Number 98 March 2026

IFSMA NEWSLETTER

The Shipmasters' International Voice

IMO Canadian Arctic and the Norwegian Sea sulphur and nitrogen emissions

See article an Page 10

UNITY FOR SAFETY AT SEA
IFSMA

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Secretary General's Message

From the Secretariat at IFSMA, we hope you are all well.

Last month I started the foreword by saying that as usual there was much under way in the maritime world. Little did I know what would happen before our March 2026 Newsletter was published. Clearly, the main news is now about the attacks on merchant vessels in the Persian Gulf and Northern Gulf of Oman. Seafarers going about their daily work have been killed. This is clearly unacceptable from every perspective.

As at 5 March according to Gulf News (www.gulfnews.com) it was estimated that around 20,000 seafarers and 15,000 cruise ship passengers were stuck in the Gulf because of hostilities.

The IMO S-G was quoted in an interview with news agency AFP that the IMO is ready to work with all stakeholders to help ensure the safety and well-being of the seafarers affected.

Our main concern is the wider problem where seafarers are increasingly used as pawns in wider geopolitical conflicts. It is the nature of the seafaring profession, that seafarers of all nationalities travel the world onboard their vessels in order to transport goods. Trade is an essential part of the global economy and seafarers make it happen, which benefits the vast majority of countries. In order to do this, seafarers spend considerable lengths of time away from their families.

As an example, during Covid when the world was in lockdown seafarers kept the world's trade moving. However, when seafarers asked to be designated as priority workers to allow them to travel in order to join and leave vessels, many countries simply ignored the requests and in due course seafarers spent well over a year onboard their vessels or had to spend many weeks in quarantine before being allowed to travel and join a ship.

Following a similar theme, we now see seafarers being specifically targeted and killed while doing their job. Merchant ship masters are civilians and are not trained in warfare. However, they are placed in war-like situations where they have to make decisions in the best interests of their crew.

IFSMA supports the statement made on 1March 2026 by the Secretary-General of the International Maritime Organization Mr Arsenio Dominguez on the situation in the Strait of Hormuz:

"*I am deeply concerned by reports of at least one fatality and several seafarers injured in attacks on merchant vessels. No attack on innocent seafarers or civilian shipping is ever justified. These crews are simply doing their jobs and must be protected from the effects of wider geopolitical tensions.*

'*Freedom of navigation is a fundamental principle of international maritime law, and it must be respected by all Parties, with no exception.*

'*I am monitoring the situation closely, and I urge all shipping companies to exercise maximum caution. Where possible, vessels should avoid transiting the affected region until conditions improve.*

'*I also call on all stakeholders to remain vigilant against disinformation and to rely only on verified, authoritative sources when making navigational decisions.*

'*My thoughts are with the injured seafarers and their families. Their safety and welfare are our highest priority, and the IMO will continue working closely with Member States and partners to support safe navigation and to uphold the principle that civilian mariners must never be harmed.*'

On a lighter note, at IMO's Human Element, Training & Watchkeeping (HTW) sub-committee which sat during the week commencing 23February 2026, a paper IFSMA co-sponsored regarding a four-phase work plan looking at seafarer fatigue and hours of work and rest was fully approved. We know that seafarer fatigue is a widespread concern in the industry and has a direct impact on safe ship operations. Now the work can start to gather data on this subject and to make recommendations to the HTW sub-committee which will next sit at the beginning of 2027.

Finally, I would like to remind you all again to explore our new website at www.ifsma.org and follow us on LinkedIn and Facebook where we highlight our latest news, initiatives and updates.

We wish you the very best and safe sailing in these troubled times!

Andy Cook
Secretary General

From the News Editor

ISWAN's Annual Review 2024-25

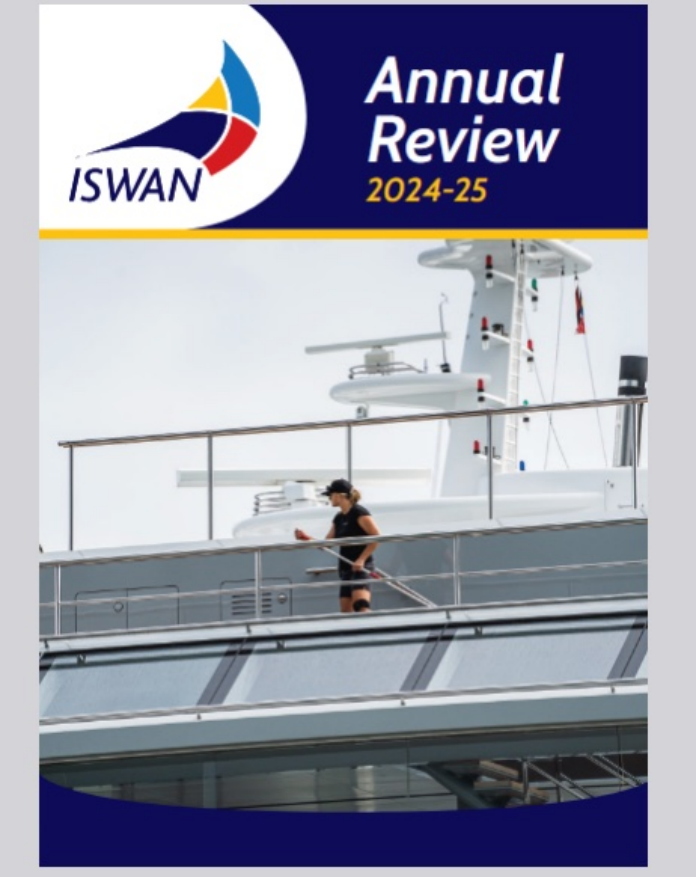
A year of growing demand, expanding impact and seafarer-centred change

This document highlights a year of continued growth, mounting need and positive, lasting support for seafarers and their families around the world.

The report covers the charity's work from 1 April 2024 to 31 March 2025, with updates through to the end of 2025.

Rising complexity in seafarer welfare needs

Across the shipping, cruise and yachting industries, seafarers and their families are turning to ISWAN with increasingly complex challenges, from mental health pressures and relationship strain to concerns about bullying, harassment and employment insecurity.



Both SeafarerHelp and YachtCrewHelp – ISWAN's confidential, 24-hour helplines – saw continued demand, with more cases requiring ongoing support, reflecting the isolating and often high-pressure environments in which seafarers work.

Strengthening global support for seafarers

ISWAN's international teams in India and the Philippines supported over 10,000 seafarers and families through humanitarian assistance, counselling, awareness-raising and crisis response. This period saw the launch of the Family Outreach Programme, expanded partnerships with governments and training institutes, and continued efforts to address recruitment fraud, promote mental health education and strengthen the wellbeing of seafarers and their families.

Driving sector-wide change

ISWAN continued to advocate for safer, fairer and more inclusive working environments across maritime sector. Key initiatives included research on the impact of maritime decarbonisation on wellbeing, the completion of the latest phase of the Social Interaction Matters (SIM) Project, and the expansion of programmes addressing safety, harassment and allyship at sea. ISWAN achieving consultative status at the IMO also ensures that seafarers' voices and lived experiences continue to inform global discussions.

Looking ahead

ISWAN's new 2025–28 strategy places seafarers and their families firmly at the centre of everything it does, supported by its members, funders and partners from the shipping, yachting and cruise industries.

In the coming months, ISWAN will also publish its SeafarerHelp and YachtCrewHelp 2025 annual reviews, offering deeper insights into the issues affecting crew across the maritime sector.

To read the ISWAN Annual Review 2024-25 readers are invited to use the link here:
https://tinyurl.com/5n8w7fts

The IMO Digest

A summary of some of the news received with grateful thanks from the excellent IMO Media service in recent weeks.

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IMO launches global campaign

To put maritime "policy into practice"

IMO Secretary-General calls for global application of safety and environmental

On 11 February the IMO launched a two-year global initiative to promote the World Maritime Day theme for 2026-2027: ***From Policy to Practice: Powering Maritime Excellence***.

In a video message marking the launch, IMO Secretary-General Arsenio Dominguez stressed that the global regulatory framework developed by IMO must not merely be adopted in principle, but translated into concrete actions and real-world results that deliver tangible benefits for all.

The 2026-2027 World Maritime Day theme 'From Policy to Practice: Powering Maritime Excellence' focuses on translating international rules into action at sea and on shore.

Secretary-General Dominguez said: '*When we talk about 'practice', we are talking about people. The seafarers on the ship; the people in the port; those managing ship operations, ship recycling workers, port State control officers and flag State administrators*.

'*To make the maritime industry truly sustainable, we must ensure these high standards are felt in every port and on every deck – not selectively, not unevenly, but globally. IMO is committed to powering this transition through technical cooperation and direct support*.'

Closing the enforcement gap

IMO's global framework of maritime conventions, codes and guidelines help to ensure ships operate and trade safely, efficiently and smoothly while protecting the marine environment. The framework is most effective when Member States adopt and implement IMO rules widely and consistently.

However, audits conducted under the IMO Member State Audit Scheme (IMSAS) have found gaps in national laws and enforcement in some countries. Those gaps weaken regulations and increase the risk of noncompliance and unsafe shipping.

To address this challenge, the campaign seeks to support Member States in deepening their understanding of IMO conventions and strengthening their ability to adopt and enforce them at home. The focus will be around nine pillars:

- **Capacity development and technical cooperation:** Boosting countries' capacity to apply IMO rules, through legislative support, enforcement frameworks and training.
- **Focus on SIDS and LDCs:** Tailored legal assistance and technical support for Small Island Developing States (SIDS) and Least Developing Countries (LDCs), recognising the unique challenges they face, while highlighting achievements.
- **Safety first through innovation:** Translating new safety standards on fuels, automation and digitalization into operational practice through updated training, oversight and risk management.
- **Regulatory readiness for decarbonization:** Equipping States to implement the IMO Strategy on the Reduction of GHG Emissions safely, consistently and in line with operational realities.
- **Tackling fraudulent ship registration and maritime fraud:** Developing practical guidance and strengthening due diligence, transparency and data-sharing to prevent unlawful practices and misuse of national flags.
- **Audit driven improvement:** Using IMSAS audit findings as a basis to address legal and enforcement gaps, prioritizing reforms and enhancing oversight and continuous monitoring.
- **Facilitation, digitalization and resilience:** Embedding digital systems, including Maritime Single Windows, into daily port operations to boost efficiency and resilience.
- **Cyber security and maritime security:** Integrating cyber risk management into safety management systems, training and port

operations to protect global shipping networks.

- **Ocean protection:** Implementing IMO environmental instruments (beyond those for GHG emissions), including on plastics, underwater radiated noise, invasive species and ship recycling, through national laws and day-to-day maritime operations.

Support the campaign

The IMO Secretariat plans to roll out a two-year action plan including events and outreach activities, knowledge products, partnership programmes and social media engagement to promote the theme.

As part of the campaign, **IMO Member States and observer organizations** are encouraged to organize events and activities throughout the 2026-2027 period and inform the Secretariat of their planned activities. Sharing outcomes and discussions on social media is encouraged, using the hashtags #WorldMaritimeDay and #MaritimePolicytoPractice.

Moving beyond the conference room

Secretary-General Dominguez urged: '*Let us move beyond the conference room and turn our collective decisions into real-world results that benefit everyone. It is time to move decisively from policy to practice*.'

For more information on World Maritime Day theme 2026-2027 see the link here: https://tinyurl.com/ye237kwv

Readers are invited to watch the Secretary-General's video message made in the Spanish port of Algeciras by scrolling down the link here: https://tinyurl.com/n4d6en7r

Transcript

A transcript of the Secretary-General's message is here:

'*For nearly eighty years, IMO has built the framework for global shipping – more than fifty international conventions shape the everyday of maritime life.*

'*However, we must be honest – experience shows that the true value of these instruments is realized only when they are effectively applied, delivering practical benefits on board ships, in ports and throughout the global maritime domain.*

'*The real test and the real responsibility lie in implementation, how we transition* **From Policy to Practice: Powering Maritime Excellence**.

