

THE REPORT



SEP 2025 | ISSUE 113

The Magazine of the International Institute of Marine Surveying

SMART MARINAS

**AGEING FLEET DRIVING
INCREASE IN INCIDENTS**

**ROTTEN WOOD AND POOR
INSPECTIONS CAUSED HISTORIC
MAINE SCHOONER DEMASTING**

**13 FIRE PROTECTION
EQUIPMENT ITEMS
TO CHECK ANNUALLY**

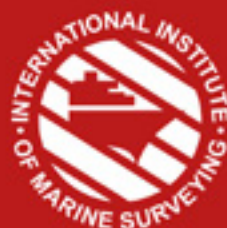
Navigating the Risks: Lithium-Ion Batteries, Electric Vehicles, and Fire Safety in the Maritime Industry

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EDITOR'S LETTER

Dear colleagues and fellow maritime professionals

Welcome to edition 113 of the Report Magazine, September 2025. Once again, I am pleased to be able to offer you an eclectic mix of maritime news and commentary, backed up with some technical articles of direct relevance to the surveying profession, as well as some more light-hearted, lifestyle related content too.

Accident reports always reveal a great deal and there are generally learnings to take away. In this issue, following the publication of the US Coast Guard investigation report, I have published a case study about the fatal Grace Bailey incident (page 111). A string of inspections failed to find the extensive wooden rot which contributed to the mast's failure. It is a shocking report.

New technology is never far away from us these days and I have chosen to reflect how our world is rapidly changing before our eyes in this edition. Increasingly I am willing to devote editorial space to the changing world we all face in the maritime industry. Love it or hate it, it is a reality. Recently, the *'Electric & Hybrid Marine Awards'* winners were announced. You can find out who took the accolades on page 124. 3D

printing is increasingly making the news. Who would have thought you could print a vessel and boat parts, but it is happening. Find out more in the first of two articles entitled *'Technology leads the way'* (page 95) and *'3D printed yachts'* on page 108. I also include the subject of lithium-ion battery technology under this genre. This new technology is causing major concern to marine surveyors who I speak with the world over. Regulators are struggling to keep up. Shipping companies are becoming uncertain about the carriage of electric vehicles on their vessels. Insurance companies are running scared about the rising number of large claims as a direct result of this technology. So, I am grateful to the team at Brookes Bell who have written the lead article for this edition, entitled *'Navigating the risks: Lithium-ion batteries, electric vehicles, and fire safety in the maritime industry'* (page 65), covering this topic which remains the subject of much conversation. It really is essential reading.

My congratulations to The Bahamas Maritime Authority as they celebrate their 30th anniversary. This enlightening two page article (page 106) takes a look behind the scenes at their heritage built up over the past thirty years and the scope of work they are involved with.

We should all have one eye on the environment in which we operate. The article on page 84 – *'It's time for shipping to properly regulate plastic pollution'* – is yet another wake up call for the maritime sector. Some progress is being made, but it is slow, and Emma Forbes-Gearey thinks more should be done.

Captain Sakhawat Komol, who I had the pleasure of meeting a couple of years ago, has penned an insightful article titled *'Marine Survey: A Silent Contribution to Commerce and Economy in Bangladesh'* on page 86. It gives a first-hand account, and glimpse of the challenges in this country, facing the surveying profession.

Recently, IIMS has developed a significant new initiative, the On Demand Training Portal. It took 18 months to build behind the scenes and we have launched with over 130 units and short courses available to study. It means you can learn in your own time, the way you want to learn. More details on this new project can be found in the extensive Member News section, starting from page 35.

Survey well,

Mike Schwarz
Chief Executive Officer



PRESIDENT'S COLUMN

Dear Colleagues and Fellow Maritime Professionals

The IIMS one-day London Conference for commercial ship marine surveyors on 13th May was a resounding success. It was heartening to see such a strong turnout, with many attendees expressing interest in becoming members of our Institute. The quality of discussion was high, and the overall energy in the conference reflected the growing recognition of the vital role surveyors play in shaping the maritime industry. Our collective thanks to Stuart Edmonston and the UK P&I Club for graciously hosting us at their offices.

In my address, I highlighted how surveyors are presently appointed, and how there may be an opportunity to

leverage the IIMS' collective proficiency with insurers and P&I Clubs. Such collaboration would not only serve the industry but ultimately benefit the seafarer, who can be assured that his or her safety is being safeguarded by the most competent person available for appointment. This, I believe, is an important direction for us to consider as we strengthen the profession's credibility and relevance.

Mike, in his editorial introduction, has rightly reminded us that technology is evolving at a dizzying pace, whether in the form of electric propulsion, 3D printing, or the challenges posed by lithium-ion batteries. To this, I would add that artificial intelligence and large language models are beginning to disrupt many industries - and ours will

be no exception.

As marine surveyors, we must explore how to use these tools responsibly and effectively, ensuring we keep pace with the industries we serve.

On that note, I recently had the opportunity to moderate a session on AI at the Maritime Trainers Guild in Delhi on 2nd August. The audience included regulators from the Directorate General of Shipping and, notably, representatives of all the major training institutions in India. The discussions confirmed that AI is no longer a distant concept, but an imminent reality in maritime training and operations.

Looking ahead, I am particularly excited about the IIMS India Conference in just



a few days on 7th September in Goa. This event comes at a time when the maritime sector in India is undergoing significant transformation, with major investments in port infrastructure and capacity. However, it is also a moment for reflection. In India, and in several other maritime states, there is no clear structure governing the qualification and competency of surveyors. Quite literally, anyone may call themselves a marine surveyor. I believe the time has come

for higher standards to be established - ones that protect shipowners, insurers, and most importantly, seafarers. The IIMS is ideally placed to contribute to this important evolution and we need to keep pushing to ensure we can influence future thinking in this area.

As we look further ahead, initiatives such as the IIMS On Demand Training Portal promise to strengthen our professional capacity by offering flexible, on-demand

education to surveyors worldwide. Together, these efforts underscore our commitment to maintaining integrity, advancing best practice, and ensuring that our work continues to serve the wider interests of safety at sea.

Survey well.

Capt Ruchin Dayal
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Thomas A. Kazakos, Secretary General of the International Chamber of Shipping

ICS and European Shipowners | ECSA welcome the Hong Kong Convention entering into force globally

The International Chamber of Shipping (ICS) and European Shipowners | ECSA has welcomed the Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships (Hong Kong Convention) which has entered into force.

The International Maritime Organization (IMO) adopted the Hong Kong Convention on the 15th May 2009. The aim of the Convention is to reduce risks to health, safety and the environment, ensuring that ships, when being recycled after reaching the end of their operational lives, do not pose any unnecessary risk to human health and safety or the environment.

The International Chamber of Shipping and European Shipowners | ECSA have been advocating for the Hong Kong Convention to come into force since adoption at IMO to ensure international safe and sustainable ship recycling processes.

Thomas A. Kazakos commented, "Today marks a welcome and historical development after two decades of work on the issue. At ICS we have long been championing for safe and sustainable ship recycling practices. Now that the Hong Kong Convention has entered into force we can look forward to even more progress in improving ship recycling around the world."

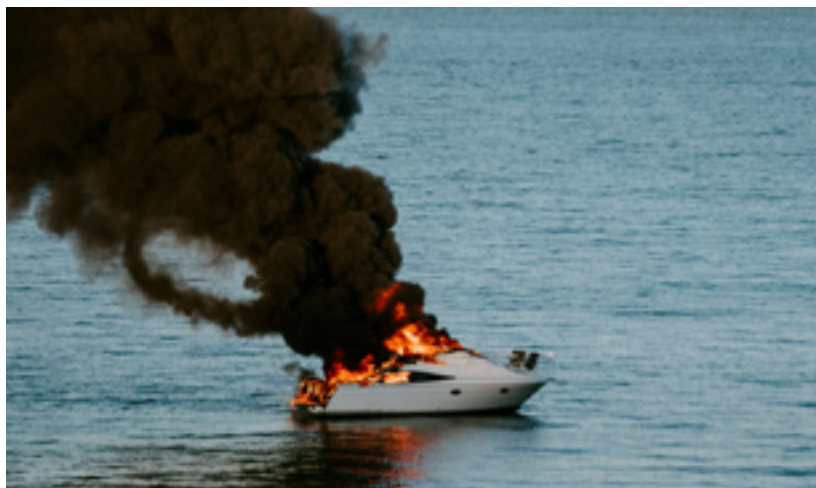
As the industry pushes forward on its decarbonisation journey the lifespan of the merchant fleet is likely to reduce, through global instruments such as the Hong Kong Convention we can progress, safely, efficiently and sustainably. A global industry needs global regulations."

TSB launches safety issue investigation into vessel fires

The Transportation Safety Board of Canada (TSB) has launched a safety issue investigation (SII) into shipboard fires on commercial vessels and the effectiveness of emergency response in Canada. Unlike individual occurrence investigations, an SII is broad in scope, involving an in-depth review of multiple occurrences and consultations with key industry stakeholders. In the past decade, nearly 400 fires on commercial vessels have been reported to the TSB, with 10% resulting in total vessel loss.

Despite the nine safety concerns and 10 recommendations issued by the TSB in the last 35 years, vessel fires continue to endanger crews, disrupt operations, and threaten safety in Canadian waters. Furthermore, the investigation will explore what crew members and responders understand about fire response, how they handle these events, and Canada's overall preparedness to respond to them.

The SII will investigate safety issues that have been identified in previous TSB investigations including seafarer knowledge of fixed-fire suppression systems, training in vessel-based fires for shore-based firefighting personnel, and the capacity to fight shipboard fires in Canadian waters.



Norway provides \$76M in grants to advance hydrogen and ammonia ships

Norway continues to support the advancement of a broad range of new technologies that it points out will both contribute to maritime decarbonization while also creating new industries and jobs for Norway. The Enova program announced its fourth round of grants, providing a total of approximately \$76 million for projects advancing hydrogen and ammonia as fuels for ships, as well as the establishment of facilities for storing ammonia.

Enova SF is owned by Norway's Ministry of Climate and Environment, and is focused on technology and market development, digitalization, supporting communities, and business management. Shipping has been one of its key focuses as an industry that is vital to Norway and provides strong opportunities for the future.

"Norway must be at the forefront of the transition at sea," said Minister for Climate and Environment Andreas Bjelland Eriksen. "When we support the development of such projects in the maritime sector, we enable them to take the lead in implementing new solutions globally."

In this award round, Enova reports it selected four hydrogen-powered and two ammonia-powered ships to receive support. A total of approximately NOK 510 million (\$50 million) is being allocated to hydrogen projects and NOK 253 million (\$25 million) to ammonia projects.



Mumbai orders 'world's largest fleet' of electric foiling vessels

A fleet of eleven Candela P-12 electric commuter ferries has been ordered by JalVimana Shuttles in Mumbai, India, in what Candela states is currently the largest single electric vessel fleet order globally.

The announcement was made during an official visit from India's minister of commerce and industry, Piyush Goyal, who was on board one of Candela's vessels in Stockholm.

The electric ferries will serve two of Mumbai's most heavily used water routes: between the Gateway of India and Alibaug, and from the Gateway of India to Elephanta Island. A third line is being developed to connect the city's new airport to central Mumbai, which is expected to reduce travel time from 1 hour 30 minutes to less than 30 minutes.

Candela's P-12 vessels are equipped with hydrofoils – computer-guided underwater wings that lift the hull above the water to reduce drag. This design lowers energy use, removes wake and slamming, and allows for quieter operation. According to Candela, the vessels operate at a fraction of the cost of traditional diesel ferries.

Key Safety Advance is the Latest Contribution from ABS to Tackling Thermal Runaway at Sea

ABS has developed advanced simulation modelling of thermal runaway in Lithium-ion battery fires, in a critical step forward in tackling one of maritime's biggest emergent safety risks.

The cutting-edge model, which has now been validated with Texas A&M University research, replicates the thermal runaway profile at the battery cell level, unlocking detailed insight into the total heat released and guiding the appropriate firefighting response. It is the latest development in ABS' industry-leading work to address the significant safety challenge presented by transporting electric vehicles at sea.

"Runaway electric vehicle fires can reach temperatures of 1,200°F (650°C) or higher and present unprecedented safety challenges to the shipping industry, which connects manufactured vehicles to global markets. ABS is at the forefront of the industry's response to this, which requires a blend of advanced technology, safety excellence and shipping insight. Developing the ability to accurately predict the behavior of these fires is a perfect example of this and will be a foundation of the ultimate solution," said Christopher J. Wiernicki, ABS Chairman and CEO.

The batteries that power electric vehicles pose unique fire risks, particularly thermal runaway. Lithium-ion battery fires can be difficult to extinguish, burn at extremely high temperatures, generate flammable and toxic gases, and may reignite even after being seemingly controlled. A recent succession of devastating fires on board vessels transporting electric vehicles has highlighted the urgent need to address the issue.



WRF sets net-zero roadmap for the superyacht sector by 2050

The Water Revolution Foundation (WRF) was launched to drive green practices in the superyacht sector. Led by industry leaders who promote collaboration, innovation, and science-based solutions, the Amsterdam-based WRF has issued a roadmap to net-zero sustainability by 2050.

It is a hard read, driven by the unspoken fear that unless the industry acts, someone else – a million miles from the sector – will. From the outset, the WRF has been successful in rallying support from within for its goals of preserving the world's oceans and neutralising the superyacht sector's ecological footprint.

In May, 60 sector CEOs, at a meeting hosted by Sanlorenzo in Italy, backed the WRF Roadmap 2050. It sets quantified environmental targets with five-year increments to reach net zero by 2050. The roadmap has been "developed through collaboration. And the Life Cycle Approach is based on a unique data exercise," says the WRF. "It covers every stage of a yacht's life – design, build, operation, and refit – with clear, measurable targets set in five-year increments."

"The Roadmap 2050 is a compass to navigate together through what are, undeniably, uncharted waters," says WRF executive director Robert van Tol. "Coordination and collaboration are key to accomplish this."

The roadmap exceeds current regulatory thresholds, participation remains voluntary and points the way forward through quantified targets. Priorities are set, and guidance is provided in terms of what to focus on.

Genoa to host 3rd European Sustainable Boating Roundtable

Genoa will host the 3rd European Sustainable Boating Roundtable on September 19, during the Genoa International Boat Show (September 18-23), organised by Confindustria Nautica, Italy's marine industry association.

The roundtable will serve as "a key forum for dialogue on the sector's sustainability and long-term competitiveness," according to a joint statement from European Boating Industry (EBI) and Confindustria Nautica. It aims to highlight the strategic importance of the boating industry for regional economies, the sector's contribution to trade stability, and how EU policy can support the sector's long-term economic sustainability and competitiveness.

Brussels-based EBI and Confindustria Nautica announced that the roundtable will bring together industry and EU leaders at 3pm in the Forum Hall at the Genoa International Boat Show.



Canada

Transport Canada urges boating safety as preventable deaths persist

Despite being largely preventable, nearly 100 Canadians die in boating incidents each year, 80% without wearing a lifejacket, says Transport Canada. Boating safety officers stress the importance of key precautions: always wear a properly fitted lifejacket, never boat under the influence, check weather conditions, file a sail plan, and carry a valid Pleasure Craft Operator Card. Officials emphasize that cold water shock is a serious risk year-round in Canada, making lifejackets essential. "It could save your life," said B.C. safety officer Michele Fung.



African Boating Conference set to run in tandem with the Cape Town Boat Show

The African Boating Conference 21/22 October 2025 is gaining even more momentum with the revitalised Cape Town Boat Show set to follow immediately after the conference on 24/26 October, creating a powerful week-long showcase of Africa's marine industry.

The African Boating Conference, the continent's inaugural industry conference and South Africa's flagship boat show will run in tandem — a strategic alignment that promises to draw delegates, exhibitors, and stakeholders from across the region and beyond. The boat show at the V&A Waterfront, will directly follow the African Boating Conference, offering attendees a unique opportunity to transition from high-level dialogue into real-time market engagement.

For more information visit www.africanboatingconference.com.

Construction begins on Bali Benoa Marina

PT Marina Development Indonesia (MDI), in collaboration with PT Pelabuhan Indonesia (Pelindo), officially broke ground on Bali Benoa Marina recently. As Indonesia's first full-service international yacht marina, the landmark development marks a pivotal step in positioning Bali as Southeast Asia's premier yacht destination.

The Ministry of Tourism of the Republic of Indonesia describes the project as a key driver in Indonesia's transition from mass tourism to high-value, sustainable travel. Bali Benoa Marina aims to enhance the visitor experience, stimulate local economic growth, expand marine tourism offerings and strengthen Indonesia's position on the global yachting map as part of the Bali Maritime Tourism Hub master plan.

"The development of Bali Benoa Marina marks a pivotal moment in Indonesia's transition toward upscale, sustainable tourism," says Widiyanti Putri Wardhana, Minister of Tourism of the Republic of Indonesia. "By embracing world-class marine infrastructure, we are not only enhancing our appeal to global yachting communities but also creating new economic opportunities for our coastal regions. This project aligns closely with our flagship agenda of upscaling Indonesia's tourism profile through high-value, experience-based travel. We believe that marine tourism – rooted in our rich maritime heritage – can be one of Indonesia's strongest offerings on the global tourism stage."



Barcelona Boat Show 2025 set to expand with 'Boatique' addition

The 2025 Barcelona International Boat Show (BIBS) will take place from October 8-12, showcasing a renewed focus on innovation, sustainability, and exclusivity. Organized by Fira de Barcelona, the event returns to Port Vell and, for the first time, will include the Barcelona dock for large yachts, a circular exhibition circuit, and a shuttle boat service.

Under the new 'Boatique' concept, it will offer premium spaces such as the VIP Village, the Premier Yacht Agora, and programmes such as the Blue Tech Summit, Blue Tech Safaris, Hosted Buyers, and Ship & Tips, consolidating its position as a key event for the international nautical sector calendar.

The Village will be BIBS 2025's major conceptual innovation, a select environment located at the heart of the event, designed to foster relationships between brands, buyers, and high-profile professionals. The objective of this space is to create a quality atmosphere where professional relationships become real business opportunities. It will also host meetings with the press, industry figures, institutions, and key international players.



India looks to encourage a luxury boating boom

Backed by government initiatives and rising demand, India's coastline is seeing a surge in marina development

Several new developments are emerging in India that aim to leverage the country's warm climate and extensive coastline.

Government programs such as the Maritime Development Fund and the Sagarmala initiative are playing a role in this transformation, backing local efforts like the planned 400-berth marinas at Mumbai's Ferry Wharf and Radio Club.

With rising disposable incomes, shifting consumer preferences, and robust public-private collaboration, India is poised to emerge as a world-class boating hub.

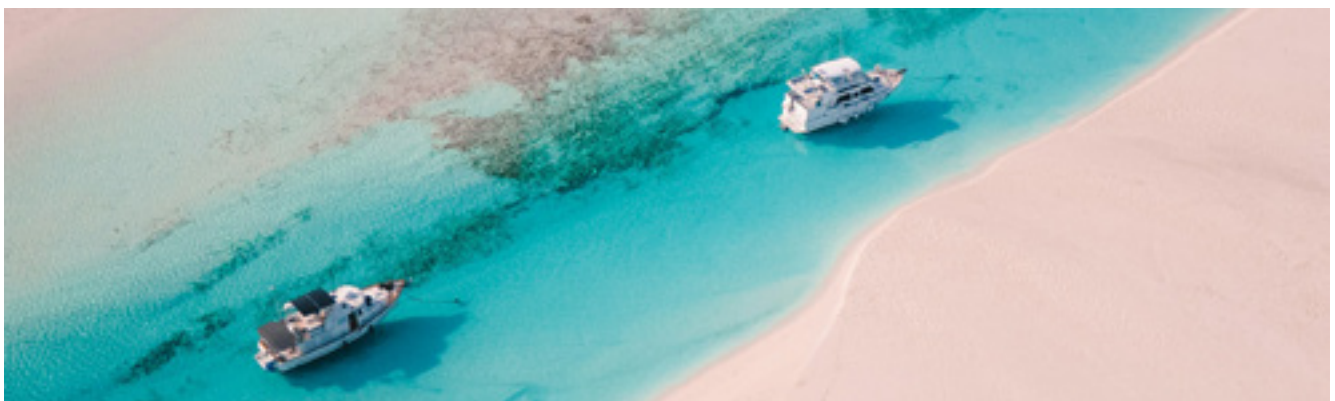
Backlash after the Bahamas increases boat fees

Marinas in the Bahamas have reportedly seen a wave of cancellations in the wake of a new bill that increases fees for visiting boats and introduces new vessel regulations, effective 1 July 2025.

Speaking to local outlet The Tribune, Peter Maury, the Association of Bahamas Marinas (ABM) president, confirmed that members have been "calling him to report yacht charters are cancelling their bookings and reservations as far out as the 2025-2026 winter season" over uncertainty and concerns relating to revised cruising and fishing permit moves and associated fees.

Yacht and boating forums have been alight with pushback relating to the Port Authorities (Amendment) Bill, which increases fees for temporary cruising permits. For vessels up to 34 feet in length, the fee will rise to \$500 for stays of up to 12 months. Boats measuring over 34 feet but under 100 feet will be subject to a \$1,000 fee. For those exceeding 100 feet, the cruising fee will be set at \$3,000.

The full text of the Port Authorities (Amendment) Bill is available online at <https://bit.ly/46bldja>.



U.S Coast Guard releases 2024 Recreational Boating Statistics Report

US Coast Guard Petty Officer 2nd Class David Micallef

The U.S. Coast Guard has published its 2024 Recreational Boating Statistics Report. The report records the fewest boating fatalities since the Service began collecting statistics more than 50 years ago.

Fatalities fell 1.4% to 556 from 564 in 2023, while overall incidents increased by 1.1% from 3,844 to 3,887. Nonfatal injuries increased 2.1% from 2,126 to 2,170. Alcohol continued to be the leading known contributing factor in fatal boating accidents in 2024, accounting for 92 deaths, or 20% of total fatalities.

The fatality rate was 4.8 deaths per 100,000 registered recreational vessels, a 2% decrease from last year's rate of 4.9 deaths per 100,000. In 1971, when the Safe Boating Act was first passed, the rate was 20.6 deaths per 100,000. Property damage totaled \$88 million, and operator inattention, improper lookout, operator inexperience, machinery failure and navigation rules ranked as the top five primary contributing factors in accidents.

"Boating under the influence is not only illegal but it is also dangerous," said Capt. Robert Compher, inspections and compliance director. "The effects of alcohol can be magnified when boating in the sun and on a moving vessel. Staying sober protects you and those around you."

According to the 2024 Recreational Boating Statistics Report, deaths occurred predominantly on vessels operated by individuals who had not received boating safety instruction, accounting for roughly 70% of fatalities. Open motorboats, personal watercraft and cabin motorboats were the vessel types most involved in reported incidents.



Download the report at <https://bit.ly/4nxkgbf>.



Nor-Shipping 2025 breaks records 'across the board' with huge global engagement

Nor-Shipping has confirmed that its 60th anniversary programme, which ran from 2-6 June in Oslo and Lillestrøm, broke all previous records for the event week.

Total visitor numbers were up an impressive 23%, to 63,698 (from 51,948 in 2023), while greater global engagement saw a 24% rise in visiting countries (with decision makers gathering from 104 nations). The number of national pavilions climbed an eye-catching 31%, anchored by major presences from leading clusters such as India, China and Germany.

In addition, the number of exhibiting companies accelerated past the 1,000 mark (1,012 – a 13% increase), with 15% more exhibition space filled (23,761m²) compared to Nor-Shipping 2023. Demand was so high, in fact, that organisers expanded the available area to include the second floor of Hall D, christened the Upper Deck, for the first time. In all, exhibitors represented 50 different countries (an 11% boost), with a 38% larger conference and seminar programme.

Tnemec launches new Aerolon Marine anti-condensation coating

For over a decade, industrial coatings specialist Tnemec's Aerolon brand of coatings has been controlling unwanted condensation and protecting assets in various types of applications around the world.

Building off that technology, Tnemec is introducing a new wave of coating technology, Aerolon Marine, a high-performance, marine-grade anti-condensation coating developed to handle the harsh environments in which vessels operate.

Designed for vessel bulkheads, overheads, and other weather-exposed surfaces, the high-build, fluid-applied solution provides unmatched protection against moisture-related damage.

Marine vessels experience extreme temperature fluctuations, which can lead to condensation buildup and insulation failure. With the lowest thermal conductivity of any IMO-approved anti-condensation coating, Aerolon Marine minimizes these temperature variances, preventing moisture accumulation that can compromise insulation performance.

Utilizing a proprietary blend of advanced porous materials, it is designed to deliver superior protection, ensuring vessels remain insulated, efficient, and protected in even the harshest conditions.



New Blue Wave programme set to be unveiled at Monaco Yacht Show 2025

This year's Monaco Yacht Show, taking place from 24 to 27 September, is spotlighting environmentally focused technologies and solutions through its new Blue Wake programme, designed to highlight proven and operational innovations that support environmental progress.

Selection is based on a vetting process to ensure that solutions are credible, relevant, and capable of supporting measurable environmental gains. The current lineup features technologies surrounding propulsion, energy systems, water treatment, interior materials, coatings, refit practices, and port operations.

Gaëlle Tallarida, managing director of the Monaco Yacht Show, explains, "The Blue Wake programme fully reflects the vitality and diversity of the eco-responsible technological solutions and innovations being developed within the yachting industry. It shows that the sector is taking real steps forward at every stage of yacht design, production, and operation."

"As the leading international platform, the Monaco Yacht Show embraces its role as a catalyst for this transformation, by showcasing pioneering initiatives and tangible progress that actively contribute to the environmental transition of yachting."



New green hydrogen facility in Norway aims to launch in 2028

Karmsund Hydrogen has partnered up with HydePoint to build a green hydrogen facility in Karmsund, Norway, aimed at cutting emissions in the local industry. The facility will be located at Karmsund Group's Service Base, offering direct access to hydrogen users in both the maritime and onshore sectors. The project plans to produce more than 3000 tons annually based on 20 MW installed electrolysis capacity.

HydePoint will integrate a barge system with onshore infrastructure, enabling modular and flexible deployment of hydrogen capacity allowing for production to scale with demand while staying close to end users. The project will follow a structured development process, targeting first hydrogen deliveries in 2028.

"This project shows how strong industrial partnerships can lead to real emission reductions. Haugalandet has the right conditions to become a hub for green industry, and we're pleased to be part of a collaboration that turns ambition into concrete action," said Jens Berge, CEO, Norwegian Hydrogen.

Changes to the Australian domestic commercial sailing vessel regulations

Changes to domestic commercial sailing vessels regulations took place on 30 June 2025. Exemption 18 (Sail) and Exemption 33 (Sailing vessel with motor propulsion) expired. If you currently operate under these exemptions, you will need to hold a National Law certificate of competency to continue working on a commercial sailing vessel.

What you need to do

If you want to command and operate the engines of a sailing vessel, you will need a Sailing Master Coastal or Sailing Master Offshore certificate. To qualify, you must obtain a commercially endorsed RYA Yachtmaster Certificate.

You must hold one of the following:

- Coastal (for Sailing Master Coastal)
 - Offshore or Ocean (for Sailing Master Offshore)
- Find more details on commercial endorsements at www.rya.org.uk.

Marine radio licence

(Issued by the Office of Maritime Communication)

You must hold one of the following:

- Short range (for Sailing Master Coastal)
- Long range (for Sailing Master Offshore)
- Valid medical fitness certificate
- Current first aid certificate

Additional qualification

You must hold one of the following:

- Coxswain Grade 1 NC certificate of competency
- Marine Engine Driver Grade 3 certificate of competency
- MAR Maritime Training Package MARC037 Operate inboard and outboard motors or an equivalent MAR package course
- RYA Diesel Engine course and Australian Sailing Powerboat Handling course
- RYA Diesel Engine course and RYA Level 2 Powerboat course

If you are only performing the engineer role on a sailing vessel, you must hold a marine engine driver or a sailing certificate of competency. Ensure your qualifications are up to date.

For more information go to the AMSA website at <https://bit.ly/45EnPG9>.

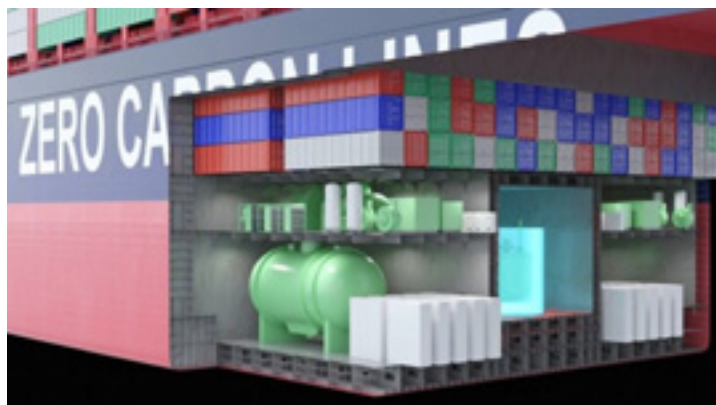


Image credit: ABS

IMO agrees to start revision of outdated regulations for nuclear-powered ships

The International Maritime Organization (IMO) has formally agreed to start the revision of outdated regulations for nuclear-powered ships.

The 110th session of the IMO's Maritime Safety Committee heard proposals from several member states and NGOs calling for a revision of the Code of Safety for Nuclear Merchant Ships (Resolution A.491) and relevant parts of the SOLAS Convention.

A working group at MSC 110 prepared instructions for relevant sub-committees to initiate the revision. This Thursday, MSC 110 assigned this task to the Sub-Committee on Ship Design and Construction (SDC), requesting SDC to start this work at the next session if possible. The next session of SDC is scheduled for January 2026.

A key part of the instructions for SDC when updating the Code of Safety for Nuclear Merchant Ships (Resolution A.491(XII)) is to ensure it is not limited to designs of pressurised water reactors (PWRs) with direct steam cycle propulsion systems, but adequately address recent advances in new nuclear technologies and the all-electric-ship concept.

ABS opens smart training centre in Athens

ABS has announced plans to create a new ship safety centre in Athens harnessing the power of new immersive training techniques, game-based learning and virtual reality environments for the Greek shipping community. In particular, the Hellenic Ship Safety Centre is designed to prepare seafarers to handle a multi-dimensional industry with alternative fuels and emerging technologies, recognizing that decarbonization advances that do not prioritize safety are not sustainable.

"There is a lot of focus on technology readiness timelines but what we need to focus on is people readiness timelines," said Christopher J. Wiernicki, ABS Chairman and CEO.

The centre, which has the support of the Hellenic Ministry of Maritime Affairs and the Union of Greek Shipowners, will address critical emerging safety issues such as handling dynamic fuels, risks generated by cyber enabled systems, hybrid battery propulsion and other technological and decarbonization driven changes onboard.



MCA workboat focused inspection campaign 2024 findings

In summer 2024, the UK Maritime & Coastguard Agency (MCA) ran a Survey Campaign focused on Workboat Code vessels in the UK.

Ports around the UK were strategically visited by MCA surveyors, and workboats were surveyed in line with the workboat code (respective editions).

Here is a brief overview of the campaign highlights:

- 255 vessels were surveyed.
- 160 vessels were found to have deficiencies.
- 95 vessels had no deficiencies.
- 12 prohibition notices were served.
- 3 vessels were detained.

The most common areas where deficiencies were found are:

- Expired, incorrectly fitted and poorly maintained Fire Fighting and Life Saving Equipment (212 findings).
- 118 Documentation findings and, 52 Machinery findings.

Scotland's Shetland Islands Council awards contract for replacement ferry construction

The Shetland Islands Council of Scotland has awarded Parkol Marine Engineering a contract to build the vessel that would become the new ferry for Fair Isle. Parkol Marine secured the £5.6 million (US\$7.7 million) ferry construction contract following a recent open tender exercise.

Work is currently ongoing to finalise the vessel design and specification, before fabrication of the new vessel gets underway at Parkol's facilities in Whitby, Yorkshire. The expected handover date for the vessel is October 2026. The requirement is to construct a larger, faster monohull vessel built to modern standards to replace the current ferry Good Shepherd IV, which was built in 1986 in Fife.

The council said the new vessel will comply with the MCA workboat code, be able to carry 12 passengers, and have increased lift-on, lift-off capacity for freight operations.



Seawork reports record re-booking for 2026

The 26th edition of Seawork took place over three days from 10-12 June 2025, attracting 454 exhibitors and 7,832 visitors.

Held annually at Mayflower Park in Southampton on the UK's south coast, Seawork is a European commercial marine and workboat exhibition combining indoor and quayside displays, with vessels and equipment afloat on pontoons, alongside a dedicated conference programme.

Organisers now report that this year saw the "highest-ever number of stand re-bookings" for the 2026 edition, which returns from 9 to 11 June 2026.

Seawork 2025

Exhibitors and attendees at the 2025 show represented over 60 countries, with many senior professionals in attendance, including the CEO of Volvo Penta and senior representatives from John Deere.

The event featured live demonstrations, including the all-electric RSD 2513 tug from Damen and RAD Propulsion's electric RIB, Odyssey 560 Zero. Organisers reported increased visit (dwell) times, with nearly half of visitors making multiple visits across the three-day event.



The current Fair Isle ferry, Good Shepherd IV

Inaugural Plymouth boating festival a hit

Glorious sunshine and a packed schedule of maritime fun helped make the inaugural Plymouth Boat Fest a huge success, as thousands of visitors gathered at Plymouth Yacht Haven; the city's largest and busiest marina, to celebrate the region's rich marine heritage and industry.

With over 50 exhibitors and more than 30 boats on display, the event showcased the broad spectrum of the marine industry, ranging from leisure boating to commercial vessels and state-of-the-art marine technology.

"We couldn't have asked for a better day for the inaugural event", commented Steve Cox, marina manager at Plymouth Yacht Haven, the event organiser. "It has been fantastic to see so many families, boating enthusiasts, and newcomers on-site, discovering everything our marine industry has to offer. Plymouth Boat Fest truly brought Britain's Ocean City together."



Association of Sail Training Organisations names new president

The Association of Sail Training Organisations (ASTO) has announced the appointment of Vice Admiral Sir Jeremy Kyd KBE, Lieutenant-Governor of Jersey, as its new president.

ASTO is the membership body for UK-based sail training charities. In 2024, more than 11,000 young people and individuals with disabilities or additional needs sailed with its 31 member organisations.

Kyd is a Royal Yachting Association Yachtmaster and a member of the Royal Yacht Squadron. He is also a Younger Brother of Trinity House and a Distinguished Fellow of the Royal United Services Institute. His previous roles include president of Royal Navy boxing and Navy Ice Sports. He has also served as a volunteer skipper, taking young naval personnel on sailing trips around the Solent and the Channel.

Kyd says of his new role: "I am delighted and honoured to be taking over as the President of ASTO. As a lifelong sailor myself, I know the amazing work done by ASTO and all the sail training organisations up and down the country.

"Outdoor education, conducted in a safe and stimulating environment, including sail training, is a highly effective tool to improve young peoples' lives; it builds their confidence, introduces them to new friends, as well as learning life skills and having some fun! I am looking forward to meeting as many sail trainers as possible and helping continue the wonderful work done by ASTO and all the UK sail training organisations, which do so much for the benefit of our young people."

SailGP opens new \$10m innovation facility in Southampton

Image credit: SailGP

SailGP has officially opened SailGP Technologies, its new innovation, design and engineering centre in Southampton, UK. The site, which will serve as the technical base for the global championship, currently employs over 100 designers, engineers, boat builders and specialists across areas including composites, hydraulics and aerodynamics.



The global racing league says the US\$10m (£7.4m) facility has been established to support the ongoing development and maintenance of the league's F50 catamarans and accelerate the construction of additional boats. The site replaces SailGP's previous technical base in New Zealand and is situated near the championship's London headquarters. SailGP says the move is intended to streamline operations in line with the global racing calendar.

"The opening of SailGP Technologies represents a major step forward in our continued ability to support a truly global championship. This facility gives us greater control and resilience across the fleet, enabling faster turnaround of repairs, more consistent performance, and a reliable supply of spares while on tour. It's a key step in future-proofing SailGP – ensuring we can deliver uncompromised high-performance racing, anywhere in the world," says Joel Marginson, director, SailGP Technologies.

New marine security brand launches in response to boat theft

A new UK-based marine security brand, SeaSight, has launched with a suite of purpose-built products designed to address vulnerabilities in small boat theft protection. The range was developed following the theft of a leisure RIB from a mooring in St Mawes in Cornwall last summer. Despite investigations by the marine police, Border Force, and Interpol, the stolen vessel (Ribeye A683) was not recovered.

The incident highlighted gaps in available security solutions for small and mid-sized boats, prompting IT systems specialist Tony Cantrill, the vessel's owner, to begin designing an alternative.

"Smaller boats do get stolen, and there is a growing concern that criminals are using them for covert drug transfers and other illegal activities," comments Cantrill. SeaSight has launched with three primary products within the range, all of which are self-installed and can be used individually or as a complete suite. The 'Shield' is the onboard connected unit featuring motion sensors, GPS tracking, ignition sensing, and a proprietary monitoring line. The system also includes mobile app integration for remote monitoring and can detect if a vessel has become detached from a mooring.



Tony Cantrill onboard Ribeye A683



Women in Marine announces 2025 panel line up at the Southampton International Boat show

Women in Marine has announced the theme and speaker line-up for its 2025 panel and networking event, scheduled for Wednesday 24 September at the Southampton International Boat Show.

The session, which is sponsored by DF Capital, LA Marine and Haven Knox-Johnston, returns this year with a new time and location. The 2025 event will take place from 16:30pm to 18:30pm at the Quarterdeck Bar & Restaurant. The event, which is held annually at SIBS, has attracted increasing attendance in recent years.

This year's theme is "Diverse Talent in Action: Leadership, Representation and Career Progression in the Marine Industry". The panel discussion will focus on leadership pathways, sector representation, and confidence-building. Panellists will also explore the topic of imposter syndrome, discussing whether it is a real or learned experience and sharing practical suggestions for addressing it.

Those confirmed to speak include Captain Claire Thompson, commanding officer of HMS Queen Elizabeth, Sarah Donohue, a former European powerboat champion, commercial diver and marine conservationist, Claire Abraham, HR officer at Navico Group (Brunswick Corporation), who will speak on workplace inclusion and Kate O'Sullivan, joint managing director and owner of PR agency ADPR, who will offer an insight on leadership, coaching and communications.



RCR celebrates 25 years

River Canal Rescue's past and current members, dignitaries, staff, families, contractors, suppliers, the local community and boaters celebrated in style on Sunday 8 June at an outdoor event to mark the company's 25th anniversary.

Held at the Stafford Riverway Link site, close to RCR HQ, Stafford Borough mayor, councillor Jenny Barron and her consort, alderman Ray Barron were impressed with the 'essential' service managing director, Stephanie Horton and her team, provide for boaters.

Sir Gavin Williamson CBE, MP for Stone, Great Wyrley and Penkridge, and local councillor Ann Edgeller were equally surprised by the 'unique' 24/7, 365 days a year breakdown and emergency assistance service, RCR offers.

In the first year, they supported 100 members. Today, RCR has around 40 staff, supporting some 20,000 members, and in 25 years, Stephanie Horton, estimates the company has responded to over 60,000 callouts.

Sunseeker CEO partly blames tariffs as the boatbuilder cuts 200 jobs

Sunseeker International, based in Poole, Dorset, on the UK south coast, has confirmed it is making around 200 redundancies - about 10 per cent of its workforce - across various support, leadership and management roles.

The boatbuilder highlighted "softening in global demand" following "political and economic uncertainties" in a media statement.

Speaking to ITV, Andreas Frabetti, Sunseeker CEO, said that Donald Trump's trade tariffs are at least partly to blame. "We have tariffs for United States export, which is very important," he says. "We're exporting more than 50 per cent of our production to the United States, so this has been affected recently."

He added, "Our focus remains on safeguarding the long-term health of the business, supporting local employment, and continuing to deliver world-leading yachts to our global customers."

BAE Systems opens new shipbuilding hall in Glasgow

A new ship build hall has officially opened at BAE Systems' shipyard in Glasgow, Scotland.

BAE Systems' newly opened Janet Harvey Hall has capacity for two Royal Navy Type 26 frigates to be constructed side by side. The hall measures 170 metres long and 80 metres wide and has two 100-tonne cranes and an additional two 20-tonne cranes inside.

BAE Systems said this new facility will boost its shipbuilding capacity, enabling warships to be built in Glasgow fully undercover for the first time, in turn ensuring that work is unaffected by adverse weather.



Tritex NDT Multiple Echo Ultrasonic Thickness Gauges



The Drone Thickness Gauge
MultigaUGE 6000



The Underwater Thickness Gauge
MultigaUGE 3000



The ROV Thickness Gauge
MultigaUGE 4000



The Surveyors Thickness Gauge
MultigaUGE 5650

Tritex NDT specialize in the manufacture and supply of Multiple Echo Ultrasonic Metal Thickness Gauges, used for verifying corrosion levels and measuring metal thickness from one side only, without removing any protective coatings. The MultigaUGE 5650 Surveyor Gauge can measure both metal and GRP, in one gauge, and also switch from Multiple Echo to Echo - Echo with the simple press of a button, using the same probe.

Tritex NDT gives you the excellent performance that you would expect, with FREE annual calibration for the life of the gauge.



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Shipping and Boating by Number 5

In this feature, numbers are used to highlight the key points of the stories. Numbers are often considered more important than words when conveying precise information, as they provide an objective way to represent data, making it easier to compare, analyse, and understand facts quickly. Words can be subjective and open to interpretation. Here's what we have for you this month.

The Value of Shipping 2025 report reveals the industry's vital role in powering global trade and delivering a more prosperous nation

The Value of Shipping Report, developed between UK Chamber of Shipping, the Centre for Economics and Business Research (CEBR) in collaboration with the Department for Transport, builds on the previous research series last issued in 2023. It provides insights into the size and performance of the UK shipping industry and serves as an evidence base to inform future policy development.



Some of the key findings of the report are:

- Direct GVA: **£16.1 billion**; Total GVA supported: **£46.2 billion**.
- **728,000 jobs supported**, including **98,200 directly employed** at sea and ashore.
- **Shipping jobs are 121.8% more productive** than the UK average and **pay 20% higher** salaries.
- Every one job in shipping supports six jobs in the wider economy and are a vital part of UK infrastructure.
- Ferries are a **lifeline for 2.4 million people**, providing essential access to food, healthcare, and education.
- **18.1 million international passengers** pass through UK ports annually and **around 50,000 daily**.
- **2.9 million cruise passengers** begin or end their journey in UK ports.
- **37.8 million domestic ferry passengers** annually - over **100,000 daily journeys**.
- Cruise tourism **injects £170 million** directly into coastal communities each year.
- In 2024, shipping **enabled £957.3 billion in UK trade: £365.7 billion in exports and £591.6 billion in imports**.
- Shipping **supports over 140,000 UK exporters** and facilitates imports for **over 350,000 UK businesses**.
- **434.9 million tonnes of cargo** moved through UK ports in 2023, including **169.3 million tonnes of liquid bulk** (energy supply), **76 million tonnes of essential cargo** (steel, construction materials) and **84.4 million tonnes of bulk products** (ores, agricultural goods).

Download the report at
<https://bit.ly/4fbXrGg>.



Garmin reports Q2 growth across all segments

Garmin has reported its financial results for the second quarter of 2025, highlighting double-digit growth across all segments, including a **10 per cent increase in marine revenue**. Consolidated revenue for the quarter **reached \$1.81bn, marking a 20 per cent increase year-on-year**. Gross margin **rose to 58.8 per cent** and operating margin **improved to 26 per cent**. **Operating income was \$472m, up 38 per cent** from the prior year quarter.

The marine division **generated \$63m in operating income** for the period. New product introductions during the quarter included the GPSMAP 15x3 chartplotters, the premium Fusion Apollo RA800 marine stereo and the Quatix 8 smartwatch.

"We delivered another quarter of outstanding financial results with double-digit growth in every segment, driven by our strong lineup of innovative and highly differentiated products that customers desire," says Cliff Pemble, president and chief executive officer. "We are very pleased with our results so far in 2025, which have exceeded our expectations and give us confidence to raise our full year guidance."

2025/2026

Rolls-Royce reveals powerful new yacht engine for 2026

Rolls-Royce has confirmed it will launch a new high-power engine variant in 2026, introducing the **mtu 12V2000 M96Z** for use in fast yachts, patrol vessels, police boats, and sportfishing boats.

Designed to meet the demands of high-speed marine applications, the latest **12-cylinder version of the mtu Series 2000** delivers enhanced acceleration with minimal change to weight or footprint. The new model **generates 1,634kW**, increasing from the previous **1,472kW rating of the 12V2000 M96X**.



Dr. Jörg Stratmann, CEO of Rolls-Royce Power Systems, commented, "The new **12-cylinder version of the mtu Series 2000 engines** stands for maximum performance, increased power density, and impressive acceleration—another milestone in our commitment to providing our customers with first-class propulsion solutions for demanding maritime applications."

He added, "This continues the success story of the **Series 2000** and develops it into a forward-looking platform for innovative, sustainable propulsion solutions. As a reliable partner, we support our customers in implementing their maritime projects in a powerful, efficient, and future-proof manner."

The **new mtu 12V2000 M96Z, like the high-output mtu 16V4000M97L** recently launched for superyachts and fast ferries, is expected to be supported by certified service centres including Navigair in Cannes and La Ciotat as next-generation engines enter the market.

Winnebago Reports FY2025 Q3 Results

Winnebago Industries, parent to Chris-Craft and Barletta Boats, has released the results of its 2025 fiscal third quarter, ended May 31.

The company reported **net revenues of \$775 million** for the quarter with **gross profit of \$106 million**, representing a **13.7% gross margin**. **Net income was \$17.6 million**, and **EBITDA was \$46.5 million**, which represents a **6% adjusted margin**.



Photo credit: Chris-Craft

The marine segment posted a **14.6% increase in net revenues to \$100.7 million**, driven primarily by unit volume and targeted price increases that were offset by product mix and higher warranty expenses. Adjusted EBITDA **increased 37.6% to \$11.6 million**, which represents an **11.6% adjusted margin**.

"Our fiscal third-quarter results reflect both the diverse dynamics of our business segments and the challenges posed by an uncertain economic environment," Winnebago president and CEO Michael Happe said in a statement. "While retail demand across the outdoor recreation sector remains soft, our dealer partners are navigating the market with prudence and agility."

The company provided guidance for the remainder of the fiscal year that includes **net revenues in the range of \$2.7 billion to \$2.8 billion**.



Beneteau reports 16% sales decline for H1 2025

Groupe Beneteau has reported first-half 2025 **revenues of €403.8m**, a **decline of 27.5 per cent** compared with **€556.6m in the first half of 2024**.

The second quarter saw a sales **contraction of 16 per cent** at constant exchange rates, following a **43 per cent decline** in the first quarter.

Inventory levels within the distribution networks stabilised during the second quarter after five consecutive quarters of contraction. In Q2 2024 alone, **stocks decreased by €60m**. The decline in H1 2025 revenue is linked to a slowdown in end-client demand, a **deferral of approximately €20m** in billings due to an ERP system change, and a **reduction of around €40m** in network stock levels, particularly in the motor segments.

First-half sales for the motor business **came to €219m, down 20 per cent**. The decrease reflects weaker sales in the day boating segments for European brands, and reduced activity among premium clients in the motor yachting segments in the second quarter. However, this was partly **offset by a 47 per cent increase** in sales for American brands and continued strong performance from Prestige's M-Line power catamaran range.

Sales in the sailing business **fell 36 per cent**. This includes a **55 per cent reduction** in fleet deliveries to charter professionals and a **46 per cent drop in monohull** sailing segments. Multihull sailing models **declined 23 per cent** in the second quarter compared with a strong Q2 2024.

