

Safety and Shipping Review 2014

An annual review of trends and developments in shipping losses and safety

Shipping Losses

By location, type of vessel and cause

2013 in Review

Trends and developments affecting shipping safety

Future challenges

Important issues and key risks



Container ship MOL Comfort on fire off the coast of Yemen in June 2013 (Photo: gcaptain.com)

Some of 2013's notable losses included...

Tall Ship Astrid – in service since 1924 – which went aground off Kinsale, on the south west coast of Ireland...



The 108-year-old Hantallar, which grounded off Tekirdag, Turkey – the year's oldest ship to be a total loss...



MOL Comfort, which broke in two and sank off the coast of Yemen – the largest vessel lost in 2013



Sources: Wikimedia Commons, Gerolf Drebes/shipping.com, Lloyd's List/MRCC Mumbai

Introduction

This review focuses on key developments in maritime safety during 2013, and analyzes shipping losses (of over 100 gross tons) during the **12 months prior to December 31, 2013**. It follows the research published in March 2013 by Allianz Global Corporate & Specialty (AGCS), entitled "Safety and Shipping Review 2013", available at www.agcs.allianz.com

Executive Summary

- 94 large ships lost worldwide in 2013, down 20% year-on-year
- Losses centered on South China and South East Asia
- Cargo ships account for a third of losses. Foundering most common cause
- East Mediterranean & Black Sea region hotspot for incidents
- “Mega ships”, the Arctic and new fuels pose new risks
- Different piracy models present new challenges

With more than **90%** of global trade estimated to be carried by sea, the safety of international shipping vessels and routes is critical to the health of the global economy. During 2013 there were **94 losses** reported worldwide, ensuring the annual total dropped under 100 for only the second time in 12 years, continuing the recent downward trend.

Losses declined by **20%** compared with 2012 when there were **117** reported losses. The 2013 accident year also represents a significant improvement on the previous 10-year loss average with total worldwide shipping losses having declined by **45%** since 2003 (**174**).

More than a third of 2013's total losses were concentrated in two maritime regions. As in 2012 (see page 12), South China, Indo China, Indonesia and the Philippines was the region with the most losses (**18**), closely followed by Japan, Korea and North China (**17**).

The most common cause of losses in 2013, and for the last 12 years, was **foundering** (sinking or submerging) [**69**], accounting for almost three quarters of all losses, with bad weather a significant driver.

More than a third of the vessels lost were **cargo ships** (**32**) with **fishery** (**14**) and **bulk carriers** (**12**), the only other vessel types to record double-digit losses.

For the first time the review also includes the total number of shipping casualties/incidents by region. There were **2,596 casualties** during 2013 with the East Mediterranean & Black Sea region the top hotspot (**464**). The British Isles has been the scene of the most casualties over the past decade (see page 13).

January is the worst month for all casualties (including total losses) in the **Northern Hemisphere**, with **23%** more losses in this month compared with the quietest month (June). In the **Southern Hemisphere** it is **July** with **41%** more losses than April.

This year's figures illustrate that the maritime industry has continued to improve its safety record although the quality of operations varies significantly in different regions, underscoring the need for universal regulations on ship safety to further reduce the risk of casualties and loss of life.

More than two years after the **Costa Concordia** disaster improving passenger ship safety continues to be a priority with a particular focus on services in Asia, where quality standards can be an issue. 2014 is likely to see the 100th loss of a passenger vessel since 2002. Meanwhile, the total loss of two bulk carriers in 2013 – **Harita Bauxite** and **Trans Summer** highlights the importance of proper cargo handling and stowage.

An increasingly difficult operating climate for ship operators has forced a number of innovations, including **larger ship sizes** to capitalize on economies of scale and the use of **alternative fuels**. Such scenarios present new risks and challenges, particularly around crew safety and training – it has been estimated that 80%* of marine casualties are down to human error and lack of skilled workforce is still an issue. The claims arising out of maritime emergencies of “mega ships” can be huge, such as if an accident was to block entrance to a port.

Trading routes are fast appearing in Arctic waters and data shows the average number of shipping casualties has increased to **45** per year between 2009 and 2013 from only **seven** during 2002-2007. Damage to machinery caused a third of these incidents, higher than the average elsewhere, reflecting the harsher operating environment.

And although the number of piracy attacks declined by over **10%** during 2013, hotspots such as Indonesia and the Gulf of Guinea saw their share of global incidents increase. Differences in piracy models continue to create challenges for the maritime community.



30%

Anticipated growth in container ship capacity by 2018



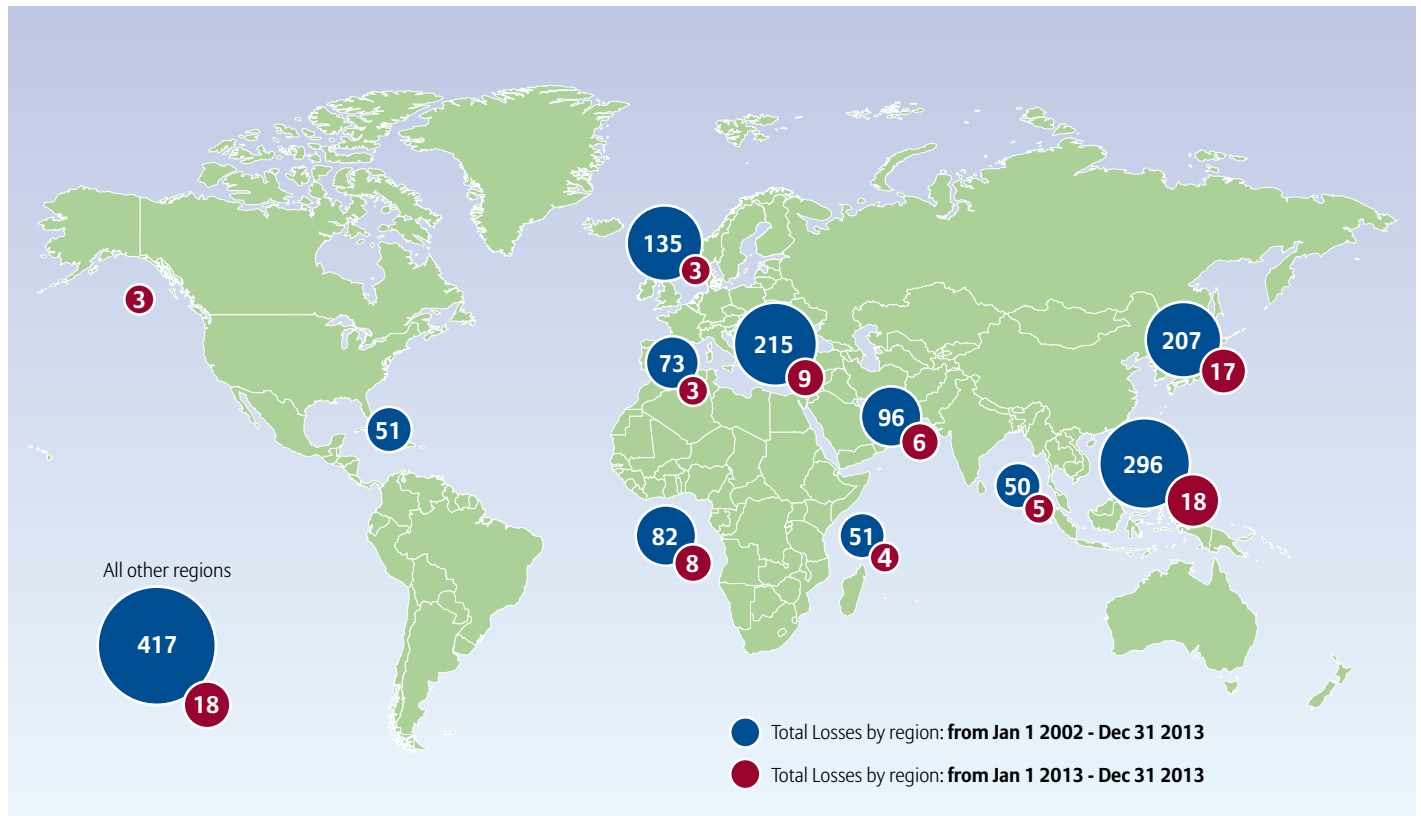
1 year

Time it can take to remove all the containers from a “mega ship” in the event of an accident

2013: Losses in Focus

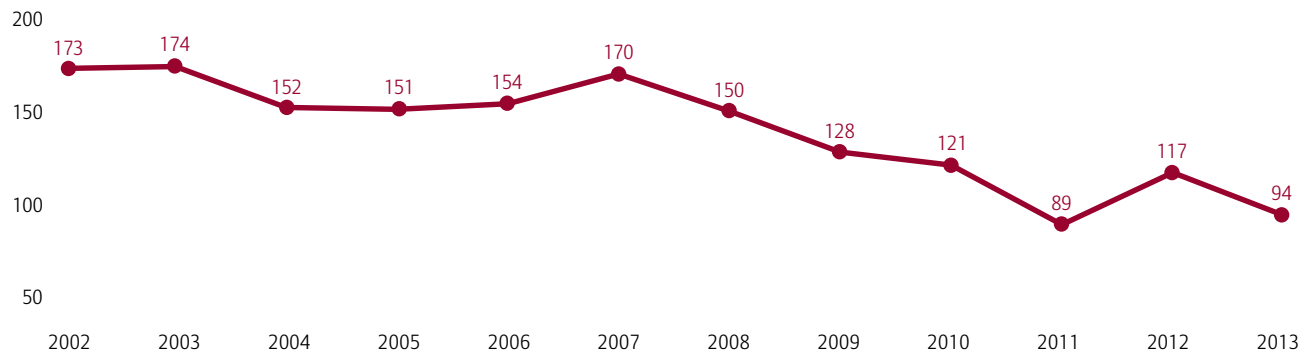
The analysis over the following pages covers both total losses and casualties/incidents. See page 30 for further details.

