Seminar on Reinsurance

June 8–9, 2021 • Virtual Event

Black Swans on the High Seas - Challenges and Opportunities in the Marine Market

Brian C. Stroop
Head of U.S., Global Marine & Energy Specialty
Guy Carpenter

Sean M. Dalton, CPCU, AMIM
Head of Marine, North America
Munich Reinsurance America, Inc.

June 9, 2021

EVER GIVEN

Agenda

- Marine Insurance - A Quick History
- Marine Lines of Business
- Overview of Ocean Marine Market and Results
- Large and More Complex Losses
- Challenges
- Opportunities
- Additional Resources

Marine Insurance
A Quick History

Marine (Re)Insurance Beginnings

Marine insurance was the earliest well-developed kind of insurance, with origins in the Greek and Roman marine loan. Separate marine insurance contracts were developed in Genoa and other Italian cities in the fourteenth century and spread to northern Europe.

By the end of the seventeenth century, **London's growing importance as a center for trade** was increasing demand for marine insurance. In the late 1680s, Edward Lloyd opened a coffee house on Tower Street in London.

Lloyd's Coffee House was the first marine insurance market. It became the meeting place for parties in the shipping industry wishing to insure cargoes and ships, and those willing to underwrite such ventures.

Lloyd's of London Coffeehouse, 1700s

Lloyd's of London Today

What is Marine Insurance?

- Oldest form of Insurance.
- Marine is a hybrid; it has both property and casualty elements.
- Marine involves instrumentalities of transportation and assets that are mobile in nature.
- Marine business is CAT exposed. Coastal and static risk.
- Marine is a global business.

Most comprehensive coverages and accompanying services available in the non-life insurance market

- In US, commercial ocean marine insurance is predominantly written on an admitted basis but non-filed as to form and rate. Defined in US per 1976 Nationwide Marine Definition.
- Commercial marine insurance market is made up of globals, nationals, specialty writers, and MGA / MGU / program administrators. Yacht/watercraft market also written by personal lines carriers and regionals.

Marine Lines of Business

Principal Marine Insurance Classes & Coverages

Key Marine Coverages

Hull & Machinery

- Physical Loss or Damage to Vessel
- Loss of Hire
- Collision Liability
- General Average (sacrifice made for the 'common good)
- Salvage (services rendered to prevent a total loss)
- Sue & Labour Costs (necessary steps taken to minimise loss)

Cargo

- Physical Loss or Damage to property in transit
- General Average
- Business Interruption / Extra Expense
- War and Strikes, Riots, Civil Commotion (SR&CC)

Protection & Indemnity

- Liabilities associated with ownership and/or operation of Vessel
- Collision / Allision
- Crew/Passenger injury / loss of life
- Pollution
- Cargo Liability
- Wreck Removal

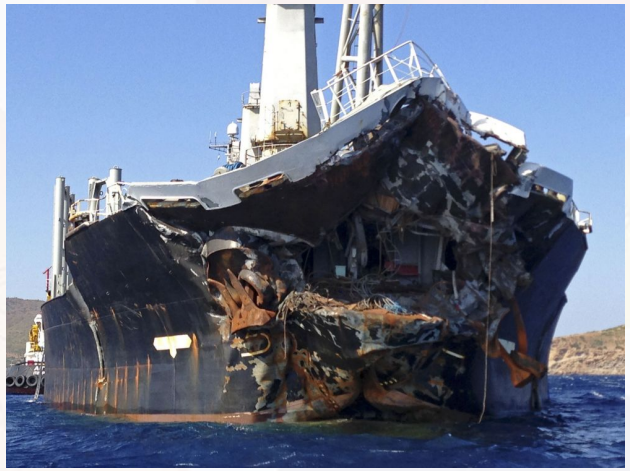
Marine Liability

- Legal Liability for ship repairers, terminal operators, wharfingers, charterers, stevedores
- General Liability for premises, products/completed operations

Hull & Machinery Insurance

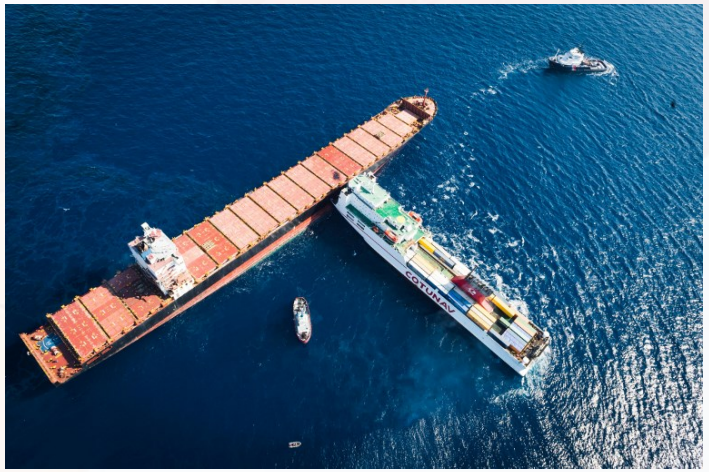
Photograph by Andi Graf

Hull & Machinery Coverages



Physical Damage

Loss of Hire



Collision Liability (3/4)

General Average

Salvage

Hull Insurance

Vessel Types

1. Dry Cargo

Bulk Carriers

Container Ships

2. Tankers

Oil Tankers, Chemical Tankers, Floating Production, Storage & Offloading Vessels (FPSOs), Floating Storage Offloading Vessels

3. Specialised Vessels

Refrigerated Cargo Ships, Yachts, Fishing Vessels, Ice Breaking Ships, Fire Fighting Ships etc.

4. Passenger

Ferries & Cruise Ships

5. Other

Coastal Trading Vessels, Car Carriers / PCTC, Offshore support vessels

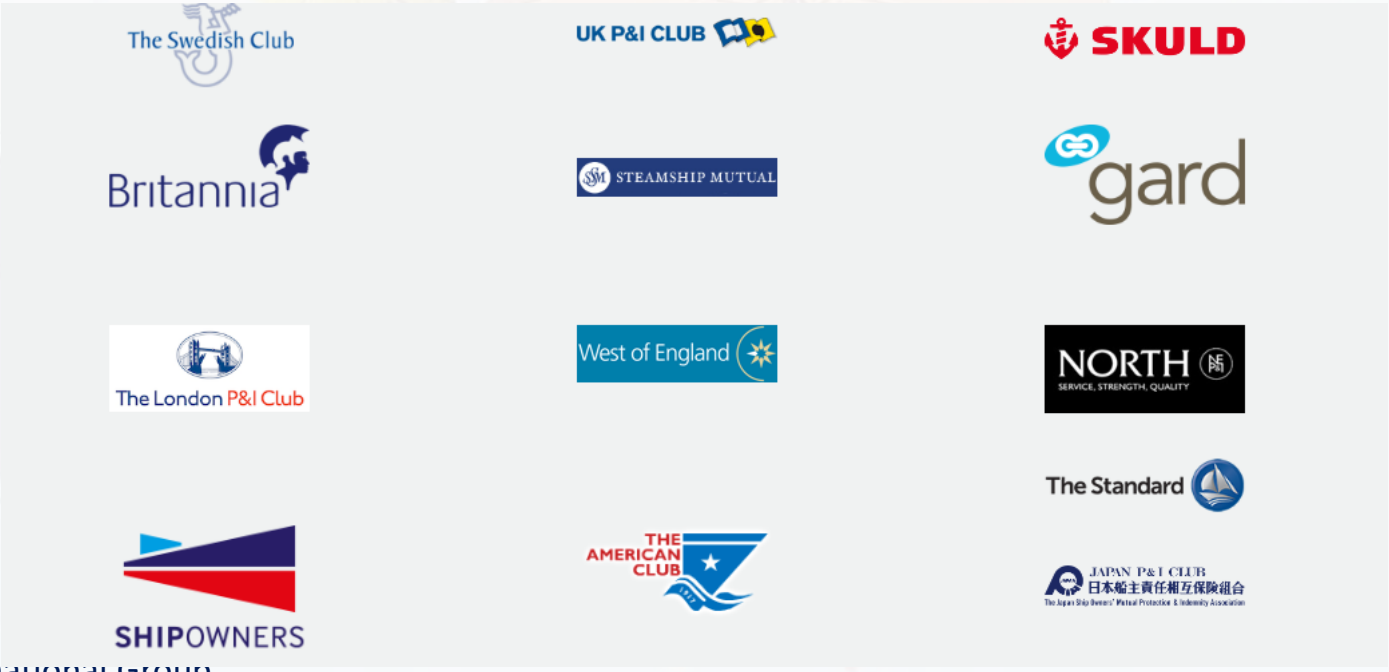
Protection & Indemnity (P&I)

- Protection & Indemnity policies, issued by the ‘Clubs’ provide coverage for third party liabilities and expenses arising out of owning or operating ships as principals:
  - Injury, illness and death of crew, passengers and stevedores (cargo handlers)
  - Repatriation of crew and substitute expenses
  - Diversion and other expenses incurred in landing refugees, sick persons and stowaways
  - Collision liability and Excess collision liability
  - Pollution by oil or other substances
  - Property damage
  - A cargo loss, shortage and damage
  - Unrecoverable general average contributions
  - Salvor's expenses
  - Fines, certain legal and other costs
  - Wreck removal
- Principal of Mutuality
- Major risk factors:
  - Age and type of vessel, trading routes, management
  - Operational experience, including safely management.

