

ALLIANZ GLOBAL CORPORATE & SPECIALTY

# GLOBAL CLAIMS REVIEW

THE TOP CAUSES OF CORPORATE INSURANCE LOSSES



ANALYSIS OF 470,000+ CLAIMS FROM  
OVER 200 COUNTRIES AND TERRITORIES



# SCOPE OF THE REPORT

This report focuses on global developments in corporate insurance claims over the period **July 1, 2013** to **July 1, 2018**, identifying the top causes of loss and other trends across a number of different business sectors, regions and countries.

The findings detailed in this report are based on the analysis of **471,326** corporate insurance claims from **206 countries** and territories. For reporting reasons, all claims totals are presented in euros (€). The analyzed claims have a total value of **€58.1bn (US\$66.5bn)**.

It is important to note that all claims figures quoted are 100% of the total loss – the data set does not just include the **Allianz Global Corporate & Specialty** share but also includes the share of other insurance companies involved on the particular risk (i.e. they represent the full payment made).

While the losses analyzed are not representative of the industry as a whole, and also reflect risk appetite, they provide a strong indication of the major risks which dominate corporate insurance.

## ABOUT ALLIANZ GLOBAL CORPORATE & SPECIALTY

Allianz Global Corporate & Specialty (AGCS) is the Allianz Group's dedicated carrier for corporate and specialty insurance business. AGCS provides insurance and risk consultancy across the whole spectrum of specialty, alternative risk transfer and corporate business:

- Alternative Risk Transfer
- Aviation (including space)
- Energy
- Engineering
- Entertainment
- Financial Lines (including Directors' and Officers')
- Liability
- Marine
- Mid-Corporate
- Property (including International Insurance Programs)

Worldwide, AGCS operates with its own teams in 34 countries and through the Allianz Group network and partners in over 210 countries and territories, employing almost 4,700 people of 70 nationalities.

AGCS provides insurance solutions to more than three quarters of the **Fortune Global 500** companies, writing a total of €7.4bn gross premium worldwide in 2017.

AGCS SE is rated AA by Standard & Poor's and A+ by AM Best.

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Fire and explosion incidents account for almost a quarter of insurance claims by value. Photo: Adobe Stock

# EXECUTIVE SUMMARY

471,326

Total number of  
claims analyzed

Businesses have to navigate an increasingly complex risk landscape. As well as combatting 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 and emerging risks posed by our growing reliance on technology. All of these factors can combine to impair successful running of operations and insurers have a vital role to play in ensuring any disruption following a loss event is minimized.

This report examines global developments in corporate insurance claims, highlighting the top causes of loss, and other trends. It also examines a number of industry-specific trends that will impact the claims landscape in future.

## THE TOP 10 CAUSES OF LOSS

The report highlights the increasingly high values at risk in corporate insurance claims. AGCS has identified the top causes of loss and emerging trends from more than **470,000 insurance industry claims** in **over 200 countries and territories** with which it has been involved between 2013 and 2018<sup>1</sup>. These claims have an approximate value of **€58.1bn (US\$66.5bn)**.

The analysis shows that over 75% of financial losses arise from 10 causes of loss, with the largest single identified cause being **fire/explosion**, which account for almost a quarter (24%) of the value of all claims. In the past five years, fire and explosion incidents have caused in excess of **€14bn** worth of insurance losses from over 9,500 claims and are responsible for more than half (11) of the 20 largest non-natural catastrophe loss events analyzed. Even the average claim from such an incident totals almost **€1.5mn** at **€1.47mn**. **Aviation collision/crash incidents** (14%) rank as the second top cause of losses globally according to value of claims. **Faulty workmanship/maintenance** (8%) is third.

## GLOBAL CLAIMS TRENDS

Despite recent record-breaking recent activity in the US and elsewhere around the world, **storm** is the only natural catastrophe event to appear in the top 10 causes of loss. Analysis of claims shows the vast majority of losses are caused by technical or human factors. In total, non-natural hazard events accounts for 87% of the total value of all claims and 95% of claims by number.

Claims payments vary enormously in scale reflecting the diverse nature of the risk landscape. Significant corporate insurance losses (**>€100mn**), such as those arising from fires, aviation crashes or shipping incidents for example, account for less than 1% of claims by number but a third of the total value of all losses analyzed, equating to **€18.9bn**. Conversely, around 90% of losses are valued at or below €50,000, accounting for just 4% of total value.

### TOP CAUSES OF LOSS BY TOTAL VALUE OF CLAIMS (2013-2018\*)

1.	Fire/explosion	24%
2.	Aviation collision/crash	14%
3.	Faulty workmanship/maintenance	8%
4.	Storm	7%
5.	Defective products	6%
6.	Damaged goods (including handling/storage)	5%
7.	Machinery breakdown (including engine failure)	5%
8.	Water damage	3%
9.	Ship sinking/collision	2%
10.	Professional indemnity (e.g. negligence/misadvice)	2%

**Source:** Allianz Global Corporate & Specialty. \*Based on analysis of 471,326 insurance industry claims between July 1, 2013 and July 1, 2018. "Other" causes of loss account for 24% of the value of all claims.

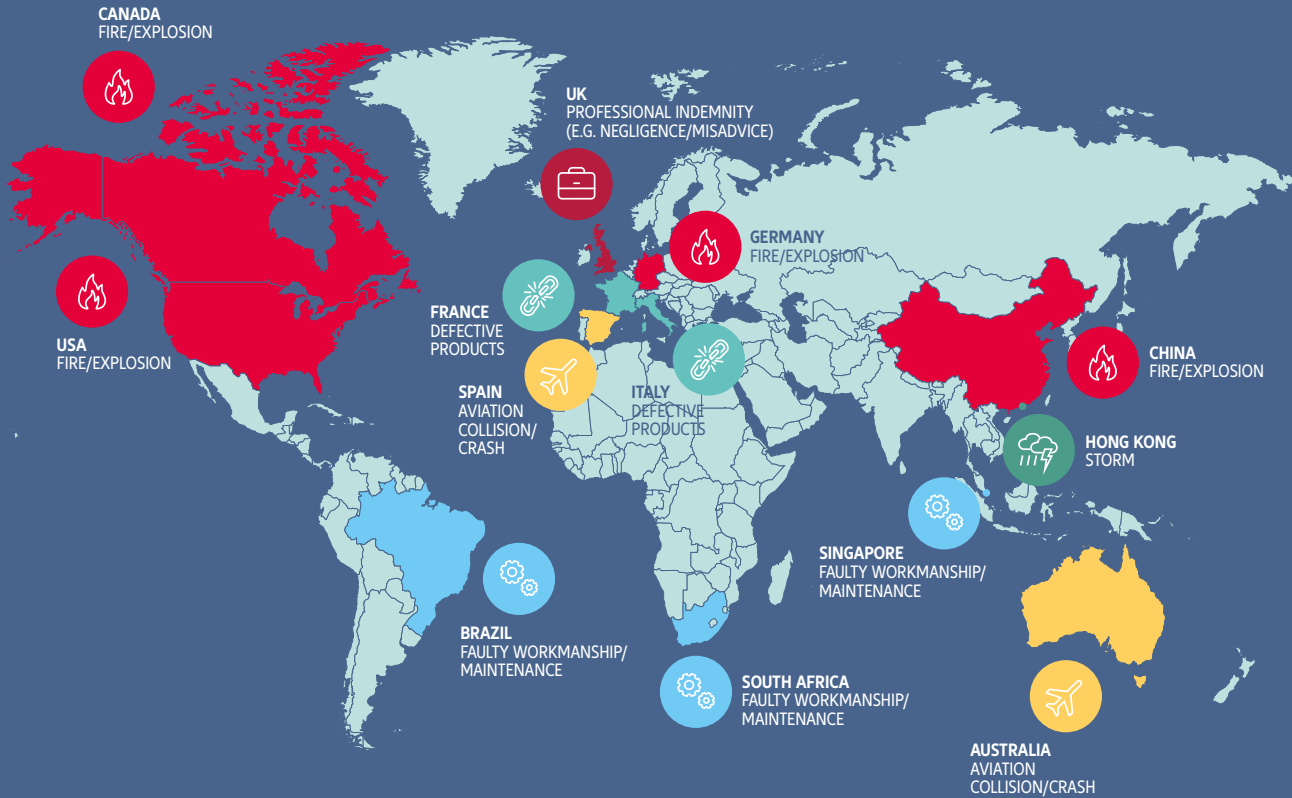
Claims involving **damaged goods**, which can result from a number of different causes including storage, handling, loading and unloading issues – or when in transit – constitute the most frequent losses for insurers, accounting for 11% of all claims by number around the world. However, such claims only equate to 5% by value.

The claims analysis also highlights the growing relevance of **business interruption (BI)** as a consequence of losses in property insurance, heightened by today's increasingly interconnected and globalized business environment. Almost all large property insurance claims now include a major BI element, which typically accounts for the majority of the loss when previously the split might have been nearer to 50:50. The average business interruption property insurance claim now totals over **€3mn** at **€3.1mn**. This is around 39% higher than the corresponding average direct property damage loss (**€2.2mn**)<sup>2</sup> or a split of 58:42.

<sup>1</sup> Claims analysis is for the period July 1, 2013 to July 1, 2018. The values of the claims analyzed in this report also include the share of other insurance companies in addition to AGCS who have participated on the same risks

<sup>2</sup> Based on analysis of 1,175 corporate insurance claims which have both a property damage and business interruption loss component.

# TOP CAUSES OF LOSS AROUND THE WORLD



Fire is the top cause of corporate insurance losses in Canada, China, Germany and the USA. Aviation collision/crash incidents rank as the major losses in Australia and Spain. Storm activity is responsible for the most expensive losses in Hong Kong.

Source: Allianz Global Corporate & Specialty. Top causes of loss according to value of claims. Selected countries only. Based on analysis of 471,326 insurance industry claims worth €58.1bn between July 2013 and July 2018.

## INDUSTRY OUTLOOKS AND LOSS TRENDS

### AVIATION

The high values at risk in the aviation industry are highlighted by the fact it is the main driver of corporate insurance claims overall, accounting for 22% of all losses. Unsurprisingly, **collision/crash** is the top cause of loss, accounting for over half the value of all aviation claims (59%), followed by **faulty workmanship/maintenance incidents** (10%) and **machinery breakdown (including engine failure)** [6%].

Increasing repair costs from composite materials and more sophisticated higher value engines; a rise in attritional claims stemming from more congested airports; risks related to the sector's increasing reliance on automation; a shortage of pilots; cyber security; and more widespread use of drones are just some of the drivers which will shape the future claims landscape.

## ENERGY

Energy insurance claims are infrequent compared with other analyzed sectors. However, losses are costly. The sector accounts for less than 1% of claims by number but 17% of all losses by value. The average significant loss<sup>3</sup> in the sector is around **€13.8mn**.

Fire incidents are the top cause of loss accounting for almost half of the value of all claims (46%). Although natural catastrophes represent some of the sector's largest exposures, human-made incidents account for four of the top five causes of loss. In addition, the growing potential for cyber-related losses and the impact of a changing oil price – including the prospect of larger BI claims for producers – occupy the thoughts of companies and insurers alike.

## FINANCIAL LINES

Financial claims notifications continue to rise globally while claims are increasingly larger, more complex and international, reflecting increasing regulatory activity and litigation across many important jurisdictions.

**Professional indemnity** losses such as negligence, misadvice or non-compliance with laws and regulations are the top cause of claims by value (61%). However, cyber-related losses in financial lines insurance are beginning to emerge with an increase in notifications already evident. Data protection violations are one of the most frequent reasons for cyber-related claims notifications.

## LIABILITY

Claims in more mature economies have been reducing following improved safety and product quality, yet severity continues to rise globally. The potential for ever-larger liability claims is driven by many factors including increasing complexity, internationalization of claims and rising legal costs. Around a third of large corporate liability claims involve litigation, compared with property insurance where less than 1% of claims do on average.

Collectively, **defective products and faulty workmanship/maintenance incidents** account for almost 60% of the value of all liability claims. Product recall losses are a major contributor to the defective products total and are also increasing in size.

Claims resulting from our increasing reliance on technology; employment and discrimination issues; and environmental- and climate change-related liability issues are expected to increase in future.

## MARINE

The frequency of major hull claims remains low yet natural catastrophe and fires have resulted in some large hull and cargo losses in recent years. Attritional claims, such as machinery breakdown, while stable in frequency are becoming more material for insurers.

Unsurprisingly, **ship sinking/collision** is the top cause of loss, accounting for 16% of the value of all marine insurance claims. Such incidents do not just include the loss of vessels; they also include collisions with harbor walls and even other vessels.

Meanwhile, larger ships and concentrations of cargo risks create the potential for ever-larger losses, while the move towards greater automation of shipping and cargo handling means that cyber-related losses will become an increasing feature of marine claims going forward.

## PROPERTY AND ENGINEERING

Changes in corporate risk and demand for broader coverage to support the impact of innovative technologies are driving a trend towards increasing volatility in property claims, with larger claims, as well as supply chain and cyber losses.

Analysis of AGCS claims shows an increase in the size of large losses, reflecting huge changes in how many sectors now operate. Globalization and the development of integrated supply chains are leading to much higher concentration of insured values, both in terms of assets and BI exposures. **Fire incidents** account for over half of the value of all property insurance losses (51%).

One area where property claims have shown increasing volatility has been in natural catastrophes. In particular loss events in Asia are becoming more relevant as businesses invest in regions with significant exposures to storms, flooding and earthquakes and as insurers follow their customers into these markets.

€58.1bn

Total value of claims analyzed

<sup>3</sup> Based on losses over €100,000 in value



Fire and explosion incidents are the top cause of corporate insurance losses globally. Photo: Adobe Stock

# INTRODUCTION: DRIVERS OF THE LOSS LANDSCAPE

The fourth in the series of AGCS' **Global Claims Review** reports examines developments in corporate insurance claims through the years 2013 to 2018<sup>1</sup>. Over this time period more than **470,000 claims** from over **200 countries and territories** were received by insurers, including AGCS, providing an indication of the size of risk landscape. Causes of loss can range from goods damaged in transit to slips and falls to cyber incidents...