By region, first-half sales in **Europe totalled €252.7m, down 26.9 per cent**. In North and Central America, **revenues fell 23 per cent to €89.3m**. Sales in other regions **declined 9.6 per cent to €38m**. Deliveries to fleets **contracted 55 per cent**.

The group intends to **unveil 20 models** at autumn shows for the 2025–2026 season. It anticipates that sales growth will resume in the second half of 2025. Groupe Beneteau is scheduled to publish its half-year earnings on 24 September 2025.



Fincantieri reports exceptional mid-year financial results

The Fincantieri group has reported a strong financial performance in the first half of 2025, citing growth in each of its key areas of business. The company continues to follow a strategy to diversify and strengthen its role not only as a leading cruise ship builder, but also in defence, offshore, energy, and its newly launched underwater segment.

The shipbuilder has continued a strong rebound from the challenges of the pandemic, and with limited participation in commercial shipbuilding, as it is not involved in segments such as containerships or LNG carriers, which have been driving others' growth. Order intake was strong

during the first half of 2025, with the company highlighting **a 93 percent increase versus 2024 to €14.7 billion (\$16.8 billion)**. It was **equal to 96 percent of the group's total orders for all of 2024**, with the shipbuilding segment of its operations driving the growth.

Fincantieri reports that as of mid-year, its backlog stands at an **all-time record of €57.7 billion (\$65.9 billion) with €41.9 billion (\$47.8 billion) in firm orders**. The committed orders **increased 35 percent compared to year-end 2024** and represent more than seven times 2024 revenues. Cruise was a critical part of this, with the company reporting it had booked orders and options for a total of **21 cruise ships** (Crystal Cruises, Norwegian Cruise Line, Four Seasons Yachts, and Viking), **compared with 19 firm orders for cruise ships during all of 2024**. However, it also points to orders from the Italian Navy and a replacement order for the Indonesian Navy, and a total orderbook of 100 vessels.

For the first half of 2025, Fincantieri reported a **24 percent increase in revenues to €4,576 million (\$5,226 million)**. EBITDA increased **45 percent to €311 million (\$355 million) with a net profit of €35 million (\$40 million)**. It reported a total of **13 ships delivered for eight yards**, including three cruise ships (Norwegian Aqua, Mein Schiff Relax, and Viking Vesta) as well as the ninth vessel in the 10-unit FREMM series.

AkzoNobel posts second quarter financial results

Coatings manufacturer AkzoNobel, parent to Interlux, Awlgrip and Sikkins, has announced its second-quarter financial results. The company reported **revenues of €2.63 billion (\$3.04 billion), a 6% decline year-over-year, and operating income of €214 million (\$250.2 million), a 21% decrease from the year-ago quarter**. The

marine and protective coatings segment posted **revenues of €413 million (\$482.8 million), a €1 million (\$1.2 million) increase from the year-ago quarter**.



According to a statement, revenues were driven by positive pricing in all businesses, offset by lower volumes. Strong volume growth in marine and protective coatings, along with growth in most businesses in Asia, was more than offset by the continued impact from macroeconomic uncertainties, particularly in North America.

AkzoNobel provided the following guidance for the remainder of the year: "Subject to ongoing market uncertainties and adjusted for exchange rates as of the end of [the first half], the company expects to deliver **adjusted EBITDA above €1.48 billion (\$1.73 billion) for full-year 2025**."

New boat sales drop **9%** in US as consumer confidence weakens

NMMA's Monthly Recreational Boating Industry Data Summary, covering the rolling period **from May 2024 to April 2025**, shows a continued decline in new powerboat retail unit sales across north America.

Sales are **down 9 per cent** year-to-date (from January to April 2025) compared with the same period in 2024, **with 64,883 new boats sold** through April, **compared to 71,321 the previous year**.

The April 2025 data highlights declines across several segments. Year-over-year sales of new pontoons are **down 19.5 per cent**, jet boats **by 19.9 per cent** and wake sport boats by 14.3 per cent. Freshwater fishing boats and yachts remain relatively stable, **down 0.4 per cent and 0.7 per cent** respectively.

Macroeconomic data from April shows mixed conditions. Inflation eased to **2.3 per cent**, and fuel prices remained **steady at \$3.17 per gallon**. However, the Consumer Confidence Index (CCI) **stood at 85.7, below the 100-point baseline** typically associated with economic optimism. By June, the CCI **declined to 100.4 from 101.3** in May, while the Expectations Index **dropped to 73.0, well under the 80-point level** generally linked to negative outlooks.



South Korean Shipbuilders report strong H1 as orders shift from China

The South Korean shipbuilding industry experienced a strong rebound in orders during the first half of 2025, and especially so in the containership segment. The Korea Development Bank's overseas economic research institute attributed much of the gains to concerns over the fees the United States plans to impose on Chinese-operated or built shipping.

The report highlights a strong overall increase in orders for the Korean builders, which achieved a **25.1 percent market share for the first six months of the year**. This was **up from 17.2 percent last year** and came despite an overall slowing in shipbuilding orders. The report indicates that this was especially significant, as in 2024, South Korea's shipbuilding orders were at the lowest levels in eight years. For the full year, South Korea only **received 15 percent of the global orders** placed in 2024.

Globally, newbuild orders were off in 2025 after the past few years and as economic and trade concerns grow. Orders on a compensated gross tonnage basis were **off by 54.5 percent to 19.39 million CGT**. While most sectors showed a softness, orders for liquefied natural gas carriers **fell nearly 83 percent to just over 1 million CGT** as Qatar completed its orders and others have held back after the sector surged, and as new fears over the USTR, which has said it will require a portion of LNG exports on U.S.-owned vessels.

One sector that has not slowed is containerships. Korea, in recent years, has largely ceded the sector to China, which has a cost advantage. However, as the ships have gotten more complex and sought alternative fuels, it has created an opportunity for the Korean builders who have strong positions with methanol and LNG-fuelled vessels.

With the looming U.S. fees, South Korea reports containerships were half its order volume in 2025, or a **total of 4.87 million CGT**. This was up from just two orders that went to Korean shipyards for containerships in the first half of 2024. HD Korea Shipbuilding & Offshore Engineering, the parent company of HD Hyundai's shipbuilders, reports it has received so far in 2025 **orders for 50 containerships**. In total, it said it has achieved nearly **two-thirds (62.2 percent) of its order target for 2025, or orders valued at \$11.22 billion**.

A further positive sign for the Korean shipbuilders has been a rebound in profitability. Hanwha Ocean returned to profitability in the second quarter with a **30 percent increase in revenues**. Similarly, Samsung Heavy Industries said sales were up six percent while operating profit was up nearly 57 percent. It notes that this was the first time since 2024 that Samsung Heavy Industries' quarterly operating profit **exceeded 200 billion won (\$144 million)**.

SAFETY Briefings



Image credit: CMT

Machinery failures and engine-room incidents are sharply rising

The maritime industry is facing a sharp rise in machinery failures and engine-room incidents that modern monitoring systems could help prevent. Those are the chilling words according to CM Technologies (CMT).

With classification society DNV reporting a 20% increase in machinery damage failures during 2024 and engine room fires accounting for more than half of all marine equipment-related insurance claims, CMT points out that advanced diagnostics and monitoring solutions are not just 'nice to have' but should be considered as essential safety tools.

Uwe Krüger, Managing Director, CM Technologies, said, "Engine and machinery failures continue to catch crews and operators off guard, but effective system monitoring will alert crews to looming catastrophe."

According to DNV's 'Maritime Safety Trends 2014-2024 Preparing for Future Risks', the number of maritime safety incidents has increased by 42% between 2018 and 2024, despite the global fleet growing by just 10%. Additionally, machinery damage/failure was responsible for the highest number of casualty incidents in all years, with this climbing to 60% of all cases in 2024 – up from 38% a decade ago. Among other findings, the report notes a rise in fire and explosion incidents, with a 42% increase in the past four years.

Citing as an example the root cause of the engine-room fire aboard the cargo vessel Stride in January, Krüger said that even small oversights, such as an incorrectly installed or damaged valve, can result in fatal accidents.

He continued, "Modern acoustic sensors could have picked up abnormal pressure signatures or vibration patterns as soon as the valve began to operate. That kind of early warning can be the difference between a manageable maintenance event and catastrophic failure."

According to DNV, the data shows a clear correlation between vessel age and operational reliability with incidents involving vessels more than 25 years old, accounting for 41% of all reported cases, up from 32% in 2014. Across all age groups machinery damage/failure incidents grew by 20% in 2024.

"Too often, we see cases where seemingly minor issues spiral into significant failures. By the time these problems are identified during scheduled maintenance, the damage is already done. The early warning technology to detect these signs in real time already exists."

Commenting on the risks associated with older vessels, where maintenance is deferred or relies solely on periodic inspections, Fuhlbrügge said, "continuous monitoring can reveal the 'subtle degradation' that leads to unexpected breakdowns."

In conclusion, Uwe Krüger commented, "Machinery failures rarely happen overnight; they are consequent of a series of events over a period of time. Every percentage point of efficiency lost, every small increase in vibration, every piece of debris in the lube oil system is a warning sign. We need to pay closer attention to these details."

REPORT bites

Sri Lanka's highest court ordered a Singaporean shipping firm to pay US\$1 billion in damages for the island's worst marine pollution caused by its sunken vessel, the MV X-Press Pearl.

Sri Lanka's Marine Environment Protection Authority (MEPA) confirmed that it has begun negotiations with MSC Mediterranean Shipping Company seeking compensation for environmental damage related to the MSC Elsa 3 incident.

The Italian Navy took delivery of its tenth FREMM multi-purpose frigate in a ceremony at Fincantieri's La Spezia shipyard on Wednesday 30 July.

The Philippine Court of Appeals has ordered the owners of a local shipping company to pay damages amounting to approximately US\$2.36 million to the families of the victims of a maritime disaster that left more than 800 dead nearly 20 years prior.

Carbon Ridge has achieved a shipping first after deploying a centrifugal onboard carbon capture system (OCCS) onboard an LR2 product tanker owned by Scorpio Tankers Inc.

Compass Survey, a hydrographic survey company operating out of Port Harcourt in Nigeria, has taken delivery of a new unmanned surface vehicle (USV) from Hong Kong-based maritime robotics specialist OceanAlpha.

IBEX, the International BoatBuilders' Exhibition and Conference, has appointed Kate Donadio as its new director of marketing and communications.

A cross-sector consortium has been funded by the UK Government through the UK Shipping Office for Reducing Emissions to develop training programmes for the safe use of low and zero-emission fuels.

Italy-based Novamarine – a manufacturer of rigid-hulled inflatable boats – has acquired the Italian boatbuilder Tornado Yachts.

International Code for the Safe Carriage of Grain in Bulk update

DNV has sent out a news update on amendments to the International Code for the Safe Carriage of Grain in Bulk, which have been adopted by IMO Resolution MSC.552(108).

The Grain Code amendments enter into force 1 January 2026 and will be applicable to newbuildings with keel laid on or after this date. For existing ships, the amended Grain Code can also be applied to improve loading flexibility and demonstrate compliance with the new requirements. It is expected that there will be an increased attention on this loading pattern by inspectors in the larger grain exporting ports from 2026.

The need to implement such an update for existing ships will largely depend on the individual ship's cargo capacity, the maximum draught, and the specific gravity of the type of grain typically carried. If a ship, when operating at its normal/ fixed grain trade, can consistently load all holds fully – with untrimmed ends – without exceeding the maximum loadline draught, or only rarely encounters a fully loaded condition where one hold is partial filled within the hatch, such an update may not be necessary.

DNV says it is also worth noting that trimming can still be performed for a partial filled hold – where the grain level is below the hatch coaming – if such a service is available in the port.

Read the full story at <https://bit.ly/4mol1SI>.



NTSB highlights effective placement of smoke and fire detectors

The National Transportation Safety Board (NTSB) has highlighted the role of effective placement of smoke and fire detectors following its investigation of a fire aboard a fishing vessel last year near Tatoosh Island, Washington.

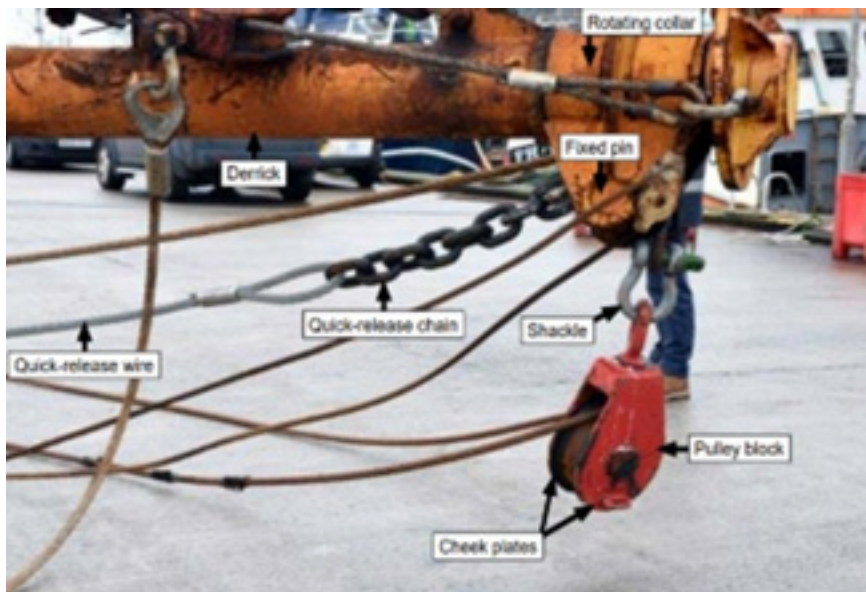
According to the NTSB report on the incident, the fishing vessel Tarka II did not have a smoke or fire detector in the engine room, where a fire broke out on Sept. 2, 2024. The Tarka II's engine room had a CCTV camera that would have been displayed in the wheelhouse, but it was not in use at the time of the fire. The captain's first indication of a fire was seeing smoke coming from the vessel's exhaust stacks. He likely would have been alerted to the fire sooner with an engine room smoke or fire detector or had the CCTV been operational.

The smoke detectors outside the engine room and in the galley did not activate until the captain opened the engine room door. The captain shut down the generator and main engine and noticed a small, smouldering fire near the hydraulic tank and hydraulic pump in the engine room.

Installation of smoke and fire detectors in spaces that are typically uncrewed when underway, such as the engine room, allows for the earliest detection and notification of a fire, maximizing the time for operators to respond to the fire or take actions to abandon the vessel, the marine investigation report said.

According to NTSB, vessel operators can improve fire safety by installing detectors in all areas susceptible to fire (such as the engine room and galley, and spaces that contain machinery, hot exhaust tubing, and fuel sources). The detectors should be capable of notifying crewmembers throughout the vessel of fire or smoke and be routinely checked to ensure they are in good working order.

SAFETY Briefings



New SOLAS requirements for Lifting Appliances

The IMO has introduced SOLAS Regulation II-1/3-13 through Resolution MSC.532(107), setting new requirements for lifting appliances and anchor handling winches. These updates will take effect on 1 January 2026, ensuring enhanced safety and operational standards across the maritime industry. Class News, released by Lloyd's Register, covers the requirements for lifting appliances, while a separate publication addressing anchor handling winches will follow. The SOLAS amendments are supplemented by the IMO MSC.1/Circ.1663 Guidelines for Lifting Appliances.

Application

The new regulation applies to a wide range of lifting appliances, including those:

- Used for cargo loading, transfer, or discharge;
- Used for raising and lowering hold hatch covers or moveable bulkheads;
- Used as engine-room cranes;
- Used as stores cranes;
- Used as hose handling cranes;
- Used for launch and recovery of tender boats and similar applications;
- Used as personnel handling cranes.

Generally, the requirements also apply to lifting appliances with a safe working load below 1,000 kg, unless the flag administration grants specific exemptions. However, certain lifting appliances — including those used on offshore construction ships — are outside the scope of this regulation.

Requirements for new lifting appliances (installed on or after 1 January 2026)

Before entering service, new lifting appliances must undergo certification, which includes:

- Plan appraisal and material verification
- Inspection and testing during fabrication
- Verification of component certification (including loose gear)
- Load testing and thorough examination once installed on board

Lifting appliances certified or classed under Lloyd's Register's Code for Lifting Appliances (CLAME) framework will be compliant with the new SOLAS requirements.

MAIB report: Fatal accident on the beam trawler Cornishman with loss of 1 life

The MAIB report into a fatality onboard the beam trawler Cornishman highlights a number of failings.

On 6 February 2021, a deckhand on the beam trawler Cornishman was fatally injured when the port trawl beam, which had been hoisted to facilitate a repair to the fishing gear, fell and struck him. It was found that a chain that was part of the trawl beam's quick-release gear had failed, causing the beam to fall.

Safety issues affecting the beam trawler Cornishman were:

- Risk assessments were not followed and stated mitigations were ineffective, placing the crew at risk while working under a suspended load
- The chain type was unsuited to marine operations, where the salt water environment caused environmental cracking
- The supplied chain had been unsuccessfully tempered during manufacture, which resulted in a high level of hardness and low ductility
- The chain's installation caused it to be led over a fixed pin, which introduced bending stresses to the chain links that were compromised due to corrosion and cracking

Recommendations

- The Maritime and Coastguard Agency has been recommended to update The Merchant Shipping and Fishing Vessels (Lifting Operations and Lifting Equipment) Regulations 2006 guidance to state the training requirements and accreditation of competent persons carrying out lifting equipment inspections. And, to update its training and guidance to surveyors to improve their ability to check compliance with these regulations during vessel inspections.
- W. Stevenson & Sons Limited has been recommended to ensure compliance with the lifting equipment regulations; review and update its risk assessments; confirm with chain suppliers and/or chain manufacturers before purchase that the selected chains are suitable for their intended use; and, implement the Fishing Safety Management Code for its fleet.
- Capital Group FASING S.A., Poland has been recommended to review and amend its chain quenching and tempering process and offer its customers a hardness test certificate for the lifting chains it manufactures.

Download the MAIB report at
<https://bit.ly/44aZZPY>.

Download the Annexes at
<https://bit.ly/4kJCDrH>.

Download the full PDF at
<https://bit.ly/4mla52x>.

REPORT bites

The world's oldest cruise vessel Astoria finally reaches the end of the line. After 77 years of service, Astoria has embarked on her final voyage, to the scrapyard in Ghent, Belgium.

New data from ISWAN's YachtCrewHelp helpline shows that yacht crew are increasingly seeking support with serious issues like abuse, bullying, harassment, discrimination and violence; complex employment issues; and personal struggles.

China has completed the world's first green ammonia ship bunkering operation, which was done at Cosco Shipping Heavy Industry's terminal at Dalian Port.

Nauti Pro is a new trade show designed exclusively for professionals in the nautical sector. From 13-15 January 2026 in Bordeaux, over 1,000 professionals will meet to exchange ideas, train and structure their season in a short, targeted and pragmatic format.

New York City's Staten Island Ferry is making a full transition from petroleum-based diesel to biofuels in a move aimed at reducing the fleet's environmental impact.

Lloyd's Register has become the first certifying authority authorised by the UK Maritime and Coastguard Agency to certify remotely operated and unmanned vessels under the latest Workboat Code Edition 3 Annex 2.

Florida, US-based Marlow Yachts has reported the death of founder David Marlow, who passed away on July 13, 2025 at the age of 82.

According to BIMCO, ship recycling is expected to more than double in the next ten years, with approximately 16,000 ships, or 700 million deadweight tonnes (DWT), estimated to be dismantled globally.



Safety alert issues about green patina build-up on water mist nozzles

The U.S. Coast Guard (USCG) has issued a safety notice highlighting the risk of green patina build-up on high-pressure water mist nozzles, which can compromise the effectiveness of onboard firefighting systems. According to the notice, while witnessing routine testing of a fixed firefighting system during an annual exam aboard a foreign passenger vessel, the Coast Guard discovered multiple high-pressure water mist nozzles that were incapable of discharging water. Consequently, the firefighting system failed to activate in multiple accommodation spaces.

Upon expanding the examination, Port State Control Officers determined that the high-pressure water mist nozzles in question were manufactured by Marioff ("a2000" series) as part of the "HI-FOG" system. The accumulation of green patina on the nozzles, a sign of corrosion, rendered them unable to release water after the glass bulb broke. The high-pressure water mist nozzles are designed to hold the standard line pressure of 25 bars (363 PSI).

When the glass bulb thermal actuator (shown in the photo above) reaches a certain temperature, it breaks, activating the release mechanism which allows water to flow through the nozzle at the standing pressure. The system then senses the drop in pressure and activates the high-pressure pumps which increases the pressure to 140 bars (2,031 PSI).

This increased pressure is required for the system to achieve an effective release of water in a mist form. The manufacturer, Marioff, released a Service Bulletin (001/2012) and Quality Bulletin (002/2012), which originated due to failures of the "a1000" series nozzles. The bulletins describe the same failure as that noted on the "a2000" series during the recent examination and includes recommended actions that apply to both the "a1000" and "a2000" series nozzles.

Marioff recommends that if a nozzle fails to release at the standing pressure of 25 bars after the glass bulb is broken, the high-pressure pumps must be manually energized to raise the pressure to 140 bars. Doing so will activate the release mechanism allowing water to flow through the nozzle.

During the examination the Coast Guard witnessed this recommended action and observed that raising the pressure of the system to the recommended 140 bars did not activate the release mechanism of the nozzles as expected. Thus, in this case, the actions recommended by Marioff in Service Bulletin (001/2012) and Quality Bulletin (002/2012) did not raise the system pressure sufficiently to activate the release mechanisms for the nozzles.

Download the safety alert at <https://bit.ly/4mcXCnH>.

SAFETY Briefings

Key recommendations against blackouts

The team at Gard P&I Club has issued recommendations to help ship operators prevent blackouts and ensure that crews are prepared to respond effectively should one occur.

A blackout occurs when a ship suffers loss of electrical power from its main switchboard, typically due to an electrical or mechanical failure in the ship's power generation, distribution, or propulsion systems. All blackout situations are serious and potentially dangerous. In a best-case scenario, a standby generator will be brought online to restore the main source of electrical power within seconds. However, a sustained blackout with loss of propulsion and steering control can eventually lead to collision or grounding with loss of life, damage to the environment and even total loss of the vessel.

The risk of a serious casualty increases when a ship is operating close to shore, near other ships or infrastructure like offshore wind turbines and particularly under adverse weather conditions. The increasing complexity of the integration of operating systems on modern ships has also been shown to challenge crews' capacity to understand how these systems work. This can have a significant impact on how long it takes to recover from a blackout and restore propulsion and steering, and hence the severity of a blackout.

Key recommendations against blackouts

To prevent blackouts from occurring, ship operators must ensure that all essential machinery, electrical equipment and control systems are correctly maintained and operated. According to DNV, some of the typical failures to be aware of are:

- Loss of lube oil pressure
- Fuel-oil related issues, e.g. clogged filters
- Control, monitoring and safety system malfunctions
- Common maintenance failures. This could happen when similar maintenance is carried out on several auxiliary engines at the same time

Gard also recommends carrying out regular and realistic performance testing of auxiliary and emergency power supply systems as well as surveying switchboards with an infrared camera. Even systems with redundant power supply might fail at the worst possible time if not properly maintained.

To reduce the effects of a blackout, ship operators should develop robust operating procedures that identify ship-specific operations where a blackout could represent a particularly high risk, e.g. during berthing or navigation in heavy weather, different system failures that could occur, and how to best respond if a failure occurs. Special attention should be made to the configuration of main and auxiliary switchboards to provide redundancy in power supply for propulsion and supporting systems.

Additionally, Gard emphasises to ship operators the importance of having an alarm system that is clear and unambiguous. Every blackout will activate a large number of alarms, and it is essential that the engineers on watch can quickly recognise those that are critical. As an example, the investigation (report in Norwegian) of the above mentioned cruise ship accident revealed that the ship's alarm system in the engine control room failed to distinguish between critical and less critical alarms, and that "troubleshooting was challenging when a total of approximately 1,000 alarms sounded within the first 10 seconds after the blackout".

Onboard drills to test system responses triggered by different, and realistic, blackout failures should be conducted on a regular basis to improve crew awareness. The Failure Modes and Effect Analysis (FMEA) of the complete power management system would be a good resource for operations and training of crew. When used as a reference document, it can improve operator understanding of the risks and corrective actions the automation system performs should a particular failure occur. Remember, your best strategy to avoid accidents is to make sure every ship has a skilled and confident crew, who understand how to prevent and respond to a blackout in order to recover as quickly as possible.



UKP&I guide to safe LNG bunkering practices

UKP&I Club has developed the UKP&I guide to Safe LNG Bunkering Practices (Second Edition) in collaboration with Brookes Bell.

The guide presents a practical resource for the safe and efficient bunkering of liquefied natural gas (LNG) in the maritime industry.

In response to global decarbonisation efforts and the growing adoption of LNG as a fuel in transition, this guide explores the physical characteristics of LNG, associated hazards, and recommended best practices for its handling, storage, and transfer.

It covers key technical aspects including:

- Containment systems,
- Pre-bunkering preparations,
- Operational protocols,
- Emergency response planning, and
- Crew training aligned with the IGF Code.

The publication also addresses critical considerations such as risk assessments, mooring analyses, and the complexities of simultaneous operations (SIMOPS). It outlines essential tank preparation procedures such as inerting and cool-down and emphasises the importance of establishing robust safety and security zones.

Download the PDF at
<https://bit.ly/458QBg3>.



REPORT bites

The efforts to control the mega-cruise ships along the French Riviera continue with the city of Cannes announcing it would implement new restrictions at the end of the year.

In an ambitious move set to transform the marine tourism landscape of northern Greece, the Municipality of Thessaloniki is pressing ahead with the development of Pylaia Marina, a high-standard facility designed to accommodate megayachts.

A report from Unmuted Consumer Insights reveals that 68% of US recreational boat owners consider a brand's environmental commitment when choosing a vessel.

The Indian government is set to bring a new Merchant Shipping Bill in, which aims to repeal and re-enact the Merchant Shipping Act, 1958. One of the major changes proposed under the Bill is the renaming of the Director General of Shipping to Director General of Maritime Administration.

Yachting New Zealand has announced the appointment of Steve Armitage as its new chief executive, succeeding David Abercrombie after more than 14 years in the role.

US boat builder Delta Marine has announced the passing of its co-founder, Ivor Jones. Jones brought energy and dedication to the craft of boat building, setting the tone for Delta's development from its earliest days.

The National Transportation Safety Board (NTSB) has appointed Eric Stolzenberg as the new director of its Office of Marine Safety, effective July 27, 2025.

Osbit, an offshore wind engineering company operating as part of Venterra Group, has opened a new assembly and service facility at the Port of Blyth in the U.K., bolstering its offshore wind service offering.

Boating BC has announced several exciting changes for the upcoming 63rd Vancouver International Boat Show being held January 14–18, 2026.



Annual Safety Statistics Report 2024

IMCA Safety Statistics Report 2024: Line of Fire incidents leading cause of LTIs

The International Marine Contractors Association (IMCA) has published its annual Safety Statistics Report, showing that 'line of fire' incidents remained the leading cause of lost time injuries (LTIs) among IMCA marine contractor Members in 2024, accounting for more than half (52%) of such injuries. The research, which IMCA has published each year since 1996, found that the total lost-time injury rate (LTIR) across its contributing Members' onshore and offshore operations remained unchanged at 0.3 incidents per million hours worked. This follows steady improvements since 2010, when the LTIR was more than twice as high as recorded in 2024. Meanwhile, the total recordable injuries rate (TRIR) rose slightly (from 1.07 to 1.1 injuries per million hours worked), a pattern seen across the energy industry, although IMCA contractor Members saw a small improvement in the total recordable injury rate recorded for offshore from 1.47 injuries per million hours worked in 2023, to 1.38 in 2024.

Just over half (52%) of lost time injuries reported were 'line of fire' related injuries. Understanding the underlying causes of these accidents and how they can be reduced will be a priority for IMCA, working with its Members and partner organisations, in 2025. Slips and trips were the second main cause of LTIs, accounting for 22% of the total in 2024. The fatal accident rate (FAR) halved from 0.63 fatalities per 100 million hours worked in 2023, to 0.3 fatalities in 2024. For offshore workers, the rate fell from 0.41 in 2023 to 0.18 in 2024 – the lowest fatality rate ever recorded by IMCA contractor Members.

This year's data for IMCA Safety Statistics Report 2024 was supplied by 198 of IMCA's contractor Members, who between them submitted a record 1,015,000 hours of data. The research is available to both IMCA Members and non-Members, enabling them to benchmark their performance against similar sized companies.

Download the report at <https://bit.ly/3FKIaPG>.



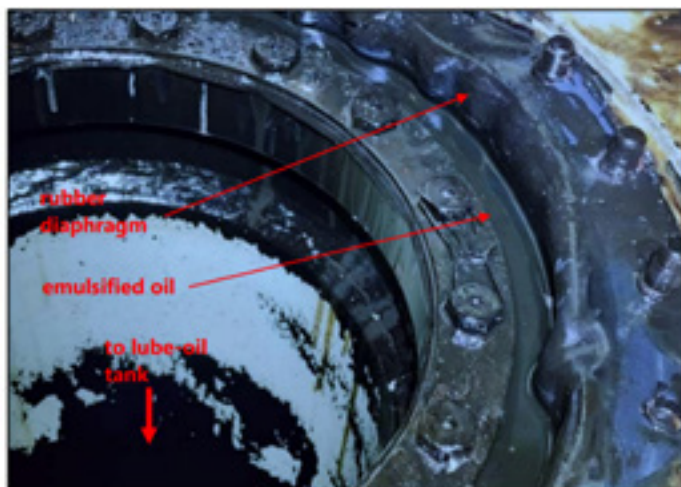


Figure 6: Engine sump showing rubber diaphragm fitted to drain port during dismantling (Source: Wärtsilä technical report)

forecast inclement weather for the Tasman Sea, the master decided to take shelter near the New Zealand coast and wait for about 36 hours for the weather to abate.

Because of the length of time spent at Wellington, the bilge water holding tanks and the engine-room bilges were full, and water had begun to accumulate on the engine-room tank-top. When the *Shiling* entered the Tasman Sea, it began to roll, and the free water on the tank-top entered the void under the main engine sump, where three rubber diaphragms were located.

The diaphragms linked the main engine sump to the main-engine lubricating oil tank (lube-oil tank) beneath. Their purpose was twofold: to compensate for the relative movement between the main engine and the solid structure of the tank; and to prevent water entering the lube-oil tank.

However, all three rubber diaphragms were in a deteriorated state and allowed the bilge water to enter the lube-oil tank, causing the lube-oil pumps to lose pressure and the main engine to stop. Without the main engine operating, the *Shiling* was unable to manoeuvre. The ship settled with its beam to the swell and began to roll heavily. With no option for recovering the main engine, the master made a Mayday call. A tow-capable vessel located in the nearby port of New Plymouth responded, initially taking the *Shiling* in tow to the sheltered waters of Golden Bay and eventually back to Wellington for further repairs.

Why it happened

The ship's blackout in Wellington Harbour was caused by exhaust gases from a cracked cylinder liner in one of the generators entering the centralised cooling-water system that supplied cooling water to all generators and the main engine. The running generators tripped out because of high cooling-water temperature and caused the blackout, which subsequently caused the main engine to stop.

Although the ship held valid statutory and classification society certificates, the generators and several other safety-critical systems were found to be in a deteriorated condition. It is very likely that the rubber diaphragms had not been inspected for many years, despite the issuing of several bulletins by insurance clubs and engine manufacturers warning of the critical importance of maintaining the diaphragms in good condition.

The Commission has identified several safety issues relating to the international and domestic systems for regulating international ships and the ability of ship owners to devolve their responsibilities for the safe operation of their ships to third parties without regulatory consequences.

The Commission has made recommendations to Maritime New Zealand to address these matters through the International Maritime Organization (IMO).

Lessons Learned

Deferred ship maintenance, especially of critical equipment and systems, will significantly increase the risk of accidents and incidents. Failures involving critical equipment and systems must be fully investigated for their causes and resolved before the equipment or systems are placed back in service. The creators of risks are best placed to manage them (Committee on Safety and Health at Work, 1972). A ship owner who offers a ship for service must remain responsible for its safe operation, regardless of any other entities involved in operating, inspecting and auditing the ship and its systems.

Download the report at <https://bit.ly/4nf1V2l>.

TAIC warns against deferring ship maintenance after *Shiling* accident

The New Zealand Transport Accident Investigation Commission has warned against deferred ship maintenance after a ship lost control containership *Shiling* lost control at Wellington Harbour on 15 April 2023.

On 15 April 2023, the container ship *Shiling* was under pilotage outbound from the port of Wellington and had just initiated a turn into the Wellington Harbour entrance channel when it suffered a blackout that caused the main engine to stop. The momentum of the turn carried the ship into the shallow waters of Falcon Shoal, where the bridge team succeeded in using both the ship's anchors to stop the ship from grounding.

On 10 May 2023, the repairs having been made, the *Shiling* departed Wellington bound for Singapore. Because of

forecast inclement weather for the Tasman Sea, the master decided to take shelter near the New Zealand coast and wait for about 36

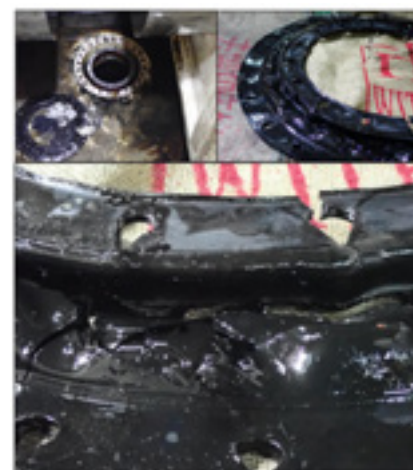


Figure 7: One of three rubber diaphragms removed from main engine sump

REPORT bites

Beginning from July 1, 2025, Finland has banned cargo vessels from discharging toilet wastewater, scrubber sludge and sulphuric wash water into the nation's coastal waters.

Matson, an American Shipping Company based in Honolulu, Hawaii, has officially refused to accommodate electric cars as part of its cargo, amidst rising concerns over the safety of transporting electric vehicles by sea.

The U.K.'s border authorities have confiscated cocaine worth \$132 million from a ship that came from Panama.

Finland-based Axopar Boats has announced the appointment of Kari Kulojärvi as its new chief executive officer. Ari-Pekka Saarikangas will step down from the role and remain with the company through January 2026 to support the transition.

World's biggest battery manufacturer, CATL (Contemporary Amperex Technology Co.), has powered China's first fully electric offshore tourist ship, the Yujian 77.

Yachting Ventures will return to the Abu Dhabi International Boat Show in November spearheading the Innovation Zone, where 15 startups will showcase their products and platforms and connect with the industry.

Saipem and Subsea7 have signed a binding merger agreement to create a global powerhouse in energy services.

Two foreign crew members are facing prosecution in Singapore following a fatal collision between two vessels in July 2024, which resulted in one death and serious injuries to another seafarer.

Lithium-ion battery system installation alert issued by USCG

The US Coast Guard (USCG) has issued a safety alert and providing guidance regarding lithium-ion (Li-ion) battery installations following an incident when an integrated Li-ion battery bank recently caught fire onboard an inspected passenger vessel when loosely crimped lugs overheated. While no one was injured and the vessel sustained minimal damage, this casualty highlights safety hazards unique to Li-ion batteries.

All integrated (installations used for propulsion and electrical power) Li-ion battery systems on inspected vessels must undergo engineering plan review, be fitted with supporting safety systems, be tested and inspected at installation and periodically afterward, and be properly maintained by competent mariners, regardless of the battery bank size or end consumer.

Unique safety considerations

Energy density: Li-ion batteries are used on vessels because their high energy densities allow for longer voyages and full electrification. However, high energy density increases risk because if a fire occurs, it will burn hotter and longer.

Thermal runaway: Upon internal failure or short circuit, Li-ion batteries may release high-temperature flammable gases that can catch fire or explode. The heat output of a fire can increase the rate of off-gassing, and those off-gasses in turn increase the size of the fire in an uncontrolled chain reaction.

Fire suppression resistance: A thermal runaway fire is very difficult to suppress once it has begun to propagate to other battery modules. Instead, fire management strategies focus on early detection, fire containment, and heat absorption with a water-based suppression system.

Toxic off-gasses: In thermal runaway, Li-ion batteries release varied toxic gases, many in excess of their "Immediately Dangerous to Life or Health" thresholds, placing passengers and crew in potential danger. Further, the composition of off-gasses varies dramatically across different Li-ion battery chemistries and manufacturer makes and models.

Battery management: Li-ion batteries will often have a battery management system to prevent degradation from overcharging, undercharging, or over-cycling. Propulsion, electrical loads, topping loads, and recharging cycles are managed by complex integration systems, which are key in mitigating the increased risks of Li-ion battery systems.

Owner and operator guidance

Li-ion battery identification: Packaged Li-ion batteries often visually resemble traditional lead acid batteries, regardless of type, so the best way to identify them is by reading the nameplate specifications. Li-ion batteries can be identified in a variety of ways depending on electrode, electrolyte, and separator materials. Some common types in maritime use are Lithium Iron Phosphate (LFP), Lithium Nickel Manganese Cobalt Oxide (NMC), Lithium Cobalt Oxide (LCO), Lithium Nickel Cobalt Aluminum Oxide (NCA), and Lithium Titanate (LTO). New chemistries continue to emerge as technology advances.

Plan review: Plan review and proper design testing procedures (DVTPs and PSTPs) should be completed early in the construction process. If plan review and system design testing have not been approved by delivery, marine inspectors may require plan review to be completed through the Marine Safety Center.

Material condition: Batteries should be visually inspected for signs of deterioration, such as bulging cells or corroded electrical connections. Documentation on the completion of required maintenance should be maintained.

Operational and maintenance procedures: Crew members responsible for battery operation and maintenance should be well-trained in the manufacturer's guidelines and operational procedures and familiar with the functioning of the battery management system. They should also know how to respond to abnormal battery conditions or fires. Safety drills for Li-ion battery fires should be performed, and Li-ion battery system arrangements and risks should be taken into account when conducting other drills.

Download the safety alert at <https://bit.ly/4ffBKoQ>.

SAFETY Briefings

USCG issues alert on fire detection systems on towing vessels

The U.S. Coast Guard (USCG) has issued a warning regarding issues related to fire detection systems on towing vessels that are not type-approved by the Coast Guard but are instead certified by a Nationally Recognized Testing Laboratory (NRTL).



According to the USCG, even though fire detection systems may be accompanied by a certification letter issued by an authorized entity, a recent Coast Guard investigation revealed that some NRTL approved systems may have potential shortcomings and oversight gaps.

1. A system listed by a NRTL may not be rated/tested for use in a marine environment. Fire detection system components that have not been rated/tested for marine use may be more susceptible to malfunction from exposure to the moisture, temperature fluctuations, vibration, and corrosive agents (such as salt) common in the marine environment.
2. Unlike Coast Guard type-approved fire detection systems, there is currently no process or requirement in place for manufacturers to notify the Coast Guard of design defects and safety recalls for components in non-Coast Guard approved fire detection systems. This greatly increases the chances of defective or recalled components going unnoticed.
3. The certification letters provided to meet the requirements of 46 CFR 142.330 and other documentation for the installed fire detection system may not include a list of the make, model, type, number, or location of devices installed in a vessels fire detection system. Without knowing the specific equipment installed, a company or organization responsible for regulatory oversight cannot determine when a vessel is affected by a critical safety recall, or when modifications have been made to the system that warrant re-certification. Furthermore, a lack of familiarity with installed equipment may lead to improper maintenance, testing, and replacement intervals for critical detection components such as heat or smoke detectors.

The USCG strongly recommends that vessel owners, vessel crew, fire alarm servicing personnel, and third-party surveyors:

1. Ensure that fire detection systems are installed, tested, and maintained in accordance with the manufacturers design manual as required by 46 CFR 142.330.
2. Ensure that, in addition to tests and maintenance required by the manufacturers design manual, fire detection systems be inspected and tested:
 - Annually in accordance with 46 CFR 142.240, and also
 - Undergo testing required for essential systems in accordance with 46 CFR 143.245. This testing should be conducted in accordance with the manufacturer's instructions or as stipulated in the vessels Towing Safety Management System (TSMS) at a frequency of every 3 months.
 - Ensure that vessels have documentation that lists the make, model, type, number, and location of components installed on board the vessel. Ideally, this information should be documented in a letter or included in supplementary compliance documentation such as plans, drawings, or a verified installation parts list, that have been certified and reviewed by an authorized entity as required under 46 CFR 142.330 and stamped in accordance with 46 CFR 144.145. This will enable fire detection system companies and regulators to quickly identify components installed on a vessel when safety recalls are issued, and permit servicing personnel to correctly identify the type of maintenance and testing required for installed components.
 - Register all fire detection system components with their respective manufacturer and register for their email and notification lists. This will improve the chances that component manufacturers will contact you regarding any discovered defects and safety recalls.
 - Be aware that non-restorable, fixed-temperature heat detectors cannot be field tested, and manufacturers typically require their replacement every 10 years, or in accordance with National Fire Protection Association Standard 72 (NFPA 72) which requires replacement of such devices every 15 years. Combination rate-of-rise heat detectors have both a rate-of-rise feature and a non-restorable fixed-temperature setting, and the rate-of-rise feature must be tested annually in accordance with manufacturers instructions and/or NFPA 72. These detectors often look the same, and the only way to confirm the type you have is to verify the make and model number printed/labelled on the detector against manufacturers documentation.
 - Visually examine installed detectors during inspections and surveys. Any detectors that are physically damaged or found to have the sensing element painted over should be immediately replaced.
 - When replacing components installed in the fire detection system on inspected towing vessels, unless the new components are the same or those with the same technical specifications (and listed by the manufacturer as compatible with the system), the fire detection system and new components should be re-inspected and re-certified for compatibility by an authorized entity listed under 46 CFR 142.330.

During marine inspections, the USCG will continue to verify fire detection system compliance through visual inspections, records checks, and testing.

Investigation report released on Fremantle Highway disaster



Photo credit: ANP/Marco van der Caaij

The system for responding to incidents in the North Sea needs to be put in order as soon as possible. That will require improved communication and information sharing between the Coastguard Centre and its cooperating organisations on shore. This is the conclusion of the Dutch Safety Board in its investigation of the emergency response to the fire that broke out on board the car carrier *Fremantle Highway* during the night of 25 to 26 July 2023.

Problems in the emergency response system are not prioritised, because they do not seem serious enough when considered on their own. The vulnerability of the system only becomes apparent when there is a complex request for assistance that demands coordinated action on the part of multiple coordinating organisations in the emergency response chain, both at sea and on shore.

Dutch Safety Board member Erica Bakkum said: "The Dutch Safety Board has repeatedly pointed out in recent years that the Coastguard Centre is insufficiently capable of assuming control when it needs to collaborate with other parties. It doesn't help that several ministries share administrative responsibility for the Coastguard. That setup makes it harder to take rapid action. We therefore advocate the appointment of a mandated director who can coordinate the necessary improvements in the response to emergencies."

In the case of the *Fremantle Highway* incident, the emergency response focused for a long time on fighting the fire rather than rescuing those on board. In the meantime, seven people jumped overboard and were seriously injured; one of them eventually died. The remaining 16 people on board were ultimately airlifted off by helicopters. The initial focus on firefighting and the limitations in sharing information meant that the Security Regions were not sufficiently prepared for the arrival of the 16 casualties from the helicopters, who also required medical care. There was therefore a delay in transporting them to hospitals in the region.

Safety briefing shorts

Fatigue reliability of offshore wind turbine structures – A case study

Offshore Wind Turbines face relentless environmental forces—especially fatigue from wind and waves - that can lead to costly failures in blades, towers, and foundations. Traditional maintenance methods often fall short in predicting these risks effectively.

Read the paper at <https://bit.ly/4ePZorX>.

IMPA Safety Campaign 2025

The International Marine Pilots Association (IMPA) Safety Campaign 2025 is an annual initiative dedicated to improving the safety of pilot transfer arrangements worldwide.

This year's results reveal that observed non-compliance remains high, at 14%, based on over 5,000 reports received in May 2025. This underscores the ongoing need for strict compliance and shared responsibility among all parties involved.

Read the report at <https://bit.ly/4mkL9xx>.

Denmark launches world's first test program for remote pilotage

Danelec and DanPilot have partnered up to unveil a test program for the world's first data-driven remote pilotage. After six years of development and approved by the Danish Emergency Management Agency, the test program created by DanPilot and Danelec allows pilots to guide ships from land, using only data transmitted directly from the vessels.

The aim is to improve pilot safety and reduce fuel consumption for ships without compromising navigational safety. Furthermore, the approval has been granted as part of a broader effort to enhance safety and preparedness at sea. The test will serve as a foundation for future regulation and possible broader application, both nationally and internationally.

Incorrect storage and handling of 'jumbo bags' can lead to significant claims

The London P&I Club has renewed its warning to shipowners, operators, and charterers over the risks linked to loading dry chemicals in Flexible Intermediate Bulk Containers (FIBCs), or 'jumbo bags' with the launch of a new video that provides loss prevention advice.

The alert follows several incidents involving cargo fires and damage—particularly on bulk carriers and general cargo ships, with many cases reported at Chinese ports. The Club warns that failure to strictly comply with all relevant International Maritime Organization (IMO) regulations and guidance governing the storage and handling of jumbo bags could even prejudice P&I cover.

Watch the 8 minute YouTube video at <https://youtu.be/e0SEQkCFIbo>.

PFOS banned in fire-extinguishing media from January 2026

Lloyd's Register (LR) has issued a regulatory update stating that, from January 1st, 2026, the use or storage of fire-extinguishing media – including firefighting foams – containing perfluorooctane sulfonic acid (PFOS) will be prohibited. This applies to both fixed and portable systems and equipment.



IIMS is ISO 9001 certified for training services in marine surveying



ISO 9001 audit update

In 2024, following many months of preparation and hard work, IIMS was externally audited and awarded ISO 9001 certification by DNV for 'Training services in marine surveying'. For those who are not familiar with this standard, ISO 9001 is a widely recognized international standard for quality management systems (QMS). It provides a framework for organisations to consistently deliver high-quality products and services, ensuring customer satisfaction and regulatory compliance.

Our first annual audit since certification took place in early June, and pleasingly it threw up no major or minor nonconformities, which is a remarkable achievement. But the hard work goes on as we start to prepare for the next audit in 2026!



Recent new IIMS members, upgrades and graduates

Full members

Raul Ciro	MIIMS	Colombia
Simon Cox	MIIMS	UK
Ciaran Cunningham	MIIMS	Ireland
Glen Jones	MIIMS	UK
Stelios Kotrozos	MIIMS	Greece
Ihab Shaaban	MIIMS	Liberia
Gavin Sharp	MIIMS	UK
Noel Spalding	MIIMS	Scotland
Saumil Thanki	MIIMS	India

Graduate members

Sarat Lara Braimah	GradIIMS	Nigeria
Michael Hillsden	GradIIMS	UK
Clayton Layton	GradIIMS	UK
James Lowe	GradIIMS	UK
Ezekiel Magante	GradIIMS	Philippines
Claudine Piper	GradIIMS	UK
Martin Stanfield	GradIIMS	UK
Plamen Stoyanov	GradIIMS	Ireland

Associate member

Cihan Baris	AssocIIMS	Turkey
Graham Lane	AssocIIMS	UK
Kabiru Oyegbemi	AssocIIMS	Nigeria
Neill Pearce	AssocIIMS	UK

Technician member

Andy Scott	AffliIIMS	UK
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Affiliate member

Ba Htun	AffliIIMS	Myanmar
Timothy O'Connell	AffliIIMS	New Zealand
Vikas Singh	AffliIIMS	Qatar
Tommaso Vespa	AffliIIMS	Spain

IIMS congratulates Sarat Lara Braimah, Michael Hillsden, Clayton Layton, James Lowe, Martin Stanfield and Plamen Stoyanov for completing the IIMS Professional Qualification in Yacht and Small Craft Marine Surveying.