'*This theme reflects our mission: ensuring that the global regulatory framework we develop is not merely adopted in principle, but translated into concrete actions and real-world results that deliver tangible benefits for all.*

'*When we talk about 'practice', we are talking about people. The seafarers on the ship; the people in the port; those managing ship operations, ship recycling workers, port State control officers and flag State administrators.*

'*To make the maritime industry truly sustainable, we must ensure these high standards are felt in every port and on every deck – not selectively, not unevenly, but globally. IMO is committed to powering this transition through technical cooperation and direct support.*

'*Let us move beyond the conference room and turn our collective decisions into real-world results that benefit everyone.*

'*It is time to move decisively from policy to practice*.'

Strengthening navigation safety

First IMO routeing workshop

It was announced by IMO on 12 February that government officials and maritime experts from Asian coastal States* gathered in Singapore from 2-6 February for the first IMO workshop on ships' routeing and ship reporting systems.

This workshop aimed to assist participants in strengthening regional expertise in navigational safety measures, IMO procedures and the effective implementation of ships' routeing and reporting systems, particularly in coastal States experiencing increasing maritime traffic.

Ships' routeing is the practice of following predetermined routes for shipping, designed to organize maritime traffic in busy or complex sea areas. It helps enhance safety of navigation, improve traffic flow, and reduce risks where conditions or traffic density require greater coordination.

Key topics addressed during the workshop included:

- Reviewing existing routeing measures and ship reporting systems.
- Planning and designing suitable ships' routeing and reporting arrangements for national and international waters.
- Understanding traffic patterns and navigational risks to support the analysis, justification and design of routeing measures.

- Gaining familiarity with IMO procedures, including safety of navigation measures and reporting obligations.

The programme combined theoretical instruction with practical exercises, including on-site visits to the Vessel Traffic Information System (VTIS)[1] operations centre and the Integrated Simulation Centre (ISC)[2] by the Maritime and Port Authority of Singapore (MPA)[3].

Participants explored the use of Automatic Identification System (AIS)[4] data in supporting reporting requirements and its potential to reduce the need for traditional voice reporting from ships which should focus on navigating ships.

Sessions emphasized that routeing measures must be designed with due consideration for the rights of international shipping under UNCLOS[5] and SOLAS[6] Conventions.

The workshop was expected to serve as a model for future training initiatives, assisting participants in enhancing navigational safety and preventing marine pollution through effective ships' routeing and reporting systems.

The event was delivered under the IMO Integrated Technical Cooperation Programme (ITCP)[7], in collaboration with the Maritime and Port Authority of Singapore (MPA) and supported through the IMO-Singapore Third Country Training Programme (TCTP)[8].

*Participants included sixteen representatives from: Cambodia, Indonesia, Malaysia, the Philippines, Singapore, Sri Lanka and Thailand.

[1] **https://tinyurl.com/5n78cw43**
[2] **https://tinyurl.com/mwrp94cz**
[3] https://www.mpa.gov.sg/home
[4] **https://tinyurl.com/bvnbbetf**
[5] **https://tinyurl.com/hp9ayes7**
[6] **https://tinyurl.com/3nzy8sjc**
[7] **https://tinyurl.com/bdz3xpsn**
[8] **https://tinyurl.com/mnupn7cb**

IMO Sub-Committee on Pollution Prevention and Response (PPR 13)

9-13 February 2026

The IMO Sub-Committee on Pollution Prevention and Response held its 13th session at IMO HQ from 9 to 13 February 2026. The meeting was chaired by Dr Anita Mäkinen of Finland.

2026 Strategy and Action Plan on marine plastic litter agreed

The Sub-Committee agreed to the draft 2026 Strategy and the Action Plan to Address Marine Plastic Litter from Ships, with a view to adoption by the Marine Environment Protection Committee at its next session (MEPC 84) in April 2026.

The draft 2026 Strategy and the Action Plan updates and supersedes the Strategy adopted by resolution MEPC.341(77) in 2021, and the 2025 Action Plan adopted by resolution MEPC.404(83).

The Strategy reaffirms IMO's commitment to reduce marine plastic litter from all ships, including fishing vessels. It works to reduce shipping's contribution to ocean plastic pollution, improve the effectiveness of port reception facilities and waste processing, while strengthening international rules and compliance. The goal is to achieve zero plastic waste discharges to sea from ships by 2030.

In addition, the revised Strategy and Action Plan aim to:
- Enhance public awareness, education and seafarer training.
- Improve understanding of the contribution of ships to marine plastic litter.
- Improve knowledge of the regulatory framework.
- Strengthen international cooperation.
- Expand targeted technical cooperation and capacity-building.

Development of a new Code on the transport of plastic pellets recommended

The Sub-Committee discussed which legal instruments could be used to introduce mandatory measures to reduce the environmental risks of plastic pellets transported by sea in freight containers.

The Sub-Committee invited the Marine Environment Protection Committee (MEPC 84) to consider its recommendation that a new code on the maritime transport of plastic pellets in freight containers be developed and made mandatory under MARPOL Annex III and/or SOLAS.

Fishing gear marking systems to be promoted

The Sub-Committee approved a draft MEPC circular promoting the implementation of fishing gear marking systems and the FAO Voluntary Guidelines on Marking of Fishing Gear (VGMFG), with a view to approval by MEPC 84.

This includes two supplements to the VGMFG: (1) a framework for conducting a risk assessment for a system on the marking of fishing gear; and (2) a Manual for the marking of fishing gear.

The VGMFG and supplementary documents are available at: https://tinyurl.com/4b76x3nw

Groundwork laid for future legally binding framework on biofouling

Following the decision of MEPC 83 to develop a legally binding framework on biofouling management to prevent the spread of invasive aquatic species, the Sub-Committee agreed some fundamental elements that will guide this work.

These include, inter alia, the recommendation for the framework to take the form of a standalone

instrument, and the finalization of the terms of reference of this output, both to be agreed and approved by MEPC 84.

The Sub-Committee also established a correspondence group to initiate work on this issue, with terms of reference that include: identifying the objectives of the framework, developing the draft structure, identifying a list of guidelines to be developed to support implementation, and developing a draft work plan for the output. The Correspondence Group will also take into account considerations highlighted in documents submitted to this session.

Amendments to the NOx Code finalized

The Sub-Committee agreed on draft amendments to the 2008 NOx Technical Code in relation to non-carbon containing fuels, with a view to approval at MEPC 84 and subsequent adoption.

The amendments update the methods for testing ship engines for air pollution to reflect the use of low- or zero-carbon fuels such as hydrogen and ammonia. Because current methods rely on measuring carbon in exhaust gases, new measurement standards and procedures are needed to certify these engines according to MARPOL Annex VI requirements. The draft amendments cover relevant chapters of the NOx Technical Code related to definitions, test bed measurement procedures and onboard compliance, as well as several Appendices.

Unified interpretations agreed

The Sub-Committee agreed to new Unified Interpretations (UIs) of Regulations 13.2.3 (on NOx emissions) and Regulation16.9 (on shipboard incineration of wastes) of MARPOL Annex VI. The Sub-Committee also agreed to the draft revised UI of Regulation 13.2.2 (NOx emissions).

Draft amendments to MARPOL Annex VI on volatile organic compounds agreed

The Sub-Committee agreed on draft amendments to Regulation 15 and Appendix I of MARPOL Annex VI, with a view to approval by MEPC 84 and subsequent adoption.

The draft amendments would require new tankers carrying crude oil to install pressure-vacuum devices to control the release of volatile organic compounds (VOCs) and reduce air pollution, while also updating the ship's air pollution certificate (IAPP Certificate) to record compliance. The requirement would take effect when the amendments come into force.

Discussions on black carbon emissions and polar fuels continue

The Sub-Committee held in-depth technical discussions on the 'polar fuels' concept in the context of efforts to reduce the impact on the Arctic of black carbon emissions from international shipping and invited interested Member States and international organizations to submit updated or new proposals to PPR 14 next year on the polar fuels concept.

Submissions should take into account comments raised during PPR 13 discussions, particularly on ensuring consistency with existing MARPOL provisions on fuel oil quality under Annex VI. They should also consider related measure already in force, including the prohibition on the carriage and use of heavy fuel oil (HFO) in the Arctic under regulation 43A of MARPOL Annex I, as well as requirements within the North American, Canadian Arctic, and Norwegian Sea Emission Control Areas.

Ongoing work on Exhaust Gas Cleaning Systems

The Sub-Committee continued discussions on dealing with discharge water from Exhaust Gas Cleaning Systems (EGCS) or scrubbers, which are installed on ships to remove harmful pollutants from engine exhaust gases (particularly sulphur oxides) before those gases are released into the atmosphere.

This included discussions around allowing coastal States to request Associated Protective Measures (APMs) to restrict EGCS discharge water in Particularly Sensitive Sea Areas (PSSAs). The Sub-Committee recommended that MEPC invites Member States to develop PSSA designation proposals to consider EGCS-related APMs.

The Sub-Committee also invited interested Member States and international organizations to consult inter-sessionally, with a view to submitting new concrete proposals on appropriate measures to control discharges of EGCS discharge water to PPR 14.

Amendments to MARPOL Annex IV on sewage management agreed in principle

The Sub-Committee continued its work on the revision of MARPOL Annex IV, which regulates the discharge of sewage ships, with the aim of improving the lifetime performance of sewage treatment plants.

The Sub-Committee Working Group agreed, in principle, to the:

- Draft amendments to MARPOL Annex IV introducing a Sewage Record Book (SRB) (draft regulation 11A and appendix III) and associated guidance on how to record sewage operations; and
- Draft amendments to MARPOL Annex IV concerning Sewage Management Plans (draft regulation 11B) and draft guidance for their development of SWPs.

Both sets of amendments and associated guidance are subject to further review at a later stage when other relevant MARPOL Annex IV provisions are closer to completion.

The Sub-Committee reestablished the Correspondence Group on the Revision of MARPOL Annex IV and associated Guidelines to continue working inter-sessionally on refining the amendments and developing implementation guidelines.

Amendments to MARPOL Annex I on disposing oily bilge water agreed

The Sub-Committee agreed to the draft amendments to MARPOL Annex I (new regulation 12B), amendments to appendix II (Form of the IOPP certificate and Supplements) and amendments to appendix III (Form of the Oil Record Book), with a view to approval by MEPC 84 and subsequent adoption.

These amendments introduce regulations that allow the disposal of oily bilge water through forced evaporation on ships of 400 gross tonnage and above that are fitted with an integrated bilge water treatment system (IBTS). This process involves heating oily bilge water so that the water evaporates, leaving oil behind for proper disposal. The regulations include standardized guidelines and recording requirements to ensure the process is conducted consistently and safely without causing marine pollution.

Revised Guidelines for systems for handling oily wastes in machinery spaces of ships approved

The Sub-Committee agreed to the draft 2026 Guidelines for systems for handling oily wastes in machinery spaces of ships incorporating guidance notes for an integrated bilge water treatment system (IBTS). The draft guidelines will be submitted with a view to approval by MEPC 85, in conjunction with the adoption of the draft amendments to MARPOL Annex I.

The guidance notes provide shipowners and shipbuilders with information to help in the design of ships incorporating the concept of Integrated Bilge Water Treatment System (IBTS). IBTS is a system that separates and treats leaked oil and water, helping minimize bilge water volumes and improve overall waste handling.

The revised draft IBTS Guidelines update various definitions, system arrangements, discharge provisions and heating/evaporation practices to improve clarity and operational consistency.

Revised guidance for recording operations in the Oil Record Book Part I approved

The Sub-Committee agreed to the draft revised Guidance for recording of operations in the Oil Record Book Part I – machinery space operations (all ships) and the accompanying draft MEPC circular, with a view to approval by MEPC in conjunction with the adoption of the draft amendments to MARPOL Annex I.

The Guidance is intended to facilitate compliance with MARPOL requirements on board ships by providing advice to crews on how to record the various operations in the Oil Record Book by using the correct codes and item numbers in order to ensure a more uniform port State control procedure.