## TOP 10 CAUSES OF LOSS EXPLAINED\*



### 1 FIRE/EXPLOSION

e.g. building/factory fire; electrical fire; gas explosion; vehicle fire; turbine explosion; vineyard fire



### 2 AVIATION COLLISION/ CRASH

e.g. hard landing; runway/taxiway incursion/excursion; terrain strike; ground handling incident; bird/animals strike



### 3 FAULTY WORKMANSHIP/ MAINTENANCE

e.g. collapse of building/structure/subsidence due to faulty work; failed or injurious treatment by a practitioner; damage caused by scaffolding/building materials on the highway; wrong design, calculation; breaching a work contract



### 4 STORM

e.g. structural damage to building/premises; damage to vehicles/aircraft; damage to overhead lines/cables; destruction of agricultural equipment



### 5 DEFECTIVE PRODUCTS

e.g. large product recalls; costs of fixing defective automotive parts such as windshields, airbags etc; lost business income due to premises closing because of defective goods; food poisoning; contaminated foods/allergic reactions

\* Examples of claims/loss scenarios





Aviation collision/crash incidents are the second top cause of loss globally. Photo: iStock

The corporate insurance claims analyzed for this latest edition of the **Global Claims Review** have an approximate value of **€58.1bn (US\$66.5bn)**. This means that insurance companies have paid out – on average – almost **€32mn** every day for five years to cover losses – outlining the important role the sector has to play in helping businesses manage and mitigate such perils.

Claims payments can vary enormously in scale (see page 25), reflecting the widespread nature of the risk landscape. Significant corporate insurance claims (>**€100mn**), such as those arising from fires, aviation crashes or shipping incidents for example, account for fewer than 1% of claims by number but a third (€18.9bn) of the total value of all claims analyzed. Conversely, around 90% of claims are valued at or below €50,000, accounting for just 4% of total value.

According to AGCS claims analysis **fire/explosion incidents** are the top cause of corporate insurance losses globally, accounting for almost a quarter (24%) of the value of all claims. Costs associated with the impact of business interruption following the aftermath of a fire can significantly add to the final loss total. According to the analyzed data set, fires have resulted in more than €14bn worth of insurance claims in five years.

The global airline industry may have recently experienced its safest year ever but the number of aviation claims shows no sign of abating, meaning **aviation collision/crash incidents** (14%) are the second top cause of losses globally. There are many types of losses which fall within this category in addition to crashes however. These include damage to aircraft caused during ground handling



**6 DAMAGED GOODS** (INCLUDING HANDLING/STORAGE)

*e.g.* goods/technical equipment damaged; vehicles damaged in transit; power surge damaged electricity generator; equipment lost on premises; contents of containers destroyed while in storage



**7 MACHINERY BREAKDOWN** (INCLUDING ENGINE FAILURE)

*e.g.* damage to generators; problems with/damage to ship/aircraft/vehicle engines; damaged goods as a result of temperature changes due to thawing; damage on factory production line



**8 WATER DAMAGE**

*e.g.* boiler leakage; flooding damage in basement; flooding due to burst pipe; water damage as a result of condenser water line failure



**9 SHIP SINKING/ COLLISION**

*e.g.* collision with lock or harbor wall; collision with barge; hull damage at sea; damage to ship's cranes on entering port; ship grounding; sunk on mooring



**10 PROFESSIONAL INDEMNITY** (E.G. NEGLIGENCE/ MISADVICE)

*e.g.* misleading and/or deceptive advice; improper trading; breach of trust/fiduciary duties; breach of confidentiality



incidents; over- and under-shooting runways; making an emergency or forced landing or damage caused by a bird strike.

**Faulty workmanship/maintenance incidents (8%)** rank as the third top cause of loss overall. Costly incidents can include: collapse of building/structure/subsidence from faulty work; failed or injurious treatment by a practitioner; or breaching a work contract.

**Storm (7%)** damage is the fourth major cause of loss overall, as evidenced by 2017's record-breaking hurricane year and continued activity through 2018 around the world.

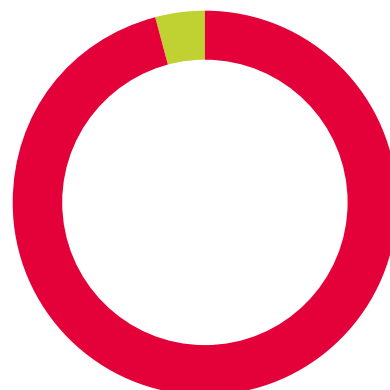
However, storm is the only natural catastrophe event to appear in the top 10 causes of corporate insurance losses, with this list dominated by non-natural catastrophe events. This is a trend which is also reflected elsewhere. Of the 470,000+ insurance claims analyzed for this report, non-natural hazard events account for 87% of the total value of all claims and an even greater share of claims by number – 95% (see graphic).

The analysis of corporate insurance claims also shows the growing relevance of business interruption as a consequence of losses in property insurance, heightened by today's increasingly interconnected and globalized business environment. Almost all large property insurance claims now include a major element of business interruption, which typically accounts for the majority of the loss. The average business interruption property insurance claim now totals over €3mn (€3.1mn). This is around 39% higher than the corresponding average direct property damage loss (€2.2mn)<sup>2</sup>.

Collectively, the top three causes of loss account for over 46% of the value of all losses analyzed, while the top 10 causes of loss account for over 75% of the value of all losses (see page 14).

**WHAT % OF CORPORATE INSURANCE CLAIMS RESULTS FROM NATURAL CATASTROPHES?**

The significant majority of corporate insurance claims originate from technical or human factors, not from natural catastrophes.



**By number of claims**  
 ● Non-natural catastrophe 95%  
 ● Natural catastrophe 5%



**By value of claims**  
 ● Non-natural catastrophe 87%  
 ● Natural catastrophe 13%

<sup>2</sup> Based on analysis of 1,175 corporate insurance claims that have both a property damage and business interruption component.





Storm damage ranks as the fourth top cause of loss overall, as evidenced by 2017's record-breaking hurricane loss year.



# WHAT ARE THE TOP CAUSES OF LOSS?

Based on the analysis of over 470,000 insurance losses with a total value in excess of €58bn they are:



## Fire/explosion

accounts for **24%** of the value of all claims



## Aviation collision/crash

accounts for **14%** of the value of all claims



## Faulty workmanship/maintenance

accounts for **8%** of the value of all claims

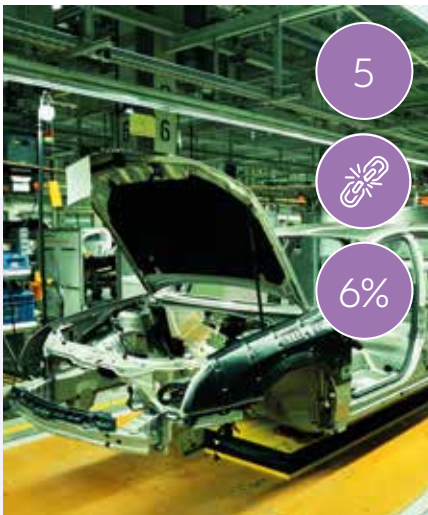


## Storm

accounts for **7%** of the value of all claims

**Source:** Allianz Global Corporate & Specialty. Top causes of loss are based on share of overall value of claims. Analysis is based on 471,326 insurance claims worth €58.1bn between July 1, 2013 and July 1, 2018.





### Defective products

accounts for **6%** of the value of all claims



### Damaged goods (including handling/storage)

accounts for **5%** of the value of all claims



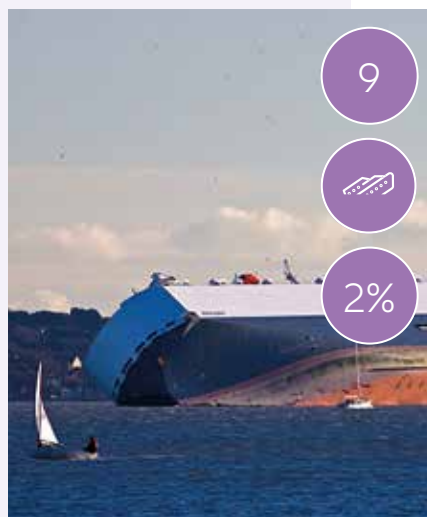
### Machinery breakdown (including engine failure)

accounts for **5%** of the value of all claims



### Water damage

accounts for **3%** of the value of all claims



### Ship sinking/collision

accounts for **2%** of the value of all claims



### Professional indemnity (e.g. negligence/misadvice)

accounts for **2%** of the value of all claims

# ALLIANZ CLAIMS DASHBOARD

At-a-glance data identifying the top causes of corporate insurance losses by value and number of claims and by selected country and business sector. **471,326** insurance industry claims with a total value of **€58.1bn** were analyzed.

## WHAT ARE THE TOP CAUSES OF LOSS FOR GLOBAL BUSINESSES?

### BY VALUE OF INSURANCE CLAIMS

The top 10 causes of loss account for over 75% of the value of all losses.



**Source:** Allianz Global Corporate & Specialty. Based on analysis of 471,326 insurance industry claims between July 2013 and July 2018. "Other" causes of loss account for 24% of the value of all claims.

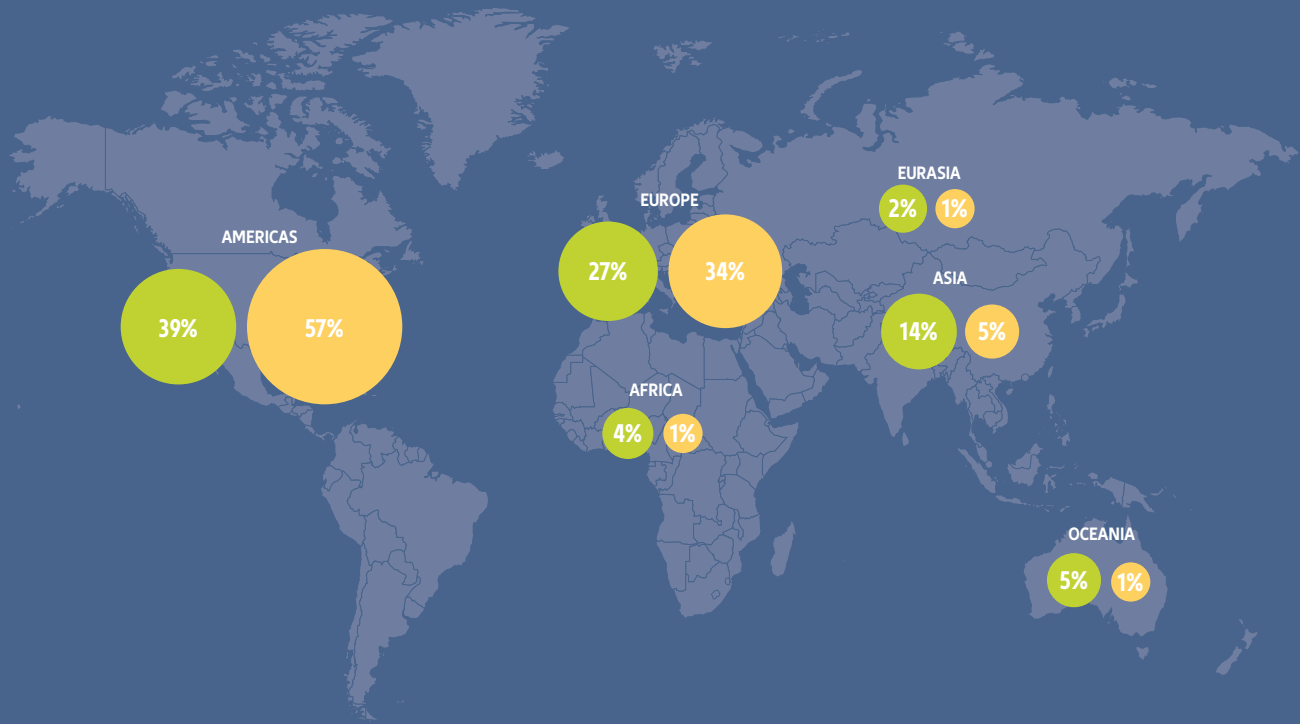
**BY NUMBER OF CLAIMS RECEIVED**



10 causes of loss account for almost 50% of insurance claims by number.

**Source:** Allianz Global Corporate & Specialty. Based on analysis of 471,326 insurance industry claims between July 2013 and July 2018. "Other" causes of loss account for 51% of the total of all claims.

# BREAKDOWN OF LOSSES PER REGION\*



\* Due to the nature of some insurance industry claims the loss location of a number of additional losses not included in this graphic is classified as "worldwide".

BY VALUE  
OF CLAIMS

Source: Allianz Global Corporate & Specialty. Based on analysis of 446,458 insurance industry claims between July 2013 and July 2018

BY  
NUMBER OF  
CLAIMS

Source: Allianz Global Corporate & Specialty. Based on analysis of 446,458 insurance industry claims between July 2013 and July 2018.

The Americas region, driven by the USA, continues to be the largest corporate insurance market in terms of both number of claims generated (57%) and the overall value of claims received (39%).

However, claims activity in Africa and Asia is likely to increase further in future.

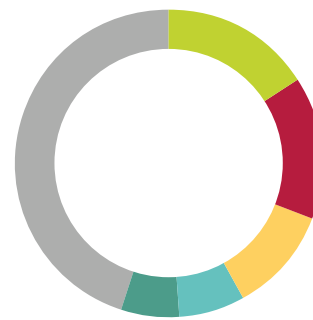
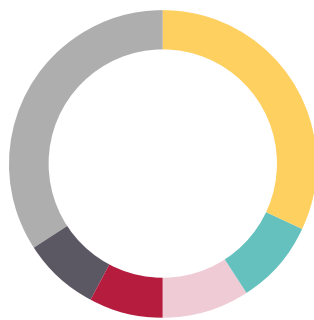


# TOP CAUSES OF LOSS BY (SELECTED) COUNTRY



## TOP CAUSES OF LOSS FOR BUSINESSES: AUSTRALIA CLAIMS

Source: Allianz Global Corporate & Specialty. Based on analysis of 3,608 insurance industry claims worth approximately €1.6bn between July 2013 and July 2018.



Aviation collision/crash incidents rank as the major cause of loss, accounting for almost a third of value of all claims.