*Correction from The Report magazine, June 2024, Issue 108:
Engr. Yonatan Hayle Tesfay GradIIMS Eritrea*

IIMS congratulates Ezekiel Magante and Claudine Piper for completing the IIMS Professional Qualification in Cargo & Commercial Ship Marine Surveying.

Supporting the Sailors' Society

IIMS President, Capt Ruchin Dayal, elected to support the Sailors' Society as his chosen charity whilst in office. As part of this connection, Mike Schwarz, Chief Executive, was invited to meet with the local Sailors' Society Chaplain, Frans Sahetapy, at nearby Southampton Docks.

Mike said, "It was a privilege to join Frans on a couple of ship visits to observe him at work and to understand what is involved. I have to say that it came as a surprise to me to see how he, and the charity, operate and the range of support services they can offer seafarers and crew. We boarded a giant car carrier, K Line's Orion Highway, in the process of being loaded with thousands of cars (in itself fascinating) and were warmly welcomed and treated with respect right from the off by the crew. Frans spoke to and engaged with the crew in the mess room over a welcome cup of coffee. And then the ship's captain came by, joined us, and spent a good 20 minutes earnestly chatting with us. As I have said before, if you are not involved in this industry, you have little idea of what really goes on behind the scenes. There is no doubt that the life of a seafarer is challenging, but I got the distinct feeling that the Orion Highway's crew were happy in their work. My thanks to the Sailors' Society for organising this."



Chaplain, Frans Sahetapy, (pictured right)



The Captain of the Orion Highway (pictured right)



Frans and Mike pictured with the Captain of the Orion Highway and some of his crew



About us: We are here for seafarers and their families whenever and wherever they need us.

We offer 24/7 practical support and wellness training to the world's 1.9 million seafarers and their families and provide a unique circle of care that begins at cadetship and that helps crews and companies thrive.

For more than 200 years, as an international maritime charity, we have been transforming maritime lives and today we lead the field with our innovation and virtual support.

Upcoming IIMS events

In-person and remote MCA approved tonnage training on 23/24 September 2025

Don't miss this opportunity. IIMS rarely offers the chance to learn the practicalities of tonnage measurements in person. But first, on 23 September from 15.00 to 18.00, IIMS will present online only Part I: Tonnage theory training. This is available to IIMS members and non-members too and provides an essential knowledge base into the theory of tonnage measurement and what's involved.

The following day (24 September 2025), for those who are available to travel to Itchenor Sailing Club in the UK, Part II will be delivered face-to-face. Three boats will be measured under the guidance of experienced IIMS surveyors, who will lead the session. If you are unable to travel to the UK for this face-to-face event, you can complete Part II remotely by recording and submitting your video evidence for scrutineering at your convenience.

For full details and to book your place go to <https://bit.ly/4fyn5FC>.



IIMS Canada Branch Conference on 22/23 October

The Institute is pleased to announce that its rescheduled Canada Branch Conference will take place in Hamilton Ontario.

The event is open to both in-person and online delegates, and you do not need to be an IIMS member to attend and participate.

To download the conference brochure and reserve your place go to <https://bit.ly/310HHcB>.

IIMS four-day Practical Surveying course 1-4 December

Are you new to the marine surveying profession, or do you have limited surveying experience and need more knowledge? Perhaps you're wondering whether you're inspecting the boat correctly and if your reports have enough detail to meet modern day expectations? If so, the third iteration of the popular IIMS Practical Surveying Course could be just the ticket for you.

This four-day residential programme being held at the Boatbuilding Academy in Lyme Regis, Dorset, UK aims to offer delegates practical, hands-on surveying experience.

For the first three days, IIMS senior and experienced surveyors will assist and guide you in inspecting and surveying three different boats, as well as discussing toolkit requirements and how to use them. The surveyors are also on hand throughout the three days to answer any questions you may have about inspections, or the surveying profession in general.

The final morning will be dedicated to an in-depth lecture on report writing, which will offer tips and advice, delivered in person by IIMS CEO, Mike Schwarz. The programme concludes with an assessed test where you will write a scaled down report on one of the vessels you inspected during the course. This is done via an online platform and should be completed at a later date once you are back home and have had time to take in all you have learned.

For full details and to reserve your place go to <https://bit.ly/4jP4RzZ>.



IIMS team building forest adventure

If you are a regular reader, you may recall that once a year Team IIMS heads off for a couple of days team building in the heart of the New Forest at Minstead, UK, which is about 40 minutes from head office.

This year's highlight was to be a team paddle in one giant kayak from Poole Harbour to Brownsea Island in Poole Harbour, famous as the birthplace of the scouting movement back in the early part of the 19th century. Sadly, the unseasonal British weather intervened as heavy rain and high winds forced a change of plan. The team opted for the safer option of the public ferry to the island instead. But the team's spirits were not dampened. IIMS Marketing & Publishing Executive, Frances Birkett, takes up the story...

Deer, ducks and red squirrels, oh my! *IIMS New Forest team away days.*

June marked a busy period for the IIMS team on many fronts. We held our AGM, an ISO 9001 audit followed by exhibiting at Seawork in Southampton. However, in the middle of all of that, we headed for our annual teambuilding away days in the New Forest.

As Mike said, the original plan was to kayak our way over from Poole to Brownsea Island, famous as the birthplace of scouting. However, British weather being as it is, our plans changed to ferry trips instead.

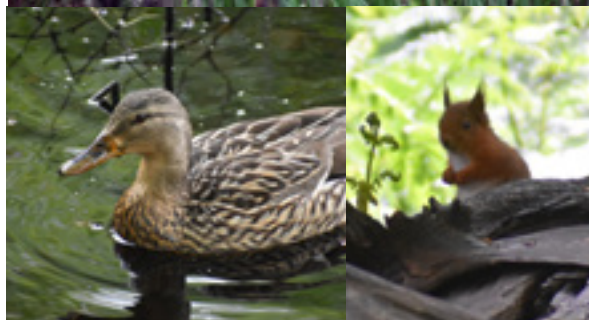
We spent the day exploring the island and looking for its many wildlife inhabitants (mostly of the avian variety). Most were unbothered by our presence. It was amazing to watch deer, ducks, geese, chickens, seagulls and pheasants go about their day in an unhurried manner. In fact, one duck and its ducklings very happily milled around our feet. However, the star of the show was the humble red squirrel. Now anyone who has spent time in the UK will know of the love we have for our native species of squirrel. They are an increasingly rare sight in the UK and in the south of England they are confined to small islands off the coast. Fortunately, everyone in our group was lucky enough to spot a red squirrel or two.

Sharon Holland, who coordinates our eCMID AVI, RMCI and YCTI training courses and events, said, "It's just nice to be with everyone and catch up outside of the office. The fact we were on an island, I found it really peaceful and tranquil. It was nice to get away from it all and explore somewhere new."

Then it was back to the New Forest Outdoor Centre where we set up camp (either in a hammock or shepherd's hut) and fired up the BBQ. Our evening activity was led by our graphic designer, Craig Williams, in which we explored our differing personalities using Enneagram tests. The idea was to discover more about ourselves as when we understand ourselves better, we work better as a team. It was an enlightening and interesting evening. We ended the night sitting around a campfire and chatting before heading to bed.

The next day Rob and Sam from the Centre finished our annual stay with a few short rounds of archery, including a chance to try out field archery with a longbow!

Dave Parsons, our Certifying Authority Operations Executive, said, "I appreciate the effort Rob and Sam go into when we stay there. I liked the archery as I enjoy physical activities like that. Our personality test was interesting - Craig did a good job with that, and Mike does a good BBQ. I woke up early and had a nice walk around the lake watching the lambs shout at me."



2025 AGM and awards report

The IIMS Annual General Meeting 2025 took place online on 3 June, broadcast live from the Institute's headquarters at Murrills House, Portchester UK. The event was attended by a sizeable number of members from around the world.

CEO, Mike Schwarz, gave a comprehensive overview of the work and activities that had taken place over the past 12 months. Furthermore, he informed members that IIMS is in a strong financial position having had a successful trading year as the business continued to grow. He reported that the outstanding mortgage on the head office real estate had been reduced significantly, and it is anticipated this will be paid off entirely soon.

Key IIMS Directors and Committee Chairs gave their individual reports on the various committee work being undertaken.

A number of honours were announced at this year's AGM and they are as follows:

Palma, Mallorca based Tim Rowe has been awarded a Fellowship in recognition of his work in the marine industry over many years.

Honorary Fellowship has been awarded to Capt Zillur Bhuiyan, Bangladesh Regional Director, as he is set to retire from the surveying profession. This award also recognises his achievement in getting the IIMS Professional Qualification accepted and delivered in Bangladesh. Another retiree, Emeraku Ijioma from Nigeria, who was instrumental in helping to establish the IIMS Nigerian branch, was awarded an Honorary Membership.

It is rare for IIMS to recognise the contributions of non-Institute members, but the management board has decided to honour Stuart Edmonston, UK P&I Club's Safety & Risk Management Director, with an Honorary Fellowship.

And last, but by no means least, IIMS was delighted to announce that Chairman of Standards, Paul Homer, an IIMS Executive Director, was to receive a Lifetime Achievement Award. Paul's experience spans more than four decades as a marine surveyor and this recognition reflects his personal dedication, commitment and contribution to IIMS over many years.

2025 AGM



Mike presenting Tim Rowe (right) with his Fellowship



An Honorary Fellowship was awarded to Capt Zillur Bhuiyan



Stuart Edmonston (left) was awarded an Honorary Fellowship



Mike presenting Paul Homer (right) with his Lifetime Achievement Award



Emeraku Ijioma was recognised with an Honorary Membership

Report on the IIMS Australasia tour

For much of July, IIMS CEO, Mike Schwarz, was on the road visiting New Zealand and Australia, meeting Institute members.

Mike takes up the story in his own words. "I made my first trip to meet members and others at an IIMS hosted event in Auckland. My visit coincided with a dramatic storm which hit New Zealand, but that did little to dampen the spirits of those who attended. I'd like to express my gratitude, in particular, to long standing IIMS member, Stan Collett, who encouraged me to make the long journey – and I am glad I did. It was also a great opportunity to spend time with representatives from Maritime New Zealand, the country's regulator, and I extend my thanks to Mark Potter and his team. We have plenty to discuss over the coming months, it seems too and will continue to develop our relationship.

"Those who spoke at the event did so with passion for their subjects and I have left with the overall impression that the New Zealand surveying profession and those involved in driving new technologies in vessel design and construction are at the top of their game.

"Leaving behind the indifferent Auckland winter climate, I headed for Brisbane on Australia's east coast. I hosted a two-day seminar for a group of highly engaged IIMS members, students, and others. I'd like to express my deep thanks to Mick Uberti, who assembled such a powerful and varied speaker line-up across the two days. Sadly, Mick was unable to be at the event due to unforeseen personal reasons. Topics presented covered corrosion, welding inspections, conducting damage surveys, the developing AI technology affecting surveyors, mentoring and electrical surveying. We also heard from Justin and Ash who work for AMSA, the Australian regulator.

"I also met Andrew Fielding, CEO of the Boating Industry Association, and had time to chat with him. We have agreed to continue our dialogue going forward. The Boating Industry Association Ltd is the peak industry body in Australia that represents the interests of boating. As a not-for-profit organisation led by industry for industry, their mission is to support their members to build thriving marine businesses. Growing the IIMS network adds value for all involved.

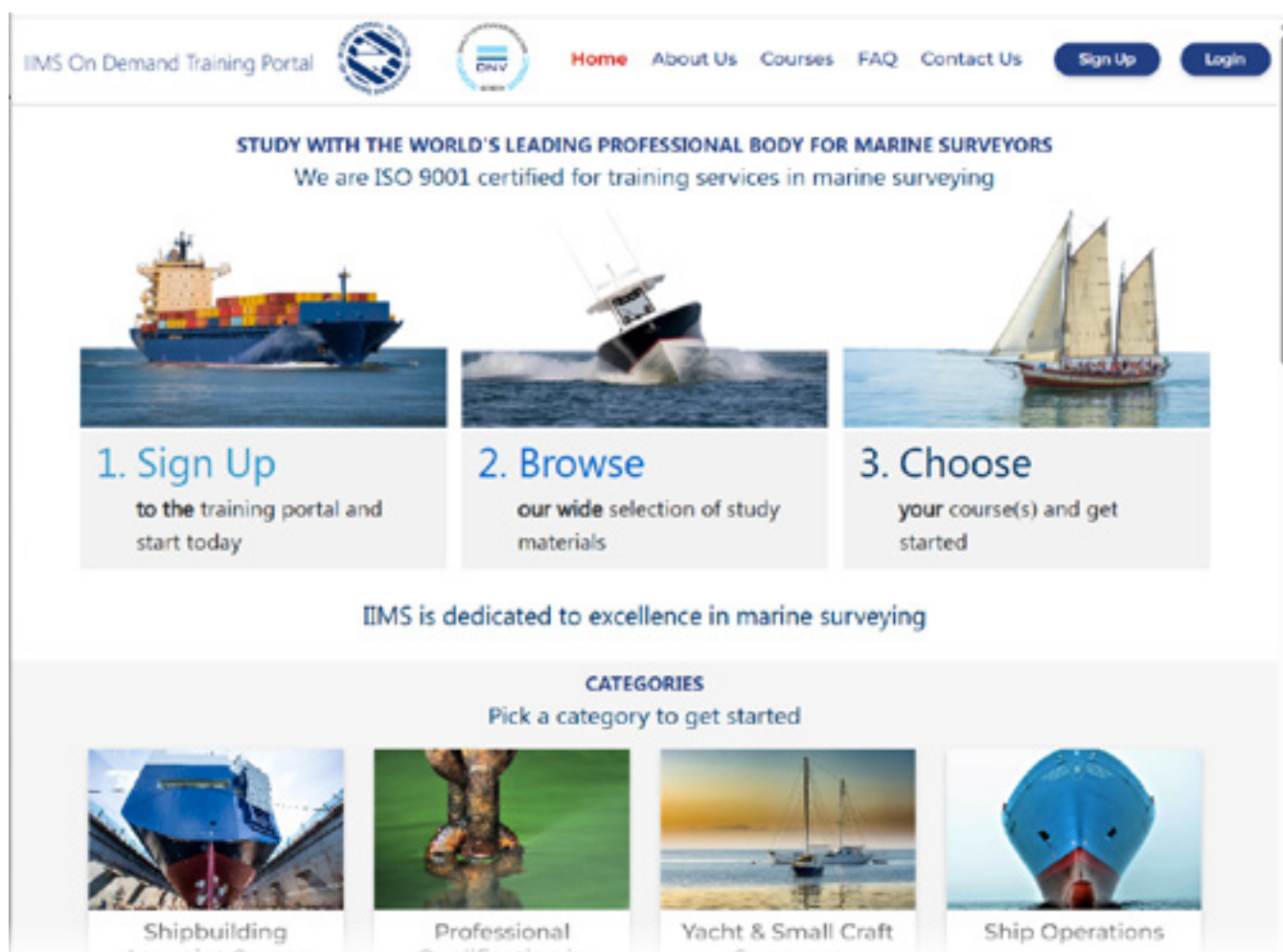
"Following both events, the feedback I have received, both directly and indirectly, has been extraordinary and I am grateful to all those who contributed fully, and made me feel so welcome, and who listened so intently to the presenters. If I have one regret, it is simply I wish I had made it to Australasia sooner than I did."

Something unexpected came out of the Brisbane event, which is now being pursued. We are now in the early stages of trying to see if we can reformulate an IIMS Australasian Branch. Watch for more details.



*Andrew Fielding (right),
CEO of the Boating Industry Association*





The new IIMS On Demand Training Portal

Over the past year, IIMS has trained several hundred members (and some non-members) at various locations around the world, both face-to-face and online, in a variety of marine surveying topics. That is a remarkable statistic and achievement. Training is an integral part of what the Institute does, and we are proud of the lead we take in surveyor education. On top of that, over 200 students are currently enrolled for the distance learning IIMS Professional Qualifications in Small Craft and Commercial Ship Marine Surveying. Training and education are right at the heart of what we do.

So, against this backdrop, the Institute is delighted to announce that at the end of July, the On Demand Training Portal was launched. With the continuous development of technology, the ways to train and learn have changed beyond recognition. This new, innovative portal marks a step change in the learning opportunities for marine surveyors.

Colleagues at IIMS have invested time and spent an intense 18 months behind the scenes working with software developers and content providers. The Institute, which is ISO 9001 certified for 'Training Services in Marine Surveying', is proud to present its significant new learning platform, in association with eDOT Solutions. It is set to transform the way a marine surveyor learns and develops new skills and acquires fresh knowledge.

The portal already boasts over 130 training modules, and more will be added as we expand our material and content. It's a great and easy way to learn in your own time, in your own way, and at your own pace.

It's free to sign up for the new training portal and browse the available courses and units with no obligation. You do not need to be an IIMS member to take advantage of the IIMS On Demand Training Portal – it's available for all to access.

Sign up free for the IIMS On Demand Training Portal today at <https://trainingportal.iims.org.uk>.

New vessels review

Ferrari unveils world's first flying yacht that's fully energy self-sufficient

Italian luxury sports car manufacturer, Ferrari, has officially announced its entry into offshore sailing with a groundbreaking project called Hypersail, a 100-foot flying monohull yacht. The vessel is currently under construction at an undisclosed location in Italy and is expected to be launched in 2026.

The Hypersail yacht stands out as the world's first ocean racing monohull of its size, designed to be entirely energy self-sufficient. It will operate without any combustion engine onboard, using only solar, wind, and kinetic energy to power all its systems, including foil movement, rudder and keel control, and onboard electronics.

The yacht has been designed by acclaimed French naval architect Guillaume Verdier, known for his work on high-performance vessels. One of the most striking features of the yacht is its ability to "fly" above water by stabilising on three contact points.

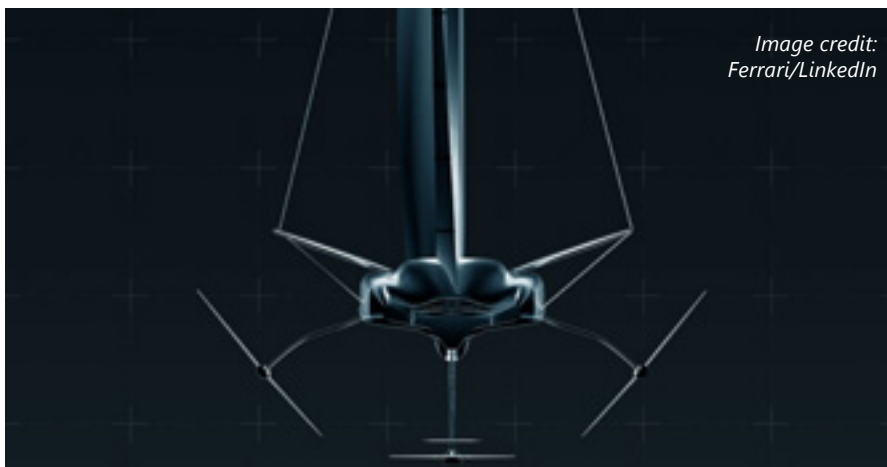


Image credit: Ferrari/LinkedIn



Image credit: Groupe Beneteau

Beneteau unveils the new Oceanis 52

The new Oceanis 52 by Biscontini-Nauta Design ushers in the 8th generation of Oceanis cruising yachts and blends power, elegance, innovation, and lineage.

Within the BENETEAU brand, this iconic concept has boldly united style and comfort for nearly 40 years. This premium yacht redefines standards of comfort and craftsmanship, giving people who love sailing the confidence and freedom to explore the world's seas in safety.

The first of a new generation, the Oceanis 52 is the result of meticulous craftsmanship by a dedicated team, and it is perfectly aligned with the expectations of today's sailors.

Stena Futura successfully completes sea trials in China

Stena Line has announced that Stena Futura, the first of its new hybrid ferries destined for the Irish Sea, has successfully completed its sea trials. The completion of the sea trials is a significant milestone in the build of Stena Futura and the vessel is on schedule to enter service on the Belfast-Heysham route in late summer.

The tests include areas such as engine performance and endurance, fuel consumption, navigation and radio equipment, emergency systems, speed tests, manoeuvrability, engine and thruster tests as well as safety tests. Once operational, Stena Futura and sister ship Stena Connecta will enhance freight capacity by 40% on the Belfast-Heysham route in response to an increase in customer demand for services between Northern Ireland and Great Britain.



New vessels review

Revolution Marine Group debuts new solar-powered catamaran

Working in partnership with its Chinese boat builder client, Fort Lauderdale, US-based Revolution Marine Group (RMG) has announced details of a new model set to launch next year.

The 18.3m (60ft) Oceanwalker S60e is a new solar-electric power catamaran, and the first hull is due for delivery in April next year. Powered by twin 200hp (150kW) electric motors, the S60e delivers near-silent cruising with speeds of up to 12kt. RMG's engineering experts are closely overseeing every stage of the build process.

RMG sees this new model as poised to redefine eco-friendly luxury on the water. The vessel combines sophisticated design with cutting-edge sustainable technology, delivering an enjoyable yachting experience while promoting environmental responsibility.



The Oceanwalker S60e addresses the growing demand for greener alternatives in the maritime sector. By embracing electric propulsion, RMG underscores its commitment to reducing the carbon footprint of yachting, eliminating fossil fuel consumption, minimising greenhouse gas emissions, and protecting delicate marine ecosystems.



Damen delivers ASD Tug 3010 ICE to Sundsvall Hamn

Damen Shipyards Group has delivered an ASD Tug 3010 ICE to Sweden's Sundsvall Hamn (Port of Sundsvall). The tug is a modern vessel boasting features that ensure its suitability for operations in the harsh Baltic winters as well as the efficiency required for the coming decades.

The ASD tug 3010 ICE will replace an older tug that was built in 1972. It will spend around 75% of its time breaking ice to enable the entry and departure of vessels from Sundsvall Hamn, as well as the harbours of Östrand, Tunadal, Mokajen, Vindskarsvarv, Kubal, and Stockvik nearby.

Additionally, it will perform escort towage operations and, when occasion demands it, assist vessels with broken thrusters and in harsh winds. It will also conduct crew transfer duties from time to time. The tug is additionally outfitted with FiFi 1 firefighting capabilities.

Formula launches 360 Crossover Bowrider

US based manufacturer, Formula, has released its latest evolution in the Crossover Bowrider line-up with the all-new 360 CBR, a 36-foot dayboat blending Formula's signature details - performance, luxury, and versatility in a next-generation design.

Built on the well-known stepped FAS3Tech hull and featuring a sleek glass-sunroof hardtop, the 360 CBR is the first design to reflect the vision of Formula designer Michael Young, a protégé of renowned designer John Adams. The new design will carry an LOA of 36'0" (38'6" with extended swim platform) and a 11'3" beam. She will carry a fuel tank for 200-275 gallons (760-1040 Liters) depending on power setup. There is also a 36 gal (136 L) freshwater capacity and a 36 gal (136 L) holding tank.

The 360 CBR keeps Formula's classic open-bow design with a flush, single-level cockpit and a true stand-up cabin. The helm includes a unique triple sit/stand/lean seating configuration with a dash equipped with Raymarine Axiom +12 chartplotters (dual available) or optional Axiom 2 XL 16" dual screens. Owners will have the choice between Mercury DTS with SmartCraft VesselView Joystick Piloting or Ilmor One-Touch PRO joystick control with MERLIN display.



New vessels review



Rayglass launches high-performance 'R Edition' protector range

Rayglass Boats, a brand of Brunswick Corporation (NYSE: BC), has unveiled the all-new Protector R Edition range, a bold evolution of its iconic high-performance RIBs. These exclusive models are engineered to deliver next-level performance, styling, and innovation.

Leading the lineup is the 330 Targa R Edition, the first vessel in New Zealand to be powered by Mercury Racing's new 400R V10 outboard engines. With a top speed exceeding 60 knots, this 10-metre boat is one of the fastest production cabin RIBs in the country.

The R Edition retains the legendary Protector hull while adding premium upgrades including custom R badging, exclusive graphics, diamond-stitched upholstery, and cutting-edge marine technology. Equipped with Mercury electric steering, joystick piloting with integrated autopilot, skyhook, and a bow thruster, these vessels offer unmatched handling and control.

UKD host naming of new dredger UKD Sealion

UK Dredging (UKD), a division of Associated British Ports (ABP), hosted the official naming ceremony for the UKD Seadragon, a state-of-the-art Shoalbuster 2711 Water Injection Dredger (WID), and the latest addition to UKD's fleet.

In the ceremony, which took place in Cardiff's Roath Basin, UKD and ABP colleagues were joined by the vessel's Godmother, Rhian Lewis, the Mission to Seafarer's and shipbuilders, Damen, to name and bless the UKD Seadragon.

Mark Pearson, UKD's General Manager, opened the event, highlighting the collaborative efforts that brought the UKD Seadragon to life. Rhian Lewis delivered a naming speech, emphasising the vessel's connection to maritime heritage and the involvement of the younger generation in the choosing of the name. The traditional champagne bottle-smashing over the bow, symbolised good fortune and safe travels for the UKD Seadragon.



The Valhalla 55 Sport Yacht debuts

Valhalla Boatworks has officially debuted its new 55 Sport Yacht. The builder's first model of its kind — a luxury day yacht built for high performance — was revealed at the Farley State Marina in Atlantic City, not far from the company's production facility in New Gretna, New Jersey.

The sport yacht is powered by four V12 600-hp Mercury outboards that pushed the boat just over 60 mph during a sea trial. Pat Healey, president and CEO of Viking Yacht Company, the parent company of Valhalla Boatworks, was aboard for the ride and said the boat had topped out near 62 mph the prior day.

The 55 SY is built on the Michael Peters designed SVVT (Stepped-V Ventilated Tunnel) hull with 22.5 degrees of deadrise. It's the same running bottom featured on the Valhalla V-55 center console. With a sharp entry and double-step design, it's engineered to deliver speed, stability and efficiency. The test boat was equipped with joystick controls, a Zipwake trim system and bow thrusters that enhanced handling and made for smooth docking.



New vessels review



USA's first battery-electric, zero-emission high-speed passenger ferries

Technology group Wärtsilä will supply the electric propulsion system for three fully battery-electric, high-speed ferries that will operate in the San Francisco Bay area. The zero-emission vessels will be the first full electric high-speed ferries to operate and be built in the USA.

The order with Wärtsilä has been placed by the shipyard All American Marine (AAM), on behalf of San Francisco Bay Ferry, California's largest public ferry operator. The order was booked by Wärtsilä in Q1 2025. In awarding the contract to Wärtsilä, the company's extensive global experience in developing and supplying integrated systems and solutions for zero-emission high-speed vessels was a key consideration. Wärtsilä has supplied more battery power to the marine industry than any other electrical propulsion provider in the world.

The three zero-emission vessels will be the first delivered as a part of San Francisco Bay Ferry's Rapid Electric Emission Free (REEF) Ferry Program, a transformative suite of projects to transition the agency's fleet to zero-emission propulsion technology.



Jeanneau announce new Sun Odyssey 415

Image credit: Jeanneau Australia

Jeanneau has announced the launch of the 9th generation of Sun Odyssey sailboats, beginning with the Sun Odyssey 415. The Sun Odyssey line presents an accessible, reliable range of sailboats offering greater sailing enjoyment, comfort and storage.

In designing this new 9th generation Jeanneau placed its trust once again in the exceptional combination of Marc Lombard Design Team and Jean-Marc Piaton Yacht Design, leading to the Sun Odyssey 415 embodying perfect harmony between innovation and tradition that have made this iconic range a success. In taking over from the popular Sun Odyssey 410, the 415 was designed with accessibility, versatility and flow of movement at front of mind.

New vessels review



PIL marks naming of LNG Dual-Fuel Container Vessel in Singapore

Pacific International Lines (PIL) recently marked a significant milestone with the naming ceremony of its latest 8,200TEU LNG dual-fuel container vessel, Kota Ocean, at the PSA Terminal in Singapore. The event, held in conjunction with Singapore's 60th anniversary of nation-building, underscores PIL's commitment to sustainability, efficiency and innovation in the maritime industry. The vessel was named by Ms Ho Ching, Chairman of Temasek Trust, and is the sixth LNG dual-fuel vessel in PIL's fleet.

Kota Ocean is also the second in a series of four 8,200 TEU LNG dual-fuel container vessels, designated as O Class, that PIL is building. These vessels are pivotal to PIL's strategy for renewing its fleet and enhancing operational efficiency and environmental sustainability.



passengers on a fully enclosed main deck, with additional seating for 30 on the upper deck. Amenities include three restrooms – one of which is ADA-accessible – and a small onboard kiosk serving barista coffee, cold beer, and wine.

The ferry will also feature the world's first maritime deployment of the new CharIN Megawatt Charging System (MCS). The 10-mile (16 km) journey between downtown Auckland and Half Moon Bay takes approximately 35 minutes. While the ferry's batteries hold enough energy for a full round trip, the vessel will typically recharge during a 10-minute turnaround at the terminal, using two MCS inlets rated at 1.1MW each.

Powerful 39 LS luxury sport model Launched by Tiara

Tiara Yachts has introduced the latest addition to its Luxury Sport lineup, the all-new 39 LS. Designed for performance, versatility, and comfort, the 39 LS will slot into the renowned yacht makers LS lineup alongside the existing 34, 38, 43, 48, and 56-foot models.

The company has maintained a steady pace of new releases and new designs, the most notable recent addition being the impressive 56 LS in late 2024. The 56 LS is Tiara's largest outboard model ever.

The new 39 LS will carry an LOA of 39'6" (12.0 m) with an integrated platform with a 12'6" (3.8 m) beam and a 3'6" (1.09 m) draft. Power will come via twin Mercury 600 V12 Verado engines and she will be equipped with joystick piloting and integrated Garmin Marine navigation. The 39 LS will carry a dry weight of 18,000 lbs, 21 degrees of deadrise, and a 500 gallon (1890 L) fuel capacity.



EV Maritime launches first electric ferry in Auckland

EV Maritime, New Zealand's leading electric ferry design and technology company, has announced the launch of its first fully electric passenger ferry. The new vessel will operate between Auckland and the suburb of Half Moon Bay.

This is the first of the EVM200 class – a series of battery-electric fast ferries built using lightweight carbon fibre. Designed for urban public transport, the EVM200 offers service speeds of up to 25 knots and a range of up to 20 miles.

Developed with support from the New Zealand Government, the EVM200 platform is part of Auckland Transport's initiative to transition to a low-emissions ferry fleet. Two vessels will enter service under this program. Each vessel accommodates up to 200



IMO finalises guidance on remote surveys

During the recent IMO III Sub-Committee, guidance on remote surveys, ISM audits, and ISPS verifications was finalised, and items related to the Industrial Personnel (IP) Code were added to the harmonized survey guidelines.

In addition, the Sub-Committee reviewed lessons learned from accident reports, finalized amendments to the survey guidelines under the Harmonized System of Survey and Certification (HSSC) and finalised amendments to procedures for Port State Control (PSC).

Guidance on remote surveys, ISM audits and ISPS verifications were finalized, and the circular is expected to be approved by future sessions of the Maritime Safety Committee (MSC) and the Marine Environmental Protection Committee (MEPC).

What applies to remote surveys, ISM audits, and ISPS verifications?

Portions of surveys may be carried out remotely, based on a risk assessment and the eligibility of the item for using remote methods. However, remote surveys cannot be performed for two consecutive years

for the same survey items. In all cases, the survey plan needs to be approved by the flag administration.

ISM Code shipboard audits cannot be fully replaced by remote audits, and physical attendance will always be needed under normal circumstances.

Initial, renewal and interim company audits need physical attendance. Remote methods may be considered for annual audits and for interim audits when adding a new ship type to an existing Document of Compliance (DOC). The performance of remote audits will need approval from the flag administration, and the audit plan needs to be sent well in advance to the flag administration for review and approval.

ISPS Code verifications can only under exceptional circumstances be carried out remotely, and only selected items are eligible for remote verification even in the exceptional circumstances.

III 11 considered the following lessons learned and follow-up items:

- 1 Parametric rolling – forwarded to relevant Sub-Committees for consideration
- 2 Fire safety in self-unloading bulk carriers – a Correspondence Group will develop a proposal for new output

- 3 Inflatable lifejackets risks identified – a Correspondence Group will develop a proposal for new output

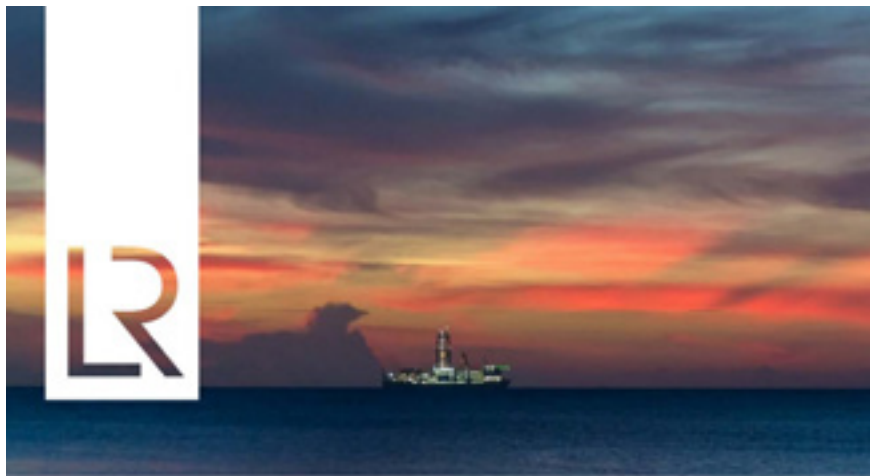
- 4 Accidents related to falls, enclosed spaces, and rescue and survival craft – ongoing work noted

Harmonizing Port State Control (PSC) activities and procedures

III 11 finalized amendments to the “Procedures for Port State Control”.

The revised consolidated PSC procedures, including amendments agreed at III 10 in 2024, are expected to be adopted at Assembly 34 in December 2025 and enter into force on 1 January 2026. III 11 also discussed inconsistent application of ISM Code-related deficiencies across PSC regimes, and the development of objective criteria to assess manning levels.

III 11 finalised updates to the “Survey Guidelines under the Harmonized System of Survey and Certification (HSSC)”, and the “Non-Exhaustive List of Obligations under Instruments Relevant to the IMO Instruments Implementation Code (III Code)”. Both documents are expected to be adopted at Assembly 34 in December 2025 and enter into force on 1 January 2026.



Future IMO and ILO Legislation

Spring 2025 – Upcoming changes to mandatory statutory regulations and instruments
Including adopted amendments entering into force on or after 1 May 2025, requirements which have entered into force before 1 May 2025 but are phasing in for some ships, and significant developments up to and including the Marine Environment Protection Committee (MEPC 83) in April 2025.

LR outlines changes to mandatory statutory regulations

Lloyd's Register has published its "Future IMO and ILO Legislation – Spring 2025" report, highlighting upcoming updates to mandatory statutory regulations and instruments with effective dates on or after 1 May 2025.

A comprehensive suite of new International Maritime Organization (IMO) and International Labour Organization (ILO) regulations come into force over the next few months, reshaping environmental standards, safety protocols, and seafarer welfare.

Several major regulations are set to enter force soon, including the Hong Kong Convention on Ship Recycling (26 June 2025) and updates to MARPOL Annex VI on data collection requirements under IMO DCS (1 August 2025). A significant portion of the upcoming and likely changes are aimed at reducing the environmental impact of shipping and in doing so, maintaining the industry's high safety standards.

Summary of major developments
New approvals or adoptions:

Adopted

- Amendment to the IGC Code – paragraph 16.9 – Alternative fuels and technologies – on the possibility to use toxic cargo as fuel if accepted by the Administration
- Amendments to the NOx Technical Code with regard to certification of an engine subject to substantial modification or being certified to a Tier to which the engine was not certified at the time of its installation
- Amendments to MARPOL Annex VI and the NOx Technical Code on the use of multiple engine operational profiles for a marine diesel engine
- Amendments to the IGF Code – 2028

Approved

- Draft IMO Net Zero Framework
- Draft amendments to SOLAS regulation V/23, draft MSC resolution on Performance standards and consequential draft amendments to the 1994 and 2000 HSC Codes and the 2008 SPS Code, to improve the safety of pilot transfer arrangements
- Draft amendments to SOLAS II-1 in relation to the application of the IGF Code to confirm gaseous fuels are within its scope
- Draft amendments to paragraph 8.3.5 and annex 1 of the 1994 and 2000 HSC Code

- Draft amendments to the IGC Code – 2028 version
- Draft Amendments to MARPOL Annex VI concerning an Emissions Control Areas for both NOx and SOx in the North-East Atlantic
- Draft amendments to MARPOL Annex VI regulation 27 on DCS data access
- Draft amendment to MLC, 2006 Standard A2.5.1 on repatriation (ILO16)
- Draft amendments to MLC, 2006 Standard A2.4 on shore leave (ILO17)
- Draft amendment to the MLC, 2006 on the investigation of marine casualties (ILO20)
- Draft amendment to the MLC, 2006 on onboard complaints procedures (ILO21)
- Draft amendments to the MLC, 2006 on the prevention of shipboard violence and harassment, including sexual harassment, -bullying, and sexual assault (ILO23)

Significant new items being considered or milestones in ongoing developments:

- Review of the Ballast Water Management Convention
- Review of the Short-Term Reduction Measure (CII and EEXI)
- Development of a safety regulatory framework to support the reduction of GHG emissions from ships using new technologies and alternative fuels
- The review of the STCW Convention
- Development of a goal-based instrument for Maritime Autonomous Surface Ships (MASS)
- Evaluation of adequacy of fire protection, detection and extinction arrangements in vehicle, special category and ro-ro spaces in order to reduce the fire risk of ships carrying new energy vehicles

The major recent development is the agreement of the IMO's Net-Zero Framework, expected to be adopted in October 2025 and entering force from March 2027. Ships are expected to start complying from 1 January 2028. This framework mandates ships reduce their greenhouse gas (GHG) emissions intensity, targeting a 30% base reduction by 2035 with a secondary higher direct compliance target of 43% and a 65% base

reduction by 2040, compared to 2008 levels, ultimately aiming for net-zero emissions by around 2050.

"The number and complexity of the regulatory updates that are taking place is challenging to understand. The recent agreement to a Net Zero Framework to reduce the GHG intensity of shipping, and the consequential measures to enable that to happen safely, are historically among the biggest regulatory disrupters to shipping's business model," said Mark Towl, Principal Regulatory Risk Specialist, Lloyd's Register.

Environmental regulations

A number of guidelines will be required to be drafted and the 2024 Guidelines on life cycle GHG intensity of marine fuels, effective from 2025, requiring further development to include fuel pathways and default emissions factors for use in calculating a ship's greenhouse gas fuel intensity (GFI) and total emissions.

Environmental regulations also extend to specific geographic areas. The Mediterranean Sea became a Sulphur Oxides (SOx) Emission Control Area (ECA) from 1 May 2025, with a strict limit on the sulphur content in fuel of 0.10%, requiring ships trading in the Mediterranean Sea to either use compliant fuels or abatement technology as an equivalent means of compliance.

Similarly, the Canadian Arctic will see phased-in NOx and SOx controls, with NOx Tier III standards for newbuilds contracted from 2026 that are to be operated in the NOx ECA and a limit on the sulphur content of the fuel of 0.10% for all ships operating in the SOx ECA from March 2027.

Furthermore, the Hong Kong Convention on Ship Recycling took effect from 26 June 2025. New ships and ships bound for recycling facilities must carry an approved Inventory of Hazardous Materials and be dismantled only at approved recycling facilities following a final survey and with a ship recycling plan in place. Existing vessels over 500GT on international voyages must have an approved Inventory of Hazardous Materials onboard by mid-2030.

Safety regulations

Numerous safety-related regulations are also being updated. From 1 January 2026, amendments to the LSA Code will limit the maximum lowering speed of a fully loaded survival craft and has a minimum lowering speed for high sided ships (>30m).

Also entering force in January 2026 are amendments to SOLAS Chapter II-2/7.5.5 concerning fire protection, which extend the fire protection requirements applied to accommodation, service spaces, and some control stations to all control stations and cargo control rooms on new cargo ships.

Emerging technologies and operational challenges are also addressed. The IMO is continuing to develop a mandatory Maritime Autonomous Surface Ships (MASS) Code, currently anticipated to enter force in 2032, establishing a framework for the safe deployment of autonomous cargo vessels.

A significant revision of SOLAS Chapter III and the LSA Code is also planned, predicted to enter force on 1 January 2032, aiming to restructure requirements and address gaps.

Seafarer welfare

Seafarer welfare and training receives renewed focus. Amendments to the STCW Code on the prevention of sexual assault and harassment enter force on 1 January 2026, requiring specific training for seafarers. Work continues on a comprehensive review of the STCW Convention expected to be completed in the early 2030s.

Newly agreed amendments to the Maritime Labour Convention are aimed at continuing to improve seafarers' welfare, in particular their repatriation and leave ashore while in port.

"Compliance will involve revising operational procedures, upgrading equipment, ensuring crews' training is updated, and planning for future technologies that contribute to a safer and more sustainable future for shipping," said Mark Towl.

Download the full report at <https://bit.ly/4k4GCOo>.

The Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships entered into force in June 2025

The Hong Kong Convention is aimed at ensuring that ships, when being recycled after reaching the end of their operational lives, do not pose any unnecessary risk to human health and safety or to the environment.

The Hong Kong Convention was adopted at a Diplomatic Conference held in Hong Kong, China, in May 2009 and was developed with input from IMO Member States and non governmental organizations, and in co-operation with the International Labour Organization and the Parties to the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal. It intends to address all the issues around ship recycling, including the fact that ships sold for scrapping may contain environmentally hazardous substances such as asbestos, heavy metals, hydrocarbons, ozone depleting substances and others. It will address concerns about working and environmental conditions in many of the world's ship recycling facilities.



Regulations in the new Convention cover: the design, construction, operation and preparation of ships so as to facilitate safe and environmentally sound recycling, without compromising the safety and operational efficiency of ships; the operation of ship recycling facilities in a safe and environmentally sound manner; and the establishment of an appropriate enforcement mechanism for ship recycling, incorporating certification and reporting requirements.

Ships to be sent for recycling will be required to carry an inventory of hazardous materials, which will be specific to each ship. An appendix to the Convention provides a list of hazardous materials, the installation or use of which is prohibited or restricted in shipyards, ship repair yards, and ships of Parties to the Convention. Ships will be required to have an initial survey to verify the inventory of hazardous materials, renewal surveys during the life of the ship, and a final survey prior to recycling.

Ship recycling yards will be required to provide a Ship Recycling Plan, to specify the manner in which each individual ship will be recycled, depending on its particulars and its inventory. Parties will be required to take effective measures to ensure that ship recycling facilities under their jurisdiction comply with the Convention.

A series of guidelines have been finalized to assist in the Convention's implementation.



IMO MSC 110: Key outcomes

The Maritime Safety Committee met for its 110th session (MSC 110) 18-27 June, 2025, where key decisions that shape maritime safety were made.

DNV has provided a summary of the key outcomes of the Committee, highlighting that the session adopted SOLAS amendments to improve the safety of transfer arrangements for pilots and other personnel embarking and disembarking ships, and made significant progress on a new non-mandatory code of safety for autonomous ships (MASS Code).

Additionally, a review of regulatory safety barriers to alternative fuels and new technologies was concluded and measures to address those barriers were initiated, aiming to support the reduction of GHG emissions from ships from a safety perspective.

Meeting highlights

- Adopted amendments to SOLAS Chapter V and the associated new Performance Standards to improve pilot transfer safety
- Approved draft amendments to the 2011 ESP Code to include

remote inspection techniques (RITs) for close-up surveys

- Approved a 2025 Code on Alerts and Indicators
- Approved a revision of Resolution A.1050(27) "Revised Recommendations for Entering Enclosed Spaces Aboard Ships"
- Approved guidelines to support the introduction of emergency towing requirements on ships other than tankers
- Approved generic interim guidelines on training for seafarers on ships using alternative fuels and new technologies
- Agreed on draft amendments to SOLAS Chapter II-1 to clarify the IGF Code application to all gaseous fuels, regardless of flashpoint
- Initiated measures to address identified regulatory barriers that may prevent the use of alternative fuels and new technologies, including updating the Code of Safety of Nuclear Merchant Ships
- Progressed the non-mandatory Code of Safety for Maritime Autonomous Surface Ships (MASS Code)
- Invited PSC authorities to adopt a pragmatic approach to the inspection of escape arrangements from machinery spaces while the Committee reviews the clarity of the current regulations



New requirements for lifting appliances and anchor winches

Lloyd's Register (LR) has issued an update on the SOLAS Regulation II-1/3-13, which introduces new mandatory certification, testing, marking, and maintenance requirements for a wide range of lifting appliances and anchor handling winches.

IMO has introduced SOLAS Regulation II-1/3-13 through Resolution MSC.532(107), setting new requirements for lifting appliances and anchor handling winches. These updates will take effect on 1 January 2026, ensuring enhanced safety and operational standards across the maritime industry. The new regulation applies to a wide range of lifting appliances, including those:

- Used for cargo loading, transfer, or discharge.
- Used for raising and lowering hold hatch covers or moveable bulkheads.
- Used as engine-room cranes.
- Used as stores cranes.
- Used as hose handling cranes.
- Used for launch and recovery of tender boats and similar applications.
- Used as personnel handling cranes.

Generally, the requirements also apply to lifting appliances with a safe working load below 1,000 kg, unless the flag administration grants specific exemptions. However, certain lifting appliances — including those used on offshore construction ships — are outside the scope of this regulation.

Requirements for new lifting appliances (installed on or after 1 January 2026)

Before entering service, new lifting appliances must undergo certification, which includes:

- Plan appraisal and material verification.
- Inspection and testing during fabrication.
- Verification of component certification (including loose gear).
- Load testing and thorough examination once installed on board.

Lifting appliances certified or classed under Lloyd's Register's Code for Lifting Appliances (CLAME) framework will be compliant with the new SOLAS requirements.

Requirements for existing lifting appliances (installed before 1 January 2026)

Under SOLAS Regulation II-1/3-13.2.4, lifting appliances installed before 1 January 2026 must undergo load testing

and thorough examination, as per the IMO guidelines. These appliances must be permanently marked and include documentary evidence of the safe working load (SWL).

Existing certificates issued under other international instruments — such as ILO Convention No. 152 — will be acceptable for compliance. If valid certificates are missing (e.g. for engine-room cranes), owners must determine the appropriate SWL for test load verification.

In instances where onboard lifting appliances do not have valid certificates of test and thorough examination under another international instrument acceptable to the flag Administration, the SWL should be determined by the owners, in accordance with the IMO guidelines (paragraph 3.2.1.6) and evidence of the SWL provided. For those non-certified lifting appliances, Lloyd's Register (LR) will witness a load test followed by a thorough examination and will issue a factual statement to confirm the load test and examination.

At the first Cargo Ship Safety Construction Renewal Survey or Passenger Ship Safety Survey conducted after 1 January 2026, surveyors will verify that:

- All applicable lifting appliances are certified in accordance with an acceptable standard.
- All lifting appliances are properly marked with safe working load (SWL) and other information essential for the safe operation of the lifting appliance (e.g. maximum or minimum slewing radius or boom angle).
- All loose gear is clearly and permanently marked with its unique identification (serial no.), the SWL and any additional marks required for safe use.
- All lifting appliances and associated loose gear were load tested and thoroughly examined by a competent person.
- All lifting appliances are provided with an operation and maintenance manual.

Note: An acceptable standard includes certification under LR CLAME, another IACS member code, ILO Convention 152, or any other international standard recognised by the flag administration. If no prior certification is found, lifting appliances must undergo load testing and thorough examination by a competent person, as defined by the Administration, during the renewal survey.

