

# Admiralty Law & Marine Insurance Update

## 2019 RVOC Meeting

### Scripps Institution of Oceanography



# Ship Happens...



# Outline

- World Insurance Market
- UNOLS Vessel Insurance
- Research Vessel News
- Regulatory News
- Recent Legal Decisions



# World Insurance Market

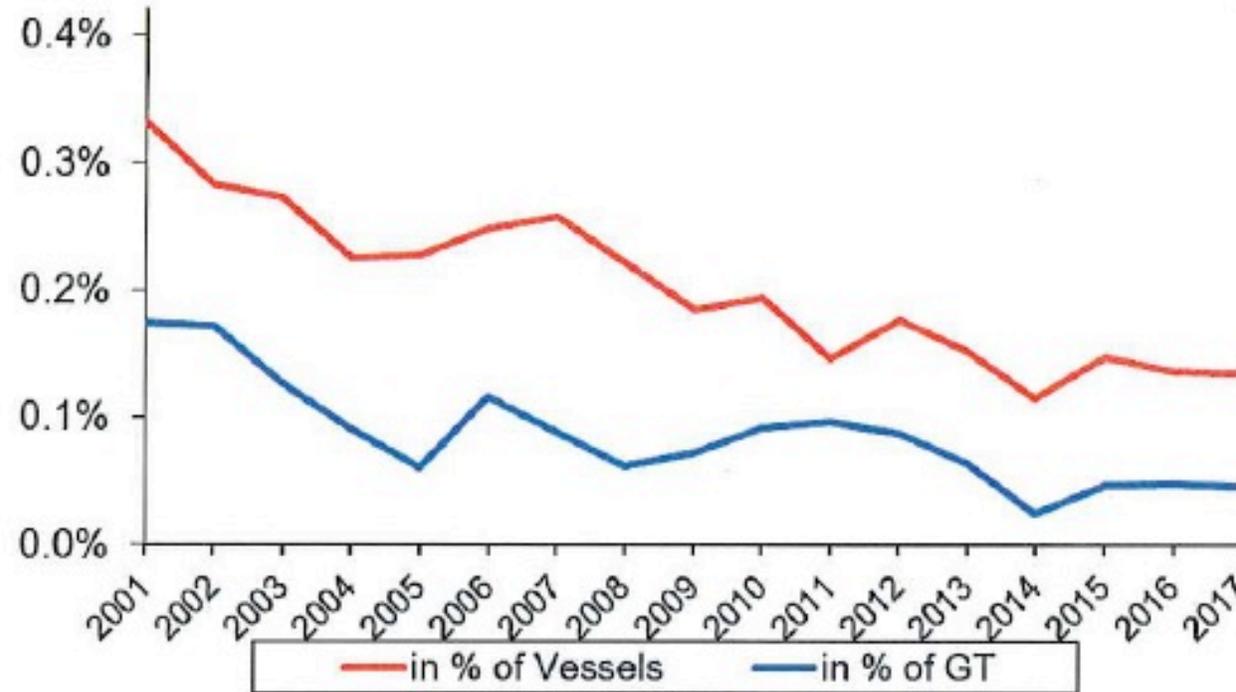


# Total Losses 2001-2017

As a % of World Fleet (Vessels > 500 GT)



- Downward trend in total losses as a percentage of World Fleet

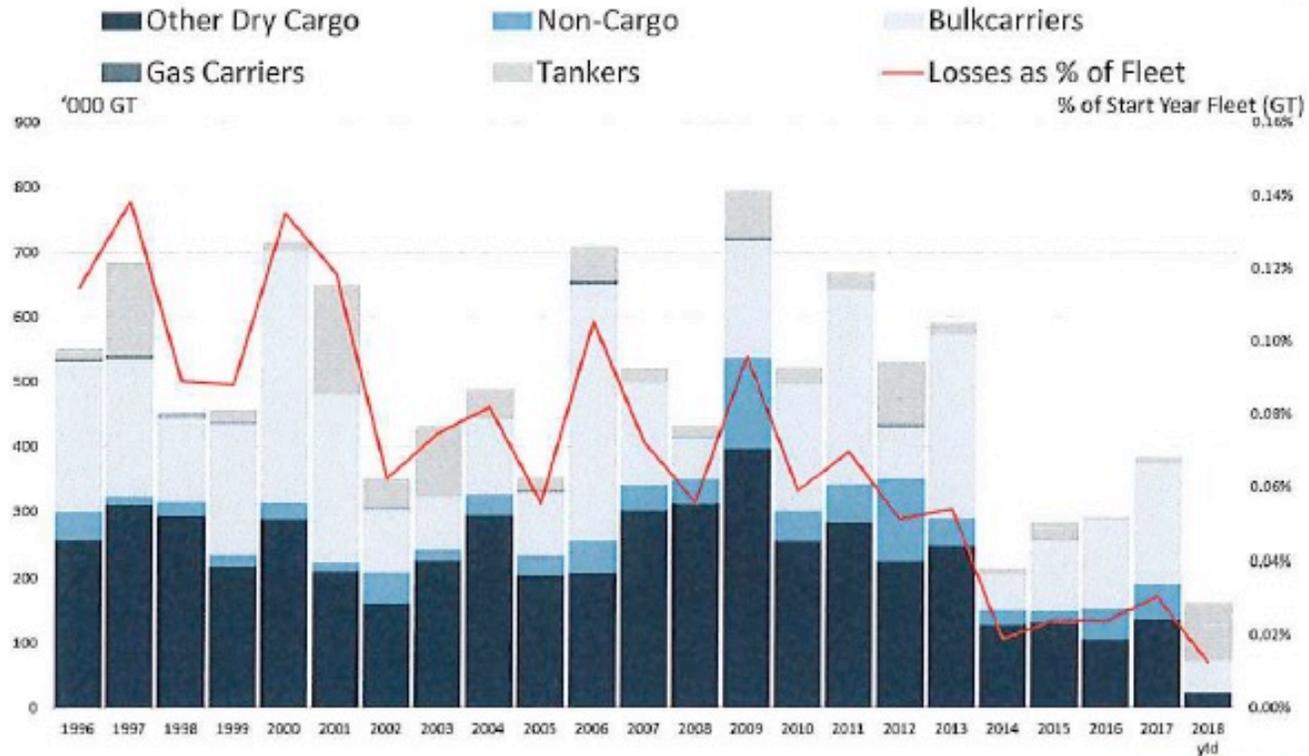


Source: Fleet numbers : Clarkson Research Services  
Losses: LLI, total losses as reported in Lloyds List

Source: IUMI 2018 Casualty and World Fleet Statistics  
Clarksons Research



# Losses By Vessel Type



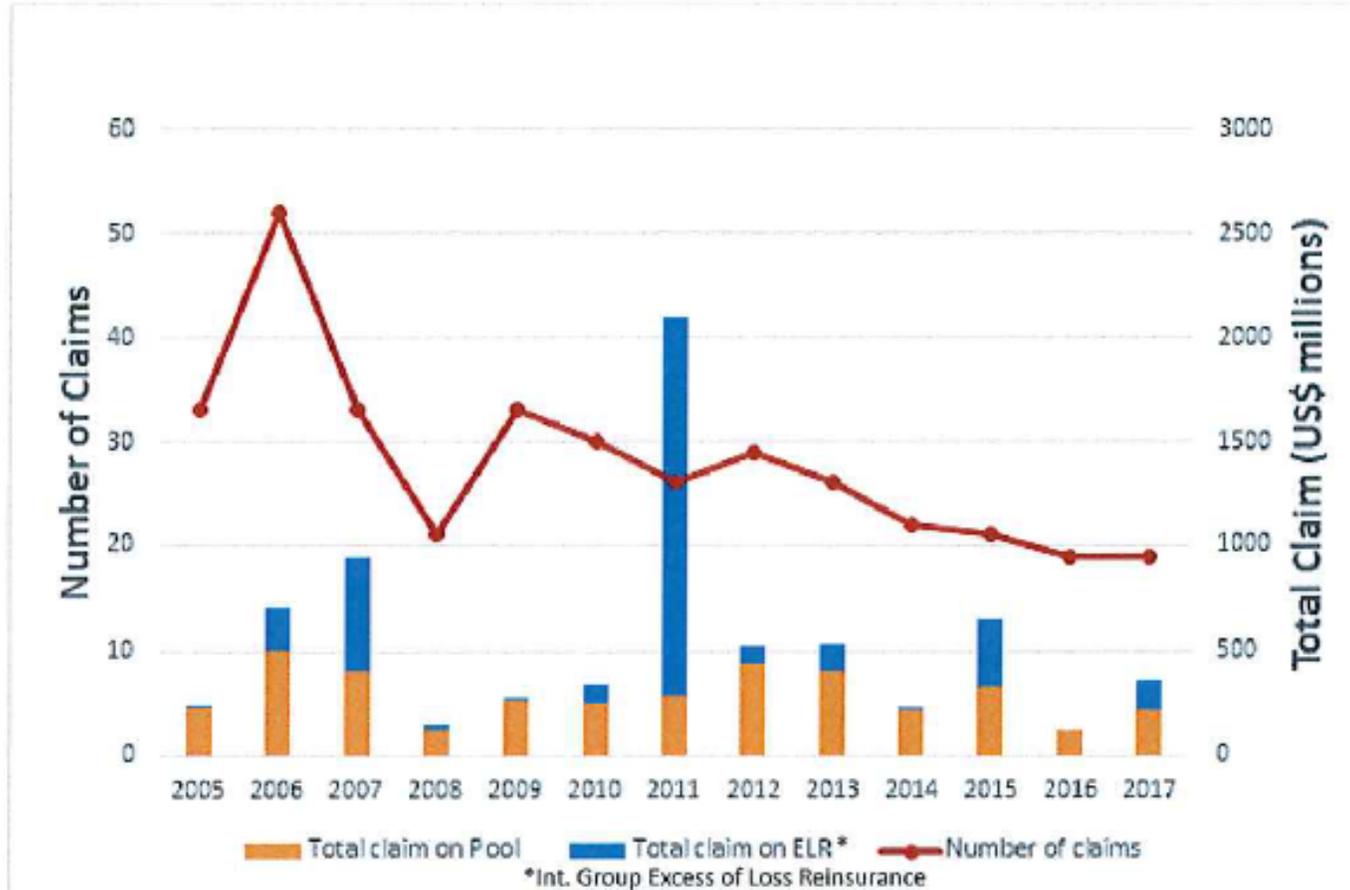
2018 ytd = Jan-August 2018  
September 2018