‘Hebei Spirit’ Oil Loss, December 2007

Protection & Indemnity (P&I)

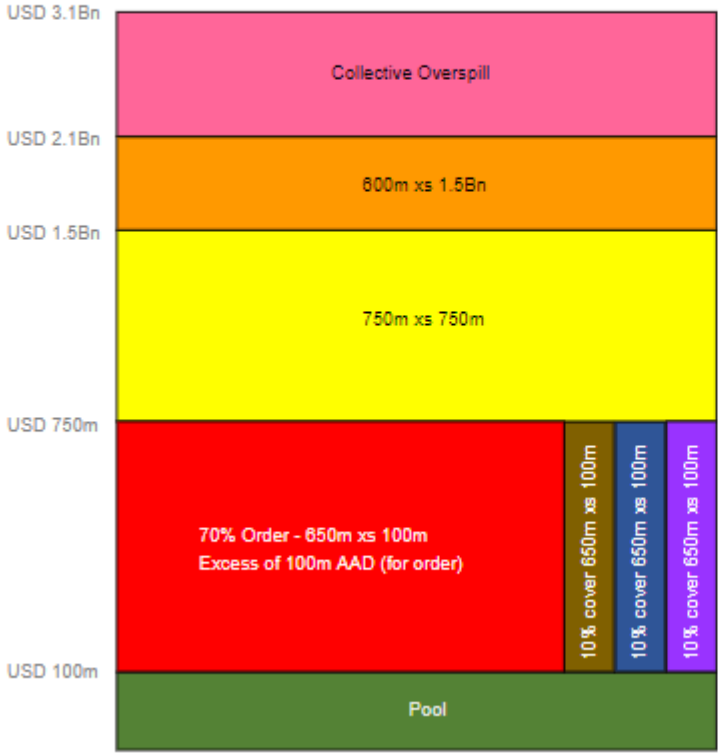
- The International Group of P&I Clubs (“International Group”)
  - 13 Mutual Associations with policies renewing at 20 February each year, covering 90% of the world’s tonnage
  - Many of the IG Clubs also provide a ‘fixed’ premium (non-mutualised) product as an alternative



- Non International Group
  - Fixed Premium P&I providers
    - British Marine, Korea P&I, Navigators, Osprey, Raets Marine, Trans Marine, NHC, Alandia

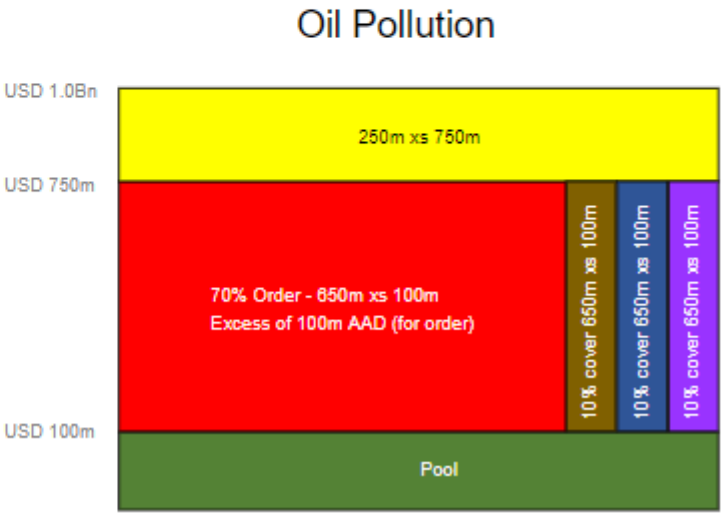
Protection & Indemnity (P&I)

The International Group of P&I Clubs ("International Group") 2020/21 Reinsurance Program



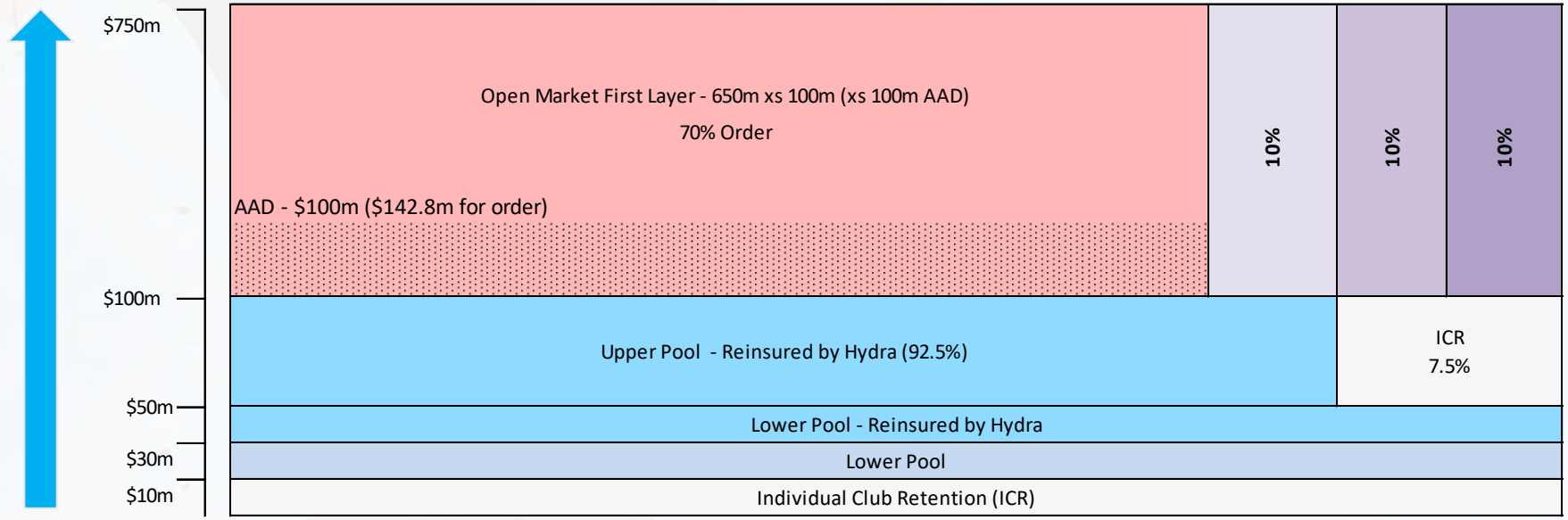
The Pool is structured in three layers from US $10 million to US $100 million. Excess of US $30 million, the Pool is reinsured by the Group captive, Hydra

The annual Group General Excess of Loss ("GXL") reinsurance program attaches at the Pool ceiling of US $100 million, and provides up to US $2 billion of reinsurance cover in a three-layer



Protection & Indemnity (P&I)