Maintenance, operation, inspection, and testing for all lifting appliances

According to SOLAS Regulation II-1/3-13.3, all lifting appliances and loose gear must be operationally tested, thoroughly examined, inspected, operated and maintained in line with the IMO guidelines.

Owners must adhere to manufacturer recommendations, industry standards, and operational profiles while ensuring that lifting appliances are part of the onboard maintenance program. Maintenance and operational manuals must be available on board — where missing, the IMO guidelines provide methods for reconstructing them.

All personnel operating lifting appliances must be properly trained, qualified and familiarised in handling the equipment.

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The Marine Surveying Academy Ltd (MSA), is a wholly owned subsidiary of the International Institute of Marine Surveying Ltd (IIMS). As an organisation, MSA is dedicated to providing the best quality marine surveyor-based training, although it operates in other specialist marine-related areas too, including marine accreditation.

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OCIMF Annual Report 2025

The Oil Companies International Marine Forum (OCIMF) has published its annual report for 2025, highlighting the launch of SIRE 2.0, which marked a significant step-change in how tanker inspections are conducted and reported.

On 2 September 2024 OCIMF introduced the highly anticipated SIRE 2.0, replacing VIQ7 as the leading tanker inspection tool, resulting in a robust inspection programme that enhances industry safety, efficiency, and environmental protection. SIRE 2.0 delivers on OCIMF's commitment to fostering and promoting a culture of continuous improvement and excellence throughout the maritime industry.

From the outset, the goal of developing a digitalised version of SIRE was to build on the success of the existing programme while making sure it could be more readily adapted to the changing nature of risk and the evolving operational landscape. The SIRE 2.0 inspection programme has significantly expanded the depth and quality of marine assurance data gathered during vessel inspections. This allows, on an ongoing basis, for more in-depth reporting and comprehensive vessel assessments. Now that SIRE 2.0 is in place, OCIMF expects the digitalised regime to be more readily adaptable to address issues of emerging risk, enabling OCIMF to continue working with industry to further enhance safety standards in the years and decades to come.

The phased approach to introduction

Recognising that SIRE 2.0 would mark a significant step-change in how tanker inspections are conducted and reported, the phased approach to the introduction of the new regime allowed for rigorous testing and minimised disruptions for programme users. Crucially, by following a phased introduction

and a careful management of change process, OCIMF was able to work with stakeholders to adapt to new protocols and to ensure they had the resources and tools to familiarise themselves with the new regime.

According to Karen Davis, Managing Director, OCIMF, as the ongoing Red Sea Crisis threatened freedom of navigation through the Southern Red Sea, Gulf of Aden and adjacent waters, OCIMF continues to monitor identified threats, engage with militaries and industry partners, and share related information useful for risk assessments to protect mariners considering transit through the region.

In addition, OCIMF supported the development of the Joint Maritime Information Center (JMIC), a combined maritime forces communications tool that shares accurate and timely information with interested maritime stakeholders related to the Houthis attacks on merchant vessels. This engagement underscores the agility and commitment to effectively addressing security risks, with those learnings to have been incorporated into the new version of Best Management Practice Maritime Security (BMP MS).

Download the report at <https://bit.ly/4kkpMv1>.





Six leading trends influencing the Australian domestic fleet highlighted in new AMSA report

The Australian Maritime Safety Authority (AMSA) has released its report, “New build trends in Australia’s domestic fleet 2023-2024”, featuring the latest innovations in vessel design, materials and certification shaping the industry and highlighting the six latest leading trends influencing the domestic fleet.

According to AMSA, in the past financial year it certified 1,445 new domestic commercial vessels, supporting sectors

from offshore energy and aquaculture to tourism and transport. The report highlights several key developments, including the rise of larger, more specialised vessels, increasing interest in autonomous technologies and the use of new materials such as high-density polyethylene (HDPE).

The adoption of alternative fuels is also emerging as a strong trend, pointing to a greener future for the domestic fleet.

Trend 1 – Gazettal of offshore wind farm areas

A significant trend within Australia is the gazettal of coastal waters to support the development of the offshore wind farm industry. With its potential for large-scale, reliable energy production, this emerging industry may become a key pillar in Australia’s transition to a clean energy economy.

The establishment of offshore wind farms is poised to generate substantial economic benefits including thousands of jobs across construction, operations, and maintenance along with supply chain opportunities such as vessel manufacturing. Whilst wind farm vessels are not a significant part of the current fleet, economic activity within the energy sector is likely to drive significant investment into new wind farm vessel construction in the future. Developing and operating offshore wind farms requires specialised vessels and maritime expertise.

Wind farms are commonly located in offshore waters with demanding environmental conditions. This creates an opportunity for the domestic fleet, driving investment into purpose-built vessels, including service operation vessels (SOVs) and crew transfer vessels (CTVs).

Trend 2 – Large vessels and superyachts

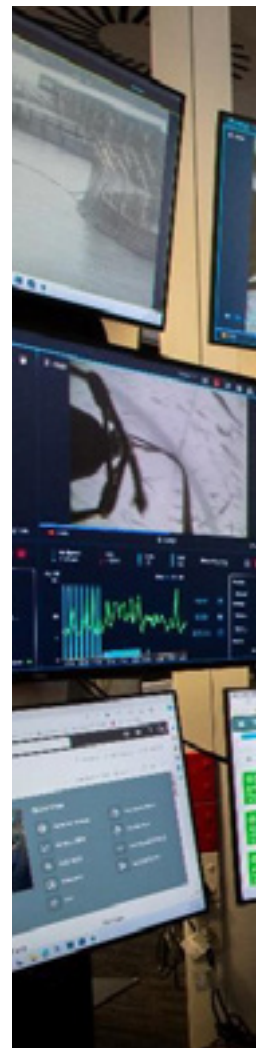
A growing number of large vessels are choosing the national system. In 2023-24 this included the MinRes Coolibah, MinRes Airlie (123.8m), a significant number of superyachts, and approximately 20 new ocean-going tugs. Operators are increasingly recognising the benefits of the Marine Safety National Law Act 2012 (the National Law)—particularly the more flexible crewing arrangements—compared to the Navigation Act 2012.

A key initiative was the introduction of Exemption 49 (Ex49), which simplifies the process for vessels previously operating under the Navigation Act 2012 to obtain domestic certification.

Furthermore, under EX49, eligible vessels do not need to re-demonstrate compliance with the National Standards for Commercial Vessels (NSCV), provided they continue to meet the standards previously applicable under the Navigation Act 2012. This policy directly addresses challenges faced by larger vessels, such as limitations in domestic slipping infrastructure, by reducing friction when a vessel changes between regulatory systems to undertake international maintenance voyages

Trend 3 – Autonomous technologies

The National Law framework provides flexible pathways that support innovation across Australia’s maritime sector. The growing interest in autonomous technologies has led to a diverse range of applications under the National Law. Notable examples include the PBAT Sentinel, EMAPS, the Anduril Ghost Shark XLarge USV, ASV DRIX 17, along with numerous others. During 2023-24, AMSA approved operation of approximately 30 autonomous vessels under the National Law.



NEW marine reports and guides

This included several world-first approvals, reinforcing Australia's reputation as a regulatory leader in this domain. This ongoing work highlights the value of the performance-based regulatory framework within the National Law, providing practical pathways for the trialling and operation of new technologies.

Automation within specific operational domains such as hydrographic survey, has the capacity to increase significantly in the coming years. In these contexts, autonomous and remotely operated technologies act as productivity multipliers—enabling high-resolution data collection and improved safety outcomes.

Trend 4 – High-density polyethylene

High-density polyethylene (HDPE) is emerging as a construction material of growing interest within Australia's new DCV fleet, now ranking as the fourth most common hull material. Since the introduction of a generic equivalent solution in 2016 permitting polyethylene construction, HDPE has steadily gained traction across a range of industries. Vessels such as the Sentinel-class craft, developed by Plastic Fabrications, illustrate the potential of this material to support durable, lightweight and highly customisable vessel designs.

Trend 5 – Offshore aquaculture

Offshore aquaculture is a significant area of growth within Australia's maritime sector, driven by technological innovation and the pursuit of sustainable food production. While aquaculture has traditionally been centred in protected coastal areas—such as Tasmania's D'Entrecasteaux Channel—interest is shifting towards offshore farming.

In deeper waters with stronger currents, operators benefit from improved waste dispersion and higher oxygen levels, offering potential environmental and productivity gains. These operational advantages, however, also bring with them new challenges, including greater exposure to weather and sea conditions.

These challenges require robust engineering and vessels that can safely operate in more dynamic environments. As a result, the move offshore is prompting a shift towards larger domestic commercial vessels and an increased reliance on automation and remote operations.

Trend 6 – Alternative fuel technologies

By leveraging the expertise of recognised organisations, the National Law enables innovation while maintaining high safety standards. The launch of Sea Change, the world's first hydrogen fuel cell-powered vessel in the USA, demonstrates the potential of these new and emerging technologies.

Within Australia, proponents exploring battery-electric propulsion and other alternative energy systems are accommodated via certification as novel vessels with recognised organisation survey. Recognised organisations are particularly well-positioned to support innovation in this space.

Their capacity to undertake detailed technical assessments—such as Failure Mode, Effects, and Criticality Analysis (FMECA), Hazard Identification (HAZID), and component verification—provides proponents with a clear pathway to certification even where standards are still evolving. AMSA also recognises that classification is not always a viable pathway for some new technologies, particularly on smaller non-passenger vessels where the complexity and cost of classification may be disproportionate to the risk.

Download the report at
<https://bit.ly/4n99h7C>.



TSB Canada releases Annual Report 2024-25

The Transportation Safety Board of Canada's (TSB) annual report for 2024-25 has been published, marking 35 years of advancing transportation safety.

Since its inception in 1990, the TSB has completed more than 2000 investigations, made more than 630 recommendations, and issued hundreds of safety communications. Over the years, more than 84% of the responses to the Board's recommendations have been assessed as Fully Satisfactory, demonstrating the TSB's concrete impact on the improvement of safety.

"As we reflect on a year of meaningful progress, the TSB remains steadfast in its commitment to advancing transportation safety across Canada," said TSB Chair Yoan Marier. "Our dedicated team continues to push for change, collaborate with industry and government partners, and advocate for improvements that make a real difference. As we look ahead, we do so with confidence and resolve—knowing that the work we do today helps create a safer tomorrow for all Canadians."

TRANSPORTATION SAFETY BOARD OF CANADA ANNUAL REPORT TO PARLIAMENT 2024-25



Marine transportation safety – the year in review

The TSB received 951 reports of marine transportation occurrences in 2024 (213 accidents and 738 incidents), including 12 fatalities.

The total of 213 marine transportation accidents represents a decrease from the 243 accidents in 2023 and is below the 10-year average of 274. In 2024, 85% were shipping accidents (when a ship, for example, sinks, founders, or capsizes), slightly more than 83% on average over the previous 10 years. The remaining 15% of accidents in 2024 were aboard ship (when a person is seriously or fatally injured, for example, when boarding a ship or by falling overboard), just below the 10-year annual average of 17%.

The 12 marine transportation fatalities represent a 33% reduction from the 2023 total of 18 and the 10-year average of 15. Of the 12 fatalities, eight involved shipping accidents, slightly fewer than the average of nine per year. As in previous years, a high proportion of the fatalities (10 of the 12) was related to commercial fishing (Canadian-flag vessels in Canadian waters). Due to this continuing trend, commercial fishing safety remains a key safety issue on the TSB's Watchlist.

The 738 marine transportation incidents reported to the TSB in 2024 represents a 6% decrease from 2023 and is 13% below the 10-year average of 845. As in previous years, most reportable incidents (83%) were related to the total failure of machinery or technical systems.

According to Transport Canada, 2024 marine activity (commercial vessel-kilometres) for Canadian commercial non-fishing vessels with a gross tonnage of over 15 (excluding passenger vessels and cruise ships) was unchanged from the 2014-to-2023 average. The 2024 accident rate was 2.5 accidents per million commercial vessel-kilometres, lower than the 2014-to-2023 average of 3.7.

Marine transportation investigations

In 2024-25, the TSB deployed to seven marine transportation occurrences (two fewer than in 2023-24), launched seven investigations, and completed 10.

TSB issues three recommendations following investigation into ferry collision with dock.

The TSB issued three recommendations related to passenger safety management to Transport Canada along with the publication of its investigation report (M22C0231) into the 2022 occurrence in Toronto, Ontario, where the passenger ferry Sam McBride, with six crew members and approximately 910 passengers on board, struck the dock while berthing at the Jack Layton Ferry Terminal. Twenty passengers were reported injured.

In its investigation, the TSB determined that at the time of the occurrence, the vessel approached the dock faster than it had on earlier trips that day. Also, it had only one of its two propellers turning as it approached the dock, which, considering the vessel's speed and distance from the dock, was not enough to stop the ferry. Additionally, the investigation found that the City of Toronto did not have written procedures addressing issues like safe approach speed for docking, meaning that masters were left to operate in the way that they deemed appropriate. Without written procedures that defined safe practices for docking, decisions around travel or docking speed may have been influenced by operational pressures.

NEW marine reports and guides

When the TSB investigates an occurrence, it not only looks at the event, but also the circumstances around it. By doing so, it found that the crew on the Sam McBride were not trained in emergency passenger management because this training was not required for crew on sheltered waters voyages. However, while passenger vessels that are on sheltered waters voyages are closer to shore and shore-based emergency responders than vessels on other types of voyages, there are a number of types of emergencies that need an immediate response that cannot await the arrival of shore-based responders. For this reason, the Board recommended that Transport Canada implement a requirement for crew members of all passenger vessels, including those on sheltered waters voyages, to complete appropriate training in passenger safety management.

Furthermore, all passenger vessels are required to have emergency procedures that dictate how all passengers and crew will evacuate from a vessel within 30 minutes of an abandon ship signal in Canada. Despite this being a regulatory requirement, Transport Canada has no formal procedure to assess if the requirement is being met. The investigation found that the ferry's evacuation procedures were unrealistic, leaving its six crew members to manage over 900 passengers while completing multiple competing tasks throughout the vessel. As is the case for many other vessels, emergency drills on the Sam McBride were typically carried out without passengers on board, which meant that they did not provide an opportunity to realistically validate the feasibility of the vessel's evacuation procedure. However, a vessel's crew will be insufficiently prepared for an emergency if passenger evacuation procedures are not validated through a realistic exercise with a representative number of participants. With this in mind, the Board recommended that Transport Canada implement a formal validation and approval process for passenger vessel evacuation procedures.

Lastly, on the Sam McBride, passenger counts were estimated and tracked using a hand-held tally counter, and children, infants, and those who may require extra assistance were not counted separately. Currently, there is no explicit requirement to keep a separate count of the children and infants on board on voyages of less than 12 hours. However, Transport Canada regulations specify that a vessel must carry child-sized lifejackets for 10% of the total number of passengers or the total number of children on board. In this occurrence, there was no way to determine whether there was an adequate number of appropriately sized life jackets available on board without a separate count of children. Therefore, the Board recommended that Transport Canada implement a process to validate that passenger vessels are keeping an accurate count of all passengers, including a separate count of the number of children and infants, on all voyages. [M24-03]

Since the occurrence, the City of Toronto has increased the size of the Sam McBride's crew from six to 13. The City has also addressed passenger safety issues, including updating the pre-recorded safety briefings, adding additional signage, and warning passengers to not stand on the stairs while the vessel is moving.

TSB concerned about Canada's marine emergency preparedness following investigation into a fire aboard container vessel ZIM Kingston.

The TSB issued two safety concerns following the 2021 loss of containers and fire on board the container vessel ZIM Kingston (M21P0297), off Vancouver Island, British Columbia (BC). The first safety concern relates to the risk of a phenomenon called parametric rolling, which led to the loss of containers, and the second concern addresses gaps in Canada's preparedness to respond to marine emergencies.

In October 2021, the ZIM Kingston was drifting outside the Juan de Fuca Strait while waiting for an anchorage to become available when it experienced a series of severe side-to-side rolls, resulting in the loss of 109 containers overboard and damage to others. Approximately 36 hours later, while the vessel was anchored off Victoria, BC, a fire broke out in a damaged container that held dangerous goods. The fire then spread to nearby containers and lasted for five days before it was declared extinguished.

During its investigation, the TSB conducted model testing that determined that the ZIM Kingston experienced parametric rolling, a phenomenon that occurs when sea conditions converge with vessel-specific factors in a precise way, resulting in dangerous side-to-side rolling motions.

The investigation found that the risk of parametric rolling could have been identified using guidance material that is generally available to industry. However, this material was not on board the container vessel. The International Maritime Organization is taking steps to update industry guidance, but this will take time. While this work is underway, the Board is concerned that the absence of up-to-date comprehensive industry guidance for the management of parametric rolling may cause company policies, procedures, tools, and training to be inconsistent, ineffective, or absent altogether.

This occurrence also brought to the forefront the challenges that Canada faces when dealing with marine emergencies that go beyond the response capacity of the vessel's crew. Indeed, unlike the United States, Canada does not require pre-arranged plans for emergency response or marine salvage. In this occurrence, it was fortunate that the vessel's manager had made pre-arrangements for emergency response, and there simply happened to be two suitably equipped vessels nearby. To address this, Transport Canada has proposed to make regulations to strengthen preparedness requirements for industry, but this will also take time. In the interim, the Board issued a concern that there are gaps in Canada's preparedness for marine emergencies that exceed the response capacity of a vessel's crew, posing a risk to vessels, the environment, and the health and safety of the general public.

Download the full report at <https://bit.ly/3TJpTW5>.



AMSA Annual PSC Report 2024

Australian Maritime Safety Authority (AMSA) has published its Annual Port State Control (PSC) report for 2024, which reveals that deficiencies related to the International Safety Management (ISM) category were the most prevalent.

According to the AMSA, there was a 19.1% decrease in the number of initial PSC inspections, with 2,264 conducted in 2024 compared to 2,797 in 2023. The detention rate for PSC inspections also decreased slightly in 2024, at 5.9% compared to 6.3% in 2023. This 2024 rate was consistent with the 10-year rolling average of 5.8%.

Port State Control

The number of deficiencies per PSC inspection remained stable in 2024, with a rate of 2.63 compared to 2.68 in 2023. However, this remains higher than the 10-year rolling average of 2.26 deficiencies per inspection.

PSC Detainable Deficiencies

According to the data, deficiencies related to the ISM category were the most prevalent, slightly increasing from 27.0% in 2023 to 27.57% in 2024. Fire safety maintained its position as the category with the second-highest share of detainable deficiencies at 15.14%. The share of detainable deficiencies for water/weather-tight conditions and lifesaving appliances remained stable at 12.97% and 11.35%, respectively. Notably, the proportion of detainable deficiencies under MARPOL Annex I nearly doubled, rising from 4.9% in 2023 to 8.11% in 2024.

Top five detention rates by ship type

In 2024, AMSA detained a total of 133 ships, resulting in an average detention rate of 5.9%, slightly down from 6.3% in 2023.

- In 2024, tug boats topped the list with the same rate of 16.7% (3 detentions).
- Offshore service vessels ranked second in both years, with a detention rate of 12.5%, 2 detentions in 2023 and 3 in 2024.
- General cargo/multi-purpose ships saw a decrease from 11.6% (30 detentions) in 2023 to 8.3% (6 detentions) in 2024, placing them third in both years.
- Chemical tankers, which were fourth in 2023 with an 8.1% detention rate (5 detentions), were replaced by bulk carriers in 2024, which had a 6.8% detention rate from 83 detentions.
- Gas carriers rounded out the top five in both years, with their detention rate dropping from 7.5% (3 detentions) in 2023 to 5.3% (3 detentions) in 2024.

International Salvage Union releases Salvage Industry Statistics for 2024

The International Salvage Union (ISU) has published its annual statistics for 2024. They are the only published measure of the state of the industry but do not include information from non-ISU members.



- Gross revenue for ISU members – US\$ 406 million (2023, US\$ 398 million)
- 191 services provided (2023, 184 services)
- Lloyd's Open Form (LOF) – 29 cases (2023, 16). LOF revenue US\$ 118 million (2023, US\$ 29 million)
- Wreck removal income – US\$ 205 million from 40 services (2023, US\$ 193 million from 30 services)

All numbers are gross income from which all the contractors' costs must be paid. Numbers are for income in the year received not the year when the service was provided and there can be an element of "time lag".

The headline 2024 numbers show great consistency with the 2023 statistics and continue with the modest recovery from the low point of 2022. Emergency response services generated US\$ 181 million split between LOF, US\$ 118 million, and other contracts, \$63 million.

Wreck removal income was US\$ 205 million from 40 operations – very similar to the 2023 number of US\$ 193 million. Wreck removal income is important for ISU members and these numbers maintain the division of the industry's income at the typical levels of approximately 50:50 between emergency response and wreck removal income.

ISU President, John Witte, commented: "These numbers at least show that the industry has stabilised compared with the low point two years ago, but they are still well below the higher numbers from a decade ago. Sustaining the salvage industry so that professional contractors are available to respond around the world remains a focus both for ISU but also for the insurance and ship owning communities."

The 2024 ISU statistics show an increased number of LOF cases – 29 for ISU members – generating income of US\$ 118 million. This is a notable increase on the previous year in which there were 16 LOF cases which had been the lowest level of LOF contracts for ISU members since the ISU started collecting statistics some 30 years ago.

SCOPIIC revenue at US\$ 20 million in 2024 was up from US\$ 9 million previously.

The increased number of LOFs is notable, but it is not possible to attribute this to a specific cause given that the statistics are for the year when income is received, not when the services were provided. ISU believes that income based on awards under Article 13 of the Salvage Convention should be the cornerstone of funding the industry, so the increase is welcome.

Revenue in 2024 from operations conducted under contracts other than LOF was US\$ 63 million. The average revenue from each non-LOF contract was US\$ 1.2 million.

The ISU statistics are collected from all ISU members by a professional third party, which aggregates and analyses them.

Download the report at <https://bit.ly/44nw66e>.

576 containers lost at sea in 2024 according to World Shipping Council report

The World Shipping Council (WSC) has released its annual Containers Lost at Sea report, showing that 576 containers were lost at sea in 2024.

According to the World Shipping Council while this represents an increase from the record-low 221 containers lost in 2023, it remains well below the 10-year average of 1,274 containers lost annually, underscoring continued industry progress on safety and prevention.

Key findings and results

- 576 Containers lost in 2024, out of over 250 million containers transported. This equates to just 0.0002 percent of all containers transported.
- While higher than 2023, 2024 losses are still significantly below the 10-year average (1,274 containers/year).
- Trade route changes driving losses: Persistent hostilities in the Red Sea, led to a 191 percent increase in transits around the Cape of Good Hope. The South African Maritime Safety Authority reports indicate nearly 200 containers were lost in this region alone. That accounts for 35 percent of 2024's total container losses.

Furthermore, the detour of shipping routes away from the Red Sea meant a large increase in traffic around the Cape of Good Hope. This region is known for its hazardous conditions due to the convergence of weather systems, creating unpredictable and steep wave patterns. As a result, vessel transits around the Cape of Good Hope increased by 191% compared to 2023.

However, this area is well-known for hazardous maritime conditions, which contributed to a concentration of losses. The South African Maritime Safety Authority says around 200 containers were lost in this region alone.

Container loss trend

The number of container losses at sea have fluctuated significantly over the 17 years WSC has tracked data, with some extreme outliers skewing the historical average.

The most notable spike occurred in 2013, when 5,578 containers were lost—by far the highest in the dataset and heavily impacted by one incident of total vessel loss. Other years with elevated loss figures include 2020 (3,924) and 2021 (2,301), which were periods marked by several large-scale incidents that prompted industry-wide concern and triggered a research project, TopTier, into the key causes and potential actions to address container loss.

While 2024's reported losses represent an increase from the previous year, the 2024 figure remains consistent with the overall downward trend. For the second time, container recoveries are included in WSC's annual reporting. In 2024, two containers were recovered.

Actions and initiatives

Mandatory container loss reporting to the International Maritime Organizations starts in 2026.

As a longtime advocate for mandatory reporting of containers lost at sea, World Shipping Council welcomed the adoption of amendments to the International Convention for the Safety of Life at Sea (SOLAS) by the International Maritime Organization's (IMO) Maritime Safety Committee (MSC 108). The entire industry must now report all containers lost at sea starting January 1, 2026.

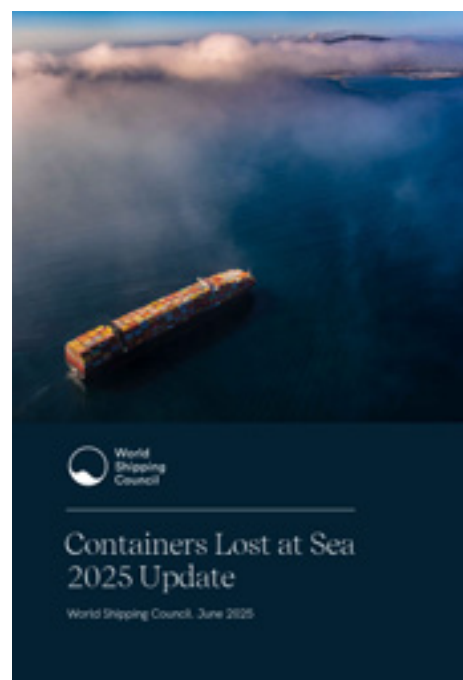
Major progress has been made identifying the main reasons for container losses, developing tools and training to help ocean carriers and seafarers prevent incidents, as well as recommendations to IMO for regulations and to the ISO for standards that would significantly enhance container safety. The project has now come to an end but will submit a final report with actionable recommendations to IMO (CCC 11 in September).

WSC Cargo Safety Program to flag mis/undeclared dangerous goods to prevent ship fires and container loss.

Ship fires can endanger crew and cause loss of cargo or even the loss of an entire vessel. Recent reports have shown that a leading cause of these fires is mis/undeclared dangerous goods. To address the risk of container fires on ships, WSC in partnership with the National Cargo Bureau (NCB), has developed the WSC Cargo Safety Program – introducing the first-ever industry-wide best practices for cargo screening and inspections.

Charcoal shipment regulations are changing to make transportation safer, protecting crew and cargo. To further tackle the issue of ship fires, the shipping industry is taking proactive steps to implement improved safety measures for transporting charcoal, in advance of the mandatory IMO regulations coming into effect in 2026. The new regulations require all charcoal shipments to be declared as dangerous goods under the International Maritime Dangerous Goods (IMDG) Code.

Download the report at <https://bit.ly/4kd6jff>.



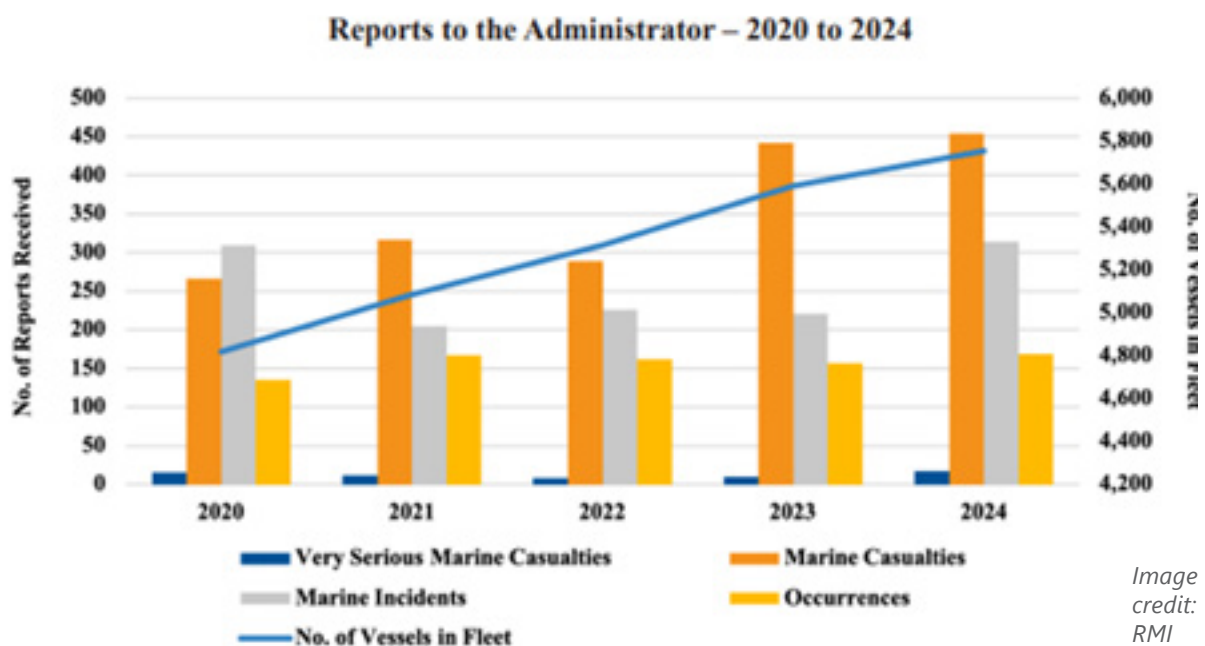
RMI Maritime Administration: 954 incident reports received during 2024

The Republic of the Marshall Islands (RMI) Maritime Administrator has issued its Annual Report on Marine Safety Investigations for the year of 2024, during which they received 954 total reports, a 13% increase compared to 2023.

According to RMI, since 2022, analysis of the data shows a steady increase in the number of reports received. The mean number of total reports received compared to the size of the fleet was 4.1% in 2024. This is an increase of 0.4% compared to 2023 and 0.9% compared to 2022.

Despite this steady increase over the preceding years, it has been recognized by the Administrator that owners and operators remain committed to safety of life and property at sea and the marine environment. This has been evidenced by an improvement in the quality of Company derived investigations and willingness to implement recommendations, observations, and lessons learned quickly across their respective vessels. The incident rate per 100 vessels is a useful metric to determine how many incidents occur as a proportion of RMI-registered vessels by incident categorization. The incident rate average per 100 vessels has steadily increased since 2022. The continued increase was primarily due to more very serious marine casualties, marine incidents, and occurrences being reported in 2024 than in 2023.

“By examining the root cause of these incidents, the Administrator has incorporated the identified lessons learned into actionable and targeted safety recommendations, reviewed existing regulatory requirements for gaps, and engaged with stakeholders to implement corrective actions,” said Tom Jenkins, Deputy Commissioner of Maritime Affairs.



Incidents by vessel type

Bulk carriers and tankers make up 56% of RMI-registered vessels. Combined, bulk carriers and tankers account for 55% of all reported incidents. The average incident rate across all ship types is 16%. Although bulk carriers (36%) and tankers (20%) exceed the average incident rate of the RMI-registered fleet, the incident rate is proportionate to the size of each of these vessel types within the RMI-registered fleet. MOUs make up 3% of the RMI-registered fleet, however MOUs account for 18% of all reports. As a proportion of the number of reports, MOUs have a higher-than-average incident rate compared to all other vessel types.

Very serious marine casualties

During 2024, 17 very serious marine casualties were reported to the Administrator, compared to 10 in 2023, an increase of 41%. Six of these incidents were related to working at height and resulted in six fatalities, the leading cause of death during 2024. Three separate incidents involving seafarers being struck by a moving object resulted in three fatalities.

Two separate enclosed space entry incidents resulted in the loss of two lives.

Two RMI-documented seafarers were fatally injured after being struck by falling objects in two separate incidents. Two fatalities occurred in two separate incidents by electrocution and asphyxiation. Two further very serious marine casualties occurred, one as a result of a collision involving a non-RMI-registered bulk carrier, and the second involving a fire on board an OSV, neither of which resulted in loss of life.

Very serious marine casualties are those involving loss of life, total loss of the ship, or significant environmental damage.

Marine casualties

There were 454 marine casualties reported to the Administrator during 2024. These have been classified by the primary incident type and are shown on the chart below as a percentage of the total marine casualties reported during 2024.

There was a reduction in the total number of loss of propulsion,

Percentage of Incidents by Ship Type – 2024

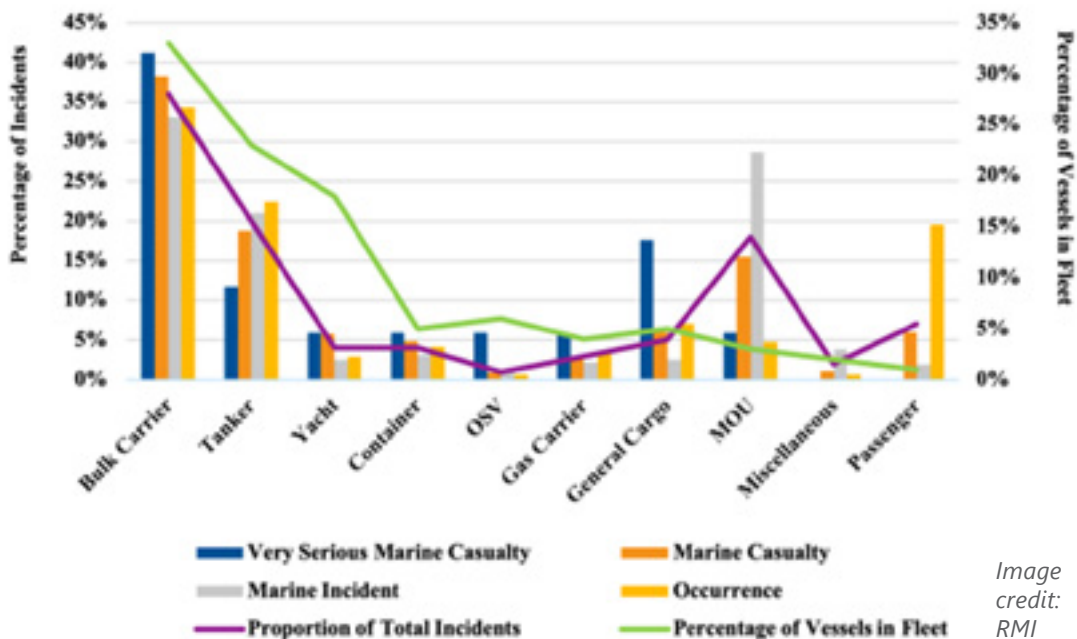


Image credit: RMI

Very Serious Marine Casualties – 2024

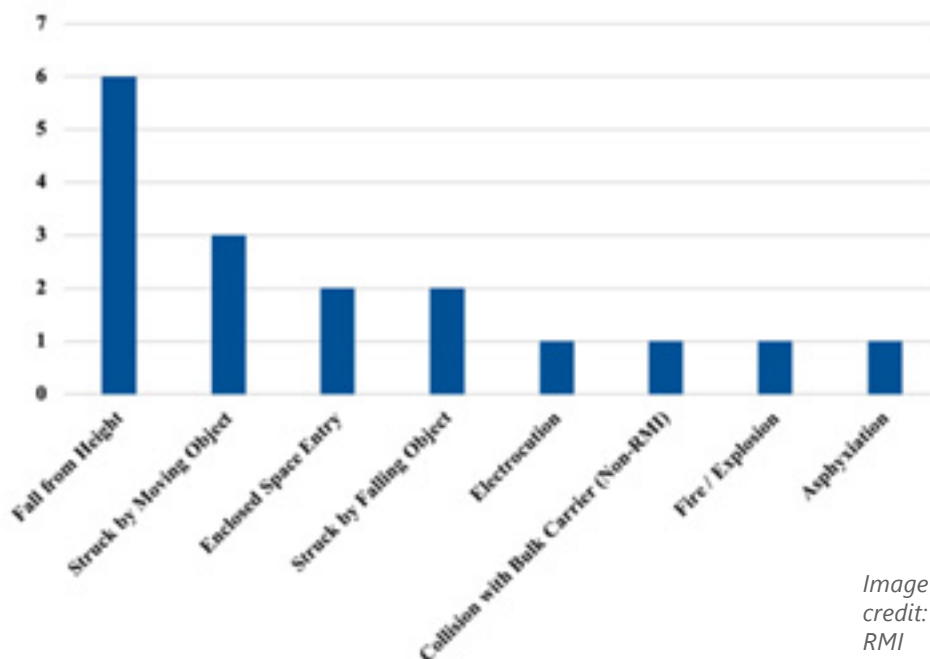
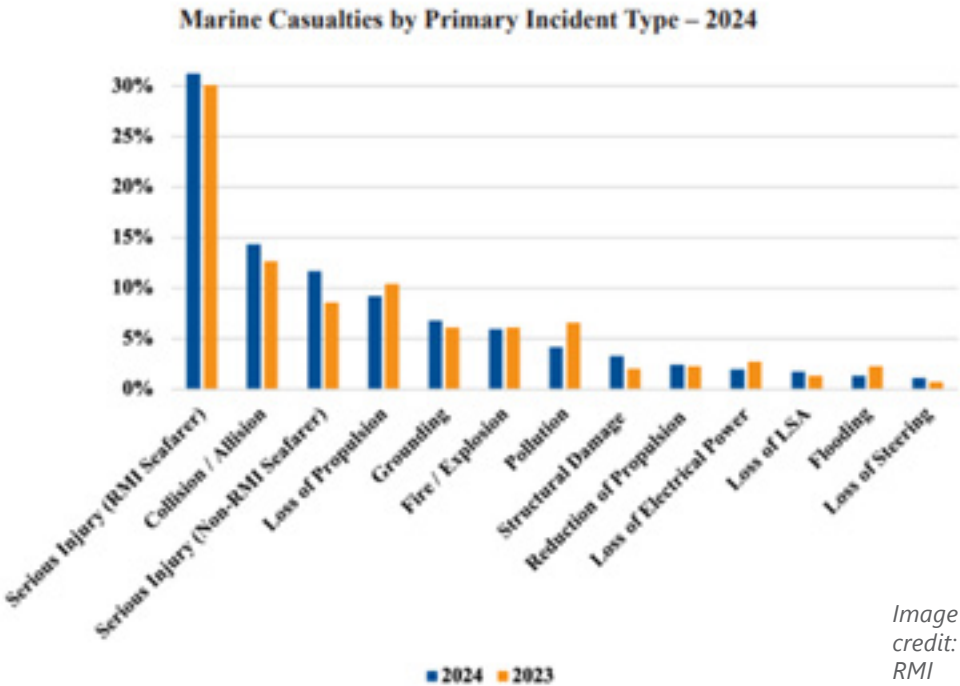


Image credit: RMI

pollution, loss of electrical power, and flooding incidents in 2024 compared to 2023. However, incidents related to serious injury, collision/allision, grounding, structural damage, reduction of propulsion, and loss of LSAs were greater than those reported in 2023.

Marine casualties are events, or a sequence of events, directly in connection with the operation of the vessel, that have resulted in serious injury, loss or material damage to the vessel, grounding or disabling of the vessel, collision or allision, and severe damage to marine infrastructure or to the environment.

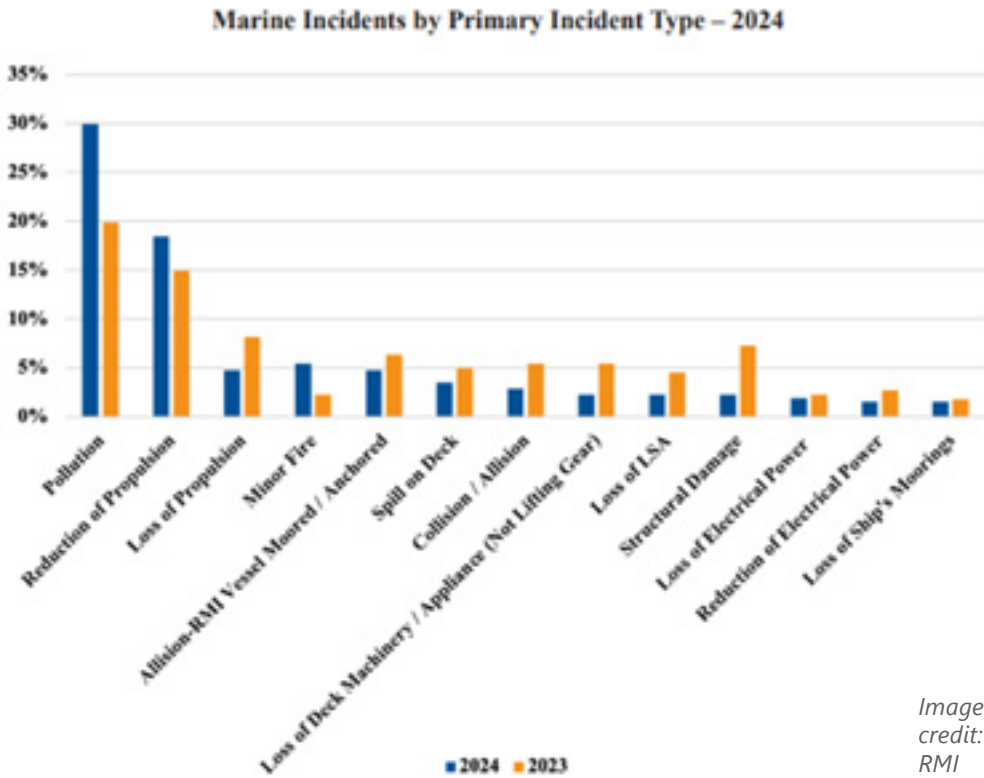


Marine incidents

There were a total of 314 marine incidents reported to the Administrator during 2024. These have been classified by the primary incident type and are shown on the below chart as a percentage of the total marine incidents reported during 2024. Marine incidents increased by 28% in 2024 compared to 2023.

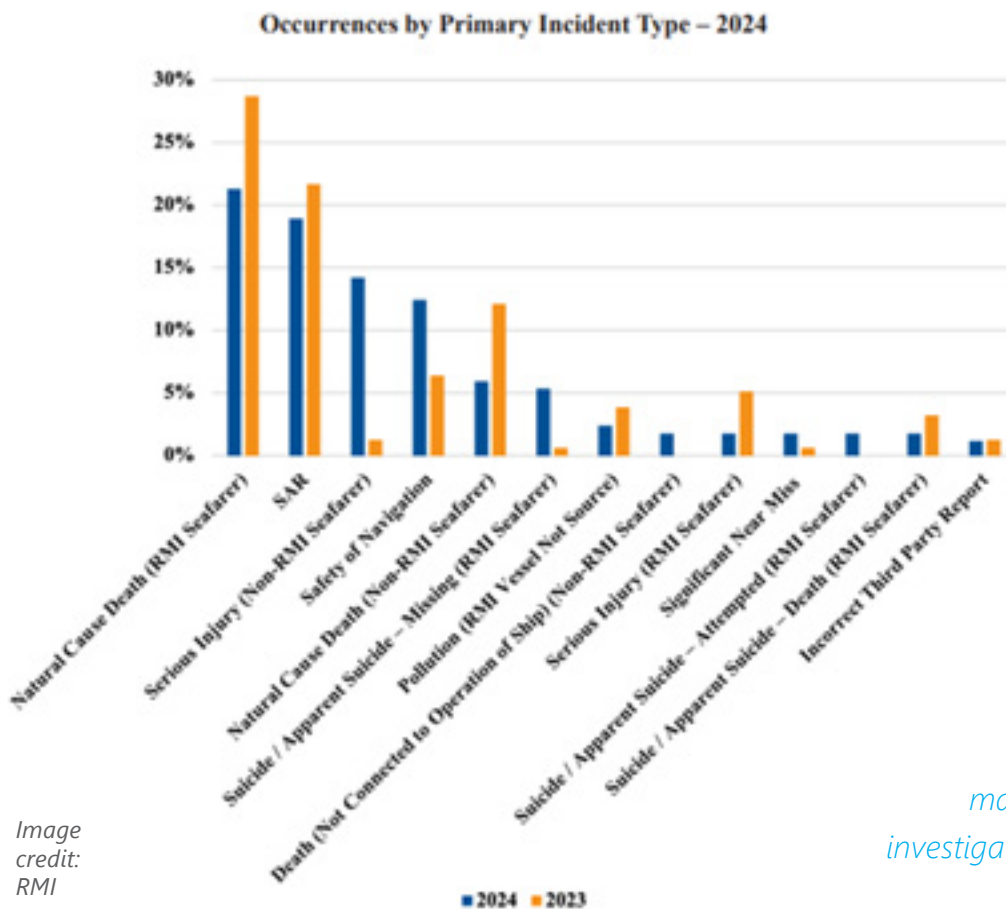
A significant proportion of these marine incidents were attributed to an increase in pollution cases, the majority of which were reported to have occurred within the RMI-registered MOU fleet. A reduction of propulsion incidents also contributed to this 28% increase in 2024 across varying vessel types.

Marine incidents are events, or a sequence of events, other than a marine casualty, which have occurred directly in connection with the operation of the vessel, that endangered, or if not corrected, would endanger the safety of the vessel, its occupants, or the environment.



Occurrences

There were 169 occurrences reported to the Administrator during 2024. These have been classified by the primary incident types and are shown on the chart below as a percentage of the total occurrences reported during 2024. These include primary incident type which would normally be classified as marine casualties or marine incidents but have been classified as occurrences due to their specific nature and circumstances. There was a significant increase in 2024 in the number of serious injuries and safety of navigation related incidents.



The former can be attributed to the number of passenger vessels within the RMI-registered fleet and includes serious injuries, which were not connected to the operation of the vessel, and did not involve an RMI-documented seafarer. The increase in the number of safety of navigation related cases can be attributed to instances whereby RMI-registered vessels failed to abide, or conform, to internationally recognized recommended routing measures.

Occurrences are other conditions and events which are not marine casualties or marine incidents but require investigation by the Administrator.

Image credit: RMI





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- To provide a central point from which professional opinion on maritime matters can be offered to the Maritime Community, Industry, Government and the Media.
- To provide independent expert advice and guidance based on our combined professional knowledge and experience unhindered by any financial or commercial interests.
- To provide guidance to regulators and employers on the professional training standards adequate for our maritime professionals.

www.mpc-uk.org

NAVIGATING THE RISKS:

Lithium-Ion Batteries, Electric Vehicles, and Fire Safety in the Maritime Industry

By Karley Smith and Yvonne Tung, Brookes Bell



INTRODUCTION

Lithium-ion (Li-ion) batteries are an everyday essential item embedded in everyday life, found throughout the world and in almost every household or workplace in one form or another. We can find them in portable devices such as mobile phones, laptops, tablets, power banks and cordless vacuums, all the way through to electric vehicles (EVs) - scooters, buses, cars and bikes.

However, their widespread use has led to a surge in fire incidents, particularly involving EVs. Recent media reports and insurance data highlight a 17% increase in Li-ion battery-related fires in New Zealand alone¹.

As the maritime industry embraces the global shift toward electrification, the integration of Li-ion batteries and EVs onboard vessels presents both opportunities and significant fire safety challenges. This article explores the science behind Li-ion batteries, the risks they pose, and the implications for maritime operations, drawing on recent incidents and emerging mitigation strategies.

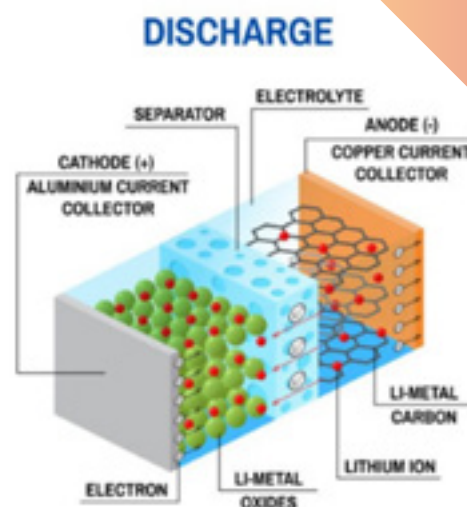
UNDERSTANDING THE BATTERY: CONSTRUCTION AND CHEMISTRY

Li-ion batteries consist of:

- **Electrodes** (anode and cathode) – where Li-ions are stored during battery charging and discharge and where the electric current enters and leaves the battery.
- **Electrolyte** – organic solution that the Li-ions pass through but electronically insulating. This is the flammable component of a typical battery.
- **Separator** – A porous membrane that physically separates the electrodes from one another and allows Li-ions through.

