery breakdown	15%	Earthquake	20%
Earthquake	14%	Machinery breakdown	14%
Storm	10%	Exceptional rain	11%
Exceptional rain	9%	Flood	11%
Other	27%	Other	16%

Source: Allianz Global Corporate & Specialty. *Data based on accident years 2009-2013*

Flooding in Thailand in 2011 demonstrated the effect one incident can have across different sectors and continents. As property and business interruption values increase insurance industry claims of $1bn+ are becoming more frequent.

Photo: Shutterstock

Property/Engineering claims trends

The cost of large commercial property and engineering claims is rising with the trend towards ever-higher values and risks that are increasingly interconnected and concentrated on areas with exposure to natural hazards.

As in recent years, through 2013 the property industry continued to witness a trend towards larger claims, reflecting macro trends like globalization and climate change, as well as changing business models. Supply chains are becoming leaner and more complex, often crisscrossing the world.

Bigger proportion of BI

One result of the changing business environment for property claims is the growing relevance of business interruption (BI), according to Raymond Hogendoorn, Property and Engineering Claims Specialist, AGCS. "Business interruption claims are not new but they are becoming a bigger proportion of property claims," he says.

What is CBI?
Contingent business interruption is when a business is unable to operate because of an event that damages one of its suppliers, thus preventing it from engaging in normal trade

AGCS analysis shows the average loss from BI (€997,602/$1.36m) is 32% higher than the average loss from direct property damage (€755,198/$1.03m).

"As businesses become more and more connected, the impact of an event like a fire or a flood can be much wider and more costly. An incident at one company in one part of the world can have a knock-on effect and generate BI claims for many other companies in other countries, as the Tohoku earthquake and tsunami in Japan and wide-scale flooding in Thailand, in 2011, demonstrated."

Both these events resulted in large BI and contingent business interruption (CBI) claims across sectors and continents.

Higher values at stake

Complex and concentrated supply chains are contributing to the very high values now associated with some property exposures. For example, it's not unusual for just one, or a handful of companies to produce the global supply of a specific raw material or a key component, creating very high business interruption values in one location.

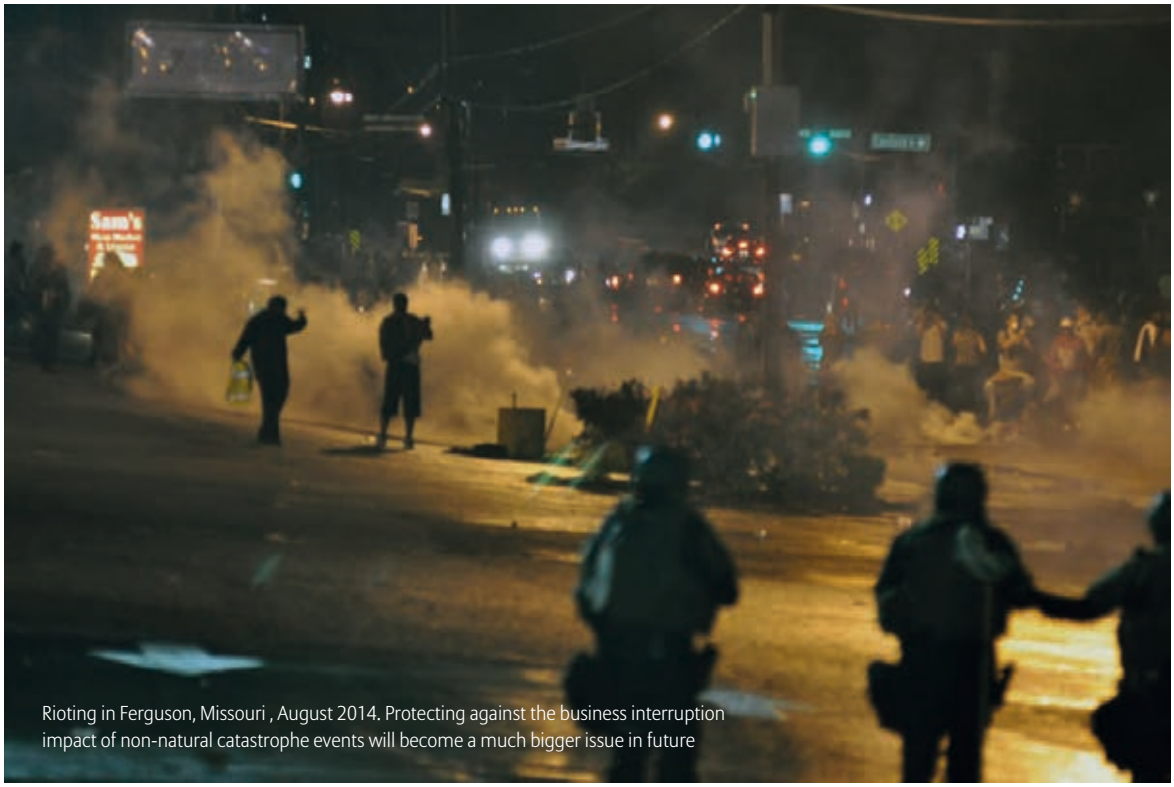
For insurers this means potentially larger and more complex losses than in the past. It also means that one event – like a fire at a factory or a flood in one region – will generate many claims from large number of clients, all affected by the same loss event.