Total Losses by Top 10 Regions: 2002-2013 and 2013



Source: Lloyd's List Intelligence Casualty Statistics. Analysis: AGCS

Total Losses by Year a declining trend



Source: Lloyd's List Intelligence Casualty Statistics. Analysis: AGCS

Total Losses by Top 10 regions: from January 1, 2013 to December 31, 2013

2013: More than a third of the losses were concentrated in two maritime regions. As in 2012, South China, Indo China, Indonesia & Philippines had the most losses (18), down 11 year-on-year, closely followed by Japan, Korea and North China (17), up 4, which replaced East Mediterranean & Black Sea in second position.

94
losses

Reported losses for 2013
currently run at **eight**
vessels per month

S. China, Indo China, Indonesia & Philippines	18
Japan, Korea and North China	17
East Mediterranean & Black Sea	9
West African coast	8
Arabian Gulf and approaches	6
Bay of Bengal	5
East African Coast	4
British Isles, N. Sea, Eng. Channel, Bay of Biscay	3
Canadian Arctic and Alaska	3
West Mediterranean	3
Others	18
Total Losses by Region	94

Source: Lloyd's List Intelligence Casualty Statistics. Analysis: AGCS

Total Losses by Top 10 regions: from January 1, 2002 to December 31, 2013

2002 - 2013: We have identified 1,673 losses worldwide over this period, an average of 139 per year. South China, Indo China, Indonesia & Philippines is the top "hot spot" while the British Isles, North Sea, English Channel and the Bay of Biscay is still ranked fourth, despite improved loss activity in recent years. The US eastern seaboard dropped out of the Top 10 regions in 2013 with 45 losses overall after not suffering a total loss last year.

10 key shipping regions
contain **75%** of losses

1,673
losses

S. China, Indo China, Indonesia & Philippines	296
East Mediterranean & Black Sea	215
Japan, Korea and North China	207
British Isles, N. Sea, Eng. Channel, Bay of Biscay	135
Arabian Gulf and approaches	96
West African coast	82
West Mediterranean	73
West Indies	51
East African Coast	51
Bay of Bengal	50
Others	417
Total Losses by Region	1,673

Source: Lloyd's List Intelligence Casualty Statistics. Analysis: AGCS

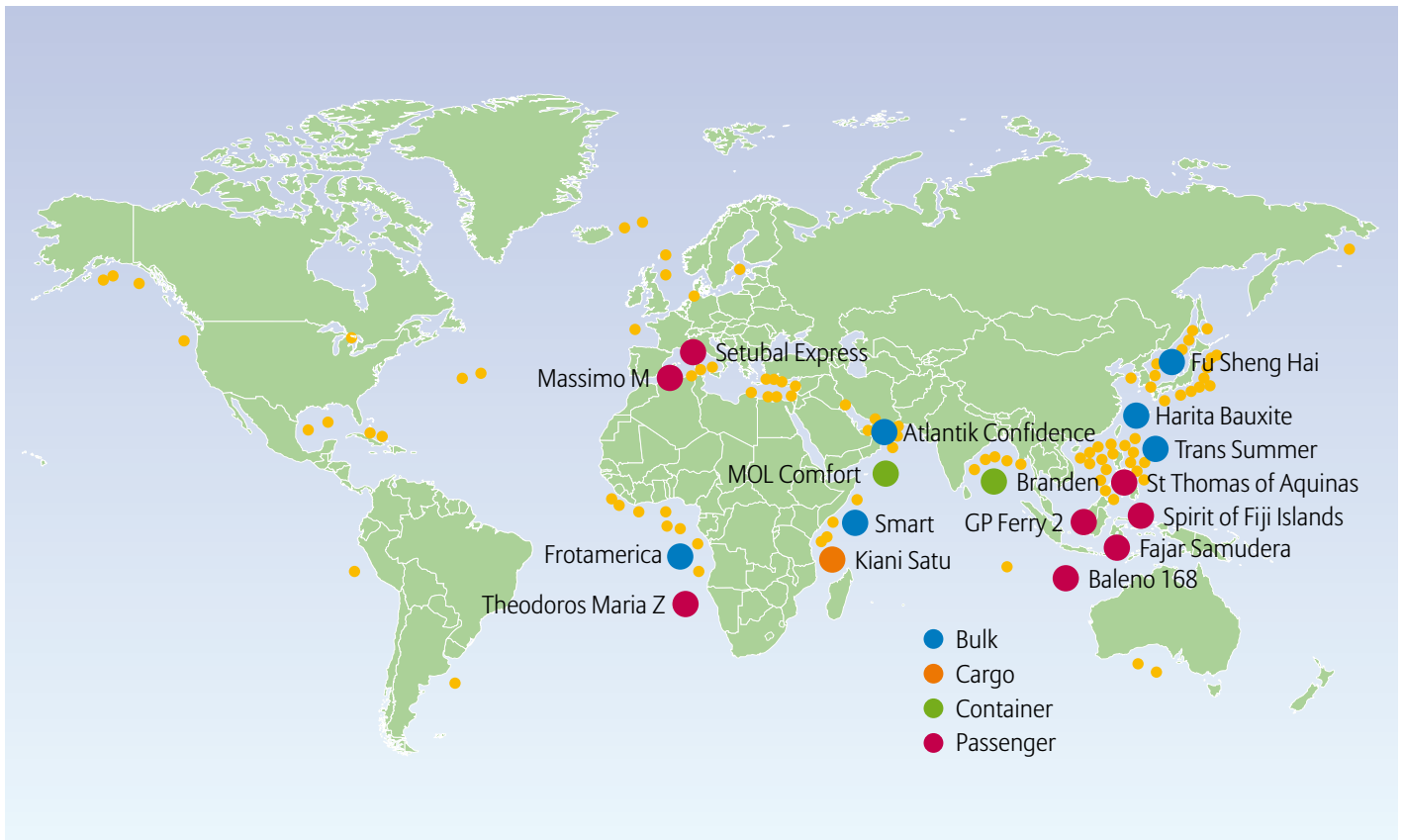
We expect 2013 total losses to increase slightly as, based on previous years' experience, developments in losses lead to a number of total losses being confirmed after year-end. The average variance over the last 11 years has been an increase of two total losses, but in some years this varies considerably with up to 11 additional total losses being notified for one year.

Major Losses: 2013

Largest ships lost and all passenger vessel losses

Vessels lost from Jan 1, 2013 to Dec 31, 2013

(including largest 10 vessels and all major passenger vessel losses) – showing location of loss and type of vessel



Marks show the location of total losses reported between Jan 1, 2013 and Dec 31, 2013 with the largest 10 losses highlighted by ship type and all passenger losses.

Largest vessels

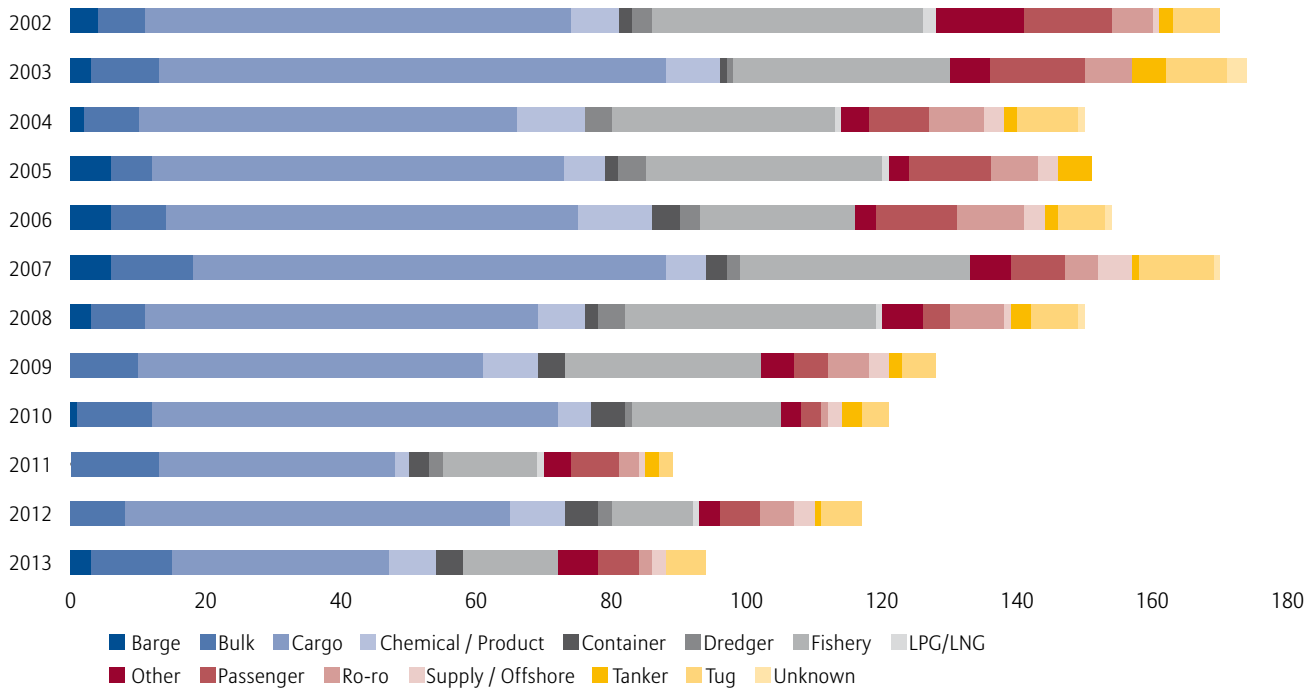
- | | |
|--|--|
| <p>MOL Comfort
17 June 2013. Broke in two after sustaining a major midship crack. Sank. No fatalities. 86,692 GT</p> | <p>Frotamerica
February 21, 2013. Grounded after drifting from anchorage. No fatalities. 22,174 GT</p> |
| <p>Smart
19 August 2013. Grounded. Buckled, broke in two, partly submerged. No fatalities. 77,240 GT</p> | <p>Branden
July 15, 2013. Fire on board. Sent for scrapping. No fatalities. 18,334 GT</p> |
| <p>Trans Summer
14 August 2013. Sank in typhoon. No fatalities. 33,044 GT</p> | <p>Setubal Express
February 7, 2013. Fire on board. No fatalities. 16,925 GT</p> |
| <p>Fu Sheng Hai
2 July 2013. Grounded. Broke into two. Forepart sank. No fatalities. 31,643 GT</p> | <p>Kiani Satu
August 7, 2013. Grounded in bad weather. Sank. No fatalities. 16,660 GT</p> |
| <p>Harita Bauxite
17 February 2013. Sank after engine problems in heavy weather. 15 fatalities. 30,228 GT</p> | <p>Atlantik Confidence
March 30, 2013. Fire/explosion on board. Sank. 16,252 GT</p> |