Maritime Labour Convention at 20

ILO and IMO reaffirm commitment to decent work at sea

Maritime Labour Convention milestone marked with renewed call for fair and sustainable global shipping, protecting seafarer rights

On 23 February the ILO) and the IMO marked the 20th anniversary of the adoption of the Maritime Labour Convention, 2006 (MLC, 2006), a landmark treaty that has reshaped working and living conditions for seafarers worldwide and strengthened fair competition in global shipping.

MLC 2006

Adopted on 23 February 2006 by the International Maritime Labour Conference through an unprecedented tripartite consensus, the MLC, 2006 stands as a powerful example of social dialogue and multilateral cooperation in action. Governments, shipowners and seafarers came together to establish a comprehensive global framework to regulate working and living conditions in one of the world's most international industries.

Delivering improvements for millions

Over the past two decades, the Convention has delivered concrete improvements for millions of seafarers. By setting clear and enforceable minimum standards covering conditions of employment, wages, hours of work and rest, accommodation, health protection, medical care, welfare and social security, and by underpinning them with strong compliance and enforcement mechanisms, the MLC, 2006 has effectively contributed to the realization of decent work at sea.

At the same time, the Convention has helped level the playing field for responsible shipowners by reducing unfair competition based on substandard labour conditions. In doing so, it has strengthened the safety,

efficiency and resilience of maritime transport, a critical pillar of the global economy.

Seafarers' indispensable role as key workers

The COVID-19 pandemic underscored seafarers' indispensable role as key workers, ensuring the uninterrupted flow of essential goods around the world. The crisis also highlighted the importance of fully implementing and enforcing the protections enshrined in the MLC, 2006.

Adapting to new and persistent challenges

Despite undeniable progress, significant challenges remain. Seafarers and the shipping industry continue to face unlawful attacks on ships, abandonment and criminalization of seafarers, fatigue, unpaid wages and denial of shore leave. Yet, the MLC, 2006 is designed as a living instrument, capable of adapting to new and persistent challenges through tripartite dialogue.

The Special Tripartite Committee of the MLC, 2006 – the body responsible for keeping the Convention under review – has demonstrated its capacity to adopt necessary amendments, ensuring that the Convention remains responsive to emerging realities and to the need for continuous improvements of seafarers' rights.

Effective implementation of the MLC

The ILO reaffirms its commitment to the effective implementation of the MLC, 2006 worldwide, with the full support of the IMO, in accordance with its mandate. IMO and ILO call on all States and industry stakeholders to uphold its standards, strengthen compliance and work in partnership to guarantee seafarers' rights and promote a fair, inclusive and sustainable future for global shipping.

Video presentations

To see anniversary videos of the IMO Secretary-General and the Director-General of the ILO S readers are invited to use the link here and scroll down the text**: https://tinyurl.com/muv2enyx**

IMO has worked in conjunction with ILO to develop and deliver key guidelines to support seafarer rights, including those on dealing with seafarer abandonment cases and on fair treatment of seafarers in the event of a maritime accident and following detentions in connection with alleged crimes. IMO's Legal Committee has a standing agenda item on '*Fair treatment of seafarers*'.

The Joint ILO/IMO Tripartite Working Group (JTWG) to Identify and Address Seafarers' Issues and the Human Element (JTWG) was established in 2022. Items on the group's agenda have included tackling bullying and harassment in the maritime sector, including sexual assault and sexual harassment.

To learn more about IMO/ILO joint work on seafarers issue see here: https://tinyurl.com/34t3bmtw

Details of the Maritime Labour Convention, 2006, are available here: https://tinyurl.com/y2runxry

IMO Secretary-General:

Seafarer deaths in Strait of Hormuz unacceptable

Seafarers must not be targets, said Secretary-General Arsenio Dominguez on 6 March after seafarer fatalities reported in Middle East.

Secretary-General Arsenio Dominguez has issued the following statement:

'*I am alarmed and deeply saddened to hear of a deadly attack on a vessel in the Strait of Hormuz on 6 March 2026, in which at least four seafarers have reportedly lost their lives and three severely injured.*

'*My thoughts are with the families and loved ones of those affected, as well as the global maritime community mourning these losses.*

'*Around 20,000 seafarers remain stranded in the Persian Gulf, onboard ships under heightened risk and considerable mental strain.*

'*This is unacceptable and unsustainable. All parties and stakeholders have an obligation to take necessary measures to ensure the protection of seafarers, including their rights and well-being, and the freedom of navigation, in accordance with international law*.'

For more information

IMO provides an indicative list of shipboard incidents in the vicinity of the Strait of Hormuz (incidents confirmed by the flag State of the relevant ship) as well as links to other resources to be found here: https://tinyurl.com/29crfdx6

Canadian Arctic and the Norwegian Sea

New sulphur and nitrogen emission limits

The Canadian Arctic and the Norwegian Sea officially became Emission Control Areas (ECAs) on 1 March 2026 under MARPOL Annex VI.

In the two new areas, ships must meet stricter emission limits on nitrogen oxides (NOx), sulphur oxides (SOx) and particulate matter (PM).

The new ECAs were designated through Resolution MEPC.392(82) adopted at MEPC 82 in October 2024. Within ECAS, the sulphur content in fuel oil for ships is limited to 0.10%.

Significant benefits to the environment

Decreasing SOx and NOx emissions from shipping improves human health by lowering rates of lung cancer, cardiovascular disease, strokes and childhood asthma. The environment also benefits significantly, as reduced acidification helps protect crops, forests and aquatic species. Finally, these measures are expected to reduce haze caused by ships, increasing visibility and decreasing the risk of maritime accidents.

The Canadian Arctic area extends the existing North American ECA to include all Canadian Arctic waters. The Norwegian Sea area extends the existing North Sea ECA and covers the Norwegian Exclusive Economic Zone (EEZ) as well as fjords and coastal waters, reaching the Russian border.

Sixth and seventh ECAs

The Canadian Arctic and the Norwegian Sea Emission Control Areas for Nitrogen Oxides, Sulphur Oxides and Particulate Matter are now the sixth and seventh Emission Control Areas under MARPOL Annex VI, alongside the Mediterranean Sea, the Baltic Sea area; the North Sea area; the North American area (covering designated coastal areas off the United States and Canada); and the United States Caribbean Sea ECA (around Puerto Rico and the United States Virgin Islands).

Proposed NE Atlantic ECA

In April 2025, MEPC 83 approved a proposal to designate the North-East Atlantic as an Emission Control Area. This is expected to be adopted at MEPC 84 in April 2026.

On 1 January 2020, new limits on sulphur content in fuel oil led to a 70% reduction in total sulphur oxide emissions from shipping by setting a maximum sulphur content of 0.5% outside the emission control areas.

Cyber Security, Risks and Protection

This is a topic of much concern to our membership, to ship masters generally, to owners, shippers, ports, in fact all branches of what is now widely known as The Maritime.

Let us start with a definition brought together from a number of sources**:** Cyber Security is the practice of protecting systems, networks, programmes, and data and the like from digital attack, unauthorized access, malicious activity and, in turn, damage.

In defence of attack by cyber criminals there is a variety of technologies. For example firewalls, processes, and human vigilance defend against evolving threats coming from ransomware and phishing as well as the introduction of AI-related incursions .

Effective cybersecurity ensures data integrity and operational resilience, preventing costly financial, legal, and reputational damages.

Some aspects of cybersecurity

We are all aware of the threats from ransomware, phishing, malware, and data breaches, which are undoubtedly increasing in frequency and sophistication.

For some time industry in all its facets has seen the essential need for protecting personal information, intellectual property, and critical infrastructure.

IBM in a recent news posting indicated that industry growth on security spending is projected to reach USD 377 billion by 2028, with high demand for cyber security professionals.

Common measures adopted by the industry include implementing regular software updates, and employee training.

Per IMO

At IMO the scene is set clearly. Maritime cyber risk refers to a measure of the extent to which a technology asset could be threatened by a potential circumstance or event, which may result in shipping-related operational, safety or security failures as a consequence of information or systems being corrupted, lost or compromised. Examples are legion

and include erroneous data being transmitted ashore and corruption of GPS.

Cyber risk management means the process of identifying, analysing, assessing and communicating a cyber-related risk and accepting, avoiding, transferring or mitigating it to an acceptable level, considering costs and benefits of actions taken to stakeholders

The overall goal is to support safe and secure shipping, which is operationally resilient to cyber risks.

Guidance

On 4 April 2025 IMO issued this nine-page document: MSC-FAL.1-Circ.3-Rev.3.pdf entitled *Guidelines on maritime cyber risk management*.

The guidelines provide high-level recommendations on maritime cyber risk management to safeguard shipping from current and emerging cyber threats and vulnerabilities and include functional elements that support effective cyber risk management. These recommendations can be incorporated into existing risk management processes and are complementary to the safety and security management practices already established by IMO.

This document can be accessed using the link here: https://tinyurl.com/277r4bt6

Safety Management Systems in general

An earlier one-page document of 2017 was entitled: *Maritime Cyber Risk Management in Safety Management Systems*. In it administrations were left in no doubt that an approved safety management system should take into account cyber risk management in accordance with the objectives and functional requirements of the ISM Code.

Furthermore, administrations were encouraged to ensure that cyber risks were appropriately addressed in safety management systems and that the necessary precautions that could be needed to preserve the confidentiality of certain aspects of cyber risk management were undertaken. The short Maritime Safety Committee circular is available here: https://tinyurl.com/4czwfs2f

Other guidance and standards: a multi-agency document

One publication available online is that produced in 2020: *Guidelines on Cyber Security Onboard Ships Version 4* and supported by BIMCO, Chamber of Shipping of America, Digital Containership Association, International Association of Dry Cargo Shipowners (INTERCARGO), InterManager, International Association of Independent Tanker Owners (INTERTANKO), International Chamber of Shipping (ICS), International Union of Marine Insurance (IUMI), Oil Companies International Marine Forum (OCIMF), Superyacht Builders Association (Sybass) and World Shipping Council (WSC).

To quote the introduction: '*The purpose of these guidelines is to improve the safety and security of seafarers, the environment, the cargo, and the ships. The guidelines aim to assist in the development of a proper cyber risk management strategy in accordance with relevant regulations and best practices on board a ship with a focus on work processes, equipment, training, incident response and recovery management.*'

Shipping is relying increasingly on digital solutions for the completion of everyday tasks. The rapid developments within information technology, data availability, the speed of processing and data transfer present shipowners and other players in the maritime industry with increased possibilities for operational optimisation, cost savings, safety improvements and a more sustainable business.

However, these developments to a large extent rely on increased connectivity often via the internet between servers, IT systems and Operational Technology (OT) systems, which increases the potential cyber vulnerabilities and risks.

Some valid points extracted from this document are related here: *Cyber security and risk management necessitates robust approaches.*

Cyber risk management should be an inherent part of a company's safety and security culture conducive to the safe and efficient operation of the ship and be implemented at various levels of the company, including senior management ashore and onboard personnel.

Cyber risk management should:

- *Identify the roles and responsibilities of users, key personnel, and management both ashore and on board.*
- *Identify the systems, assets, data, and capabilities that, if disrupted, could pose risks to the ship's operations and safety.*
- *Implement technical and procedural measures to protect against a cyber incident, timely detection of incidents and ensure continuity of operations.*
- *Provide a contingency plan which is regularly exercised.*

At 64-pages *Guidelines on Cyber Security Onboard Ships Version 4* is available using the link here: https://tinyurl.com/32pv6un4

Impacts of GNSS Interference on Maritime Safety

The Impacts of GNSS Interference on Maritime Safety Report is a special report by the Royal Institute of Navigation (RIN) Maritime GNSS Interference Working Group revealing the impacts of GNSS Interference in the Maritime sector. Survey data was compiled from over 100 sector experts and 300 vessel ship masters, supported by interviews with dozens of people involved in the operations and supply chain of vessels that regularly encounter GNSS interference.

GNSS interference refers to anything that disrupts a ship's satellite-based positioning signals usually caused by: Jamming: blocking or overwhelming the satellite signals with noise so the receiver can't get a position at all; or spoofing: feeding the receiver false satellite signals so it reports a wrong position that looks legitimate.