The values of individual properties has also been increasing as manufacturing plants are developed on a bigger scale and are now home to some high value plant and equipment.

"The value per square foot of an insured building is becoming higher and higher, which is helping to push up the cost of some large property claims," says Hogendoorn.

Where companies once employed thousands of people, in many instances, they now invest in robotics and other technology, which is expensive, difficult to move in an emergency and time-consuming to replace.

"Increasing numbers of properties involve high-value assets and operations that have a much greater impact on the supply chain. As a result, a property insurance claim today is four to five times more expensive than it would have been in the past," Hogendoorn adds.



Rioting in Ferguson, Missouri , August 2014. Protecting against the business interruption impact of non-natural catastrophe events will become a much bigger issue in future

Emerging high-value sectors

As the property and business interruption values of individual properties have increased, industry claims in excess of $1bn have also become more frequent, in some cases coming from sources not traditionally anticipated by insurers.

Insurers are familiar with the potential for large losses in the energy sector, where BI claims and high values have been a significant feature for some time. However they are now beginning to see the potential for similar size claims in certain manufacturing industries, such as the semiconductor and automotive industries.

"While the value per square foot of a semiconductor plant has not been increasing recently, the value concentration in just one facility can be enormous, bringing the potential for large property and BI claims to $1bn to $1.5bn or greater," explains Hogendoorn.

For example, a fire at the SK Hynix Chinese semi-conductor plant in 2013 affected many companies in the supply chain, costing the insurance market up to an estimated $1.3bn, according to reports *(see page 17)*. Meanwhile, in the US in 2012 reports also indicated a tornado caused some $400m (€293m) of damage to an aviation manufacturing company and those of its suppliers in Wichita, Kansas.

Higher limits

As BI and supply chain exposures have become more significant, and as awareness of the risk has increased, interest in BI cover among corporate clients is growing, with more looking at buying higher limits.

Clients are also looking to buy insurance for a wider range of BI exposures, including those that are not the result of physical damage.

"In the past clients would look to insure BI following property damage, like a fire or a flood. However, many more clients now ask to cover BI losses where there has not been property damage," says Hogendoorn.

As BI exposures increase and demand for cover increases, BI-related claims will become a more significant issue for property claims handlers, he predicts.

"Non-damage BI will become a much bigger issue in the future, with clients looking to insure against a range of exposures, such as the financial impact of events like a government authority closing down an area linked to an outbreak of communicable disease, or from political risks like civil commotion and riots."

Natural hazards

Large commercial property claims are also becoming more costly as increasing numbers of people and businesses are based in the world's growing number of cities, which are often located in areas exposed to natural hazards, such as windstorms, tornadoes, floods and earthquakes.

As people become wealthier and businesses generate more economic activity, this means the values exposed to natural catastrophes are increasing at a rapid pace.