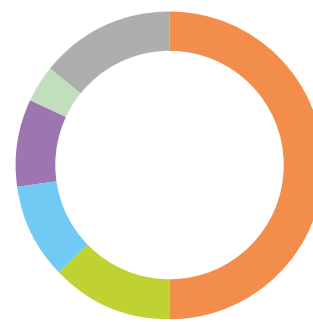
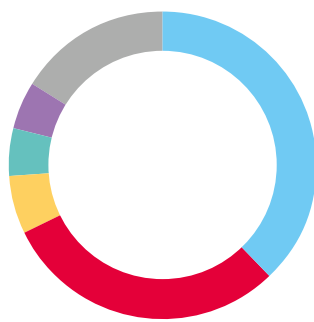
Australia has experienced a sharp rise in activity against company directors and officers in recent years, driven by more litigation.

When hailstorm incidents occur they can be costly, accounting for 9% of the value of all claims.



## TOP CAUSES OF LOSS FOR BUSINESSES: BRAZIL CLAIMS

Source: Allianz Global Corporate & Specialty. Based on analysis of 4,470 insurance industry claims worth approximately €1.8bn between July 2013 and July 2018.



Faulty workmanship/maintenance incidents, such as construction defects for example, are the main drivers of losses, according to value of claims.

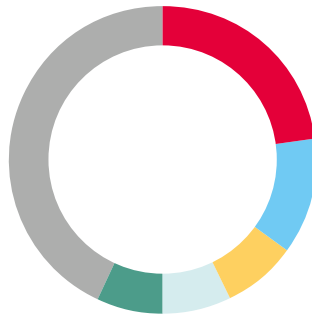
Industrial fires are another significant cause of loss with the disruption from incidents at refineries and port terminals particularly costly.

Acts of crime/disorder, such as robbery, burglary and cargo theft rank fifth by value and fourth by number of claims.



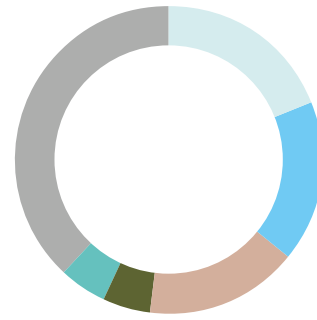
**TOP CAUSES OF LOSS FOR BUSINESSES:  
CANADA CLAIMS**

Source: Allianz Global Corporate & Specialty. Based on analysis of 41,942 insurance industry claims worth approximately €2.7bn between July 2013 and July 2018.



**By value of claims**

- Fire/explosion 23%
- Faulty workmanship/maintenance 12%
- Aviation collision/crash 8%
- Water damage 7%
- Storm 7%
- Other 43%



**By number of claims**

- Water damage 19%
- Faulty workmanship/maintenance 17%
- Automobile crash/collision 16%
- Slips and falls 5%
- Defective products 5%
- Other 38%



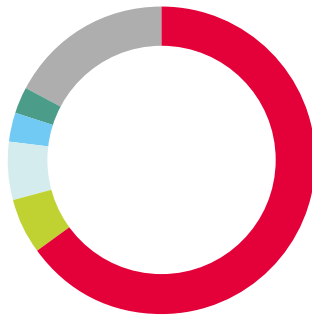
Fire incidents account for almost a quarter (23%) of Canadian insurance claims by value, while faulty workmanship/maintenance incidents (12%) are the second major driver of losses. The latter are also the second most frequent generator of insurance claims in Canada.

Water damage incidents, such as flooding of buildings from burst pipes, automobile crashes and collisions and slips and falls in the workplace are other major generators of claims by volume.



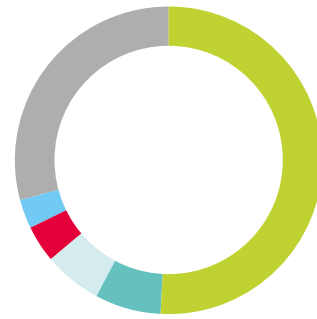
**TOP CAUSES OF LOSS FOR BUSINESSES:  
CHINA CLAIMS**

Source: Allianz Global Corporate & Specialty. Based on analysis of 5,209 insurance industry claims worth approximately €1.9bn between July 2013 and July 2018.



**By value of claims**

- Fire/explosion 65%
- Damaged goods (including handling/storage) 6%
- Water damage 6%
- Faulty workmanship/maintenance 3%
- Storm 3%
- Other 17%



**By number of claims**

- Damaged goods (including handling/storage) 51%
- Defective products 7%
- Water damage 6%
- Fire/explosion 4%
- Faulty workmanship/maintenance 3%
- Other 29%



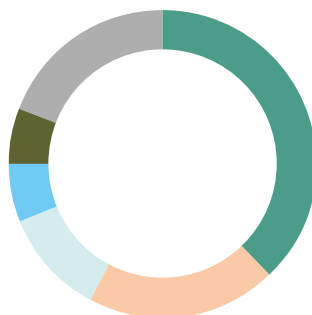
Large industrial blazes, such as the Tianjin explosions in 2015 which severely disrupted the port and container storage stations and impacted multiple businesses, ensure that fire is the major cause of loss, accounting for 65% of the value of all claims in China. Fire is also in the top five causes of losses according to volume of insurance claims.

Damaged goods (including handling/storage) incidents, such as cargo being lost or destroyed, is the second major cause of losses according to value of claims (6%). It also tops the frequency rankings, being the primary cause of loss for almost half (51%) of all analyzed claims.



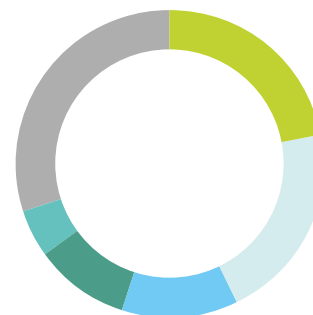
### TOP CAUSES OF LOSS FOR BUSINESSES: HONG KONG CLAIMS

Source: Allianz Global Corporate & Specialty. Based on analysis of 1,169 insurance industry claims worth approximately €59mn between July 2013 and July 2018.



**By value of claims**

- Storm 38%
- Collapse 20%
- Water damage 11%
- Faulty workmanship/maintenance 6%
- Slips and falls 6%
- Other 19%



**By number of claims**

- Damaged goods (including handling/storage) 22%
- Water damage 21%
- Faulty workmanship/maintenance 12%
- Storm 10%
- Defective products 5%
- Other 30%



Storm damage and losses is the top cause of corporate insurance claims in Hong Kong, accounting for more than a third (38%) of the value of all insurance claims analyzed.

Typhoon losses impact many industries. For example, Typhoon Hato, which wreaked havoc on both mainland China and Hong Kong during late 2017, damaged

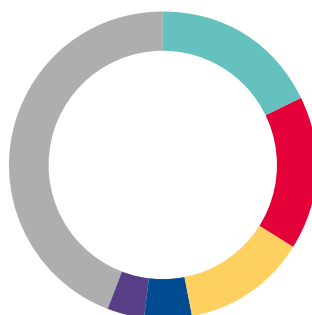
buildings, delayed flights and forced many businesses to close, resulting in significant losses.

Structural collapse of buildings or premises is the second top cause of loss, according to value of claims (20%). Such claims are very infrequent, but when they do occur, are costly.



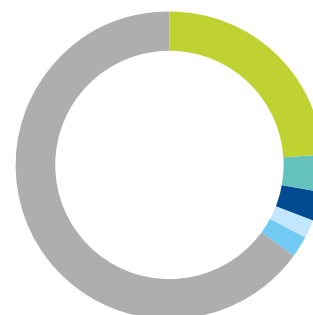
### TOP CAUSES OF LOSS FOR BUSINESSES: FRANCE CLAIMS

Source: Allianz Global Corporate & Specialty. Based on analysis of 45,064 insurance industry claims worth approximately €2.4bn between July 2013 and July 2018.



**By value of claims**

- Defective products 18%
- Fire/explosion 16%
- Aviation collision/crash 13%
- Ship sinking/collision 5%
- Machinery breakdown (including engine failure) 4%
- Other 44%



**By number of claims**

- Damaged goods (including handling/storage) 24%
- Defective products 4%
- Ship sinking/collision 3%
- Frost/ice/snow 2%
- Faulty workmanship/maintenance 2%
- Other 65%



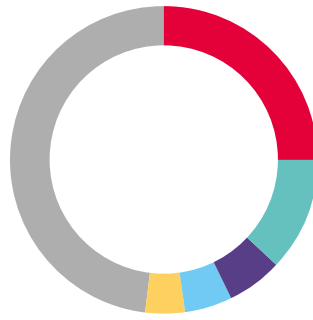
Defective/faulty product incidents resulting in recalls, injury or business interruption are the major cause of losses in France, with the shipping, manufacturing and food and beverage industries among those sectors with significant exposures. Such incidents account for 18% of the value of all insurance claims. Fires are the second major loss driver of corporate insurance claims (16%).

The three major generators of insurance claims are damaged goods (24%), defective products (4%) and ship sinking/collision (3%) incidents.



## TOP CAUSES OF LOSS FOR BUSINESSES: GERMANY CLAIMS

Source: Allianz Global Corporate & Specialty. Based on analysis of 61,200 insurance industry claims worth approximately €5.3bn between July 2013 and July 2018.



### By value of claims

● Fire/explosion	25%
● Defective products	12%
● Machinery breakdown (including engine failure)	6%
● Faulty workmanship/maintenance	5%
● Aviation collision/crash	4%
● Other	48%



### By number of claims

● Damaged goods (including handling/storage)	13%
● Faulty workmanship/maintenance	8%
● Crime/disorder	5%
● Aviation collision/crash	5%
● Ship sinking/collision	4%
● Other	65%



Industrial fires and explosions are the major cause of corporate insurance losses in Germany, accounting for a quarter (25%) of the value of all losses. There have been a number of significant incidents in recent years in the automotive and pharmaceutical sectors, for example, which are among many industries with large risk exposures, given the complexity and value of the products that can be damaged or destroyed. Costs associated with the impact of business interruption (BI) following the aftermath of a fire can significantly add

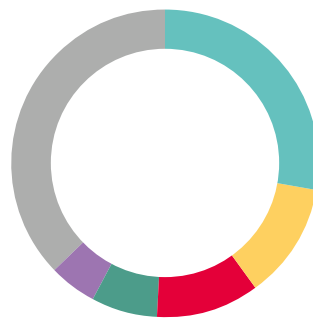
to the final loss total. AGCS claims research has also shown that fire is the top cause of BI loss around the globe<sup>1</sup>.

Defective/faulty products (12%) and machinery breakdown (6%) incidents are the other two major causes of loss by value of insurance claims. Damaged goods (including handling/storage) is the most frequent generator of insurance claims (13%), with significant losses resulting from valuable equipment such as cars and computers being impacted.



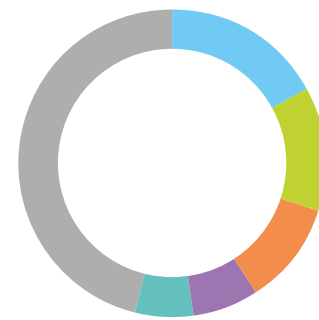
## TOP CAUSES OF LOSS FOR BUSINESSES: ITALY CLAIMS

Source: Allianz Global Corporate & Specialty. Based on analysis of 3,223 insurance industry claims worth approximately €195mn between July 2013 and July 2018.



### By value of claims

● Defective products	28%
● Aviation collision/crash	12%
● Fire/explosion	11%
● Storm	7%
● Crime/disorder	5%
● Other	37%



### By number of claims

● Faulty workmanship/maintenance	17%
● Damaged goods (including handling/storage)	13%
● Travel issues (including luggage/delay)	11%
● Crime/disorder	7%
● Defective products	6%
● Other	46%



Defective/faulty product incidents are the major cause of corporate insurance losses in Italy, accounting for more than a quarter (28%) of the value of all losses analyzed. Frequent generators of claims include incidents involving contamination of food, malfunctioning electrical and kitchen goods, as well as defective materials resulting in workplace accidents.

Aviation collision/crash incidents are the second major cause of loss by value of claims (12%), driven by a number of hard landings, runway excursions and ground handling incidents. Faulty workmanship/maintenance incidents generate the highest number of claims (17%).

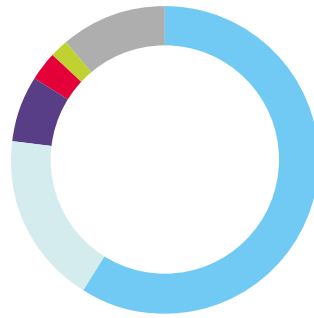
<sup>1</sup> Allianz Global Corporate & Specialty: Global Claims Review: Business Interruption In Focus





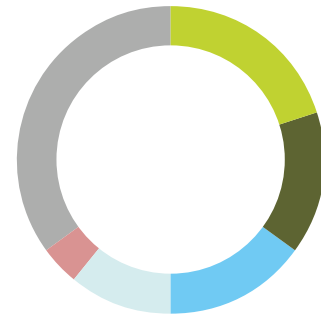
### TOP CAUSES OF LOSS FOR BUSINESSES: SINGAPORE CLAIMS

Source: Allianz Global Corporate & Specialty. Based on analysis of 1,690 insurance industry claims worth approximately €359mn between July 2013 and July 2018.



#### By value of claims

Faulty workmanship/maintenance	59%
Water damage	18%
Machinery breakdown (including engine failure)	7%
Fire/explosion	3%
Damaged goods (including handling/storage)	2%
Other	11%



#### By number of claims

Damaged goods (including handling/storage)	20%
Slips and falls	15%
Faulty workmanship/maintenance	15%
Water damage	11%
Employment practices violation	4%
Other	35%



Faulty workmanship/maintenance incidents account for over half of the value (59%) of all corporate insurance losses in Singapore.

Some of the most significant claims are related to mechanical failure from production of vehicle/transport parts which don't work or have been incorrectly designed or delivered. Damage to buildings, premises,

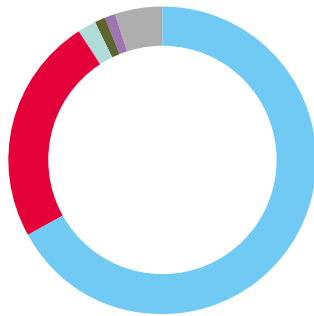
equipment and valuables from water ingress is the second major cause of loss by value (18%).

Bodily injuries and incidents in the workplace resulting from slips and falls generates a high number of claims, accounting for approximately one out of six claims analyzed.