In 2025, at least two collisions and groundings were reported in mainstream media linked to GNSS interference in regions such as the Baltics, Straits of Hormuz and the Red Sea. With hundreds of vessels being affected daily, the RIN report details for the first time the scale of the problem on modern digital vessels whereby GNSS jamming and spoofing present a significant cybersecurity vulnerability and urgent risks to maritime safety.

Survey data exposes the vulnerability of critically important systems such as Global Maritime Distress and Safety Systems (GMDSS) and other SOLAS-mandated equipment that rely on satellite positioning and timing.

Director of the RIN, Dr Ramsey Faragher, commented: '*The report has highlighted serious safety concerns and has underlined the fact that these issues are rooted in significant cybersecurity vulnerabilities, and are not just disruptions to navigation*.'

Operating within regions of known GNSS interference carries serious safety-of-life and liability implications, as key systems are expected to fail or malfunction with high probability in these conditions. The report also highlights unnecessary dependencies between GNSS receivers and a range of onboard electronics — including RADAR, radios (VHF/MF/HF), NAVTEX, speed logs, ship clocks and satellite communications — many of which do not require GNSS data for their primary function, creating avoidable points of failure and compounding operational risk.

Captain Ivana-Maria Carrioni-Burnett and chair of the RINs Maritime Navigation Group commented: '*The issue of GNSS interference must be taken seriously. It cannot be overcome by traditional navigation techniques when GNSS receivers are 'baked in' to modern ships' critical systems, including safety systems. These are no longer isolated incidents and pose a real risk to life: people, property and the environment. We must do more to safeguard our seas today and the shipping of tomorrow*.'

Captain James Taylor and Fellow of the RIN advised: '*Despite measures to improve resistance to jamming, spoofing and other harassment measures, the threat is real and growing. And this threat is not only to positioning and navigation; it is to every part of every transport and navigation means and to every part of national infrastructure where timing is derived from space-based timing signals*.'

It is understood that the Royal Institute of Navigation will continue to work with report partners (General Lighthouse Authorities of UK and Ireland, IALA, Nautical Institute and others) and regulatory bodies to provide expert guidance to mitigate these issues, and to establish industry-wide adoption of solutions to this problem.

This 120-page report may be downloaded on application here: https://tinyurl.com/29shx5zp

A UK national care plan NCSC

A footnote

By way of example in the UK there is the National Cyber Security Centre (NCSC)

Available with the link here: https://tinyurl.com/muu99res

This public body devoted to cyber security helps individuals and organisations reduce the risk and impact of cyber attacks.

Its core function is to defend the digital services and devices relied upon from online threats, which includes safeguarding the vast amounts of data and personal information stored locally or in the cloud. Cyber security also ensures that innovative and emerging technologies (such as AI) can deployed in a secure way, so the opportunities they present can be fully realised.

Ensuring continuity

Cyber security matters because most organisations in the UK rely on digital technology to function. It ensures the UK's critical national infrastructure continue to operate in our increasingly connected world, and that governments can provide essential services.

Businesses that suffer a cyber attack or data breach can expect financial losses, lengthy service disruption, regulatory fines and reputational damage. Cyber security should therefore be a key part of every organisation's operational resilience.

On an individual level, phones, smart devices, computers and the internet are now a fundamental part of modern life. Cyber security can prevent criminals from accessing our accounts and services, and helps us to navigate our online lives, safely and with confidence.

Support and encouragement

Incidentally, the NCSC aims to support, encourage and facilitate cyber security research and innovation within the UK.

See the link here: https://tinyurl.com/5557mvne

News per NCSC on 16 January 2026

Pro-Russia hacktivist activity continues to target UK and global organisations. The NCSC encourages local government and critical infrastructure operators to harden their 'denial of service' (DoS) defences. Hacktivist groups attempt to disrupt operations, take websites offline and disable services.

In particular, the group NoName057(16) has been active since March 2022, and have been conducting attacks against government and private sector entities in NATO member states and other European countries that are perceived as hostile to Russian geopolitical interests. These attacks have included frequent DDoS attempts against UK local government.

The group operates primarily through Telegram channels and used GitHub (and other websites and repositories) to host the proprietary tool DDoSia, and to share tactics, techniques, and procedures (TTPs) with their followers.

This is not the first time that the NCSC has called out activity from Russian-aligned groups targeting UK organisations. In 2023, the NCSC published an alert on the risk posed by state-aligned adversaries following the Russian invasion of Ukraine. These attacks are ideologically (rather than financially) motivated, and reflect an evolution in the threat which now target UK operational technologies.

As a result, the NCSC encourages all OT owners to follow recommended mitigation advice to harden their cyber defences.

For more see: https://tinyurl.com/yrwsurae

The Shadow Fleet

An introduction by long-standing IFSMA member Nederlandse Vereniging van Kapiteins Ter Koopvaardij (NVKK)*

Shadow fleet.

A lot has been written about the Shadow Fleet in recent years, but with our *(*November 2025*)* symposium in mind, it may be a moment to dive back into the aspect of the Shadow Fleet, what is it, how big is the problem and what is the problem actually.

A quick search online will give you an enormous amount of information in no time, both in Dutch and English (Shadow- or Dark Fleet).

- There is a commonly used definition as follows: These dark fleets or shadow fleets are generally ships that use various methods and strategies to disguise their existence and presence in order to avoid sanctions, circumvent various regulations (both in the field of safety and the environment) or engage in other illegal activities.
- Due to the scale of the problem, the IMO has even decided to use a definition which was adopted on December 6, 2023 as follows: 'Dark fleet' or 'shadow fleet' mean ships that are engaged in illegal operations for the purposes of circumventing sanctions, evading compliance with safety or environmental regulations, avoiding insurance costs or engaging in other illegal activities, which may include:
- Carrying out unsafe operations which do not adhere to international regulations and well-established and strict industry standards and best practices.
- Intentionally avoiding flag State and port State control inspections.
- Not maintaining adequate liability insurance or other financial security intentionally avoiding commercial screenings or inspections.
- Not operating under a transparent corporate governance policy that assures the welfare and safety of those on board and the protection of the marine environment.

Works Council

- Intentionally taking measures to avoid ship detection such as switching off their AIS [automatic identification system] or LRIT [long-range identification and tracking system] transmissions or concealing the ship's actual identity when there is no legitimate safety or security concern sufficient to justify such action.'
- Finally, as far as definitions are concerned, some authorities are of the opinion that a nuance should be made around the concept of Shadow Fleet, specifically when it comes to tankers, by seeing three types of ships or fleets, as follows:

Cleared Fleet

These are the ships for which there is no concern and where no 'red flags' are known. These red flags can be found, for example, in a (often) changing owner construction and also (many) changes of flag. On the other hand, the Dark Fleet; with these ships one sees an almost continuous withholding of ID and location. These ships can be found (if they are found) in the dark activities, where at least the AIS is almost continuously switched off/disabled. Ships within this fleet are in fact continuously engaged in illegal shipping practices. Thirdly, the Gray Fleet. In this case, an attempt is made to make the origin of the ship (both in terms of owner and movements) difficult to trace. From a distance, it may look like the activities and movements are legal and not to evade sanctions, but in reality the size of this fleet has actually grown and is purely used to evade the sanctions as they came into force after the Russian invasion of Ukraine.

- **So much for the definition of Shadow Fleet. Why does this phenomenon exist?**

Let's be clear, illegal practices, shady ownership constructions, (many) flag changes and indeed the dismissal of AIS are not new as such. However, these things and the growth of the Shadow Fleet phenomenon have taken off enormously following Russia's invasion of Ukraine and the world's response to it.

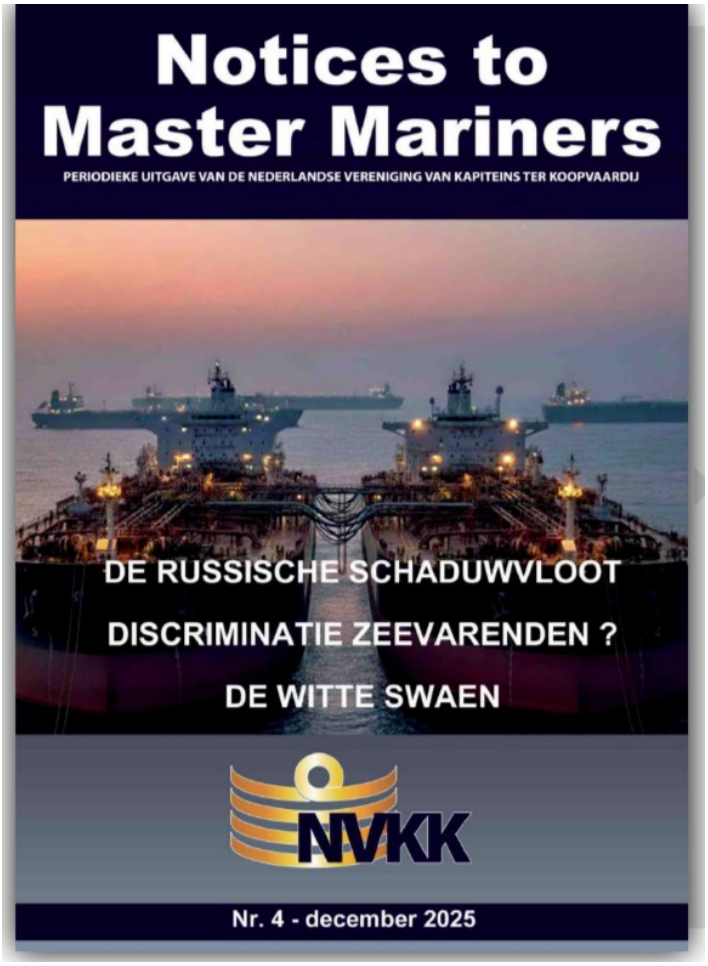
The calls for and indeed the introduction of a comprehensive package of measures and global sanctions aimed at hitting Russia's economy have had a huge impact.

Russia's exports are about 60% dependent on the energy/oil and gas activities and therefore a primary goal of the sanctions.

With the loss of a large part of the market for Russian oil (EU/US), Russia started looking for new customers, of course in countries that did not participate in the various sanctions packages. This

meant a further need for transport around the world from Russia.

One of the most important sanctions is therefore that related to a ban on the purchase/sale and transport of Russian Oil, but perhaps more importantly, linked to a price cap for oil that can still find its way into the world. This has been done to prevent a complete outage and therefore possible global supply problems, but, with a limitation of the profit on it, again to ensure an economic impact, a restriction of Russia to earn (a lot of) from exports and thus support the war activities.



Finally, this last measure, the price cap (US$ 60 for a barrel) was linked to the restriction/sanction that companies that provide technical support, chartering, but also insurance could only do so if it was proven that the price cap was applied to a certain contract/ ship movement. If this is not the case, the services in question may not be provided. Since the combination of countries within the EU and G7 dominate the world of Chartering and Insurance, this meant a huge restriction and made it impossible for Russia to contract tankers with the desired insurances and thus transport Russian Oil.

- **Size**

Precisely because of the ‘shadow’ effect, it is difficult to determine with complete certainty how many ships are involved in the shadow fleet.

A tour of the various estimates shows that the shadow fleet is already more than 10% of the total world tanker fleet.

According to conservative estimates, the gray fleet consists of about 1000 ships and the dark fleet of a little more, around 1300.

- **Where**

Crude data are also available about the destination of part of the shadow fleet, with India, China and Turkey the leading final destinations with an estimated amount of oil (combined) of almost 4 million barrels per day. Other (significant) destinations are Singapore, United Arab Emirates, Brazil and Saudi Arabia.

However, we all know that this is not just a destination problem, the shadow fleet (just like the oil trade) moves worldwide. In addition, ships of the shadow fleet are known to make ship to ship transfers in various places and even more worryingly, bunkering operations around the world and crossing waters within the EEZ. A recent study showed that in the first six months of last year alone, more than 400 ships from the shadow fleet passed the Dutch North Sea coast. This is a global but at the same time local problem.

- **The care**

It will be clear, the concern about the existence of this fleet has a direct tactical part, namely the sanctions to hit the economy and thereby reduce the war capacity. The existence and use of these vessels reduces the impact of the sanctions and generates significant revenues. Here, too, estimates are made by various agencies and they quickly run in the direction of several billions per year.