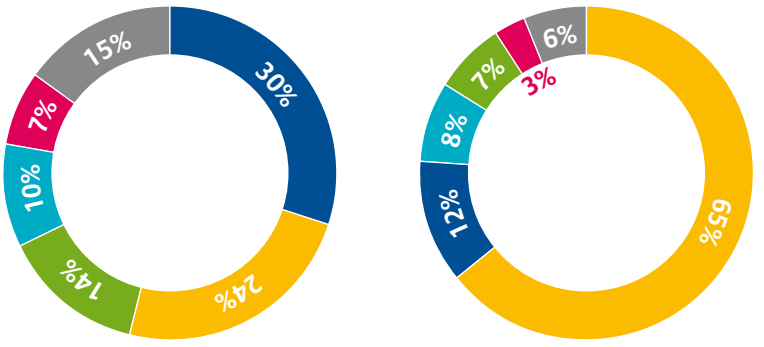
"The cost of natural catastrophe claims is likely to rise further as economic activity and the value of assets in hazard zones increases," says Hogendoorn.

And as wealth creation and economic activity in emerging markets has accelerated in recent decades, so has the potential for large natural catastrophe property claims.

Claims in emerging markets can also be more expensive because the associated costs can rack up. "For example, if you built a power plant in a remote location in Brazil, repair and transport costs will be much higher and experts will not be available locally, which all helps lead to an inflated total sum of loss," says Hogendoorn.

"Many European and US companies and their insurers often tend to translate their experiences of risk in their home markets and apply them to emerging markets. But really they are outside their comfort zone."

Top Causes of Loss: Engineering Claims (€1m +)



No. of Claims		By value	
Human/Operating Error	30%	Earthquake	65%
Earthquake	24%	Human/Operating Error	12%
Fire	14%	Fire	8%
Explosion	10%	Explosion	7%
Flood	7%	Damage by foreign object	3%
Other	15%	Other	6%

Source: Allianz Global Corporate & Specialty. *Data based on accident years 2009-2013*

Claims settlement best practice: Meeting insureds' expectations

As property and business interruption values rise, and as risks become more complex and interconnected, insurers require more relevant information and data from insureds in order to better understand their businesses and processes.

At the same time, insureds are becoming more demanding and have higher expectations when it comes to service delivery.

"Insureds can't wait months for their insurers to assess a claim," says Raymond Hogendoorn, Property and Engineering Claims Specialist, AGCS.

"They want to know they are covered, start thinking about rebuilding and get back to business straight away."

The challenge for claims handlers, therefore, is to respond quickly, and start communication immediately. "If we respond quickly we can help our clients with the best options to get their claim settled as quickly as possible,"Hogendoorn says.

"And by getting money to the client quickly, it helps build trust for the future," he adds.

Fast claims settlement is all about good communication and relationship-building. "It can sometimes be a real challenge to get all parties around the table. But once we have built a good relationship, clients are more inclined to spend the time explaining their risks and making sure we, as insurers, have the right information," he concludes.

Earthquake and human/operating error are the top causes of engineering losses by value (65%) and number of claims generated (30%) respectively

Emerging risks

A number of major risk trends are converging to produce larger, more complex and interconnected claims, which will have big implications for the way claims are handled in the future.