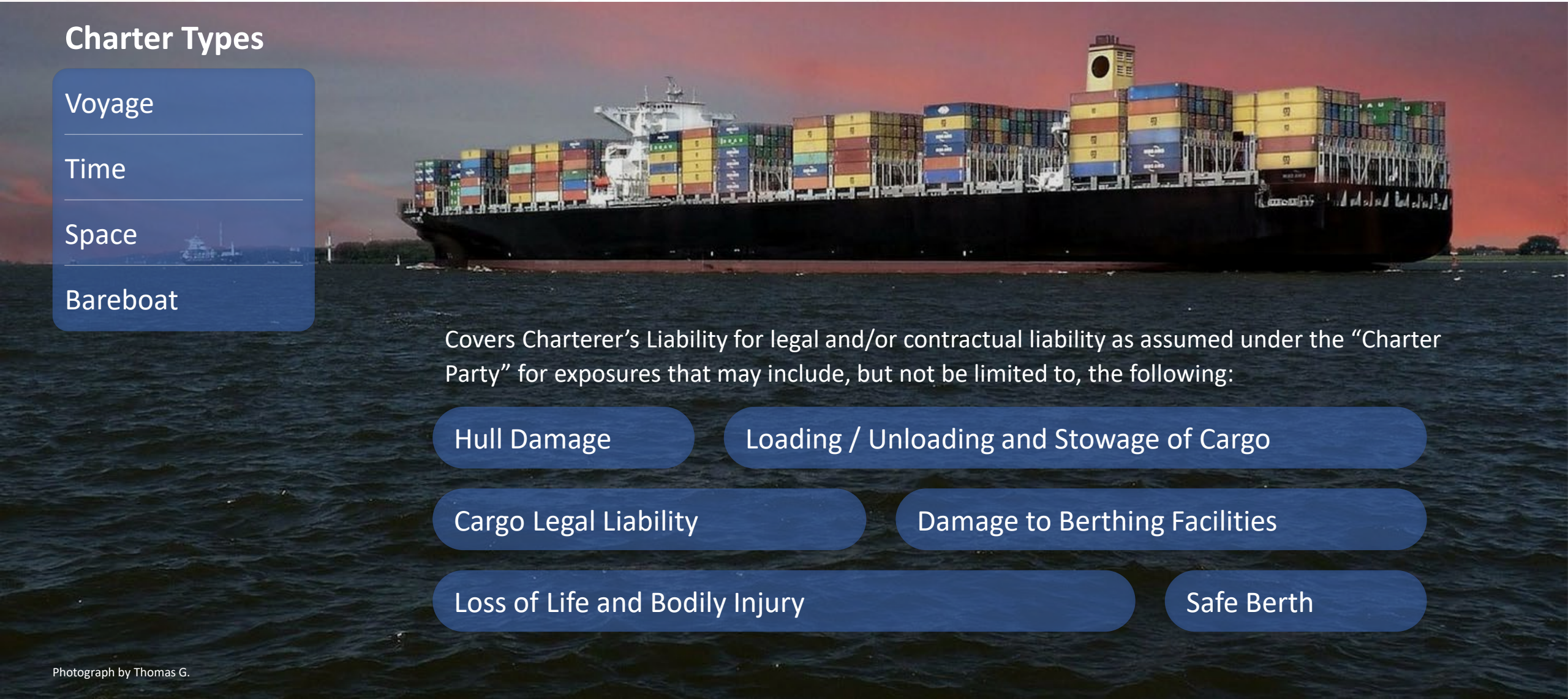
Golden Ray



Cargo Insurance

Photograph by Aline Dassel

Charterer’s Legal Liability Insurance



Charter Types

- Voyage
- Time
- Space
- Bareboat

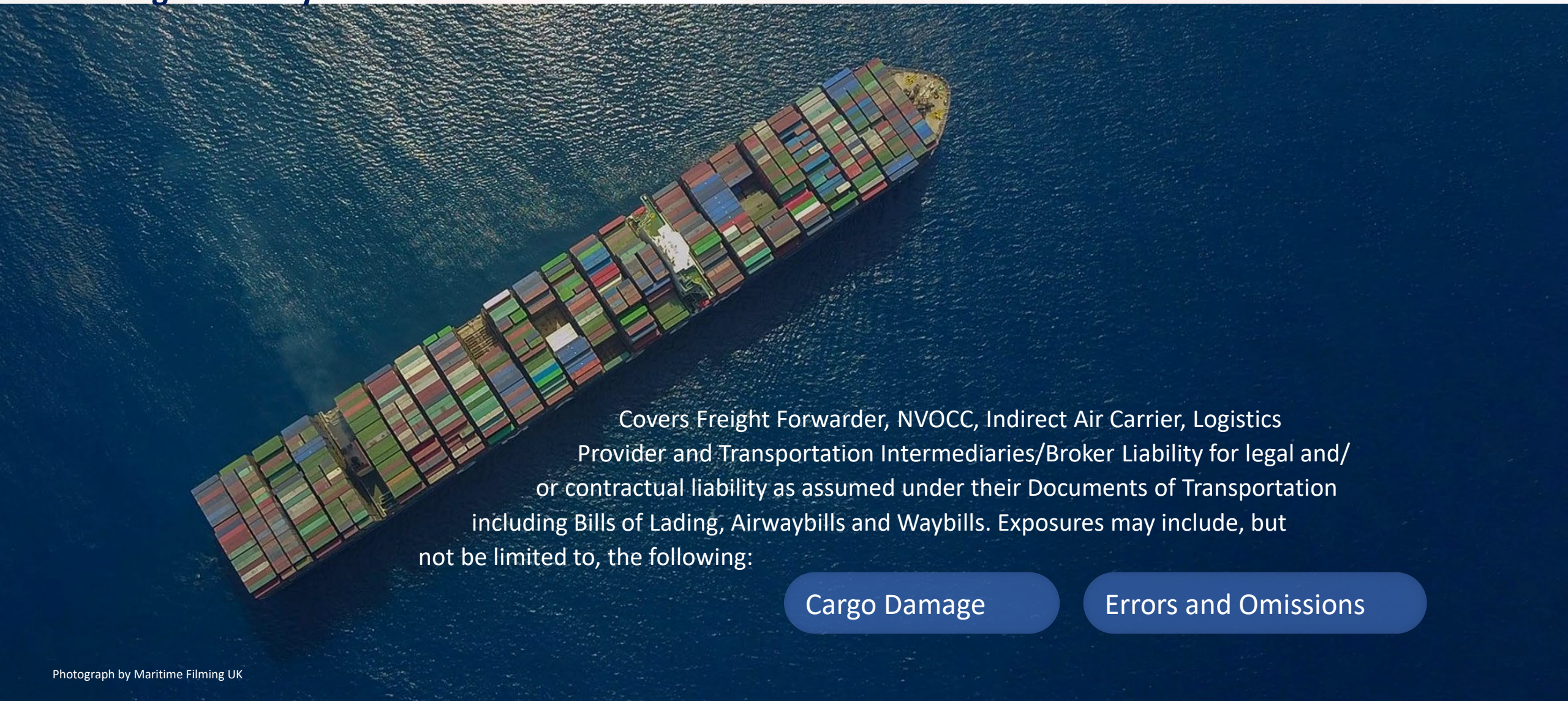
Covers Charterer’s Liability for legal and/or contractual liability as assumed under the “Charter Party” for exposures that may include, but not be limited to, the following:

- Hull Damage
- Loading / Unloading and Stowage of Cargo
- Cargo Legal Liability
- Damage to Berthing Facilities
- Loss of Life and Bodily Injury
- Safe Berth

Photograph by Thomas G.

Freight Forwarder's/NVOCC

Legal Liability Insurance



Covers Freight Forwarder, NVOCC, Indirect Air Carrier, Logistics Provider and Transportation Intermediaries/Broker Liability for legal and/or contractual liability as assumed under their Documents of Transportation including Bills of Lading, Airwaybills and Waybills. Exposures may include, but not be limited to, the following:

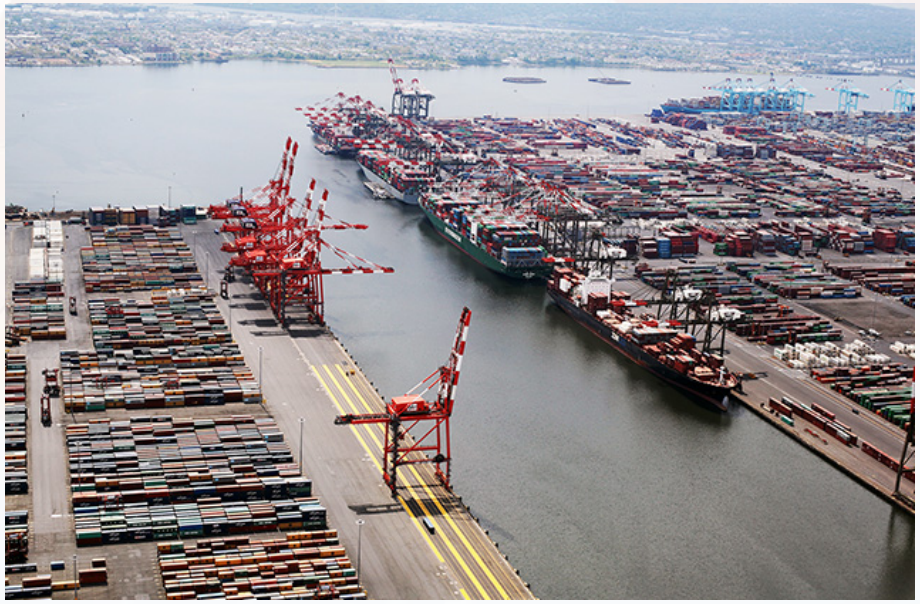
- Cargo Damage
- Errors and Omissions

Photograph by Maritime Filming UK

Ports & Terminals

Example: Ship arrives at Port of Newark, New Jersey to unload cargo destined for US.

- **Pilot tugs** will meet ship to guide it into the port. Because these boats are not made for open ocean, they are referred to as **brownwater** vessels
- Other push and pull tugs are in the port transporting goods by **barge**.
- **Longshoremen** such as **stevedores** are those dock workers who help unload the cargo.
- Additional liability insurance will be held by **Terminal Operators**, those responsible for the care, custody, and control of vessels as they are required to provide a safe berth for the vessels to arrive.



Marine Liabilities

- Stand-alone policies and Marine General Liability / Marine Commercial Liability (MGL / MCL)
- Examples:
  - Ship Repairers Legal Liability
  - Terminal Operators Legal Liability
  - Wharfingers Legal Liability
  - Charterers Legal Liability
  - Stevedores Legal Liability
- Marine General Liability / Marine Commercial Liability (MGL / MCL)
  - Premises Liability
  - Products/Liability/Completed Operations
  - Contractual Liability
  - Advertising

Source: https://www.workboat.com/news/bluewater/port-of-philadelphia-to-double-capacity-with-300-million-investment/

Excess Marine Liabilities

- Bumbershoot / Marine Umbrella
- Follow Form Excess Marine Liabilities

Source: https://www.dutragroup.com/project-details-marineconstruction-aggregates-dredging-marine-construction.html?id=23

Yacht Insurance

- H&M, P&I, Medical Payments, Haulout Expenses, USL&H policy sections
- No standard policy form, manuscripts
- When written on an admitted basis, both filed and non-filed (depending on state, vessel length, horsepower and propulsion)
- Risks range from PWC (Jet Ski) to boats, yachts and up to mega yachts
- Largest line of Marine Insurance (written by personal lines and marine insurers)

Source HCB Yachts Estrella / https://www.onthewater.com/2019-boat-buyers-guide

Luxury Yacht

Eclipse

Recreational Marine Insurance

- Marinas
- Boat Dealers
- Yacht Clubs
- Sailing Schools
- Boat Rentals

Source: http://www.sunsetbaymarinaandanchorage.com/

Energy: Upstream vs Midstream vs Downstream

Upstream

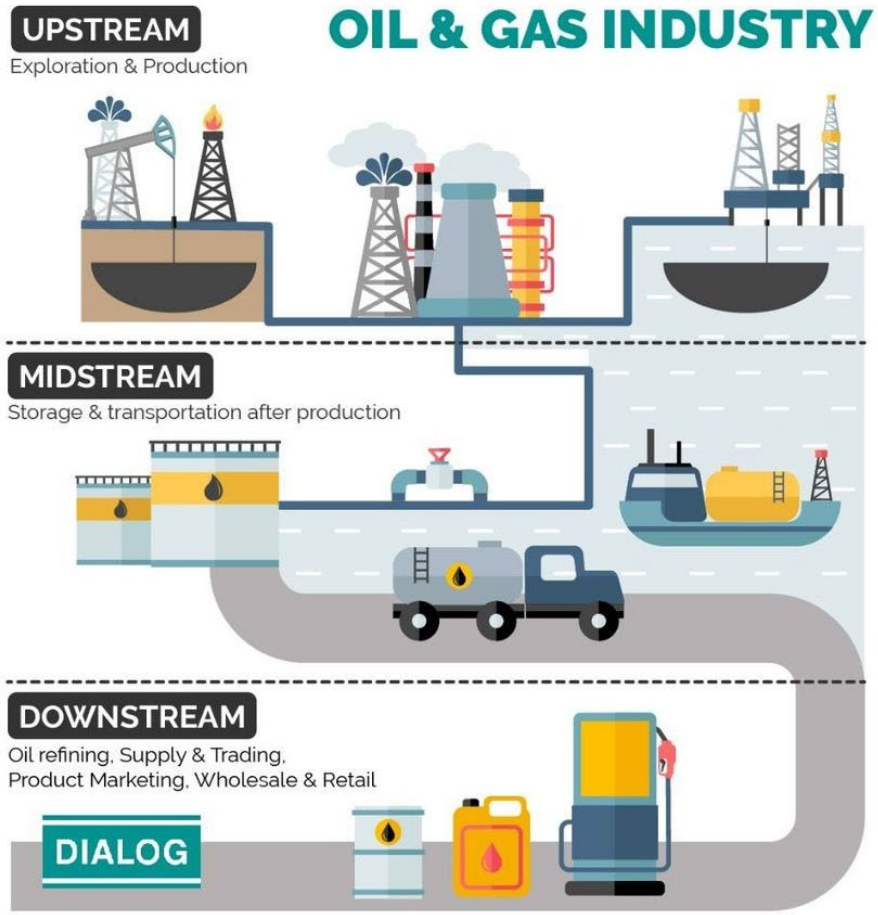
- Operations involved at the start of the production process, such as the drilling and extracting of raw materials i.e. gas and oil extraction

Midstream

- Middle stage of energy production, including the processing, storing and transporting of oil and natural gas, i.e. through pipelines