In addition to the aforementioned methodologies that make it possible for these ships and companies to be active in transport, they are being expanded in response to attempts to stop or limit this. A good example here is the existence of false flags. A recent article by the Royal Association of Dutch Shipowners pointed to research that indicates the use of false flags, ostensibly of the Kingdom of the Netherlands. This is as an action on other flags that try to prevent the use of their flag when it concerns ships of the shadow fleet. In the example mentioned, an additional problem is that it can affect the reputation of the Netherlands and Curaçao, not to mention the safety and working conditions of the colleagues on that fleet.

The flags of Panama, Malta, Marshall Islands and Liberia along with about 15% of Russia are currently flown on about 70% of the shadow fleet.

Perhaps an even greater concern is that of the possible use of ships from the shadow fleet for, for example, gathering information, espionage and even actively causing damage to infrastructure. In an unstable world, shipping in general, but also ports, terminals, pipelines and communication/data pipelines occupy an increased strategic value. This possibility of using merchant ships for espionage and sabotage is now being recognized, and a striking example of this is when Finland seized the tanker *Eagle S* at the beginning of this year on suspicion of (deliberately) damaging a submarine power cable.

- **In conclusion**

We have already talked briefly about the age of the ships in the shadow fleet. Research shows that a particularly substantial part of that fleet are indeed the older ships.

The age and 'shelf life' of tankers is largely driven by pressure from various users (charterers) where age limits are applied, often in combination with a more intensive check on older ships through inspections and review of Class records and Structural Surveys. Research shows that more than 70% of the shadow fleet (Crude Oil, Products and Oil/Chemicals) consists of vessels that are older than fifteen years, with even an estimated average age of more than twenty years.

Although even without the shadow fleet, the world tanker fleet has recently seen a slow increase in average age, everyone agrees that the existence and growth of the shadow fleet has created an interesting market for reselling what is considered older vessels in normal terms and in the eyes of the average charterer/user.

Add to this the shady ownership structures, poor flag state control and no, limited or shady insurance and it will be clear that we also have to be increasingly concerned about safety and the environment.

The combination of old ships, dubious owners, questionable maintenance and control and certainly a very limited form of overview and supervision creates the kind of risks that we, as a collective in the maritime industry, and so far successfully, try to limit and control.

*NVKK has been a member of IFSMA since 1974.

The 2025 NVKK Symposium

A submission by long-standing IFSMA member Nederlandse Vereniging van Kapiteins Ter Koopvaardij (NVKK)

A very successful symposium

More than 100 registrations, a wonderful collaboration with the KVNR and four passionate speakers ultimately resulted in a symposium that was full of energy, extensive insights and a number of things that we can follow up on.

On 25 November 2025 we gathered for our annual symposium which we had organized this year in collaboration with the KVNR (Royal Association of Netherlands Shipowners).

Location was the Delta Hotel in Vlaardingen, also because of the considerable number of registrations. The audience was a particularly extensive mix of many of our NVKK members, representatives of the shipowners and many guests from almost all our partners, including the Royal Netherlands Navy, Coast Guard, Disciplinary Tribunal, MARIN, STC, MIWB, Rijkswaterstaat, various ministries, Pilotage, Port of Rotterdam, and the Port of Scheveningen/The Hague.

Kick-off and opening were performed by our chairman, Captain Ed Barsingerhorn and Annet Koster, director of the KVNR. This was followed by a short presentation by LTZ1, Matthijs Ooms, about his emerging promotion on trade protection merchant shipping during the Second World War and Cold War (1935 – 1991)

Then it was Rob de Wijk's turn of The Hague Centre for Strategic Studies with a sharp update on how the current Geopolitical challenges come together in the North Sea. Rob took us through how the world order has changed, how China and America have alternated as leaders in the field of technology and how this competition also affects logistics flows and therefore shipping. Rob also spoke at length about hybrid warfare and shadow ships (about which more can be found in this issue) Among the various conclusions, Rob also mentioned the need to make international due diligence part of a business operation. Shipowners must ensure that they have the total picture and not just the local. Look for opportunities to be more adaptive.

This secular overview was followed by Bas Buchner, from his role in the Royal Netherlands Navy and had as its core message the need to look at unmanned systems with manned ships. Bas also paid extensive attention to hybrid warfare, and he then took us to the Navy of the future with the core goals of accelerated deployment and (further) development of cooperating unmanned systems.

Conclusions had several core values, including the need for collaboration, i.e. effectively cooperating platforms, systems and people, but also cooperation between all parties involved, both operationally and technically, but also the need for intensive cooperation with industry and knowledge institutions. Another conclusion is the need to accelerate and keep looking ahead, use operational feedback immediately to continue to develop. Finally, it is still about people, so training and recruitment also remain important.

As the third speaker, Colonel Gert-Jan van der Ploeg took over the microphone for a comprehensive overview of the current strategic role of defence and the challenges that come with it and what threats we see.

The afternoon was closed by Maris Paap, operational director of Primo Marine, a leading company in the world of underwater pipelines, both for large-scale electricity projects and data. What is involved in developing proposed trajectories, design and preparations, the final installation, the protection, challenges and costs. Various questions from the audience focus on the complexity of regulations, protection and recent concerns.

All in all, we can look back on a very popular and successful symposium, also with several clear points that we can use in the future. We thank everyone who showed interest and was present.

Submarine cable resilience

Porto Summit drives critical cooperation

New guidance targets readiness, repair and investment for vital digital connectivity infrastructure globally

Governments, industry representatives and international organizations representing over 70 countries at the International Submarine Cable Resilience Summit 2026 reaffirmed on 3 February the need to strengthen support for the subsea cables at the heart of global digital communications.

Closing declaration

A declaration issued at the summit's closing in Porto, Portugal, together with a set of recommendations developed by the International Advisory Body on Submarine Cable Resilience, offered guidance to bolster international cooperation across the public and private sectors to boost the resilience of this vital shared infrastructure, ranging from shortening cable repair times to supporting underserved regions.

Submarine telecommunications cables carry most of the world's data traffic

About 500 of the cables extending more than 1.7 million kilometres serve as the backbone of global connectivity, economic and social development, and digital access for people, institutions and businesses on every continent.

More than 99% of international data traffic is carried by subsea cables. Over 200 faults are reported globally each year, with disruptions to communications impacting economies, access to information and public services, affecting the daily lives of billions of people.

Comment

In the words of ITU Secretary-General Doreen Bogdan-Martin: '*When it comes to critical digital infrastructure like submarine cables, resilience is both an end-to-end imperative and a shared responsibility.*

'*The Porto Summit outcomes reaffirm our commitment to strengthening global cooperation that can make a real difference in policy engagement, operational readiness, and investment decisions*.'

The summit was organized by Portugal's national regulatory authority for communications, ANACOM, in partnership with the International Telecommunication Union (ITU) and the International Cable Protection Committee (ICPC). It also hosted a meeting of the International Advisory Body on Submarine Cable Resilience, which was established by ITU and the ICPC in 2024.

Professor Sandra Maximiano, Chairwoman of ANACOM and Co-Chair of the Advisory Body commented: '*I am deeply proud to have had the unique opportunity to guide such a distinguished group of leaders from both the public and private sectors, representing all regions of the world.*

'*The International Advisory Body was created to deliver concrete and meaningful impact, and I firmly believe it is already doing so. This impact is particularly significant for regions, countries, and remote islands where economic incentives for rapid response mechanisms are more limited, rendering them especially vulnerable to submarine cable disruptions*.'

Following up on last year's inaugural summit in Abuja, Nigeria, the Porto event featured the second physical meeting of the Advisory Body.

HE Minister Bosun Tijani, Minister of Communications, Innovation and Digital Economy of the Federal Republic of Nigeria and Co-Chair of the Advisory Body. Added in conclusion: 'The progress we've made over the last two years is the result of deliberate collaboration and shared purpose.

'*Continued international cooperation, capacity-building, and dialogue—supported by organizations such as ITU and the ICPC—will be essential to implementing these recommendations*.'

Guidance

The guidance presented by the Advisory Body in Porto is aimed at:

- Streamlining submarine cable permitting, maintenance, and repair processes.
- Improving legal framework and regulatory procedures.
- Encouraging cable geographic diversity and redundancy, especially for Small Island Developing States, Least Developed Countries, Landlocked Developing Countries, and underserved regions.
- Encouraging the adoption of industry best practices for assessing, mitigating and responding to risks to submarine cable infrastructure.
- Encouraging enhanced cable protection through better planning across marine sectors.
- Building cable capacity and support innovation through training and use of technologies.

Reports due

Comprehensive reports based on the Advisory Body's recommendations will be presented later in the year.

ICPC Chairman Dean Veverka reflected: '*It is encouraging to see the cooperation between governments and industry in developing these recommendations. We look forward to their implementation to strengthen cable protection and resilience*.'

To learn more about submarine cable resilience and the ITU-ICPC International Advisory Body for Submarine Cable Resilience readers are invited to use the link here:

https://www.itu.int/digital-resilience/submarine-cables/

About ITU

The International Telecommunication Union (ITU) is the UN agency for digital technologies, driving innovation for people and the planet with 194 Member States and a membership of over 1,000 companies, universities, civil society, and international and regional organizations.

Established in 1865, ITU coordinates the global use of the radio spectrum and satellite orbits, establishes international technology standards, drives universal connectivity and digital services, and is helping to make sure everyone benefits from sustainable digital transformation, including the most remote communities.

From artificial intelligence (AI) to quantum, from satellites and submarine cables to advanced mobile and wireless broadband networks, ITU is committed to connecting the world and beyond.

To learn more on ITU see here: www.itu.int

About ICPC

The ICPC is the world's leading non-governmental organisation promoting submarine cable protection and resilience.

To promote submarine cable protection and resilience, the ICPC works with its members, governments, international organisations, other marine industries, and the scientific community to: mitigate risks of natural and human damage to cables; develop recommendations and best practices for industry and governments throughout the cable project life cycle; promote scientific research addressing how cables exist in the marine environment; and promote the rule of law for the oceans. The ICPC convenes the global submarine cable industry and has more than 240 Member organisations from over 70 countries who build, operate, and maintain submarine telecommunications and power cable infrastructure.

To learn more about the ICPC readers are invited to visit: www.iscpc.org

Price of productivity

By Michael Grey, IFSMA Honorary Member

There can be few who were even remotely surprised at the guilty verdict and six-year gaol sentence for the master of the container feeder Solong, which plunged like a misguided missile into the side of the anchored Stena Immaculate off the Humber last March. There seemed to have been no rational explanation for the incident, which killed one of the Solong's crew and wiped out his ship, which failed to make any alteration of course before the fatal collision.

Nobody would suggest that the sentence was unduly harsh, the Russian master, who has been held in custody since his arrest shortly after being rescued, doubtless being thought a "flight risk". The fact that the tanker was US registered and carrying a military cargo may well have weighed upon the minds of police investigators, and others. But geo-politics aside, there are perhaps wider questions that this incident, among the worst of recent navigational calamities, should provoke.

It might, for instance, be asked why the master of a sizeable ship, was keeping a navigational watch as a matter of routine. In the world of containerships, this was just an insignificant feeder, but was nevertheless the dimensions of an ocean-going ship which, in an earlier age, would have had a deck department of at least three officers to keep the watches and sufficient ratings to assist. The answer is quite obvious; in the "normalisation" of such manning in these trades; something that has come about without any proper discussions, driven purely by the need to stay competitive. If company A can make do in such a "schooner-rigged" fashion, then companies B,C,D etc must follow, if they are to satisfy charterers looking for their pound of flesh and keep their business.

Is it reasonable for the master of a ship, which is being driven hard in an unremitting service in which the maintenance of a schedule is paramount, to be expected to act as an OOW? It is also worth considering what will be expected of masters, additional to their watchkeeping and supervisory duties before, during and after the vessel's numerous port calls, with innumerable calls upon their time, from the terminal staff and all the other well-rested officials who demand attention. An unending requirement for reporting, bureaucratic demands whizzing into the email inbox, all wanting instant answers.