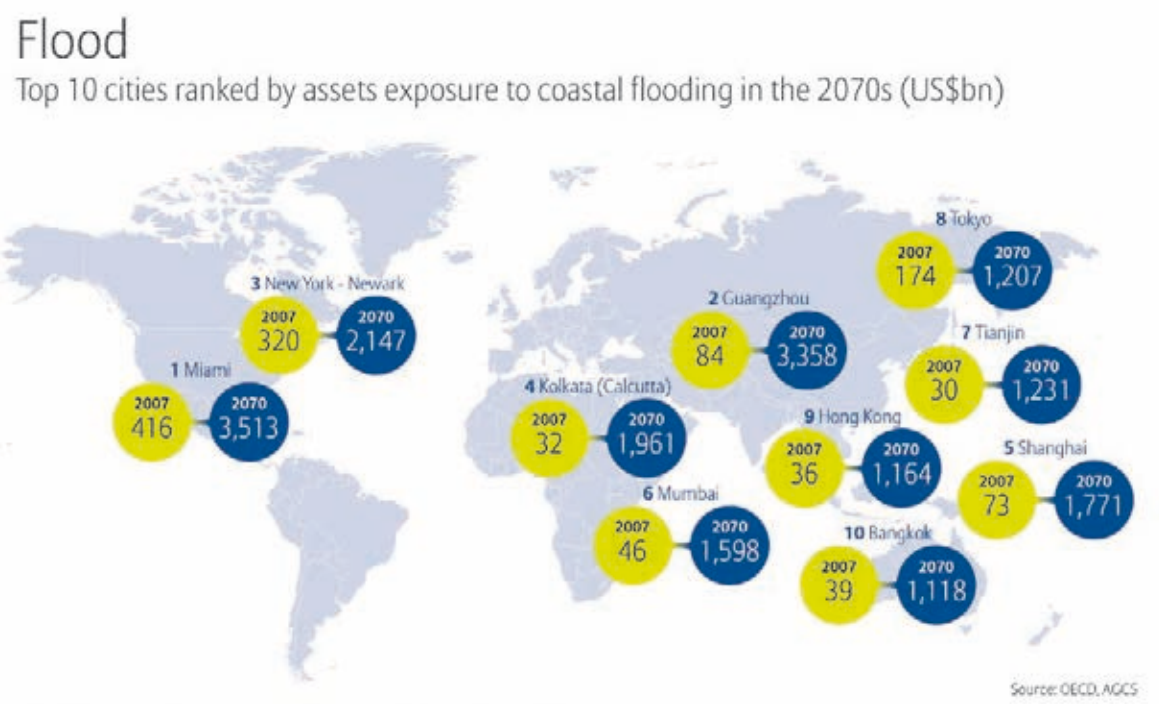
Emerging risks are more commonly associated with new technologies, materials or products. Yet, a number of big picture risks trends are emerging that are likely to have huge implications for claims in the not-to-distant future. Technology, economic growth, climate change, societal change and the fast developing legal and regulatory framework are all affecting risk and making insurance claims more challenging.

Increasing economic risk

For insurers, a notable trend in recent decades has been the rise in the values of claims, a reflection of economic growth, demographic change and wider claims inflation.

The world's population is growing, and changing. People are living longer, becoming wealthier and often choosing to live in an urban environment. According to the World Health Organization, more than half of all people live in an urban area compared with just two out of every 10 some 100 years ago. By 2030, six out of every 10 people are expected to be living in a city.

Many of these cities and centers of economic activity are exposed to natural hazards. Cities are commonly situated on the coast or on a major river, exposing them to floods and storms, while many of the world's largest cities are within earthquake zones. Tornadoes, snow and ice storms and even wildfires can cause havoc in an urban area, leading to substantial property damage and business interruption.



In 2070 Asian cities dominate the top 10. In 2008 the top 10 cities with exposure to coastal flooding were all in the US, Netherlands and Japan

Higher values at risk

Discover more about the risk challenges associated with supertall building projects at **www.agcs.allianz.com/insights/white-papers-and-case-studies/supertall-buildings/**

In addition to the increasing exposure to natural hazards, assets at risk have been increasing in size and value.

"Mankind is pushing the limits, always looking for bigger, and faster ways of doing things," says Michael Bruch, Emerging Risks Specialist, AGCS.

"We see it in all sectors, whether it is larger ships, faster trains, bigger planes, taller buildings or longer bridges."

More and more economic activity is concentrated into smaller urban areas, while people and businesses have accumulated more material wealth, such as property, vehicles, equipment and belongings.

At the same time, the world's largest cities generate disproportionate amounts of economic activity. Economic activity and wealth generation is being concentrated into urban areas and specialist hubs, like internet companies in California's Silicon Valley, semi-conductor manufacturers in Asia or financial and professional services firms in London and New York.

Weather volatility

Discover more about how weather volatility impacts business **www.agcs.allianz.com/about-us/news/art-weather-report/**

There is little doubt that natural disasters are having much greater financial impact as values at risk have increased, but this trend could accelerate further with climate change.

"Weather is becoming more extreme and less predictable at a time when cities and populations are growing in areas exposed to natural catastrophes," says Bruch.

Major disasters, like hurricanes and earthquakes aside, even more modest events can result in a large financial loss, he explains.

Complexity and interconnectivity

The increase in values at risk is also linked to the growing connectivity and complexity of exposures, in particular for business interruption claims. Globalization, the increasing complexity and vulnerability of supply chains, IT and communications structures, increase the potential for higher financial loss.

"While not an emerging risk in its own right, we see more interconnectivity of risks. We have seen in the past that a big claim is not the result of one failure, but a combination of many, including human error, or a failure of design, material or process," says Bruch.