### TOP CAUSES OF LOSS FOR BUSINESSES: SOUTH AFRICA CLAIMS

Source: Allianz Global Corporate & Specialty. Based on analysis of 2,187 insurance industry claims worth approximately €1.2bn between July 2013 and July 2018.



#### By value of claims

Faulty workmanship/maintenance	67%
Fire/explosion	24%
Defective products	2%
Storm	1%
Crime/disorder	1%
Other	5%



#### By number of claims

Water damage	32%
Crime/disorder	22%
Damaged goods	8%
Storm	7%
Defective products	5%
Other	26%



Faulty workmanship/maintenance is the top cause of loss in South Africa. When large events do occur, such as those involving expensive production equipment in the oil

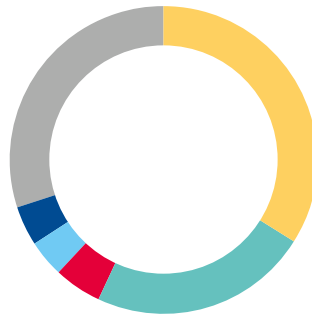
and gas sector which means it can't be used – significant financial losses can ensue. Fire is the second major cause of loss, accounting for almost a quarter of the value of all claims (24%).

Water damage generates the highest number of corporate insurance claims in South Africa (32%), although one in five claims is also related to acts of crime/disorder.



**TOP CAUSES OF LOSS FOR BUSINESSES:  
SPAIN CLAIMS**

Source: Allianz Global Corporate & Specialty. Based on analysis of 13,066 insurance industry claims worth approximately €559mn between July 2013 and July 2018.



**By value of claims**

- Aviation collision/crash 34%
- Defective products 23%
- Fire/explosion 5%
- Faulty workmanship/maintenance 4%
- Ship sinking/collision 4%
- Other 30%



**By number of claims**

- Slips and falls 18%
- Faulty workmanship/maintenance 11%
- Damaged goods 8%
- Minor collision/crash (e.g. non-aviation/auto/shipping-related) 6%
- Crime/disorder 6%
- Other 51%



Aviation/collision crash incidents are the top cause of corporate insurance losses in Spain, accounting for more than a third (34%) of the value of analyzed claims.

However, there are numerous causes of losses in addition to crashes, such as damages sustained by aircraft during ground handling incidents; over- or undershooting the runway; making an emergency or

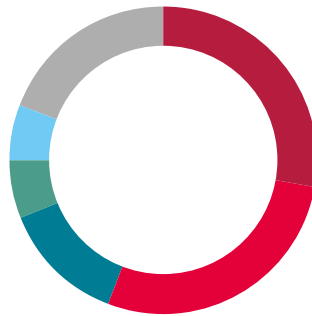
forced landing; or from a bird strike. Defective/faulty product incidents is the second major cause of loss by value of claims (23%) followed by fire (5%).

Bodily injuries and workplace accidents resulting from slips and falls result in the highest number of claims received – accounting for almost one in five claims.



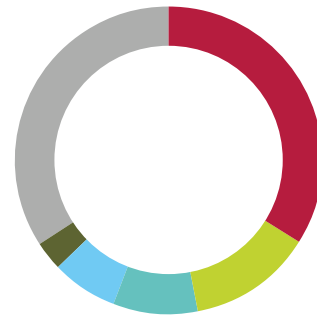
**TOP CAUSES OF LOSS FOR BUSINESSES:  
UK CLAIMS**

Source: Allianz Global Corporate & Specialty. Based on analysis of 10,207 insurance industry claims worth approximately €2.3bn between July 2013 and July 2018.



**By value of claims**

- Professional indemnity (e.g. negligence/misadvice) 28%
- Fire/explosion 28%
- Defective products 13%
- Storm 6%
- Faulty workmanship/maintenance 6%
- Other 19%



**By number of claims**

- Professional indemnity (e.g. negligence/misadvice) 34%
- Damaged goods (including handling/storage) 13%
- Defective products 9%
- Faulty workmanship/maintenance 7%
- Slips and falls 3%
- Other 34%



Professional indemnity related losses (e.g. negligence/misadvice) – stemming from a number of corporate actions – and fires are the most expensive causes of loss in the UK,

both accounting for 28% of the value of all claims analyzed. The automotive, pharmaceutical and hospitality/tourism industries are just some of the sectors impacted by recent fire activity. In many cases business

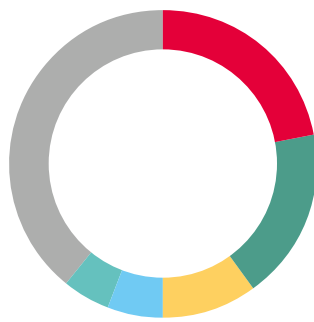
interruption-related losses can be a significant contributor to the final loss total.

The remaining causes of loss in the top five rankings according to value of claims are defective/faulty product incidents (13%), storm damage (6%) – driven by recent winter storm activity – as well as faulty workmanship/maintenance incidents (6%).



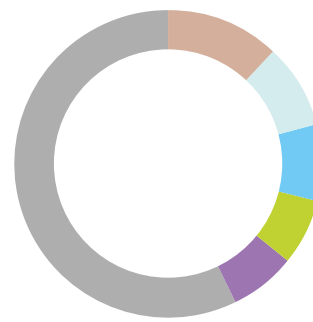
**TOP CAUSES OF LOSS FOR BUSINESSES:  
USA CLAIMS**

**Source:** Allianz Global Corporate & Specialty. Based on analysis of **142,980** insurance industry claims worth approximately **€12.5bn** between July 2013 and July 2018.



**By value of claims**

- Fire/explosion 22%
- Storm 18%
- Aviation collision/crash 10%
- Faulty workmanship/maintenance 6%
- Defective products 5%
- Other 39%



**By number of claims**

- Automobile crash/collision 12%
- Water damage 9%
- Faulty workmanship/maintenance 8%
- Damaged goods 7%
- Crime and disorder 7%
- Other 57%



Storm damage ranks as the second top cause of loss (18%), driven by 2017’s record-breaking hurricane year – and the devastating impact of Harvey, Irma and Maria – as well as further losses from hurricanes Florence and Michael during 2018.

However, a number of recent large blazes and explosions, which have caused losses in excess of €100m and impacted industry sectors ranging from oil and gas to

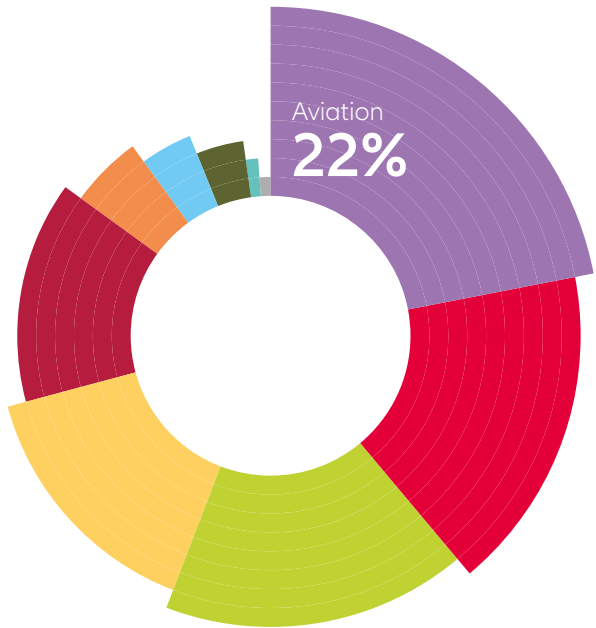
chemicals to automotive, ensure that fire is the top cause of corporate insurance claims in the USA, accounting for 22% of the value of all claims. Aviation collision/crash incidents are the third top cause of loss (10%).

By number of claims, automobile crash/collision is the most frequent cause of loss accounting for one claim in 10. This is followed by water damage and faulty workmanship/maintenance incidents.

## BREAKDOWN OF CLAIMS BY BUSINESS SECTOR

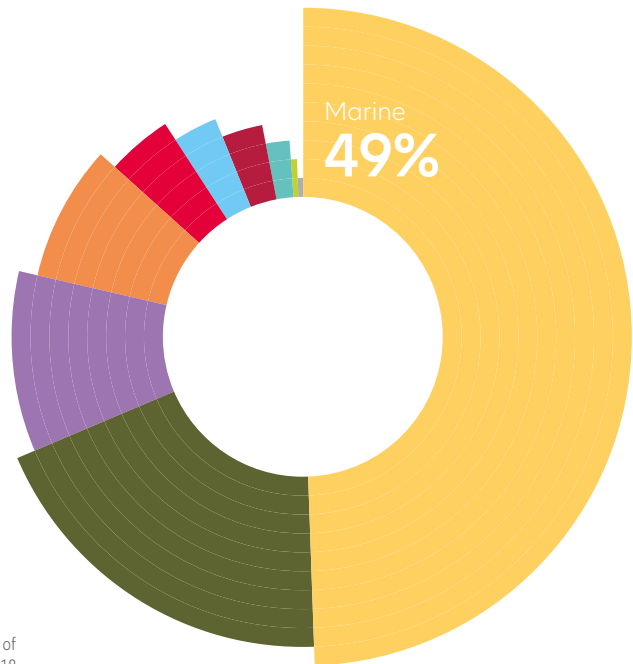
### By value of claims

● Aviation	22%
● Property	17%
● Energy	17%
● Marine	15%
● Engineering	14%
● Liability	5%
● Financial Lines	4%
● Mid-Corporate	4%
● Entertainment	1%
● Other	1%



### By number of claims

● Marine	49%
● Mid-Corporate	19%
● Aviation	10%
● Liability	8%
● Property	4%
● Financial Lines	3%
● Engineering	3%
● Entertainment	2%
● Energy	<1%
● Other	<1%



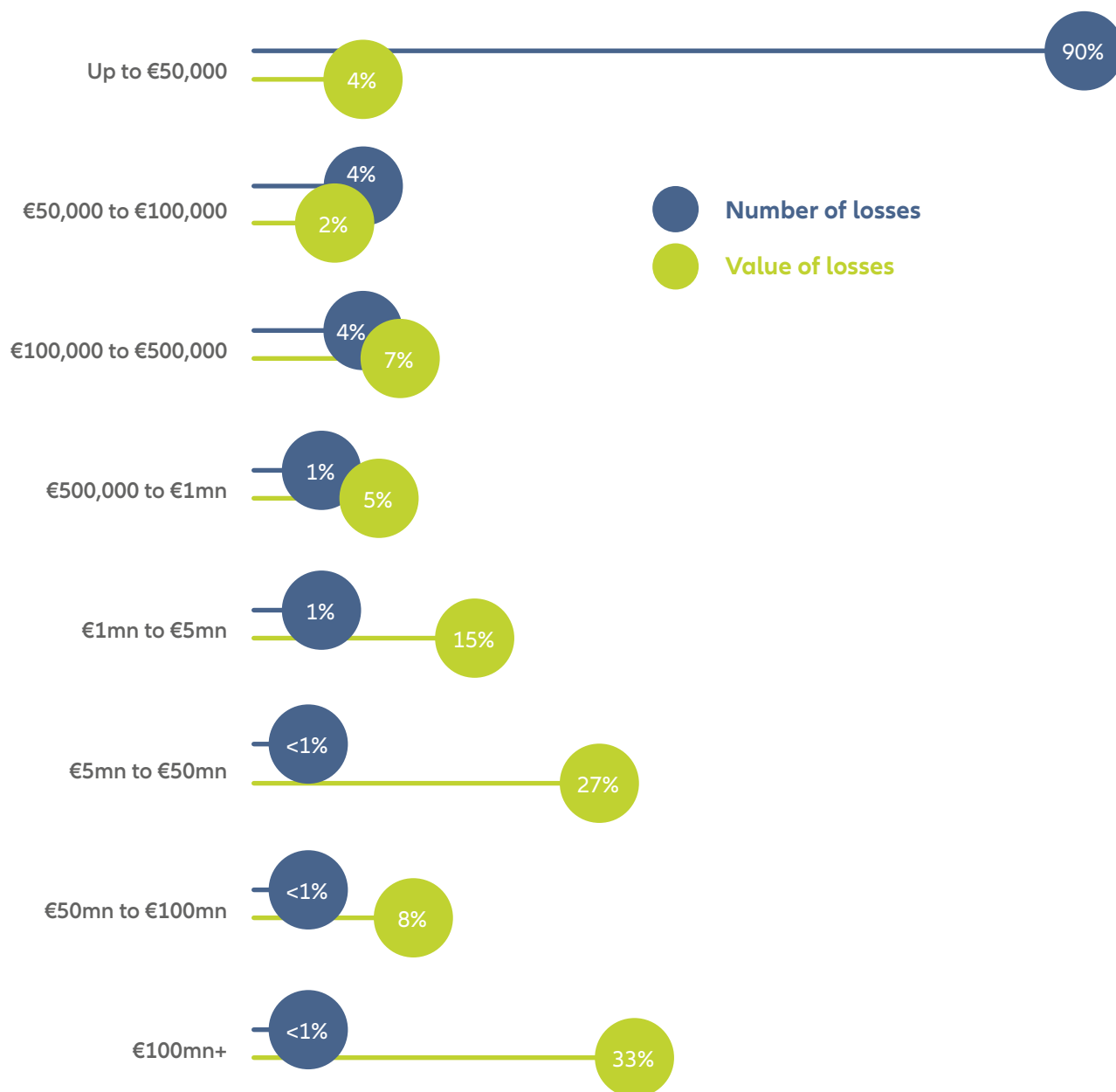
**Source:** Allianz Global Corporate & Specialty. Based on analysis of 471,326 insurance industry claims between July 2013 and July 2018.

The high values at risk in the aviation industry are highlighted by the fact that this sector is the main driver of corporate insurance claims; accounting for 22% of the value of all claims analyzed in the data set.

Energy insurance claims are infrequent compared with other industries. However, losses can be costly. The oil and gas sector accounts for less than 1% of claims by number but 17% of losses according to total value.



## HOW THE NUMBERS ADD UP: DISTRIBUTION OF LOSS PAYMENTS



Source: Allianz Global Corporate & Specialty. Based on analysis of 471,326 insurance industry claims between July 2013 and July 2018.

Losses above €100mn account for a third of the total value of all claims (33%). However, such events are infrequent, accounting for less than 1% of claims by number.