Passenger vessels

- | | |
|---|--|
| <p>Setubal Express
February 7, 2013. Fire on board. No fatalities. 16,925 GT</p> | <p>Fajar Samudera
February 23, 2013. Sank following water ingress. No fatalities. 2,165 GT</p> |
| <p>Massimo M
June 19, 2013. Fire on board. Sent for scrapping. No fatalities. 12,494 GT</p> | <p>GP Ferry 2
June 14, 2013. Sank in heavy seas. 2 fatalities. 2,072 GT</p> |
| <p>St Thomas of Aquinas
August 16, 2013. Sank following collision with Sulpicio Express. At least 116 fatalities. 11,405 GT</p> | <p>Baleno 168
January 31, 2013. Stranded after losing propeller. Sank. No fatalities. 989 GT</p> |
| <p>Spirit of Fiji Islands
October 12, 2013. Fire on board. Drifted. Crew abandoned and rescued. No fatalities. 4,421 GT</p> | <p>Theodoros Maria Z
July 6, 2013. Capsized and sank. 1 fatality. 479 GT</p> |

Source: Lloyd's List Intelligence Casualty Statistics. Analysis: AGCS

Total Losses by type of vessel 2002-2013



Period	Barge	Bulk	Cargo	Chemical / Product	Container	Dredger	Fishery	LPG/LNG	Other	Passenger	Ro-ro	Supply / Offshore	Tanker	Tug	Unknown	Total
2002	4	7	63	7	2	3	40	2	16	13	6	1	2	7		173
2003	3	10	75	8	1	1	32		6	14	7		5	9	3	174
2004	2	8	58	10		4	33	1	4	9	8	3	2	9	1	152
2005	6	6	61	6	2	4	35	1	3	12	7	3		5		151
2006	6	8	61	11	4	3	23		3	12	10	3	2	7	1	154
2007	6	12	70	6	3	2	34		6	8	5	5	1	11	1	170
2008	3	8	58	7	2	4	37	1	6	4	8	1	3	7	1	150
2009		10	51	8	4		29		5	5	6	3	2	5		128
2010	1	11	60	5	5	1	22		3	3	1	2	3	4		121
2011		13	35	2	3	2	14	1	4	7	3	1	2	2		89
2012		8	57	8	5	2	12	1	3	6	5	3	1	6		117
2013	3	12	32	7	4		14		6	6	2	2		6		94
Total	34	113	681	85	35	26	325	7	65	99	68	27	23	78	7	1,673

Source: Lloyd's List Intelligence Casualty Statistics. Analysis: AGCS

Loss activity declined over the period in general. Together cargo and fishing vessels have accounted for more than 1,000 losses since 2002, over 60% of the overall tally. Bulk carriers are third (113). 2014 could see the 100th loss of a passenger vessel since 2002.

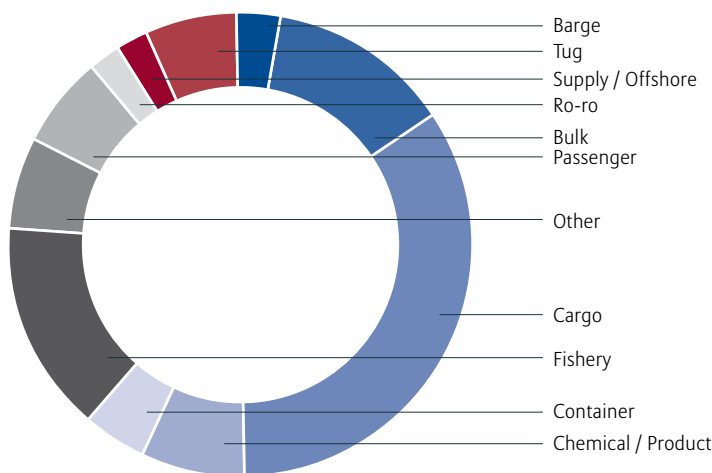


Fishing vessels accounted for almost 15% of total shipping losses in 2013

Photo: Shutterstock

Total Losses by type of vessel

Jan 1 2013 - Dec 31 2013

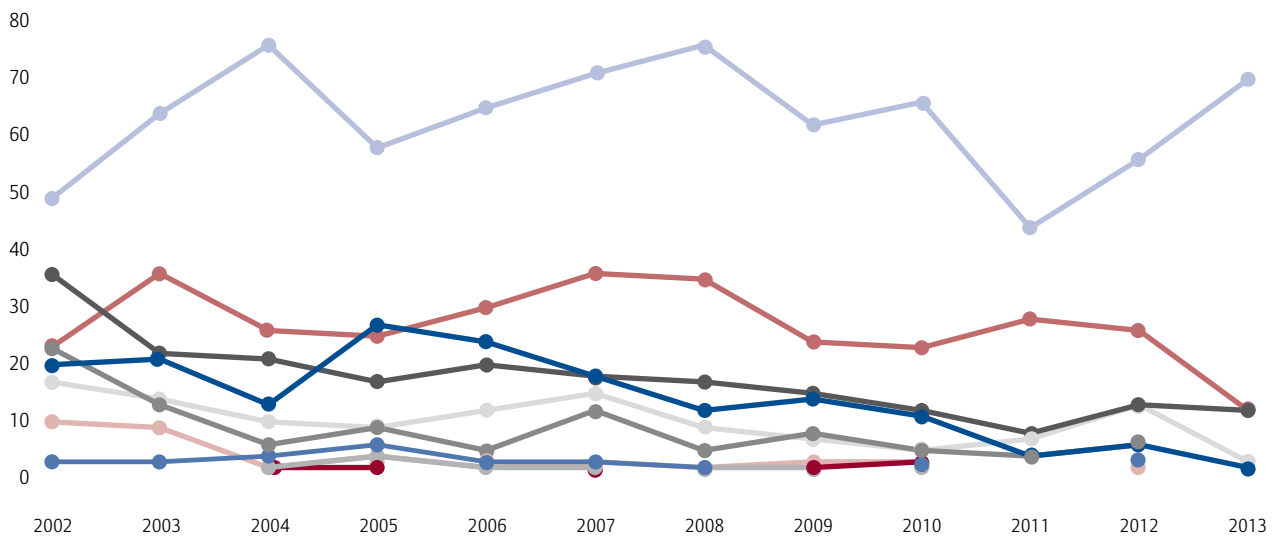


Barge	3
Bulk	12
Cargo	32
Chemical / Product	7
Container	4
Fishery	14
Other	6
Passenger	6
Ro-ro	2
Supply / Offshore	2
Tug	6
Total	94

Source: Lloyd's List Intelligence Casualty Statistics. Analysis: AGCS

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

Causes of Total Losses 2002-2013



Foundering remains the main cause of loss, accounting for 45% of losses since 2002. Piracy incidents regularly make the headlines but there has not been a total loss from an attack since 2010 and just six in total during this period.

- Collision (involving vessels)
- Contact (e.g. harbour wall)
- Foundered (sunk, submerged)
- Fire/Explosion
- Hull damage (holed, cracks, etc.)
- Missing/overdue
- Machinery damage/failure
- Piracy
- Wrecked/stranded (aground)
- Miscellaneous

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Grand Total
Collision (involving vessels)	19	20	12	26	23	17	11	13	10	3	5	1	160
Contact (e.g. harbour wall)	2	2	3	5	2	2	1	1			2		20
Foundered (sunk, submerged)	48	63	75	57	64	70	75	61	65	43	55	69	745
Fire/explosion	35	21	20	16	19	17	16	14	11	7	12	11	199
Hull damage (holed, cracks, etc.)	22	12	5	8	4	11	4	7	4	3	5		85
Missing/overdue			1	3	1	1			1				7
Machinery damage/failure	16	13	9	8	11	14	8	6	4	6	12	2	109
Piracy			1	1		1		1	2				6
Wrecked/stranded (aground)	22	35	25	24	29	35	34	23	22	27	25	11	312
Miscellaneous	9	8	1	3	1	2	1	2	2		1		30
Grand Total	173	174	152	151	154	170	150	128	121	89	117	94	1,673

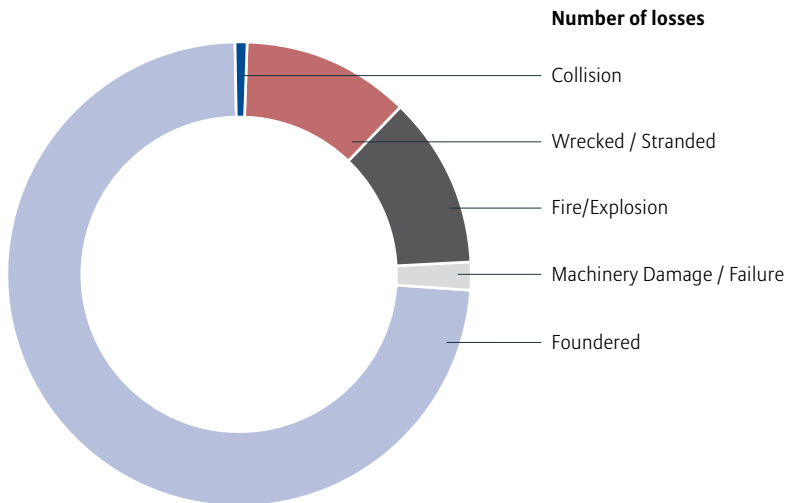
Source: Lloyd's List Intelligence Casualty Statistics. Analysis: AGCS.