Data Source: Clarksons Research, August 2018



# P&I – Pool claims by policy year

Source: International Group of P&I Clubs



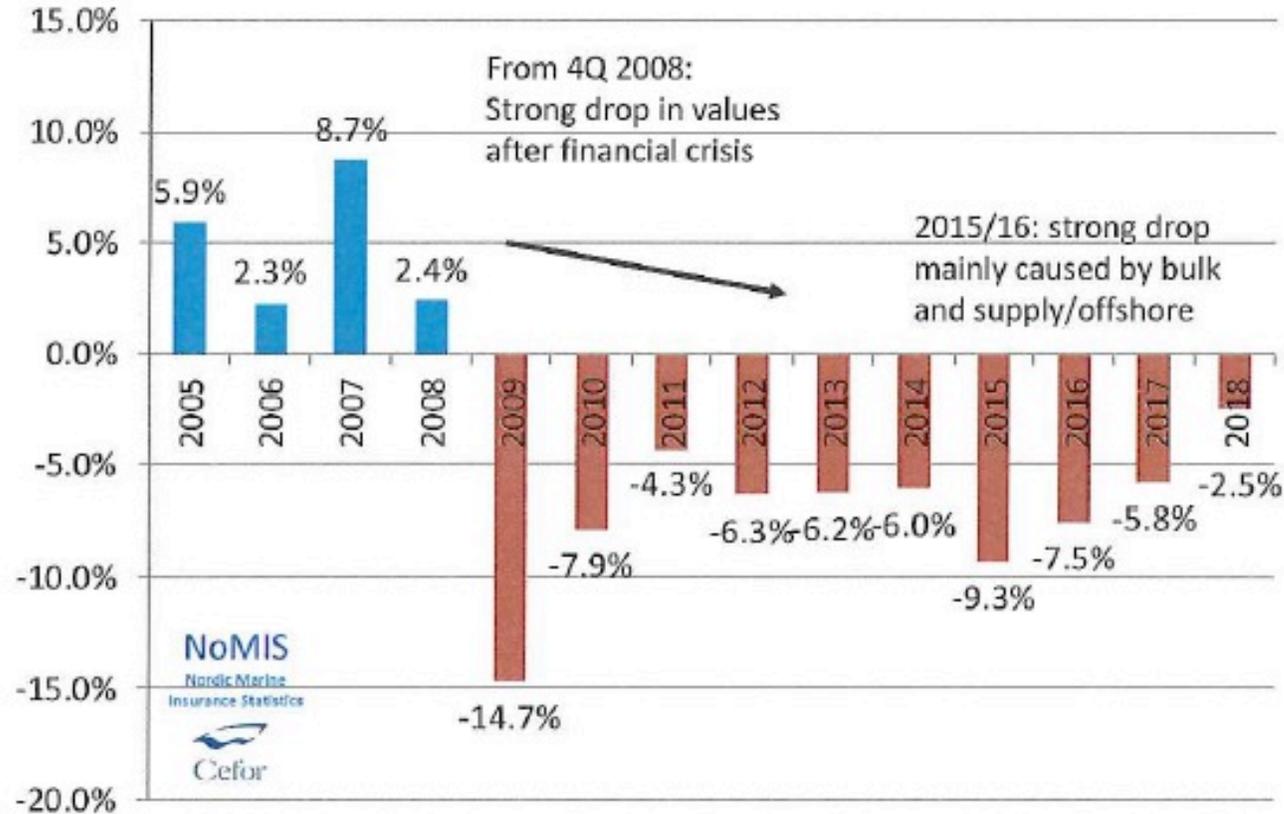
Modest recent impact of pool claims – but P&I is a complex business with high liabilities!

More information at [www.igpandi.org](http://www.igpandi.org)



# Change in values on renewal

= vessel value on renewal / vessel value previous uw year (same vessels in both years)



2017 bulk market recovering.

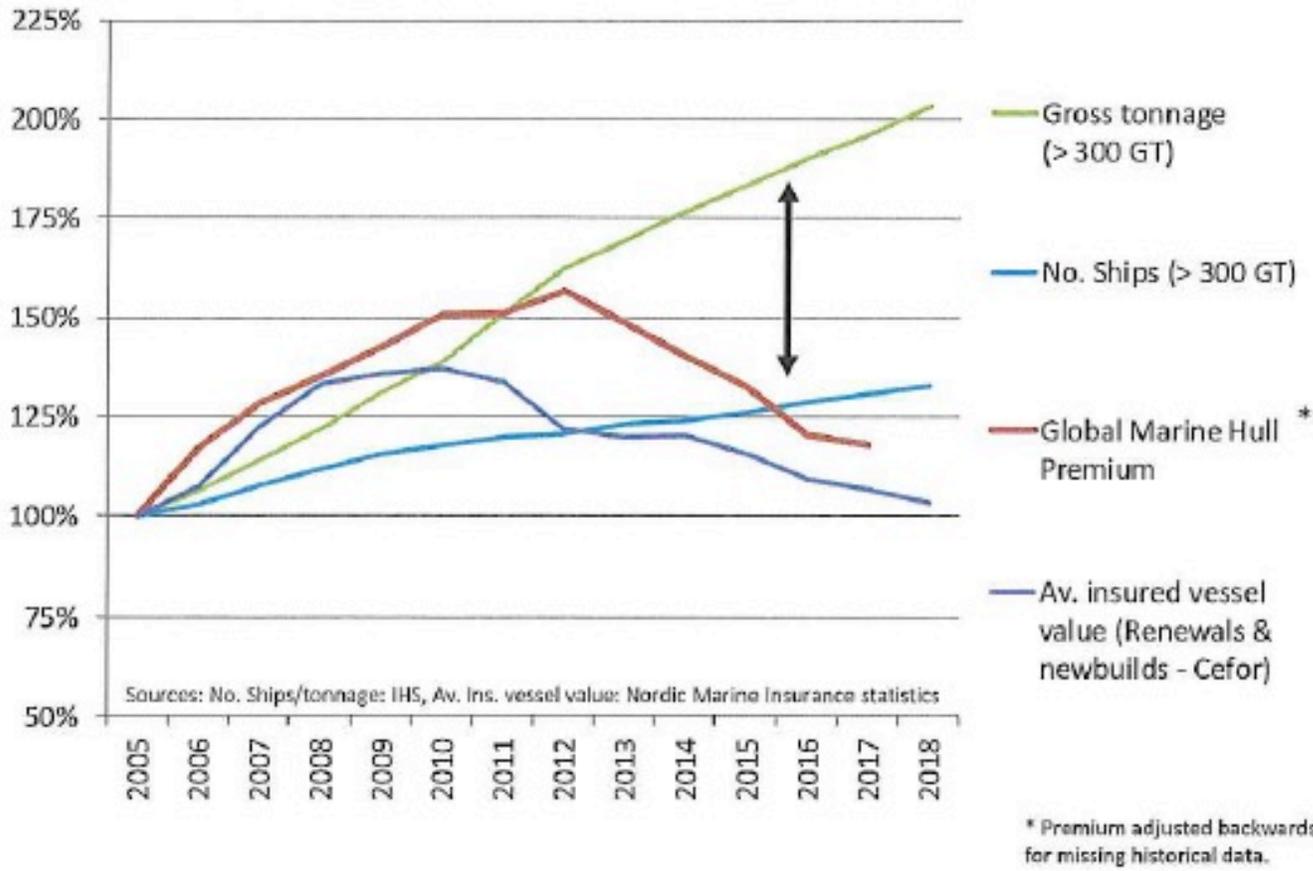
2018 some recovery in supply/offshore (increased activity with rising oil price).

Some value reduction expected due to aging of vessels (same vessels compared for two executive years).



# Hull Premium / World Fleet

Index of evolution, 2005 = 100%



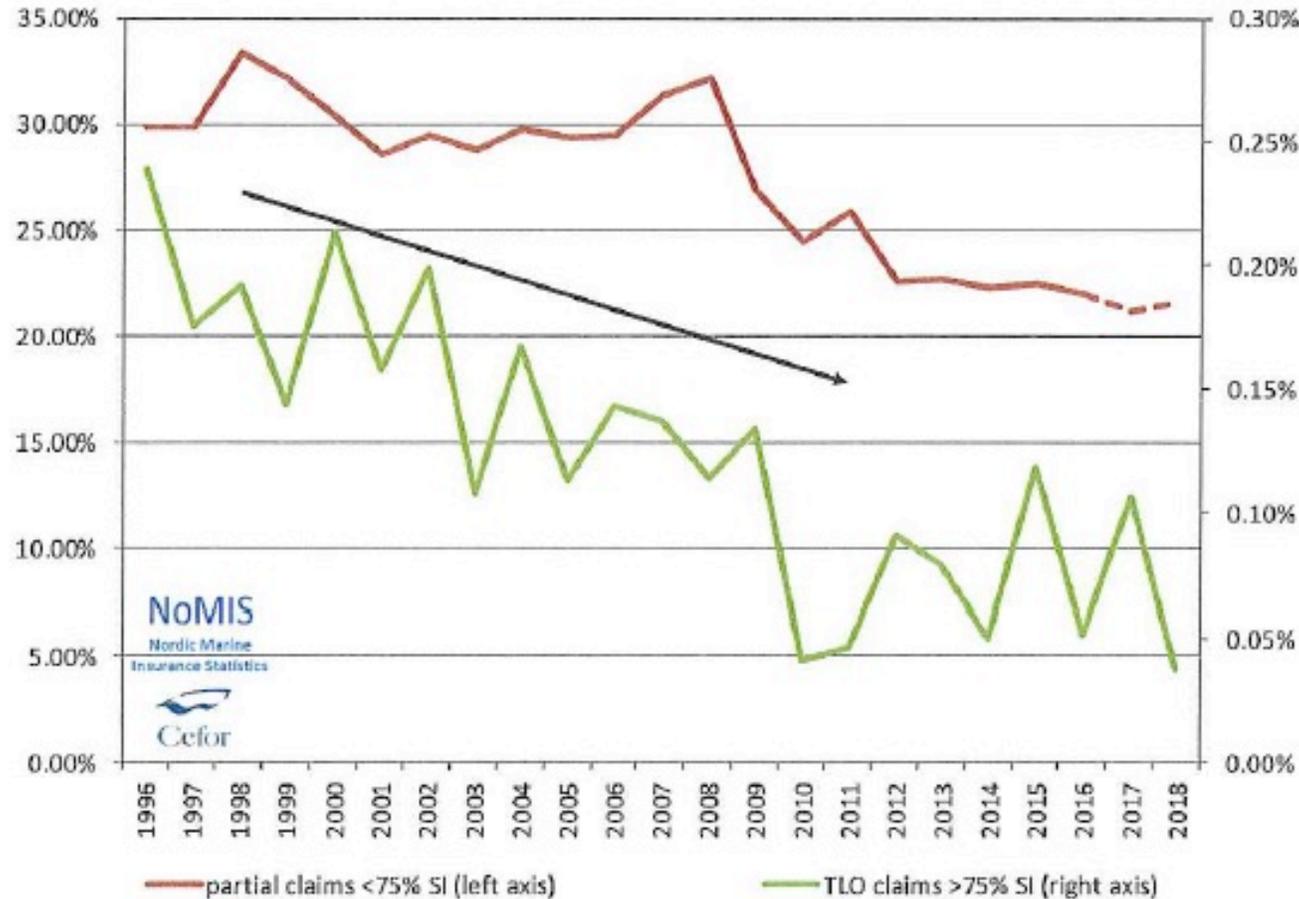
World fleet continues to grow, especially in tonnage.