Conversely, losses below the value of €50,000 are high in frequency – accounting for 90% of the number of claims received - but are low in value. Collectively, they equate to just 4% of the value of all the claims in the data set.

# AVIATION CLAIMS TRENDS

The global airline industry recently experienced its safest year ever, yet the number of aviation claims shows no sign of abating. Increasing repair costs from composite materials and more sophisticated higher value engines, combined with relatively low deductible levels, are putting more losses within the scope of insurance.

1

## SAFETY MILESTONE REACHED BUT LOSSES CONTINUE

With more reliable engines and technology and following significant improvements in airline risk management, there are now far fewer serious accidents. According to the International Air Transport Association (IATA)<sup>1</sup> there was just one major jet accident for every 8.7 million flights in 2017 – some 4.1 billion travelers flew safely on 41.8 million flights.

“For the first time in more than 100 years of aviation history, there were no fatalities on a commercial airline, a remarkable achievement by any measure,” says **Kevin Smith, Aviation Claims Specialist at AGCS**. “This is not an aberration. Flying has become a much safer mode of transport and is the result of the considerable efforts of aircraft and engine manufacturers to get to this stage.”

With more than one million people in the air at any one time, this impressive statistic is to be applauded. However, 2018 saw a number of fatal airline accidents, the worst being the loss of a Lion Air Boeing 737 off Indonesia in October 2018 which went down shortly after take-off with the loss of 189 people. This incident followed the loss of a Cubana de Aviación Boeing 737 in May, which also crashed shortly after take-off, killing all but one of the

113 passengers and crew. In addition, 2018 also brought a number of total hull losses, where all passengers survived. For example, a Pegasus Airlines Boeing 737 was written-off after it overshot the runway at Trabzon Airport, Turkey, in January, while a Xiamen Airlines Boeing 737 was declared a total loss after it crash-landed in bad weather in August. Similarly, 103 people survived a crash involving an Aeroméxico Embraer ERJ-190AR in July, although the aircraft was destroyed.

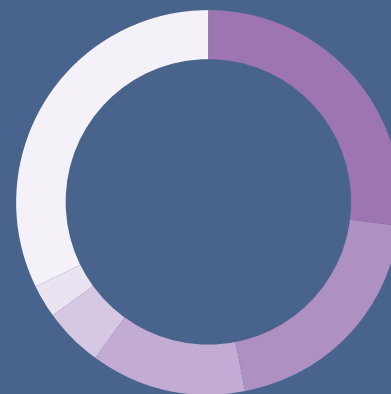
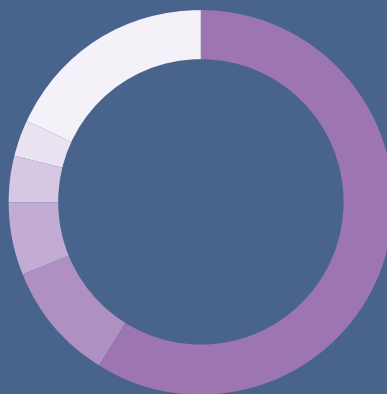
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## HUMAN ERROR A MAJOR LOSS FACTOR

Technological advancements and improved quality control of aviation manufacturing and maintenance has significantly reduced the number of accidents caused by mechanical or structural failure. Consequently, human error has become a more significant cause of loss.

“Pilot error is a major factor behind many aviation accidents,” says Smith. “It has been estimated that as many as 95% of airline accidents involve human error in some capacity. Aircraft are now very safe, but most accidents involve errors of judgement, such as taking off in bad weather or the way in which a pilot reacts in adverse conditions.”

<sup>1</sup> IATA Releases 2017 Airline Safety Performance, 22 February 2018, International Air Transport Association



**TOP CAUSES OF LOSS:  
AVIATION CLAIMS**

**By value of claims**

- Collision/crash **59%**
- Faulty workmanship/maintenance **10%**
- Machinery breakdown (including engine failure) **6%**
- Travel issues (including luggage, delay) **4%**
- Slips and falls **3%**
- Other **18%**

**By number of claims**

- Collision/crash **27%**
- Travel issues (including luggage, delay) **20%**
- Faulty workmanship/maintenance **13%**
- Slips and falls **5%**
- Defective products **3%**
- Other **32%**

Source: Allianz Global Corporate & Specialty. Based on analysis of 48,692 insurance industry claims between July 2013 and July 2018.

Unsurprisingly, collision/crash is the top cause of loss, accounting for over half of the value of claims (59%). Such incidents do not just include major commercial aviation incidents; they also incorporate loss activity in the general aviation sector and ground handling incidents, for example.

**3 INCREASING CLAIMS FREQUENCY AND AIRCRAFT VALUES**

While catastrophic air crashes are thankfully now far less frequent, the overall frequency of aviation claims is slightly up, due to a combination of higher repair costs, increased values and the relatively low deductibles maintained by airlines in what has become a highly competitive insurance market. The average deductible at \$1mn today is around the same as it was in 1982, yet aircraft values have increased three fold, explains Smith.

“Despite few major losses and no fatalities in 2017, the aviation insurance market barely broke even – a reflection of market conditions and attritional losses. Claims frequency is up, but this is not the only factor.

“The size of loss has increased and deductibles have not kept pace with technology and values. A \$5mn loss today would probably have cost just \$1mn five years ago and been within the deductible.”

**4 RISE OF COMPOSITE MATERIALS AND MORE EXPENSIVE ENGINE REPAIRS**

The use of composite materials in aircraft manufacturing really took off around a decade ago, and today the majority of the world’s commercial airline fleet now relies on such materials. Composites – such as carbon fiber layers bonded with resin – are strong, but also light, therefore reducing weight and increasing fuel efficiency. Such materials are now used extensively in modern aircraft – some 50% of Boeing’s 787 Dreamliner<sup>2</sup> is made of composite materials by weight.

2 787 Dreamliner By Design, Advanced Composite Use, Boeing website



While safer and more reliable, modern aircraft can be much more expensive to repair.

Photo: Adobe Stock

“Composite materials have many benefits, but they can be more challenging and expensive to repair. Aircraft manufacturers may not have envisaged the realities of repairs when developing these materials a decade or so ago,” says Smith.

The claims experience has revealed a higher repair cost associated with composite materials, which are generally more expensive to manufacture than traditional metal alloys, more labor intensive to repair and often require a larger repair area.

“We are now at the stage where we have had some seven or so years of claims experience with composite materials and we can say that composite aircraft are more expensive to repair,” says Smith. For example, a claim involving a fire under the front landing gear of a Boeing 787 cost \$13mn to repair. The same incident for an older generation metal alloy aircraft would have cost somewhere between \$3mn and \$4mn.

While safer and more reliable, aircraft engines are also now much more expensive to repair or replace. Top-of-the-range engines used on the Airbus A350 can easily cost more than \$40mn each – just under the value of a whole Boeing 737 a decade ago.

The drive for fuel efficiency has resulted in lighter engines that fly longer distances. However, technical advances, such as the use of new materials and thinner, lighter turbine blades, have reduced the tolerances at which engines components operate, while the cost of spare parts has also increased.

5

## CONGESTED AIRPORTS BRING MORE ATTRITIONAL CLAIMS

In addition to increased repair costs, insurers are seeing more attritional claims. The rapid growth in air travel – the number of air passengers is expected to double to 7.8 billion by 2036<sup>3</sup> – has resulted in more congested skies and airports.

“With increased air travel, congestion in and around airports has become an issue,” says Smith. “In many cases airport infrastructure has not kept pace with the rapid growth in passenger and aircraft numbers. With more aircraft on the ground, servicing areas and aprons have become more congested and this is resulting in an increase in the number of collisions with other aircraft or ground handlers.”

Analysis of 523 loss events at 14 German airports last year by AGCS shows that damage to vehicles on the tarmac is the leading cause of insured losses. More than half of these events are due to collisions with pushback tractors, baggage trolleys, aerial work platforms or washing systems.

For example, the introduction of a new form of tow-truck (that wraps-around an aircraft’s front landing gear) resulted in several large claims. A number of tow-trucks have caught fire while in operation, damaging aircraft – one resulted in the total loss of a Boeing 777.

years. According to Smith, flights with just one crew member on the flight deck, with ground support, would have implications for crew skills and training, as well as how they deal with adverse conditions.

Then, there is threat to the sector posed by technology or cyber-related losses, such as physical damage to aircraft and resulting business interruption and IT system outage. To date there have not been any major aviation claims triggered by a cyber incident, although insurers have paid out on some indirect cyber claims. For example, AGCS settled a liability claim from passengers seeking compensation for flight cancellations caused by a ticketing system failure.

While crewless passenger aircraft are some way off, autonomous flight is an emerging area for aviation insurance claims. AGCS has a growing global book of drone insurance, and has seen a corresponding increase in claims. As drone usage broadens into different areas, claims will become more relevant, says Smith.

“Drones will increasingly become part of an aviation insurer’s portfolio as they become more prevalent, larger and more sophisticated. This is an emerging market, so we cannot yet draw conclusions from the small number of claims. We have seen some, but so far these are mostly hull losses rather than liability claims,” Smith concludes.

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## NEW RISK DRIVERS: AUTOMATION, PILOT SHORTAGE, CYBER AND DRONES

Aircraft and airlines are increasingly reliant on technology – from aircraft to ticketing. An A350 aircraft today sends some 400,000 computer messages to ground controllers during a six hour flight, 60% more than the older A380.

The technology for crew-less commercial passenger aircraft already exists, but the reality is many decades away. However, aircraft are likely to become increasingly automated, driven by the desire to reduce costs and because of a predicted shortage of pilots – Boeing has said over 600,000 pilots will need to enter the industry over the next 20

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<sup>3</sup> 2036 Forecast Reveals Air Passengers Will Nearly Double To 7.8 Billion, 24 October 2017, International Air Transport Association

# ENERGY CLAIMS TRENDS

Claims frequency in the oil and gas sector has been relatively consistent of late. However, a number of large fire and explosion incidents, the return of powerful windstorms, the changing price of oil and the growing potential for cyber incidents continue to occupy companies' and insurers' thoughts.

## 1 STORMS PROVIDES EXPOSURE REMINDER

Recent storms in the US are a reminder of the sizable risk of natural catastrophe claims for the energy industry. Such events account for some of the sector's largest exposures.

In September 2018, Hurricane Florence, for example, threatened gas producers and pipelines in the mid-Atlantic US states, as well as terminals on the east coast and oil and gas construction projects. On the other side of the world Chinese offshore oil and gas operations were forced to shut down and evacuate staff as Typhoon Mangkhut approached, while Typhoon Jebi disrupted oil shipments from refineries in Japan.

Up until 2017, severe storm activity had been somewhat subdued for a number of years. That benign period came to an end when Harvey, Irma and Maria (HIM) caused massive damage in the US and Caribbean, generating insured losses in excess of US\$90bn. However, HIM turned out to be a near miss for the energy market, with claims not as significant as first feared. The upstream market suffered no large losses as the paths of the three storms avoided key offshore oil fields. On the flip side, the storms did affect the downstream market, causing damage to oil refineries in Texas, as well as terminal losses in the Caribbean.

## 2 DOWNSTREAM LOSS ACTIVITY CONTINUES

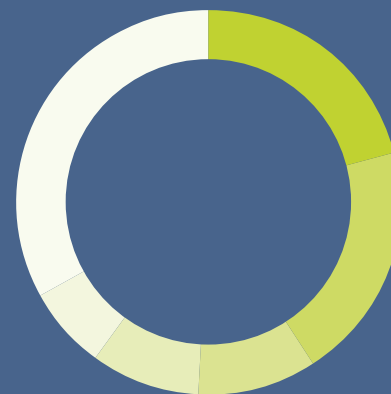
The upstream market actually witnessed one of the most benign years for losses on record in 2017 (according to Willis<sup>1</sup>), with only a small number of operational large losses, including a significant offshore business interruption (BI) loss in Africa. In contrast, the downstream market experienced one of its worst years for claims in almost a decade. According to Willis, there were 13 losses in excess of US\$100mn, of which four were Gulf of Mexico windstorm losses. While notable, hurricane losses were not among the largest claims of the year. A large refinery fire in the Middle East is expected to cost around \$800mn, while fires at a North American oil sands facility and a European chemical plant are also expected to generate claims of around US\$750mn and US\$570mn.

2017 was also notable for the wide geographical spread of downstream losses, with major claims in the US, Europe and Africa. Given the global nature of the energy business and its exposure to natural catastrophes, claims from emerging markets are not unusual. However, there is a growing potential for large claims in emerging markets, with the increased investment in newer assets and the higher cost of repair in remote areas and in the absence of extensive infrastructure.

The trend of large losses in the downstream market continued in 2018, notably with a fire at a refinery in Wisconsin and an earthquake

<sup>1</sup> Energy Market Review 2018, Willis Towers Watson





**TOP CAUSES OF LOSS:  
ENERGY CLAIMS**

By value of claims		By number of claims	
● Fire/explosion	46%	● Physical damage	21%
● Physical damage	12%	● Fire/explosion	20%
● Faulty workmanship/maintenance	11%	● Machinery breakdown/failure	10%
● Earthquake/tsunami	9%	● Pipeline damage	9%
● Pipeline damage	6%	● Defective products	7%
● Other	16%	● Other	33%

Source: Allianz Global Corporate & Specialty. Based on analysis of 1,239 insurance industry claims between July 2013 and July 2018.

Fire is the number one cause of energy insurance losses, accounting for almost half of the value of all claims (46%).

Although natural catastrophes represent some of the sector’s largest exposures, human-made incidents account for four of the top five causes of loss by value of claims.

at a drilling facility in Papua New Guinea, some 560km north-west of the capital, Port Moresby. The loss is expected to result in a US\$500mn+ claim for the insurance market. As the year progressed, there were also further large fire/explosion incidents at refineries in Canada, Germany and Saudi Arabia, meaning 2018 is expected to be another heavy loss year for the insurance market.

**3 LARGE AND MID-SIZED LOSSES MORE MATERIAL FOR INSURERS**

The competitive insurance market and the effect of the lower oil price have seen a gradual erosion of energy premiums, making large and mid-sized losses more material for insurers. Premiums in the downstream market in 2017, for example, were a little over US\$2bn, dwarfed by losses in excess of US\$5.5bn.