Causes of Total Losses

Jan 1 2013 - Dec 31 2013

For the 12th successive year foundering (69) was the most common cause of loss, accounting for almost three quarters of all losses (73%). This was up on both 2012 – 55 (47%) and the previous 10-year average – 62 (44%). Wrecking/running aground (11) and fire/explosion (11) were the cause of the majority of the remaining losses, although both were down on the prior year.

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



Source: Lloyd's List Intelligence Casualty Statistics. Analysis: AGCS.

2013 Total Losses in all regions

Total losses by regions: 2002-2013, 2012 and 2013

	Total losses 2002-2013	Total losses 2012	Total losses 2013	Year-on-year Change
S. China, Indo China, Indonesia & Philippines	296	29	18	↓ 11
East Mediterranean & Black Sea	215	20	9	↓ 11
Japan, Korea and North China	207	13	17	↑ 4
British Isles, N. Sea, Eng. Channel, Bay of Biscay	135	5	3	↓ 2
Arabian Gulf and approaches	96	4	6	↑ 2
West African coast	82	2	8	↑ 6
West Mediterranean	73	5	3	↓ 2
West Indies	51	4	2	↓ 2
East African Coast	51	4	4	
Bay of Bengal	50	2	5	↑ 3
United States eastern seaboard	45	3		↓ 3
Baltic	43	6	1	↓ 5
Gulf of Mexico	37	2	2	
S. Atlantic and East coast S. America	37	1	1	
Russian Arctic and Bering Sea	36	5	1	↓ 4
Iceland and Northern Norway	34	3	2	↓ 1
North American west coast	27	1	1	
South Pacific	22	1		↓ 1
Canadian Arctic and Alaska	20	1	3	↑ 2
Newfoundland	19			
North Atlantic	14	1	2	↑ 1
Red Sea	13			
South American west coast	13	1	1	
Australasia	13	2	2	
North Pacific	13	1		↓ 1
Great Lakes	8		1	↑ 1
Suez Canal	6			
Not recorded (unknown location)	4	1		↓ 1
Indian Ocean	4		1	↑ 1
Cape Horn	3			
Kiel Canal	3		1	↑ 1
Panama Canal	2			
South Pole	1			
Grand Total	1,673	117	94	↓ 23

All figures based on reported losses as of January 23, 2014

All Casualties including Total Losses - Top 10 regions: 2013

2013: The East Mediterranean & Black Sea region was the location of the most casualties during 2013, accounting for 18% of all incidents. Of the 464 casualties just nine were total losses, less than two per cent.

2,596
total casualties
in 2013

1,948
75% of casualties
in top 10 regions

These figures include
total losses of **94** during
this period

East Mediterranean & Black Sea	464
British Isles, N. Sea, Eng. Channel, Bay of Biscay	360
S. China, Indo China, Indonesia & Philippines	252
Japan, Korea and North China	180
Baltic	174
Great Lakes	134
Iceland and Northern Norway	122
Gulf of Mexico	97
West African Coast	93
West Mediterranean	72
Others	648
Total Casualties by Region	2,596

Source: Lloyd's List Intelligence Casualty Statistics. Analysis: AGCS

All Casualties including Total Losses - Top 10 regions: 2002 to 2013

2002-2013: The British Isles, N. Sea, Eng. Channel, Bay of Biscay has been the location of the most shipping casualties since 2002, reflecting the Strait of Dover's status as the busiest international seaway. Nearly one in five of all losses have occurred in this region. By comparison the S.China region, which has seen the most total losses during this period (see page 5), is ranked only fourth for casualty incidents.

27,115
total casualties
between 2002
and 2013

73%
19,884 casualties
from the top
10 regions

These figures include
total losses of **1,673**
during this period

British Isles, N. Sea, Eng. Channel, Bay of Biscay	5,025
East Mediterranean & Black Sea	3,940
Japan, Korea and North China	2,130
S. China, Indo China, Indonesia & Philippines	1,991
Baltic	1,758
Great Lakes	1,542
West Mediterranean	956
Gulf of Mexico	868
North American West Coast	861
Iceland and Northern Norway	813
Others	7,231
Total Casualties by Region	27,115

Source: Lloyd's List Intelligence Casualty Statistics. Analysis: AGCS

2013 in Review

The maritime industry continued to improve its safety record in 2013, with a particular focus on proper cargo handling and stowage. However, a disconnect between quality operations in different regions has highlighted the need for a blanket application of international regulations on ship safety to further reduce the risk of casualties and loss of life.



Source: Titan Salvage

The Costa Concordia wreck represented the industry's largest salvage operation to date and highlighted the concerns around the removal of today's largest casualties. These are uncharted waters for salvors

Safety responses

The maritime industry's regulatory body, the International Maritime Organization (IMO) continued its staunch focus on safety throughout 2013. It closely monitors existing international legislation, while working on new requirements resulting from increased awareness of safety factors and the ever-changing dynamics of the shipping industry.

As the IMO committee most in touch with shipping safety, the Maritime Safety Committee (MSC) met in June 2013 to discuss a number of recommendations and amendments to safety-related regulations. Stemming from concerns about passenger ship safety in the wake of the **Costa Concordia** disaster off the coast of Italy in January 2012, the committee adopted amendments to the International Convention for the Safety of Life at Sea (SOLAS) regulation III/19 to require musters of newly-embarked passengers prior to or immediately upon departure, instead of "within 24 hours", as stated in the current regulations. These amendments are expected to enter into force on January 1, 2015. At the meeting, the committee also discussed other recommendations arising from the Costa Concordia incident, and approved revised "Recommended interim measures for passenger ship companies to enhance the safety of passenger ships" and revised and updated a long-term action plan on passenger ship safetyⁱ.

The MSC additionally discussed amendments to SOLAS regulation III/19 on emergency training to mandate **enclosed-space entry and rescue drills**, which will require crew members with these responsibilities to participate in a drill at least once every two months.

Enclosed and confined spaces can include cargo holds, tanks, pump rooms and any other spaces which may normally be kept closed or sealed. According to reports it has been estimated that more than **50%** of workers who die in confined spaces are attempting to rescue other workers who have found themselves in difficulty.

Amendments to the International Management Code for the Safe Operation of Ships and for Pollution Prevention (ISM Code) were also covered, including a new requirement for companies to ensure that ships are appropriately manned. Lifeboats were considered with the approval, for adoption at MSC 93 in May 2014, of a draft MSC resolution on requirements for periodic servicing and maintenance of lifeboats and rescue boats, as well as associated draft SOLAS amendments to make these requirements mandatory.

Another regulatory adoption by the IMO in 2013 also promises to further improve safety of ships in international waters. The IMO Assembly adopted the IMO Instruments Implementation Code (III Code) in December 2013, which provides a global standard to enable states to meet their obligations as flag, port and/or coastal states; the framework and procedures for the IMO Member State Audit Scheme; the 2013 non-exhaustive list of obligations under instruments relevant to the III Code; and a resolution on transitional arrangements from the voluntary to the mandatory scheme.



The total loss of two bulk carriers in 2013 highlighted the importance of proper cargo handling and stowage of bulk cargoes

Photo: Shutterstock

Liquefaction moves

While holistic safety regulations are to be welcomed, some cargoes present particular challenges for the shipping industry and require unique handling. In this respect, the total loss of two bulk carriers in 2013 highlighted the importance of **proper cargo handling** and **stowage of bulk cargoes**.

On February 17, 2013, the 1983-built, 48,891 dwt **Harita Bauxite** sank off Cape Balinao in the South China Sea carrying 47,450 metric tons of nickel ore – 15 of her 24 crewmembers were killed. Then, the 2012-built, 56,824 dwt **Trans Summer** was on route from Indonesia to China with a cargo of nickel ore when it sank on August 14, 2013. While casualty reports have not been released for either incident, AGCS experts believe high moisture content and subsequent liquidization, leading to free-flowing instability of the cargo to be the primary cause of the accidents.



What is liquefaction?

All bulk ore and concentrate cargoes are likely to have some moisture content. However if the moisture content of the cargo reaches a specific level, known as the flow moisture point (FMP), the frictional force will be lost and the cargo will behave as if it were a liquid. In these circumstances it will flow freely. As a result of liquefaction, carrying vessels may suddenly lose stability, and take on a list or even capsize.

Source:
www.martindale.com

Dr. Sven Gerhard, Global Product Leader Hull & Marine Liabilities, AGCS, explains that the large loss potential of such an event is significant. “A brand new bulk carrier could be insured for \$20m; an even larger bulker could be \$40m. P&I Clubs have tried to make owners and shippers aware of the risks and to promote efficient mitigation methods but time is money and commercial pressures are great.”

Efforts are underway at the IMO to strengthen the International Maritime Solid Bulk Code (IMSBC), which regulates the loading and transport of bulk cargoes. The IMO Sub-Committee on Carriage of Cargoes and Containers (CCC) – formerly the Sub-Committee on Dangerous Goods, Solid Cargoes and Containers (DSC) – adopted an amendment with a nickel ore schedule and draft guidelines to the IMSBC at its meeting in September 2013. It entered into force on a voluntary basis from January 1, 2014 and becomes mandatory from January 1, 2015ⁱⁱ.