Hull premium deteriorates in line with ship values.

Increasing mismatch between fleet/vessel growth and income.



# Claims frequency



## All claims frequency

Long-term downward trend, stable in recent years.

## Total losses

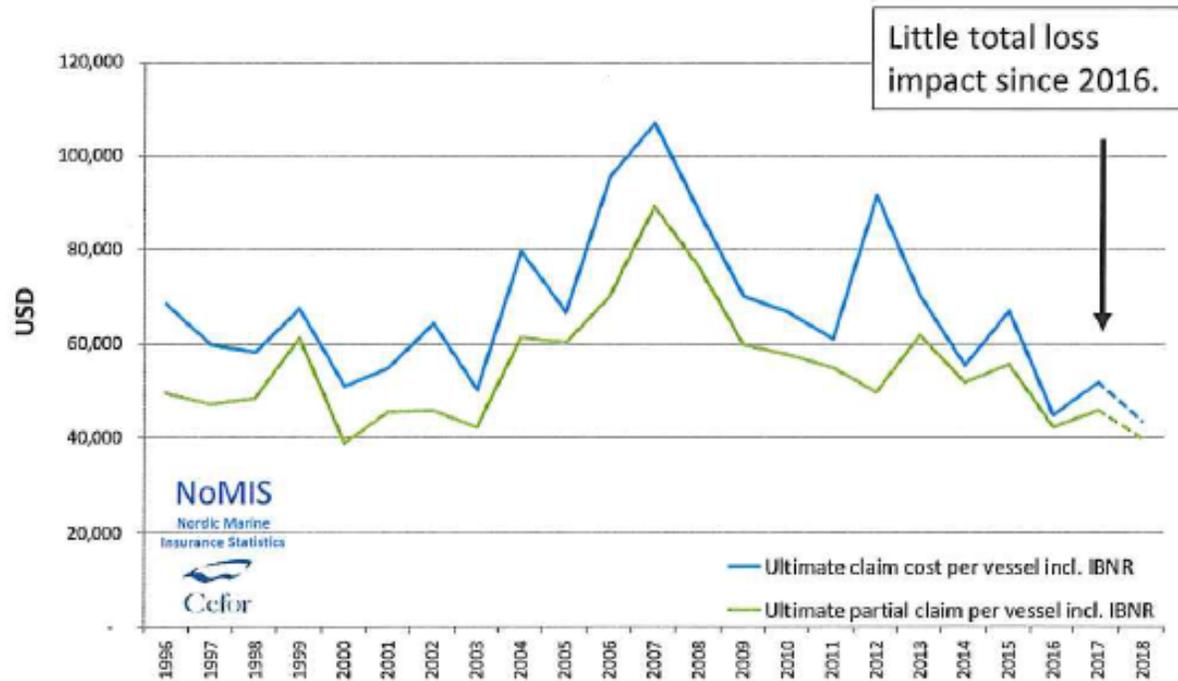
Long-term positive trend.  
Recent fluctuation 0.05% - 0.1%.

Reduced vessel values increase the probability of constructive total losses.



# Claim cost per vessel

Total and partial claims, by accident year, in USD



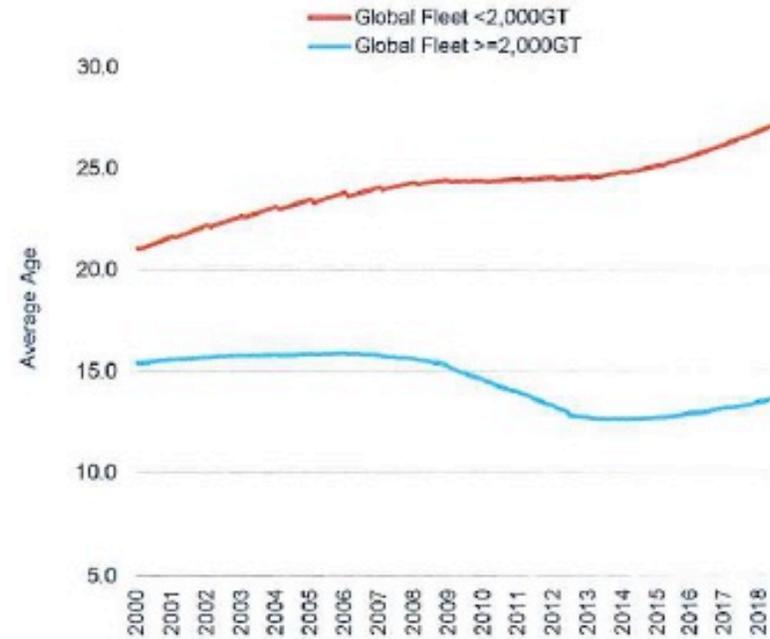
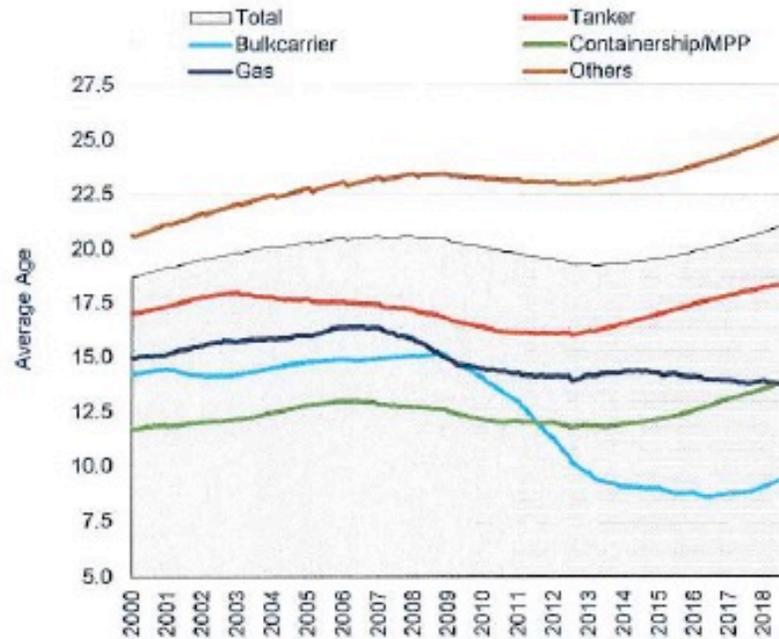
Reduced total loss impact in recent years.

Partial claim cost per vessel stable at moderate level.

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# Average Age of the World Fleet



Source: Clarksons Research, August 2018

Note (1): Includes all vessels in these categories above 100 GT.

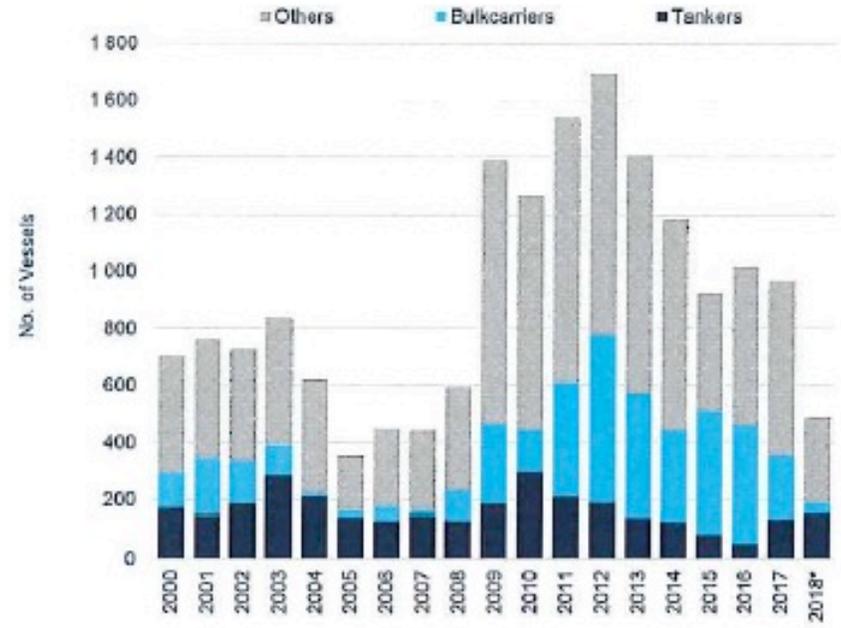
Note (2): Average age is calculated using number of vessels. Calculations are based on year and month of build.



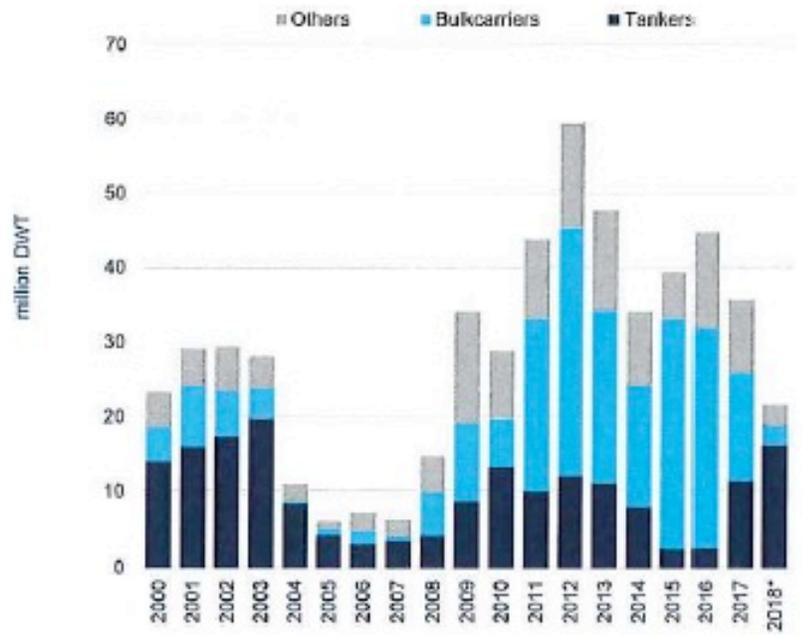
# Demolition Levels



Historical Global Demolition Totals (No.)