“The effect of market softening is now being felt by insurers. Up until last year, a number of

relatively benign years for losses concealed the reductions in premium. What should be profitable years for insurers can easily mean large losses for the market,” says **David Wilson, Energy Claims Specialist at AGCS.**

The competitive market has also resulted in the negotiation of broader terms over the past five years, with implications for claims, explains Wilson. “Energy wordings are bespoke and the increase in requests for wider terms has had a direct impact on the size and frequency of claims. There has also been increasing pressure on insurers to pay claims with coverage issues.”

BI claims continue to increase relative to property damage losses, in part due to the increased purchasing of BI cover, which is more cost effective in current market conditions. As a result, energy insurers continue to see higher value BI claims, which are typically more complex to handle and by their nature can sometime take several years to settle.



Claims response and performance has become a much bigger focus for energy companies.  
Photo: Adobe Stock



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## IMPACT OF THE CHANGING PRICE OF OIL

Overall, the price of oil more than doubled between 2016 and 2018, albeit still well below its peak in 2014. Drilling and exploration activity has been depressed in recent years, however, offshore construction activity is beginning to pick up. This rise in activity is also likely to result in an increase in offshore construction property damage claims in around two to five years' time when projects reach the installation phase.

A higher oil price also has other implications, such as larger BI claims for oil producers in the upstream market. Conversely, higher prices translate to lower profits for refiners, which can mean lower value BI claims in the downstream market.

5

## POTENTIAL FOR CYBER LOSSES GROWING

As yet, the energy insurance market has not seen any significant losses triggered by a cyber event. However, the potential for cyber claims in the energy market is growing with changes to coverage, buying trends and the growing relevance of connected technology to energy companies.

And while the energy market may not have seen any reported significant cyber claims to date, other sectors have. For example, the WannaCry and NotPetya ransom malware attacks in 2017 caused widespread disruption for companies in the pharmaceutical, logistics, ports, shipping and manufacturing sectors.

Energy companies could suffer physical damage and BI from technical faults and cyber-attacks, as well as potential extortion and theft of intellectual property. Concern is greatest for systemic risks, where a cyber threat impacts multiple facilities and/or companies, such as a contagious malware attack that disrupts sites, rigs or refineries.

Cyber risks are likely to give rise to new types of claims while losses will test energy policies and claims handling. Cyber exclusions used in some energy markets have yet to be tested in the courts, while there are questions around how policies might respond to non-damage BI claims, much like last year's global malware attacks. A cyber incident could shut down at a

refinery for days, costing tens of millions of dollars in lost profits. However, BI insurance retentions and waiting periods may currently not capture such claims.

Insurers are running cyber loss scenarios and testing how policies might respond to cyber events. Cyber claims are likely to be complex and will require new claims handling and loss adjusting skills, in particular to investigate the cause of loss and understand the impact, explains Wilson.

"Cyber will be an increasing factor in energy claims. It's only a matter of time," says Wilson. "There is an increased risk with the potential for large claims and industry-wide loss events. Cover will develop as insurers respond to the changing risk profiles of energy companies and offer a wider range of cyber coverages, which will undoubtedly result in claims."

6

## ENERGY COMPANIES SHINE SPOTLIGHT ON CLAIMS RESPONSE

Claims response and performance has become a much bigger focus for energy companies, who are now better able to monitor insurers' claims efforts in this area. However, the energy insurance market has a good record of responding to claims, says Wilson.

"Energy companies are under financial pressure and firms are now more highly-leveraged. They require a quick response from insurers – we now see more demand for faster confirmation of cover. Insurers always work to settle and finalize claims quickly. We are constantly looking at how we can use new technology, such as drones and scanning equipment, to expedite the claims process and quantification of damage," says Wilson.

"Transparency and access to information are essential to improving the claims process. With some clients, it is still the case that the first we know of an incident is when we read about it in the media."

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# FINANCIAL LINES CLAIMS TRENDS

Financial claims notifications continue to rise globally, while claims are increasingly larger, more complex and international in scope.

## 1 REGULATORY ACTIVITY AND LITIGATION RISING

The continuing trend of rising notifications for financial lines, namely directors' and officers' (D&O) and professional indemnity, reflects increasing regulatory activity and litigation across many key jurisdictions.

While the US continues to see large D&O claims, other regions are also seeing an increase in the frequency and/or severity of claims. Australia, for example, has experienced a sharp rise in D&O activity in recent years, caused by more litigation. Class action lawsuits and more litigation funders have made Australia one of the most litigious countries outside the US from a business perspective. It is now relatively easy to build and fund a class action in the country, where consumer-friendly laws have supported an increase in class actions and larger settlements.

The UK is another country that has seen elevated claims notifications and increased settlements for D&O, mostly resulting from regulatory actions and insolvencies. There have also been some notable large professional indemnity claims for law firms and accountants, which have seen increases in exposures in recent years.

## 2 BOARD VS. BOARD MEMBERS

Germany has also seen the continuation of the trend for increased notifications for D&O insurance, in particular for the compliance failings of boards of German companies.

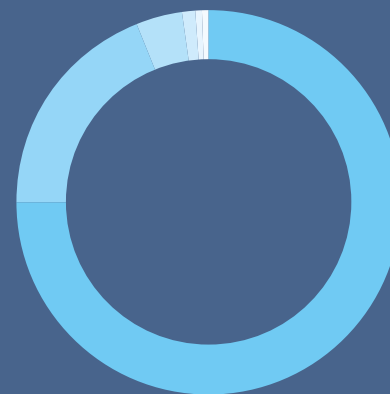
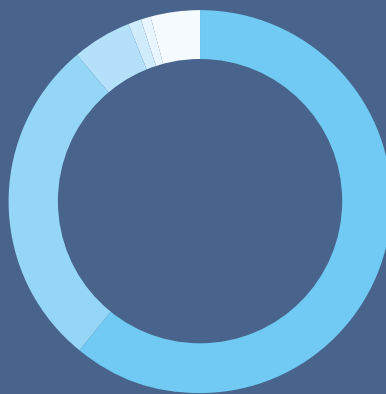
A characteristic of the German D&O market is the tendency for the board of a company to sue former directors for damages related to compliance failings. Claims are typically triggered by regulatory investigations and criminal prosecutions, which have previously included areas such as allegations of bribery and corruption or cartel activities.

"In Germany we have seen a continuing trend of internal D&O liability claims, where companies face more – and more expensive – lawsuits," says **Stephan Kammertoens, Financial Lines Claims Specialist at AGCS**. "Higher values also mean that suing former board members for damages has become an increasing option for German supervisory boards. We continue to see increased activity from prosecutors and regulators and growing public interest and media coverage of corporate wrongdoing."

## 3 EXPOSURES INCREASING AROUND THE WORLD

Financial lines claims have also been increasing in frequency and severity outside the US, Australia and Europe. Companies operating in markets in Asia and Latin America are more likely to face regulatory actions and litigation, either domestically or abroad.

For example, insurers handled one large D&O claim from a UK company related to a regulatory investigation at the group's subsidiary in Colombia. Brazilian companies have also faced class action litigation in the US related to corruption and environmental damage. Such claims are likely to become more



## TOP CAUSES OF LOSS: FINANCIAL LINES CLAIMS

(ANALYSIS BASED ON PRODUCTS)

### By value of claims

- Professional indemnity (e.g. negligence/misadvice) **61%**
- Directors and officers (e.g. breach of trust/ fiduciary duties) **28%**
- Crime **5%**
- Initial public offerings **1%**
- Cyber **1%**
- Other **4%**

### By number of claims

- Professional indemnity (e.g. negligence/misadvice) **76%**
- Directors and officers (e.g. breach of trust/ fiduciary duties) **19%**
- Crime **4%**
- Cyber **1%**
- Mergers and acquisitions **<1%**
- Other **<1%**

Source: Allianz Global Corporate & Specialty. Based on analysis of **14,130** insurance industry claims between July 2013 and July 2018.

Professional indemnity claims account for 61% of financial lines claims by value.

Cyber-related incidents are an emerging claims issue, ranking as the fifth top cause of loss, according to value.

frequent in the future with globalization and regulatory developments in emerging markets. In Asia, financial lines claims are already increasing in size and frequency as regulators and prosecutors step up their activities, and with increased purchasing of D&O and professional indemnity insurance.

“We see more intense regulatory enforcement in Latin America and Asia, markets that do not always follow US or European understanding of law,” says Kammertoens.

## 4 GROWING COMPLEXITY

Financial lines claims are growing more complex, in particular for international companies. Large claims are more likely to involve multiple parties and multiple jurisdictions – co-operation between regulators in different jurisdictions has been increasing, while one incident may spark litigation in more than one country.

For example, the diesel emission testing allegations have triggered regulatory investigations and litigation in the US, Europe and Australia involving a number of car manufacturers. D&O insurers have received claims notifications related to the emissions issue, which has already seen multi-billion dollar settlements in the US and pending class actions in Germany.

Large complex D&O cases have implications for insurance claims, where some insurers in higher excess layers may look to avoid participating in settlements.

“Clients and their brokers need to consider carefully which insurers they use,” says Kammertoens. “It is important to retain and work with strong primary and excess insurers. It is not a question of money, but about the ability to reach a settlement with the entire tower.”



Australia has experienced a sharp rise in D&O activity in recent years, caused by more litigation.  
**Photo:** Adobe Stock

## 5 COLLECTIVE REDRESS GAINS GROUND IN EUROPE

Incidents like the emissions scandal have led to calls for collective actions procedures in Europe, resulting in regulatory changes in some member states and at an EU level.

For example, in July 2018 the German parliament approved a new class action law, which was implemented in November. The Model Declaratory Proceedings Act introduces for the first time the prospect of class action-style litigation for consumer claims. The act will enable certain institutions to bring claims on behalf of groups of consumers in order to obtain a declaratory judgment on behalf of all claimants.

“The introduction of a collective action framework in Germany could be important in the long term,” says Kammertoens. “It is a first step towards class actions and could lead to an increase in internal D&O liability claims. D&O actions are likely to follow successful collective actions, which could result in a larger exposure for both companies and directors.”

Class actions could also become a bigger driver for financial lines claims across the

European Union under proposed changes to consumer protection law. In April 2018, the European Commission outlined plans for so-called “representative actions” that would allow a qualified entity, such as a consumer organization, to seek redress on behalf of a group of consumers.

A number of EU countries already allow for collective redress. Notably, the Netherlands allows consumers and investors to use representative collective actions or class settlements to obtain mass damages. There have been a number of collective actions by investors and/or consumers in the Netherlands, as well as Germany and the UK.

Despite measures to avoid abuse or unmerited litigation, the trend towards collective actions in Europe is still likely to result in increased exposure for directors and officers and their companies, says Kammertoens.

“It should make it easier and more cost-efficient for consumers to obtain awards for damages, which could eventually lead to higher compensation costs for companies.”



## 6 CYBER NOTIFICATIONS INCREASING

Cyber-related losses in financial lines insurance are beginning to emerge with a clear tendency of an increase in claims notifications already evident.

“Data protection violations are one of the most frequent reasons for cyber-related claims notifications,” says **Szandra Sardy, Cyber Claims Specialist at AGCS**. The UK has seen a number of class actions launched following data breaches, including British Airways, Equifax and Ticketmaster. Having to comply with the recently introduced General Data Protection Regulation (GDPR) in Europe and related financial reporting has also led to shareholder actions in the US, including media company Nielsen Holdings and Facebook.

Perpetrators use various methods to gain access to data owned by companies. “For example, social engineering combined with phishing emails is one method,” says Sardy. “This means that, at first, perpetrators research information about individuals with privileged access to confidential data or with the authority to make payments for a company. This makes employees in departments such as human resources or accounting targets.

“Publicly-available information on social networks is used to identify possible victims and understand who they report to within their organization. Based on this, sophisticated phishing emails are being faked, tricking the victim into believing that it is their manager requesting information or payment. Such emails are often backed up with fake phone calls reinforcing the sense of urgency and confidentiality.”

Another method is introducing malware into a company’s computer system that enable perpetrators to view or even manipulate data. Long periods of time may elapse between infection and noticeable malicious activities within the system. “This means, such intrusion may go undetected for months and can spread undisturbed meanwhile,” says Sardy. As soon as the company becomes aware of their network issues, it will need to retain IT experts specialized in different areas of analysis, remediation and restoration.

“Such IT services can cost millions of euros or dollars, as it may require several teams of experts investigating what has happened, what kinds of different malware were used, which accounts and hosts have been compromised and then to advise how the infection can be contained and remediated,” says Sardy.

“This is money well spent if the experts can save the company from business interruption and large scale data breaches. It is essential to have immediate access to a strong network of IT experts who can provide the specialized know-how and technical equipment needed.

“What the different methods of cyber criminals have in common is that they are carried out in a highly professional manner. Companies are not facing individual hackers but transnational organized crime with enormous profit margins,” Sardy concludes.

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# LIABILITY CLAIMS TRENDS

Although claims in mature markets have been reducing following improved safety and product quality, severity continues to rise globally. The potential for ever-larger liability claims is driven by many factors including increasing complexity, internationalization of claims and rising legal costs. Around a third of large corporate liability claims involve litigation, compared with property insurance where less than 1% of claims do, on average.

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## HIGHER SETTLEMENTS FOR US BODILY INJURIES

In the US, which traditionally is the largest market for liability insurance and claims, loss frequency has remained stable in recent years with the make-up of claims also consistent. Bodily injury claims account for the lion's share, followed by product liability and medical malpractice claims.

The US has seen a trend towards higher settlements and awards in personal injury cases, some with high punitive damages. For example, in August 2018, Monsanto, a division of German chemical group Bayer, was ordered to pay a former groundskeeper US\$289mn after he claimed that chemical glyphosate – a key ingredient in its weed-killer Roundup – caused his cancer. The groundskeeper subsequently agreed to accept a reduced award of \$78mn<sup>1</sup>, although at the time of writing Monsanto was also appealing this decision. The initial ruling has already led to heightened liability litigation.<sup>2</sup>

In July 2018, US pharmaceutical and consumer goods group Johnson & Johnson was ordered to pay US\$4.7bn in damages to 22 women

who alleged that its talc products had caused them to develop ovarian cancer. The jury in the US state of Missouri awarded US\$4.14bn in punitive damages and US\$550mn in compensation. In both cases, the juries were swayed by expert evidence, despite the absence of scientific consensus proving a causal link between the products and cancer.