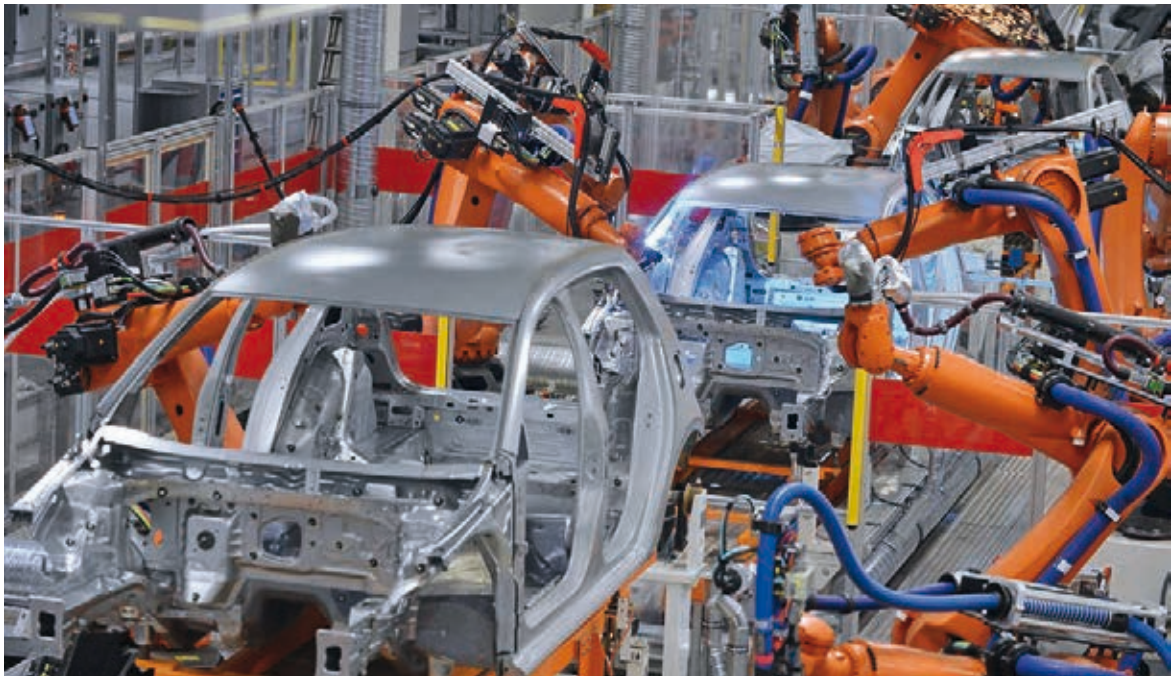
The 2011 catastrophic floods in Thailand and earthquake in Japan highlighted how one event can result in many large business interruption and contingent business interruption (CBI) claims, even many hundreds of miles away. And such incidents don't have to be prompted by a natural catastrophe. For example, in September 2013 a fire at a computer manufacturing plant in China ultimately led to three known other computer manufacturers in the US sustaining CBI losses in the range of approximately $300m.

In the future, CBI claims and those resulting from non-property damage – such as a power outage, an outbreak of a contagious disease or political unrest – are also expected to result in sizable financial losses.

"Urbanization, interconnectivity and specialization bring more complexity and the greater risk of business interruption. For example, the evolution of smart cities will have implications for infrastructure and processes, like power, transport and communications," adds Bruch.

Smart cities
A city can be defined as 'smart' when investments in human and social capital and transport and modern communication infrastructure fuel sustainable economic development.

"In the future non-property damage contingent business interruption claims are expected to result in sizable financial losses"



Robotic automobile production. Insurers have an important role to play in helping new technology to be adapted safely
Photo: Shutterstock

Technology benefits and challenges

Another important factor in the changing risk landscape is technology, which has an important role as an enabler. For example, technology is enabling taller high rise buildings, opening up new areas for oil and gas exploration, including drilling for oil in the Arctic or fracking for shale gas.

New technologies can bring great benefits. They can speed up processes and reduce complexity, and can even help control the rising costs of claims. For example, 3D printing will have massive implications for the manufacturing industry, but it could also make it easier to produce replacement parts that might otherwise take weeks or months to deliver.