Historical Global Demolition Totals (DWT)



Source: Clarksons Research, August 2018  
 Note (1): Includes all vessels above 100 GT.  
 Note (2): 2018\* = year to date



# Shipbuilding deliveries by Country



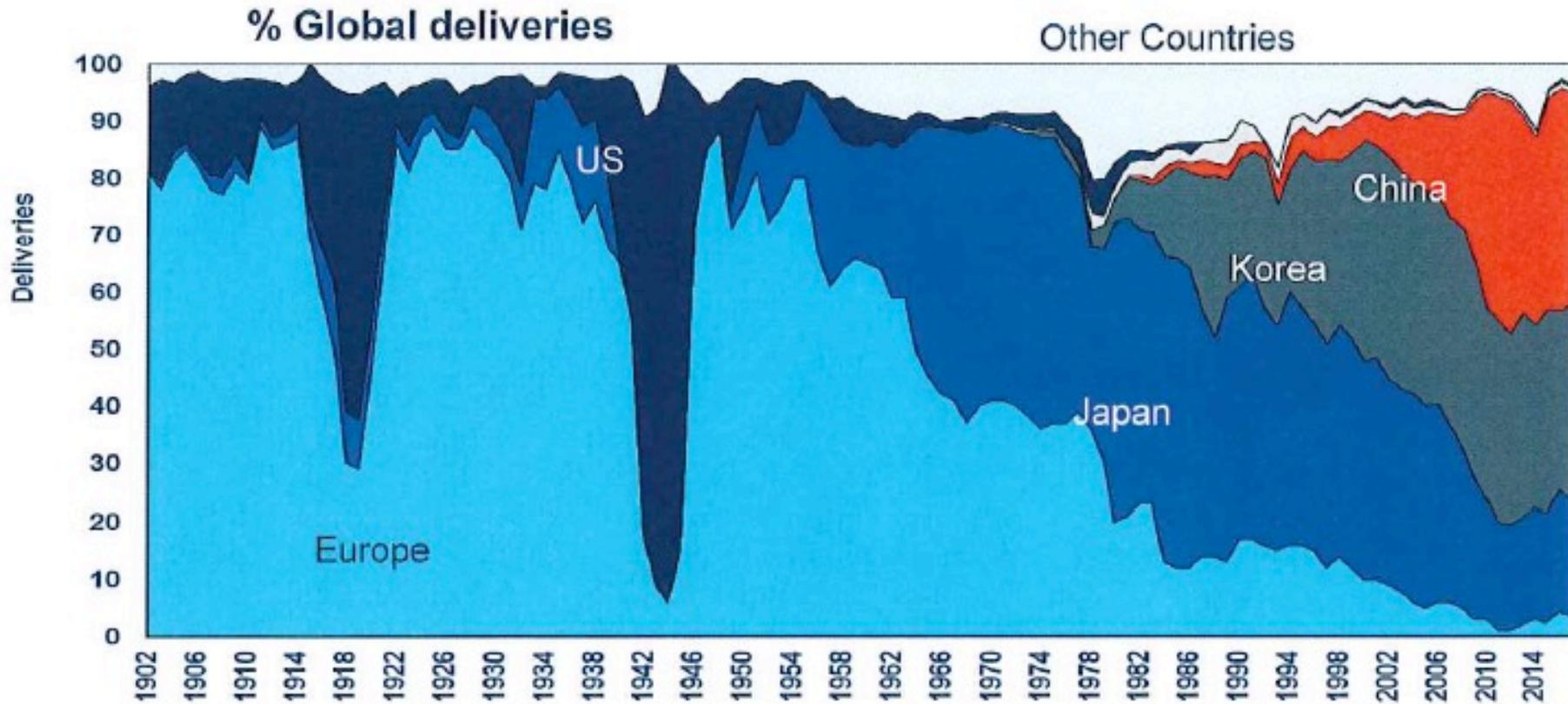
Million CGT Output in 2017



Source: Clarksons Research, March 2018



# Historical Shipbuilding shares (GT)



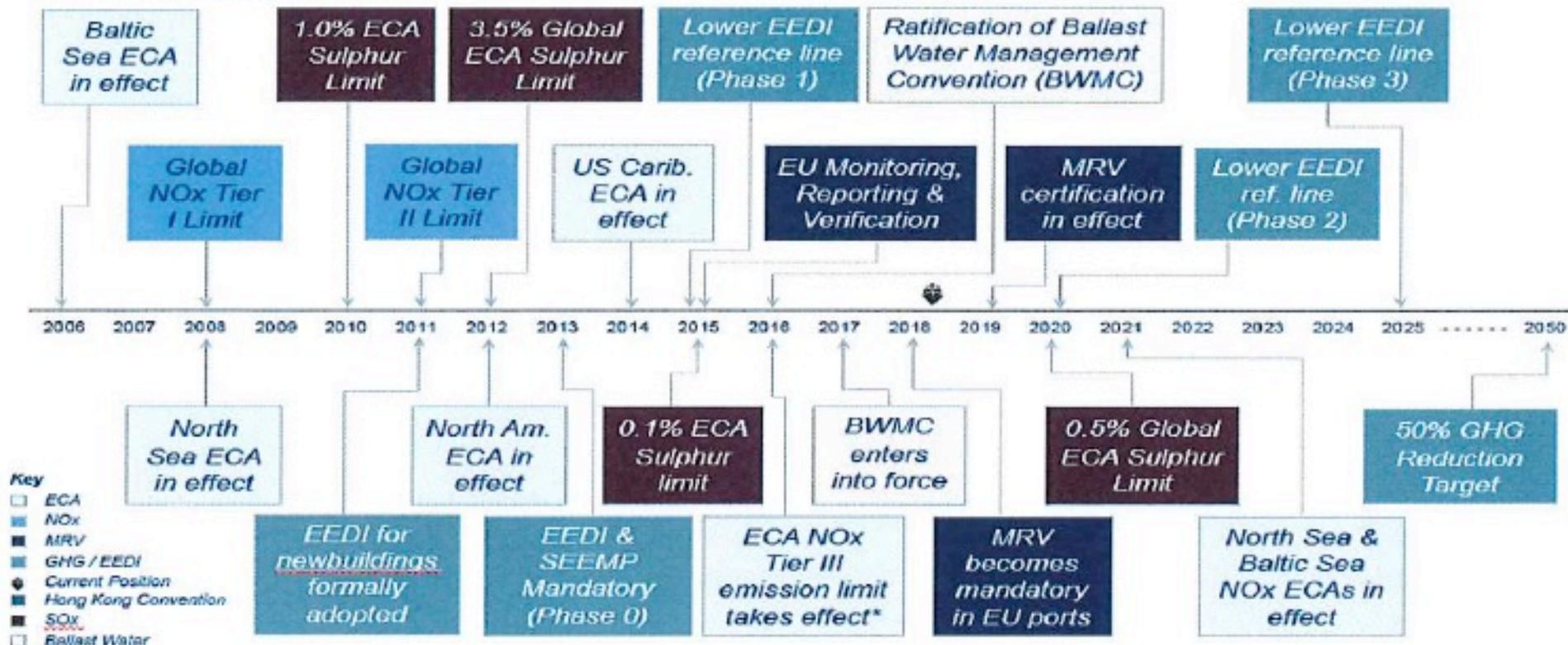
Source: Clarksons Research, March 2018



# Environmental Regulation timeline accelerating

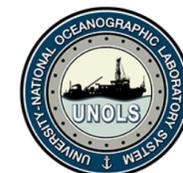


\*At the MEPC 66 it was decided that, as of 1st September 2015, Tier III limits within future ECAs will only apply to ships built after the date of adoption of the ECA, or a later date as may be specified in the amendment designating the NOx Tier III ECA.



Source: Clarksons Research, August 2018

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# Issues to monitor



High-value risks

Oil price, fuel quality

Human factor/  
Qualification

Climate change

Changes in regulation (liabilities)