Downstream

- The last stage, where raw materials are processed and converted into their final products such as gasoline and diesel



Offshore ("Upstream") Energy

- Operating packages provide physical damage coverage for risks associated with offshore exploration, development and production of oil and gas worldwide
- Additional coverages written in conjunction with operating physical damage risks include:
  - Operator's Extra Expenses, including Control of Well, Seepage and Pollution, re-drilling Expenses and related coverages including:
    - Removal of Wreck
    - BI – Business Interruption
    - Loss of Production Income
    - Third Party Liabilities
    - War and Terrorist Risks
- Major risk factors:
  - Location, e.g. Gulf of Mexico
  - Accumulation of exposure (platform/location)
  - Significant values for BI limits
  - Increasing construction and operational activity

Hurricane Ike, Gulf of Mexico – Sept. 2008

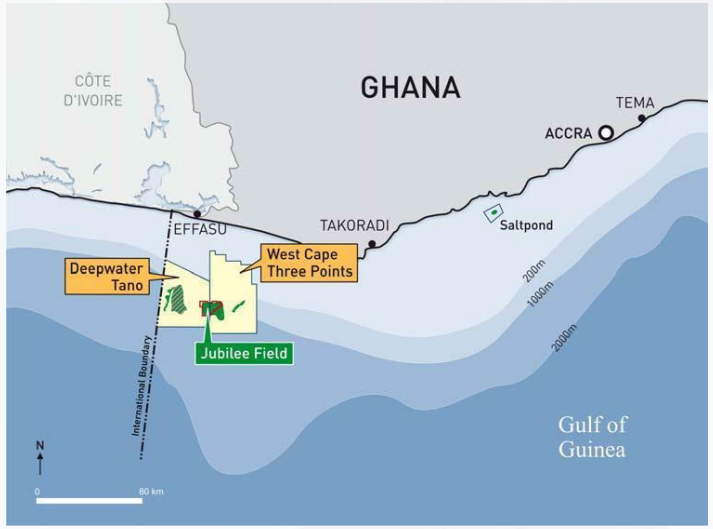
Notable losses:

- Piper Alpha (1988)
- Katrina (2005)
- Rita (2005)
- Ike (2008)
- Deepwater Horizon (2010)
- PEMEX (2015)
- SBM YME (various)
- FPSO Kwame (2016)

Piper Alpha was a contributing factor to the LMX Spiral

Offshore (“Upstream”) Energy
Loss Example

FPSO Kwame Nkrumah – Jubilee Field, Ghana



An **FPSO** is a Floating Production, Storage, and Offloading vessel used for offshore oil production.

On Feb 18, 2016, FPSO Kwame Nkrumah suffered an issue with its turret bearing, which could no longer rotate as designed.

Production was reduced for a time as options were reviewed. After consideration, FPSO was moved to undergo repairs and drilling was shutdown entirely during that time.

Insured Loss Complications:

- Multiple joint ventures involved
- Repairs to FPSO
- Substantial Business Interruption impact
- Significant impact to QS and XoL reinsurances

Renewable Energy The Future

- Renewables are sources of energy that do not deplete when used because they can be naturally replaced, the most popular currently:
  - Solar energy
  - Wind energy
  - Hydro energy
  - Tidal energy
  - Geothermal energy
  - Biomass energy

Renewable energy sources make up 26% of the world's electricity today, but according to the International Energy Agency (IEA) its share is expected to reach 30% by 2024

Marine Reinsurance
Treaty Structuring

Hull	• Multiple Limits payable under Original Hull Policy • Multiple Hulls could be involved in single event (CAT or non-CAT) • Clients typically purchase 2-3 times their maximum retained line for XOL • Rating based on Premium + Claims Record + Risk Profile (based on top value in fleet)
Cargo	• Must consider increasing values of cargo and accumulations, domestically and internationally • Clients typically purchase 2-3 times their maximum retained line for XOL • Rating based on Premium + Claims Record + Risk Profile (cover limits)
Liability	• Vessel Owners, Wharf owners, Stevedores, Marine terminal operators, Ship builders and repairers, Marine construction companies • Hull and Liability can typically be affected in single event • Rating based on Premium + Claims + Risk Profile (class of business and limits) • “Long-tail” LOB, rating discounts most recent years because they are “undeveloped”
Whole Account	• Traditionally placed to provide catastrophe protection for unforeseen accumulation, although increasingly covers risk and clash exposures • Besides marine exposures, these layers are increasingly including composite cover for other specialty exposures such as Aviation and Terrorism and other LOBs

Marine & Energy Reinsurance

Common Types

MARINE

Treaty

- Non-Proportional
  - Most common reinsurance solution for Marine accounts in Excess of Loss, bought by the majority of cedants worldwide
- Proportional (QS / Surplus)
  - More common for 'smaller' companies purchased for capital reasons
  - Results often present a challenge for marine classes
  - Surplus less common due to income/limit imbalances and lack of reinsurer appetite
- Reporters
  - Utilised by some buyers for Cargo and Hull portfolios to cater for major risk lines
  - Often placed into the 'direct' insurance market rather than traditional treaty reinsurers

Facultative

- Ad-hoc often on specific accounts due to coverage restrictions on treaties or due to substantial limit requirements
  - Eg Car accounts

OFFSHORE ENERGY

Treaty

- Non-Proportional
  - Bought by all major Energy insurers
  - Maximum risk lines can be up to USD 500m for the largest leaders
- Quota Share
  - Common purchase for Energy insurers due to the low attrition levels and volatility of the class – attractive commission levels

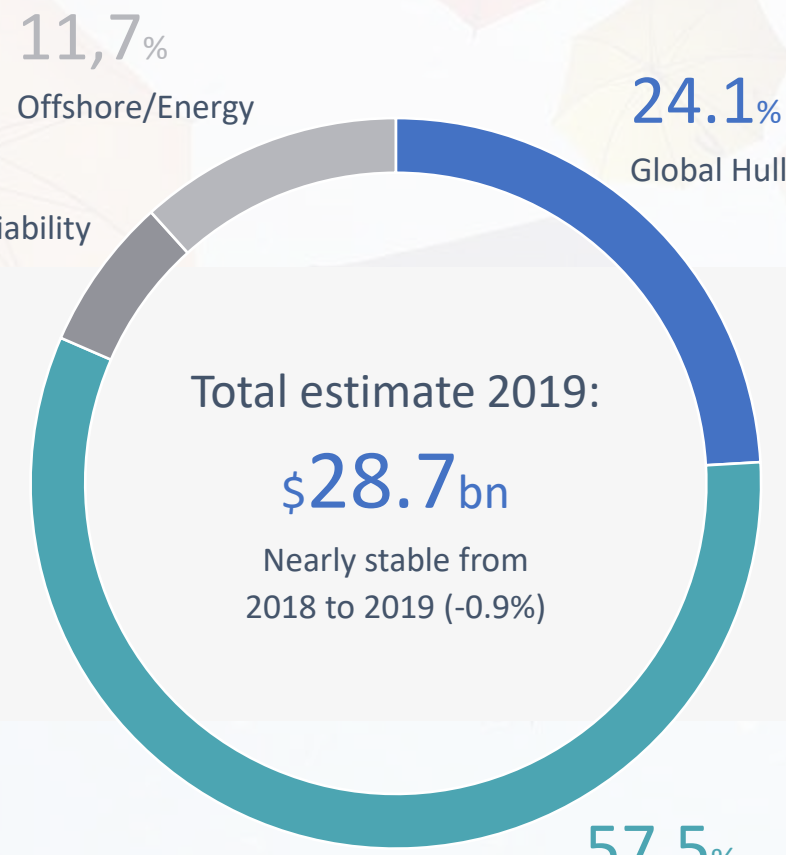
Facultative

- Commonly bought to reduce maximum exposures on peak assets
- Some insurers arbitrage their Lead position with take-outs
- Occasionally bought to take-out Energy Liabilities when written as part of a package

Overview of Ocean Marine Market and Results

Marine Premiums 2019

By line of business



NB: Exchange rate effects

Source: IUMI

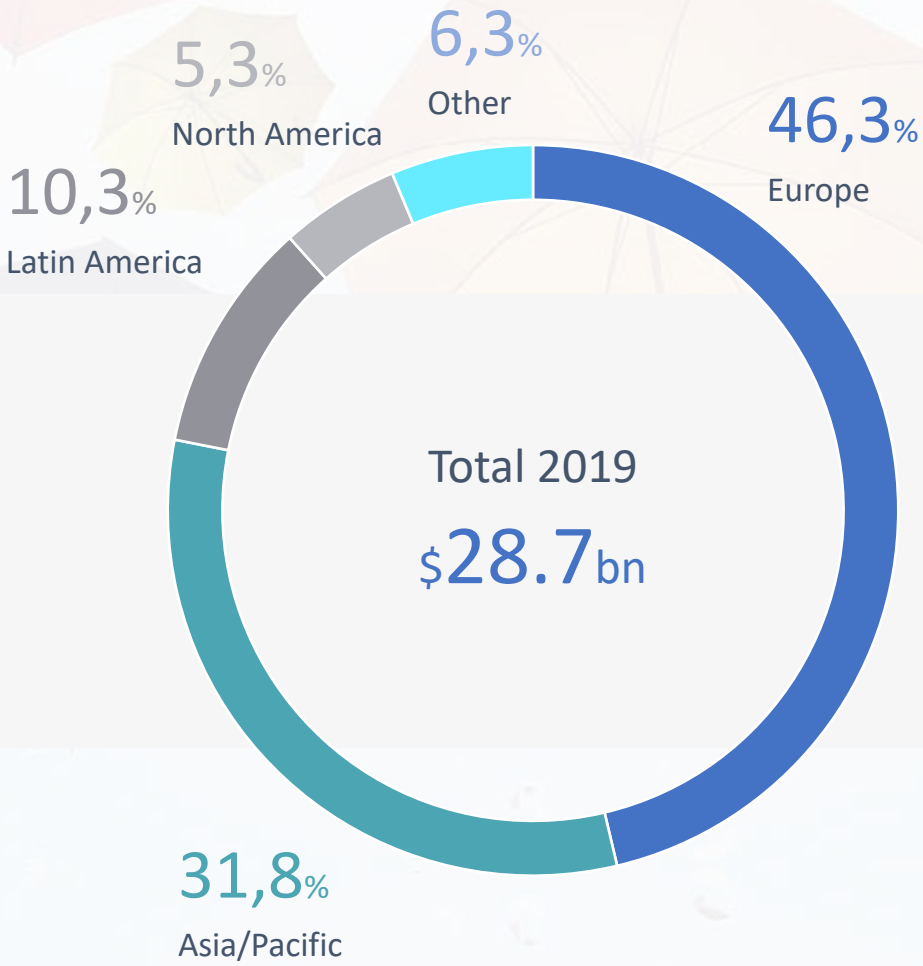
Global marine and offshore energy premiums