Advances in technology could also potentially reduce risks in some areas. For example, autonomous vehicles and robotics could see fewer accidents on the roads and in the work place. Yet automation could also bring complexity, such as with smart factories and cities.

The pace of technological change also means that insurers increasingly are faced with prototype risks. For example, onshore wind energy technology is now established and well understood. However, the move to develop offshore wind has seen the size of turbines increase dramatically and led to some teething problems with the technology.

New technologies are also being introduced before their implications are fully understood. Nano technology or biotechnology has potentially huge benefits, especially in the medical or energy sector, but the long-term risks of some particles are still not known. But limited understanding of the risks does not necessarily mean that new technologies can't be insured.

"It is not possible to develop a new technology by taking all the conceivable risks into account," Bruch explains. "But as insurers we can play an important role in adopting new technology as safely as possible, by driving adequate risk assessment and risk management measures along the whole industrial process chain and by sharing knowledge across clients and industries."

For example, the insurance industry helped establish a joint code of practice for the offshore wind turbine industry to ensure loss prevention and risk management measures were factored in already during the erection phase of this technology.

"Insurers are increasingly faced with prototype risks"

Increasing relevance of business interruption and contingent business interruption

One of the biggest risk trends already emerging is the growing relevance of business and contingent business interruption losses, in particular from natural catastrophes.

"As a trigger for business interruption, natural catastrophes will at the very least stay a significant risk, or more likely still, will become a growing issue in the decades to come," says Michael Bruch, Emerging Risks Specialist, AGCS.

Business interruption losses from natural catastrophe is a risk that crosses many sectors. "As we saw with the flooding in Thailand and the Japanese earthquake in 2011, natural catastrophes can have a major, and unexpected, effect on the whole supply chain for one or more industries," says Bruch.

As industries have looked to contain costs, stock levels have been kept to a minimum and companies have moved to an outsourced business model, using complex supply chains that often cross continents. At the same time, the production of some components, raw materials and ingredients have become concentrated into fewer and fewer companies and plants, which are often in areas prone to natural hazards.

However, it is not only natural catastrophes that can disrupt supply chains and cause business and contingent business interruption losses on an international scale. Contingent business interruption losses can be triggered by a wide range of events, including political risks, power blackouts, and infectious disease outbreaks.

1 Source: Ponemon Institute - 2014 Global Cost of Data Breach Study

UK Government Communications headquarters (GCHQ). Cyber attacks are ranked in its top tier of risks.

Photo: Wikimedia Commons

Cyber risk continues to evolve

For property casualty insurance and claims, rising natural catastrophe exposures and climate change, the increasing complexity and interconnectivity of risks, especially for business interruption, and the growing importance of cyber will be among the most relevant emerging risk trends to watch, according to Bruch.

Cyber risk continues to evolve with advances in technology and as business and processes become more reliant on the internet and communications technology. As an emerging risk, cyber is still not well understood, and presents the insurance industry with a number of challenges, not least the fact that the costs associated with such events are increasing.

According to the Ponemon Institute's *2014 Global Cost of Data Breach* Study[1] the average cost of a data breach was $3.5m, up 15% year-on-year.

"Cyber connects so many types of risk, touching on private individuals, infrastructure, companies and public bodies," says Bruch.

The cyber threat has evolved rapidly in recent years, moving on from denial of access attacks and the theft of personal data. Cyber criminals are growing more sophisticated, targeting a wider range of corporate data, while the threat of politically motivated cyber attacks and state sponsored espionage have become of growing concern.

The potential for significant property damage and bodily injury resulting from a cyber-attack has also been realized.