Masters of these ships, in regular trades, are often expected to hold pilotage exemptions and to handle their ships, in what may be long, estuarial pilotages. Might fatigue just possibly be a contributor to some – even most – of these navigational accidents, which now seem to be almost accepted as part of the price of progress in keeping the logistics chain bar-tight? In the current journal of the International Federation of Ship Masters' Associations is a sad observation about the premature retirement of a ro-ro master, whose health was breaking down due to the pressure of multiple port calls. The current Nautical Institute Seaways, in its current issue, has a whole collection of accounts of fatigue-related accidents, along with

some thought-provoking articles about the reality of life at sea today.

There is nothing even remotely revelatory about all this; there have been warning after warning, but beyond bureaucratic changes around “hours of rest” requirements which has given rise to creative reporting, little has been done to address the real issues. Clever manufacturers produce equipment that produces precision navigation solutions, but relegates the fatigued OOW to the role of a machine-minder, alarm-canceller and a pair of bleary eyes. Brilliant engineers produce port equipment that will halve the time in port for a turn-round, to huge congratulations from everyone, except perhaps for the ships’ crews, who will have to do the same jobs, but in half the time. Bullying greens persuade ship operators to slow ships down at sea to save the planet, requiring ports to look to their even greater efficiencies.

And at the end of all this progress are to be found the human beings who run the ships, the only folk who do not get a full night’s sleep, and find that they start nodding off at the controls, as the cumulative effects of sleep loss build up. It is worth noting that it is the health of frail human beings who have paid the price for the astonishing improvement in productivity that is represented in modern shipping.

Who thought it such a tremendous wheeze to get rid of the radio officer, just at a time when bureaucracy was multiplying and ship-shore communications were getting out of hand? The same great financial brains who have halved the manpower available, but doubled the workload of the survivors. The human price has been more than those whose lives and careers have been ruined in accidents and poor health, as the enjoyment has been leached out of seafaring, and that should matter to us all.

Michael Grey is former editor of *Lloyd’s List*.

This article was first published in *The Maritime Advocate Online* No 901 of 13 February 2026 and appears here by kind permission of the author and of the editor.

Indian Coast Guard’s new Pollution Control Vessel

ICGS *Samudra Pratap*, classed by Indian Register of Shipping (IRS)

On 5 January the Indian Coast Guard (ICG) inducted *Samudra Pratap*, the first of two indigenously designed and built Pollution Control Vessels (PCVs) at a formal ceremony held at Goa Shipyard Limited (GSL). The event marked a significant increase in India’s maritime environmental protection capabilities and a notable increase in self-reliance.

Samudra Pratap has been designed and constructed in accordance with the Classification Rules of the Indian Register of Shipping (IRS), underscoring IRS’s continued contribution to strengthening India’s indigenous shipbuilding ecosystem and enhancing the operational capabilities of national maritime forces.

The vessel is equipped with state-of-the-art systems for its primary roles of pollution control and for ensuring maritime safety. It has an advanced pollution detection system, along with flush-type side sweeping arms, floating booms, high-capacity surface skimmer, pollution response boat, portable barges and a pollution control laboratory. These enable a rapid and effective response to marine pollution incidents. An external fire-fighting system is installed for rapid response to fire hazards.

With over 60% indigenous content, *Samudra Pratap* strongly aligns with the Government of India’s Atmanirbhar Bharat and Make in India initiatives. The vessel will serve as a critical operational platform for enforcing marine pollution control regulations, maritime law enforcement, search and rescue operations, and safeguarding India’s Exclusive Economic Zone (EEZ).

Commander KK Dhawan, Head Defence at IRS commented: ‘*The classification of Samudra Pratap reflects one more successful collaboration between Indian Coast Guard, Goa Shipyard Limited and Indian Register of Shipping in delivering complex, mission-critical vessels built to global standards, while reinforcing India’s growing capabilities in indigenous defence shipbuilding.*’

Autonomous Navigation Software for Unmanned Surface Vessels

Indian Register of Shipping certification

In mid-February Indian Register of Shipping (IRS) announced the successful certification of the Advanced Autonomous Navigation & Control Software (A2NCS) – the first indigenously developed autonomous navigation software suite designed for Unmanned Surface Vessels (USVs).

Developed jointly by the Indian Navy’s Weapons and Electrical Engineering Systems Establishment (WESEE) and Bharat Electronics Limited (BEL), this software represents a major milestone in advancing India’s maritime autonomy and indigenously developed defence capabilities.

A2NCS is an autonomous navigation and control suite specifically designed to enable unmanned and autonomous surface vessel operations. Integrated

into the Indian Navy's Fast Interceptor Boat (FIB) platform – now designated as the autonomous FIB (A-FIB) – the software empowers the vessel to undertake autonomous /remote controlled missions.

A2NCS supports remote and autonomous operations, offering flexibility across a wide range of unmanned maritime mission scenarios. It provides enhanced situational awareness by fusing inputs from multiple sensors to create a real-time maritime picture, thereby enabling safe autonomous navigation in complex and high-traffic maritime environments.

A2NCS has been validated through rigorous testing in simulated environment and extensive sea trials, demonstrating compliance with COLREG requirements, cyber resilience, and fail-safe performance.

Mr. R Srinivas, VP & Head – Electrical and Control System at IRS commented: '*IRS is honoured to certify A2NCS software which fulfils all requirements for quality, reliability, and operational readiness, enhancing India's evolving autonomy in challenging maritime environments, affirming compliance with safety, statutory requirements, and performance standards necessary for complex naval missions.*

'*This certification marks a significant achievement for indigenous maritime technology and IRS supports India's continued focus on enhancing autonomous naval operations*'.

Ship assist towage operations

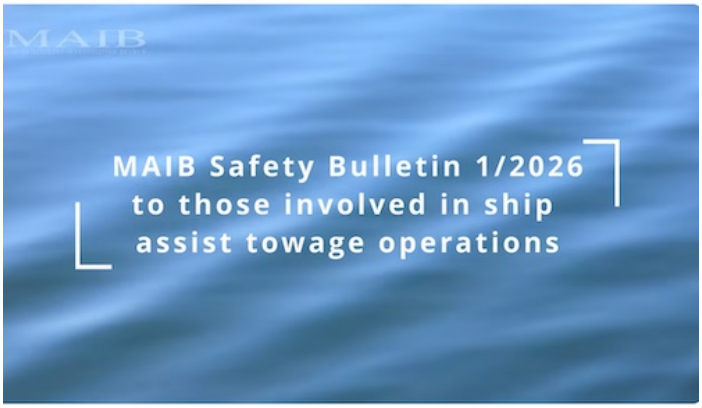
Safety bulletin video issued

On 12 February the UK Marine Accident Investigation Branch (MAIB) issued a safety bulletin to those involved in ship assist towage operations following the capsize and sinking of the tug *Biter* while assisting the passenger vessel *Hebridean Princess* off Greenock, Scotland on 24 February 2023, with the loss of two lives.

The bulletin, the contents of which are outlined below, contains details of what happened, initial findings, safety lessons and a recommendation.

Furthermore, the bulletin has been published at the request of industry to promote the safety issues identified during the MAIB's investigation to those involved in ship assist towage operations.

Safety bulletin 1/2026 (video) is available with the link here: https://tinyurl.com/yra3hcj5



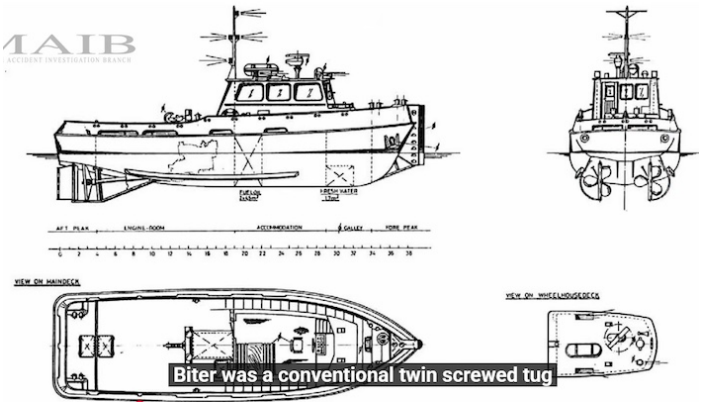
Safety issues

A vessel's master, marine pilot and the tug crew are encouraged to:

- **Have** a detailed understanding of the plan for the employment of the tugs.
- **Remember**, the faster the speed the greater the force acting on the towlines.
- **Ensure** that the tug's gob rope is correctly rigged.
- **Keep** the tug's doors and hatches closed during towing operations.

Recommendation to promulgate the video

A recommendation has been issued by the MAIB to the UK Chamber of Shipping, UK Harbour Masters' Association, the UK Maritime Pilots' Association, the British Tugowners' Association, British Ports Association and The Workboat Association to promulgate the MAIB's safety bulletin (video) on the key safety lessons from the *Biter*/*Hebridean Princess* investigation to their members.



MAIB report November 2024

On 13 November 2024, the Marine Accident Investigation Branch (MAIB) published a report (MAIB report 17/2024) into the capsize and sinking of the tug *Biter* with the loss of two lives.

At 62 pages it is available here: https://tinyurl.com/2pwwhpmj

That MAIB investigation was the eighth involving the capsize of a conventional tug since 1998, a series of accidents that has resulted in the loss of nine lives.

Regulation 16 of the UK Merchant Shipping (Accident Reporting and Investigation) Regulations 2012 provides for the Chief Inspector of Marine Accidents to make recommendations at any time as to how future accidents might be prevented.

This safety bulletin, containing safety lessons, has been produced for marine safety purposes only, on the basis of information available to date.

Text and images based on material kindly provided by MAIB.
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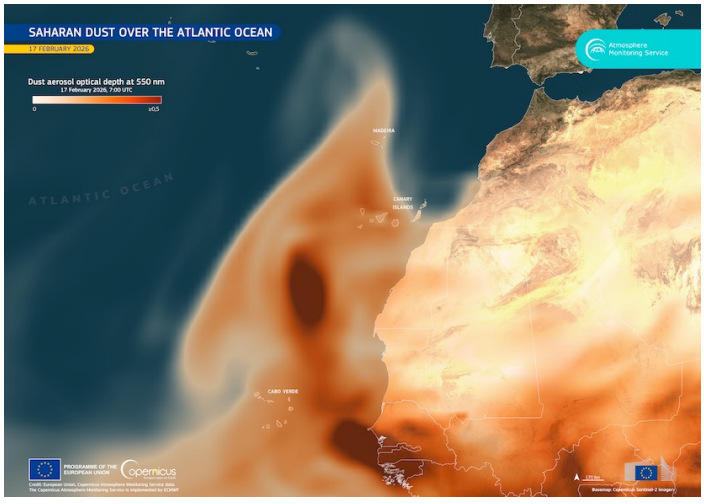
Saharan dust over the Atlantic

A widespread Calima[1] episode has carried Saharan dust across the eastern Atlantic Ocean since mid-February this year, affecting air quality in the archipelagos along the western African coast. As a consequence of the reduced visibility and increased health risks, authorities in the Canary Islands and Cabo Verde issued warnings, inviting residents to limit time spent outdoors. In Madeira, elevated PM10 concentrations associated with the Saharan dust intrusion have also deteriorated air quality.

This data visualisation[2], based on Copernicus Atmosphere Monitoring Service (CAMS) data for 17 February 2026 at 0700 UTC, shows a vast plume of dust extending from the African coast across the eastern Atlantic Ocean, engulfing the skies of Cabo Verde, the Canary Islands and Madeira.



CAMS provides near-real-time monitoring and forecasting of global atmospheric composition, including information on dust transport and intensity, supporting the assessment of the presence and dispersion of atmospheric pollutants and aerosols.

Current forecasts indicate that the plume visualised in the image will continue to move towards north-western Europe in the coming days[3].

[1] Calima or Kalima is a term used to describe a meteorological phenomenon that occurs when fine sand and dust particles from the Sahara are lifted into the atmosphere and transported by prevailing winds. It usually happens in the summer and lasts three to five days.

[2] https://tinyurl.com/ynpn943s
[3] https://tinyurl.com/3rmjvpes

Picture credit
European Union, Copernicus Atmosphere Monitoring Service Data.