Year	GWP (USD)	Cargo L/R	Hull L/R
2012	$34.8bn	> 72%	> 74%
2013	$34.2bn	> 77%	> 68%
2014	$32.6bn	> 83%	> 95%
2015	$29.9bn	> 89%	> 97%
2016	$27.5bn	> 75%	> 105%
2017	$28.5bn	> 77%	> 85%
2018	$28.9bn	> 74%	> 90%
2019	$28.7bn	> 60%	> 50%

Note: Global GWP down 21% from 2012 to 2019 while exposures have increased.
Source: IUMI

Marine premiums 2019

By region



Source: IUMI

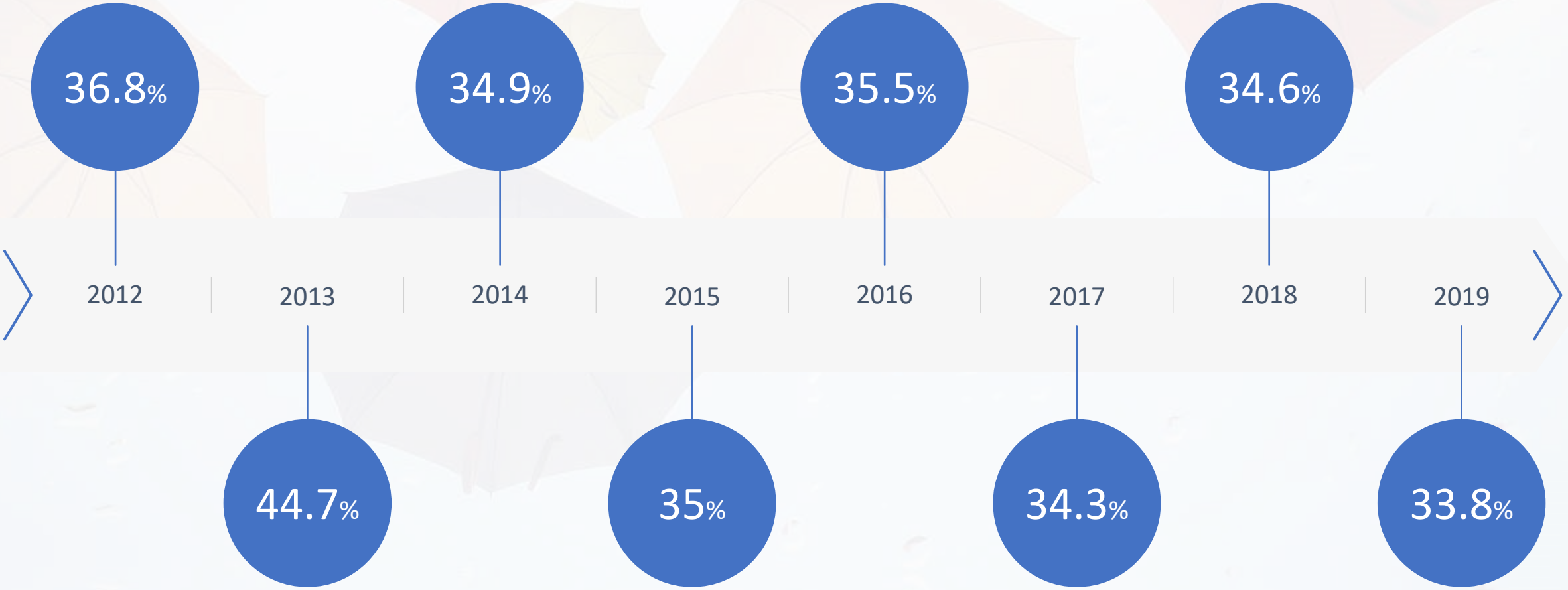
North American Marine Market Results

2015–2019 US Ocean Marine Market Results

	Direct Premiums Written ($000)	Adjusted Loss Ratio (%)	
Top 20 Companies	2019	5-Year Average	3-Year Average
Company ALPHA	462,478	39.94	39.39
Company BRAVO	299,429	75.31	81.04
Company CHARLIE	261,914	45.10	48.73
Company DELTA	227,337	88.40	104.51
Company ECHO	210,723	44.54	38.44
Company FOXTROT	185,414	42.57	44.10
Company GOLF	165,085	59.23	72.76
Company HOTEL	149,108	74.89	73.38
Company INDIA	134,448	56.48	62.44
Company JULIET	127,251	51.81	54.39
Company KILO	115,580	47.90	43.59
Company LIMA	105,699	87.41	93.31
Company MIKE	101,667	22.83	41.59
Company NOVEMBER	91,496	62.02	57.47
Company OSCAR	89,777	45.10	54.17
Company PAPA	80,004	58.88	63.41
Company QUEBEC	72,360	75.45	86.15
Company ROMEO	57,630	79.76	82.62
Company SIERRA	47,290	61.54	53.29
Company TANGO	45,181	76.38	58.03
Total US PC Industry	3,504,002	57.43	60.77

Source: Source: AM Best Market Share Reports (Bestlink)

US Ocean Marine Expense Ratios



% Expense Ratio
(Total Underwriting Expenses Incurred to NPW)

Source: AM Best Market Share Reports (Bestlink)

Large and More Complex Losses

Black Swans on the High Seas

- MSC RENA 2012 $ 750 million
- SUPER STORM SANDY 2012 - $ 2 to $ 3 billion
- COSTA CONCORDIA 2012 - $ 2 billion +
- MOL COMFORT 2013 - $ 523 million
- Port of Tianjin Explosion 2015 - $ 2 to $ 3 billion
- MAERSK HONAM 2018 - $ 500,000. +
- GOLDEN RAY 2019 - $ 800 million+
- Port of Beirut 2020 - ???
- EVER GIVEN 2021 - ???

Golden Ray Capsizing

September 8, 2019 – Brunswick, Georgia USA

- USCG Heroic Crew Rescue
- Ship Total Loss
- $650 million H&M, Cargo, P&I (Wreck Removal) Cost
- 4,200 Automobiles Total Loss

Vessel fires since January 2019

- Sincerity Ace
- Yantian Express
- APL Vancouver
- ER Kobe
- Grande America
- Grande Europa
- KMTC Hong Kong
- Maersk Kensington
- Laura Maersk
- Maersk Vinius
- Maersk Petras
- Hoegh Xiamen
- New Diamond

Grimaldi Grande America

Maersk HONAM

March 6, 2018

Estimated > US $500M Loss

Largest General Average in History

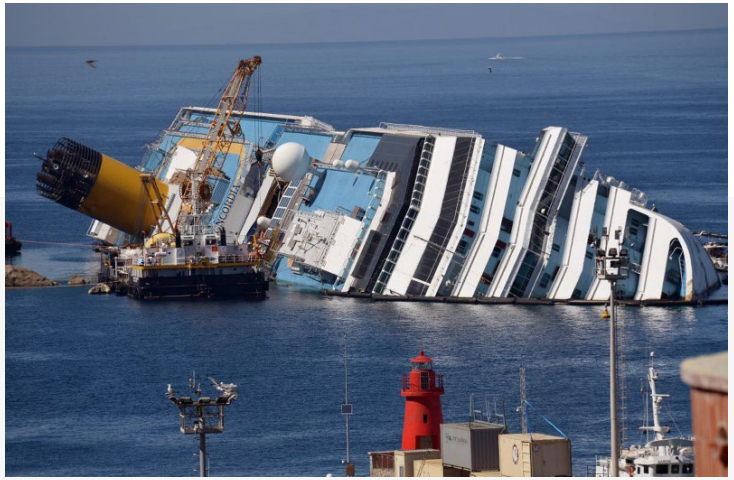
Record Container Overboard Losses

- ONE APUS
- MSC ARIES
- MAERSK ESSEN
- EVER LIBERAL
- ER TIANPING
- GIULIA 1
- MAERSK EINDHOVEN

ONE APUS

Source: WK Webster and Co.

Recent Large P&I/Wreck Removal Losses



Cargo, Hull, and P&I Loss Examples

MV Hyundai Fortune

Mis-declared Cargo Loss Example: MV Hyundai Fortune

- Fire at sea on March 21, 2006 in the Gulf of Aden
- Initial explosion followed by secondary explosions due to containers of fireworks
- Combined loss to cargo and ship was **$800m**
- Loss was determined to be mis-declared cargo, done so to avoid the extra costs of shipping hazardous materials

Costa Concordia

Carnival Cruise line, ship struck a reef and sank on Italian coast on January 13, 2012 in the Mediterranean

- Sank due to captain's error piloting boat too close to shore
- Hull was a total loss, with value of **$500m**
- 32 deaths and environmentally sensitive reef
- Ultimate cost of liability from P&I was **$1.5bn**, due to the complex engineering require to re-float the boat and carefully remove from the reef

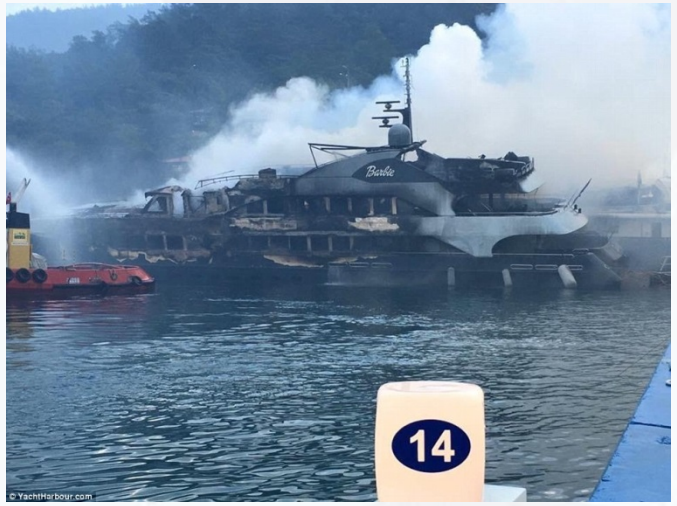
Recent Cargo and Hull Large Losses

Yacht & Recreational (Personal) Marine

Hurricane Irma – British Virgin Islands

Hurricane Irma made landfall in British Virgin Islands on Sept 6, 2017 as a Category 5 Hurricane

- **High accumulation of recreational marine** damage from yacht vessels and marinas destroyed in storm
- **Significant wreck removal costs (P&I)**
- **No hours clauses** on Marine reinsurance contracts, all damage from Irma treated as a single occurrence
- Many Yacht **MGAs non-renewed** following loss



Lurssen Shipyard – Bremen, Germany

On Sept 14, 2018, a fire broke out at a 400-foot floating drydock at Lurssen shipyard, destroying a megayacht under construction, named “Project Stassi”.