During discharge, Li-ions flow from the negative electrode (anode) to the positive electrode (cathode). When the cell is charging, the ions flow in the opposite direction, from cathode to anode.

EV battery packs are complex assemblies of connected cells known as modules, enclosed in protective casings with integrated cooling systems and Battery Management Systems (BMS). The battery pack is typically integrated into the chassis of an EV.



¹ <https://www.iag.co.nz/newsroom/news-releases/ami-reveals-increase-in-battery-related-fires>

The battery pack enclosure not only protects the batteries from external damage and ingress of dirt or debris, but it can temporarily contain a fire in the enclosure, providing time for fire extinguishing and preventing propagation to other cars. However, for such Li-ion battery fires, the encasing also makes firefighting more difficult by preventing direct access to the battery pack itself.

The BMS monitors voltage, current, resistance and temperature of the battery, which are all vital to allowing the battery to function at its optimum potential. It is also critical for balancing the cells, which means ensuring that every single cell within each module of the battery pack charges and discharges at the same level. Cell balancing is critical to prevent over-charging or over-discharging of any single cell within the pack. Over-charging or over-discharging batteries can lead to battery failure.

The BMS also monitors the State of Charge and State of Health.

FIRE RISK AND THERMAL RUNAWAY

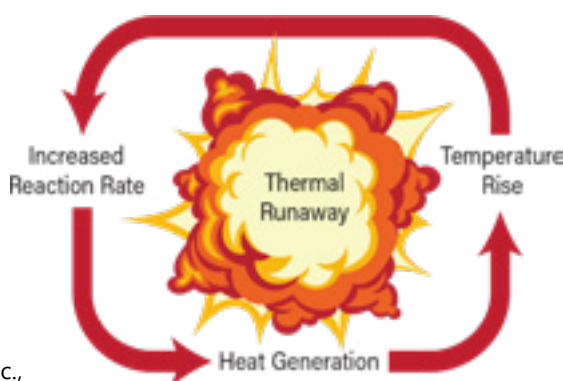
Li-ion batteries can fail due to:

- Manufacturing defects.
- Battery management software faults.
- Internal/external short circuits.
- End of life.
- Battery abuse:
 - **Mechanical damage** – This is external damage, such as dropping from a height, indentation, or punctures, etc., which can result in damage to the internal components, rendering the battery unstable.
 - **Electrical abuse** – Over-charging or over-discharging the battery. This can occur due to manufacturing faults in battery cells and ineffective monitoring of the voltage by the BMS.
 - **Thermal abuse** – Subjecting the batteries to extreme temperatures (both high and low), or its local temperature is too high which could be due to poor battery design or manufacture, or the BMS not regulating the temperature properly.

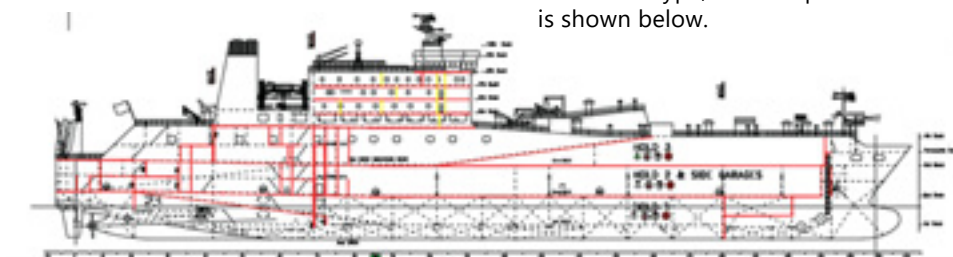
Each type of battery abuse described can lead to battery failure. Mechanical abuse can cause the separator to break, causing a short circuit by contact between the two electrodes, whilst electrical abuse can lead to formation of dendrites (branches of lithium) which can pierce the separator, again resulting in short circuit. Thermal abuse at high temperatures can lead to electrolyte breakdown.

The battery failure can lead to a phenomenon known as 'thermal runaway'. Thermal runaway is the term used to describe when a reaction becomes self-accelerating; this occurrence is not exclusive to batteries. In the context of batteries, battery failure can result in exothermic (heat generating) reactions taking place, the heat generated from these reactions allow for more reactions to take place, creating a positive feedback loop. Eventually, the reaction reaches an uncontrollable, self-sustaining and self-accelerating state, i.e., thermal runaway.

The time taken to reach thermal runaway can be very fast, giving little time to react, and with devastating consequences.



A 1kWh battery can emit up to 6,000 litres of toxic and flammable vapour. This flammable gas mixture can contain gases including hydrogen, carbon monoxide, and hydrogen fluoride.



MARITIME INCIDENTS INVOLVING LI-ION BATTERIES

Whilst root causes are often difficult to determine due to extensive damage, several high-profile ship fires have been linked to Li-ion batteries, including:

- **S-TRUST (USA, 2022)** – Charging of Li-ion batteries on the bridge.
- **FELICITY ACE (Atlantic, 2022)** – Carrying new EVs and ICE on board.
- **FREMANTLE HIGHWAY (Netherlands, 2023)** – Carrying new EVs and ICE on board.
- **MORNING MIDAS (North Pacific, 2025)** – Carrying new EVs and ICE on board.

Additionally, the number of Superyacht fires are on the rise. Superyachts generally carry an array of 'toys' onboard, typically battery powered. These can include e-scooters, e-bikes, sea bobs, drones and now electric jet skis are being introduced into the market.

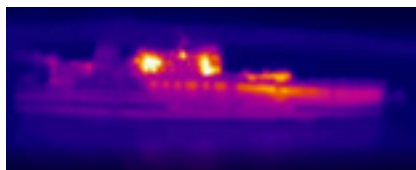
CHALLENGES FOR FIREFIGHTING ON DIFFERENT TYPES OF VESSELS

Firefighting on different vessel types can present different problems. Below are some of the difficulties that can be encountered when fighting a fire on these ship types.

RO-RO AND PCTC VESSELS

Ro-Ro and PCTC ships lack transverse bulkheads which means large open spaces on each deck that allow a fire to spread quickly longitudinally as there are no subdivisions to contain the fire. The lack of subdivision also makes fire suppression more difficult. This is illustrated in the GA Plan for this vessel type, an example of which is shown below.

Essentially the subdivision of the watertight compartments makes it like an oven, which is illustrated in the thermal image. Whilst this was not an EV fire, it demonstrates how fire can spread longitudinally in these vessel types.



Additionally, excessive amounts of water cannot be used for firefighting, as too much water on an open deck could lead to free surface effect and stability issues.

Due to the tightly packed cargo stow, there can also be physical challenges for seafarers fighting these fires as there is very limited access between vehicles. The minimal space between vehicle rows also means that it is difficult for wearing a breathing apparatus (BA) set.

There is the added uncertainty of what vehicle types are stowed on deck. Locating the origin and source of the fire can be difficult in the stow, as well as recognising if the vehicle is electric, hybrid or ICE. Currently, there is no requirement for identifiers to be placed on the cars to distinguish between electric, hybrid, or ICE vehicles.

In an emergency, a typical muster on a vessel takes between 8-12 minutes. The crew then need to get kitted up and access the fire for firefighting. A normal BA set has around 20 minutes of air, and it could take a fire team 5-10 minutes to reach the required car; the fire team must also factor in having enough time to safely get back out. Taking into account the time taken to enter and leave the compartment the crew is likely to have a very short period to fire fight.

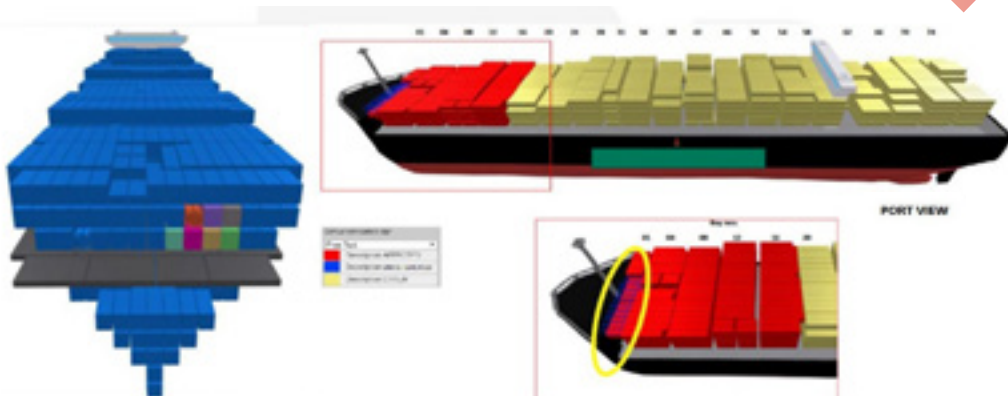
The recommended firefighting method for a Li-ion battery fire is the use of a fire blanket weighing 20-40kg. Practically, this will not be easy for a fire team to handle and use in a tight stow, particularly whilst wearing BA.

To summarise, the problems faced include:

- Large open decks with minimal subdivision.
- Limited access and headroom.
- Close-packed stowage of mixed cargo.
- Difficulty identifying EVs vs ICE vehicles.
- Fire blanket (25-40kg) and BA limitations.

CONTAINER SHIPS

Container ships present their own challenges. Large quantities of small parcels of cargo are carried in security sealed and contained units. Containers are stowed both above deck and in the holds, which can give difficulty in locating the origin and source of the fire.



Stowage of containers (with EVs inside) in the hold can be beneficial as the space could be flooded with CO₂, but fighting a fire within a specific container could be difficult.

Stowage on deck can be beneficial as the container can be situated away from the accommodation but could still be difficult to access.

Stowage in the upper tier locations on deck can present challenges in the event of a fire, unless the ship is fitted with hi-rise monitors/nozzles to apply large quantities of water direct to the burning container.

Due to the nature of the stow, it can be difficult to access specific containers. Mis-declared cargo is also an issue that can affect firefighting and emergency situations.

ADDITIONAL FIREFIGHTING CONSIDERATIONS

As previously discussed, the batteries are located in the chassis of the vehicle. Approaching can therefore be difficult for any firefighting team as their pathway can be blocked by flames.

In addition, significantly more water is required for fighting an EV fire compared to a combustion engine vehicle. For example, 30,000 gallons of water over 4 hours are estimated to be required for an EV fire, instead of 500-1,000 gallons over 30 minutes for a combustion engine car. Large quantities of water are not suitable for use on ships, particularly on large open surfaces as previously discussed.



EV fires also generate much higher temperatures than an ICE fire with a sustained flame, which can be difficult to 'knock-down'. Re-ignition can also occur, in some cases, a considerable time after the fire has been extinguished.

Methods for fighting a fire involving Li-ion batteries remain under review, with new technologies being researched and developed. There is currently no definitive answer for how best to tackle an EV fire.

LESSONS FROM RECENT INCIDENTS

Brookes Bell have attended fire incidents and casualties that have involved both the carriage of Li-ion batteries and EVs. Following these attendances, additional challenges came to light which may not be fully appreciated by the wider industry, and particularly the seafarers at the front line.

Firstly, as a consequence of thermal runaway, there is a possibility of flammable gases collecting in enclosed head spaces that the ship's crew may not be aware of. On a recent case we attended, there was evidence of a vapour cloud explosion beneath the top canopy deck, lifting it 2.5 metres across 100 metres length. As a result, the crew were unable to access the lifeboats on this deck. Additionally, the fire and foam mains also ran the length of this deck and had been buckled following the explosion.

Following the fire, many of the car carcasses were unrecognisable. Aluminium has a melting point of 660°C; however, car manufacturers have reported that tests involving EV fires can reach temperatures in excess of 2,000°C. As a result of the extreme temperatures, heat can also transfer downwards, not only upwards, burning container floors or melting aluminium structures which have the potential to block bilges and scuppers. The photographs show the stalagmites created by molten aluminium on a recent attendance.

Ship designs may also need to be reconsidered. Based on our experience, access into certain spaces may not be suitable to safely exit in an emergency involving EVs. For instance, open stairwells will pass through car decks, meaning that crew would have to move through a fire zone that could potentially be filled with toxic gases and vapours.



MV Fremantle Highway in July 2023.



On this note, should further investigation also be given into Personal Protective Equipment (PPE) for ship's crew? If crew are on deck awaiting rescue or whilst accessing the lifeboats, should a full-face mask be worn, such as the PPE that are being used by personnel attending in the aftermath of responding to a Li-ion fire? Face masks could be held on the bridge or within the accommodation of ships for personnel to use in the event of evacuation from a ship that is on fire.

As well as the toxic and flammable gases emitted during thermal runaway, the dust and other matter created by the fire can also be toxic and harmful.

Another challenge is the potential that the firefighting water could short circuit batteries in stowage. During our attendance, when moving cars that had been flooded with firefighting water, a short circuit took place as the car was being removed from the vessel.

BATTERY ENERGY STORAGE SYSTEMS (BESS)

More vessels are starting to ship BESS or 'Megapacks' which can present additional risks. This type of cargo is typically high value with a high energy density.



Stowage needs to be considered carefully. Tight stowage complicates isolation during incidents, as access can be restricted and the fire can propagate between units. However, if not stowed as a block stow, the units need to be sufficiently secured individually for a sea passage.

Additionally, manufacturer guidance may not always be compatible with maritime conditions. The stowage and securing guidance for Megapacks (Tesla) for instance, states that there should be no more than 5 degrees tilt. This cannot be guaranteed on a vessel at sea.

RISK MITIGATION STRATEGIES AND FUTURE DIRECTIONS

TECHNOLOGICAL INNOVATIONS

Li-ion battery research is still a growing research area. With new designs and innovation, the industry is always looking at ways to improve battery quality, safety and performance and durability. With this, numerous modifications are currently being researched; some examples are provided below:

- Electrolyte modifications (e.g., solid-state, non-flammable electrolytes).
- Modification of other battery components (e.g., separator, electrode coatings).
- Battery pack level innovations (improved cooling and pressure relief systems).

VESSEL DESIGN

Vessel design is also currently being reconsidered. Purpose built vessels for shipping EVs and Li-ion batteries are in discussion. One potential design is to increase the number of subdivisions and compartments, as there is more chance to isolate a potential fire or incident within these smaller compartments.

FIRE DETECTION

Additionally, fire detection systems are being adapted and modified. For instance, the Li-ion Tamer detects catastrophic battery failures early. The Li-ion Tamer is a plug-and-play rack system that improves safety by sensing the off-gassing that precedes thermal runaway battery failures much earlier than smoke, or traditional gas detection systems

would. Li-ion Tamers work at the second stage of battery failure: the interval between off-gas generation and smoke to stop thermal runaway before it gets started.

The most effective firefighting medium for Li-ion fires is still being investigated. The figure below² shows a range of fire fighting agents and how effective they are against Li-ion batteries. Generally, firefighting mediums work by isolating, smothering, cooling, or chemically suppressing fires. One factor to consider for Li-ion battery fires is the re-ignition aspect; even after cooling to room temperature, the probability of re-ignition still exists. The potential environmental impacts of the firefighting agent post-fire must also be considered.

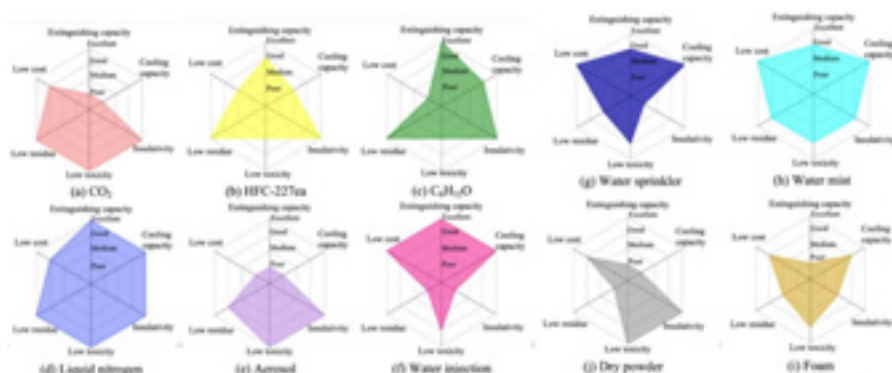
RESEARCH

Various working groups and organisations are looking into options for tackling EV fires. Industry groups are developing documents designed to assist industry and ships' crews in how to deal with Li-ion fires, with several white papers being produced. Technology is constantly evolving; and continuous monitoring of developments is required.

CONCLUSION

The maritime industry must adapt rapidly to the evolving risks posed by Li-ion batteries and EVs. Through a combination of scientific innovation, vessel design, and operational preparedness, we can navigate these challenges and ensure safer seas.

Fighting Li-ion batteries – fire fighting agents



2 DOI: 10.1007/s10694-022-01278-3



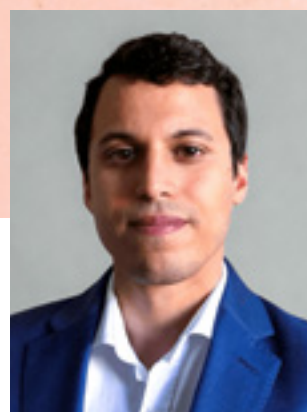
Enhanced safety regulations could advance maritime electrification

By **Marcos Salido**, Environmental Project Manager, Bureau Veritas Marine and Offshore.

The maritime industry is having to contend with an increasingly complex regulatory landscape. The introduction of FuelEU Maritime at the beginning of the year has, for the first time, established comprehensive regulations for phasing out the use of fossil fuels by vessels sailing in Europe. Additionally, the recent outcomes from MEPC 83 suggest a likely introduction of a new global carbon pricing mechanism for international shipping.

Furthermore, shipping is quickly approaching its 2030 checkpoint – as outlined in the IMO’s revised GHG strategy in 2023 – by which time the industry must evidence a 20% reduction in carbon emissions, with the ambition to achieve 30% compared to its 2008 baseline. Combining this with the MEPC 83 outcomes, the industry is under significant pressure to demonstrate tangible reductions in carbon emissions from its operations.

While it's essential to prioritize the transition to alternative fuels, we must also pay equal attention to the systems and technologies that support valuable emissions savings in the short term, until such point that these fuels are widely available and affordable. This involves shipowners and operators engaging with operational efficiency solutions, such as reducing speed, voyage optimization, and weather routing, that are supported by innovative clean technologies. Maritime electrification technology is an example of a viable solution that can act as a key enabler of the industry's decarbonization transition.





Bureau Veritas Marine and Offshore (BV) has recently released a technical paper, "Maritime Electrification: Maritime Battery Systems and Onshore Power Supply" which focuses on two emerging pathways that can support the development of greater maritime electrification: Energy Storage Systems (ESS) utilizing lithium-ion (li-ion) battery technology, and Onshore Power Supply (OPS) systems.

Findings from the Maritime Battery Forum (MBF), of which BV is a member, reveal that the use of battery-powered operations in the global fleet has expanded to 1,045 vessels, with an additional 561 currently under construction. Of the current global fleet, approximately 90 vessels operate on pure battery power, with a further 50 vessels in the order book. There are also over 550 vessels in service using hybrid battery propulsion, with an additional 400 scheduled for construction.

This increase in the use of ESS and OPS technologies must be supported by standardized integration through the development of intuitive, simple, and mandatory safety guidance. The integration of ESS solutions onboard vessels requires owners and operators to consider a myriad of details, including the appropriate sizing and selection of battery cells, the inclusion of a reliable battery management system, and the ruggedization of the overall system to withstand the challenging marine environment.

Despite the significant green credentials of ESS, the technology also presents additional safety considerations due to the fire risks associated with certain types of li-ion battery technology, known as thermal runaway. This occurs when the battery's temperature rapidly increases due to physical damage, manufacturing defects, or exposure to extreme temperatures. A li-ion battery fire will sustain itself, meaning that rather than lasting minutes or hours, a fire can continue for days.

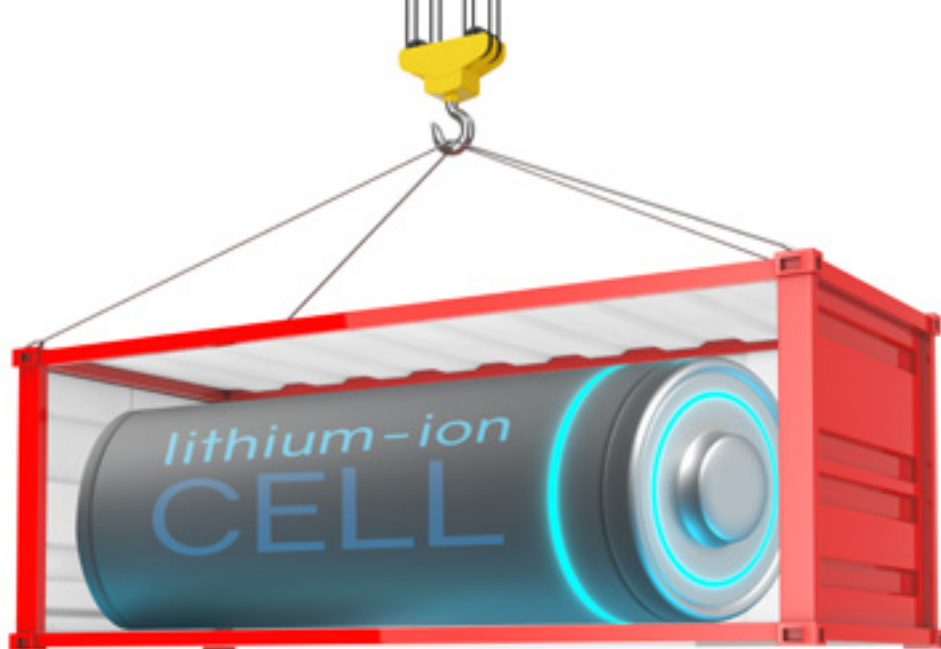
Although the risk profile of li-ion battery technology is significant, industry bodies have yet to introduce comprehensive international regulations to address the safe design of li-ion battery installations on vessels, which must include specific firefighting requirements tailored to combat a thermal runaway event. This lack of regulation has the potential to create a degree of uncertainty amongst owners and operators who might otherwise wish to engage with ESS technology.

To address the regulatory shortfall that hinders the widespread and safe implementation of battery systems, industry groups have established guidelines and frameworks to assist system owners and operators. As a member of the MBF, BV has worked alongside organizations such as the European Maritime Safety Agency (EMSA) to develop their guidance on the Safety of Battery Energy Storage Systems, which was published in 2023. This guide facilitates the safe deployment of ESS on vessels. It outlines emergency response procedures to inform first responders, crew members, and land-based fire services with regard to appropriate action plans.

Looking ahead, the pathway to net-zero emissions will increasingly depend on the accelerated uptake of proven clean technologies such as ESS and OPS. As regulatory momentum builds and the industry works to meet its ambitious climate goals, maritime electrification emerges as a practical and scalable solution to reduce emissions without compromising operational efficiency. Crucially, realizing this potential will require collaborative efforts between regulators, industry stakeholders, class societies, and technology providers to overcome technical challenges, establish clear protocols, and deliver the necessary infrastructure to support this shift.

If the industry can work to overcome these remaining challenges, maritime electrification has the potential to serve not only as a bridge to 2030 compliance but also as a long-term pillar for sustainable shipping.

CINS issues guidance on shipping lithium-ion cells in containers



CINS – the Cargo Incident Network System – has published its CINS Lithium-ion Cells Guidelines. Published in conjunction with the International Group of P&I Clubs and the TT Club, the document has been produced by Members of the CINS Lithium-ion Cells Work Group.

Lithium-ion cells are the primary elements of a battery and can exist in various forms. Commonly used in portable electronics and electric vehicles, their defining characteristic is the ability to accumulate, store and release electrical energy through the movement of lithium ions between a positive and a negative electrode.

According to CINS, lithium-ion cells must be handled with care, as they pose several risks if damaged, improperly charged, or exposed to extreme conditions. Proper safety features and handling protocols are critical to mitigating these risks.

Hazardous properties of lithium-ion cells

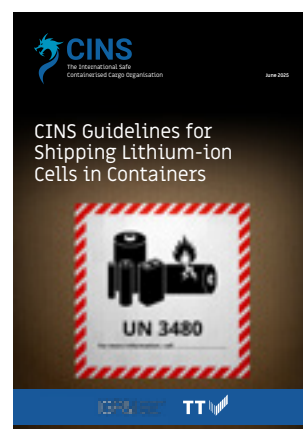
Lithium-ion cells are classed as dangerous goods because of several hazardous properties listed below. Strict adherence to safety standards during handling and transport are required.

- Fire hazard: Flammable electrolytes can ignite if damaged or overheated, triggering thermal runaway reactions that lead to fires or explosions.
- Chemical reactivity: Reactive materials may explode or catch fire if punctured or short-circuited.

- Toxic emissions: Fires release harmful gases such as hydrogen fluoride (HF), which are toxic and corrosive.
- Explosion risk: Internal pressure buildup can cause rupture or explosive vapor clouds.
- Electrical hazard: Short circuits or mishandling can lead to burns, sparks, or fires.
- Environmental risk: Improper disposal can contaminate soil and water, causing environmental harm.

Key risks during transportation

- Packing not consigned in compliance with the IMDG Code.
- Packing into containers other than in accordance with the CTU Code.
- High temperature inside container(s) during transport.



Inspection

It is recommended that shipping lines randomly inspect the contents to check compliance with the IMDG code and CTU code. When undertaking a tailgate inspection, the following criteria are recommended:

- Review of Dangerous Goods Declaration (DGD) for compliance with the IMDG Code.
- Inspection of CTU for structural serviceability.
- Inspection of CSC plate to ensure validity.
- Thermal image/camera use where available to spot temperature anomalies.
- Inspection of cargo to confirm it is

as declared on the DGD. Note that packages of cells or batteries that meet SP188 shall be marked with the appropriate lithium battery mark, however no DGD is required for the cargo meeting SP188.

- a) If shipped under SP188, request the UN38.3 test summary.
- b) If shipped under SP188, a sample package may need to be opened, or equipment opened, to verify compliance with SP188, .4. .5 and .7.7.
- Inspection of packaging's for leaks or damage.
- Inspection of packaging's and UN Packing Codes to confirm they are approved for the cargo as per the

IMDG Code Packing Instructions.

- Inspection of package marks and labels for compliance.
- If other cargo is in the container, check any segregation requirements.
- Inspect that the packages are suitably stowed, secured, blocked and braced as per the IMDG and CTU Code.
- Inspect placards and marks are properly affixed to the container as required by IMDG.
- Ensure doors are closed and replacement seal is installed, and number is recorded.
- Stuffing should be in accordance with these CINS Guidelines.



Vanning inspections ensure batteries are packaged per packing instructions like P909, focusing on short circuit and heat protection. Surveyors can support the 'know your shipper' initiative by verifying training records and ISO 9001 accreditation to ensure compliance with SP188. Offering short training presentations on battery regulations and packing at warehouses can further educate shippers and minimize risks.

Shipment of used Lithium-ion Cells, (including, but not limited to, defective, damaged, or those shipped for disposal or recycling).

For shipments of cells identified as being damaged or defective such that they do not conform to the type tested according to the applicable provisions of the Manual of Tests and Criteria shall comply with the requirements of SP376.

For shipments of cells and equipment containing cells transported for disposal or recycling see SP377.

Once packed into a container, this guidance document recommends that vanning inspections be performed to ensure cells are packaged according to the appropriate packing instruction.

For damaged and defective cells this guidance document recommends that the following assessment is carried out to evaluate the cells by sampling method during the stuffing operation. It needs to be conducted by an independent survey company:

- All cells must be individually sealed in plastic. The

guidance recommends using, in all cases, combination packaging – whatever the condition of the cell or its final use.

- Presence of means to prevent cells from movement.
- Marking and documentation in accordance with SP376 or 377.
- Packaging in accordance with the relevant Packing Instructions.
- The packaging must be evenly distributed within the container, with a minimum of 30cm void space to the roof.
- Packaging should not be within 50 cm of the container doors and should not be in contact with the container walls.
- The Survey Report should include photographs proving that the stuffing is in accordance with the above elements, and the contents of some packaging and the container ID.

Best practices and insights on sampling procedures

By the West P&I Club
Loss Prevention team

West P&I Club has published a loss prevention bulletin addressing the issue of cargo contamination claims and highlights best practices on sampling procedures.

According to West, cargo contamination claims are a major risk for tanker operators, often resulting in expensive disputes. Properly taken, sealed, and stored samples are essential to prove cargo quality at the time of loading. As tanker cargoes are loaded through closed systems, pre-loading inspection is not possible. Samples are the shipowner's main defence in off-spec claims as they provide critical evidence to identify when and where contamination occurred, reducing claim costs and response time.

TYPES OF SAMPLES AND WHEN TO TAKE SAMPLES

Industry standard is that shore samples are taken unilaterally with no ship's representative present. However, the vessel may request a shore sample which should be accompanied by a receipt and should be stored with the vessel's other samples. Additionally, shore samples that are taken after discharge is completed should also be requested and stored with the vessel's samples in the dedicated sample locker.

Sampling should be laid out in the charter party agreement and discussed in the pre-loading meeting with the cargo surveyor. The number, location and timing of samples should be discussed. Along with confirmation that the cargo surveyor will supply the vessel with a full set of samples and confirm the designated persons that will carry out the task of drawing, sealing and signing the samples.

Samples should always be taken with a member of ship's crew present, representing the shipowner's interests, and a cargo surveyor representing the charterer's interests. Unilateral sampling should be avoided. However, if the cargo surveyor refuses to be present for ship sampling, ship's crew must take independent samples.

These should be undertaken following the same guidance laid out in this bulletin, ensuring proper labelling, sealing and recording procedures as they can still be called for as evidence if there is a claim against the cargo. The cargo surveyor refusal to be present for ship's sampling should be recorded in the Ship's Logbook and the vessel should issue a Letter of Protest.



SEQUENCE OF SAMPLING

- Shore tanks.
- Shore lines.
- Ship's manifold sample.
- 1st foot samples.
- Ship's tank running/composite sample.
- Ship's tanks prior to discharge.
- Ship's manifold at start of discharge.

If the cargo is homogeneous then a running sample is preferred. If the cargo is prone to stratification or if adequate time has not been given for free water to settle after completion of loading, spot sampling is required to form a composite sample. Commonly lower, middle and upper samples are taken and then combined to form a composite sample as an accurate representation of the bulk cargo in a given tank.

WHEN TO TAKE ADDITIONAL SAMPLES

- Manifold: if nominated shore tank has changed.
- Manifold: resuming cargo operations following a suspension.
- If there is a question of the cargo being off-spec.

The manifold sample is the most critical, representing the cargo condition as it passes from shore to ship. It must be taken immediately at the start of loading, ideally with the manifold valve closed. Without it, the vessel may be held liable if first foot samples are off spec. Sample points must be cleaned or flushed to avoid contamination. Manifold samples must be retained, and a visual check ensures the correct cargo is received.

If cargo is suspected to be off-spec, additional samples must be taken from various levels, dead bottom, lower, middle, upper as well as running samples from each affected tank. It is standard practice to suspend loading after receiving the first foot of cargo for sampling and analysis.

Even if the terminal does not require it, the vessel must take first foot samples when innages reach one foot to verify that ship lines and tanks are clean, particularly for high-spec or sensitive cargoes. Pump stack samples may also be taken on chemical tankers to confirm line cleanliness before cargo enters tanks. If samples pass, loading resumes; if not, ship's management and a P&I representative should be contacted immediately.

Before discharge, samples must be taken from all tanks, especially for high-spec cargoes that require analysis approval before discharge. A pre-discharge manifold sample is crucial to demonstrate the cargo was on-spec when it left the vessel.

If cargo condition is contested, these samples are compared with post-loading samples to detect any onboard contamination. In contamination cases, the full sample chain, from shore tanks and lines to ship's tanks and lines, is analysed to identify the contamination point. Drip samples, though often taken at the manifold as a form of running sample, are less reliable due to fluctuating loading rates.

VISUAL ANALYSIS



A visual analysis must be carried on all samples throughout the loading and discharge operations to ensure continued quality of the cargo.

SAMPLING METHODS



There are three main sampling methods. Namely, closed, open and restricted. To prevent the risk of spoiling the cargo it is imperative that the right method is used.

Closed sampling is the preferred method for most cargoes. There are two ways to carry out closed sampling. The first

is using a dedicated sampling/ullage point. Portable equipment is used with a vapour lock system to ensure it remains a closed system. Secondly, a fixed inline system can be used. These are common on vessels which deal with high specification or sensitive cargoes.

Closed sampling must be used for any cargo which the following applies:

- Requires inerting or
- A nitrogen blanket
- Toxic or very toxic cargoes
- Corrosive cargoes
- UV sensitive cargoes
- Hygroscopic cargoes
- Oxygen sensitive cargoes

Open sampling is when the cargo hatch is opened and the sampler is lowered into the tank with the cargo in sight. If open sampling is being carried out the tank opening should only be uncovered long enough to complete the sampling. This kind of sampling can be acceptable for vegetable oils.

There is a risk of combustion if open sampling is carried out on a cargo that requires inerting. Carrying out open sampling on cargoes that require a nitrogen displaces the nitrogen blanket exposing the cargo to UV light and moisture which risks turning the cargo off-spec.

If open sampling is carried out on a cargo that is inerted or has a nitrogen blanket, the atmosphere in the tank may be displaced with the normal atmospheric conditions putting the crew drawing samples at risk of asphyxiation. If open sampling is used for corrosive cargoes, they may cause harm to the crew, damage the vessel or the environment. Toxic cargoes carry health risks to crew if open sampling is carried out.

Manifold sampling can be considered restricted sampling as there is a small quantity of cargo and vapour exposed to the atmosphere.

It is worth mentioning that not all portable sampling equipment that uses dedicated sampling/ullage points are considered closed samplers, some are restricted samplers. The correct type of sampling method should always be undertaken.

Depending on the cargo, incorrect sampling method could result in the cargo becoming off-spec, pose health risks to the crew drawing the samples, or cause damage to the vessel or the environment.

SAFETY CONCERNS

The Safety Data Sheet (SDS) for the cargo must be supplied to the vessel prior to commencing loading. It should be supplied to the vessel as early as practicable so the crew can familiarise themselves with the safety aspects and health hazards of the cargo. Also to ensure the correct personal protective equipment (PPE) is in place for safe handling of the cargo.

The level of PPE required for taking samples depends on how hazardous, corrosive or toxic the cargo is.

Example for coveralls:

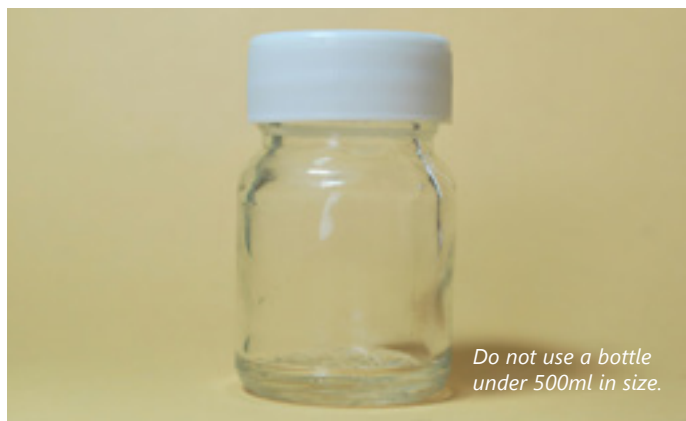
- non-hazardous and hazardous cargoes require flame proof coveralls.
- corrosive and toxic cargoes require additional chemical splash suits.
- very toxic cargoes require a gas tight chemical suit.

Static accumulating cargoes should be sampling at least thirty minutes after completion of loading. This gives time for the static electricity to dissipate.

Sampling equipment must be earthed in accordance with manufacturers' recommendations and instructions properly adhered to.

Personal gas meters must be worn by crew working on deck throughout cargo operations but in particular when sampling. Gas meters must be certified and calibrated to manufacturer's standards.

Cargo sample bottles should not be filled more than 85% of their capacity, this is to allow for the safe expansion of the cargo.



EQUIPMENT



The size of the sample bottles should be 500 ml to 1000 ml. Always use the correct sample bottle required for the nominated cargo. The sample bottle material depends on the cargo being sampled. Generally speaking, for crude oils and fuel oils use metal or plastic sample bottles and product cargoes or chemical cargoes are suited to glass bottles.

LABELLING, SEALING AND RECORDING



All samples drawn must be labelled, sealed, recorded and retained onboard in the designated sample locker. Labels should be written directly onto the samples or on sample labels immediately after the samples have been drawn. Furthermore, samples must be sealed with individual seal numbers. At least one full set of sealed samples must be retained on board the vessel. These act as the owner's evidence of the condition of cargo carried onboard if there is a claim raised against the cargo.

STORING

Samples must be stored in a dedicated, ventilated, UV-protected locker outside accommodation, with fire safety measures and proper separation. Retention is typically 18–30 months depending on the applicable cargo rules; always verify the charterparty and retain samples longer if disputes exist.

RELEASING SAMPLES

Proper chain of custody is paramount when releasing samples to third parties. A detailed receipt should be issued for each sample that is being released including seal numbers.

DISPOSING OF SAMPLES

Samples should not be disposed of without first confirming with the shipowner and P&I Club that there are no outstanding claims against that cargo. If there is a dispute against the cargo, samples should be kept onboard until resolved. Samples must be disposed of to an approved shore reception facility. A receipt should be issued by the reception facility and retained onboard for record purposes.

ADDITIONAL CONSIDERATIONS

It is important for a sampling procedure to be laid out in the ship's Safety Management System. Crew must be familiar with the procedure and receive training on the equipment used.

West has experience claims where the post-loading samples have been on-spec and the pre-discharge samples have been off-spec. This is an example of where taking samples chronological throughout cargo operations can identify where the contamination has taken place. Charterer's specifications for the care of carriage of a cargo should be carried out to minimise these kinds of claims. It is important to consider the cargo's compatibility with the tank coating. Some cargoes are prone to absorb into tank coatings and then desorb into proceeding cargoes carried.

Throughout this bulletin cargo operations have been discussed regarding vessel and terminal operations, however the same principals apply when carrying out ship-to-ship operations between two vessels.

For additional resources, industry standards for sampling are set out by:

American Society for Testing and Materials (ASTM) – go to <https://www.astm.org>.

American Petroleum Institute (API) – go to <https://www.api.org>.

Energy Institute (EI) – go to <https://www.energyinst.org/home>.

International Organization for Standardization (ISO) – go to <https://www.iso.org/home.html>.



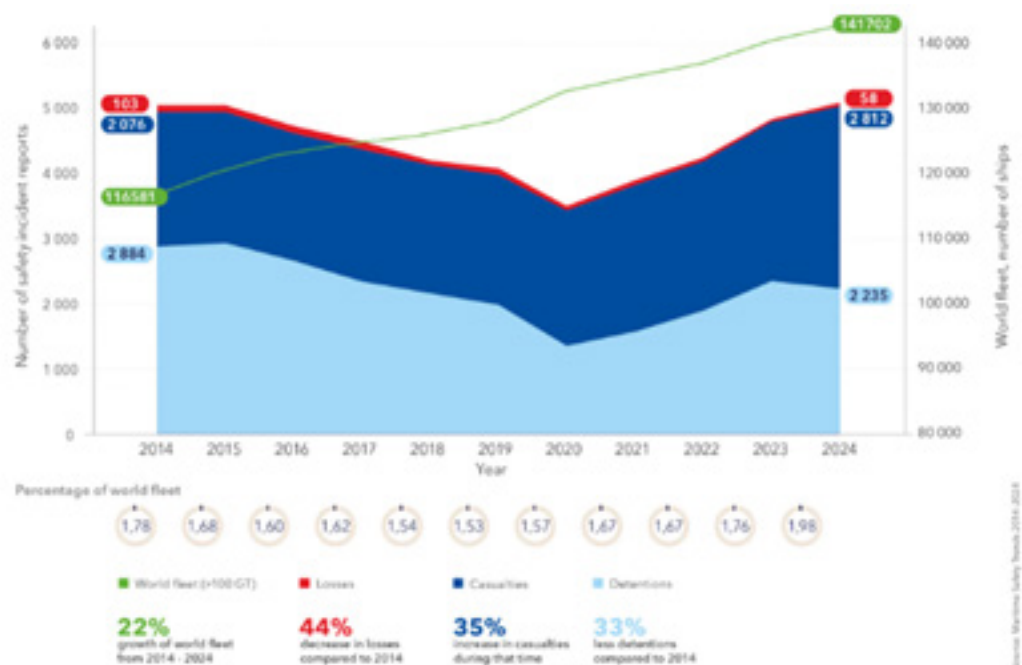
AGEING FLEET DRIVING INCREASE IN INCIDENTS



A clear uptick in casualties in 2024, driven by machinery damage/failure and an ageing fleet, stands out in the latest analysis of Lloyd's List Intelligence casualty data.

The number of maritime casualties rose by 15% in 2024. Coupled with a 7% rise in casualties in 2023, this represents a concerning development for the maritime industry, particularly with the global fleet growing at a considerably slower rate. This trend has now been established for several years. While the overall number of incidents declined by 5% between 2014 and 2018, the figure has increased every year since. Between 2018 and 2024, the number of incidents increased by 42%. Over the same period, the number of vessels in the global fleet increased by 10%.

Detentions casualties losses and world fleet



Casualty data, which is sourced from Lloyd's List Intelligence, has been categorised under the following headings: collisions with another vessel, contact with a static object (e.g. harbour wall), fire/explosion, foundering (sunk or submerged), hull damage (hole, crack, or structural failure), machinery damage or failure (e.g. lost rudder, fouled propeller), piracy, war loss or damage during hostilities, and wrecked or stranded (aground).

Continuous increase in machinery failures boosts casualty rate

Machinery damage/failure has traditionally accounted for the largest portion of incidents. However, its share has increased significantly over the course of the past decade. In 2014, this accounted for 38% of all incidents but rose to 60% by 2024.

Machinery damage/failure is also the main driver of the sharp uptick in casualty numbers in 2024, accounting for 80% of incident growth.

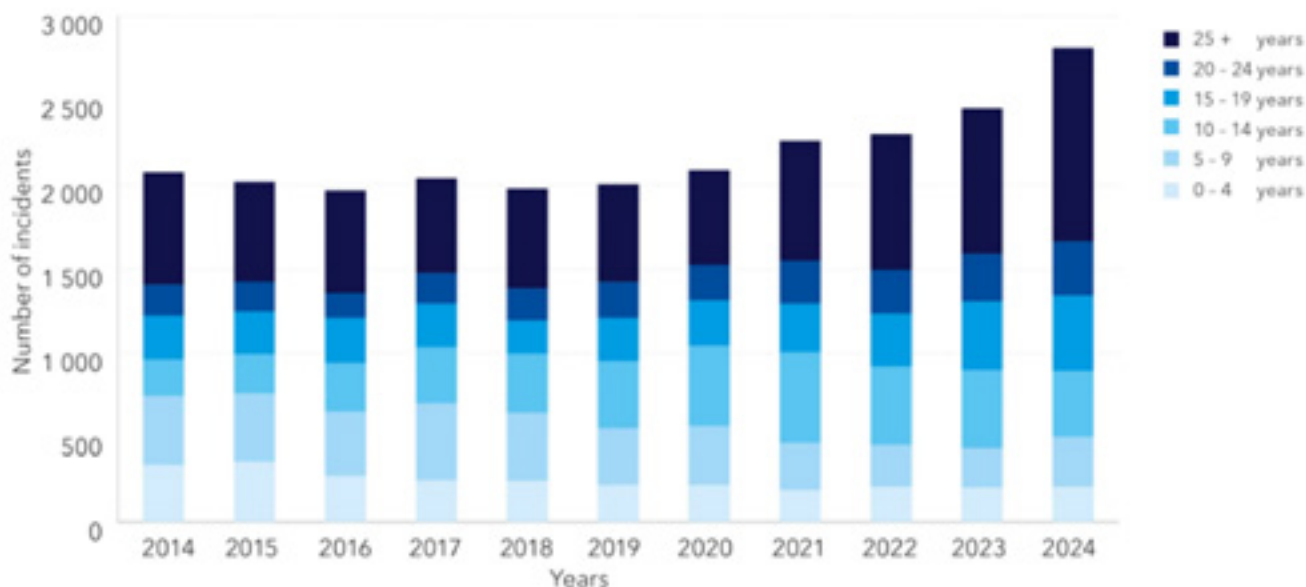
While the reasons for these kinds of casualties are wide and varied, some key figures stand out from the statistics. Top of the list is the ageing global fleet. In 2014, 36% of the global fleet was 25 years or older, with a further 7% in the 20-24 years age category. In 2024, 44% of the global fleet was over 25 years old, with 9% in the 20-24 years age category.

Factors driving the ageing fleet and delayed vessel scrapping

A range of different factors are contributing to the ageing fleet. In recent years, there has been high demand for tonnage, with this translating into sky-high freight rates, particularly in 2024. Many shipowners are delaying the scrapping of vessels that would normally be decommissioned, opting to profit from these assets instead.

Other factors that are also at play are the new regulations from the IMO and EU on emissions and fuel efficiency. These have made shipowners hesitant to invest in newbuilds until they are more certain about what new fuels to adopt. Additionally, space in shipyards is limited and building costs are high, driving shipowners to focus on their existing assets, or else upgrade or retrofit these assets instead of replacing them.

Either way, the ageing global fleet is clearly having an impact on casualty statistics.



Over half (52%) of all incidents in 2024 were attributable to vessels 20 years of age or older, with 41% of incidents for vessels in the 25+ age category. In contrast, 41% of incidents in 2014 came from vessels over 20 years old, with 32% coming from the 25+ age category.

The statistics also show that the growth in incidents in 2024 is mainly being driven by the older portion of the fleet. In real terms, the number of casualties rose by 358 between 2023 and 2024. Some 285 of these incidents came from vessels over 25 years old, representing 80% of all incident growth. Of these, 236 (83%) were attributable to machinery damage/failure. For machinery damage/failures, age is an even bigger factor. In 2024, a total of 45% of these kinds came from vessels over 25 years of age, with a further 12% in the 20-24 age category. In 2014, the corresponding figures were 39% and 9%, respectively.

The ageing fleet is also a significant factor in the number of hull damages, which increased by 7% to reach 114 incidents in 2024. Some 46% of hull damages were attributable to vessels which were 20 years or older.

While the main way of reversing this trend will be a replacement of the ageing portion of the global fleet with new, modern vessels, some other short-term fixes can be applied. More regular maintenance of vessels, and upgrades to equipment and parts can reduce the risk of casualties for these vessels, helping to prolong their lifespans in a way that is safer for the vessels, their crew, and the surrounding environment.

Urgent need for better fire safety

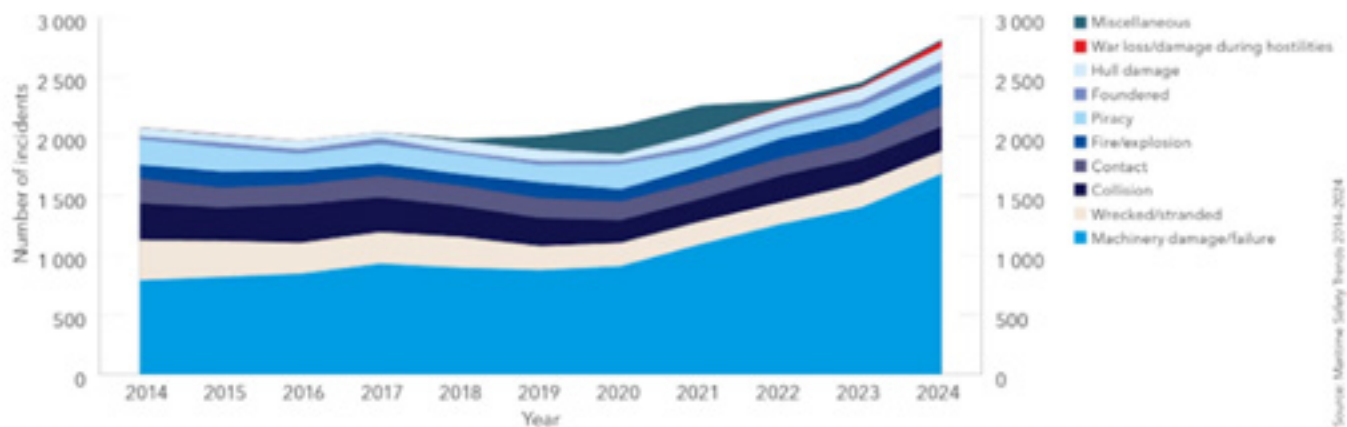
Of equal concern are the numbers of fire/explosions, which increased by 18% in 2024, and by 58% since 2014. As fire and explosions tend to have higher rates of injuries and fatalities and, with a disproportionately high amount (27%) coming from the passenger/ferry segment, this is a trend that needs to be quickly reversed. As a matter of high priority, enhanced fire safety measures and emergency response training should be implemented on all vessels where this is deemed to be lacking.