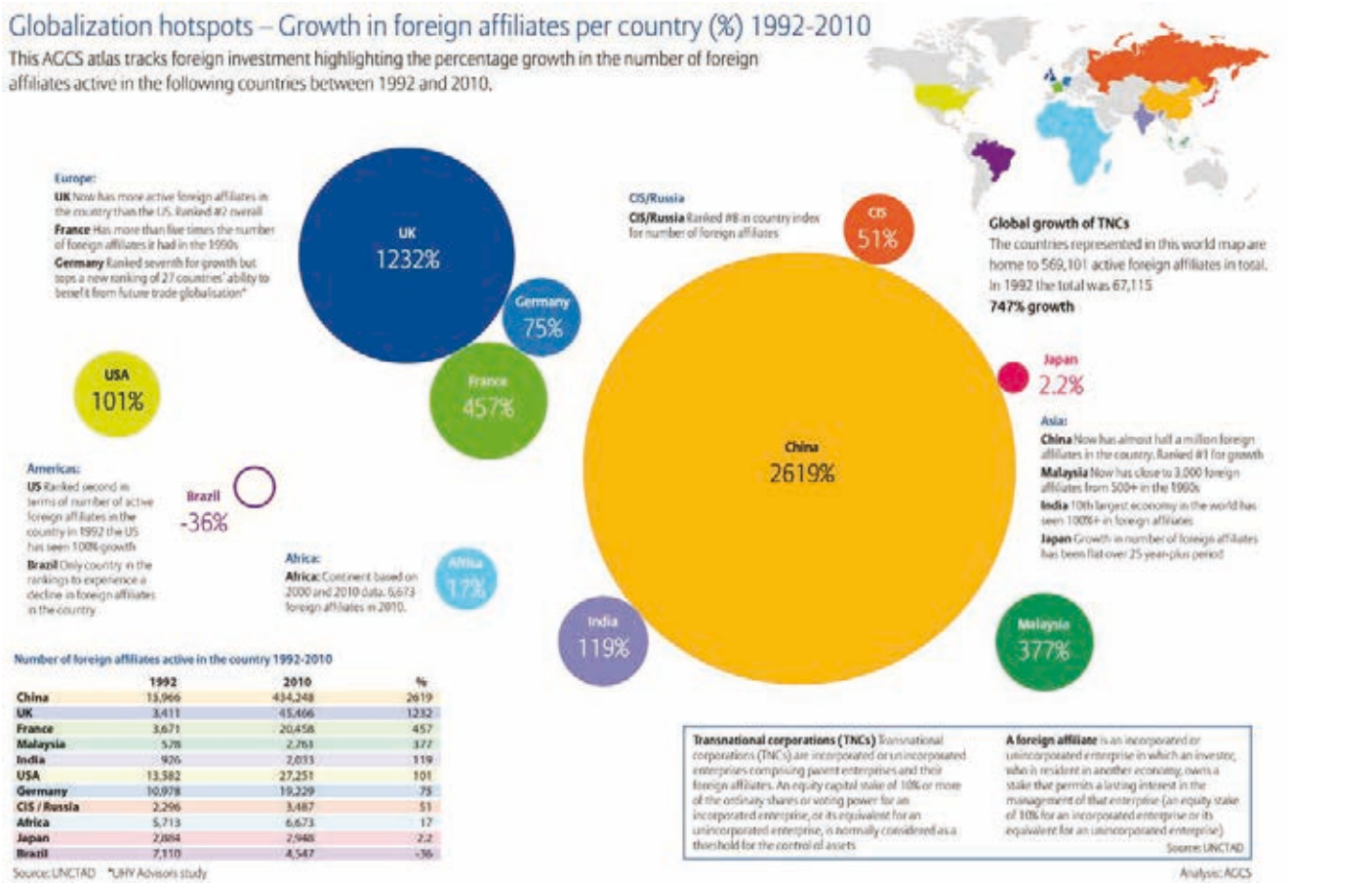
In 2010 the world was introduced to Stuxnet, a computer worm allegedly developed by the US and Israel to disrupt the Iranian nuclear program. The worm, which reportedly damaged nuclear centrifuges in Iran, targets industrial control systems which can be found in a wide range of industrial and infrastructure processes, including the energy and power sectors, as well as manufacturing.

A fire or explosion – for example in a petro chemical plant – triggered by a cyber-attack could result in very large losses, and there are genuine concerns that a politically motivated attack could have unintended consequences, potentially affecting a large number of companies and industries.

For example, scenario testing has shown that the power sector is vulnerable to physical damage resulting from a cyber-attack. In 2006, the US Department of Homeland Security conducted an experiment, known as the Aurora Project, which revealed vulnerabilities to control systems that manage power generators and power grids.

"The Aurora Project was a real eye-opener. Power connects everything so a cyber-attack that brings down the power grid and damages generators would have massive implications. A failure of the power grid is a real and significant risk," says Bruch.