“Personal injury claims in the US now settle at much higher values than they did just five years ago,” says **Larry Crotser, Liability Claims Specialist at AGCS**. “It could be that we are now seeing the ‘millennial effect’<sup>3</sup> on juries, which could result in increasing awards. A number of younger people tend to be less business-friendly and more co-operative than previously – and can be potentially less questioning in this area.”

Commercial motor claims in the US have also experienced a number of large personal injury awards. AGCS has been involved in several serious multi-plaintiff trucking incidents, and their settlement values have increased dramatically - in some cases doubled - over those of only a few years ago. This is due, in part, to increased verdict values overall, including several personal injury verdicts in

<sup>1</sup> Groundkeeper Accepts Reduced \$78mn Monsanto Verdict, October 31, 2018, The Associated Press

<sup>2</sup> Plaintiffs Lawyers Eye More Roundup Lawsuits After \$289mn Verdict Against Monsanto, August 13, 2018, The Recorder

<sup>3</sup> A Millennial Could Be Your Next Jury Foreperson, March 15, 2017, Litigation Insights



**TOP CAUSES OF LOSS:**  
**LIABILITY CLAIMS**



**By value of claims**

- Defective products **45%**
- Faulty workmanship/maintenance **13%**
- Fire/explosion **7%**
- Minor collision/crash (e.g. non-aviation/auto/shipping-related) **3%**
- Crime/disorder **3%**
- Other **29%**



**By number of claims**

- Faulty workmanship/maintenance **21%**
- Defective products **16%**
- Slips and falls **11%**
- Minor collision/crash (e.g. non-aviation/auto/shipping-related) **6%**
- Environmental/pollution **1%**
- Other **45%**

**Source:** Allianz Global Corporate & Specialty. Based on analysis of **39,895** insurance industry claims between July 2013 and July 2018.

Defective products are the top cause of liability losses for businesses globally accounting for 45% of the value of all claims. Together, defective products and faulty workmanship/maintenance account for almost 60% of the value of all claims (58%).

excess of \$1 billion in 2017 and 2018. Additionally, recent increases in demand for long-haul trucking services in the US have created a shortage of experienced semi-tractor/ trailer drivers, reports the American Trucking Association. And less experienced truckers are involved in more accidents, according to a US Department of Transportation study.

“We are not seeing an increase in the frequency of liability claims, but the value of claims has been increasing with higher awards and rising legal costs. In some cases, the defense costs for comparable actions have doubled or even tripled over the last 10 years due to more extensive discovery (including e-discovery), higher expenditure for experts and increased legal fees,” says **Peter Oenning, Liability Claims Specialist at AGCS.**

**2 INCREASING SEVERITY AND FREQUENCY IN EMERGING MARKETS**

Outside the US, there has been a general trend towards increased frequency and severity in particular emerging markets. Liability claims frequency has been increasing in Latin America and Asia following tougher environmental and consumer protection regulation and with growing public awareness of rights to compensation.

“We are seeing more claims from the Asia region and other emerging markets as awareness of consumers has increased, making it more likely they will claim,” explains Oenning. During the first quarter of 2017, AGCS had some 800 pending liability claims in Asia, which had risen to 1,300 by the second quarter of 2018. In Latin America the number of pending claims increased from 700 to 1,100 over the same timeframe.



Environmental regulation and enforcement has been increasing in countries, like China, where tolerance of pollution has been decreasing.

Photo: Adobe Stock

Claims severity is also increasing in emerging markets. “We are now seeing much larger claims in Latin America and Asia than we have in the past,” Oenning adds. “Once, nine out of 10 large claims globally would have come from the US, now it is more like seven in 10.”

actions in the European Economic Area. However, while companies need to keep abreast of such developments, overall the legal environment should prevent the emergence of a US-style litigation and class action environment in Europe.

### 3 COLLECTIVE ACTIONS IN EUROPE

In Europe, frequency of liability claims has remained stable. However, the prospect of the region becoming more litigious is increasing with a move towards collective actions in a number of countries.

Investors and consumers are now able to bring class action-like claims across the continent – it is already possible in the Netherlands, France, Italy and the UK, and, as of November 2018, it is also easier to bring class actions in Germany under a new legislation. In addition, the European Commission has proposed a new directive on representative actions, which could make it easier to bring consumer class

### 4 LARGE LOSS POTENTIAL RISING

In both mature and emerging markets, the potential for large losses is increasing, according to Oenning: “Large liability claims are very complex and expensive. They tend to be cross-border and involve multiple parties, taking a long time to investigate.”

There is also a trend towards more international liability claims. For example, there have been more claims involving European and Chinese companies in the US<sup>4</sup>. “As companies have become more global, the chances of being involved in litigation have increased,” Oenning adds.

<sup>4</sup> Recent Trends in Securities Class Action Litigation: 2017 Full-Year Review, National Economic Research Associates

Product liability claims, for example, are getting larger and more complex with the development of extended global supply chains, where components or ingredients in sectors like automotive, pharmaceutical or food are concentrated on a small number of large global suppliers.

“With the development of concentrated global supply chains in industries like automotive manufacturing, liability claims are now more complex. As companies restrict the number of worldwide suppliers in the supply chain, it increases liability risk for these few suppliers exponentially,” says Oenning.

Product recall losses are a major contributor to defective product incidents being the major cause of liability losses. Many manufacturers are sourcing components or ingredients from fewer suppliers. This has seen huge increases in values of risk and the emergence of a “ripple effect”, where a single recall can impact whole industries, such as with the recent Takata airbag recall.

## 5 TECHNOLOGY TO SHAPE FUTURE LIABILITY LANDSCAPE

Cyber risk is a hot topic that has yet to translate into serious claims activity for commercial general liability (CGL) or product liability insurance. Malicious cyber-attacks are typically excluded from general liability insurance. Where US courts have heard disputes they have typically found that damages from data breaches are not covered under CGL policies.

“Cyber is the next big trend, but as yet we have not seen this in liability claims. Plaintiff lawyers in the US are not bringing claims for cyber-security incidents and data breaches,” says Crotser.

However, technology is expected to shape liability claims in the future with advances in automation and the Internet of Things (IoT).

“We expect to see more liability claims from emerging technology. For example, autonomous vehicles would see a shift in liability and claims from drivers to manufacturers and software providers. Such claims are likely to be harder to investigate and establish cause, and could result in increased cost and workload per case for insurers,” says Oenning.

“This trend is obvious for driverless vehicles but will go much further. The growing use of technology and automation could also reduce frequency of personal injury claims where it improves safety and quality, but it is also likely to mean an increase in product liability claims.”

6

## RISE IN ENVIRONMENTAL AND EMPLOYMENT LOSS ACTIVITY

Employment and discrimination claims could also increase. Recent years have seen a number of claims related to abuse and harassment claims in the church, charities and business worlds, while a number of large US companies have been sued for unfair work practices against women.

Longer term, environmental liability claims are likely to rise with increased awareness and regulation. Environmental regulation and enforcement has been increasing in countries, like China, where tolerance of pollution has been decreasing.

Recent years have seen a notable rise in environmental claims in emerging markets, where authorities are now more inclined to hold companies to account for pollution incidents. Insurers have dealt with a number of such large claims in recent years, related to collapsed dams, floods and pipeline leakages in environmentally-sensitive areas in countries such as Brazil, Peru and Chile.

Climate change-related liability claims may also materialize in years to come. Although of limited success, there has been litigation in the US, claiming that companies’ emissions have contributed to climate change. With a trend towards climate change risk reporting, companies could also face litigation from investors over disclosure.

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# MARINE CLAIMS TRENDS

The frequency of major hull claims remains low, yet natural catastrophes and fires have resulted in some large hull and cargo losses in recent years. Attritional claims, while stable in terms of frequency, are becoming more material. Meanwhile, larger ships and concentrations of cargo risks create the potential for ever-larger losses.

## 1 UPTICK IN NATURAL CATASTROPHE ACTIVITY

Hurricanes Harvey, Irma and Maria (HIM) are among the biggest marine loss events of the past five years and would feature highly among the top 10 marine losses of the past decade. The three storms in 2017 caused an estimated US\$1bn of insured losses for the yacht market alone, as well as causing extensive damage to ports, cargo and inland marine risks, such as warehouses, buildings under construction and weather stations.

Natural catastrophes continued to generate losses for marine insurers in 2018 – Hurricane Florence caused damage and disruption to several ports on the US east coast in September. On the other side of the world, Typhoon Mangkhut caused damage to coastal infrastructure, shipping containers and yachts in Hong Kong and China, while an offshore engineering vessel **Hai Yang Shi You** ran aground near Hainan. Typhoon Jebi, the most powerful storm to hit Japan in 25 years, caused a tanker **Houn Maru** to break its mooring and collide with a bridge linking Kansai International Airport to the mainland.

“Natural catastrophes are the exposure of most concern from a severity viewpoint,” says **Duncan Southcott, Marine Claims Specialist at AGCS**. With growing concentrations of insured assets in catastrophe-exposed regions, storms, floods and earthquakes have the potential to generate very large and complex claims for marine insurers.”

## 2 HULL ACTIVITY AND MORE ATTRITIONAL CLAIMS

Benign hull claims activity remains a positive for the marine sector, with relatively few major losses in recent years. The grounding of the **Costa Concordia** in 2012, which resulted in a US\$2bn loss, remains the largest loss of the past decade. Yet there have been some other notable, more recent incidents, such as the fire and sinking of the oil tanker **Sanchi** off the coast of China in January 2018.

Despite improvements in shipping safety and technology, collisions and groundings continue to cause claims, while the structural integrity of large vessels can be a cause for concern. Cargo liquefaction, the abrupt transformation of solid materials like iron ore and nickel ore into an almost fluid state, remains an issue for bulk carriers. Liquefaction is thought to be behind the loss of a number of vessels, such as the **Emerald Star** in 2017 and the **Bulk Jupiter** in 2015.

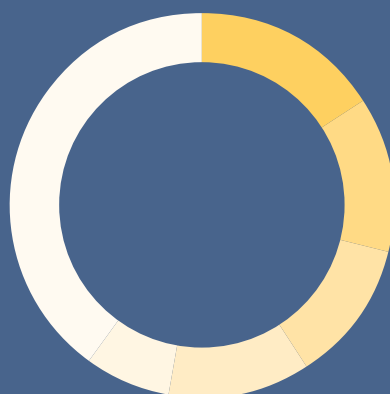
The increasing size of vessels and accumulations of cargo risk means that severity of very large losses continues to be a significant driver of hull claims. Data from the Nordic Association of Marine Insurers (Cefor) shows that the most costly 1% of all claims account for at least 30% of the value of total claims in any given year.

With larger and more sophisticated vessels entering the sector – and more risky trading areas such as polar waters being explored



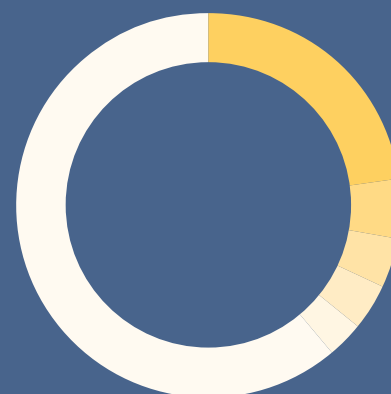


## TOP CAUSES OF LOSS: MARINE CLAIMS



### By value of claims

● Ship sinking/collision	16%
● Fire/explosion	13%
● Damaged goods (including handling/storage)	12%
● Machinery breakdown (including engine failure)	12%
● Storm	7%
● Other	40%



### By number of claims

● Damaged goods (including handling/storage)	22%
● Crime/disorder	5%
● Ship sinking/collision	4%
● Water damage	4%
● Machinery breakdown (including engine failure)	3%
● Other	62%

Source: Allianz Global Corporate & Specialty. Based on analysis of 230,961 insurance industry claims between July 2013 and July 2018.

Unsurprisingly, ship sinking/collision is the top cause of loss, accounting for 16% of the value of all marine insurance claims. Such incidents do not just include the loss of vessels, they also include collisions with locks, harbor walls or even with other vessels.

– the risk of ever larger single losses occurring is growing. An incident involving a fully loaded ultra-large container ship could easily result in a \$1bn to \$2bn insurance claim including damage to cargo, hull, salvage and wreck removal costs.

Attritional losses, while stable, are proving to be material against the backdrop of a reduction in marine insurance premium rates. Machinery breakdown (including engine failure) claims, for example, continue to be among the largest causes of loss by value and frequency. In June 2018, the US Coast Guard<sup>1</sup> warned that fuel contamination at the Port of Houston was causing engine problems – the problem has since spread to other regions as far apart as Singapore and Panama – and is thought to have affected some 200 vessels. Claims arising from contaminated fuel raise difficult questions around causation and who is liable for damage.

3

## VOLATILITY OF CONTAINER SHIP FIRES

Container ship fires continue to be a significant cause of large claims. The **Maersk Honam** fire in March 2018 destroyed around one third of the 7,800 containers (about 12,000 teu) on board the vessel at the time. This fire follows other similar incidents, including the 13,800 teu, **MSC Daniela** in 2017 and a number of incidents during 2016 including the 9,000 teu, **CCNI Arauco**, which caught fire in Hamburg. In 2012 a fire on board the German container ship **MSC Flaminia** forced the crew to abandon ship in the middle of the Atlantic Ocean.

Container ship fires are difficult to extinguish and typically lead to large complex insurance claims. The **Maersk Honam** fire took over a month to put out and several more months before the vessel was able to be taken to a port of refuge and the cargo discharged. The

<sup>1</sup> USCG releases alert on recent fuel contamination at Port of Houston, 12 June, 2018, Safety4Sea



Fires at sea are a growing volatile source of claims.

Photo: iStock

loss has been predicted to result in the largest ever general average claim, which can take years to settle due to the large number of insured parties and complexities around causation and subrogation.

Such complex losses can also lead to disputes. Establishing the cause and responsibility for a loss is challenging, while some fires are caused by mis-declared or wrongly-stowed cargo. The **MSC Flaminia** loss, for example, sparked lengthy litigation as the various parties contested causation, fault and damage to the cargo and vessel.