Recognizing the risk of liquefaction in other cargoes, the CCC also agreed to a revised schedule for iron ore, intended to address the dangers relating to liquefaction of iron ore finesⁱⁱⁱ. The sub-committee also agreed draft amendments to Appendix 2 to the IMSBC Code for the inclusion of a new test procedure for determining the transportable moisture limit (TML) for iron ore fines. A draft DSC circular on early implementation of the amendment was also agreed, which invites countries that have ratified SOLAS to implement the draft schedules ahead of the expected date of entry into force of the IMSBC amendments (January 1, 2017).

There is particular concern that incidents of liquefaction are centered on specific trades from Indonesia to China. Singapore-based Captain Jarek Klimczak, Master Mariner and Senior Marine Risk Consultant at AGCS, believes that there is **an issue of quality and standards**: “While the IMO sets the regulation, each shipper must provide the information on the moisture content of the cargo. So the regulations are there, but, in some cases, they are not always applied in Indonesia due to instances of corruption and bureaucracy. While the quality carriers will refuse to carry this cargo and quality insurance companies will refuse to insure this cargo, some smaller owners may decide to do so.”

Tim Donney, Global Head Marine Risk Consulting, AGCS says one problem with cargoes that have a liquefaction factor is that many of the loading ports for bulk cargo are in areas that have a wet climate. They are often public terminals with limited experience on the proper handling and monitoring of these types of cargoes.

“A lesser risk would be a terminal that is dedicated to the handling of a specific bulk product; then you have people at the terminal that understand the risk better and have tighter controls and procedures. Also, they’re not under as much time pressure to get ships loaded as a public terminal with a backlog of ships waiting for dock space,” he says.

Container crackdown

The container handling sector has also been the subject of safety improvements, specifically to tackle the growing concern around **container weight misdeclaration and misrepresentation**. Inaccurate container weights have an implication on safe transportation by road, rail and sea as working limits of machinery can be compromised by overloaded containers. A cross-industry debate was encouraged by the IMO in 2013, which led to agreed amendments to SOLAS Chapter VI to require verification of gross weight of containers. The proposed changes to SOLAS require verification of container weights before loaded containers are placed aboard ships through one of two accepted methods: weighing of boxes before they are loaded or calculating overall weight through addition of the weights of the constituent parts of a loaded container.

Senior Risk Consultant, Marine, AGCS, Captain Rahul Khanna explains why the accurate declaration of the contents of containers is an issue. "For shipping and marine, a ship-owner or master has absolutely no control on what's inside the container, how it's packed and its declaration; it's the responsibility of the shipper to accurately declare the contents."



Safe working limits of machinery can be compromised by overloaded containers

Photo: Shutterstock

Recognizing this, the IMO, the International Labour Organization and the United Nations Economic Commission for Europe have been jointly working on a new Code of Practice for Packing of Cargo Transport Units (CTUs). The voluntary code aims to clarify responsibilities on packing for everyone involved in the chain. "This is a very welcome addition to the IMO technical publications

because it gives detailed calculations, procedures and methods of handling packing of cargo in containers and how the cargo inside the container is affected by external forces. It also takes into account the road and rail legs of the journey," says Khanna.

Passenger ship quality issues

Improving passenger ship safety continues to be a focus of attention for the IMO and the industry at large, with a particular focus on services in Asia. In 2013, a passenger ship casualty in the Philippines raised safety concerns for smaller passenger ships operating in the region. After a collision with the 1984-built, 11,464 dwt cargo ship **Sulpicio Express** on August 16, the Philippine-registered 1972-built ferry **St Thomas of Aquinas** sank with the loss of at least 116 lives. The incident has led to concerns that not all regional ferries meet the IMO's SOLAS and Stockholm standards, both of which were adopted in response to the **Herald of Free Enterprise** and **Estonia** passenger ship disasters.

AGCS's Klimczak believes that the biggest problem with ferry safety in Asia is quality. "The Thomas Aquinas was built in 1972 – so quite an old vessel – and was under Philippines class. Standards of local class in these areas are completely different to international classification standards. We have to ask how some Asian operators measure safety and quality, particularly when speaking about domestic trade shipping in South East Asia. The understanding of quality and standards in parts of South East Asia can sometimes appear 50 years behind Europe – maybe even more – and it is difficult to find a solution unless IMO is involved."

"Understanding of quality and standards in parts of South East Asia sometimes appears 50 years behind Europe"

Structural challenges

While the loss of any ship is distressing, the rapid sinking of the containership **MOL Comfort** (pictured below) off Yemen in June 2013 was particularly poignant. The Bahamas-flagged, 2008-built, 90,613 dwt container ship broke in two and both parts of the ship sank in bad weather 200 nautical miles off the coast in deep water. The crew was rescued but the total loss means that ascertaining the cause of the incident is extremely difficult. A primary report from classification society ClassNK revealed that the fracture started at the bottom of the vessel which could imply a structural weakness in the hull. The effects of whipping and slamming – or water impact loads – on the ship have also been studied. On the back of this, ClassNK requested that all crews on its ships undertake physical inspections of these areas above and beyond what is normally done. Sister ships of the MOL Comfort were all inspected from a structural point of view and strengthened where appropriate^{iv}.

“Misdeclared cargo and overweight containers are still a problem in the maritime industry”

“The other question is whether the ship could have been improperly loaded,” says Donney. “They should be able to resurrect those records, but were the container weights accurate? Misdeclared cargo and overweight containers are still a problem in the maritime industry.”



Photo: gcaptain.com

Baltic Ace keeps focus on ro-ro safety



The sinking of another Bahamian-flagged ship at the end of 2012 also kept the spotlight on ro-ro safety. The 2007-built car carrier *Baltic Ace* (pictured) collided with the Cyprus-registered container ship *Corvus J* on December 5, 2012 and subsequently sank in the North Sea. Carrying a cargo of 1,400 cars, the collision occurred south of Rotterdam in one of the world’s busiest shipping lanes. Thirteen of the crew were rescued but five were confirmed dead and a further six missing and presumed dead.

The rapid loss of the ship has raised questions on the safety of ro-ro ships, which by design have large open decks where relatively small water ingress can have a serious impact on the stability of the ship. An investigation of the casualty, led by flag state, the Bahamas Maritime Authority is underway.

40%

Percentage of hull insurance claims caused by machinery damage

Technical test

Notwithstanding the structural concerns surrounding the MOL Comfort loss, **machinery damage** continues to be the cause of the majority of losses in marine insurance, and insurers expect that this dominance is only likely to increase further with the wider use of low-sulfur fuels. Statistics from the International Union of Marine Insurance (IUMI) report that 40% of hull claims by number are machinery damage, accounting for 20% of costs⁴. Posing the greatest threat to engines, **cat fines** are a by-product of refining made up of small particles of metal. These are deliberately added to marine fuels to “crack” them. If they are not removed by purification they can find their way into engine parts causing serious damage and in the most extreme cases, lead to engine failure. Marine fuel has long been filtered onboard ships; however the fear is that a lack of knowledge on proper handling for the grades of fuel available today is leading to increased engine issues as a direct result of fuel damage.



What are cat fines?

Cat or catalyst fines are hard, ceramic compounds of aluminium and silicon which are used in the crude oil refining process

The **growing use of low sulfur fuels** as a result of stricter international legislation on sulfur limits of fuels burnt on ships is exacerbating the problem. As these require additional refining, more cat fines are present in the fuel and once a cat fine finds its way into engine parts, it is very difficult to dislodge.

There are a number of steps that can be taken to reduce the scale of the problem including sampling and testing of fuel before use, regular cleaning of filters, cleaning of settling and service tanks during dry dock, and better monitoring of the fuel treatment efficiency.

“The fear is that we will see more and more cat fines problems and more damaged engines. In extreme cases the main engine might have to be stopped which could lead to a problem in a close quarter situation, maybe even a collision or grounding”



Lack of knowledge on proper handling for the grades of fuel available today is leading to increased engine issues

Photo: Shutterstock

“The fear is that we will see more and more cat fines problems and more damaged engines,” says Khanna. “In extreme cases the main engine might have to be stopped which could lead to a problem in a close quarter situation, maybe even a collision or grounding,” he says.

“One of the problems has been the acceptable limit of cat fines in the fuel as set by ISO, and accepted by IMO, is quite high at 60mg. The engine manufacturers are saying that as much as 15mg-20mg of cat fines in the fuel could be enough to cause damage to the engine. How to reduce this gap is a huge concern to the IMO at the moment. Higher amounts of cat fines can be dealt with by experienced and competent engineers on board the ships but a lack of such engineers and **lack of training and awareness** is also adding to the problem.”

Having first highlighted the need for additional research into the damaging effect of cat fines in low sulfur fuels in 2011, IUMI met with the International Association of Classification Societies (IACS) Machinery Panel in September 2013. The panel reported that possible amendments with respect to facilities provided for

handling the fuel on board was still on their agenda for consideration. Guidelines have also been issued by the Joint Hull Committee explaining simple ways and means of dealing with the problem, mainly revolving around training and awareness of the crew in how to handle cat fines.

Salvage evolution after *Costa Concordia*

With fears mounting on the increased risk of engine failure due to cat fines, the challenges of salvage for increasingly bigger ships remains. Here, the marine salvage industry was put through its paces in 2013 when it embarked on the parbuckling of the grounded cruise ship *Costa Concordia* off the coast of Italy.

The *Costa Concordia* wreck presented the industry's largest salvage operation to date and highlighted the concerns around the removal of today's largest casualties. "The salvage of the *Costa Concordia* was the largest maritime salvage operation ever undertaken. It was an undertaking like we have never seen before and was a job very well done," says Global Head, Marine Risk Consulting, AGCS, Tim Donney.