For example, hackers have the potential to knock-out power grids via gaining access to control systems of power utilities, causing long black-out periods, as well as disrupting communications.



Globalization and the increasing complexity and vulnerability of supply chains increases the potential for higher financial loss

Aggregation of risk is also a major issue for cyber risks and one of the big challenges for the insurance industry, says Bruch. "A single virus or network infrastructure blackout could potentially affect whole sectors or many companies across sectors," he says.

"We are only at the starting point when it comes to our understanding of cyber risks. The insurance industry is only seeing its first losses but we will have to prepare for some interesting scenarios and consider which events pose the risk of aggregation."

Outside of just cyber risk Bruch believes increasing values and the greater interconnectivity of exposures could lead to larger and more complex claims scenarios for insurers in the future. "Looking over the horizon, society could become more vulnerable and face an increasing number and range of catastrophic scenarios," he adds.

Claims up-skilling

Higher value, more complex and interconnected claims will require claims handlers to acquire new skills and knowledge, and make better use of technology and analytical tools in the future.

"Insurers need to learn lessons from losses and give feedback to clients in order to inform loss prevention measures," says Alexander Mack, Chief Claims Officer and Member of the Board of Management, AGCS.

Clients will increasingly want feedback and the ability to benchmark their own claims experience. "Data and analytics will become more important and could help insurers and clients get to the root cause of losses," he says.

Insurers will also need to co-operate more, both internally and externally. Departments within insurers need to work closer, while claims, risk consulting and underwriting will need to engage with clients from an early stage to help get a better understanding of the risk.

Claims managers will also need new skills and expertise to combat the growing complexity of claims, predicts Mack.

"As we see in addition to the traditional fire risks a development of more complex business interruption and contingent business interruption claims insurers will need to add more expertise to those claims," he concludes.

Threat of power blackouts increasing

The threat posed by power blackouts is also increasing. Outside of Europe, major power outages in the US caused by weather increased from five to 20 each year during the mid-1990s, to 50 to 135 each year during the past five years.

It is estimated the impact of power quality and blackout issues in the US costs industrial and commercial companies between $132bn and $209bn[1] a year.

But not only long-lasting blackouts are of concern for industrial clients. In Germany 70% of all affected industries suffered short interruptions lasting shorter than one second, which can lead to physical damages and interruptions of their production processes.

In addition, the energy sector is already the fifth most frequent sector targeted by cyber hackers and in future attacks will become more likely due to increasing connectivity.

1 Source: Primen - Economic Benefits of Increasing Electric Grid Resilience to Weather Outages 2013

"Claims managers will also need new skills and expertise to combat the growing complexity of claims"

Further Reading

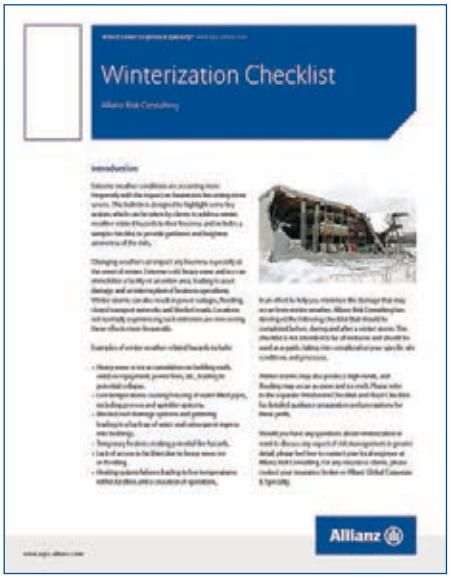
Insurers have a vital role to play in ensuring any disruption following a loss event is minimized but they can also help to mitigate the impact of any potential incident, or even prevent it from occurring.

AGCS' risk consultancy arm, Allianz Risk Consulting (ARC) produces a number of guides and publications which focus on the management, control and reduction of different risks.

Its series of "Tech Talk" bulletins explore technical risk issues ranging from understanding the fire hazards of photovoltaic systems to advice on reducing losses associated with overhanging cargo on ships.

ARC also produces a number of natural hazard checklists including hailstorms, flood, earthquake and windstorm.

You can view these publications at
www.agcs.allianz.com/insights/white-papers-and-case-studies/



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