Fire on RoRo & Container vessels



Value accumulation

Arctic risks

Cyber risk

New technology

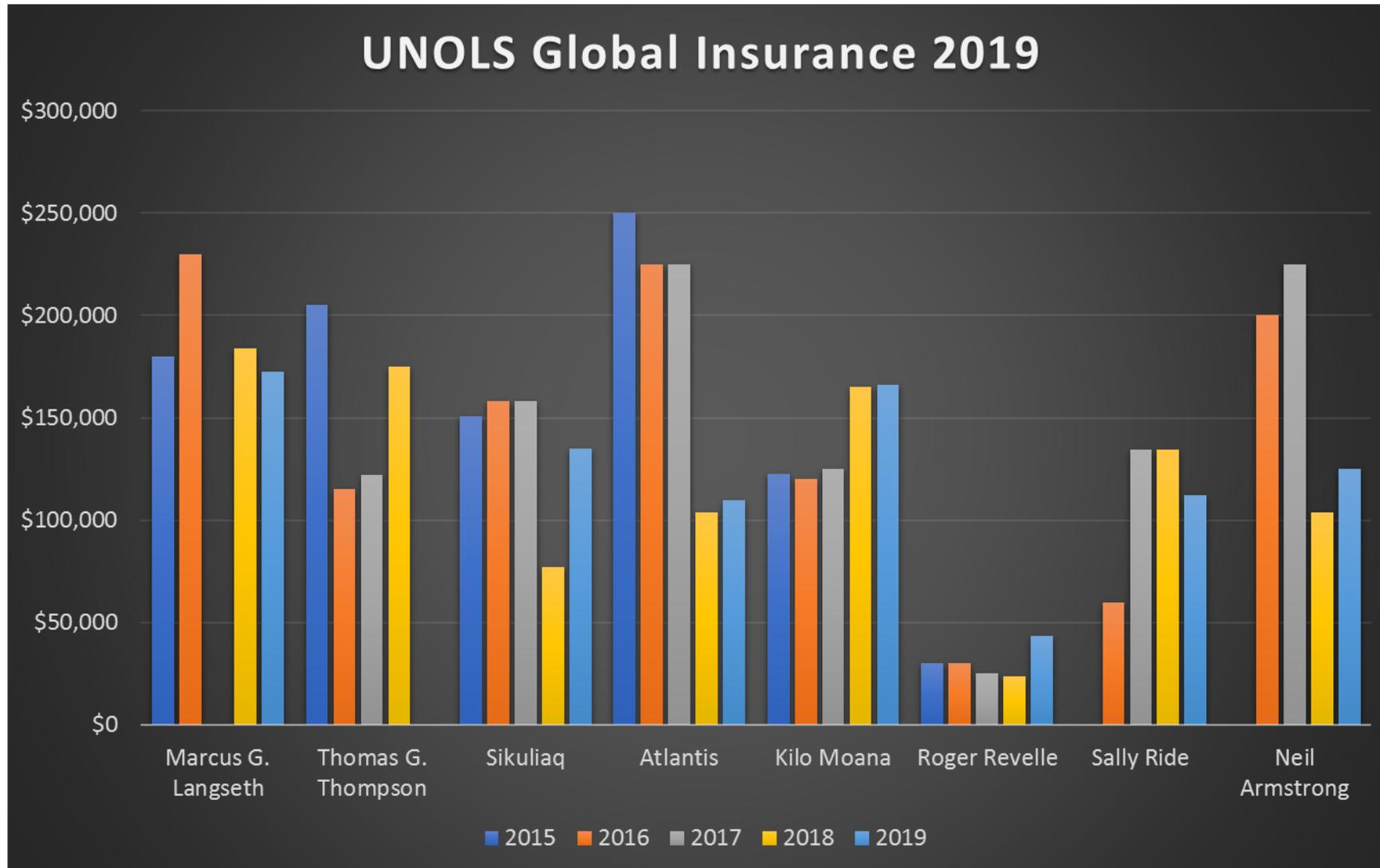
Internet of things/complex technologies



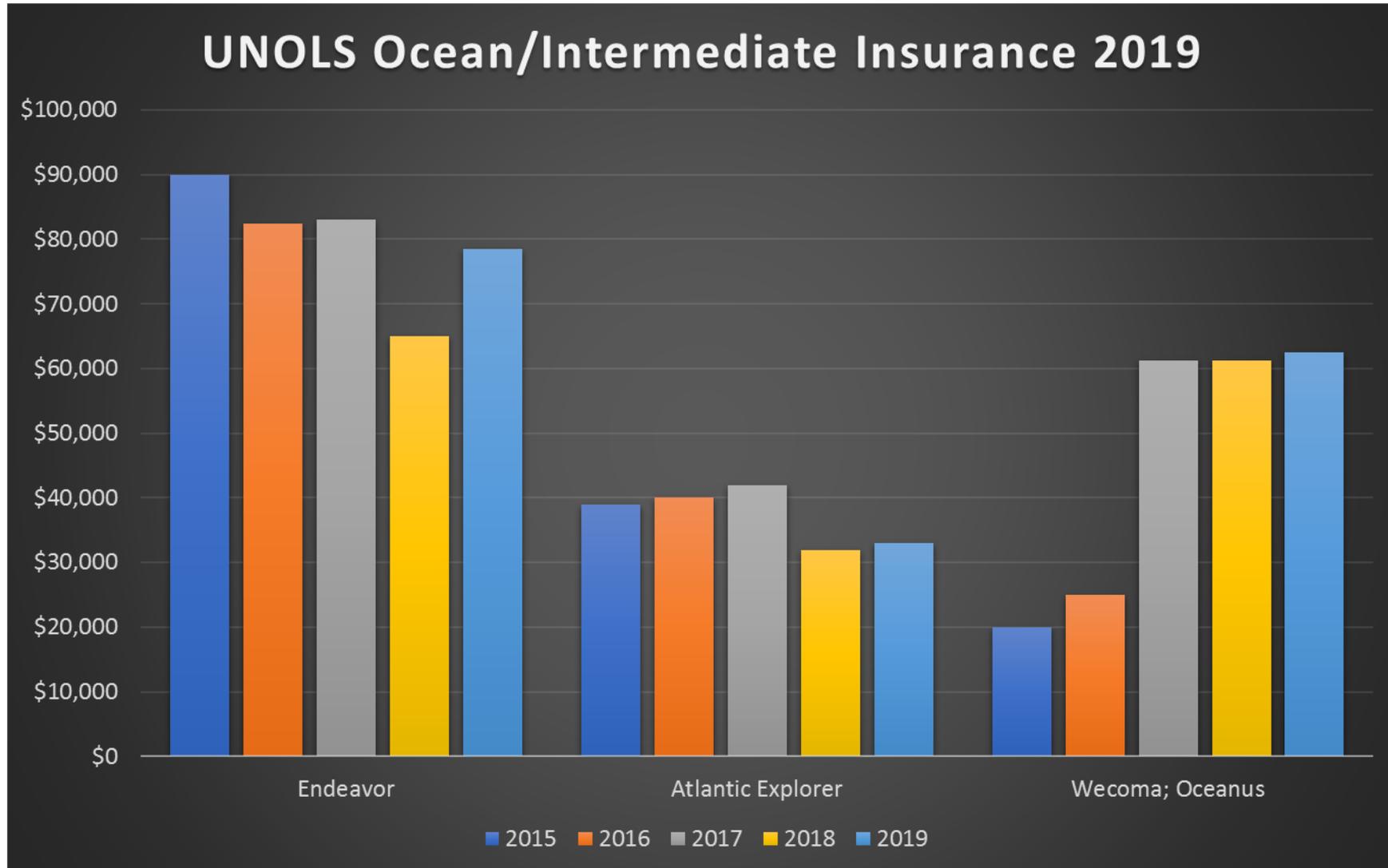
Navigation



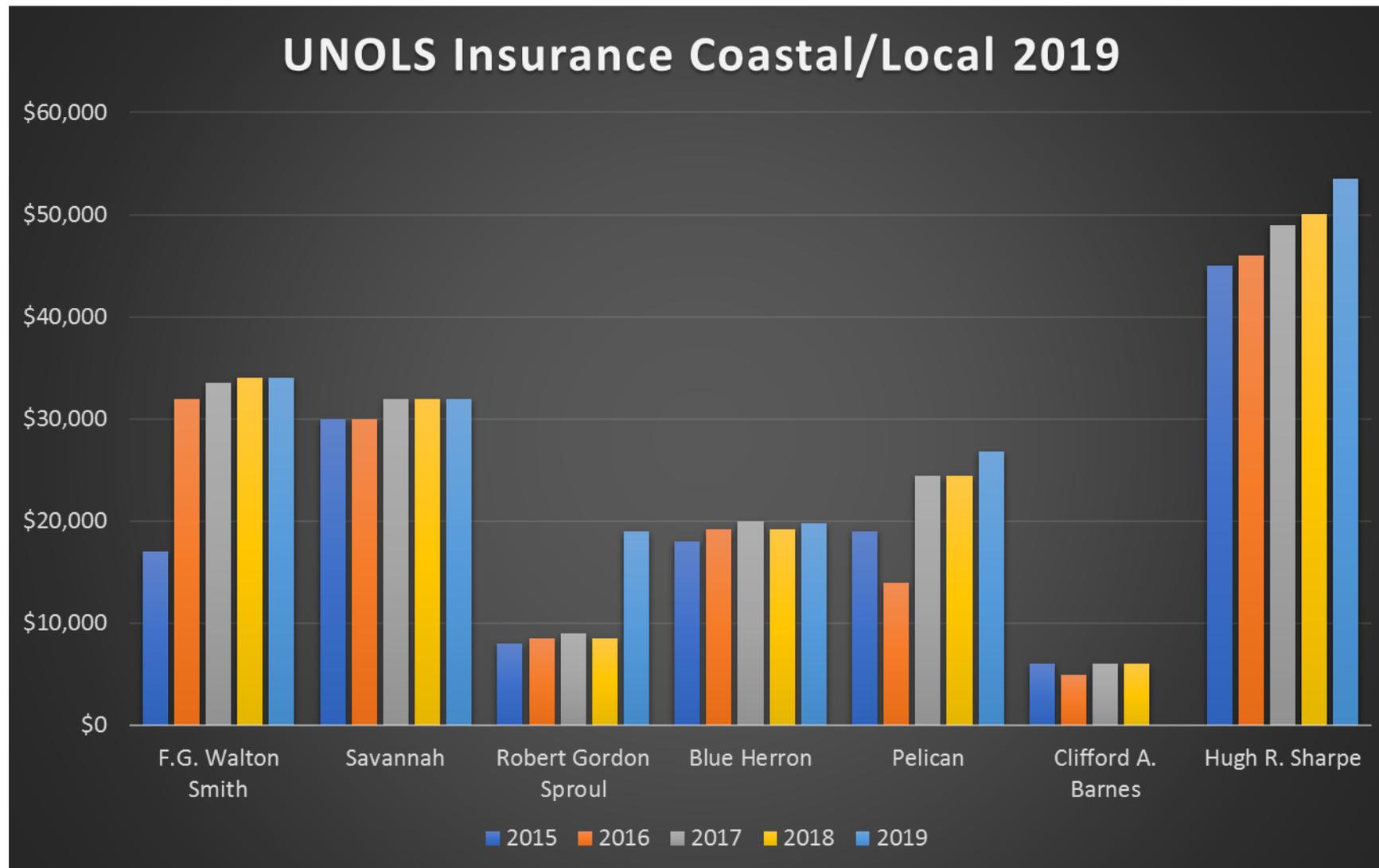
# UNOLS Global Insurance 2019



# UNOLS Ocean/Intermediate Insurance 2018



# UNOLS Coastal/Local Insurance 2018



# Research Vessel News



# Research ship with students runs aground

- 8/24/18 Academic Ioffe runs aground near Nunavut, Canada
- Just 5 days later, IUMI announces new policy regarding insurance for arctic voyages



The Russian icebreaker Akademik Ioffe, operated for One Ocean Expeditions, ran aground in the Arctic on August 24. The ship left Kugaaruk, Nunavut, on Thursday the 23rd, before grounding in the Gulf of Boothia in the early afternoon Friday.

## UNIVERSITY OF RHODE ISLAND

## Research ship with students runs aground

By Linda Borg  
Journal Staff Writer

**SOUTH KINGSTOWN** — A research vessel carrying a team of University of Rhode Island scientists and students ran aground Friday in the western Gulf of Boothia, a body of water in Nunavut, Canada.

All passengers and expedition members are safe, and there is no report of any injuries or environmental concerns.

The Akademik Ioffe had been refloated by Saturday morning, according to URI.

The University of Rhode Island Graduate School of Oceanography's Inner Space Center led a team of natural and social

scientists, students and a professional film crew to the Arctic Ocean's Northwest Passage on August 23 to conduct research aboard the One Ocean Expeditions' vessel.

University of Rhode Island officials are monitoring the situation and have been in contact with the Canadian Coast Guard, the American Embassy in Ottawa, and One Ocean Expeditions. All of the URI team were transferred to the Ioffe's sister ship, the Akademik Vavilov on Saturday afternoon. The Vavilov was scheduled to return to the port of Kugaarkut, Nunavut at Sunday. From there the team members will

fly to Yellowknife then to Edmonton and home.

Among the 36-member team, which included 16 undergraduates, four graduate students, and a post-doctoral candidate from universities and colleges around the country and Canada, were four URI Graduate School of Oceanography staff: Dr. Brice Loose, professor of oceanography and chief scientist of the expedition; Holly Morin, team coordinator and marine mammal scientist; Alex DeCiccio, video producer; and graduate student Zachary Kerrigan.

One Ocean Expeditions said the captain had reported the incident to

the appropriate federal and territorial agencies.

"We regret the inconvenience to our passengers and are working closely with the captain, ship owner and all relevant agencies to resolve the situation as quickly and safely as possible. We will provide updates as they become available," Catherine Lawton, general manager of One Ocean Expeditions, said in a statement. Using Facebook Live, the Northwest Passage Project would have allowed viewers worldwide to follow the project and discuss the team's research in a first-ever live interactive broadcast from the fabled Northwest Passage.