Decline in collision, foundering, and piracy incidents but sharp increase in war losses

Putting these trends aside, the safety data does have some more promising stories to tell. Although the number of 'accident' casualties – a combination of collisions with another vessel, contact with a static object, foundering, and wrecked/stranded – slightly increased in 2024, the overall trend shows that this decreased from a total of 881 in 2014 to 656 in 2024, representing a decline of 26%.

This decline is likely attributable to technological advancements which have seen significant improvements to navigation systems, digital safety mechanisms, and route and weather planning over the past decade. Other factors, such as improved vessel design and engineering, stricter safety regulations, and data-driven risk management have also contributed.

Number of incidents by type (vessels >100 GT)



Casualties involving piracy also fell in 2024, with the overall trend showing a 48% decline in these kinds of incidents between 2014 and 2024. This is largely the result of sustained international cooperation over the past decade, which has led to improved maritime security practices, regional stabilization efforts, and the adoption of best management practices by shipping companies.

In contrast, however, war loss incidents increased with yearly numbers ranging from zero to three until 2021 to 51 in 2024 due to ongoing political conflicts. This underscores the impact of geopolitical instability on maritime safety, highlighting the vulnerability of maritime operations in conflict zones and how this can lead to increased risks for vessels, cargo, and crew.

The rise in machinery-related casualties cuts across most vessel segments:

- General cargo ships accounted for 26% of all incidents, with a 13% increase in machinery failures in 2024.
- Passenger/ferry vessels saw a 48% jump in machinery failures and a 29% rise in total casualties, reaching 672.
- RoRo/PCTC segment incidents grew 69%, mainly due to an 87% spike in machinery issues.
- Bulk carriers saw modest incident growth (2% in 2024), though machinery issues fell 13%, countered by increased fire, hull, and piracy incidents.
- Container ships had only a 2% increase in incidents, with a 10% drop in machinery failures, though fires and collisions rose.
- Tankers were the only segment with a 3% decline in total incidents, despite an 11% rise in machinery issues.
- Gas carriers maintained the same number of incidents as 2023, with a 35% drop in machinery failures.

Shipowners and operators urged to take action to mitigate today's and future risks

While there are some glimmers of positivity, the overall trend in maritime safety is unmistakably negative. A steadily ageing fleet is clearly driving an increase in the number of incidents, and it is incumbent on shipowners to mitigate this issue through better maintenance, or other means.

The adoption of new technologies and fuels is also likely to be a growing factor in the years ahead and this should be addressed from an early stage though the implementation of safe vessel designs, profound technical barriers, best practices and comprehensive, continuous training for all crew members.

The maritime industry is in the middle of a period of great transformation. While this offers significant promise, it is also full of uncertainty, and stakeholders across the industry should continue to adopt best practices in ensuring the safety of vessels and crew.



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IAPH releases cyber security guidelines for new port technologies



A dedicated The International Association of Ports and Harbors (IAPH) working group operating under the data collaboration committee (DCC) has prepared a new set of cybersecurity guidelines that assess the particular cyber risks associated with the increasing use of emerging technologies in ports.

With 28 contributors from IAPH member ports, associate IAPH member experts, the World Bank and World Economic Forum, authors deal with Quantum, AI, Drones, IoT, 5G, Automation and Green Energy in terms of their potential beneficial application to enhance cyber resilience, risks and vulnerabilities.

These guidelines examine the evolving cybersecurity threats introduced by emerging technologies and their significant impact on the maritime supply chain. The main principles described in these guidelines, for achieving a cyber-secure implementation of emerging technologies in the maritime supply chain are:

- 1.** Integrate cybersecurity aspects in the early stages of emerging technologies planning, implementing cybersecurity by design: Cybersecurity should be embedded in the early stages of technology planning. Delaying implementation, or addressing vulnerabilities only after a cyberattack, can result in significantly higher costs and a higher impact on the organization operation continuity.
- 2.** Assess cybersecurity risks and vulnerabilities introduced by emerging technologies, even if those technologies are not planned to be implemented within the organization:

Even if an organization does not intend to adopt a particular emerging technology, it is crucial to evaluate potential risks it may introduce to existing infrastructure within the organization. For example, quantum computing will affect current encryption methods.

- 3.** Avoid the misconception that non-IT systems do not require cybersecurity assessments: As you can see in these guidelines, even the very important initiatives of green energy might introduce new cybersecurity vulnerabilities, which may have disastrous impact on the maritime supply chain operation.

4. Recognize the potential physical impact of cyberattacks: For example, drone hijacking: an attacker could take full control of the drone, redirecting it to unauthorized targets or using it for sabotage.

5. Conduct a holistic cybersecurity assessment when integrating multiple technologies: Some emerging technologies, such as Automation, rely on a combination of other technologies. Cybersecurity assessments should consider the overall system, not just individual components.

6. Implement technology-specific protection, detection, and mitigation measures, in addition to general cybersecurity measures outlined in the IAPH Cybersecurity Guidelines for Ports and Port Facilities: Emerging technologies have specific characteristics, and it is important to implement protection, detection, and mitigation measures that are tailored to the technology and not only the general ones. For

example, dedicated authentication methods used in 5G networks.

7. Look for new cybersecurity solutions that are enabled by emerging technologies: Some emerging technologies may introduce new cybersecurity solutions that should be leveraged to enhance organizational cybersecurity. For example, AI excels at monitoring information systems. Using behavioural analysis, it identifies anomalies in network traffic and user behaviour. Even IoT introduces new cybersecurity solutions, such as decentralized IoT-based honeypot solutions: IoT devices, which can serve as honeypots to lure attackers, allowing organizations to gather intelligence on their attack methods.

8. Training and education are an important tool to ensure cybersecurity by design implementation of emerging technologies in the maritime supply

chain: When teaching emerging technologies in maritime-related courses, cybersecurity-related content should be included. This is relevant to internal training in maritime supply chain organizations and in maritime supply chain-related education institutions, including universities.

9. Engage in the efforts to update the national and international legislation to adapt the existing requirements, for a cyber-secure implementation of emerging technologies in the maritime supply chain.

"These guidelines have involved a significant amount of work from Gadi, our DCC chair Ingrid Boqué and the team of authors from our membership and partner experts. It addresses the number one health, safety and security concern identified by our surveyed respondents to the recent IAPH World Ports Tracker market and sustainability trends report", said IAPH managing director Patrick Verhoeven.



- About IAPH -

IAPH is a non-governmental organization (NGO) headquartered in Tokyo, Japan. In November 1955, some 100 world port leaders gathered in Los Angeles to announce the creation of IAPH. Over the past six decades, IAPH has developed into a global alliance of ports, representing today some 190 ports and 167 port-related businesses in 89 countries as of 6 December 2024. The member ports together handle well over 60% of the world's sea-borne trade and over 60% of the world container traffic. To make IAPH more relevant for its members and more widely promoted in the world port and maritime community, IAPH adopted a new Constitution in 2016. It was the first time in its history spanning over 60 years that the constitution was rewritten entirely to meet the demands of the day. It was no doubt an epoch-making event in its history.

It's time for shipping to properly regulate plastic pollution

Close up ocean plastic nurdles

In the vast expanses of the world's oceans, a silent yet pervasive threat is taking shape: nurdles. These tiny, pre-production plastic pellets, measuring between 2 to 5 millimeters in diameter, are fundamental to the plastics industry, serving as the building blocks for a myriad of plastic products. However, their small size belies the significant environmental and potential health hazards they pose.

By **Emma Forbes-Gearey**, Loss Prevention Officer for West P&I

The start of 2024 highlighted the ongoing problem of plastic nurdle pollution. In January, the news reported a significant incident involving a spillage of nurdles from a shipping container caused by a storm the vessel encountered in December 2023. Over 1000 sacks of plastic nurdles were lost from a Danish ship, and 25 tonnes of plastic pellets fell from a Liberian vessel. These spills had a considerable impact on Spain, where vast quantities of nurdles washed up on the coastline and are notoriously hard to collect.

Nurdles pose a significant threat to marine ecosystems because they are often spilled during transportation, resulting in millions of nurdles entering the marine environment annually. Due to their minuscule size, they are not always readily visible except when they wash up in unusually huge quantities. Often mistaken for food by a wide range of marine species, they are ingested once they enter the ocean. This misidentification is particularly dangerous for smaller marine organisms, as it can lead to internal injuries, blockages, and starvation. Furthermore, as nurdles break down over time, they can release harmful chemicals, especially if they have absorbed toxic substances. These chemicals may contaminate the food chain and disrupt the delicate balance of marine ecosystems.

One of the most concerning aspects of nurdle pollution is its ability to accumulate in remote and pristine areas. Ocean currents and wind can transport nurdles across vast distances, carrying them to even the most isolated islands and coastlines. This widespread distribution makes it challenging to contain and clean up nurdle pollution, further exacerbating its negative impact on marine life.

Plastic nurdles leaking into the environment can be argued to be potentially worse than an oil spill. In the rare occurrence of an oil spill, most of it can be cleared away by specialized equipment, dispersants, biological agents, or via nature alone. However, when these plastic pellets enter the marine environment, they could end up anywhere depending on currents, making recovery at sea very difficult. Most of the recovery can only be done when it hits land, and over time they get buried in beaches, which makes recovering every nurdle impossible.

This was the case with the X-Press Pearl disaster in 2021. Following the fire and subsequent sinking of the ship, plastic pellets were found in the bellies and gills of local fish and washed up on Sri Lankan beaches as far as the eye could see. This is not the only case of nurdles spilled from containers. In 2017, approximately 2.25 billion nurdles spilled from a moored ship in Durban, South Africa. It was reported in various news outlets that these nurdles traveled as far as the southwest coast of Western Australia.

Global efforts to mitigate nurdle pollution

At MEPC 82 in October 2024, some progress was made towards tackling the plastic pollution problem, however, there was a lack of concrete decisions and enforceable legislation. Delegates approved the guidelines on good practice relating to clean-up of plastic pellets from ship-source releases. These provide practical guidance for government authorities on issues such as contingency planning, response, post-spill monitoring and analysis, and intervention and cost recovery.

In addition, the committee continued discussions on the development of mandatory regulations to address plastic pellets released from ships. These would build on the non-mandatory recommendations for the carriage of plastic pellets by sea in freight containers approved by MEPC 81, and the aforementioned best practice guidelines. While it is a positive step to see IMO discussions held and guidelines developed, given the significance of the plastic pollution challenge, the implementation of mandatory regulations as soon as possible is essential.

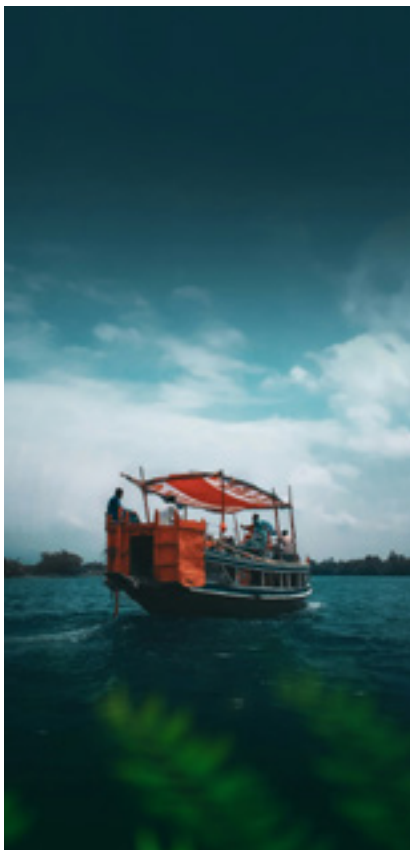
In January 2025, the Sub-Committee on Pollution Prevention and Response (PPR 12) agreed to a draft action plan to address Marine Plastic Litter from ships. The plan dictates the need to develop mandatory measures to reduce environmental risks when plastic pellets are transported by sea in freight containers. This was to be reviewed in the MEPC 83 that occurred in April 2025. While significant progress has been made in recent years, the challenge of mitigating nurdle pollution remains substantial. The widespread distribution of nurdles and the ongoing production of plastic products make it difficult to eliminate this environmental threat, especially while the industry continues to wait for mandatory regulations. However, by continuing to implement effective prevention and cleanup measures, and by promoting sustainable practices, it is possible to significantly reduce the impact of nurdles on marine ecosystems and human health.

MARINE SURVEY: A SILENT CONTRIBUTION TO COMMERCE AND ECONOMY IN BANGLADESH



by Captain Sakhawat Komol

Marine Survey: Can we think of trade without ships? If maritime trade is excluded, the wheels of the economy will almost come to a standstill. Import-export trade through ships is an important and integral part of any national economy. By ships, we are talking about merchant ships or sea-going commercial ships. According to the International Chamber of Shipping, about 11 billion tons of cargo are transported by sea every year worldwide. This is about 80% of the total global trade. Hundreds of sea-going commercial ships transport these goods from one port to another in the world.



Bangladesh is no exception. Huge activities are underway at the ports of this land. Considering the economic importance, it is essential to determine the quality and quantity of import-export goods in the interest of fair trade. At the same time, ensuring proper customs duties, which is an essential component of the state financial sector, is even more important. Customs duties collected from import-export trade are one of the largest parts of the national treasury. Insurance facilities for the financial security of high-value import-export goods and carrier ships are part of modern trade. A specialized program called 'Marine Survey' is being conducted around these goods and sea-going commercial ships.

What is 'Marine Survey'? This is an unknown chapter for the common people of the country. Even those in the educated society who are not involved in the shipping business do not know much about it. In broad

terms - approval and regular inspection of ship construction and machinery (Class and Flag State), regular inspection of ship management and operation, assessment of the quality and quantity of goods carried on the ship, survey of possible low-quality or damaged goods, investigation of various incidents and accidents related to insured ships, ship-borne goods and sailors, and assessment of damage and loss, etc. are specialized tasks of 'Marine Survey'. Those who perform these tasks are Marine Surveyors or Ship Surveyors. In the maritime history of the world, it can be seen that marine survey was first introduced in Britain in the mid-seventeenth century and in America in the mid-eighteenth century. A professional marine surveyor performs inspections and surveys with skill and prepares honest and impartial reports. Various 'marine surveys', their types, methods, etc. are the subject of extensive discussion, which we have published in various marine journals. For more information on this subject, you can visit:

https://msabweb.com/wp-content/uploads/2024/03/BEACON_Marine-Journal_MSAB.pdf



Marine Survey in Bangladesh:

As a part of industry and trade, marine surveying existed in our sub-continent in the past, and the practice of surveying continued in free Bangladesh after independence as well. Due to the then situation and limited size of maritime trade in this country after independence, survey activities were comparatively less. After the development of maritime and shipping industry in newly independent Bangladesh, the marine survey profession gradually moved forward. At that time, mainly Master Mariners and Chief Engineers used to conduct surveys while they were onboard and on vacation on behalf of the interested merchant enterprises. Until the late eighties, there were only a few professional surveyors in this sector. However, in the following decades, this profession also grew in pace with the advancing speed of the wheels of international trade and national economy. In the early nineties, when the shipping business gained momentum and import-export trade started increasing, the number of surveys and surveyors started increasing gradually. In addition to traditional surveys such as quality and quantity assessment and pre-shipment of cargo, there was also a growing demand for Loss Prevention, Claims, Incident Investigation surveys by various international insurance companies that work for the shipowners, charterers, suppliers, consignees and shippers. As an emerging economic power, professional independent marine surveying has developed as a promising career in the maritime sector of Bangladesh.

In the mid-nineties, some experienced master mariners and chief engineers started to engage professionally in marine surveying. Along with this, they formed several survey companies. Later, the Ministry of Shipping, through its subordinate department, started adopting and implementing various policies with the aim of coordinating and harmonizing the functions of the shipping sector, which is known as the Bangladesh Merchant Shipping Ordinance 1983 (BMSO 1983). Since 1989, under this ordinance (BMSO 1983), the Department of Shipping has allowed experienced and qualified seafarers who are Class One certificate holders (First Class), to practice marine survey as ship surveyors. Later, in 2003, the government issued a Gazette called 'Ship Surveyor (Certificate) Rules', which is still in force. In addition to the 19 types of marine surveys specified in a ship surveyor's certificate, a surveyor also conducts various other types of surveys, audits, inspections, assessments, etc. as needed.

Some statistics: A review of the statistics of the last 30 years shows that imports in the country increased by about 11.5 times and exports increased by about 5.5 times during the period from 1994 to 2024. The number of ships in sea ports has increased by about 3.5 times in the last 30 years. For example, in 1994, the number of ships arriving at Chittagong Port was 1,360. In 2023 and 2024, this number stood at 4,253 and 3,971 respectively. In the last fiscal year (2023-24), the volume of bulk and general cargo imports at Chittagong Port alone was 107.85

million metric tons. During this period (in the fiscal year 2023-24), 516 and 123 ships arrived at Mongla and Payra ports respectively. The imports were about 4.5 million tons and 5 million tons of bulk and general cargo, respectively. Bulk cargo refers to rice, pulses, wheat, corn, soybeans, peas, sugar, salt, cooking oil, fuel oil, clinker, gypsum, limestone, slag, feldspar, ceramic sand, ball clay, stone, coal, etc. imported in open form (or in bags). The quantity of these large quantities of bulk cargo imported on ships is determined through marine surveys. The unloading and distribution activities of the goods are carried out through marine surveys. Needless to say, limited quantities of export bulk goods are also shipped through marine surveys. In addition to cargo surveys, hundreds of other marine surveys are carried out on ships throughout the year on various issues for domestic and foreign importers, suppliers, time-charterers, sub-charterers, voyage-charterers, ship owners, insurance companies, etc. In addition, marine surveyors also serve as individual or company consultants in certain fields. It is estimated that a total of about 6,000 individual surveys are conducted annually at all seaports in the country. In addition, monitoring/supervision of loading-unloading operations of imported general cargo, bulk cargo financed by foreign suppliers (subject to conditions) and delivered to domestic importers through hundreds of lighter ships, etc. are carried out under the supervision of marine surveyors or survey companies.



Marine Surveying of Bangladesh in the International Arena:

In our maritime sector the demand of work orders for marine surveys from the overseas principals are much higher than the domestic entrepreneurs or enterprises. Imports are high in this country and as such the arrival of foreign ships is relatively high. For this reason, marine surveying in Bangladesh is a well-known matter to external stakeholders and its acceptability is persistently increasing in the outside world. A notable point is that the reports prepared by the marine surveyors are accepted and considered truly in national and international law-arbitration centers and high courts. The main reason for the high evaluation of these professionals in our country is their quality. According to the policy of the government, a marine officer can apply for a ship surveyor certificate if he has years of practical sea time and subsequently passes the highest professional examination, and in addition he/she has two more years of service experience as a master or chief engineer on board.

Apart from this, some of the marine surveyors have already shifted abroad, namely America, Europe, Middle East, Singapore, Hong Kong and Australia, and have already dedicated themselves to this profession and are working with good reputation. Several marine surveyors are associated with various international marine surveying organizations and forums and they participate in conferences held in different countries. Recently, a top official of the UK-based organization IIMS visited Bangladesh and spoke at a seminar. An online course on Diploma in Marine Surveying is currently being run for Bangladeshi surveyors under the initiative of this organization.

Economic Importance: Marine survey ensures the proper quantity and customs clearance (basis on quantity) of imported and exported goods by sea. Along with revenue collection, it also controls currency smuggling, black market and illegal trade. Being regularly engaged in the survey profession, marine surveyors are playing the role of watchdogs in

the maritime field and have acted as whistleblowers in some notable cases. By conducting surveys, audits, inspections and investigations as per the orders of foreign principals, huge foreign currency is earned, which is enriching the country's economy. Several marine surveyors are engaged in this profession abroad and are contributing to the flow of remittances in the country. A significant number of Marine Surveyors have successfully retired from the profession and are contributing to the business, industry and professions as Ship Owners, Charterers, Suppliers, Management Partners, Salvage Experts, Ship Construction, Ship Repair and Supply, Agencies, Shipping and Management Executives, Maritime Lawyers etc. They are involved in General/ISO Audits, Safety Compliance Audits and Training in Ship Recycling, Steel and Readymade Garment Industries. Numerous workplaces have been associated with this profession, creating thousands of job opportunities, which are expanding day by day.

Problems and Potential: Although the word problem is negative, there is immense potential hidden behind it. The marine surveying profession is no exception. The following issues we have pointed out, which to be addressed by the concerned principals accordingly:

1) Certification: The most recent issue that is on the table now is the aforementioned 'Ship Surveyor (Certificate) Rules' 2003. Section 3 (b) of these rules stipulates an age limit of 65 years or above as a disqualification for obtaining a certificate. These rules, which were made in the context of that time about 22 years ago, are now to be re-considered. However, due to its continued existence, a significant number of qualified, experienced, capable and veteran marine officers are unable to issue their certificates. Related issue is that the surveyors reached age 65 are not getting their certificates renewed, since the department considering the clause 3 (b) for these cases. However in section (6) for revalidation clauses of the certificates, the age bar has not been mentioned as a criteria. As such, the community is being deprived of their services and expertise, new surveyors are not getting the opportunity to get valuable training, guidelines, practical and theoretical education from the skilled seniors. Internationally, those involved in the ship surveying profession are evaluated based on their experience and there is no age limit for this profession; as long as they are physically and mentally fit

to conduct survey works. Apart from that, the ship surveying profession is a Practicing profession like doctors, engineers and lawyers, where there is no age limit. Less experienced people are not suitable enough for the complex and challenging issues that experienced doctors, engineers and lawyers deal with. There is no substitute for experience and knowledge in the relevant field. The implementation of age limit rules has created obstacles for Bangladeshi experienced ship surveyors and their users to compete with international surveyors in conducting marine surveys on behalf of shipowners, charterers and importers, including global H&M and P&I (Hull & Machinery Insurers and P&I Clubs) organizations for the shipping and maritime sector of Bangladesh. Therefore, we hope that the concerned authorities will be aware of this issue and take appropriate decisions soon.

2) Entry to the protected area of the sea-ports: As mentioned earlier, marine (ship) surveyors are professionals certified by the Government of Bangladesh, who are experienced Captains and Chief Engineers of seagoing ships. As a part of the shipping industry, survey activities run around the clock, 24/7. Surveyors are employed by foreign H&M Insurers, P&I Clubs, MLOs, Ship Owners, Ship Charterers, Claim Consultants and local P&I correspondents; and are engaged in the port at any time of the day or night to determine the cause of any ship, cargo, and port-related incidents

and complications. To conduct surveys and prepare on-site reports is very important for the stakeholders of the shipping industry. For this reason, Marine (Ship) Surveyors need to have immediate and permanent access to the protected area of the Sea-ports. I draw the attention of the concerned authorities of Chittagong, Payra and Mongla ports in this regard.

3) Safe service boats for traveling to outer anchorages: Marine surveyors often have to travel to outer anchorages for professional work. Most of the service boats (Privately owned) currently involved in this job are not compatible and safe with the monsoon season, night navigation and hostile environmental conditions of the sea. I draw the attention of the concerned authorities and Mercantile Marine Office, to take necessary steps in this regard.

4) Training on Marine Surveying: Although marine surveying has been around for a long time in Bangladesh, no institutional training system has been developed for those engaged in this profession and newcomers. Surveyors are trained to a limited extent through internships (practical and theoretical learning by participating in survey work with senior surveyors) and various online training courses conducted by the private sector association (Marine Surveyors Association of Bangladesh). There is no alternative to adequate institutional training for the development of this potential sector. I draw the attention of the concerned authorities in this regard.

Last words: If somebody wants to advance in the profession, there is no alternative to professionalism. Today, Marine Survey is an established field because the people associated with this profession are working with honesty and competence. However, the supervision, contribution and cooperation of the authorities and associated organizations behind this achievement are undeniable. I hope that this profession will move forward further by working together with the partners in common interest and being involved, as well as through the necessary state and administrative support.



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WHEN CAN AN INSURER DENY A CLAIM

By Karen Brain



Denying a claim is a refusal by an insurer to indemnify an insured under the terms of an insurance contract.

Firstly, what forms an insurance contract?
It is formed from three types of documents:

- 1 The Insurance Schedule
- 2 The Insurance Policy Wording
- 3 Any Endorsement

So, all of these must be read together to understand the terms of an insurance contract.

Therefore, there are many terms in a contract of insurance that may be applied by an insurer for the purpose of refusing to indemnify an insured. Against popular belief of many insureds, this does not mean that insurers claim departments spend their time scrawling through insurance contracts to find a reason not to indemnify a client!

Just to be clear for readers of this article, by indemnify we mean not to defend an insured and/or not to pay out on a claim.

TODAY WE ARE LOOKING AT CONDITION PRECEDENTS AND THE CONSEQUENCE OF FAILURE OF AN INSURED TO COMPLY WITH A CONDITION PRECEDENT.

Why are we focussing on these specific named terms? Because breach of such a term could leave you dealing with the claim yourself!

When an insured requests indemnity under their purchased insurance contract, perhaps because a third party is claiming against them for negligence, an insurer will check that there is no evidence, that is facts of the case, that suggests there has been non-compliance by the insured with a condition precedent in the insurance contract that is relevant to the claim. If the facts indicate there has been then an insurer has the right to not provide indemnity for the claim in question. **This would mean that the insured would have to deal with the claim themselves.**

So, for marine surveyors and marine engineers let us look at some of the condition precedents you may find in a contract of insurance for professional indemnity cover that you must comply with if you wish the policy to indemnify you as an insured.



1. **Using your best endeavours to apply your standard terms and conditions of business – this in essence really means you must incorporate your standard terms and conditions of business into every agreement you have to undertake work. This is probably one if not the major cause of insurers denying claims! So beware!**

This article explains how you can do this effectively so you do not miss doing so and forfeit cover under an insurance contract should a claim arise.

- a. Firstly, we suggest you always have a saved email template ready to send out for new work enquiries with necessary information on the template and/or inserted or attached as mentioned below because you need to incorporate your terms and conditions into your agreement with your client to undertake the work. Incorporation must in our view be done at the offer stage; that is at the point you offer to undertake the work for a sum of money or in law it says monies worth. Terms of business usually cannot be incorporate into an agreement after acceptance of your offer to undertake the work so, it usually is too late if the first time you refer to your terms and conditions of business is in your report that you send to your client.
- b. If you have a website with your terms and condition on you could provide a link in the email template to your website and state in the email that your standard terms of business apply for the work you undertake for clients that can be found at <your website link>.
- c. Another simple method, if you do not have a website that includes your standard terms and conditions, is to attach a pdf document of your terms of business to the email template or insert the document into the body of the email and refer to the attachment or inserted document as mentioned in b. above. Make sure you change the attachment or insert if you change your terms of business to your new terms of business.
- d. You may wish to consider using an automatic signature that is inserted in your emails when you write that includes sufficient of the points above to achieve incorporation of your terms of business in all agreements you make with third parties to undertake work. Do not forget to modify the automatic signature if changes are made in the future.
- e. **MOST IMPORTANTLY** - Use the template! Use it to send to your existing and prospective clients requesting you undertake work for them.

2. **The requirement that formal reports contain a clear reference that insured's standard terms and conditions apply.**

This is simply achieved if you leave a similar phrase on your report template and always specifically refer to the clause number in your report if you wish to draw your client's attention to it. For example, you may wish to remind them that you do not comment on whether radar equipment is working as you only undertake an electric switch test to ensure electricity is reaching the radar equipment.

3. **Use your best endeavours to ensure your sub-contractors hold and maintain adequate insurance during your period of insurance.**

Slightly nebulous phrase as what is adequate? We always say sub-contractors' insurance limits and cover terms should reflect what our insured has in place i.e. yours

4. **Do not admit liability – simple, just do not!**

Do remember if you modify your terms and conditions of business before using them advise your broker (or insurer if dealing direct) and provide a copy to them as normally insurers need to agree they will indemnify you against claims arising from work you undertake under your new terms of business. It is advisable not to use your new terms of business until insurers have confirmed they will indemnify you for work undertaken by you under your new terms of business.

On a related point, there are regulations and case law that insurers should comply with, and particular for smaller commercial clients known as micro clients that are insured, when handling claims that should regulate fairness to insureds but, there is not time to delve into this substantial area in this article. An important Act is the Insurance Act 2015 deals with issues of fair presentation by insureds (insured's obligations) and, provides for how insurers must deal with a breach of duty of fair presentation by an insured.

The above is considered on the basis of the application of the law of England and Wales and their respective courts.

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Technical inspection of pleasure boats in France:

A sea snake between feasibility and acceptability?

by
Maxime Leriche

Towards mandatory testing for pleasure craft?

The question regularly comes up in French boating debates between manufacturers, authorities and users, without ever reaching a consensus. Between logistical constraints, cost and the reality of risk, the hypothesis of a generalized technical inspection raises more doubts than promises.



The issue of compulsory technical inspections for pleasure boats occasionally comes up in public and professional debate, particularly following incidents involving older boats, but also in a bid to rid ports of sump boats. As far back as 2014, a draft decree provided for an inspection of vital equipment, from rigging to motorization to safety devices. However, this attempt was never implemented, due to the lack of an appropriate logistical organization on a national scale. The industry had neither the territorial coverage nor the technical structure to implement it.

This measure, often compared to that of the automotive sector, raises several fundamental questions: can we, and should we, transpose a periodic verification system to a nautical world where uses are highly varied and seasonal?

Safety and environmental issues often highlighted

The introduction of a technical inspection for pleasure craft is intended to address a number of concerns. First and foremost, user safety remains the main argument for the competent authorities. If the figures put forward by the BEA Mer are to be believed, a proportion of accidents at sea involve ageing craft, often built in polyester, whose state of preservation is rarely checked. The other argument frequently cited concerns the environment.

Some believe that monitoring engines and fuel systems would make it possible to limit diffuse pollution, notably fuel leaks or polluting emissions from obsolete engines. Finally, some industry players advocate harmonization with other modes of transport, believing that a clear framework would enhance the transparency of the second-hand market.



Difficult to structure

In practice, the proposal comes up against major structural difficulties. France has over a million sailing boats, the majority of which are transportable sailboats and small motorboats, often parked in secondary ports, on trailers or in poorly served areas. Setting up efficient inspection logistics would require the creation of a dense network of authorized technicians capable of covering the entire coastline, rivers and lakes. This challenge goes hand in

hand with an economic issue: for many small boaters, the cost of an inspection could quickly prove to be a deterrent, particularly for older boats with a low residual value.

These difficulties are compounded by the relatively low accident rate in the sector. Available statistics show that serious incidents are rare in proportion to the number of boats on the water. This fact puts the brakes on any attempt at regulation, which is perceived as too restrictive, or even pointless, for most users.

An incentive-based transition strategy

Faced with these limitations, authorities and professional bodies are now moving towards a more pragmatic approach. Rather than imposing mandatory inspections, efforts are focusing on raising awareness of preventive maintenance. Annual campaigns, run by the maritime affairs department in particular, remind boaters of good maintenance practices, especially before the navigation season. In terms of regulations, the French government carries out spot checks in the field, at sea or in port, to verify the conformity of safety equipment. Professional vessels, meanwhile, remain subject to an inspection regime overseen by ship safety centers or third-party organizations such as Bureau Veritas. More targeted alternatives are also under consideration. Some proposals call for mandatory inspections only on the sale of second-hand boats, or for vessels over a certain age. Others focus on the growing use of digital tools to enhance traceability and vessel maintenance. A number of platforms already offer assisted technical management, inspired by CMMS tools, to keep track of equipment maintenance and regulatory deadlines.



European regulations still not very restrictive

At European level, Directive 2013/53/EU sets out the essential safety requirements for the marketing of pleasure craft. In particular, it requires CE marking for new units but makes no provision for periodic technical inspections. For the time being, this legal vacuum limits the ambitions of a stricter framework, unless specific national regulations are developed, which France has not yet done.

A question still unanswered

The introduction of a technical inspection for pleasure craft remains a distant prospect. Although the safety and environmental issues are well identified, the logistical, economic and political obstacles currently seem to outweigh the expected benefits. The industry is still waiting for a consensus, which could emerge from local experimentation, voluntary certification initiatives, or the rise of digital management tools. In the meantime, the emphasis is on individual responsibility on the part of owners, and on increasing the skills of the professionals who support them.





TECHNOLOGY LEADS THE WAY

Tom Peters writes from Halifax, Nova Scotia. This article was first published on The Maritime Executive's website and is republished here with our thanks.

3D printing, new designs and space-age materials are just some of the incredible recent advances that keep systems working and ships moving as new technology advances and concepts are being made around us.

The world of technology never sleeps. Developing new technology in the marine setting is producing new efficiencies in parts' production and ships' systems. Included in that are pumps for water control and energy consumption, alternative fuels and wastewater, and a wide range of other uses.

Then there are valves that are vital to the performance of any vessel, and piping systems which are the fluid carriers for the ship. The list goes on, and the innovations multiply.



3D printing

Lincoln Electric, headquartered in Cleveland, Ohio, is a global leader in the engineering, design and manufacture of advanced arc welding solutions, automated joining, assembly and cutting systems, plasma and oxy-fuel cutting equipment and brazing and soldering alloys. Dubbed the Welding Expert™ for its leading materials science, software development, automation engineering and application expertise, it's a well-deserved appellation.



In particular, the company has made impressive strides in 3D printing technology, especially in the marine sector.

"The business has progressed nicely and the market continues to grow rapidly as more customers, particularly in maritime defense, realize the benefits afforded by 3D metal printing and that the technology is manufacturing ready now," says Mark Douglass, Business Development Manager. "It's not a research project but fully capable of providing high-quality parts for challenging applications."

Applications have expanded on the margin as more companies explore 3D printing, but Douglass thinks the market growth in the near term is driven by companies adopting the technology for the many applications that have already been identified: "We believe the market is still in the early adoption stage and there's still significant 'evangelism' that needs to take place."

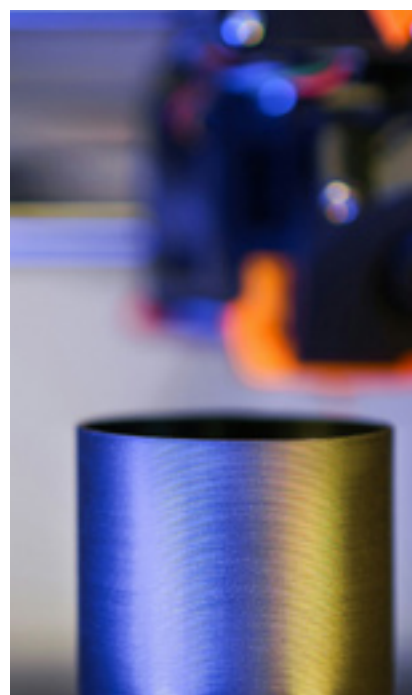
Lincoln is making strides with a number of marine customers in getting 3D printed parts approved for use, which, as more companies see it successfully used, provides greater confidence within the industry to adopt its use. "We think it will continue to snowball," Douglass states.

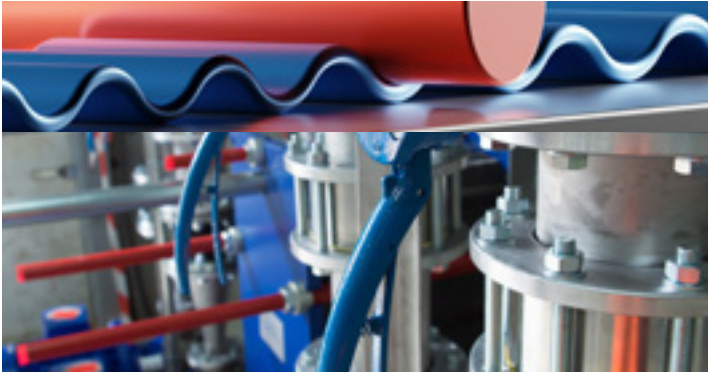
The main value proposition in the 3D printing of parts such as pump casings and valve bodies is a substantial saving in delivery times – as much as 80 percent compared to castings and forgings. Douglass says this is an important consideration in both replacement parts and new construction, particularly with the U.S. Navy, which has been touting the importance of improved scheduling via 3D printing.

"There are case studies with customers in which the 3D printed parts had substantially higher quality than castings of the same parts," Douglass adds. "So not only does 3D printing have the potential to drastically reduce initial lead time, it can also reduce – or even eliminate – downstream repair costs because of improved first time quality."

Recently, Lincoln Electric was awarded the Technical Achievement Award for 3D Printing Innovation by the Defense Strategies Institute in Washington, D.C. Lincoln and its partners were recognized for their use of large-scale 3D metal printing technology in lieu of casting to produce a replacement part for a ship arrestor system at the Poe Lock, a vital part of one of the nation's most important shipping routes. Poe Lock is part of the Soo Locks in Sault Ste. Marie, Michigan.

In response to the urgent need, the U.S. Army's Corps of Engineers and Engineer Research & Development Center partnered with Lincoln to produce a replacement part using the company's 3D metal printing technology. Lincoln produced the steel lever arm in three months, an 84 percent reduction in lead time. It's the largest U.S. civil works component ever produced with 3D printing.





Valves & Pipes

JA Moody, based in Malvern, Pennsylvania, has been producing valves for over five decades. The company says it's positioned itself as a "trusted partner in providing innovative fluid control solutions to the U.S. Navy."

Nearly two decades ago, Moody introduced the Vanessa Triple Offset Valve to the U.S. Navy, a vital product for severe service applications. Today, it's once again leading the way by bringing Curtiss-Wright's groundbreaking Dilating Disk Valve (DDV) to the maritime industry.

"The DDV is revolutionizing fluid control systems with its innovative design, offering unparalleled efficiency, weight reduction and cost savings," the company says. "Built to meet MIL-DTL-32632 standards, the DDV's rotary petal mechanism ensures superior flow efficiency, eliminating turbulence and minimizing energy consumption."

Adds Moody's CEO, Lisa Smith, "When compared to traditional globe valves, the DDV significantly reduces size, weight, noise and operational torque, making it the ideal choice for naval applications and shipbuilders looking to optimize system performance while cutting costs."

With its plug-and-play capability, the DDV allows for seamless retrofits while its compact, durable design contributes to stealthier, more agile and energy-efficient operations. Offering potential energy savings of over 50 percent, the DDV is poised to set a new standard in fluid-handling technology.

Technology has also infiltrated piping systems, which are the veins that keep vital fluids flowing in ships. Recently, the Swedish Maritime Administration decided to replace the steel pipes in the jet thrusters of the Oden, the world's largest diesel-electric icebreaker, due to corrosion issues. A complete solution for the task was provided by GF Piping Systems, which carried out extensive engineering services to enable a cost-efficient retrofit with 200 meters of DN1000 thermoplastic piping components, 100 electrofusion fittings and couplers made of PE100.

The thermoplastic pipes are corrosion-proof and therefore have a longer expected service life compared to metal while smooth inner surfaces allow the same flow volume as metal pipes in larger dimensions.

"This project perfectly encapsulates our vision for the marine sector," notes Staffan Magnuson, Sales Manager, Marine. "We replaced an aging steel piping system with a corrosion-free thermoplastic alternative, and we were able to maximize the performance and longevity of the system thanks to our Specialized Solutions program. In addition, this project was special for us as it involved the largest pipe dimensions we've ever supplied for a vessel."

As one of the most powerful non-nuclear vessels of its type, the Oden is active throughout the Baltic Sea during winter. For the rest of the year, it serves as a research platform for Swedish polar expeditions in the Arctic. To meet high operational demands, it was designed to be highly maneuverable and to use jet thrusters to spray high-pressure water onto the ice to reduce friction at the bow, thus increasing its energy efficiency.

Lignum Vitae Bearings

Anglo-Irish writer and satirist Jonathan Swift once said, "Everything old is new again." That comment may well apply to lignum vitae, widely accepted as the world's hardest wood and used for making self-lubricating bearings for the marine sector.

The first bearing successfully made of lignum vitae was patented by John Penn in 1854. Penn, a marine engineer, introduced water-lubricated lignum vitae bearings when the industry went from sailing vessels to screw and propeller vessels. There was no bearing to support the shaft, and after trying various things, lignum vitae was put into a stern tube and worked, says Bob Shortridge, President, Lignum Vitae North America.

"It became a standard of the industry all the way up to World War II," he adds, speaking from a Great Lakes' shipyard where he was working on a freighter. Lignum vitae bearings were used exclusively in the U.S. fleet to prevent the threat of losing a rubber seal and losing oil and, therefore, propulsion.

With the global industry looking to be more environmentally friendly, Shortridge sees a huge market for his products unfolding. Being asked to provide an all-natural, water-lubricated bearing "feels like things are returning back to full circle."

With lead and asbestos all taboo now, everyone is looking for something reliable, long-lasting and environmentally correct. It must be less polluting but more robust for monstrous pieces of equipment.

"We've done an aircraft carrier twice, and this is the third Great Lakes carrier we've worked on," he adds. "Life expectancy of the bearings depends on the machine but is generally 10 to 20 years."



\\\\\\\\\\\\ WARNING \\\\\\\\\\\\\\\\

\\\\\\\\\\\\\\\\ CAUTION \\\\\\\\\\\\\\\\

\\\\\\\\\\\\\\\\ DANGER \\\\\\\\\\\\\\\\

VDR transcripts reveal missed warnings before M/V Dali struck Baltimore Bridge

Recently released transcripts from the National Transportation Safety Board (NTSB) are offering a chilling, moment-by-moment look inside the bridge of the Dali containership in the lead-up to the disaster on 26 March 2024 that brought down Baltimore's Francis Scott Key Bridge, killing six construction workers in the process and severing a vital road artery in the Port of Baltimore.

The transcripts, which have been drawn from the vessel's Voyage Data Recorder (VDR), span the period from the afternoon of 25 March through to the collision and immediate aftermath of the accident. They reveal an escalating series of technical problems aboard the Singapore-flagged vessel in the hours before departure — problems that went largely unmentioned during the pilot exchange and preparations for sailing.

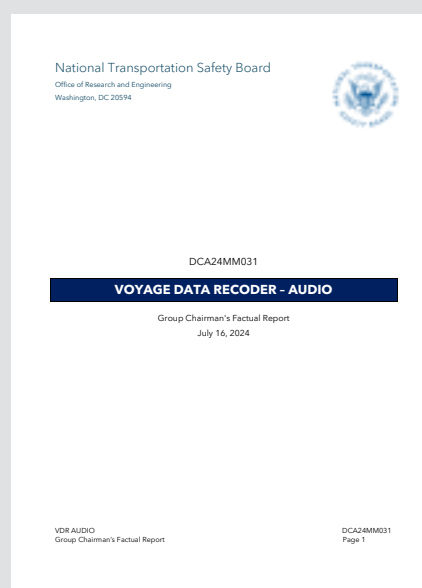
Alarms ahead of departure

Starting at 14:20 EDT on 25 March, the VDR picked up numerous alarms on the bridge, many of them linked to the ship's power management systems. Sounds consistent with automatic power changeover circuits and multiple loud electronic alerts persisted throughout the afternoon.

At one point, so many alarms were sounding that bridge conversations over UHF radio were unintelligible. Between 14:35 and 14:57, alarms again blared continuously — yet, notably, no voices were recorded on the bridge.

By 15:30, the Chief Officer informed the Master that the alarms were "nominal," though no specifics were given. The crew reported that all alarms had been reset by 15:57.

Then, at 17:49, the Master placed a significant call to the Chief Engineer, instructing him, speaking in Tamil, to prepare an incident report tied to the engine room. The Master stressed the importance of filling out the form completely and accurately, suggesting that whatever had occurred warranted documentation. The exact nature of the incident remains unclear, and no further references were made on the VDR.



Departure and casual exchanges

Around midnight, the Dali began departure preparations. Pilots boarded the vessel at approximately 00:05, and standard checks were conducted: draft verification, engine blow-through, tug arrangements, and telegraph tests. Two tugs, the Eric McAllister and Bridget McAllister, were positioned forward and aft respectively.

At 00:16:02, the pilot asked the Master, "Captain, everything's working?" to which the Master replied, "Yeah, everything is in order." That reassurance came despite the earlier alarms and incident report request just hours before.

As the vessel prepared to sail, bridge conversations remained casual, even lighthearted. At 00:34:26, the Pilot told the Training Pilot that the voyage was "pretty straightforward" and remarked that the Portable Pilot Unit (PPU) "really makes it a lot easier," especially for wider ships.

Power loss and collision

By 01:25, the situation deteriorated rapidly. The Second Officer attempted to call the engine room, but received no response. At 01:28:16, he reported a critical loss: "We do not have bow thruster." These moments coincide with the first of two total blackouts detailed in the NTSB's preliminary report released in May 2024.

Just 0.6 miles from the Key Bridge, the Dali lost electrical power, halting its main propulsion and disabling steering systems. A second blackout occurred moments later, as the vessel drifted toward the bridge at over 6 knots.

At 01:26:01, the pilot told the AMP Pilot Command Center to "have them shut down the [Key] Bridge. I just lost steering."

Shortly after 01:27:00, the pilots issued calls for tug assistance and to drop anchor, and the bridge was ordered closed to traffic. Tragically, six road workers remained on the span. The Dali struck the bridge's pier 17 at 01:29:10, collapsing six bridge spans.

The Training Pilot radioed the Coast Guard at 01:29:37, stating, "Coast Guard. Coast Guard. This is Dali. We have a major problem."

The Key Bridge is down.
I repeat, the Key Bridge is down."

Chaos and confirmation abounds

The post-collision recording captures confusion on the bridge amid blaring alarms in the minutes that followed. The Coast Guard inquired about the vessel's position; the Pilot responded that they were "under the Francis Scott Key Bridge." The Training Pilot confirmed the worst: "The bridge is down."

The crew and pilots discussed the potential for casualties on the bridge and damage to the vessel. At one point, the Master was heard stating over the phone that water was running into the vessel and containers had broken loose, but that there was "no oil sheen" visible.

The final alarm ceased at 02:25 a.m.

A tragedy of warnings unheeded?

The full investigation is ongoing, but these transcripts combined with earlier NTSB findings suggest a troubling chain of technical issues and potentially missed warning signs. The Dali had experienced two in-port blackouts the day before departure, both related to human error and fuel pressure issues. After switching electrical bus configurations, the ship departed using the same breakers that would later trip during its fateful voyage.

Fuel quality was ruled out, but the question remains: Why weren't the known issues disclosed during the master/pilot exchange? And did the crew fully grasp the significance of the earlier alarms?

Considering the outcome, the NTSB transcripts would seem to offer painful clarity: what began as a seemingly routine departure became one of the most devastating maritime accidents in U.S. history.



examines the 48-volt boat

Manufacturers and technicians may need to take new safety steps when working on these systems

By Tim Murphy, education director for the American Boat & Yacht Council.