"The *Costa Concordia* parbuckling has shown that the capacity is there to remove even larger vessels from challenging parts of the world. From a wreck removal perspective size is not an issue, but it can increase the cost quite significantly," adds Dr. Sven Gerhard, Global Product Leader Hull & Marine Liabilities, AGCS.

However, while the parbuckling exercise was successful, the same approach cannot always be used as each salvage operation for larger ships is unique to the incident, location, condition of the ship and other factors. Cost can also be prohibitive: "According to reports, total cost of the salvage of the *Costa Concordia* will probably exceed **\$2bn** with the loss of the hull (value of the ship), the cost of wreck removal, third party P&I claims, oil spill containment costs and environmental damage assessments. Not to mention the deaths of passengers and those liabilities," says Donney.

There is particular concern on the **salvage limitations** for the latest generation of container ships, and for the larger versions expected in the medium term. "The sheer timescale of getting to the ships and getting the containers off is staggering (in some cases it may take many months, or possibly a year or longer if the location is remote). These are uncharted waters for salvors. I know that a few salvors are actively discussing what equipment and procedures they would need. Some are going back to the drawing board," adds Senior Risk Consultant, Marine, AGCS, Captain Rahul Khanna.



Source: Titan Salvage

Pollution control

Hand-in-hand with casualties and related salvage operations is the threat of pollution either through leaked bunker fuel or cargo. Prevention of oil pollution in US waters has long been a priority for the American government, a priority which was strengthened in 2013 by the publication of a new ruling. On September 30, 2013, the US Coast Guard published the “Nontank Vessel Response Plans and Other Response Plan Requirements” final rule, implementing the statutory requirement for an owner or operator of self-propelled vessels of 400 gross tons or greater operating on the navigable waters of the US, and carrying oil of any kind as fuel for main propulsion, to submit an oil spill response plan to the US Coast Guard.

The response plan requires operators to “plan for responding to a worst-case discharge and a substantial threat of such a discharge”^{vi}. The rule became effective on October 30, 2013.

While AGCS’ Gerhard believes that the ruling is not too onerous for owners from a safety perspective, there are issues around the contracting limitations of the requirement. “There is a concern that there is a monopoly

being created as you can only contract with those providers approved by the US Coast Guard, of which there are a very limited number. It might take away the steering of a casualty from ship-owners and insurers towards the US authority.”

Donney adds: “Initially when the US started creating national response requirements many states had their own requirements above and beyond the federal requirements, but the courts decided the federal regulations would supersede these and that the US Coast Guard would ultimately have the authority.

“It’s a fact of life for US operators, even for those that only carry hazardous substances as fuel, and not cargo. Now these regulations are being extended to any foreign ships entering US waters. An international standard would probably be better; each country having their own environmental protection requirements for ships entering their waters certainly makes it difficult for global operators to be in compliance with all the regulations and produce oil spill response plans for all countries worldwide that their vessels might enter.”

Adequacy of fire-fighting capacity on board large container ships called into question

Another safety challenge can be seen in the form of the fire-fighting capacity of larger ships. Specifically, the adequacy of fire-fighting capacity on board large container ships has come into question. In one incident in 2013, the 2010-built *Zim Rotterdam* (pictured right of image) made an unscheduled call at the UK’S London Gateway to offload cargo and undergo unspecified maintenance.

The ship was scheduled to call at Felixstowe to discharge cargo but a fire on the previous journey had made maintenance necessary.

IUMI has noted that “insufficient fire-fighting capacity on board large container vessels is posing a challenge that is only increasing with larger vessels”. In recognition of the growing problem, in June 2013, the IMO’s MSC approved, for future adoption, draft amendments to SOLAS regulation II-2/10, concerning fire protection requirements for on-deck cargo areas for new ships. Final approval is expected at MSC 93 in May 2014*.

*Source: (CURRENT ISSUES – IUMI POLITICAL FORUM, published 28 October 2013, <http://www.iumi.com/committees/political-forum>)



In the pipeline

An increasingly difficult operating climate for ship operators has forced a number of innovations, not least in growing ship sizes to take advantage of economies of scale, in the use of alternative fuels and in ship designs, all of which are resulting in new risks. And while potentially more economical trading routes are fast appearing in Arctic regions, other areas of the world are becoming less attractive as piracy hotspots shift from the Gulf of Aden.



The largest container ship in the world, the Maersk Mc-Kinney Møller. Capacity of container ships grows by 30% every four to five years creating challenges for insurers

Photo: Shutterstock

Ship size issues

Last year's deliveries and subsequent entry-into-service of the largest container ships ever built had been eagerly anticipated: **the launch of Mærsk's Triple-E class** in June 2013 came with a container carrying capacity of **18,000 teu**. The arrival of "mega ships" is accompanied by fears of increased insurance cost, increased risk, concerns over salvage difficulties and safety concerns.

Yet 18,000 teu is not expected to be the cap on container ship sizes; indeed, research anticipates the arrival of **24,000** teu ships by 2018. This continued growth offers challenges for insurers.

By way of comparison in 2008 the largest vessel accommodated 14,000 teu, resulting in an average insured cargo value of approximately **\$280m**, based on an average value of \$20,000 per teu. In 2013, an 18,000-plus teu vessel resulted in an approximate insured cargo value of **\$365m**. AGCS calculates that capacity grows by around **30%** every four to five years, meaning the arrival of 24,000 teu carriers can be anticipated around 2018,

"The large loss potential has increased for events which are not extraordinary on these big ships"

\$700m

Insured value of fully-loaded 24,000 teu container ship, arrival anticipated in 2018

taking the insured cargo value up to **\$480m**. This, in conjunction, with the vessel value, could push the total exposure of one fully-loaded 24,000 teu container ship over \$700m.

AGCS's Gerhard points to an incident with the 15,000-plus teu **Emma Mærsk** in 2013 as an indicator of the issues these larger ships could face in the future. The Mærsk ship suffered propeller damage and subsequent water ingress in February while transiting the Suez Canal. Concerns were raised that the ship would sink, but she was able to make an unscheduled stop at a port to unload her cargo.

"A minor incident can really cause a major general average claim on these ships. Port infrastructure to load and unload such vessels is very limited, there are perhaps eight or nine ports in the world where the Emma Maersk can be unloaded and I doubt this will grow beyond say 16 in the next five to seven years," he says. "The large loss potential has increased for events which are not extraordinary on these big ships."

Growth of container ship size and insured vessel values



Fully cellular (1970-) 1,000 -2,500 teu 215x20x10m - **\$8m to \$12m**



Panamax (1980-) 3,000 – 3,400 teu 250x32x12.5m - **\$62m**



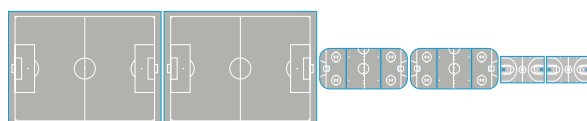
Post Panamax (1988) 4,000 – 5,000 teu 285x40x13m - **\$49m**



Post Panamax Plus (2000) 6,000 – 8,000 teu 300x43x14.5m - **\$98m**



Triple E (2013) 18,000 teu 400x59x15.5m - **\$140m**



The **Triple E** is equivalent to the length of 2 football fields, 2 ice hockey rinks and 2 basketball courts combined

Adapted with permission from The Geography of Transport Systems, Jean-Paul Rodrigue

Insured vessel values: AGCS
Insured vessel values are approximate. Based on value on entering the fleet.
Allow +/- 10% variance

Cargo values not included

Places of refuge

As very few ports in the world have the necessary infrastructure to handle the Triple E series they have to restrict the number of containers that can be loaded for some calls. While ports are working to improve handling capacity, this issue gives cause for wider concern on the number of ports able to offer a safe place of refuge to a ship of this size in distress.

161

Number of container ships in the Very Large Container Ship (VLCS) class (more than 10,000 teu), as of December 2012

The current practice concerning **places of refuge** is a concern to insurers and while regulation exists to require states to offer a place of refuge, these are not being applied in all cases^{vii}. In response to the concerns, the European Commission created a Cooperation Group on Places of Refuge which met for the first time on March 15, 2013 and is charged with assessing the need to improve existing legislation.

On an international level, there are currently two IMO resolutions in place addressing the issue of places of refuge for ships in distress: Resolution A.949(23) "Guidelines on places of refuge for ships in need of assistance" are for use when a ship is in need of assistance but the safety of life is not involved; and Resolution, A.950(23) Maritime Assistance Services, which recommends that all coastal states should establish a maritime assistance service to monitor a ship's situation, to act as a point of contact in the event of

51

Ports in the world that can accommodate them



Singapore is one of the few ports that has the necessary infrastructure to handle the Triple E series

Photo: Shutterstock

“The system we have at present where the ship in distress gets handed to different authorities if it drifts from one EEZ to the next is not the right way to deal with large vessels who present a risk of large environmental claims and large financial liabilities”

an emergency, and to receive reports, consultations and notifications required in a number of IMO instruments. The issue is particularly acute in regions where a number of countries border a body of water used for shipping, such as in European Union waters.

“The current place of refuge regime and regulation is not fully appropriate to cope with the risk that these larger vessels present,” says AGCS’s Gerhard.

“What we have observed is as soon as the vessel transits from one **Exclusive Economic Zone (EEZ)** to another a new regime gets involved and every coastal state has a different regime and various authorities that have something to say.”

In this respect Gerhard refers to the UK’s approach to the jurisdictional problem. “The UK has had the Secretary of States Representative for Maritime Salvage and Intervention (SOSREP) regime since 1999 which gives one authority the power to decide how to proceed with a large casualty. This has been extremely successful and the model is worth studying to see if this system could be established on a European level in a similar way.

“The system we have at present where the ship in distress gets handed to different authorities if it drifts from one EEZ to the next is not the right way to deal with large vessels who present a risk of large environmental claims and large financial liabilities.”