- Premiere megayacht builder, total insured value of this project was **$693m**
- Due to **high value of single risk**, many Lloyd’s syndicates had a percentage line on the slip and incurred loss to their reinsurance programs
- Given high number of Lloyds players, they can support such limits based **on ‘subscription’ basis**

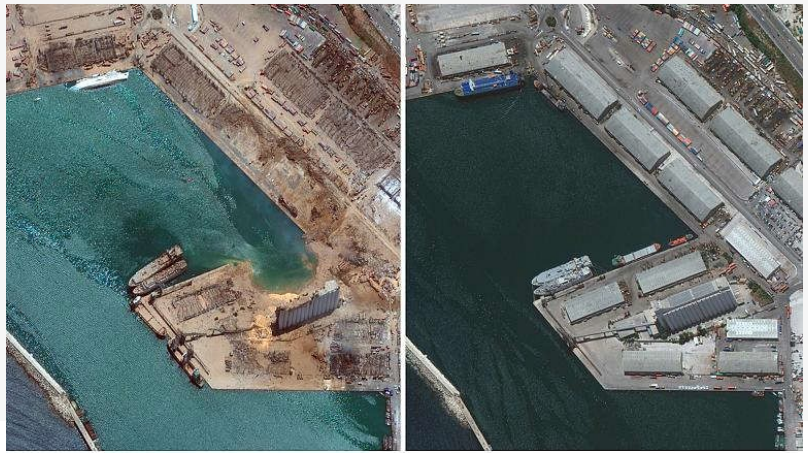
Beirut Port Explosion

An explosion causing severe damage, effecting future trade in and out of Beirut

- A fire outbreak on **Tuesday 4th August 2020**, 18:07 local time, resulted in an explosion at the port of Beirut, resulting in substantial damage to the port and surrounding buildings.
- The explosion was caused by 2,750 tonnes of ammonium nitrate (an agricultural fertiliser) that had been stored in a warehouse since 2013.
- The port is the critical link in the supply chain for Lebanon handling 60% of Lebanon's imports and the storage of food and medical supplies with Lebanon relying on imports for >80% of its food supply.
- The port comprises a cargo area housing 12 warehouses and a grain silo.
- Early reports suggest that 5 of these warehouses at the general cargo terminal have been destroyed, whilst the grain silo has been partially damaged. Willis Re analysis suggests that the Grain silos store 85% of Lebanon's grain imports.
- Willis Re has observed that within a 300m radius of the explosion there is 100% damage, extensive damage up to 1km away and some damage observed 5km away.
- Marine and cargo are anticipated to have the largest impact – cargo is expected to drive the losses, with the potential for contingent BU and supply chain claims.
- Early thoughts are that the insured loss will be less than the Tianjin explosion in 2015, but it is too early to be certain.
- Initial estimates from the Lebanese government indicate economic losses of between $10bn to $15bn.

After explosion

Before explosion



Source: EuroNews

Source: IUMI, Willis Towers Watson

Tianjin 2015

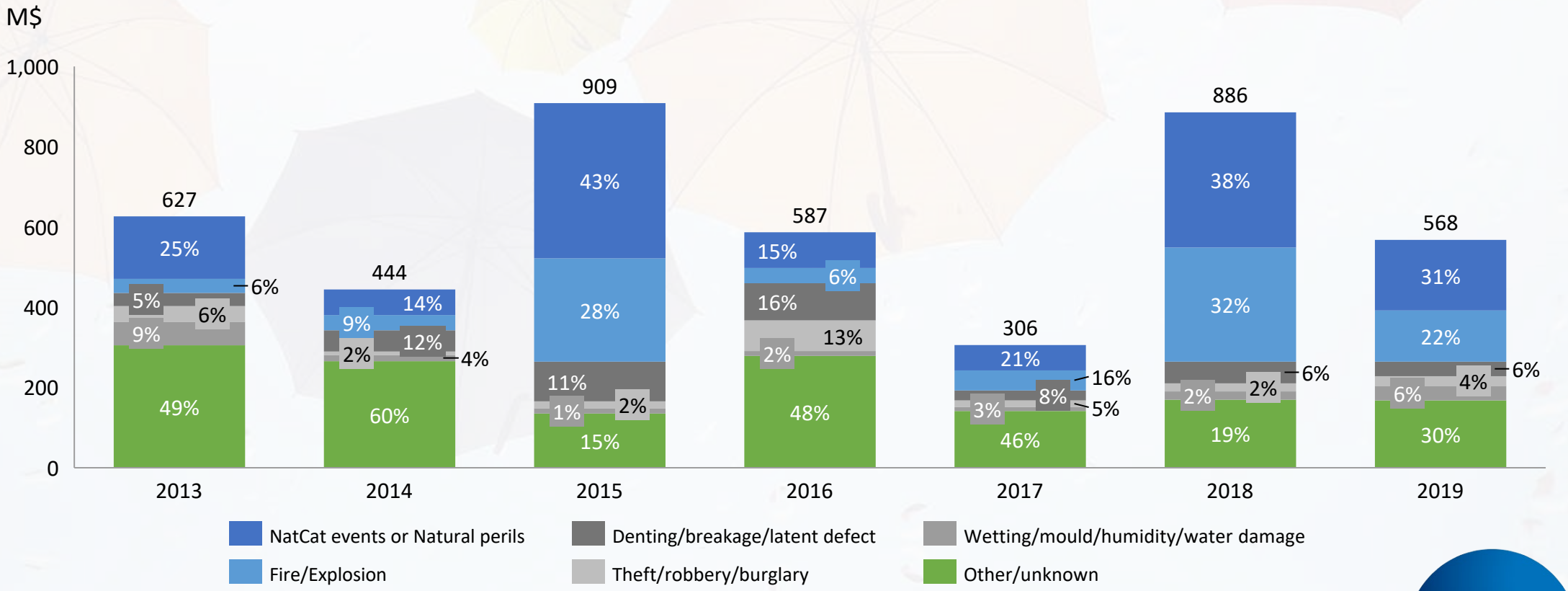
Source:

Superstorm Sandy 2012

- 2012 Superstorm Sandy
- Port of NY/NJ sustained major damage
- Equipment/property damage
- Cargo Damage
- >16,000 vehicles
- $ 2.5 to $3bn marine insurance loss (marine made up >10% of P&C market loss but accounts for 1% premium).
- Storm hit on October 29, 2012, port not reopened to commercial traffic until November 4, 2012.

Image: https://www.claimsjournal.com/news/east/2013/06/19/231191.htm

Cargo: Top 5 major losses by type of loss in the period 2013–2019



Note: Due to manual mapping work about 86% of all observations can be used for analysis (compared to 72% otherwise)
Note: Other/unknown also includes minor types of losses (e.g., piracy)
Source: IUMI Major Claims Database initiative

Not frequency but definitely severity issue

The maritime industry saw the number of total shipping losses of vessels over 100GT fall during 2019 to 41 – the lowest total this century and a 70% decline over the past 10 years. While the number of total losses has fallen over the past year, the number of shipping casualties or incidents (2,815) remains challenging, up by 5%.

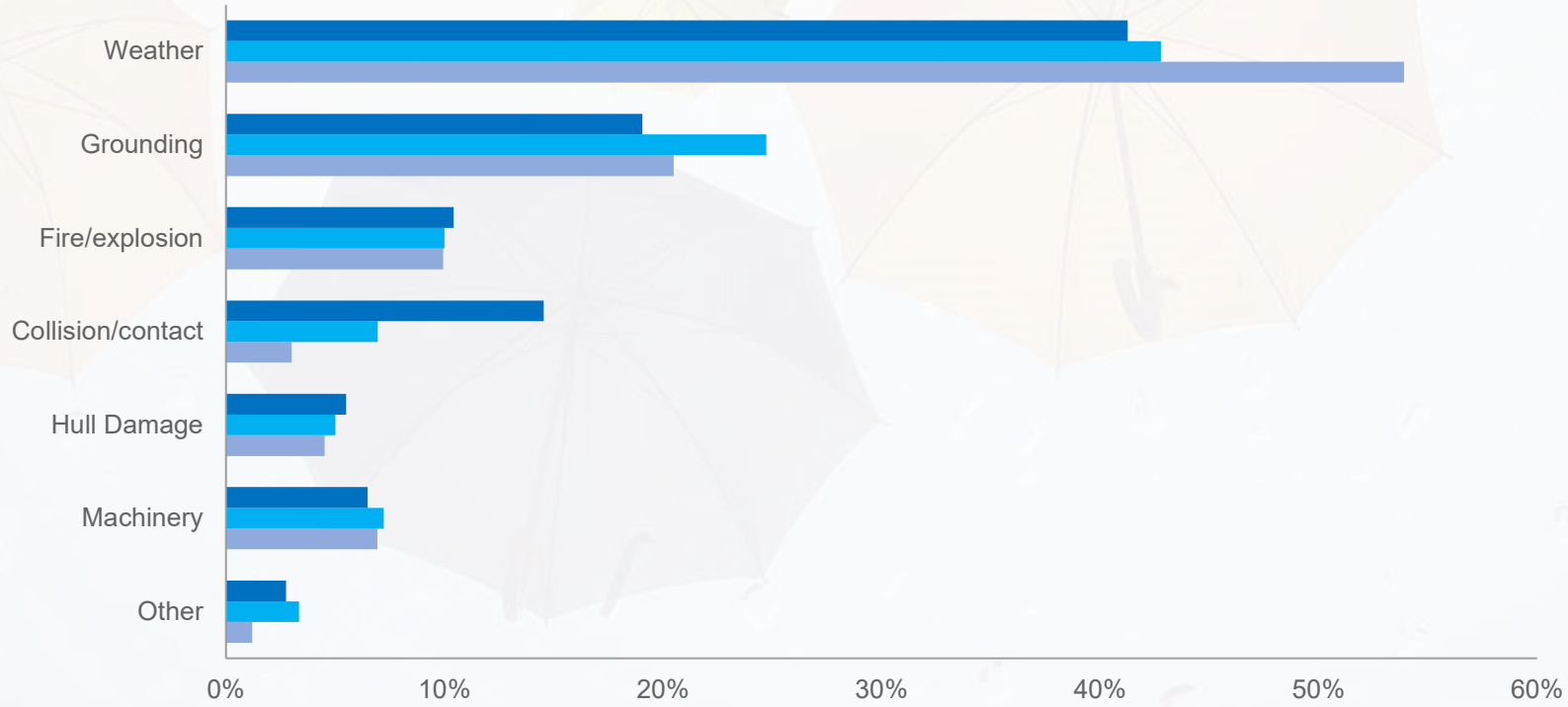
Source: AGCS Safety and Shipping Review 2020