# Fire Breaks Out on Polar Star

## NEWS BITTS

### FIRE BREAKS OUT ON *POLAR STAR* AS IT PUSHES THROUGH ANOTHER ANTARCTICA MISSION

The crew of the Coast Guard icebreaker *Polar Star* fought a fire that broke out in the ship's incinerator compartment Feb. 10, the latest trouble to face the crew on their long deployments to Antarctica.

After expending four fire extinguishers trying to stop the fire, the crew needed two hours to put out the blaze. Damage from the fire was contained inside the incinerator, but several electrical systems and insulation nearby were damaged by firefighting water as the crew cooled down the incinerator exhaust pipe.

The 339'x83'6"x31' *Polar Star*, commissioned in 1976, is the sole U.S. heavy icebreaker. Its crew has dealt with mounting mechanical and electrical issues with the aging equipment during the annual Operation Deep Freeze, the joint military service mission that supports the National Science Foundation and its U.S. Antarctic Program.

The *Polar Star* crew departed their homeport of Seattle Nov. 27 for their sixth deployment in as many years and travelled more than 11,200 miles to Antarctica. While underway the crew dealt with breakdowns of a potable water evaporator and an electrical panel. Then while breaking through nearly 17 miles of ice, there were ship-wide power outages, and scuba divers had to go overboard to repair a propeller shaft seal.

With only one other icebreaker, the 420' medium icebreaker *Healy*, the U.S. has almost no self-rescue ability if either ship were to become stranded in the polar regions. In its recent budget deal, Congress provided \$655 million to begin construction of the first in a new class of six heavy icebreakers – or “polar security cutters,” as Coast Guard advocates have dubbed them. — K. Moore

simonsen  
vogtwing



Maritime law in the wake of the **unmanned vessel**



# IMO Moves Forward to Address Autonomous Ships



IMO Moves Forward to Address Autonomous Ships

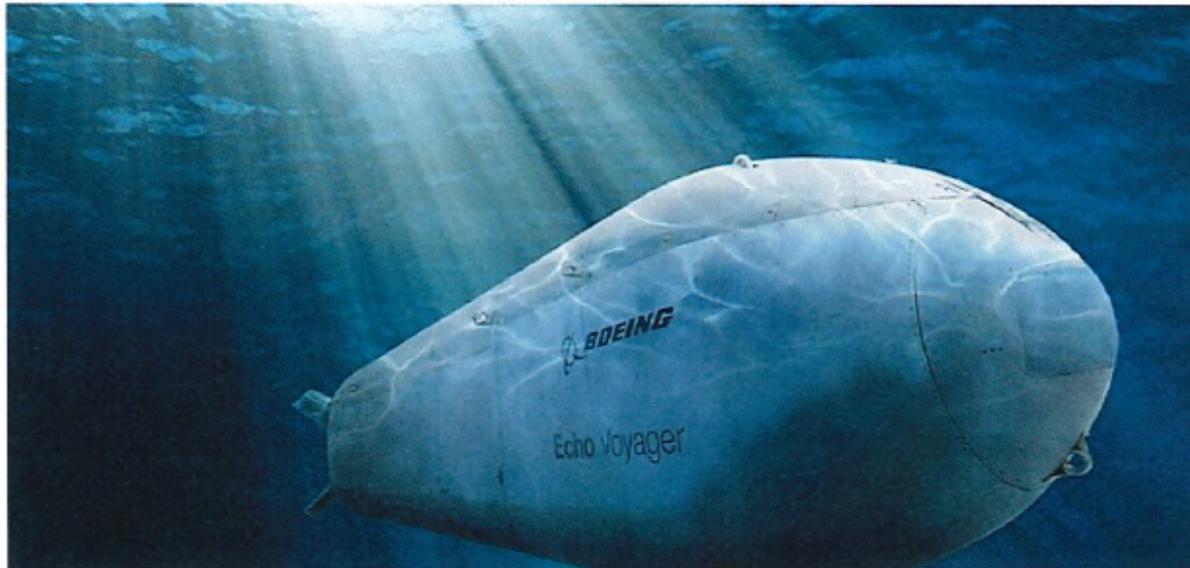
The International Maritime Organization (IMO) has agreed on a definition of so-called Maritime Autonomous Surface Ships (MASS) as well as on a framework for analyzing the applicable IMO regulations.

# Boeing wins contract for autonomous subs

## Boeing wins \$43 million contract for autonomous submarines

By Kirk Moore on FEBRUARY 21, 2019

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Boeing's Echo Voyager autonomous submarine is the model for the Navy's planned Orca subs. Boeing image.

autonomous diesel-electric submarine that has demonstrated a top speed of 9 knots and capability to dive to 11,000' depth.

The naval version will have a 34' payload bay with a 2,000 sq. foot volume, and the Navy envisions using it for stealthy missions including mine laying and mine detection and sweeping. It is a major step forward in the Navy's drive to acquire autonomous vessels, which started with relatively modest missions such as unmanned surveillance and security boats.

The Navy has awarded **Boeing Co.** a \$43 million contract to build four 51' unmanned submarines, capable of ocean-crossing autonomous navigation for military missions.

# Autonomous Navy Vessel Completes California – Hawaii Voyage



The Navy autonomous test vessel *Sea Hunter* undergoing sea trials in the Willamette River at Portland, Ore., in 2016. DARPA photo.

The Office of Naval Research's 132' trimaran *Sea Hunter* became the first ship to successfully autonomously navigate from San Diego to Pearl Harbor, Hawaii, and back according to ONR's program contractor.

# World's First Deepsea Mining Vessel Launched

- The Nautilus New Era was launched at the Mawei Shipyard in China on March 29, 2018
- It is expected to begin operations in the Bismarck Sea off Papua, New Guinea in approximately one year
- Resources to be exploited include 1 million tons of polymetallic sulfides that are rich in copper and gold



- Three large collecting and cutting machines will work on the ocean floor at a depth of 1500 meters

# New Zealand Quashes Seabed Mining Operation



Hector's Dolphin

BY [MAREX](#) 2018-08-28 18:52:46

The High Court of New Zealand has quashed the Environmental Protection Authority's green light for Trans-Tasman Resources' experimental seabed mining operation off the coast of Pātea, in Taranaki.

The EPA had granted the company consent to dig up 50 million tons of the South Taranaki Bight seabed in a 66 square kilometer area for 35 years to mine 5,000 tons of iron ore a year.

# Canadian Coast Guard's Newest Vessel Crashes into Pier

The Sir John Franklin at port in Ogden Point Sunday. Damage can be seen on the port side.

*Global News*

The Canadian Coast Guard's newest vessel has already sustained some battle scars before even seeing service.

The Sir John Franklin had only been doing sea trials for a week when the 206-foot-long vessel ran into Victoria's Ogden Friday afternoon.



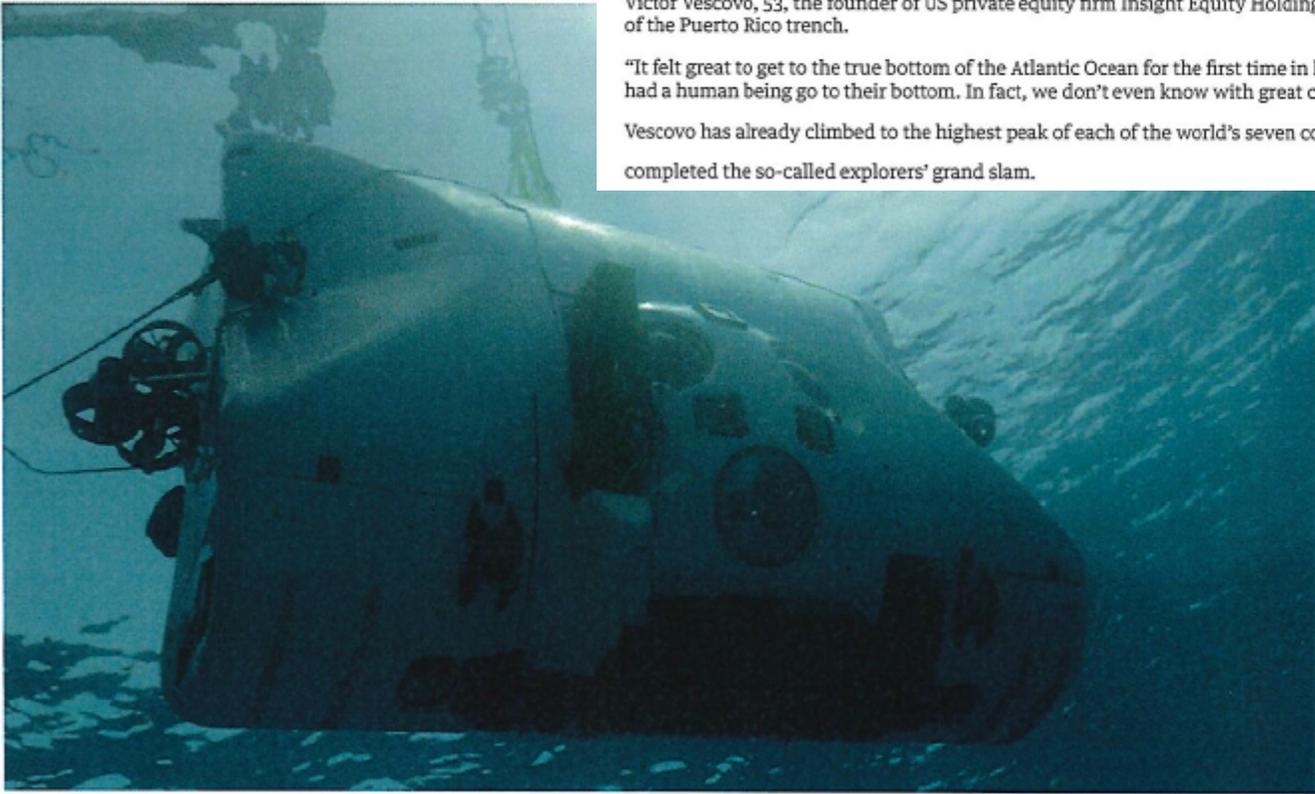
# Wall Street Trader Reaches Bottom of Atlantic in new \$48 million submarine

A multimillionaire Wall Street trader has become the first person to reach the deepest point of the Atlantic Ocean as part of an extreme mission to dive to the depths of the world's five oceans.

Victor Vescovo, 53, the founder of US private equity firm Insight Equity Holdings, on Friday piloted a \$48m (£38m) submarine 8,376 metres (almost five miles) beneath the ocean surface to the bottom of the Puerto Rico trench.