“Container ship fires are a potentially growing volatile source of claims as ships become larger and carry more and more cargo. If action is not taken to tackle this issue, fires on board container ships will continue and they will become larger and more costly,” says Southcott.

#### 4 CARGO CLAIMS ON THE RISE

The past five years have witnessed a notable increase in cargo claims. Both the frequency and severity of cargo claims has been increasing, with a combination of large losses and natural catastrophe activity. The past year, for example, has seen two large warehouse fire claims in the range of \$50mn to \$100mn, as well as a number of cargo losses from HIM during 2017.

Of particular concern is the increasing risk of a large loss event due to increasing value accumulations at ports, warehouses and vessels. The fire and explosion at the Chinese port of Tianjin in 2015, Superstorm Sandy in 2012 and the Tohoku earthquake in 2011 all brought large cargo losses.

The automotive sector remains a significant source of exposure and claims, with large numbers of vehicles stored at ports exposed to hail, storms and flooding, as well as fire and explosion. Car carriers are also a concern

following a spate of losses involving stability and fires. The pharmaceutical sector is another sector where cargo claims have increased, with the theft of high value shipments and damage to temperature-sensitive cargo.

Cargo misappropriation is a growing issue. High value cargoes, such as commodities like oil and iron ore, can be either stolen or illegally sold. It is a global issue, where risks need to be assessed and monitored carefully to spot such issues arising early before they become very large claims.

“The cargo market has experienced a number of large claims, but there is simply not enough premium to pay for catastrophic or unusually large losses,” says Southcott. “We are seeing much greater claims volatility with the higher accumulation values of cargo on larger ships and in warehouses.”

## 5 CONNECTED TECHNOLOGY IMPACT AND NEW LOSS DRIVERS

The growing use of connected technology in the maritime sector is expected to be a positive for both safety and marine insurance claims. Electronic navigation tools, ship-to-shore communications and the greater use of sensors should improve navigation and help avoid groundings and collisions. The growing prevalence of sensors could also reduce machinery claims through performance monitoring and early intervention. Tracking and sensor technology also has the potential to mitigate cargo losses.

Technology will also have downsides, most notably cyber security risks from increasing reliance on IT systems and networks. The **WannaCry** and **NotPetya** malware attacks of 2017, which also had an impact on the maritime sector, show the potential for large losses, says Southcott. “With the move towards greater automation of shipping and cargo handling, cyber will become a feature of marine claims going forward. The big unknown is so-called ‘silent’ cyber exposures in many marine insurance policies.”

“The issue of over-reliance on technology among seafarers is ongoing and we still see a number of incidents where officers and crew have relied too much on technology,” adds **Captain Rahul Khanna, Global Head of Marine Risk Consulting, AGCS**. “Sometimes replacing common sense decisions with digital inferences is not such a good idea. Crew and officers have an increased responsibility to understand the shortcomings and limitations of technology. The human interface with technology will be an important consideration in future safety.”

While improved risk management and technology should reduce claims activity, other loss drivers are likely to emerge. For example, political risks and climate change could see ships traversing more hazardous routes, such as polar waters. Climate change concerns and environmental regulations could create new liabilities for shipping companies. Meanwhile, attempts to reduce emissions could be accompanied by technical issues with engines and bunkering of biofuels, as well as encouraging even larger vessels.

## 6 CO-OPERATION AND CLAIMS SCENARIO-TESTING INCREASINGLY IMPORTANT

Successful claims resolution is all about communication and co-operation. “If all parties exchange information and work towards finding a solution it can speed up the claims process. It is a two-way street, and insurers need to inform clients of their role, coverage and proceedings,” says Southcott.

“Increasingly, we are running claims scenario-testing and share the claims experience with clients to help them understand what to expect in the event of a claim. This also builds relationships in advance of a claim, establishing trust and co-operation before a loss occurs.”

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# PROPERTY/ENGINEERING CLAIMS TRENDS

Changes in corporate risk and demand for broader coverage to support the impact of innovative technologies are driving a trend towards increasing volatility in property claims, with larger claims, as well as supply chain and cyber losses.

## 1 INCREASING VOLATILITY AND SEVERITY

Analysis of AGCS claims shows an increase in the size of large losses, reflecting huge changes in how many sectors now operate. Globalization and the development of integrated supply chains are leading to much higher concentrations of insured values, both in terms of assets and business interruption (BI) exposures.

“In general, claims values are higher with inflation and greater concentrations in value,” explains **Raymond Hogendoorn, Property and Engineering Claims Specialist at AGCS**. “For example, as manufacturing clients have become more efficient, the values per square meter have risen exponentially. Fire and flood claims are now much more expensive per square meter than even a decade ago.”

One area where property claims have shown increasing volatility has been in natural catastrophes. Following a period of benign claims, 2017 brought a record year, marked by storms, wildfires and earthquake activity. After a quiet start, 2018 saw some large losses – Hurricane Florence resulted in unprecedented flooding in North and South Carolina, while California witnessed some of its biggest and deadliest wildfires on record.

“Top of the bill for largest losses were the storms and wildfires in the US in 2017 and 2018, although there have also been a number of large man-made losses, including dam breaches and industrial fires that will generate costly claims for insurers,” says Hogendoorn. Although the frequency of natural catastrophe claims has not increased, the long term trend towards increased severity and volatility continues, in large part due to the steady increase in insured assets in catastrophe-exposed regions worldwide. Natural catastrophe claims in so-called emerging markets, for example, are becoming more costly with higher insurance penetration and economic activity. **Asia**, in particular, has seen an increase in large claims, especially **Japan**, but exposures are also increasing in other countries. In 2018, typhoons Mangkhut and Jebi caused extensive damage through wind, storm surge and flood in China, Hong Kong and the Philippines.

“Natural catastrophe losses in Asia are becoming more relevant as businesses invest in regions with significant exposures to storms, flooding and earthquakes, and as insurers like AGCS follow their clients into these markets,” says Hogendoorn.





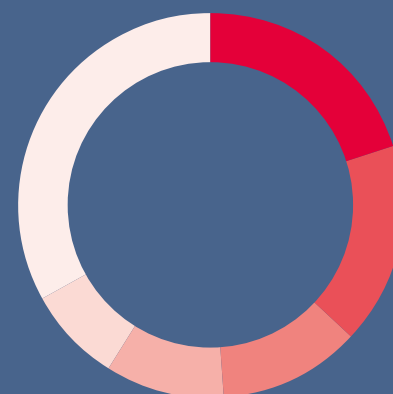
## TOP CAUSES OF LOSS: PROPERTY CLAIMS

Source: Allianz Global Corporate & Specialty.  
Based on analysis of 19,305 insurance industry  
claims between July 2013 and July 2018.



### By value of claims

● Fire/explosion	51%
● Storm	21%
● Flood	4%
● Machinery breakdown/failure	4%
● Water damage	3%
● Other	17%



### By number of claims

● Crime/disorder	20%
● Water damage	17%
● Storm	12%
● Fire/explosion	10%
● Machinery breakdown/failure	8%
● Other	33%

Fire accounts for over half of the value of all property insurance losses (51%).

Insurance claims resulting from crime/disorder incidents are the most frequently received, accounting for one claim in five. Such claims also include disruption caused by incidents such as strikes or civil commotions.

## 2 THE INNOVATION EFFECT

As companies have adopted new business models, with a greater reliance on technology and extended supply chains, insurers have responded with broader property insurance coverage. Natural catastrophe and geopolitical risks have also become an increasingly important factor as companies operate in a growing number of markets, or source products, components or ingredients from around the world.

Broader coverage has led to an increase in attritional claims (under €500,000 [\$560,000]) for large commercial clients, as well as new types of covered losses. "Insurers are responding to the needs of customers by underwriting and affirmatively covering a broader array of perils, such as a BI loss arising out of a cyber event," says Hogendoorn. As a result, we see an increase in the number – and different types of claims – we now get claims that we would not have seen in the past, such as BI following loss of data."

## 3 LARGER AND MORE COMPLEX BI AND CBI ACTIVITY

Globalization and global supply chains has increased demand for contingent business interruption (CBI) cover, which can pay loss of revenues or profit arising from an insured event (such as a fire or flood) at a supplier's or customer's property.

"CBI claims are now more relevant as supply chains become leaner and with greater concentration on a smaller number of suppliers, particularly in industries like automotive, electronics and pharmaceutical. A small fire in these industries can cause huge CBI losses," explains Hogendoorn.

For example, in May 2018, a number of car manufacturers experienced disruption after an explosion and fire shutdown at a magnesium foundry in Michigan, USA, resulting in an estimated claim "in the higher three digit millions" for insurers. In 2017, a fire at a plant in the Czech Republic – which makes vehicle



Industrial fire claims are much more expensive per square meter than even a decade ago.

Photo: Adobe Stock

instrument and door panels – caused some car manufacturers to halt production of certain models, resulting in a similar value of claim.

In addition to an increase in CBI claims, there has been a general shift towards BI claims in general, which are typically more complex and lengthy to settle. This reflects the potential increased impact of property damage on a business and its supply chains, as well as the trend towards buying higher limits of BI cover.

“If you look at the larger claims on my desk, the ratio is gradually moving towards bigger BI claims. A few years ago the split was 50:50 property damage to BI, but now the proportion of the latter has grown further,” says Hogendoorn.

#### 4 NEW LOSS SCENARIOS

With changes in business models, the insurance needs of large corporates are also changing. In addition to protecting physical assets, companies are also seeking coverage for perils such as non-physical damage BI, for example. The corresponding evolution in insurance is resulting in new types of loss scenarios and claims for property insurers, according to Hogendoorn.

“As wordings have broadened the range of loss scenarios has increased. For example, we have seen a large BI claim from recent civil unrest in Vietnam. Companies become more prone to such risks as they operate in a growing number of countries where such incidents can occur,” says Hogendoorn.

#### 5 THE CYBER EFFECT

Incidents of cyber-related property damage, BI and CBI are growing. For example, semiconductor maker Taiwan Semiconductor Manufacturing Company, a key supplier to Apple, lost over a day of production after a virus infected machinery at plants in Taiwan in August, 2018. The virus was a variant of **WannaCry**, the ransomware that affected multiple companies in 2017 and affected a production facility at Boeing in March this year.

“Connected machinery and the Internet of Things are beginning to play an important role in our clients’ businesses, but they open these companies up to the risks of hacking, outages, technology-related malfunctions and human error,” says Hogendoorn.

The greater use of technology has resulted in the emergence of cyber-related claims for property insurers, in particular in North America where companies are more inclined to purchase cyber cover. In particular, property insurers have seen an increase in BI claims resulting from cyber-attacks, according to Hogendoorn.

“We have seen a number of property damage and BI claims triggered by cyber incidents, with claims that exceed one hundred million dollars. This increase is, among others things, related to the growing number of policies with cyber exposure,” says Hogendoorn.

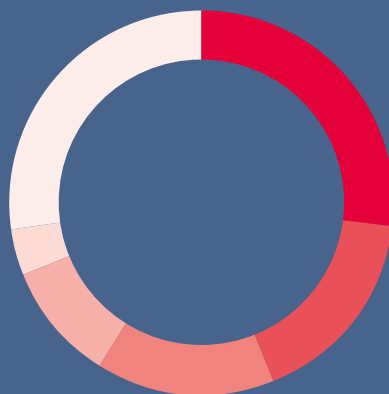
#### 6 INSURTECH IMPROVES CLAIMS PROCESS

Insurers are now working with and testing a range of new technologies, from drones to robotics, to speed up the claims process and improve service.



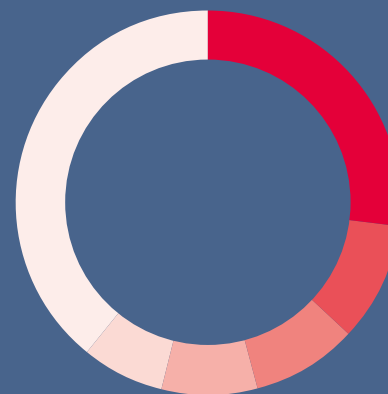
**TOP CAUSES OF LOSS:  
ENGINEERING CLAIMS**

**Source:** Allianz Global Corporate & Specialty. Based on analysis of **13,599** insurance industry claims between July 2013 and July 2018.



**By value of claims**

- Fire/explosion 27%
- Defective products 17%
- Faulty workmanship/maintenance 15%
- Storm 10%
- Water damage 4%
- Other 27%



**By number of claims**

- Defective products 27%
- Storm 10%
- Faulty workmanship/maintenance 9%
- Water damage 8%
- Fire 7%
- Other 39%

Fire is responsible for more than a quarter (27%) of the value of all engineering insurance losses.

Together, defective products and faulty workmanship account for more than a third (36%) of all engineering claims.

AGCS has been employing machine learning and examining robotics in order to improve the claims process for low-value, high-frequency commercial claims. According to Hogendoorn, somewhere between 60% to 70% of claims AGCS sees are under €10,000 (\$11,300) in value. Robotics can speed up repetitive and labor-intensive tasks, such as reading emails or documents, collecting and processing claims data, as well as automating certain tasks, like claims authorization or payment.

Potentially, straightforward claims could be paid within a day, rather than the current industry average “of weeks”, explains Hogendoorn. More efficient settlement of smaller claims will improve service and free up claims management resources for larger more complex claims.

Insurers have also been using satellite imagery and drones to assess damage, such as following a major catastrophe or an industrial disaster. Drones and satellite imagery were used to

assess damage from recent storms in Europe and hurricanes in the US, providing faster loss estimates that enabled insurers to better allocate resources and potentially make earlier claims payments.

However, complex and large claims will continue to require the human touch, although technology should help improve communication. Big data and analytics will also play a part, enabling insurers to gain more insights into claims statistics and feed information and advice back to clients. “The challenge is to reduce the high cost of claims handling in our industry,” says Hogendoorn. “We need to keep our customers happy, while at the same time deal with a growing compliance burden.”

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# FURTHER CLAIMS INSIGHTS



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<https://www.agcs.allianz.com/insights/white-papers-and-case-studies/product-recall/>



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## Global Claims Review: Business Interruption In Focus

Global trends and developments in business interruption claims.

<https://www.agcs.allianz.com/insights/white-papers-and-case-studies/global-claims-review-2015/>



## Global Claims Review

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

<https://www.agcs.allianz.com/insights/white-papers-and-case-studies/global-claims-review-2014/>

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