Investigations into the causes of shipping accidents show that over 30% of the accidents are caused by poor weather.

Source: Global ship accidents and ocean swell-related sea states, Zhang 2017.

Total losses 2004–2018

By cause, all vessel type (vessels > 500 GT)



Source: LLI, total losses as reported by Lloyds List

Challenges

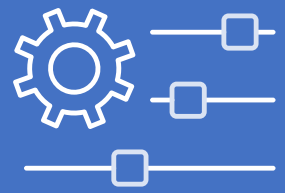
What has changed?

Vessel size, design and capacity

Growth of ports

Climate change

Improved weather data and routing information



Salvage capabilities

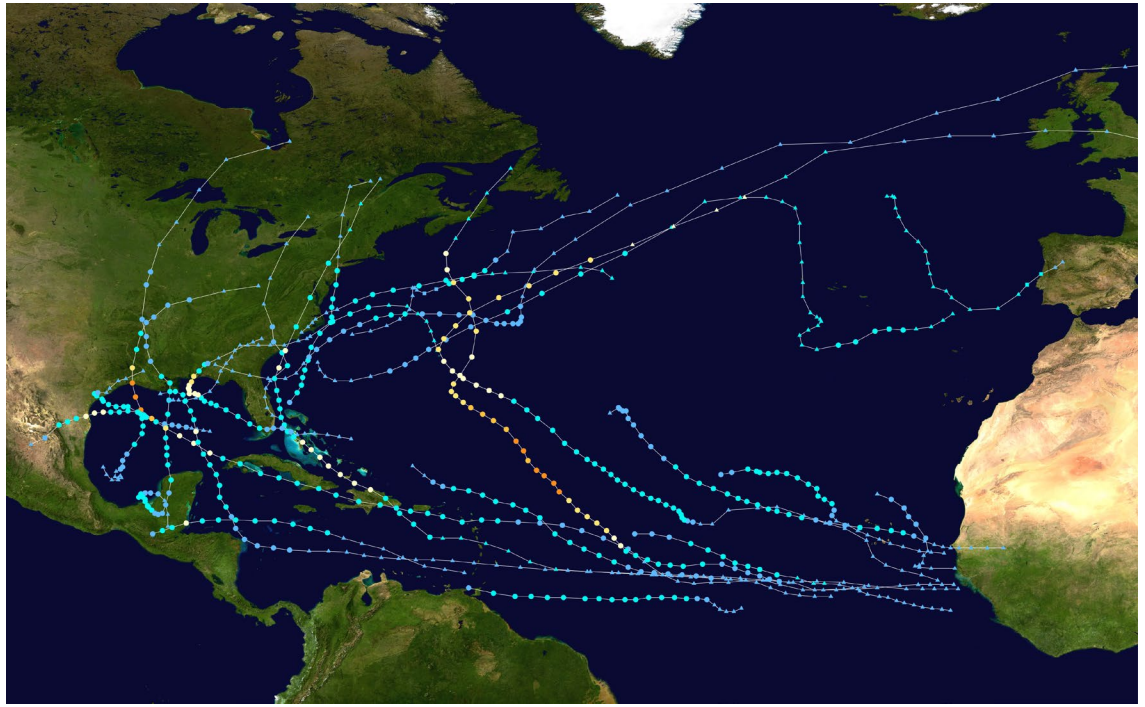
Unknown vessel and port accumulation

Increased competition and performance demands

Losses from natural catastrophes are on the rise

Loss events worldwide 1980–2019, overall and insured losses

- 2020 hurricane season ties 1916 for record number of mainland US landfalls in a season
- Four of those landfalls were hurricanes, roughly double the average for an entire season
- Much of the East and Gulf coasts have been covered by a warning once this season



Source: Master0Garfield - Created using WikiProject Tropical cyclones/Tracks. The background image is from NASA. The tracking data is from the National Hurricane Center's Atlantic hurricane database, Public Domain, https://commons.wikimedia.org/w/index.php?curid=90697173

Unknown Accumulation

Vessel Size

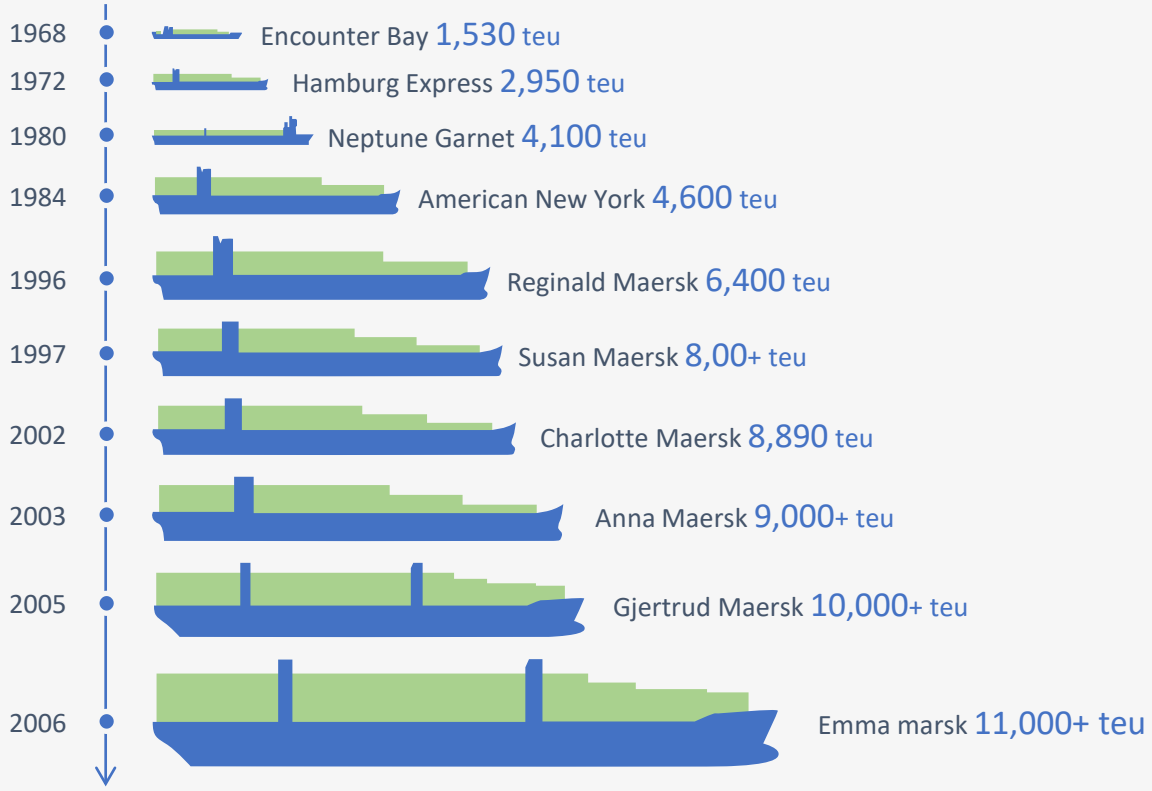
- MSC GULSUN: 23,756 TEU capacity
- Cargo insured value > $1 bn
- Evergreen mega ship order: 24,000 TEU capacity
- Unknown accumulation
- Non modellable

Source: https://www.maritime-executive.com/article/world-s-largest-container-ship-transits-suez-canal

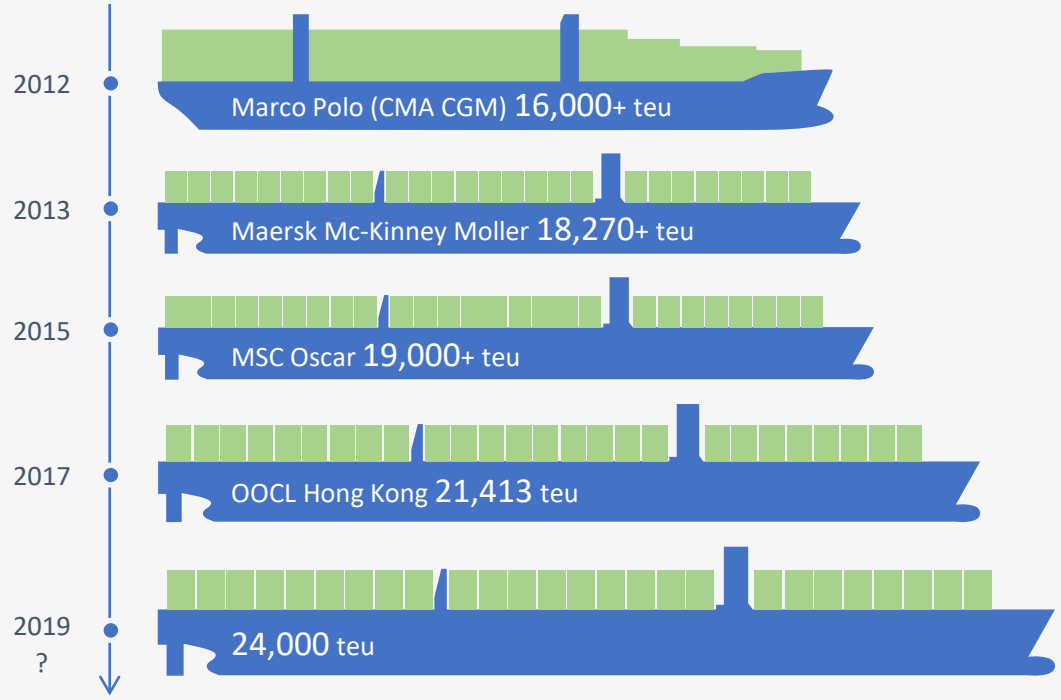
Consequences are Getting Bigger

50 Years of container ship growth

Safety and Shipping Review 2018



Container-carrying capacity has increased by almost 1,500% since 1968



Approximate ship capacity data: Container-transportation.com; AGCS

Sources: Allianz Global Corporate & Specialty (AGCS)