"It felt great to get to the true bottom of the Atlantic Ocean for the first time in history," Vescovo said. "Our depth of ignorance about the oceans is quite dramatic. Four of the oceans have never even had a human being go to their bottom. In fact, we don't even know with great certainty where the bottom of the four are."

Vescovo has already climbed to the highest peak of each of the world's seven continents and trekked to both the north and south poles. But he is not alone in that feat. At least 62 other people have also completed the so-called explorers' grand slam.



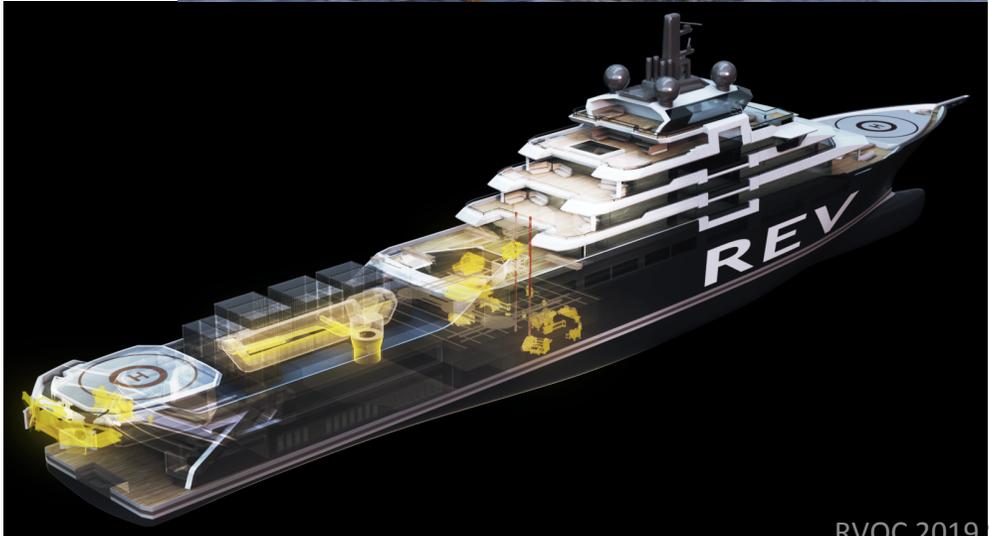
Victor Vescovo says: 'It felt great to get to the true bottom of the Atlantic Ocean for the first time in history.' Photograph: Richard Varcbe - Special Project Six



Victor Vescovo will now head to the South Sandwich trench in the Southern Ocean. Photograph: Caladan Oceanic

Insight Equity Holdings founder, Victor Vescovo, pilots \$48m submarine on historic dive

# Shipping Magnate Orders World's Largest Research Vessel



Norwegian shipping magnate Kjell Inge Røkke is underwriting the construction of a new 600-foot research vessel, and she will easily be the largest ship of her type when delivered.

The luxurious \$350 million vessel will be operated by a Røkke-owned research enterprise, REV Ocean. The design features extensive laboratory space, a moonpool and an enclosed launching bay on the port side. According to REV Ocean, the vessel will be able to accommodate 90 scientists and crew in its "research" mode.



# Scripps adds Coastal Research Vessel to Fleet

**A**rmstrong Marine USA, Port Angeles, Wash., has delivered a new, 42'x16'x5' fast coastal research vessel to Scripps Institution of Oceanography at the University of California San Diego.

The aluminum planing catamaran research vessel *Bob and Betty Beyster* will enable scientists at Scripps and others to conduct local research, technology development and ocean-based education. The vessel is expected to be available for use in San Diego later this spring.

The new workboat, designed by Armstrong Marine, has a draft of 2', a range of 800 kilometers (500 nautical miles), a cruising speed of over 25 knots and a top speed of 37 knots. There's capacity for six scientists and a boat operator.

The new vessel was made possible thanks to a \$1.2 million philanthropic initiative in honor of the late Dr. J. Robert Beyster, founder of Science Applications International Corp., and his widow Betty. — Ken Hocke



# Regulatory News



# Ballast Water Convention Enters Force in September, 2017



itime Executive

# Ballast Water Management Issues

- One year later, enforcement is uneven
- No strong consensus on “best available technology”
- Vessel Incidental Discharge Act passed in December 2018
- New discussion of shore-based systems for the discharge of ballast water
- Stand by for new proposed regulations with greater national consistency

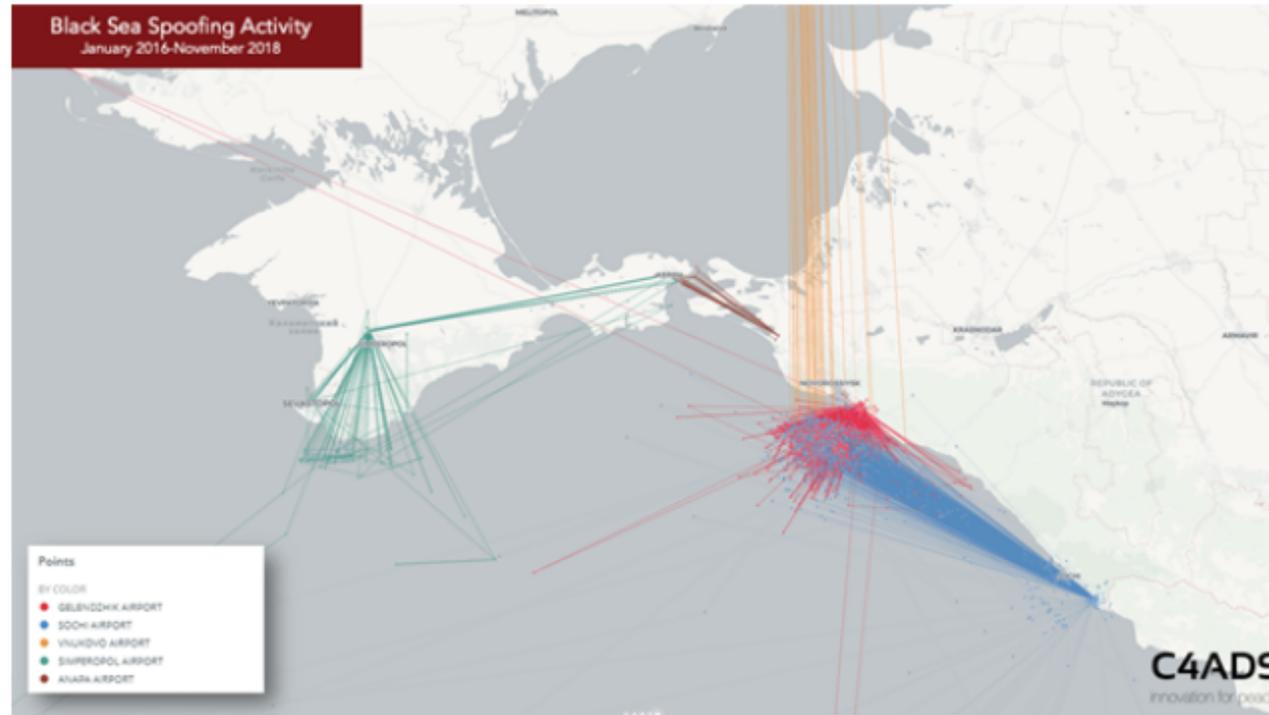
# IMO imposes cyber security on ship ISM

- IMO has given shipowners and managers until 1 January 2021 to incorporate cyber risk management into ship safety and have a specific plan as part of the ship's Safety Management System
- The NotPetya attack in 2017 had a significant impact on the global carrier Maersk
- How will increasingly automated ships be operated manually?



*The first session from the summit discussed the ramifications of IMO's requirement for changes to ISM Code*

# Report: Russian GPS Spoofing Threatens Safety of Navigation



BY [DANA A. GOWARD](#) 2019-04-02 10:32:17

A new report by the non-profit analytic group C4ADS shows that Russian jamming and spoofing of GPS signals is far more extensive and frequent than previously thought.

# Recent Cyberattacks on Ports of Barcelona and San Diego



Port of San Diego (file image)

BY [MAREX](#) 2018-09-27 19:07:00

The Port of San Diego has suffered a ransomware cyber attack affecting its IT systems, and federal law enforcement is investigating the source. The port says that the attack has affected its administrative functions related to park permits, public records requests, and business services, but has not interfered with normal seaport operations. The FBI and the Department of Homeland Security are involved in investigating the attack.



## *Second port cyberattack in two weeks*

A separate, unrelated attack hit the Port of Barcelona, Spain last week, and local media reported that it had an effect on cargo operations. The port warned on September 20 that delivery and reception of goods could be somewhat delayed. However, on Saturday, the port authority said that the attack had no effect to "seaside and land operations," only on internal "functionalities." It has not provided specifics about the nature of the attack.



## ABS' and Lamar University's Mariner Safety Research Initiative



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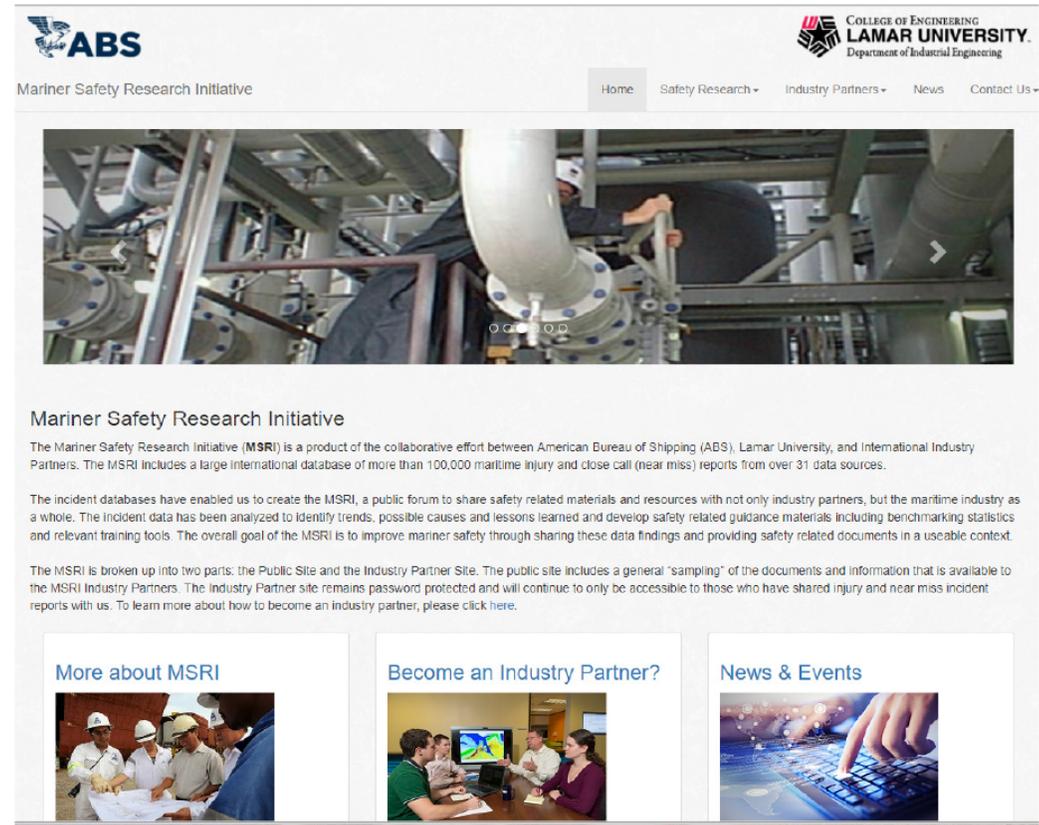