Photo credit: ABYC



The past several years at IBEX, Metstrade and other trade shows, we've seen the introduction of electric devices — grills, bow thrusters, trolling motors, air conditioners and such — powered at 48 volts DC. In 2018, Integrel Solutions won a DAME Design Award for its 48-volt alternator. In 2022, Mercury Marine won a Consumer Electronics Show innovation award for its Verado V-12 outboards incorporating a 48-volt alternator. At the 2024 Annapolis Sailboat Show, six of the 16 new boats entered in Cruising World's Boat of the Year contest had 48-volt house systems.

Suffice it to say that after years of speculation, the 48-volt boat is here. Compared with 12- or 24-volt systems, these higher-capacity systems have clear advantages: greater power, greater efficiency, less weight, lower fuel costs and, most compellingly, the potential elimination of a genset from the boat. But an emerging controversy raises questions for companies that install these systems and the people who service them: Are 48-volt systems low voltage or high voltage? The difference for safety and liability is crucial.

"Most people consider less than 60 volts low voltage, so therefore, 48-volt systems would be considered low voltage," Bob Tate said in April at the Sur/Tech Conference hosted by the American Boat & Yacht Council. Tate is director of engineering for Navico Connect, a division of the Brunswick Group. The group's Fathom e-Power System, which won a 2023 National Marine Manufacturers Association Innovation Award, has been installed in more than 6,000 boats and RVs. A growing number of them are designed to run at 48 volts.

But last year, the National Fire Protection Association changed its NFPA 70e Standard for Electrical Safety in the Workplace threshold for low voltage from 60 to 50 volts. The federal Occupational Safety and Health Administration follows NFPA 70e for its workplace-safety guidelines.

Accordingly, the ABYC added the concept of "safety voltage" to its 2025 supplement of "E-11 AC and DC Electrical Systems on Boats." While the E-11 scope will remain at 60 volts DC, the supplement adds this language: "Safety voltage — an AC or DC voltage which does not exceed 50 volts DC." That term appears several times in the new version, as in: "Ungrounded conductors exceeding the safety voltage shall have the means at wiring service points to indicate the voltage or shock potential."

Maciej Rynkiewicz, the ABYC standards developer who oversees marine electrical standards, says it's important to note that "48 volts DC refers to the nominal voltage. That's a convenient, standardized engineering term used for identification and design purposes," he says. "But the actual measured voltage of a nominal 48-volt system is typically above 50 volts."

Tate adds: "When you have a 48-volt system, it actually sits at about 56 volts when you're charging it. I just want to make sure everyone here realizes that OSHA thinks 48-volt nominal systems are not considered low voltage. If you're working on a 48-volt system, it's important for you to make a determination about what kind of protection equipment you require and how you are going to treat working with the system."

The critical determination, Tate says, starts from the short-circuit current of the power source, which could be

a charger or a DC-to-DC converter, but is almost always the battery. He highlighted a typical bank of two 24-volt lithium-ion batteries connected in series to make 48 volts. "The batteries I work on may deliver 15,000 amps of short-circuit current," he says.

He also showed a calculation that comes to 1.91 calories per square centimeter. The NFPA threshold for requiring special PPE, such as arc-rated clothing, is 1.2 calories per square centimeter. "If you have an arc-flash event with a 56-volt system, it can jump across a fuse. The fuse is not protection," he says.

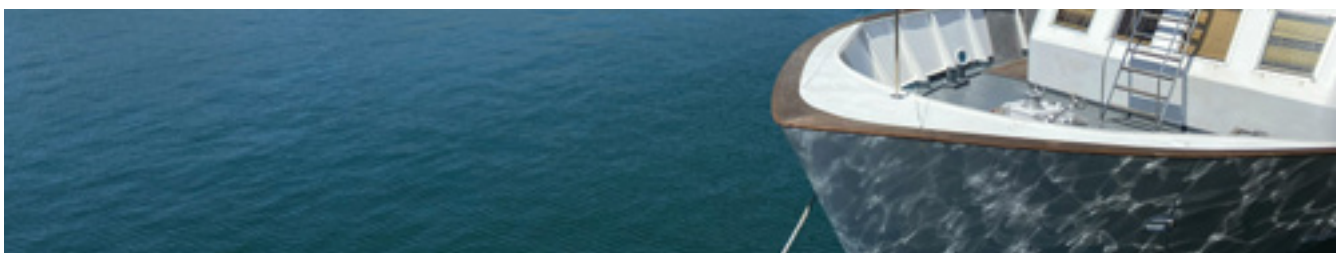
If a company policy treats a 48-volt system as high voltage, that fundamentally changes the training and procedures for techs who work with those systems. For example, who is qualified to work on a live high-voltage system? NFPA 70e defines five formal training levels: aware, informed, competent, authorized and SR authorized. Not all of them are qualified to determine basics such as whether or not a system is live. Personal protective equipment for live high-voltage systems includes arc-rated clothing, arc-rated face shield, leather or rubber gloves, hard hat, safety glasses, hearing protection, leather footwear and insulated tools.

Tate mentioned a simple tool kit of insulated screwdrivers, pliers and socket wrenches. "That's probably a \$1,500 tool set," he says. "And just putting some heat-shrink tubing over your screwdriver? OSHA isn't going to accept that." Tate adds that another difference with these high-capacity systems is inrush current. "We have seen in 48-volt systems the contacts for battery switches or relays will be welded shut by the inrush current. They were designed in the 12- and 24-volt world, and just are not sufficient. So a device that is supposed to be able to disconnect the battery from the boat now becomes not a disconnect device at all."

The solution Tate's team found is to design in a system that precharges the bus before any switches or relays are closed. "Because you can't trust the boat owner to know the proper procedure for charging the bus before they close the switch, the manual battery switch almost becomes useless," he said.

The bottom line for manufacturers and service techs who work with 48-volt systems is that they may be different in kind from the 12- or 24-volt systems of the recent past. Before going to work on a 48-volt system, make sure to have a thorough understanding and a clear policy in place. And if 48-volt systems are new to a tech or team, call in a qualified third-party expert.

The 2025 supplement of ABYC's E-11 standard, published July 31, includes new voltage-drop tables, including those for 48-volt systems.





fire protection equipment items to check annually

The Isle of Man Ship Registry has issued a new shipping notice earlier this year that sets out the minimum level of maintenance and inspection for fire protection systems and appliances onboard, as required by SOLAS regulation II-2/14.

Overall, all fire protection systems and appliances must be in good order at all times and be readily available for immediate use while the ship is in service. If a fire protection system is undergoing maintenance, testing or repair, then suitable arrangements must be made to ensure safety is not diminished through the provision of alternate fixed or portable fire protection equipment or other measures. The onboard maintenance plan should include provisions for this purpose.

Onboard maintenance and inspections must be carried out in accordance with the ship's maintenance plan and certain maintenance procedures and inspections may be performed by competent crew members, while others should be performed by persons specially trained in the maintenance of such systems.

The onboard maintenance plan should indicate which parts of the inspections and maintenance are to be completed by trained personnel. Inspections should be carried out by the crew to ensure that the indicated weekly, monthly, quarterly, annual, two-year, five-year and ten-year actions are taken for the specified equipment, if required.

Records of the inspection must be carried on board the ship and may be computer-based. In cases where the inspections and maintenance are carried out by trained service technicians other than the ship's crew, inspection reports must be provided at the completion of the testing.

It is recommended that wherever possible servicing and testing requirements are harmonised to coincide with the vessels annual surveys to minimise disruption to vessel operations. Onboard testing and inspections take place on a weekly, monthly, quarterly, and annual basis.

With regard to the annual inspections, the Ship Registry emphasizes that these must be conducted to ensure the specified actions are carried out for the relevant equipment, highlighting the following 13 key items to be checked

1 Fire mains, fire pumps, hydrants, hoses and nozzles

- visually inspect all accessible components for proper condition;
- flow test all fire pumps for proper pressure and capacity. Test emergency fire pump with isolation valve closed;
- test all hydrant valves for proper operation;
- pressure test a sample of fire hoses at the maximum fire main pressure, so that all fire hoses are tested within five years;
- verify all fire pump relief valves, if provided, are properly set;
- examine all filters/strainers to verify they are free of debris and contamination; and
- confirm nozzle size/type correct, maintained and working.

2 Fixed fire detection and fire alarm systems

- test all fire detection systems and fire detection systems used to automatically release fire-extinguishing systems for proper operation, as appropriate;
- visually inspect all accessible detectors for evidence of tampering obstruction, etc., so that all detectors are inspected within one year; and
- test emergency power supply switchover.

3 Fixed gas fire-extinguishing systems

- visually inspect all accessible components for proper condition;
- externally examine all high pressure cylinders for evidence of damage or corrosion;
- check the hydrostatic test date of all storage containers;
- functionally test all fixed system audible and visual alarms;
- verify all control/section valves are in the correct position;
- check the connections of all pilot release piping and tubing for tightness;
- examine all flexible hoses in accordance with manufacturer's recommendations;
- test all fuel shut-off controls connected to fire-protection systems for proper operation;
- the boundaries of the protected space should be visually inspected to confirm that no modifications have been made to - the enclosure that have created uncloseable openings that would render the system ineffective; and
- if cylinders are installed inside the protected space, verify the integrity of the double release lines inside the protected space, and check low pressure or circuit integrity monitors on release cabinet, as applicable.



4

Foam fire-extinguishing systems

- visually inspect all accessible components for proper condition;
- functionally test all fixed system audible alarms;
- flow test all water supply and foam pumps for proper pressure and capacity, and confirm flow at the required pressure in each section (Ensure all piping is thoroughly flushed with fresh water after service.);
- test all system cross connections to other sources of water supply for proper operation;
- verify all pump relief valves, if provided, are properly set;
- examine all filters/strainers to verify they are free of debris and contamination;
- verify all control/section valves are in the correct position;
- blow dry compressed air or nitrogen through the discharge piping or otherwise confirm the pipework and nozzles of high expansion foam systems are clear of any obstructions, debris and contamination. This may require the removal of nozzles, if applicable;
- take samples from all foam concentrates carried on board and subject them to the periodical control tests in MSC.1/Circ.1312, for low expansion foam, or MSC/Circ.670 for high expansion foam. (Note: Except for alcohol-resistant foam, the first test need not be conducted until 3 years after being supplied to the ship.); and
- test all fuel shut-off controls connected to fire-protection systems for proper operation.

5

Water mist, water spray and sprinkler systems

- verify proper operation of all water mist, water-spray and sprinkler systems using the test valves for each section;
- visually inspect all accessible components for proper condition;
- externally examine all high pressure cylinders for evidence of damage or corrosion;
- check the hydrostatic test date of all high pressure cylinders;
- functionally test all fixed system audible and visual alarms;
- flow test all pumps for proper pressure and capacity;
- test all antifreeze systems for adequate freeze protection;
- test all system cross connections to other sources of water supply for proper operation;
- verify all pump relief valves, if provided, are properly set;
- examine all filters/strainers to verify they are free of debris and contamination;
- verify all control/section valves are in the correct position;
- blow dry compressed air or nitrogen through the discharge piping of dry pipe systems, or otherwise confirm the pipework and nozzles are clear of any obstructions. This may require the removal of nozzles, if applicable;
- test emergency power supply switchover, where applicable;
- visually inspect all sprinklers focusing in areas where sprinklers are subject to aggressive atmosphere (like saunas, spas, kitchen areas) and subject to physical (like luggage handling areas, gyms, play rooms, etc.) so that all sprinklers are inspected within one year. Sprinklers with obvious external damage, including paint, must be replaced;
- check for any changes that may affect the system such as obstructions by ventilation ducts, pipes, etc.;
- test a minimum of one section in each open head water mist system by flowing water through the nozzles.
- The sections tested should be chosen so that all sections are tested within a five-year period; and test automatic and automatic water mist nozzles in accordance with the flow chart included in MSC.1/Circ.1516.





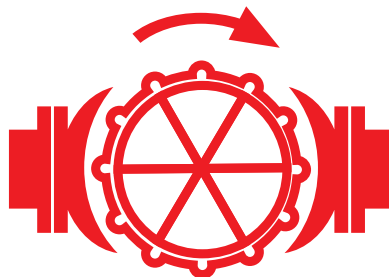
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Portable foam applicators

- verify all portable foam applicators are set to the correct proportioning ratio for the foam

concentrate supplied and the equipment is in proper order;

- verify all portable containers or portable tanks containing foam concentrate, that remain factory sealed, and the manufacturer's recommended service life interval has not been exceeded;
- portable containers or portable tanks containing foam concentrate, excluding protein based concentrates, less than 10 years old, that remain factory sealed can normally be accepted without the periodical foam control tests required in MSC.1/Circ.1312 being carried out;
- protein based foam concentrate portable containers and portable tanks must be thoroughly checked and, if more than five years old, the foam concentrate must be subjected to the periodical foam control tests required in MSC.1/Circ.1312, or renewed; and
- the foam concentrates of any non-sealed portable containers and portable tanks, and portable containers and portable tanks where production data is not documented, should be subjected to the periodical foam control tests required in MSC.1/Circ.1312.



6

Ventilation systems and fire dampers

- test all fire dampers for remote operation;
- verify galley exhaust ducts and filters are free of grease build-up; and
- test all ventilation controls interconnected with fire-protection systems for proper operation.

7

Fire doors

- test all remotely controlled fire doors for proper release.

8

Breathing apparatus

- check breathing apparatus air recharging systems, if fitted, to ensure the air quality is to a recognised national standard (e.g. BS EN 12021, or USCGA grade D or better);
- check all breathing apparatus face masks and air demand valves are in serviceable condition;
- check EEBDs according to manufacturer's instruction; and
- SCBA cylinders should be used on a rotation basis in drills and should have their air charge used or blown-off and refilled as per the manufacturer's guidelines.



9

Fixed dry chemical powder systems

- visually inspect all accessible components for proper condition;
- verify the pressure regulators are in proper order and within calibration limits; and
- agitate the dry chemical powder charge with nitrogen in accordance with system manufacturer's instructions (note: Due to the powder's affinity for moisture, any nitrogen gas introduced for agitation must be moisture free).

12

Wheeled (mobile) fire extinguishers

- perform periodical inspections in accordance with the manufacturer's instructions;
- visually inspect all accessible components for proper condition;
- check the hydrostatic test date of each cylinder; and
- for dry powder extinguishers, invert extinguisher to ensure powder is agitated.

10

Fixed aerosol extinguishing systems

- verify condensed or dispersed aerosol generators have not exceeded their mandatory replacement date. Pneumatic or electric actuators should be demonstrated working, as far as practicable.



13

Galley and deep fat cooking fire-extinguishing systems

- check galley and deep fat cooking fire-extinguishing systems in accordance with the manufacturer's instructions.



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The Bahamas Maritime Authority 30TH Anniversary



*Captain Dwain Hutchinson,
Managing Director and CEO of The BMA*

This year marks a significant milestone for The Bahamas Maritime Authority (BMA) as it proudly celebrates 30 years of maritime excellence. Since its establishment in 1995, The BMA has remained steadfast in its commitment to progress, honour, and service—values that continue to inspire confidence and trust among shipowners worldwide.

From its early years, The BMA has played a pivotal role on the global maritime stage. By 1998, The Bahamas had become the world's third-largest fleet, and just a year later, it secured a seat on the Council of the International Maritime Organization (IMO), a position it has continuously held. Today The Bahamas registry is the world's 4th largest flag by the commercial value of fleet.

In 2010, The BMA chaired its first flag state implementation subcommittee at the IMO, reinforcing its leadership in maritime governance. The BMA has consistently championed collaboration within the industry and actively engages with key organisations such as the International Chamber of Shipping (ICS), Cruise Line International Association (CLIA), the International Marine Contractors Association (IMCA), the International Association of Classification Societies (IACS) amongst others.

The health & wellbeing of seafarers is a strategic objective shared by all in the industry and The BMA is honoured to have represented The Bahamas over the years at the International Labour Organisation (ILO) where it was one of eight countries participating in the joint ILO/IMO tripartite meeting relating to seafarers.

Recognising the benefits of working in partnership, The Bahamas inaugurated the Bahamas Shipowners Association (BSA) in 1997 to represent the interests of its registry. To this day, the BSA remains a strong and influential voice on critical industry matters.

A testament to its operational excellence, The Bahamas has consistently appeared on the Paris and Tokyo MOU Whitelists, often ranking as the highest-placed non-European Flag. In 2004, the BMA was among the first digitalised registries with the launch of its online registration system, BORIS. Over the years, continuous enhancements have ensured The Bahamas remains one of the most technologically advanced maritime registries. The introduction of an online seafarer certification system and a groundbreaking online reporting portal for managers and owners further demonstrate The BMA's commitment to innovation and efficiency. Quality, safety, environment sustainability and human element are at the core of The BMA's customer service delivery. Working closely with its Recognised Organisations, The BMA ensures that mutually agreed standards keep its fleet at optimal quality. By opening regional offices in key areas around the world, The BMA enhances its global representation and is able to provide local support on the ground in North America, Europe and Asia, creating a more secure operating environment for clients.

Beyond regulatory leadership, The BMA actively supports the United Nations Sustainable Development Goals (SDGs), particularly SDG 13 (Climate Action) and SDG 14 (Life Below Water), through its work with the IMO. Gender equality (SDG 5) is also a key focus, exemplified by the success of the Bahamas Maritime Cadet Corps (BMCC). Since its inception in 2003, the BMCC has seen approximately 6,000 young Bahamians graduate from the scheme, many of whom have gone on to pursue maritime careers. Today nearly 50% of students are female—an inspiring step toward greater gender diversity in the industry and national capacity building.

BMA Managing Director and CEO, Captain Dwain Hutchinson, said, "I would like to express my appreciation of the dedicated and competent team at The BMA and the contribution of our Flag State Inspectors, Recognised Organisations and providers. Through our collaborations we ensure that the BMA's clients receive the highest levels of service possible. We remain grateful to the successive BMA Boards of Directors whose strategic oversight and sound corporate governance have played a vital role in positioning The BMA as a forward-thinking and respected maritime administration.

"Of equal importance, we would also like to thank the many owners and their shipboard teams who have joined us on our journey, entrusting their vessels to us. We are honoured to have served you over the past 30 years."

He continued, "As The BMA looks to the future, we remain committed to strengthening regional representation through the expansion of our global presence. Online capabilities will be enhanced to harness the potential that exists within the new technologies. We are also modernising our legal framework to keep pace with evolving market dynamics and the changing needs of our clients. Meanwhile we will continue to actively engage as a proactive leader at regulatory level, both regionally and internationally, helping to shape the maritime industry as it heads into the uncharted waters of novel fuels."

BMA Chairman, Jacqueline M. Simmons, also expressed her appreciation for the unwavering support from The Bahamas Government, "We have been fortunate to receive consistent backing from the government as we have worked to support and implement its maritime agenda and bolster the growth of the sector. Over the years, Ministers with responsibility for the BMA have played a pivotal role in our success, offering invaluable guidance and counsel."

With a legacy built on excellence, innovation, and trust, The Bahamas Maritime Authority remains dedicated to sustainable growth while upholding the values that have defined its success over the past three decades.



*Jacqueline M. Simmons,
BMA Chairman*



3D PRINTED YACHTS

By Hans Buitelaar – Metsrade



Print a boat – Green, customised and automated boat building

Where conventional boat and yacht building methods struggle to convert to the use of sustainable materials, it seems to be easy to do so when 3D printing a boat. Supply of recycled plastics is abundant and additive manufacturing is one of the techniques that has good access to these second use materials. The first boats, motorised and sailing, that have been constructed by a printing machine are already afloat. The technology is proven and scaling up.

Ctrl-P as a name for your boat may seem odd, but the name honours the origin for a growing fleet. One of the first completed and sailing 3D printed boats from recycled material and to be recyclable itself, has been D3aak, as conceived by Leon Wokke and Derk Pas. Wokke was inspired by the activities of fellow Dutchman Boyan Slat, a young student who made his idea come true of taking out the plastic waste and other pollution that is gathering in the great Pacific garbage patch. With his organisation The Ocean Cleanup, Slat is harvesting tons and tons of plastics. These plastic can be re-used, Wokke figured, Additive manufacturing appeared as a very plausible technology to use recycled plastics. Working with 3D printing specialists HB3D, Wokke and Pas designed their D3aak, a launch modelled like a small traditional Dutch barge and launched their first fully operational boat in 2022.

5D PRINTING

"The cures in the hull, typical for the traditional Dutch barges, have put us for a big problem when printing the first hull," Wokke recalls. "3D printers can print curves, but in a way that makes the curved structure weaker than the straight part. To be able to create a hull that would be strong enough and have the most weight in desired places, a whole new method of additive manufacturing needed to be developed." Sharing the appetite for experiments with Wokke, the engineers at HB3D decided to see if this problem could be solved.

Together, they came up with the technology they call '5D printing'. Not only the robot arm that moves the printing nozzle to the position where it needs to add material is moving in this technique, also the table on which the product-in-progress is sitting moves to position the work in a way that the weld between one layer of material and the next will be such that the strength of this weld will be most beneficial to add strength to the structure. The result, ready for production since 2022, is a 5.2 meters long launch with 2.1 meter beam. The bare hull has a displacement of only 350 kilograms. The builders point out that any dimensions can be easily adapted, because 3D printing allows for endless customisation. The printer creates the boats one-by-one and any time a print is run, the design can be altered.

HDPRO

Bigger and more established yards also embrace additive manufacturing. Shipbuilder Damen, a conglomerate encompassing some 18 shipyards around the world, is working with Dutch company CEAD to build workboats and military patrol vessels using 3D printing. In co-operation with universities and research institutions, a new material is developed, named HDPRO by the developers. It is a version of the very strong and durable material HDPE – High Density Poly Ethylene – that can be printed. HDPRO, like HDPE, is very impact resistant. The printing of the hulls results in a smooth surface. With current material development and printing technology, CEAD can print boats up to 12 meters in length. CEAD is a 3D printing company that has a wider focus than only boat building, Research and development in its MAC – Maritime Application Centre – is conducted in co-operation with Damen and MARIN – the Dutch maritime research institute.

CFM

Fibreglass additive manufacturing was already introduced by Italian company MOI composites in 2020, with the launch of MAMBO, the first completely 3D printed boat as presented at the Genoa Boat Show. The process is called Continuous Fiber Manufacturing (CFM). In this production method, an uninterrupted fibreglass string is impregnated with thermostatic resin. The result is much like woven fibreglass mats that are being injected with resin in a vacuum infusion process, but in this case no mould is needed. The glass fiber is injected with resin in the nozzle of the 3D printing machine that installs the thread of the infused fiber in exactly the right place on the hull while it is being built up. The resin bonds to the previous string of resin infused glass and a fiber reinforced hull is created.

LESSONS

Additive manufacturing changes production considerably. Construction labour is no longer performed by human workforce, but by robots.

The printer arms, often multi-axis robot arms as used in the automotive industry production, are controlled by software that translates the designed shape of a boat, with hull, structural supports, bases for engines and instruments and furniture, into a movement of the printing nozzle that precisely adds layer upon layer of thermoplastic material to bond to the previous layers. After the first years of additive manufacturing of boats, what lessons are learnt?

Benefits of 3D printing boats include:

One-run completeness. When cleverly designed, a whole boat, including spaces for installation, furniture and buoyancy can be printed in one go. All moving parts need to be constructed elsewhere and mounted to the hull, however.

Versatile design: because 3D printers run production one-by-one and no mould is needed, every individual boat can be different from the previous one. This will include design cost for the desired alterations, but inflict no extra production cost.

Production is fast. A complete boat (without equipment installed) can be produced in days, where traditional boat building methods see a production time of months.

Reduced cost. There is no waste material, the material used is all included in the boat. There is considerably less human labour involved in production.

Waste reduction. There is almost no waste material after the printing process.

Recyclability. It is very well possible to resource recycled materials to use in 3D printing. As the material is always thermoplastic resin, the production process can in most cases be reversed to recycle the boats after their lifespan.

Drawbacks:

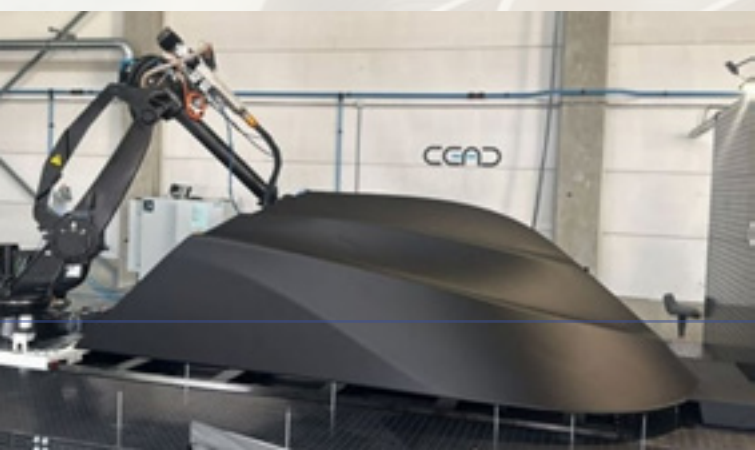
Strength. Thermoplastics, consisting of strings that weld together, do not offer the same strength as metals like steel or aluminium.

Degradation. Thermoplastics can deteriorate quickly when exposed to UV radiation. Finishing is required. This will add human labour after all.

Size limitations. To print bigger structures like boats, very large, expensive and complicated machines are required. This necessitates big investments. The investment may however be compensated by the fact that customised production is much easier, and no moulds need to be made.

Surface treatment. Products from printers are often of a rippled surface.

Motivators for the boat builders mentioned above, have been different. The founders of D3aak wanted to build a boat that is really sustainable and succeeded thanks to additive manufacturing. The fact that no waste material is left after production, makes this construction method more environmentally friendly, even if virgin resins are chosen. Other producers focus more on the possibilities to customise to a very high degree when 3D printing. Another benefit is the replacement of labour from the workshop to the design studio. Additive manufacturing can prove to be a driving technology to maintain the production of hulls for boats and yachts in high wage countries, stopping the tendency to have the rough work done in low wage countries and assemble the boats where the cost





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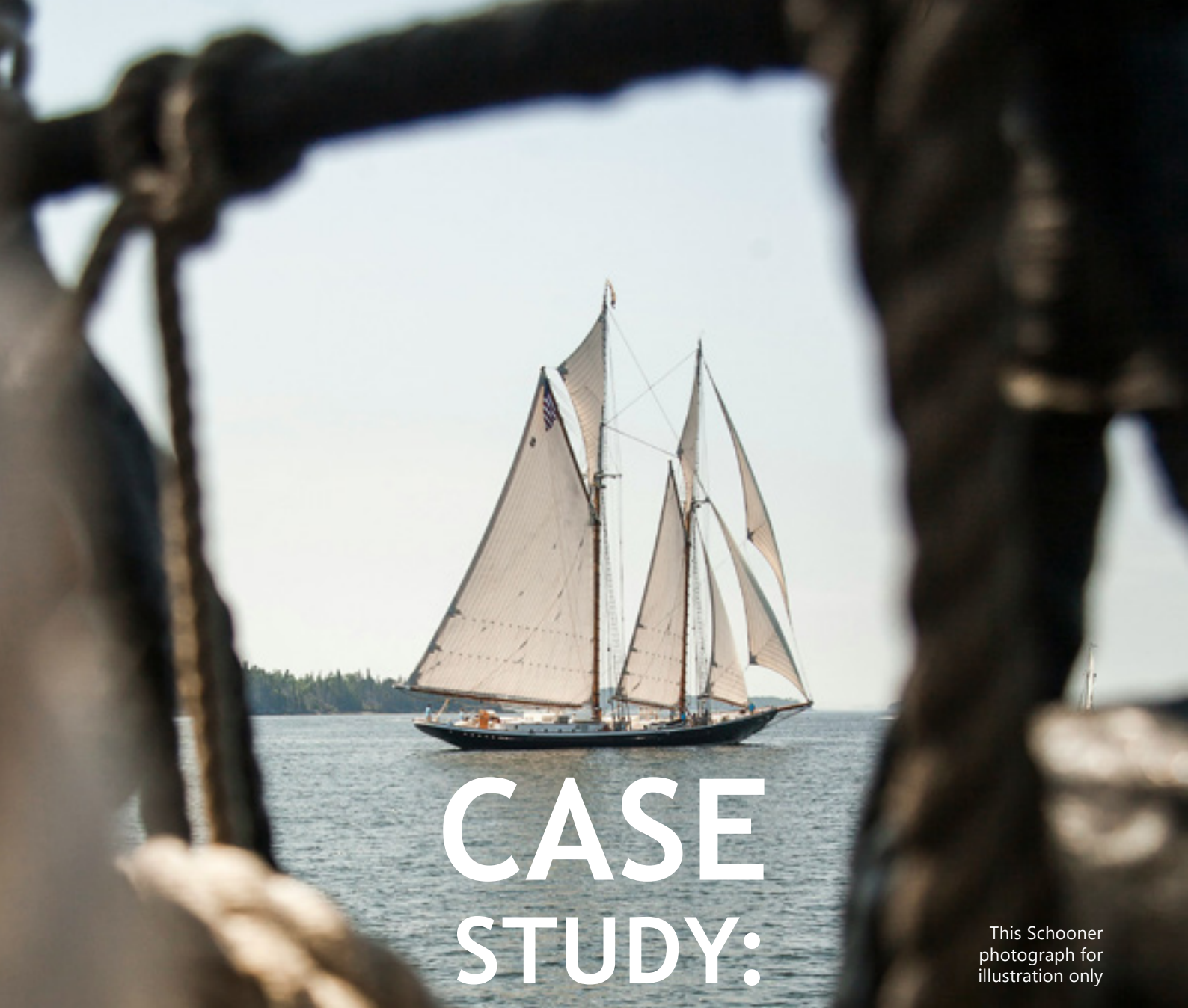


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CASE STUDY:

This Schooner
photograph for
illustration only

Rotten wood and poor inspection caused historic Maine schooner demasting

The is a distressing case about a fatal accident that should never have happened. And as the investigation has revealed, a series of poor, inadequate and ineffective inspections and surveys that failed to discover serious rotten wood, would appear to be largely to blame.

The U.S. Coast Guard (USCG) has released a critical report on the demasting of a historic schooner, blaming the catastrophic incident on rotten wood that had gone unnoticed for years due to poor inspections.

About three years after the mainmast of the 144-year-old schooner Grace Bailey broke during a routine voyage, causing the death of one passenger and leaving five others injured, a detailed investigation has established that the structural integrity of the mainmast had long been compromised by rot.

Although the vessel underwent numerous inspections, both by the USCG and third-party inspectors, the inspections lacked depth, resulting in a failure to detect deterioration of the mainmast.

Built in 1882, Grace Bailey is a 118-foot schooner operating excursions in Maine. The vessel experienced the catastrophic demasting during a four-day excursion around Penobscot Bay in Maine on October 9, 2023. On the day of the incident, the schooner had 33 people on board, including 26 passengers and seven crew members.



Schooner
GRACE BAILEY



Mainmast, gaff and boom
as they lay after dismasting.
Source: Maine Marine Patrol



Main gaff resting atop the
main boom. Source: USCG

The vessel that was owned by the Grace Bailey Navigation Company had been operating cruises on the Maine coast since the 1990s.

In its 95-page report, the USCG Office of Investigations and Casualty Analysis gives a detailed account of the incident from the moment the Grace Bailey set out for the excursion. While the first three days were uneventful, the situation took a tragic twist on Monday, October 9, when she arrived at Penobscot Bay at approximately 8:30 am.

Things started to unfold about an hour later when a single passenger standing port side abreast of the mainmast heard a noise from aloft but dismissed the noise as normal for a wooden vessel and did not discuss the sounds with any other passenger or crewmember. At 10:11 am, another passenger heard a noise aloft that was later described as a "rope being stretched to its limit." The passenger visually scanned the sails and rigging, determining that everything seemed normal.

Just a minute later, a third noise reported from aloft was recognized by multiple passengers and crewmembers, prompting the captain and mate to scan the rig. They observed the mainmast bending at a point approximately 75 percent up the mast. Although the captain quickly ordered everyone to get down, it was too late because at that point the mainmast collapsed, twisting and falling to starboard.

Five passengers, including the deceased Dr. Emily Mecklenburg, age 40, were struck and injured by the falling rigging. Another passenger fell down a ladderway into the vessel's galley while rolling out of the path of falling rigging, resulting in injury.

In its investigation, the USCG established that since she began offering cruise services, the Grace Bailey had a history of bending the rules when it came to her mast installation and material specifications.

A case in point was in July 1990, during the final stages of an extensive drydock and rebuild project, the schooner's previous owner identified rot in the lower portion of the foremast and went ahead to perform repairs without prior notification to and oversight by the Coast Guard. Despite not being alerted, the Coast Guard undertook an inspection that revealed cosmetic deterioration of the repair but no signs of rot and allowed the vessel to continue operating.

Another repair, still because of rot, was carried out in 2014 on the vessel's mainmast and foremast, with the works being carried out by local shipwrights and overseen by Coast Guard inspectors.

Over the period between 2014, when the masts were unstepped, to 2023, the Grace Bailey underwent a total of 18 inspections, with eight including data entries reflecting completion of a mast inspection. In one of the inspections in 2022, just before Grace Bailey Navigation Company purchased the vessel, rot was detected on the starboard side of the foremast under the boom saddle, with repairs being carried out the following year.

The USCG investigation team was able to identify a series of factors that caused the demasting, key of which was severe internal rot of the mainmast due to fungal growth. The rot significantly weakened the structural integrity of the mast, making it prone to failure under stress, they concluded.

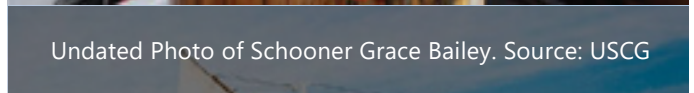
Notably, Grace Bailey's Douglas fir masts had almost all sapwood removed during lathing, and the remaining sapwood at the upper portion of the mast had been removed during final shaping. And while a properly treated sapwood shell is essential for preventing decay in grown Douglas fir masts, the owner and operator of the schooner had failed to implement effective preservative treatment.

"Grace Bailey's masts did not undergo anti-fungal treatment, leaving heartwood unprotected from fungal colonization," states the report, adding that checks, ideally limited to a treated sapwood shell, penetrated unprotected heartwood, allowing continual moisture intrusion into the mast interior.

The report also criticizes the inspection methods on the schooner, concluding that they lacked depth due to safety constraints. They report that they primarily relied on visual inspections from deck level. Alternative methods like lift cranes were not used.

Following the release of the report, the USCG has issued nine recommendations to prevent mast collapses in the future. Among them is broad collaboration between the agency and the sailing industry to identify wooden mast material characteristics and conditions that can precede, influence, or contribute to fungal decay.

The Grace Bailey was restored and certified by the USCG. She has returned to the seas for her summer cruises.



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From Words to **Action**:

Making the ISM Code fit for today's seafarers

The International Maritime Organization's Maritime Safety Committee (MSC) has sent a clear message: the ISM Code is overdue for serious reform. Meeting in London for its 110th session, the Committee called for a comprehensive overhaul of the guidelines governing safe ship management - guidelines that, despite their critical importance, no longer reflect the realities of life at sea.

This follows an independent IMO study that revealed just how inconsistently the ISM Code is enforced. The findings pointed to weak oversight, poor accountability, and a glaring disconnect between documented procedures and what crews actually experience, particularly in relation to fatigue, harassment, and excessive workloads.

It's a story the industry knows all too well. Shipping is saturated with regulations, yet the most basic rights and protections for seafarers are still routinely undermined. The problem isn't a lack of policy, it's a lack of commitment.

Capt. Saurabh Mahesh, Group Director Crewing (Operations) at Columbia Group, believes this revision is long overdue. "There's no question the Code needs to evolve. But it must go beyond simply redrafting language, it has to confront the reality that compliance is often little more than a box-ticking exercise," he said. "We need to rebuild trust by ensuring real

follow-up when breaches occur, and by guaranteeing that crews are genuinely protected, not just theoretically covered."

The MSC's recommendations are pragmatic and necessary. They include integrating anti-harassment measures into safety management systems, providing proper support for victims, protecting whistleblowers, and strengthening rest hour rules with enforcement that is consistent and credible. But none of this will matter unless administrations and operators implement these reforms meaningfully—and are held accountable when they don't.

One of the most pressing issues is the falsification of rest hour records. Capt. Mahesh is among those calling for biometric solutions, fingerprint or retina scans, to replace outdated paper logs that are too easily manipulated. There are also calls for more rigorous external audits, realistic safe manning assessments that reflect vessel age and trading patterns, and decisive enforcement when non-conformities are uncovered. Without these changes, little will improve.

Yet enforcement alone isn't enough. Working conditions themselves must be adapted to the complexity and pressure of modern shipping. One-size-fits-all

shift patterns are no longer acceptable. Crews need flexible rest options, especially during extreme weather or congested port calls. Vessels operating on high-intensity routes should have access to shore-based officers who can provide relief. Greater use of digital tools, consistent crew feedback, and better engagement with shore services can all help ease the strain. These are practical solutions, they just require the will to put them in place.

There is also growing concern that even well-intentioned reforms could backfire if applied without care. Capt. Mahesh warns that piling new compliance costs onto operators without adequate support or strategic planning could have unintended consequences, especially if it leads to reduced earnings for seafarers or undermines progress on diversity.

That caution is shared by Claudia Paschkewitz, Director of Sustainability, Inclusion, and Diversity at Columbia Group. "We fully support the intent behind these recommendations," she said. "But we must ensure that, in trying to fix deep-rooted operational issues, we don't sacrifice the equally urgent work on inclusion. If reforms are rushed or poorly designed, there's a risk that cost-cutting measures could push diversity efforts backwards. We need standards that are enforceable, inclusive, and fair - not trade-offs between safety and equality."

The IMO has now tasked its Sub-Committee on the Implementation of IMO Instruments (IILI) and the Sub-Committee on Human Element, Training and Watchkeeping (HTW) with redrafting the guidelines over the next three years. But there is a real risk that momentum will fade. The challenge is to keep up the pressure and prevent this from becoming yet another consultation exercise that produces paperwork instead of progress.

What the industry needs now is honesty: an acknowledgment that parts of the system have failed, and a commitment, not just from regulators, but from owners and operators, to do better. Not because they are compelled to, but because safety, welfare, and dignity are non-negotiable.

If the ISM Code is to regain credibility, it needs more than a refresh. It requires enforcement, investment, and cultural change.



How a tragic pilot ladder accident led to regulation changes

In a milestone for maritime pilots' safety, on June 26, 2025, the International Maritime Organization (IMO) significantly improved Pilot Transfer Arrangement (PTA) requirements by adopting amendments to International Convention for the Safety of Life at Sea (SOLAS) regulation V/23, as well as new mandatory PTA Performance Standards. The Performance Standards are incorporated into SOLAS, giving them the full force of international law.

The path to this achievement began on a tragic day more than five years ago. On December 30, 2019, Captain Dennis Sherwood, a New York State-licensed pilot, was killed in a fall while embarking a container ship using a combination arrangement with a trapdoor. This arrangement did not comply with either V/23 or IMO Assembly Resolution A.1045(27) ("Recommendation on Pilot Transfer Arrangements"), the relevant international standards. While advocating for pilot safety has always been a key role for the American Pilots' Association (APA), Captain Sherwood's death was an impetus for APA to immediately redouble its domestic and international efforts in this area.

APA's domestic strategy included communications with shipping companies, reaching out to state pilot oversight authorities, and working with the U.S. Coast Guard (USCG). In January 2020, APA sent letters to shipping lines stressing the necessity to provide compliant PTAs. These letters also explained existing requirements and recommendations for the three main types of PTAs – a

single pilot ladder for climbs 9m or less, and for climbs over 9m, a pilot ladder combined with a platform (with or without a trapdoor) and an accommodation ladder.

This prompted several shipping lines to improve their PTAs. In January 2020, APA followed up with an alert to state pilot oversight authorities that explained the rules and asked them to reiterate to pilots their right to refuse to use a noncompliant PTAs. It also urged them to remind shipping interests of the obligation to provide compliant PTAs. Numerous state pilot oversight authorities responded to APA's requests.

APA also reached out to the USCG to ask for assistance. In January and February 2020, APA met with USCG officials to discuss PTA safety. While the USCG's actions were delayed while Captain Sherwood's incident was under investigation, the agency eventually issued a safety bulletin and supporting PTA regulatory efforts at IMO.

In addition to working to improve PTA at home, APA reached out to

the International Maritime Pilots' Association (IMPA), which was able to get PTA on the IMO agenda. IMPA President, Captain Simon Pelletier, and current IMPA Secretary General, Mr. Matthew Williams, were responsive to APA's requests and particularly effective in advancing pilot safety at IMO. On January 17, 2020, Captain Pelletier made a powerful intervention at the 7th Session of IMO's Subcommittee on Navigation, Communication, and Search and Rescue (NCSR 7).

Captain Pelletier explained that Captain Sherwood was killed while using a combination trapdoor arrangement which "involved a trapdoor in the platform of the accommodation ladder with the pilot ladder hanging from a bar near the bottom of the platform and the top step of the pilot ladder significantly below the level of the platform. This requires a pilot to pull himself or herself up through the trapdoor while twisting to get a secure footing on the platform." He noted that this arrangement clearly did not meet IMO's requirements and urged all parties to help make PTA safer.



Because IMO's process for taking up issues is purposefully deliberate, it took until November 2022 for PTA to be formally placed on IMO's agenda. APA Executive Director-General Counsel, Clay Diamond, served on the U.S. Delegation to Maritime Safety Committee 106, while Captain Jorge Viso, APA President served on the IMPA delegation. Viso and Diamond would continue to represent the interests of U.S. pilots at IMO throughout the multi-year process of strengthening PTA requirements.

In May 2023, IMO's Subcommittee on Navigation, Communication, and Search and Rescue (NCSR 10) made a pivotal decision regarding the future of PTA standards. In response to proposals by IMPA and IMO member states, NCSR 10 agreed that all PTA standards should be mandatory and contained in a single "performance standard," as opposed to the existing structure of a mandatory SOLAS regulation coupled with IMO recommendations. NCSR 10 authorized a "correspondence group" to meet via email between NCSR sessions to begin drafting V/23 amendments and the Performance Standards. IMPA and APA participated in this correspondence group.

At NCSR 11 (June 2024), deliberations concluded on amendments to SOLAS V/23 and the Performance Standards. Within this new international PTA regulatory scheme, the revised SOLAS V/23 is now restricted to essential provisions, such as application dates, while the technical specifications for PTAs are delineated within the

mandatory Performance Standards. The updated PTA safety framework includes key improvements such as:

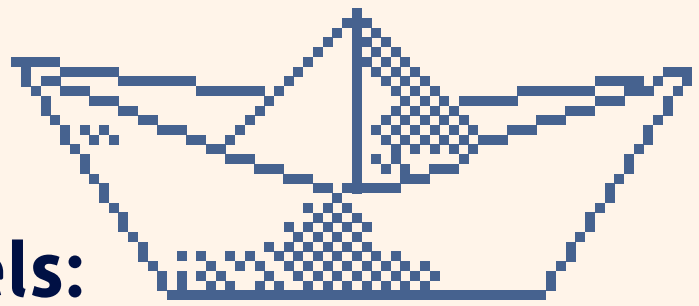
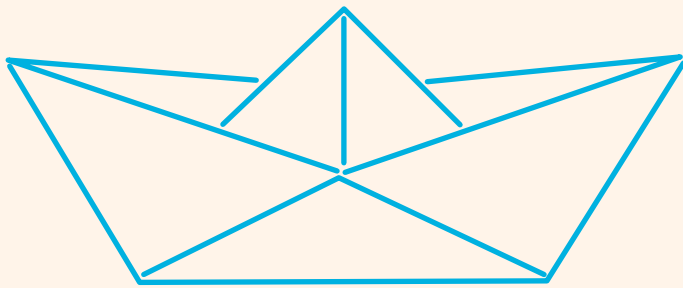
- Application to existing ships with no "grandfather clause;"
- Application to SOLAS and non-SOLAS ships;
- Third party type approval of pilot ladders, manropes, and means of securing pilot ladders deployed at intermediate lengths;
- Clarification and strengthening of the requirements for combination trapdoor arrangements;
- A maximum service life for pilot ladders and manropes, including spares, of 36 months from the date of manufacture;
- Strengthening requirements for securing pilot ladders deployed at intermediate lengths;
- Making the "pilot mark" (indicating the maximum climb of 9m) on ships' hulls mandatory;
- Increasing breaking strength requirements of strongpoints, shackles and securing ropes; and
- Explicit recognition of the right of pilots to refuse to use an unsafe or noncompliant PTA.

While NCSR 11 agreed on the text of the amended V/23 and Performance Standards, both then had to be

approved at MSC 109 and then adopted at MSC 110. In December 2024 MSC 109 did approve the revised PTA requirements. At MSC 110 in June 2025, after several days of a MSC 110-established drafting group's effort to finalize the text, IMO adopted the amended V/23 and Performance Standards.

Because SOLAS is an international convention with mandatory rules for global shipping, sufficient notice of any amendments must be given to allow ships time to comply. As such, the entry into force of the new PTA requirements will be phased in beginning on January 1, 2028 and concluding by April 1, 2030. Considering this unavoidable delay, IMPA successfully advocated for an IMO circular encouraging governments to voluntarily implement the PTA requirements before the entry into force date.

This successful outcome required constant communications with IMPA, regular meetings with the USCG, and numerous meetings of IMO committees, subcommittee, and other subgroups. APA applauds the USCG for its support for enhancing PTA safety and for working with APA prior to and during IMO deliberations. This crucial project also benefited immensely from the work of IMPA, and APA thanks Captain Simon Pelletier and Mr. Matthew Williams for their persistence, support, leadership, and technical expertise. This major safety milestone would not have been possible without IMPA's efforts.



From paper to pixels:

The digital evolution of marina design



By John Hogan,
Director Marine Structures

Marinas were once designed by talented engineers and seasoned sailors using flat 2D drawings and guided by AS3962, Australia's standard for marina design. Today, however, the marine infrastructure sector is undergoing a remarkable transformation. Advanced marina design has sailed far beyond conventional blueprints, embracing cutting-edge digital tools and sustainable practices to create more resilient, efficient, and environmentally conscious waterfront developments.



*Futuristic marina concept featuring sustainable and smart design elements
Image credit: Behance - Marina project in Ulcinj - Port Milena, Montenegro*

Traditionally, AS3962 served as the guiding framework for marina planners, addressing everything from wave climate to berth configurations. While it remains a foundational document, its static guidelines are now being reinterpreted and expanded through modern digital methodologies. Designers are turning to Building Information Modelling (BIM), 3D simulations, and Geographic Information Systems (GIS) to envision and execute complex marina environments with unprecedented precision.

These technologies allow for dynamic modelling of tidal flows, wave interaction, and vessel traffic, enabling engineers to optimise layouts in real time and

under varied climatic scenarios. For instance, 3D hydrodynamic simulations help identify optimal breakwater placements or dock orientations, reducing sediment build-up and ensuring year-round operability. Augmented Reality (AR) is also making its mark, offering stakeholders immersive experiences of proposed developments well before construction begins. Once the designers have the data, the same information can be used in digital manufacturing. Suppliers are increasing the use of robotic welding and 3D laser cutting to fabricate custom aluminium or stainless-steel marina components - such as cleats, brackets, frames, and gangways.

These elements are often highly customised to fit unique site geometries or loading conditions. Instead of being cut and assembled manually, engineers now use CAD (Computer-Aided Design) files directly in conjunction with CAM (Computer-Aided Manufacturing) software to drive robotic systems. These systems can perform precise, repeatable cuts and welds, reduce human error and allowing faster production with high consistency.

An example is Seaflex anchoring systems, which often involve precision-manufactured elastic moorings and attachment assemblies. These are digitally designed and manufactured to suit

exact seabed profiles and wave conditions, ensuring minimal ecological disturbance and maximum longevity.