New fuels pose increasing safety questions

The demand for larger ships is in part related to the operational savings that they offer and this drive for ever-greater efficiencies and cost savings, in tandem with a strict regulatory environment, has led to a rise in demand for “greener” fuels.

Bio-fuels, hydrogen, compressed natural gas and **liquefied natural gas (LNG)** all offer viable solutions to power the global shipping fleet. Of these fuels, **LNG** has captured the imagination of shipping lines. Last year *Bloomberg* reported the global fleet of 42 LNG-powered ships will almost triple by 2014 and increase 42-fold to almost 1,800 vessels by 2020, according to DNV GL, the largest company certifying the merchant fleet for safety.

Re-fueling of these ships is expected to take place at ports and some European and Asian ports are already preparing themselves to supply LNG. There are safety concerns with this move, however, as the industry will see the rise of ports that have never previously handled LNG providing bunkering stations on dock.

Experts question whether this shift might compromise the unblemished safety record of LNG. “We need to ask what risks LNG-fueled ships will present to the industry,” says Khanna. “The technology itself is not new; the concern is storing the LNG as fuel and handling it onboard. LNG expertise is not easily available – there needs to be a change in mindset and training.”



A LNG carrier. LNG-fueled ships will present new risks to the industry

Photo: Shutterstock

The Lloyd’s Market’s Joint Hull Committee has nominated a committee to find out more about the risks associated with LNG as a fuel, which will complement research already completed, including the creation of a code by classification societies on gas-fueled ships.

“The industry was well equipped to handle a few ships here and there, but when this starts to become a common choice of fueling ships then that changes the game a little bit,” says Khanna. “We are not too late, but this is the right time to start considering the challenges and putting things in place to meet them. An even bigger challenge is how do you actually bunker a ship with LNG? How do you deal with LNG ashore? It is not something that can be easily handled; it requires specialization, technical expertise and know-how.”

“An even bigger challenge is how do you actually bunker a ship with LNG? How do you deal with LNG ashore? It is not something that can be easily handled; it requires specialization, technical expertise and know-how”

45

Average number of casualties in Arctic Circle waters per year between 2009 and 2013

Arctic aspirations

While innovative designs and alternative fuels can help improve profitability, potential new trading routes offering reduced passages further boost savings. One area that is being keenly watched in this respect is the Arctic, but an interest in the opening up of trade routes in this region as the permanent ice pack recedes brings with it environmental protection concerns, salvage restrictions, navigation complications and operations in freezing conditions.

According to the IMO, there has been a tenfold increase in the number of vessels using the Northern Sea route during recent years, with 46 ships recorded in 2012, compared with 34 in 2011 and only four in 2010^{viii}.

Latest figures show 71 large ships, working mostly with Russian icebreakers, navigated the route in 2013 but Russia expects a 30-fold increase in shipping by 2020 and ice-free water over most of its length by 2050. Meanwhile, think tank, the Arctic Institute notes that the polar research institute of China has suggested that, by the year 2020, 5% to 15% of China's trade value – about \$500bn – could pass through the Arctic^{ix}.

Development of logistics, supplies and infrastructure, special qualifications for ships' officers and the provisions of adequate ice-breaking capacity all need consideration in such a remote area, as do rescue and salvage operations.

Navigational technology in the high north is constrained as GPS is not dependable at that latitude. Also, there is currently **a lack of good charts, communication systems and other navigational aids**, all of which pose challenges for mariners.

Indeed, shipping casualties in Arctic waters have increased to an average of 45 per year during 2009-2013 from only seven during 2002-2007. Damage to machinery

caused a third of these incidents, higher than the average elsewhere, reflecting the harsher operating environment.

There are additional issues related to territorial waters in the Arctic which has led to worry over the degree and nature of the responsibility borne by coastal states for the maintenance and support needed for Arctic navigation; the implementation of the relevant provisions of the United Nations Convention on the Law of the Sea (UNCLOS) and other measures; the potential for offshore exploration; and the protection of the unique marine environment in the Arctic Ocean.

In recognition of the shift in traffic to these inhospitable regions, the IMO has been proactively working to establish a Polar Code.

This draft international code of safety for ships operating in polar waters will cover the full range of design, construction, equipment, operational, training, search and rescue and environmental protection matters relevant to ships operating in the inhospitable waters surrounding the two poles.

It is the combination of relevant requirements, provisions and recommendations that have been developed by the IMO over the years^x. Currently, maritime activity in the Polar regions is covered by four legislations: Marpol, providing the mandatory level environmental protection with zero discharge requirements for Antarctica; STCW, giving guidance and recommendations for training and competency of officers and masters on ships in polar regions; SOLAS, detailing safety requirements applicable to all ships which are subject to the Convention and operating in polar regions; and UNCLOS, offering the legal framework governing the rights and responsibilities of nations in their use of ocean space.

A working group aims to finalize the draft code in 2014 for adoption by the IMO's MSC and the Marine Environment Protection Committee (MEPC). "The Polar Code will be the first unified, comprehensive standard for all operators in the Arctic," adds AGCS's Gerhard.

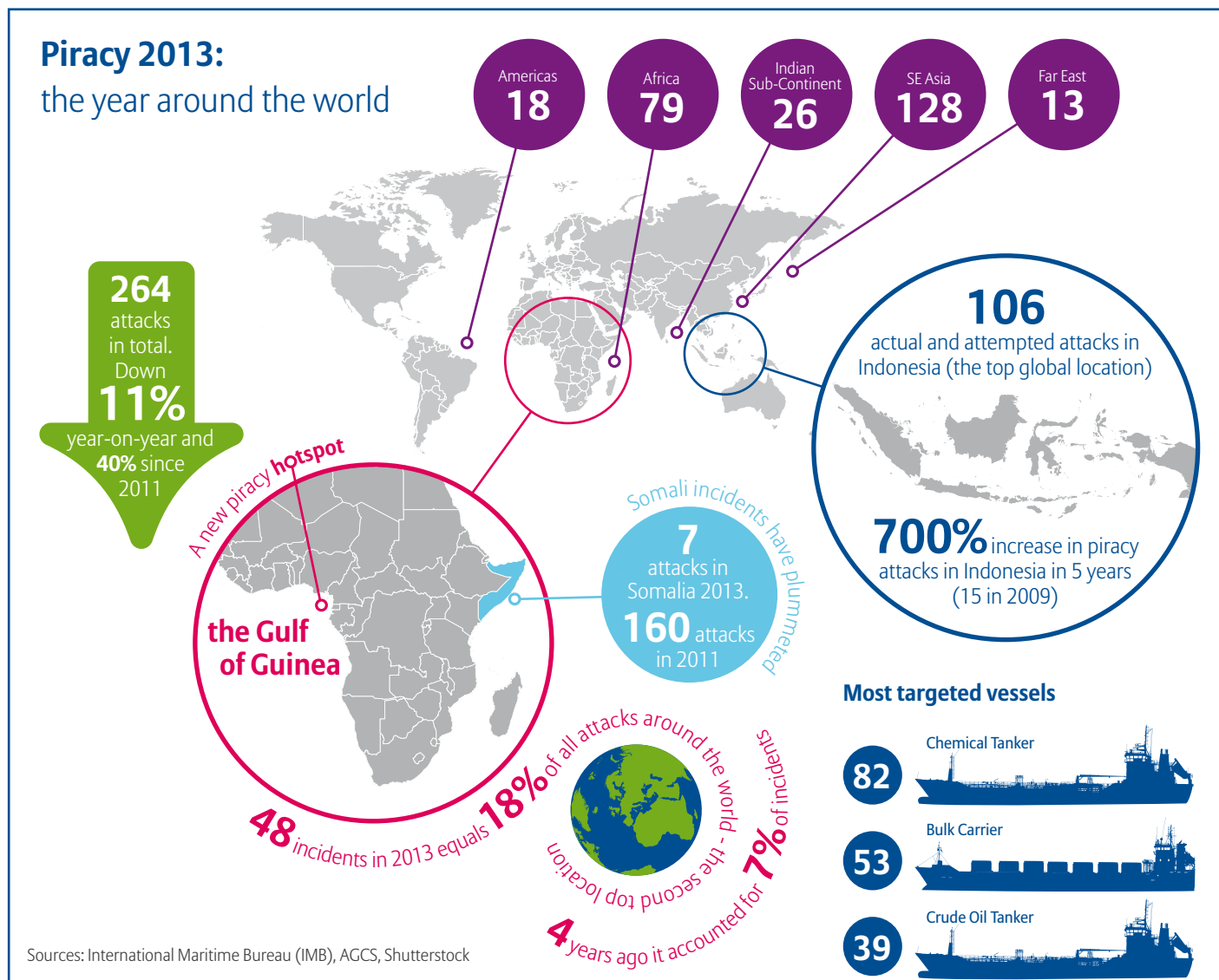
7

Average number of casualties in Arctic Circle waters per year between 2002 and 2007



Opening up trade routes in polar regions brings navigation complications and environmental protection concerns

Photo: World Shipping Council



Piracy down but focus shifts to Gulf of Guinea

Meanwhile, the very real threat of piracy for ships operating in the Gulf of Aden reached the general public last year as the Hollywood Oscar-nominated blockbuster *Captain Phillips* was released. Tom Hanks played the lead as the master of the pirated- **Mærsk Alabama**, broadcasting the piracy problem to a much wider audience and raising awareness of its consequences.

The steps that the international maritime community has taken to reduce the threat of piracy in the **Gulf of Aden** have been extremely successful with the number of ships seized and hostages taken in 2013 significantly down on 2012. According to the IMB, piracy at sea has reached its lowest levels in six years, with **264** attacks recorded worldwide in 2013, a **40%** drop since Somali piracy peaked in 2011. Fifteen incidents were reported off Somalia in 2013, including Gulf of Aden and Red Sea incidents, down from 75 in 2012, and 237 in 2011 (including attacks attributed to Somali pirates in Gulf of Aden, Red Sea and Oman).