# ABS' and Lamar University's Mariner Safety Research Initiative

- On May 10, 2018, the American Bureau of Shipping, the American P&I Club, and Lamar University launched a new initiative aimed at reducing maritime-related safety incidents. The initial focus of the partnership's analysis and industry guidance will be on slips, trips and falls, a significant cause of maritime injuries.
- The ABS Mariner Safety Research Initiative will build on the existing research that shows that the most common causes of slips, trips, and falls are situational awareness (40%) and poor housekeeping (29%).
- UNOLS will be participating in this initiative

# Mariner Safety Research Initiative (MSRI) - Overview

- ABS/LU/maritime industry cooperative research effort to improve the health and safety of seafarers
- Online initiative includes:
  - 3 searchable databases:
    - near miss database
    - injury database
    - repository (document portal) of pragmatic safety data
  - Results of ABS/LU's consolidated Safety Culture data set



**ABS** COLLEGE OF ENGINEERING  
**LAMAR UNIVERSITY**  
Department of Industrial Engineering

Mariner Safety Research Initiative

Home Safety Research Industry Partners News Contact Us

**Mariner Safety Research Initiative**

The Mariner Safety Research Initiative (MSRI) is a product of the collaborative effort between American Bureau of Shipping (ABS), Lamar University, and International Industry Partners. The MSRI includes a large international database of more than 100,000 maritime injury and close call (near miss) reports from over 31 data sources.

The incident databases have enabled us to create the MSRI, a public forum to share safety related materials and resources with not only industry partners, but the maritime industry as a whole. The incident data has been analyzed to identify trends, possible causes and lessons learned and develop safety related guidance materials including benchmarking statistics and relevant training tools. The overall goal of the MSRI is to improve mariner safety through sharing these data findings and providing safety related documents in a useable context.

The MSRI is broken up into two parts: the Public Site and the Industry Partner Site. The public site includes a general "sampling" of the documents and information that is available to the MSRI Industry Partners. The Industry Partner site remains password protected and will continue to only be accessible to those who have shared injury and near miss incident reports with us. To learn more about how to become an industry partner, please click [here](#).

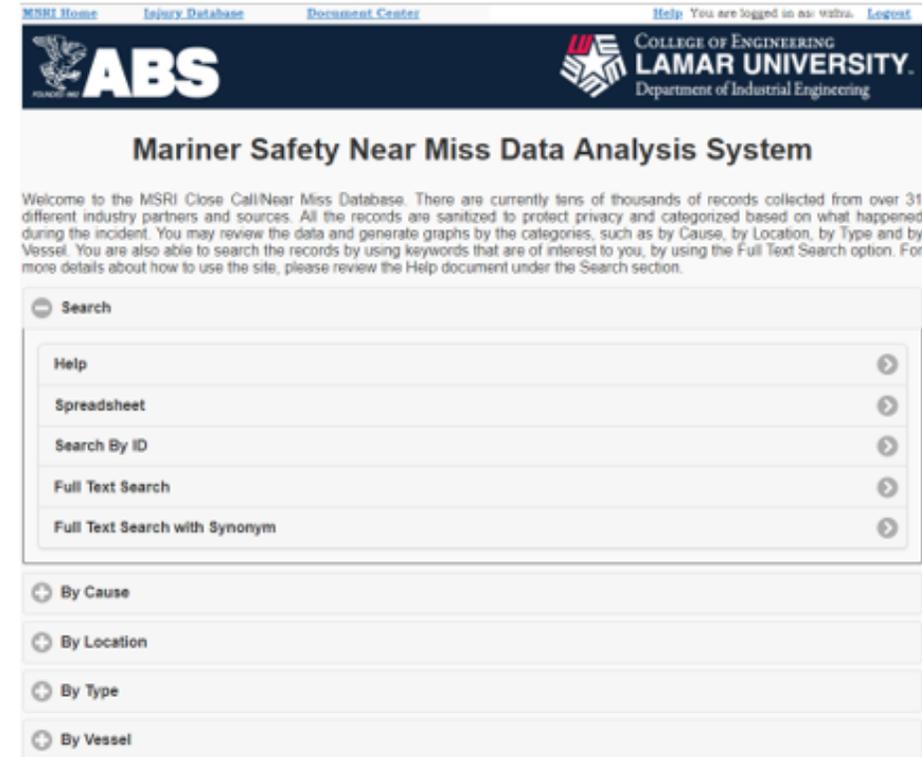
[More about MSRI](#) [Become an Industry Partner?](#) [News & Events](#)



# Near Miss and Injury Databases

- Objective: obtain and review incident and near miss reports from Industry Partners (IP's)
- Collected approximately ~ 120,000 records (injuries and near misses)
- Database represents more than 2,100 vessels and 50,000 mariners
- Constructed a database to
  - Identify trends
  - Create benchmarking statistics
  - Identify potential corrective actions
  - Identify potential lessons learned
- Develop and **share** results

3 | ABS/LU Mariner Safety Research Initiative



The screenshot shows the user interface of the Mariner Safety Near Miss Data Analysis System. At the top, there is a navigation bar with links for MSRI Home, Injury Database, Document Center, and Help. The user is logged in as 'waba'. The main header features the ABS logo and the Lamar University logo, which includes the text 'COLLEGE OF ENGINEERING LAMAR UNIVERSITY Department of Industrial Engineering'. The title of the system is 'Mariner Safety Near Miss Data Analysis System'. Below the title, a welcome message states: 'Welcome to the MSRI Close Call/Near Miss Database. There are currently tens of thousands of records collected from over 31 different industry partners and sources. All the records are sanitized to protect privacy and categorized based on what happened during the incident. You may review the data and generate graphs by the categories, such as by Cause, by Location, by Type and by Vessel. You are also able to search the records by using keywords that are of interest to you, by using the Full Text Search option. For more details about how to use the site, please review the Help document under the Search section.' The interface includes a search section with a 'Search' button and a list of search options: Help, Spreadsheet, Search By ID, Full Text Search, and Full Text Search with Synonym. Below the search section, there are four filter options: By Cause, By Location, By Type, and By Vessel, each with a plus sign icon.



# Identified Industry Need – Near Miss Program

	Component	Description
1	Awareness	Begins with visible senior management support, training of employees in the identification of hazards, near misses, and recognition of improvement opportunities
2	Reporting	Implemented and senior management supported system for reporting hazards and near misses, preferably electronic.
3	Investigation	Determination of the priority level (high, medium or low) depending on the potential outcome if the near miss was to become an incident. Based on the risk probability and severity, an appropriate investigation is conducted.
4	Root Cause Identification	The incident is analyzed and causes are evaluated until a detailed cause(s) is identified.
5	ID corrective actions and recommendations	Using education, experience, research, knowledge of the situation, brain storming, acceptable corrective action(s) and recommendations are made.
6	Dissemination	All near misses should be shared with the immediate crew and within the organization. If deemed valuable, the near miss investigation and outcomes should be shared with industry to raise awareness about the hazard or near miss.



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## Summary of Core MSRI Activities

- Products developed include, but are not limited to:
  - Create industry injury and near miss benchmarking/trending metrics
  - Create a library/database of corrective actions and lessons learned
  - Input to assist with improvement of SMS and corporate safety culture
  - Input to assist with incident investigations and root cause analyses
  - Input to assist with the development of Job Safety Analyses (JSAs) and other safety materials
  - Generic results from safety culture surveys and leading indicator studies
  - Tools for continual safety improvement
- Industry research requests:
  - Near misses related to poor procedures
  - Accommodations ladder injuries and fatalities
  - Near misses that resulted in vessel design modifications
  - Injuries on containerships including lashing/unlashing activities
  - Injuries related to hatches/manholes



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# MSRI Public Portal Link

<http://maritime.lamar.edu/>



# Relevant Legal Decisions



# Koch v. United States of America

- Koch was a contractor inspecting a vessel owned by the US government
- Koch fell while descending a poorly lit stairwell, sustaining serious knee and back injuries
- His \$2.83 million award was affirmed on appeal, despite the fact that he had significant pre-existing injuries

# Thomas v. Edison Chouest Offshore

- Thomas was the captain of the vessel C-Retriever when it was captured by pirates off the coast of Nigeria and was held for 18 days, enduring torture and malnutrition
- Thomas sued Edison for their negligence in failing to protect him, arguing that he suffered physical and mental injuries, including post-traumatic stress disorder
- In this preliminary ruling, the court found that he would have to submit to a psychological examination to support his mental distress claims

# Holzhauser v. Golden Gate

- Golden Gate attempted to limit its liability for the fatality of Holzhauser, who was in a small boat run over by Golden Gate's ferry
- Under the Limitation of Liability Act, limitation can only occur when the vessel owner does not have knowledge of the defect that caused the loss
- Testimony showed that Golden Gate was aware that their captains routinely used their cell phones while on watch, and that the captain was using his phone when the collision occurred
- Shipowner's limitation petition denied



# Shell v. Tesla Offshore

- Towfish pulled for Tesla by International alides with mooring cable for offshore production rig, causing shutdown, \$9 million in lost revenue
- Trial court found against Tesla and International, and refused petition to limit liability because the ship captain did not have a towing endorsement on his license
- Appeals court affirmed, creating a new grey area for the deployment of oceanographic instruments



# Duck Boat Casualties

- On 2/11/19, jury awarded \$123 million to victims of Seattle duck boat crash that killed 5 and injured more than 60 in 2015. The operator had ignored a service bulletin that the rear axle was defective
- In Branson, Missouri, 17 people died when a duck boat sank on Table Rock Lake in July 2018. Besides the negligence of the Captain during the voyage, the vessel had many unauthorized changes and clear safety violations. Some settlements reached, but litigation continues
- The captain faces federal criminal charges for admiralty misconduct

# Deepwater Horizon Litigation

- In the major class action in the Deepwater Horizon case, the plaintiffs were awarded a \$13 Billion recovery for damages
- In this case, the successful attorneys argued for a “reasonable” fee recovery of 4.3% of the total for themselves
- The court found that amount was indeed reasonable, and awarded them a total of \$550 million



# Questions?