Moreover, these digital design tools are increasingly being integrated into the manufacturing and fabrication process. For example, marina components such as pontoons, piling guides, and gangways are now being modelled in 3D environments and then manufactured using CNC (Computer Numerical Control) machining or modular fabrication methods. This integration ensures precision, reduces waste, and allows prefabrication, accelerating construction timelines.

THE SMART MARINA REVOLUTION

Digitisation is enabling smarter marina management post construction. IoT-enabled systems can monitor dock usage, energy consumption, and weather conditions, allowing marina operators to make informed, real-time decisions. Combined with data analytics, this leads to enhanced safety, operational efficiency, and long-term cost savings.

IoT stands for the Internet of Things. It refers to a network of physical devices—like sensors, machines, vehicles, appliances, or even entire buildings that are connected to the internet and can collect, share, and act on data.

In the context of marina design, IoT devices might include:

- **Smart sensors** on docks to monitor occupancy, movement, or structural integrity.
- **Weather stations** to track wind, tide, and temperature in real time.
- **Energy meters** that track power and water usage per berth.
- **Security cameras** and access systems that integrate into a central control panel.
- **Remote-controlled lighting or charging systems** that respond to usage or schedules.

All of these devices can be managed remotely and used to make data-driven decisions, improving efficiency, safety, and sustainability.

GREEN INFRASTRUCTURE TAKES THE HELM

Sustainability has become another key driver of innovation. The new era of marina design emphasises eco-engineering - integrating green infrastructure like floating wetlands, fish habitats, and low impact anchoring systems. Solar-powered lighting, water recycling stations, and electric vessel charging points are now standard in many forward-thinking marinas. These innovations not only reduce environmental impact but also align with global marine conservation goals and appeal to a growing eco-conscious boating community.

In short, marina design is no longer just about accommodating boats - it's about crafting future-ready waterfronts that harmonise technology, environment, and community needs. As standards like AS3962 evolve to reflect this digital and ecological shift, the industry stands on the brink of a smarter, greener maritime future.

The next generation of marinas won't just float - they'll think, adapt, and sustain.

This story originally appeared in the Marine Industries Association Waterline Magazine and is reproduced with our thanks.



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ABOUT THE AUTHOR, JOHN HOGAN

John Hogan is the Director of Marine Structures, a company formed through the merger of Superior Jetties and The Jetty Specialist Groups. Headquartered in Southeast Queensland, Marine Structures has become Australia's leading provider of marina infrastructure. With manufacturing facilities on both the Sunshine Coast and the Gold Coast, the company has been serving the market for over 35 years, producing and installing a wide range of marine berthing systems across Australia and exporting through an international dealer network.

Smart marinas: how AI is changing berth booking and boater services



by Hans
Buitelaar,
METSTRADE



The hospitality sector of the marine industry works to provide easy digital access to the services that marinas provide. Boaters can book, use and pay for berths, fuel, water and all the other services using a simple app. For marina management, keeping track of berth availability and more, A.I. powered software platforms form the back end of the visitor apps. The next step is to integrate the variety of websites and apps into one platform, possibly even on the navigation screens of yachts.

During Mediterranean high season, finding a berth in a marina can be hard. Drawing from personal experience as a flotilla leader, I know the search for safe harbours along Croatian Islands can be horrifying. Finding spots for the eleven yachts in the flotilla every day is certainly not an easy task, especially since there are other flotillas exploring the same cruising grounds. Most municipal marinas are not connected to a booking system.

If there is a website, one hopes it is in English. The harbour master's telephone number is given, but when called, the operator says reservations are not possible. After explanation that we are coming with a flotilla of eleven yachts, with often inexperienced sailors and their families on board, we are urged to get to the marina early, otherwise the berths will be given to other yachts. Five minutes to four o'clock, the mobile rings and the harbour master says the berths are not for our flotilla any more. "But we are underway at sea with ten yachts with inexperienced sailors who need a harbour". Answer: "Not my problem." This baffling lack of responsibility really perplexed us as flotilla leaders. Do these marina officials know the sea at all? Why is it so hard to book a berth?

Clarity

Modern marina management chooses automation to provide clarity for yachties. The example above illustrates how in touristic areas, it can be hard to find even slightly qualified staff. Having a good website and a clear system of booking berths is essential if marinas want to provide a good experience to their visitors and berth holders. While staff may have a hard time maintaining oversight of free spots and the number of incoming boats during the afternoon, modern automated systems are provided with information from camera's, the booking system, weather data and more to determine if there are free spaces for sailors to make a reservation. Whereas an automated system might not be as hospitable as personal contact, at least it provides clarity and allows for reservations.

Services

Automation of marina operations may include a lot more than berth bookings. Availability of fuel and water, electricity and black water disposal can all be part of the digital interface that allows the visitor or berth owner to plan the necessary procedures during the marina visit and pay for it all at once. The user interface for the visitor will be a website or an app. Marina staff can have an overview platform on their screens to review the number of visitors and the use of services.

User central

Key is to have the customer – a leisure boater on holiday – central. The new generation of boaters navigates digitally. On their plotters, they see other yachts that have AIS active, they can see accurate weather conditions.

Today, they will need to consult their smartphones for weather predictions, marina reservations and use VHF to communicate. For the sailors, it would be great if all of such services could be integrated in the same electronic devices. As Melanie Symes of Innova Marina consultancy puts it: "Imagine a world where, from within the boaters navigation platform they can see real time berth availability, book a berth, update their ETA dynamically, check in, check out, pay the marina. Where they can find an anchorage with an advanced mooring system and reserve a buoy so as to avoid damaging seagrass beds. Where power consumption can be precisely predicted by factoring in tide and weather conditions. All these things are possible now, but not common place.

Digital-First might be the new navigation mantra, but there is Digital Hesitation in other parts of our industry." As soon as long time sailors of progressing age get their aha-moment, they will acknowledge the value and ease of digital booking and paying, too. Most digital navigation systems do not have this kind of booking availability today.

If different platforms keep competing, the user of the other tool will simply not find your marina or think it is too much of a hassle to get a berth there. Digital booking might be less personal than calling the harbour master. But it provides clarity and saves boaters from being perplexed by incompetent and bluntly unfriendly staff like I experienced in the Dalmatian Islands.

METSTRADE website www.metstrade.com

Smart platforms

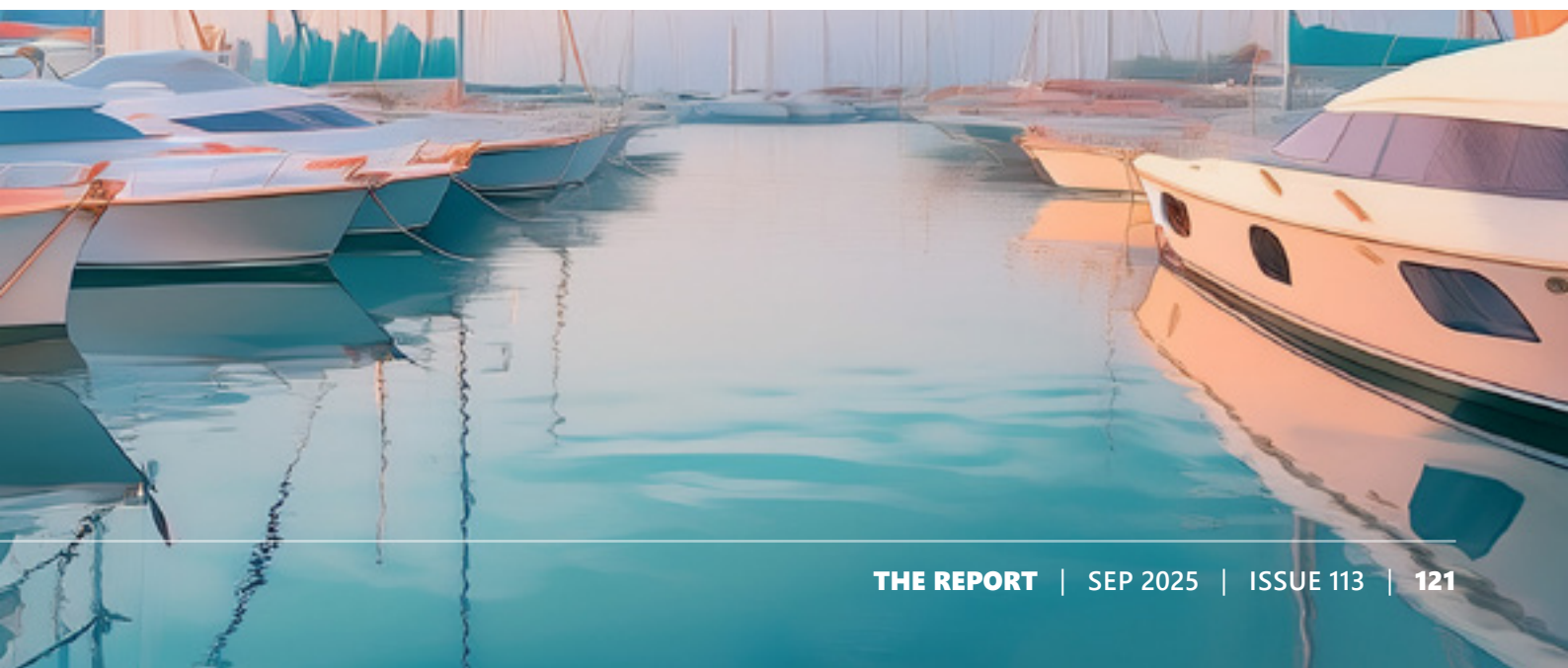
Following up on the various berth reservation platforms like Marina Reservation, Dockwa or the Blue Water App, some start-ups are including A.I. into the marina management platforms to provide a much more comprehensive system, including supply management, predictive maintenance of equipment, predictions of incoming traffic and more. These systems are provided with information from camera's, AIS, weather forecasts, data from the marina equipment like power outlets and water taps. Examples of such platforms include Elite Marinas, Harbr or Pacsoft.

Chains and independents

The marina business is currently in the process of concentration. The real estate, client bases, services and contracts are bought and integrated into large companies or conglomerates, marina chains. The bigger chains are all implementing apps for berth reservation and more. Everybody is sure that smart platforms, using advanced algorithms to support management and provide easy access to visitors, are the (near) future of the marina business. A lot of independent, one-location marinas remain. For them, the initial cost of installing all of the hardware to create an internet-of-things network that monitors all equipment, getting a subscription to the right software platform and implementing all of that, will be relatively higher.

Book from nav screen

The challenge is to create a connection of marina management platforms that will be accessible from a lot of instruments, smartphones, websites and boater tools. The new digital aware boater will not want to download a new app for every other marina they visit. Like Symes said: put the boater central.





Developing a strategy for Africa's future as a superyacht destination

By Maryanne Edwards



At the African Boating Conference this coming October in Cape Town, industry leaders will be calling for a pragmatic, inclusive approach to unlock the continent's untapped potential as a world-class superyacht destination, where local insight, not just ambition, steers the course

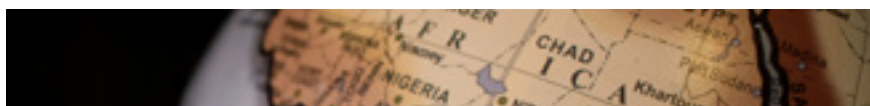
As the global superyacht industry continues to grow, regions once considered peripheral are now capturing the interest of high-net-worth individuals seeking new and distinctive cruising experiences. Africa – with its expansive coastlines, rich biodiversity, cultural depth, and emerging marine infrastructure – has the potential to become a premier superyacht destination. But realising this vision requires more than infrastructure investments or aspirational marketing. It demands a thoughtful, inclusive, and well-informed strategy – shaped by those who know the sector best: superyacht captains, marina operators, agents, and local maritime stakeholders.

The Opportunity: Africa's Untapped Superyacht Potential

From the island nations of the Indian Ocean to the striking coastlines of South Africa, Namibia, Mozambique, and West Africa, the continent offers a wealth of unique cruising routes. Yet, despite its geographic advantages, superyacht activity remains minimal.

A comprehensive strategy could position Africa as an integrated, desirable stop on global cruising itineraries. But to be effective, this strategy must go beyond high-level ambitions and address the practical, operational, and regulatory realities of accommodating large yachts and their discerning clientele.

The African Boating Conference is creating a pivotal platform to advance this dialogue – by convening key industry stakeholders for a focused discussion on shaping Africa's superyacht future.



The Value of Engaging Captains and Maritime Stakeholders

Superyacht captains are far more than vessel operators – they are decision-makers and trusted advisors. Their perspectives on port safety, logistical convenience, regulatory clarity, and service quality directly influence routing decisions. Whether a yacht chooses to berth in Cape Town, cruise to Zanzibar, or bypass Africa altogether often hinges on their judgment.

To craft a successful superyacht strategy, input must be gathered from the full ecosystem, including:

- Captains and crew – for insights into port access, provisioning, safety, and routing preferences
- Marina developers and operators – to identify infrastructure gaps and assess commercial viability
- Customs, immigration, and port authorities – to address policy inefficiencies and procedural hurdles
- Charter companies and agents – to gauge market readiness and demand trends
- Local businesses and tourism bodies – to align yachting with broader economic and community goals

Without the voices of these stakeholders, strategies risk being unrealistic or misaligned. Policies that appear welcoming on paper may be impractical in execution – ultimately discouraging, rather than attracting, superyacht visits.

CONCLUSION: Seizing the moment

Africa is on the brink of a transformation in the global yachting arena. But success hinges on collaboration. A superyacht strategy built in isolation – without the insights of those who sail, service, and support these vessels – will fall short.

Engaging stakeholders isn't a formality; it's a foundational requirement

The African Boating Conference offers a vital opportunity to shape a shared vision – one that not only attracts superyachts but also leverages them as catalysts for coastal development, marine innovation, and a thriving blue economy. With the right input and alignment, Africa can chart a bold course – welcoming the world's most sophisticated vessels while delivering tangible benefits to its shores.

The Cost of Exclusion: Risks of Poor Stakeholder Engagement

Failing to consult key players can have serious consequences, including:

1. Infrastructure Mismatch

Marinas may be built without sufficient draft, security, or essential services – leading to underutilised or financially unsustainable developments

2. Bureaucratic Barriers

Complex or unclear customs, immigration, and port procedures can prompt yachts to avoid entire regions due to inconsistent clearance processes or high fees

3. Missed Economic Opportunities

Superyachts can inject significant local revenue through provisioning, maintenance, excursions, and hospitality. Without local engagement, these benefits may be concentrated among a few, leaving little long-term impact

4. Reputational Damage

Captains and crew are part of a tightly networked community. One negative experience – whether related to bureaucracy, safety, or service – can influence decisions for years

5. Lagging Behind Competitors

Other emerging destinations, such as Southeast Asia and the Middle East, are actively developing captain-informed superyacht strategies. Africa risks being left behind if it doesn't keep pace

- About the Africa Boating Conference -

The African Boating Conference, set for October 21-22, is bringing together a powerful lineup of speakers whose international knowledge and expertise will provide valuable insights for application in African marine markets and local industry. Three keynote speakers are Martin Baum, managing director of Pantaenius; Paul Darrouzet, owner of Coral Sea Marina, Australia's award-winning superyacht marina; and Robertson & Caine CEO Theo Looock. Baum will address the growing challenges of risk management and financial protection, while Darrouzet will share insights into marina development and the superyacht sector. Looock's address will provide key insights into Africa's standing within the global boating sector, highlighting market trends, opportunities for growth, and strategies to enhance innovation and sustainability. Looock's perspective underscores the continent's immense potential to become a leading hub for marine manufacturing and export as the African market continues its rise.

Also speaking at this inaugural event are Kevin M Williams, transformative marketing leader at the National Marine Manufacturers Association (NMMA) and Discover Boating, and Arturo Gutierrez, General Manager of Freedom Boat Club – Europe, Middle East, and Africa.

Website:

<https://www.africanboatingconference.com>

The Electric & Hybrid Marine Expo took place in June at the RAI Centre in Amsterdam with over 150 exhibitors showcasing the best and the latest in lower carbon propulsion systems, including battery electric, hydrogen fuel cell, hydrogen combustion, alternative fuels and many combinations thereof.

The Electric & Hybrid Marine Awards were presented on the first evening. There were nine categories recognizing and honouring the world's manufacturers, suppliers, engineers, innovations and products in the electric and hybrid marine propulsion arena. Many of the awards were almost exclusively for commercial vessels and associated technology, but the nominees applicable to leisure/recreation boats and yachts fared well too.

The awards are coordinated by Electric & Hybrid Marine Technology International magazine and officiated by a panel of judges comprising some of the world's leading maritime journalists, industry experts and academics.

electric & hybrid marine AWARDS 2025 winners



Category: Environmental achievement of the year – propulsion system design

Celebrating the latest and greatest breakthroughs in electric and hybrid propulsion technologies and system design.

Winner: Genevos – H2-Pack solutions for America's Cup chase boat



"We are extremely proud to be recognized for the key role our team actioned in the delivery of the Luna Rossa Prada Pirelli America's Cup full-hydrogen chase boat, enabling 50kts speeds!" said Rebecca Sharp, CEO and co-founder of Genevos. "This all-important trophy reflects the successful delivery of the Genevos Complete H2-Pack of solutions, which included not only the delivery of two plug-and-play HPMs but also integration and commissioning services, specifically managing the hydrogen storage and gas management, including the safety management strategy, all validated by maritime classification society Lloyd's Register!"

Category: Environmental achievement of the year – vessel design

Recognizing achievements relating to improved vessel sustainability outside of propulsion systems.

Winner: E-Force Marine for the Aurora e30



"We're honoured to win this award," said founder and CEO Al Haghayegh. "It all started when I decided to convert my own boat to electric. I just wanted something cleaner, quieter, and more fun on the water. That simple idea turned into E-Force Marine, and eventually the Aurora e30. Our goal wasn't just to build an electric boat, but to create something that's truly better for the environment and for the boating experience. Getting this kind of recognition on a global stage tells us we're on the right path. This wouldn't have been possible without the hard work and dedication of our team."

Category: Environmental achievement of the year – industry contribution

Presented in conjunction with the International Electric Marine Association: IEMA

Recognizing the contribution that a person, company or organization has made to improve environmental responsibility across the marine propulsion industry.

Winner: The Electric Seaway Project, led by Aqua superPower and ZPN Energy



"On behalf of Aqua superPower and our incredible consortium partners, we are deeply honoured to accept this award," said Karen Gill, COO of Aqua superPower. "The Electric Seaway project represents more than just innovation – it's a bold step toward a cleaner, more sustainable maritime future. With the support of the UK government and our dedicated collaborators, we are building the infrastructure that will power the next generation of electric vessels and help realize the ambitions of Maritime 2050. This recognition is a testament to the power of partnership, vision and the shared commitment to decarbonizing our waters."

Category: Concept vessel design of the year

Showcasing the brightest and best in conceptual vessel innovation, highlighting ships with electric, hydrogen and hybrid propulsion systems.

Winner: ABB and SeaFjord Energy for e-bunker vessel concept



Category: Vessel charging innovation of the year

Showcasing the most cutting-edge onboard technologies relating to vessel charging.

Winner: Cavotec for the Megawatt Charging System Manual Dispenser



Category: Ports and harbour innovation of the year

Acknowledging achievements relating to maritime electrification taking place in ports and harbours.

Winner: Hitachi Energy for the HyFlex shore power at Port of Gothenburg



Category: Hydrogen technology breakthrough of the year

This award focuses specifically on hydrogen propulsion technology breakthroughs.

Winner: Hypermotive and Honda for X-M1



In the Hydrogen Technology Breakthrough of the Year category, the judges recognized Hypermotive and Honda for their X-M1 scalable, modular, hydrogen fuel cell power system designed to make clean energy transition more accessible and achievable for maritime operators.

Category: Marine industry supplier of the year

This award champions the suppliers working to enable decarbonization across the marine industry.

Winner: Genevos



"Achieving this award importantly demonstrates the added value our offering brings to our clients as part of a critical climate response," said Genevos CEO and co-founder Rebecca Sharp. "The mammoth task of decarbonizing the maritime sector requires considerable collaboration and end-to-end solutions. Our mission is to simplify this transition through our Complete H2-Pack of solutions offering drop-in solutions for hydrogen power, including e-fuel reformer compatibility, engineering, integration and commissioning services. We are delighted to lift the 2025 Marine Industry Supplier of the Year trophy!"

Category: New propulsion technology of the year

Recognizing the most important breakthroughs in propulsion technologies from the last 12 months.

Winner: BlueNav



National Maritime Museum confirms final resting place of Cook's historic vessel []



The Australian National Maritime Museum has released its final report, *Locating HM Bark Endeavour*, concluding a decades-long effort to determine the fate and final resting place of one of the most significant vessels in maritime history. This comprehensive document details the archival research, archaeological work, and international collaboration that has led to the confirmed identification of shipwreck site RI 2394, located in Newport Harbor, Rhode Island, USA, as the remains of the British troop transport *Lord Sandwich*, formerly *His Majesty's Bark Endeavour*.



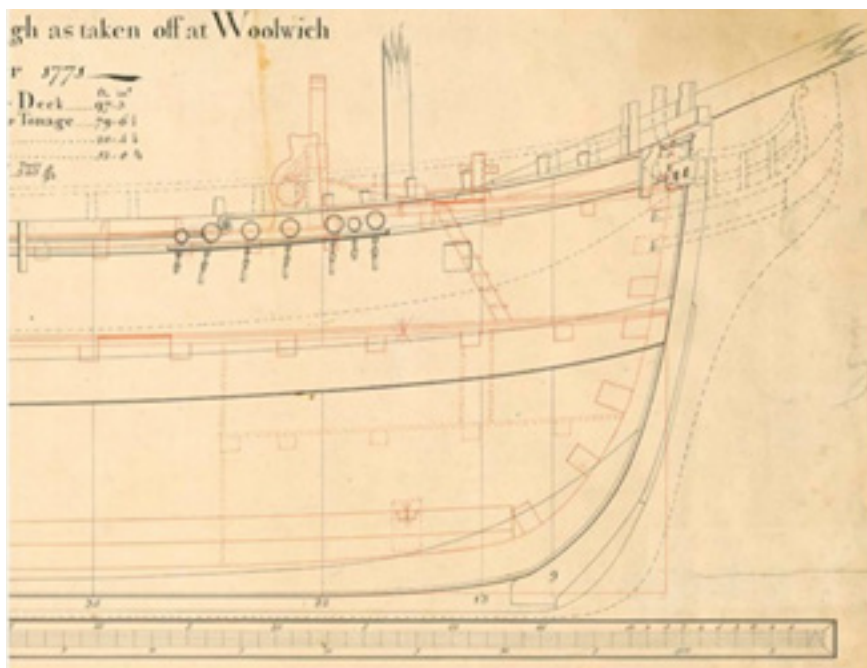
1768 draft body plan of *Earl of Pembroke* produced at the dockyard at Deptford just after the British Admiralty bought the vessel. Note the rider or deadwood keelson. Image credit: Australasian Pioneers Club collection.

Endeavour holds a complex place in Australia's maritime and cultural memory. For some, the ship's Pacific voyage between 1768 and 1771 under the command of James Cook represents a heroic chapter of Enlightenment science and navigation. For others, it marks the beginning of European colonisation and the enduring dispossession of First Nations peoples. While the vessel's role in Australian history is well known, its later use as a prison ship during the American War of Independence is less understood.

Following its return to England in 1771, *Endeavour* was repurposed as a naval transport and eventually sold into private hands. Renamed *Lord Sandwich*, the ship was employed to carry British troops to the American colonies. By 1778, the vessel was in poor condition and was being used to house American prisoners of war in Newport Harbor. When American and French forces laid siege to the town, the British command scuttled thirteen vessels in the harbour, including *Lord Sandwich*, to form a submerged blockade. Unlike other vessels that were later salvaged, *Lord Sandwich* remained beneath the water where it was sunk.

In 1998, Australian historians Mike Connell and Des Liddy published research identifying *Endeavour's* ultimate fate. Their archival work revealed the vessel's renaming and sinking in Rhode Island. Building upon these findings, Dr Kathy Abbass of the Rhode Island Marine Archaeology Project (RIMAP) worked to identify the location of the scuttled ships. In 1999, the state of Rhode Island asserted legal ownership of all thirteen wrecks in Newport Harbor, a claim upheld by the US Federal District Court. This decision placed responsibility for protecting and licensing archaeological work on these sites with the Rhode Island Historical Preservation and Heritage Commission (RIHPHC).

The Australian National Maritime Museum commenced its collaboration with RIMAP in 1999. Together they launched a series of expeditions in 1999, 2000, 2001, 2002, and 2004, deploying remote sensing technologies, diver surveys, and laboratory analysis of samples of timber, coal, stone ballast, and sediment from 18th-century shipwreck sites in the harbour. Despite these efforts, none of the early sites examined could be conclusively identified as Lord Sandwich.



Extract from the body plans of His Majesty's Sloop Raleigh as taken off at Woolwich in November 1771. Photo credit: Royal Museums Greenwich 19483.

In 2015, the partnership resumed with renewed focus. A breakthrough came in 2016 when Dr Nigel Erskine of the ANMM uncovered critical archival documents that narrowed the probable location of Lord Sandwich to a specific area just north of Goat Island in Newport Harbor. This Limited Study Area (LSA) included five of the original thirteen transports sunk in 1778, with Lord Sandwich known to be the largest among them.

Between 2017 and 2021, researchers conducted systematic surveys of five wreck sites in the LSA: RI 2396, RI 2397, RI 2578, RI 2393, and RI 2394. Of these, the two largest—RI 2578 and RI 2394—emerged as the most likely candidates for Lord Sandwich. RI 2578 revealed a stone ballast pile mixed with iron kentledge and eroded ship's timbers. A small cannon and an iron anchor were also present, but the dimensions and features did not match what is known of Endeavour's construction.

By contrast, RI 2394 exhibited characteristics much more consistent with Lord Sandwich. The site, measuring 18.2 metres long by 7.3 metres wide, includes a linear stone ballast pile, a line of exposed timber frames (or ribs) on its eastern side, and four iron cannons. A lead scupper and other diagnostic elements further strengthened its candidacy. RIHPHC permits granted between 2019 and 2021 allowed for deeper excavation, which exposed significant structural features of the ship's hull including the bilge pump well, the keel and keelson, and eventually, in 2021, the bow assembly.

The analysis of the site's timbers proved particularly compelling. The size and layout of key structural components—referred to as 'scantlings'—matched those documented during the Royal Navy's 1768 survey of Endeavour. While some had hoped to find evidence of tropical woods that might have been used during repairs in Australia or Indonesia, the timbers sampled in 2021 were of European origin. This aligns with records that indicate Endeavour underwent significant repairs in 1776, after its sale out of naval service and shortly before it was sent



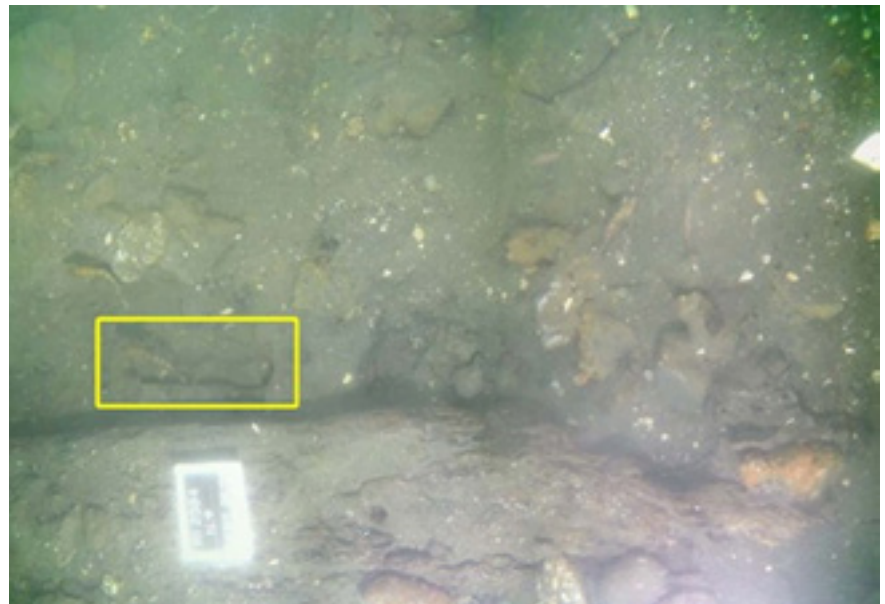


to America. The repaired bow, constructed from European timbers, fits with this timeline and supports the vessel's later identity as Lord Sandwich.

In addition to the physical materials, researchers noted construction features unique to Endeavour, such as the use of paired and tripled floor timbers positioned precisely where the ship's main and fore masts would have stood. A particularly rare joint—a scarph connecting the stempost to the forward end of the keel—was also observed on RI 2394, matching details specific to Endeavour's original build.

In both 1999 and 2019, RIMAP and the ANMM established a set of criteria that would be used to determine the wreck's identity. These criteria, based on a "preponderance of evidence" approach, combined historical documentation, structural analysis, material identification, and archaeological context. With the publication of this final report, the ANMM has declared that enough of these criteria have now been met to positively identify RI 2394 as the wreck of Lord Sandwich, formerly His Majesty's Bark Endeavour.

Given the vessel's historical and cultural importance to Australia, New Zealand, the United Kingdom, the United States, and Indigenous peoples throughout the Pacific, the ANMM emphasises the need for the highest level of legislative and physical protection of the site. The discovery brings closure to a long-standing historical mystery and marks a significant moment in international maritime heritage.



Mosaic showing frame and scuttling hole beneath letter board, north is at bottom of image.
Photo credit: (John D. Broadwater).

The identification of RI 2394 not only confirms the final resting place of Endeavour, but also invites broader reflection on the complex legacies of exploration, science, colonisation, and conflict that the ship represents. More than 250 years after it first set sail from England, Endeavour continues to shape conversations about history, identity, and the maritime world. With this confirmation, a tangible piece of that history has been brought back into view.

Read the Executive Summary
taken from the report itself...

His Majesty's Bark (HMB) Endeavour is a significant vessel in Australian maritime history and one that elicits mixed opinions. For some, the Pacific voyage led by James Cook between 1768 and 1771 embodies

the spirit of Europe's Age of Enlightenment, while for others it symbolises the onset of colonisation and the subjugation of First Nations Peoples. Less well understood in Australia is Endeavour's afterlife as a British troop transport and prison ship caught up in the American War of Independence. It was in this capacity – and renamed Lord Sandwich – that the vessel was deliberately sunk in Rhode Island in 1778.

This report outlines the archival and archaeological evidence that confirms the identification of the shipwreck site of Lord Sandwich, formerly HMB Endeavour. The site, officially known by its Rhode Island state archaeological site number RI 2394, is in Newport Harbor, in the state of Rhode Island and Providence Plantations, USA. As the culmination of a 26-year program of archival and archaeological research, the identification of RI 2394 as Lord Sandwich (ex-HMB Endeavour) was based on a 'preponderance of evidence' approach.

When Endeavour returned to England in 1771, it largely passed out of public view. The vessel was instead used as a naval transport before being sold to private owners, who renamed the bark Lord Sandwich and used it to carry troops to the American colonies in support of British campaigns. In 1778, the vessel was in poor condition and relegated to gaoling American prisoners of war in Newport Harbor. When American and French forces besieged the British-held town, Lord Sandwich was one of thirteen vessels scuttled (deliberately sunk) to act as a submerged blockade. It was never salvaged and remained where it sank.

In 1998, two Australian historians, Mike Connell and Des Liddy, determined Endeavour's fate via archival research (Connell and Liddy 1997). Dr Kathy Abbass of the Rhode Island Marine Archaeology Project (RIMAP) built upon their work, and consequently in 1999 the state of Rhode Island laid claim to the wrecks of all ships scuttled in Newport Harbor in 1778. This claim was upheld by the District Court of the US Federal Government, leaving the Rhode Island Historical Preservation and Heritage Commission (RIHPHC) responsible for protecting and licensing any archaeological work on these shipwrecks, including Lord Sandwich (ex-HMB Endeavour).

The Australian National Maritime Museum (ANMM) commenced working with RIMAP in 1999 to locate the shipwreck site of Lord Sandwich. This relationship led to a series of archaeological expeditions in Newport Harbor in 1999, 2000, 2001, 2002 and 2004. These projects undertook remote sensing of the seafloor, underwater survey by divers, and analysis of samples of stone, coal, timber, and sediment raised from a range of shipwreck sites of 18th-century vintage. None of the candidate sites proved to share sufficient characteristics to be identified as the wreck site of Lord Sandwich.

The RIMAP-ANMM project resumed in 2015, and further diving expeditions continued to survey a large area of Newport Harbor. In 2016, new research by ANMM's Dr Nigel Erskine located archival evidence that substantially narrowed the location within the harbour in which Lord Sandwich was scuttled (Erskine 2017). This Limited Study Area (LSA), just to the north of Goat Island, encompassed five of the 13 transports sunk in 1778, of which Lord Sandwich was the largest by a substantial margin (Abbass 2016: 2–4). Between 2017 and 2021, the project team investigated the remains of five shipwrecks located within the LSA: RI 2396, RI 2397, RI 2578, RI 2393, and RI 2394 (Abbass 2016, 2017, 2021; Abbass and Lynch 2019; Lynch and Abbass 2020; Broadwater 2020; Broadwater and Daniel 2021).

The two largest shipwreck sites, RI 2578 and RI 2394, were considered the most likely candidates for the remains of Lord Sandwich. Archaeological survey of RI 2578 has revealed a 14.0 metre x 8.2 metre site comprised of a linear stone ballast pile mixed with iron kentledge (ballast blocks).

The site also includes eroded ship's timbers that are thought to be associated with the ballast pile (Abbass 2016 and 2017; Hosty 2016 and 2017). Although a substantial iron anchor and a small iron cannon are also present, RI 2578 does not feature sufficient characteristics to be identified as Lord Sandwich.

RI 2394 is substantially larger than RI 2578, with visible remains covering an area 18.2 metres long x 7.3 metres wide (Abbass 2016: 52). It comprises a linear stone ballast pile with a line of exposed, articulated timber frames (ribs) of substantial size along its eastern periphery. Four iron cannons are also visible on the site, along with a lead scupper. Analyses have been undertaken on the site's hull timbers, ballast, and artefacts.

Excavation permits granted by RIHPHC between 2019 and 2021 allowed more detailed investigation of RI 2394, including exposure of hull architecture and diagnostic features such as the bilge pump well, the keel and keelson, and, in 2021, the bow assembly. The dimensions of a range of structural timbers – collectively referred to as 'scantlings' Australian National Maritime Museum – Locating HMB Endeavour – compare favourably with measurements taken when Endeavour was surveyed by the Royal Navy in 1768. Timber samples have also been taken on three occasions, with the most recent batch collected in September 2021. Analysis of the most recent samples, while not containing evidence of exotic species (e.g., non-European timbers that may have been used to repair Endeavour in Australia and/or Indonesia in 1770), do seem to indicate the bow section of RI 2394 underwent significant repairs that utilised European timbers later in its life (Illic 2022: 1). This evidence correlates well with the history of HMB Endeavour, which underwent significant repairs in 1776, shortly after being sold out of naval service. Site measurements and probing of the seafloor have also confirmed the extent of RI 2394's surviving hull (from bilge pump to bow) is very close to that of Endeavour between those same locations. RI 2394 shares other similarities with Endeavour, including the placement of paired and tripled floor timbers that correspond exactly with the locations of Endeavour's main and fore masts, and the presence of a very unusual joint or scarph that connected the stempost and forward end of the keel.

In 1999 and again in 2019, RIMAP and ANMM agreed on a set of criteria that, if satisfied, would permit identification of RI 2394 as Lord Sandwich (see Abbass 1999; RIMAP and ANMM 2019). Based on the agreed preponderance of evidence approach, enough of these criteria have now been met for the ANMM to positively identify RI 2394 as the remnants of Lord Sandwich, formerly James Cook's HMB Endeavour. Given Endeavour's historical and cultural significance to Australia, Aotearoa New Zealand, England, the United States of America and First Nations peoples throughout the Pacific Ocean, positive identification of its shipwreck site requires securing the highest possible level of legislative and physical protection for RI 2394.

Read the report at <https://bit.ly/4efRTdm>



MARINE SURVEYOR SEARCH



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App Store



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A day in the life of Lt. Commander John Leech

In this edition of 'A Day in the Life of'. Mike Schwarz chats with and poses the questions to experienced Irish based marine surveyor, Lt. Commander John Leech.



Q1. As a child, what were your aspirations, and did you ever imagine that later in your life you would have made your career in the maritime world?

Yes, I did, as I was raised 14 feet from the River Shannon in Athlone, so I spent as much of my life as possible rowing, fishing, sailing, swimming and later diving outside my house. I am a hydrophile. I loved boats and barges, especially working on them, so I wanted to go to sea in either the merchant navy or the Naval Service.

Q2. I have always wondered about your title Lieutenant Commander. What can you tell me about its significance and the role you played in achieving that rank?

I followed the lordly Shannon to sea when I was 19 and ended up in the Naval Base, Haulbowline, Co. Cork. Following a few months of military training with our Army in the Curragh Training Centre, I was sent off to train with the Royal Navy in Dartmouth. In total over my career, I spent two years training with the Royal Navy both ashore and at sea, which served me well, because at that time the training facilities at the Naval Base in Ireland were not fit for purpose, unlike now where they have a state of the art training facility in Ringaskiddy, Co Cork used by the Navy and Merchant Navy and other maritime agencies for nearly all types of training.

In the Navy, I served as Gunnery Officer, Navigator, Training Officer, in Charge of the Naval Diving Section, Sail Training, Commanded L.E. AISLING & L.E. ORLA, and served as Harbour Master at the Naval Base. I was twice seconded from the Navy, first time was to sail on the NCB Ireland for the Whitbread Round the World Yacht race and the second occasion was to sail onboard STV Asgard II, Ireland's Tall Ship and Sail Training Vessel as Second Mate. I retired from the Naval Service after 21 and a half years, of which I spent 14 and a half over the horizon away from family and friends. I then took up the appointment as CEO of Water Safety Ireland which is the Statutory Body established to promote water safety in Ireland. I made a significant contribution in reducing drowning from an annual average of 185 when I joined, to 110 when I retired twenty-one years later, we developed many innovative and successful drowning prevention strategies, which many developed nations around the world followed to reduce drownings in their own countries.

Q3. What does your typical 'bread and butter' weekly workload consist of – e.g. pre-purchase, insurance surveys?

Most of my work is completing insurance, pre-purchase surveys, damage assessments and overseeing refits on small crafts of everything from yachts, steamboats, barges and cruisers both at sea and on our inland waterways. I have occasionally acted as an expert witness in Coroners and Civil Courts, however, not for Ambulance chasers.

Q4. What are the key challenges facing marine surveyors in Ireland and what can the regulator do to help?

One of the challenges that I see is that one insurance company is using surveyors to complete an "Advisory Boat Check", instead of an independent surveyor completing a proper independent insurance survey with a valuation on the vessel. Essentially it is a check list of safety items on the vessel, which they tick off and then send the

report to the owner with any safety recommendations that they deem required to be completed. The problem with this is that when the vessel is written off due to a fire or sinking, the insurance company can then put whatever valuation they wish on the vessel, so quite a few owners have been caught out, as they don't have an independent valuation to argue their case with the insurance company. The insurance company advises their clients that they can have this tick box exercise completed on the water, but if they use an independent surveyor then they must have an out-of-water survey, thereby inflicting further expense on their clients. Thankfully the majority of the insurance companies require an out-of-water survey every five years. The standard of surveying has improved over the years, thanks mainly to the IIMS training and CPD for the members. Three years ago, Allianz Marine Insurance withdrew cover on marine insurance because of not having small craft properly surveyed on a regular basis, so that part of their insurance went bust, having to pay out enormous claims due to the lack of surveys being completed by independent surveyors. The creditable insurance companies now insist on an out-of-water survey every five years.

Q5. We have spoken about mentoring and training the next generation of marine surveyors and I know it is something you care about. What can you tell me?

In all professional walks of life, mentoring is an essential component of developing your career. I have had quite a few mentors throughout my working life, and I have found some outstanding and a few were average, one way or another I am a keen advocate of mentoring, and I feel it is important to share one's knowledge and experience to raise the standards of surveying in Ireland. I also mentor Race Officers for Irish Sailing. I have been involved in race management since I was a teenager, and I officiate at several regattas and championships at home and abroad each year. I enjoy sharing my knowledge and experience with younger and less experienced Race Officers. It is up to senior members to help raise the standards within our institute. I am an Associate Fellow of the Nautical Institute and a Member of the Irish Institute of Master Mariners, this also helps me stay up to date with many related matters and subjects relating to my surveying.



Q6. Given your extensive experience, what key words of advice can you offer to future generations of marine surveyors?

Don't do it unless you enjoy it, if you are not comfortable and happy in your work, you will make a poor surveyor, and you will not reflect well on our institute. Research your vessel if you have not surveyed that type before, take your time, be thorough, methodical, critical, analytical and write your report as though you are going to court the following day to defend it.

Q7. How important is it for experienced, as well as less knowledgeable marine surveyors, to maintain a library and to keep abreast of changing industry technologies?

The role of a surveyor, professionally, can be a lonely one as most of us work alone and we don't often get to discuss professional aspects of our work in a changing industry with technology advancing at a very fast rate. I have been surveying for many years, but I learn something new at every seminar that I attend. I love learning and I like asking questions, as I have a curious and enquiring mind. Most of my schoolteachers and lecturers and instructors appreciated my questions, the ones that did not were the weaker and less successful, less committed and less professional ones, whose careers were limited by their attitude.

Q8. Which is your favorite and most used surveyor's tool in your bag and why?

A ball pein hammer on metal vessels and a rubber coated mallet on FRP and timber vessels. I have discovered serious and major faults in hulls and fittings with them, more than any other tool. Recently, I discovered a poorly completed and dangerous repair to a Broom Continental which could have caused her to sink, had I not spotted it with my mallet. The owner of the yard was embarrassed as it had been completed by his staff some years previously. I have put my ball pein hammer through many barges and steel hulled vessels. The hammer is also valuable when checking skin fittings, valves, engine parts and deck fittings.

Dingle, Ireland



Q9. What inspires you in the morning and keeps you motivated to get to the next vessel?

My absolute love of small craft, since I was a child, I have simply loved them, and I look forward to new models or unusual and older designs and models. From my experience in my careers, I value safety as being paramount, having recovered many bodies as a Naval Diver and as CEO of Water Safety Ireland, promoting water and marine safety nationally in Ireland, it is essential when I leave that craft that my recommendations, when completed will ensure the safety of everybody onboard.

Q10. I am sure you have witnessed some amusing incidents whilst on survey. Which one are you prepared to share?

I have surveyed quite a few barges over the years, some of the conversions are carried out restricting access to vast areas of the hull, so the owner can't see the inside of their hulls. Be it a live onboard or a holiday used barge, some owners who I would know well, will swear to me that their barges are in good condition, so with those owners I will bet with them that I will buy them a bottle of champagne, port or wine if I don't put the hammer through their hull and they agree, and that they will buy a bottle for every time I do. So, one particular barge owner who I know well and sail against, agreed, and so it cost him six bottles of Champagne!

Q11. Ireland is such a beautiful country known to many, but for those who have yet to visit the Emerald Isle, how would you describe it and why should people come and visit?

Recently, I was listening to the radio when driving to a boat yard and tourists were being interviewed on their experience of their holiday. One English lady said, it's just the people, they are so warm, friendly and welcoming. We are fortunate to have a lightly populated island in comparison to most countries. Due to our temperate climate, it is very green, hence the famous country persons saying, "soft day, thank God". Our food is excellent, our animals spend nearly all their time on grass, so they taste great, and it is also why we breed most of the best bloodstock in the world; our horses and ponies are exported all around the globe. Being an island nation open to the Atlantic, we enjoy some of the best fishing grounds in the world, which provide excellent fresh fish. Ireland is sometimes referred to as the "Land of Saints and Scholars" and we also enjoy the ceol agus craic! (music and fun).

Q12. I know yacht racing is an activity you enjoy. Please tell me something about that and how else do you choose to spend your leisure time?

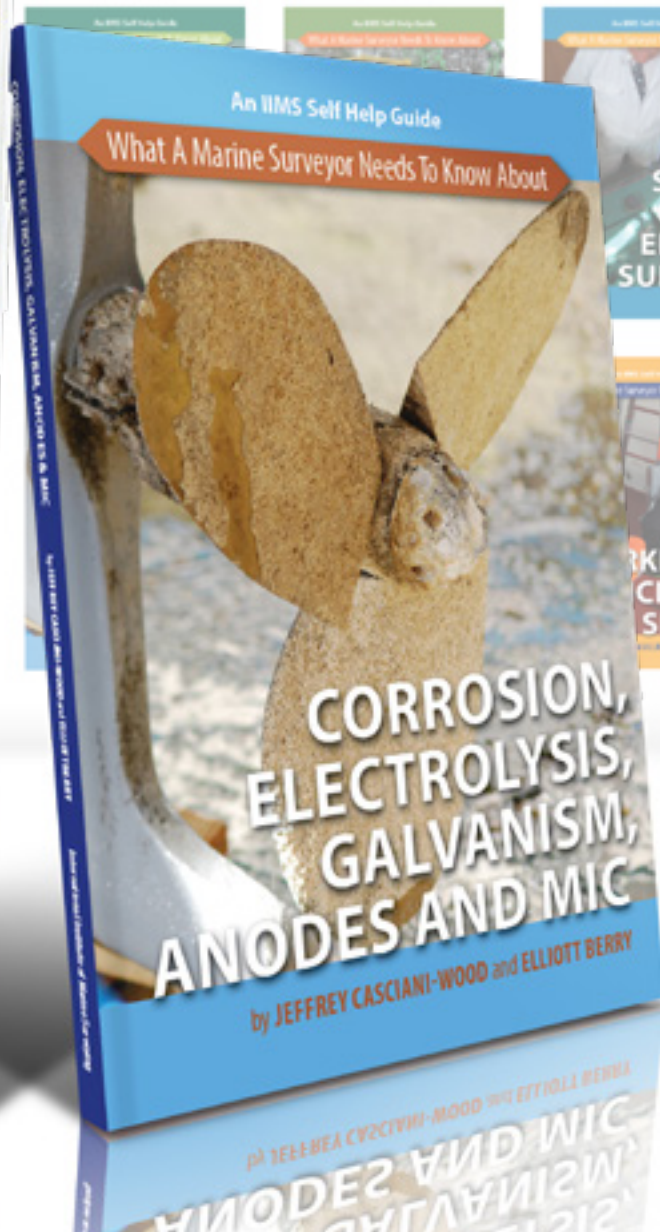
I have enjoyed sailing, cruising and racing since I was a young boy, and it is simply my fondest addiction. I am a member of the Galway Bay Sailing Club and the Lough Derg Yacht Club. So I race both at sea and on our large lakes in Shannon One-Designs (Morgan Giles designer), Squibs (Oliver Lees designer), Laser or ILCA's (Bruce Kirby designer), our Quarter Tonner (Stephen Jones designer) and a large cruiser, when I get a berth, I competed in a Salona 45 (J&J Design) during Sovereigns Week in July at Kinsale Yacht Club. I am currently Secretary of the Irish Cruiser Racing Association. I am a member of the Association of Yachting Historians as I love the history of the development of yachting and racing. I officiate as a Race Officer in events both at home and abroad every year. I am also an Irish Sailing measurer for several yachts and dinghies in Ireland. I help my wife year-round with her horses, she breeds Irish Draught horses, Connemara's and traditional Irish sport horses.

Brittas Bay, County Wicklow, Ireland



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From piracy and imprisonment to shipwrecks and suicides, our global team of crisis responders have been there, able to provide the immediate and long-term support that is needed to get through the trauma of a crisis at sea.

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You can read about some of the seafarers and families we have helped over the past 10 years here: sailors-society.org/crn-10

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