EU©.

Four new major vessels for BC Ferries

MacGregor has been selected to supply cargo access solutions and deck machinery for four new major vessels as part of BC Ferries' historic fleet renewal plan.

These next-generation, diesel-battery hybrid, all-electric ready vessels will be built at China Merchants Industry (CMI) Weihai Shipyard Co., Ltd.

A collaborative approach

This order is the result of a collaborative approach with numerous project interest holders, ensuring the delivery of solutions that meet the specific requirements of the vessels and the customer. While MacGregor will provide the cargo access equipment along with a dedicated Integrated Logistic Support (ILS) package for the solution, its joint venture has secured the order for the deck machinery. Together, these solutions provide a comprehensive scope for the vessels and BC Ferries, ensuring long-term operational excellence.

Enhancing fleet resilience

Specialised cargo access equipment, deck machinery and the comprehensive ILS package from MacGregor will play a vital role in enhancing fleet resiliency and schedule efficiency. The standardised design and long-term support across the four vessels will support streamlined operations for the crew and faster loading and unloading to meet increasing passenger demand.

On the busiest routes

It is understood that the new 172-metre ships are designed for BC Ferries' busiest routes between Vancouver Island and the Lower Mainland in Canada. Built with a focus on environmental stewardship, the vessels feature advanced battery technologies and propellers engineered to minimise underwater noise to protect marine life.

Nicolas Jimenez, President and CEO of BC Ferries commented: '*Our goal is to build a ferry system that is reliable, sustainable and ready for future growth*.

'*We appreciate the commitment to excellence from our suppliers like MacGregor as we work towards delivering a modern ferry experience for our*

customers and maintaining the vital connection between BC's coastal communities for decades to come.'

MacGregor enables sustainable global maritime and offshore operations by maximising efficiency in cargo and load handling. MacGregor products, devices and equipment are designed to help the shipowner enhance safety, reduce environmental impact, and optimise operational efficiency from newbuilding to upgrades and modernisations.

Britain's Shore Power

Problem Is Not Technology — It is Economics

The commercial challenges facing publicly funded shore power projects in Aberdeen and Portsmouth should not be dismissed as local pricing anomalies. They are an early warning signal for the UK's wider maritime decarbonisation strategy. This was reported from London on 27 February in a press release from PR Image Line.

If shore power cannot be made commercially viable in flagship projects, confidence will erode among investors, shipping lines and port operators alike. And when confidence weakens, investment decisions pause.

This moment matters

Shore power is not experimental. It is a proven solution to one of shipping's most visible pollution sources. Vessels running auxiliary engines at berth account for an estimated 30–35% of port-city air pollution, emitting nitrogen oxides, sulphur oxides, particulates and carbon directly into surrounding communities. Plugging into grid electricity cuts those emissions dramatically.

For port communities, this is not abstract climate policy. It is public health.

As Stefano D M Sommadossi, Founder and CEO of NatPower Marine, put it: '*The question is not whether shore power works environmentally. It does. The question is whether the UK can make it work commercially and quickly*.'

The problem is structural alignment

Projects in Aberdeen and Portsmouth were built with serious intent and public backing. But when industrial electricity prices surged, vessels calculated that diesel was cheaper than plugging in. Ports, effectively acting as energy retailers, were left exposed to volatility and underutilisation risk.

Electrification only succeeds when electricity is the rational economic choice. Today, the UK's pricing framework: high industrial electricity costs, grid charges and policy levies alongside relatively lower marine fuel costs; sends the opposite signal.

Reducing grid-related charges and ensuring clean electricity is prioritised for dedicated maritime 'last mile' infrastructure would materially change that equation. Without reform, the system inadvertently penalises the very behaviour it is trying to incentivise.

If that distortion persists, the implications extend beyond shore power. They affect fleet investment decisions, including propulsion.

True maritime electrification does not end at the berth. Shore power is one part of a broader transition that includes electric and hybrid propulsion systems. Shipowners considering those investments require confidence that clean electricity will remain competitively priced not only in port, but across operating models over decades.

Investment window

Ships are long-life assets. Operators invest on 20–25 year horizons. They will not commit to electrified vessels without predictable energy pricing, corridor-wide infrastructure and a stable regulatory framework. If early projects appear commercially fragile, electrification, at berth and at sea, will be deferred.

And delay is not neutral. It compounds emissions and erodes competitiveness.

Stefano D.M. Sommadossi further noted: '*European ports are not standing still. Many operate with discounted electricity regimes, VAT adjustments or structured energy support for green shipping. As carbon pricing expands, ports offering affordable plug-in and electric propulsion solutions will attract traffic*.'

Shipping is mobile. Trade flows respond to economics. Competitive advantage can shift gradually, then suddenly.

A structural deployment issue

Shore power has largely been rolled out berth-by-berth, port-by-port. Shipping operates on corridors. No operator will electrify vessels for a single charging point if the rest of the route remains dependent on diesel.

Electrifying entire corridors changes the equation. It embeds charging into voyage planning and aligns vessel and infrastructure investment. Without a network strategy, isolated assets risk becoming stranded.

Infrastructure reform alone is insufficient

The demand side must also be aligned. Supporting electric shipowners through reductions in ancillary operating costs, and creating matched energy incentives for cargo owners who choose lower-emission shipping options would strengthen the commercial case across the value chain. Decarbonisation cannot sit solely with vessel operators; cargo interests increasingly influence route and carrier selection.

Regulatory clarity also matters. Aligning UK carbon pricing mechanisms, including the introduction of an emissions trading framework and penalties consistent with EU regimes, would provide long-term signals that reward early adopters rather than disadvantage them.

Urgency becomes opportunity

Shore power systems and electric maritime infrastructure are long-life, utility-scale assets requiring 30 to 40-year investment horizons, sophisticated energy management and price optimisation tools such as battery storage. Expecting ports to absorb that complexity through one-off capital grants is fragile by design.

A more resilient model would see private infrastructure developers finance, build and operate corridor-level charging networks, managing energy risk over the long term. Public funding could then focus on accelerating fleet conversion and supporting early adopters, where commercial barriers remain highest.

Private capital builds the backbone; **public policy stimulates demand and aligns incentives**

The risk now is drift. If policymakers misread Aberdeen and Portsmouth as proof that shore power does not work, investment will stall. If ports conclude the risk is too high, projects will slow. If shipping lines sense uncertainty around pricing, propulsion economics or carbon policy, fleet decisions will be postponed.

Every year of hesitation locks in diesel dependency and hands advantage to competitors. Net-zero infrastructure cannot rely on environmental logic alone. It must be commercially durable. That durability requires decisive policy alignment: on electricity pricing, grid reform, fleet incentives and carbon regulation; not incremental adjustment.

Action on six fronts

To avoid turning early projects into cautionary tales, the UK should, it is advised, act on six fronts:

1. Establish a stable framework for long-term private investment in port and corridor electrification.
2. Reduce grid-related charges and address electricity pricing disparities and VAT treatment that disadvantage UK ports.
3. Prioritise dispatch of clean electricity for dedicated maritime infrastructure.
4. Support electric and hybrid shipowners through targeted cost reductions and operational incentives.
5. Create matched energy or commercial incentives for cargo owners choosing green shipping routes.
6. Align UK emissions trading and penalty structures with EU regimes to ensure competitive parity.

The capital exists

The technology works. The health and climate case is clear. What is at risk is momentum. Britain was an early mover in shore power. It should not become a case study in how misaligned incentives undermine ambition.

A fixable problem

This is a fixable problem but only if treated systemically and with urgency. Because in maritime decarbonisation, standing still is not neutral. It is falling behind.

Editorial note:

Text based on material kindly provided by PR Image Line.

Ammonia-fuelled two-stroke engine

World-first type approval and factory acceptance testing

Swiss marine power company WinGD has achieved a major milestone on the path to zero-carbon shipping with the completion of both Type Approval Testing (TAT) and Factory Acceptance Testing (FAT) of their ammonia-fuelled two-stroke marine engine.

EXMAR illustration per https://tinyurl.com/6cmj3d65
EXMAR ©.

Both test programmes were completed in January 2026, with testing of the X52DF-A-1.0 engine carried out at the HD Hyundai Heavy Industries' Engine & Machinery (HHI-EMD) facility in South Korea, witnessed by classification society Lloyd's Register (LR), together with representatives from all major classification societies, under the supervision of EXMAR*.

The testing programmes took place on a 52-bore engine to be installed on a 46,000m³ LPG/ammonia carrier on order for EXMAR. The vessels in the series are set to become the first ammonia-fuelled gas carriers to enter commercial service, marking a significant milestone for the shipping industry's decarbonisation efforts.

EXMAR illustration per https://tinyurl.com/6cmj3d65 EXMAR ©.

Sotiris Topaloglou, Global Head of Testing & Validation at WinGD, commented: '*Completing Type Approval Testing and Factory Acceptance Testing with our joint development partner HHI-EMD represents a major technical milestone in the development of ammonia-fuelled two-stroke propulsion. As first movers, we are addressing a completely new fuel landscape, where safety, control and system integration are paramount. We have developed an engine that has been well proven to be safe and efficient by tackling, one by one, all the technical challenges we faced.*

'*Demonstrating the world's first TAT for an ammonia-fuelled two-stroke engine with strong results demonstrates that ammonia propulsion can meet the highest standards of reliability, performance and safety expected by the industry for commercial marine application*.'

Throughout a rigorous multi-year development and testing process, excellent performance has been demonstrated. Emissions data from the X DF A engine has impressed with NOx emissions during ammonia operation well below those generated during diesel use. Excellent results have also been recorded for emissions of N2O, with a negligible contribution to the overall greenhouse gas emissions footprint.

Confidence in ammonia as a future marine fuel continues to grow, with WinGD securing an early orderbook of around 30 X-DF-A engines across multiple vessel segments, including gas and bulk carriers, tankers and container vessels.

This momentum reflects growing confidence across the maritime value chain as engine technology, ship design and operational frameworks progress in parallel. The successful completion of testing also demonstrates the manufacturing and testing expertise behind the programme.

Kristof Coppé, Director Fleet Operations & Technical Business Development at EXMAR added: '*These successful tests represent a key milestone in EXMAR's development of ammonia as a marine fuel, a journey that began in 2021. Drawing on more than forty years of experience in transporting ammonia as cargo, EXMAR has been able to critically assess both the engine design and the test program, with particular attention to the safety considerations associated with using a toxic cargo as fuel.*

'*EXMAR now looks ahead to the next phase, which will involve sea trials on ammonia fuel. These trials will have to validate the seamless integration and performance of all onboard systems. Preparations are currently underway, with the trials scheduled to take place in the coming months*.'

Per https://exmar.com EXMAR Infrastructure provides innovative floating infrastructure solutions to the oil & gas industry covering the entire lifecycle of the project, starting from development studies, engineering, and construction supervision, to moving into leasing/ ownership, and operations & maintenance after delivery.

The vanishing right to shore leave

By Michael Grey, IFSMA Honorary Member

Amid all the talk about autonomy and artificial intelligence offering a wonderful future for the marine industry, it is sometimes hard to remember that a crew of humans still operate just about every ship on the planet. They will do so well into the distant future, perhaps with rather different skills, because old-fashioned requirements like judgement, seamanship, experience, and common sense can never be replaced, despite the extravagant claims of the techies. If this is the case, and we will still need clever people capable of sea-sense to run the ships of today and tomorrow, we ought to start thinking about how we can make their working lives rather more pleasant.

We can think of a whole list of items for improvement, such as making their living conditions less "institutionalised," less economising on the furniture and fittings, looking at the length of tours, the need for better connectivity and the like. But one important item, continually raised but then consigned to the "too-hard basket" is that of shore leave, and specifically, its lack. The latest edition of the Flying Angel News, published for the supporters of the Mission to Seafarers contains some frank words from the Mission's Director of Programme Ben Bailey about this deterioration in what ought to be a right to get ashore occasionally, when a ship gets to port.