However, while the number of incidents in this region has decreased, piracy attacks elsewhere have increased in frequency, notably **Indonesia** (see above) and off the west coast of Africa.

Most of these Indonesian attacks remain local, low level opportunistic thefts carried out by small bands of individuals but one third of incidents in these waters were reported in the last quarter of 2013, and there is potential for such attacks to escalate into a more organized piracy model unless they are controlled.

The **Gulf of Guinea** region accounted for **48** of the 264 incidents in 2013. Of these Nigerian pirates and armed robbers were responsible for 31 incidents, including two hijackings, 13 vessels boarded and 13 vessels fired upon. One crew member was killed and 36 kidnapped – the highest number of Nigerian kidnappings for five years, according to the IMB.

The IMO has turned its focus to this region in an attempt to emulate the success in reducing piracy incidents in the Gulf of Aden.

But different piracy operating models will make the task challenging as AGCS's Donney explains. "For example, in **Indonesia** and the **Strait of Malacca**, the modus operandi isn't to kidnap; these pirates just want the cash aboard the vessel or to rob the crew of any valuables. It's a different situation to **Somalia** and **Nigeria**."

"In Somalia, the model is to capture the ship and hold the crew for ransom. While in the Gulf of Guinea, the model seems to be kidnapping crew members off the ship and holding them for ransom and, in some cases, rebel groups simply attack and try to destroy a ship, particularly oil tankers who are seen as "stealing" the nation's wealth.

"Naval warships patrolling the waters and ships carrying armed security contractors, has done a lot to mitigate piracy in the Gulf of Aden. But in the Gulf of Guinea, only the Nigerian navy can provide security services, which is proving to be ineffective."

Piracy model could be broken in Somalia in "couple of years" if navies stay put

While there has been a significant drop in the number of reported piracy attacks worldwide since 2012 – due in large part to the dramatic reduction in Somali incidents, which accounted for over 50% of the attacks over the previous four years – the threat still remains.

Crews should continue to be vigilant and to enforce all self-protection measures, the International Chamber of Commerce's International Maritime Bureau (IMB) tells *Safety and Shipping Review* 2014.

"We are not yet in a period where we can say that piracy has gone away. It would take just one successful hijacking for the whole situation to quickly turn," it says.

"The invaluable work done by navies around the **Horn of Africa** is a key reason for the reduction in piracy attacks off Somalia. They have been able to use aerial surveillance and interdict pirate mother ships before they can get into a position where they threaten shipping. They can also arrest and detain people on these vessels which cannot be done in any other way.

"Therefore, it is absolutely vital that the international naval vessels remain in the Gulf of Aden; they play a role that no one else can perform. Everything that has been gained over the past few years will quickly be whittled away if governments decide to move their navies away from that area. In a couple of years we could well have broken the piracy model in Somalia and that would be the time to think about this, but not before," the IMB adds.

Actions taken by vessels themselves following the "Best Management Practices" and more determined resistance to approaches by small boats have also helped, the IMB says, as has an increase in private armed security professionals on board vessels.

Changes ashore in Somalia have played a part too. Although the crime happens at sea, the root causes of piracy are ashore. Since September 2012, there has been a central government in Mogadishu. This has had a stabilising influence which has led to the local coastal communities rejecting pirates. Without the support of these communities, this form of piracy cannot take place.



As AGCS’s Khanna acknowledges: “It’s an area of concern as we knew what worked in Aden, and we are hoping that we do not have to start again in Nigeria.”

A significant challenge in the Gulf of Guinea is that there are a number of states that need to be engaged to really confront piracy. In recognition of this, in 2013, 22 states signed a code of conduct concerning the prevention of piracy, armed robbery against ships and illicit maritime activity in west and central Africa. It was adopted formally by a heads of state meeting in Yaoundé, Cameroon in June^{xi}.

The code requires signatories to assist in the prevention of piracy, organized crime, terrorism, illegal fishing and other illegal activities at sea and builds on the successful Djibouti Code of Conduct, covering the repression of piracy and armed robbery against ships in the Western Indian Ocean and the Gulf of Aden.

The IMO has also called on countries to contribute to a multi-donor trust fund to be established by the IMO for the implementation of IMO projects for maritime

security in western and central Africa^{xii}. Additionally, after a successful pilot in Ghana in August 2012, in 2013 the IMO pushed ahead with its “**table-top exercises**” which determine procedures and responsibilities through a number of evolving risk scenarios.

These discussions aim to develop and promote “a multi-agency, whole of government approach to maritime security and maritime law enforcement issues in states throughout the region”^{xiii}. The IMO also issued guidelines on best practice in the Gulf of Guinea as a supplement to its “Best Management Practices for Protection against Somali-Based Piracy” (BMP4).

“To tackle piracy in the Gulf of Guinea, we need better co-ordination and sharing of information between coastal states. Unlike Somalia, there is no failed state in the Gulf of Guinea; all the states are functioning entities. These states need to be determined and take action to wipe out piracy,” the IMB says.

Key risks to the future safety of shipping

- | | |
|----------------------------|---|
| Eco ships | Poor monitoring and enforcement of regulation |
| Alternative fuels | Complacency |
| Piracy | Reduced crewing numbers |
| Places of refuge | Crew fatigue |
| Increasing ship sizes | Poor communications |
| Ice shipping | Operational pressures |
| Cargo handling and stowage | Inspections |
| Salvage | Bureaucracy onboard |
| Cat fines | |

Human error

- Over-dependence on technology
- Lack of skilled workforce
- Non-standardized training



Source: Titan Salvage

“Human error is not something we can ignore; a lack of skilled workforce is still an issue”

References

- * BBC Radio 4's Today Programme 27 February 2014
 - i** <http://www.imo.org/MediaCentre/PressBriefings/Pages/25-MS-C-92outcome.aspx>
 - ii** http://www.gl-group.com/pdf/DSC_18_GL_Focus_News.pdf
 - iii** <http://www.imo.org/MediaCentre/MeetingSummaries/DSC/Pages/DSC-18.aspx>
 - iv** https://www.classnk.or.jp/hp/en/hp_news.aspx?id=622&type=press_release&layout=1
 - v** CURRENT ISSUES – IUMI POLITICAL FORUM, published 28 October 2013, <http://www.iumi.com/committees/political-forum>
 - vi** <http://www.regulations.gov/#!documentDetail;D=USCG-2008-1070-0049>
- Box source on pg 21 CURRENT ISSUES – IUMI POLITICAL FORUM, published 28 October 2013, <http://www.iumi.com/committees/political-forum>
- vii** CURRENT ISSUES – IUMI POLITICAL FORUM, published 28 October 2013, <http://www.iumi.com/committees/political-forum>
 - viii** <http://www.imo.org/MediaCentre/PressBriefings/Pages/37-arctic-voyage.aspx>
 - ix** The Guardian.com 1 February 2014 Russian Arctic city hopes to cash in
 - x** <http://www.imo.org/MediaCentre/HotTopics/polar/Pages/default.aspx>
 - xi** <http://www.imo.org/MediaCentre/PressBriefings/Pages/23-westandcentralafricacode.aspx>
 - xii** <http://www.imo.org/OurWork/Security/WestAfrica/Pages/WestAfrica.aspx>
 - xiii** <http://www.imo.org/OurWork/Security/WestAfrica/Pages/WestAfrica.aspx>

Data & sources

The primary data source for total loss and casualty statistics is Lloyd's List Intelligence Casualty Statistics (data run January 23, 2014). Total losses are defined as actual total losses or constructive total losses recorded for vessels of 100 gross tons or over (excluding for example pleasure craft and smaller vessels) as at the time of the analysis.

Some losses may be unreported at this time, and as a result, losses (especially for the most recent period) can be expected to increase as late loss reports are made. As a result, this report does not provide a comprehensive analysis of all maritime accidents, due to the large number of minor incidents, which do not result in a "total loss" and to some casualties which may not be reported in this database.

This year's study analyzes reported shipping losses on a January 1 to December 31 basis, as opposed to the 2013 study, which analyzed reported shipping losses during the 12 months prior to November 25, 2012.

All \$ US unless stated.

Disclaimer & Copyright

Copyright © 2014 Allianz Global Corporate & Specialty SE. All rights reserved.

The material contained in this publication is designed to provide general information only. Whilst every effort has been made to ensure that the information provided is accurate, this information is provided without any representation or warranty of any kind about its accuracy and Allianz Global Corporate & Specialty SE cannot be held responsible for any mistakes or omissions.

Allianz Global Corporate & Specialty SE Fritz-Schaeffer-Strasse 9, 81737 Munich, Germany
Commercial Register: Munich, HRB 208312

www.agcs.allianz.com

March 2014

Contact Us

For more information, please contact your local Allianz Global Corporate & Specialty Communications team.

London

Jonathan Tilburn
Jonathan.tilburn@allianz.com
+44 203 451 3128

Paris

Florence Claret
Florence.claret@allianz.com
+33 158 858863

Singapore

Wendy Koh
wendy.koh@allianz.com
+65 6395 3796

Munich

Bettina Sattler
Bettina.sattler@allianz.com
+49 89 3800 14303

New York

Annika Schuenemann
+1 646 472 1580
annika.schuenemann@agcs.allianz.com

Follow AGCS on Twitter  [@AGCS_Insurance](https://twitter.com/AGCS_Insurance)

www.agcs.allianz.com

Credits

Editor: Greg Dobie
Journalist: Carly Fields
Design: Mediadesign
Cover image: gcaptain.com

Additional Image Credits: P16 - Shutterstock; P19: www.dnvusa.com; P21: Wikimedia Commons; P28: Shutterstock