Port Growth and Accumulation

Challenges of Technically Pricing Marine Business in 2021

- Volatility for Marine Line as a small specialty line (versus the wider universe of P&C).
- Marine business is a hybrid with coverages and portfolios containing both 1st and 3rd Party Business.
- Data limitations on available historical experience by Marine Line of Business and Subline.
- NAT CAT Modelling Limitations.
- Gaps in model estimates versus actual experience (model largely understates quantum based on event post loss analysis).
- Non-modellable exposures.
- Transit versus static risk.

Challenges of Technically Pricing Marine Business in 2021

- Differing views on return period for large, outlier losses in experience pricing.
- Varying legal regimes and impact on 3rd Party lines.
- Rapidly growing assets / exposures.
- Harder to evaluate and technically price for severity as compared with frequency.
- Expansion of coverage (Policy Valuations, Broad Terms) or narrowing of T&C's drive varying opinions with respect to the discretionary portion of impact on rate adequacy between underwriters & pricing actuaries
- Technically addressing changes in exposures in pricing (values at risk, limits provided, etc.).
- Challenges in reserve adequacy for a portfolio (or individual treaty) imbedded with short & long tail lines

Challenges of Technically Pricing Marine Business in 2021

- Accounting for potential salvage, subrogation / recoveries.
- Impact of new entrants unencumbered by prior year results / experience and any deterioration.
- Is Underwriting strategy gross or net result driven?
- Underwriting expenses including acquisition costs (commission / brokerage), direct expenses, and indirect expenses (corporate allocation; which can be disproportionally weighted towards specialty lines).
- Differing views on capital intensity and cost of capital / efficacy of capital formation drives costs lower.
- Low interest rate environment.

Opportunities

Marine Insurance Opportunities

- Structure policy valuations to indemnify on actual loss sustained versus insure profit / betterment post loss.
- Develop products to meet different client needs (tailor to risk appetite / tolerance)
- Simplify products to allow ease of claims handling and payment.
- Healthier Marine Insurance Market will allow for better differentiation and opportunity to better price products.
- Technically price products to reduce volatility in offerings.
- Leverage technology improvements and advancements to improve cargo insurance offerings.

Additional Resources

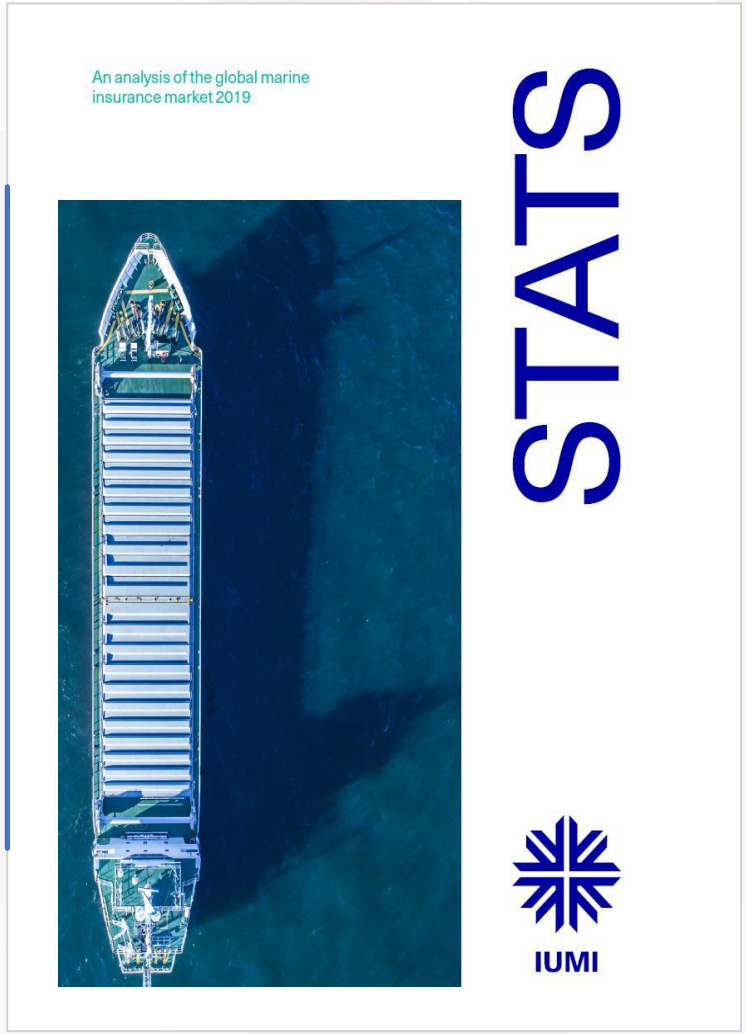
Resources

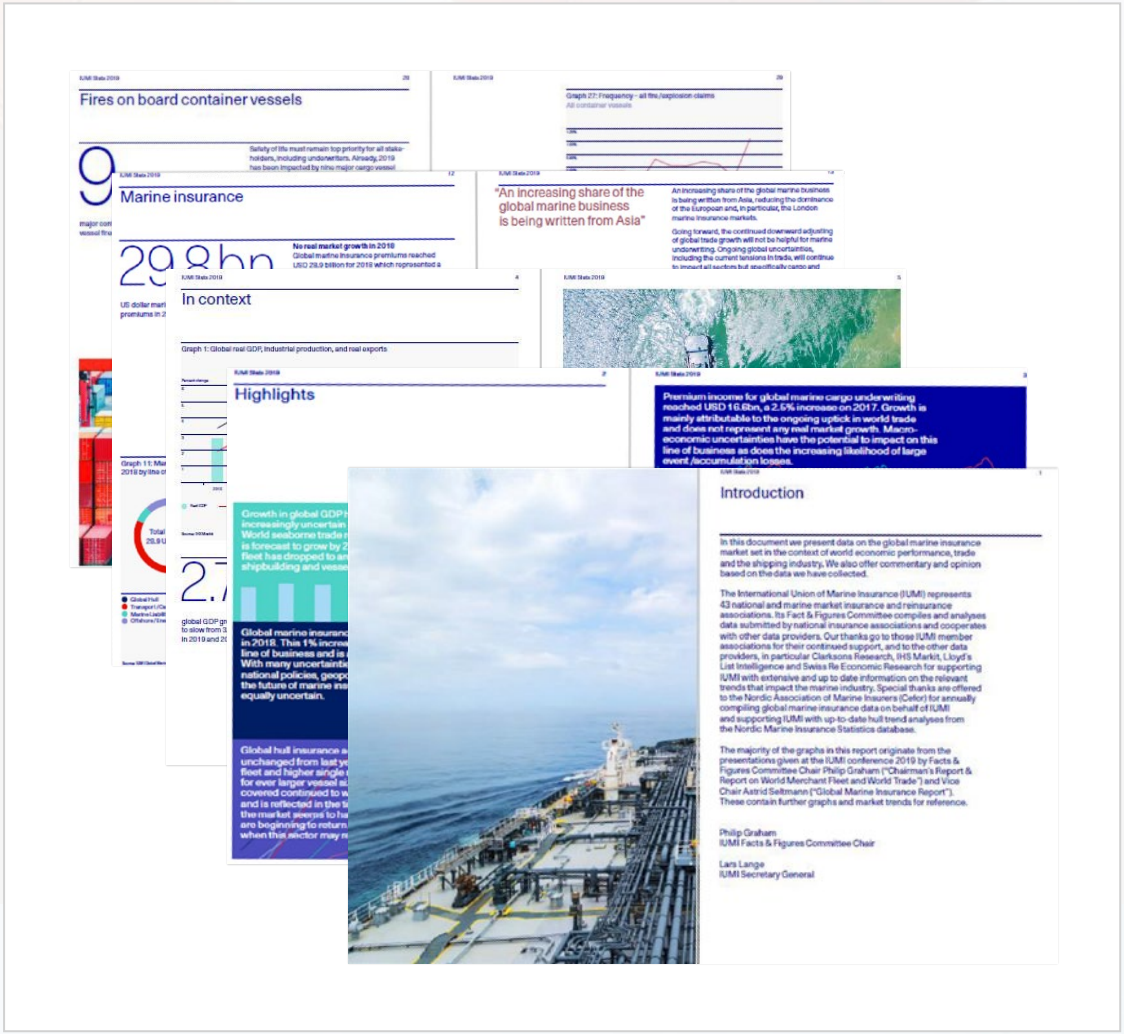
- American Institute of Marine Underwriters (AIMU) www.aimu.org
- International Union of Marine Insurers (IUMI) www.iumi.com
- Inland Marine Underwriters Association (IMUA) www.imua.org
- The Institutes, Associate in Marine Insurance Management Program (AMIM 121 Ocean Marine Insurance and AMIM 122 Inland Marine Insurance) http://www.theinstitutes.org/guide/designations/associate-marine-insurance-management-amim

International Union of Marine Insurance Statistics

Statistics link

https://iumi.com/statistics





Source: IUMI

Thank you for your attention!

Brian C. Stroop
Head of U.S., Global Marine & Energy Specialty
Guy Carpenter

Sean M. Dalton, CPCU, AMIM
Head of Marine, North America
Munich Reinsurance America, Inc.