The chaplains of the Mission, confirmed by welfare workers and ship visitors all around the world are probably better placed than most to measure the contentment of the crews they meet in their centres, but more often aboard ship. Ben Bailey sums up their observations very well; "Shore leave is not a perk; it is

a pressure valve. If the maritime workforce is expected to remain competent, alert and motivated, it must be given the basic conditions necessary for healthy living." There is absolutely no mystery about why this has become a point of serious concern in any measure of seafarers' "happiness". Bailey suggests that "Brutally short port stays, ramped up security protocols and expensive or non-existent transport options mean that disembarking has become an elusive privilege, rather than an expected part of the job." There can be no argument about this, and of course, it is the easiest thing in the world to summon up a whole raft of reasons why, in any particular port, the crew of a visiting ship cannot be given a few hours of liberty from their confinement.

The immigration authorities will not permit it. The visa necessary to land is too difficult to obtain and far too expensive for the average seafaring visitor. Umpteen safety considerations can be brought into play, citing the hazards of working terminals and the distance to the gate. Then, there is no getting away from the sheer intensity of activities in port that require the attention of those aboard. Every new development in cargo-handling, from ship-loaders that move mountains in minutes, to huge investments in container terminal equipment that will turn a big ship around in ever shorter times, militate against time off for the crew. There is the queue of well-rested, shore-side officials (enjoying their five-day working weeks), surveyors, inspectors, repairers, and others, who demand their instant access to the ship and its senior officers, interrupting their sleep, mealtimes and certainly any leisure, to address their important requirements.

There simply is not the space or time for shore leave, even if it was permitted. "Go-on, stop-on" is the modus operandi, with a ship in port. Ben Bailey says that "the maritime community must reclaim shore leave as a right grounded in safety, wellbeing and dignity." He goes on to suggest that there should be means of "scheduling operational windows, that guarantee disembarkation time," with ports ensuring that there are safe and affordable access routes for crew. And maybe this means confronting the ridiculous pace of maritime operations, which we know causes ships to be run by increasingly fatigued human beings, who would occasionally like a break. It may not be an entirely fair comparison, but if navies think it important to divert warships worth billions into port for a couple of days R&R, could not the commercial world ease up a little on their human component? It is not as if they are asking for the earth.

In Rose George's insightful book "Deep Sea and Foreign Going" she records an interview with the delightful priest running the Immingham Seafarers' Centre. Father Colum Kelly recalled a Master who told him that rather than a visit to a shopping centre, he and his crew would like to walk on "green, green grass" for a while, rather than unforgiving steel. He took them to a churchyard near Hull airport: "And they all took off their shoes and walked barefoot on the grass for an hour, then they went back to the ship."

Michael Grey is former editor of *Lloyd's List*.

This article was first published in *The Maritime Advocate Online* No 902 of 28 February 2026 and appears here by kind permission of the author and of the editor.

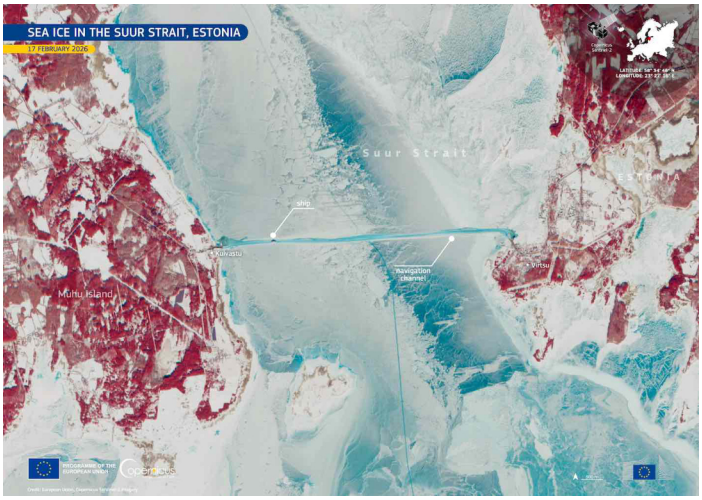
Sea ice in the Suur Strait, Estonia

Estonia is facing one of the coldest winters in recent decades, with freezing temperatures affecting the country since the beginning of February 2026.

Prolonged freezing conditions have led to the formation of extensive sea ice, disrupting transport connections and isolating several small islands.

These conditions are visible in this image, acquired on 17 February 2026 by one of the Copernicus Sentinel-2 satellites. The image shows the navigation channel linking the town of Kuivastu, on Muhu Island, with the city of Virtsu on the west coast of mainland Estonia.

The narrow corridor carved across the frozen Suur Strait marking the shipping lane, and a ship sailing across are clearly visible in the image.



Credit: European Union, Copernicus Sentinel-2 imagery.

EU ©

Copernicus is the Earth Observation component of the European Union's space programme, looking at our planet and its environment for the benefit of Europe's citizens.

Copernicus satellite data enable authorities to monitor sea ice conditions, supporting safe transport planning and environmental oversight in Baltic coastal zones.

The EU Copernicus Ocean State Report Issue 9

The Ocean State Report 9 (OSR 9) details changes in the global ocean and European regional seas, with a focus on 2023 and 2024.

It reports that no part of the ocean is untouched by what the UN has termed the 'triple planetary crisis' of climate change, biodiversity loss, and pollution.

The key narrative emerging from OSR 9 is that everything is connected. When the ocean changes, so

does everything connected to it: marine ecosystems, society, and the economy.

The OSR is a yearly scientific collaboration involving more than 100 experts from Europe and around world, and compiled by the Copernicus Marine Service.

Using observation-based (remote sensing, in situ) and ocean reanalysis data, the OSR provides a comprehensive 4-dimensional (latitude, longitude, depth, and time) analysis of the Blue, Green, and White Ocean.

The OSR is intended to act as a reference, providing a unique ocean monitoring dashboard for the scientific community. The Summary presents a clear overview of the key takeaways of the report, specifically created for policy makers and others with decision-making responsibilities, and for citizens at large.

OSR 9 is available through the link here: https://sp.copernicus.org/articles/6-osr9/

Queen Mary 2 at Sydney

108-night World Voyage

On 4 March the world's only ocean liner sailed into the harbour with the Sydney Opera House and Sydney Harbour Bridge as a backdrop, marking a key moment in her circumnavigation of the globe.

As part of the celebrations, acclaimed Australian author Anna Funder unveiled *A Letter from Australia to the World*. What began as a simple call to write has evolved into a modern-day pen-pal exchange transcending oceans, cultures and time zones.

On 4 March Queen Mary 2 sailed into Sydney Harbour during her 108-night World Voyage.
Illustration per Cunard ©.

\Each of the more than 500 submitted letters will now be carried aboard *Queen Mary 2* as she sails to Europe, where guests will be invited to read and respond to the voices of Australia carried in the ship.

Katie McAlister, President of Cunard, said: '*For 185 years, Cunard ships have transported more than passengers; they have been the bearer of stories, ideas and human connection. As the world's only ocean liner, Queen Mary 2 represents a style of travel that values depth over speed and experience over urgency*.

'*We have been deeply heartened by the response from Australians who chose to put pen to paper and share a part of themselves with someone they may never meet. In doing so, they have become part of a living tradition that stretches across oceans and across generations*.'

At the time of writing *Queen Mary 2* well into her 108-night World Voyage from Southampton. Following her call in Sydney, the flagship continued her passage across the Asia Pacific region before returning to Southampton at the conclusion of her World Voyage in April.

Cunard has been a leading operator of passenger ships since 1840 and, in 2025, celebrated an incredible 185 years of operation. The Cunard experience is built on fine dining, hand-selected entertainment, and outstanding White Star Service.

From a partnership with a two-Michelin-starred chef to inspiring guest speakers and world-class theatre productions, every detail has been meticulously crafted to make the experience unforgettable. A pioneer in transatlantic passages and round-the-world voyages, port calls include Europe, the Caribbean, Alaska, the Far East, and Australia.

There are currently four Cunard ships, *Queen Mary 2*, *Queen Elizabeth*, *Queen Victoria* and new ship, *Queen Anne*, which entered service in May 2024. Cunard is based at Carnival House in Southampton and has been owned since 1998 by Carnival Corporation & plc.

Orca AI extends situational awareness

Full 360° Field of View

Maritime AI company Orca AI announced on 4 March the launch of the next generation of its AI-based operational platform, delivering a seamless 360° field of view (FOV) around a vessel as a foundation for advanced collision avoidance and autonomous navigation.

Digital watchkeeping supercharged

The 360° FOV configuration is enabled by three SeaPod lookout units, each equipped with high-sensitivity red, green, blue (RGB) and thermal cameras.

Working in unison, they deliver continuous full-perimeter coverage and unified situational awareness around the vessel, enabling detection of overtaking vessels and piracy threats, and overcoming line-of-sight constraints caused by cranes, wind rotor sails, and other deck equipment.

Strengthening full-surround awareness

Demand for full-surround awareness has increased over the past year, as it enhances what navigators can

see and assess on the bridge – especially in dense traffic and in areas where radar can struggle to consistently track contacts, including small, fast-moving craft. The solution has already been delivered to multiple customers with proven sea-time.

Extending situational awareness to a 360° FOV provides continuous visual coverage around the vessel, giving bridge teams a complete operational picture at all times. On vessel types such as heavy-lift carriers, where structural design can restrict visibility, this ensures that no sector is left unobserved.

Small craft, including those involved in piracy activity, often approach from outside the primary forward view. Persistent coverage improves early detection and tracking. Overtaking situations, governed by Rule 13 of the COLREGs, also develop outside the forward sector, and continuous perception supports earlier and clearer navigational decision-making.

An essential step towards autonomy

Persistent full-surround awareness is fundamental to autonomous and semi-autonomous operations. An autonomous vessel must continuously monitor its entire navigational environment to operate safely and apply COLREGs correctly.

A full 360° FOV represents a meaningful step forward in providing unmatched situational awareness for vessels operating in increasingly complex navigation environments.

It is also a foundational requirement for enabling safe autonomous operations, with Orca AI building the practical foundations of autonomy.

In the words of Dor Raviv, CTO and Co-founder of Orca AI: '*A 360° FOV is a critical part of this effort, which will expand beyond 360-degree computer vision and AI-based situational awareness to include machine-learning capabilities for predictive insights and voyage optimization*.'

Video

A 43-second video is available with this link: https://tinyurl.com/59zhjkan

Foundation for autonomous navigation

Orca AI's technology also forms a foundational layer for autonomous navigation. With 360° field-of-view, the company powered the world's first commercial autonomous voyage in 2022 in partnership with The Nippon Foundation and the Designing the Future of Full Autonomous Ships (DFFAS) initiative. The platform now plays a central role in the next phase of the program, DFFAS+.

Picture caption

The 360 degree FOV capability is facilitated by three Seapod units providing simultaneous full surround situational awareness.

IFAN and WMU Joint research project

Maritime Risk and Environmental Protection through Aids to Navigation

The International Foundation for Aids to Navigation (IFAN) and the World Maritime University (WMU) have formally launched a new multi-year research partnership focused on strengthening maritime safety and environmental protection through improved risk governance.

This project was announced during an official visit to WMU in Malmö, Sweden on 20 January by IFAN Chief Executive Officer Catherine Mulvihill and IFAN Development Manager Francesca Pradelli.

Comment

Regarding the cooperation, Ms Mulvihill said: '*Maritime accidents do not only disrupt shipping. They can leave lasting environmental damage and deep social and economic impacts on coastal communities, particularly in regions with limited resources.*

'*Through this partnership with the World Maritime University, IFAN is supporting research that looks beyond accident probability and brings these wider consequences into maritime risk governance.*

'*The goal is to strengthen how Aids to Navigation, contingency planning, and marine spatial planning are designed and justified, so that prevention measures are better aligned with the places and communities that face the greatest risks*.'

WMU President Mejia added: '*Our new partnership with IFAN reflects our two institutions' combined commitment to advancing research that supports safer and more sustainable maritime activity worldwide.*

'*By strengthening the evidence base on maritime risk, aids to navigation, and environmental protection, our collaboration will contribute to more informed, data-driven decision-making and more equitable outcomes for coastal States and communities.*

'*WMU values this collaboration with IFAN as an important contribution to the application of academic research in navigational safety, maritime policy, and ocean governance*.'