

MARINE INTELLIGENCE WEEKLY

marineintelligenceweekly.com

MARITIME INTELLIGENCE REFERENCE

Issues 17–22 | April – May 2026 | Integration Era

REGULATION

CLASS SOCIETY

AI DEPLOYMENT

NATIONS

STANDARDS

MASS CODE

DECARBONISATION

AUTONOMOUS

A thematic record of regulatory actions, class society decisions, AI deployments, and maritime nation policy from April–May 2026.

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THEMATIC SECTIONS:

Regulation · Class Societies · AI Deployment · Nations · Standards · MASS Code · Decarbonisation · Autonomous Vessels

About This Document

A thematic record of events covered in MIW Issues 17–22, April–May 2026.

What this is

A structured reference document recording regulatory actions, class society decisions, AI deployments, technology standards, and maritime nation policy developments covered across Marine Intelligence Weekly Issues 17 to 22 (April–May 2026). Organised by theme, not by issue.

What this is not

This is not a study guide or examination preparation document. It contains no suggested oral questions and makes no claims about examination relevance. It is a contemporaneous record — the kind of document a fleet superintendent or senior engineer would use to understand what actually happened in maritime between April and May 2026.

Coverage period

Issue 17 (23 April 2026) through Issue 22 (May 2026). This five-week period included MEPC 84, MSC 111, the FuelEU 100% activation, the ClassNK Genbu notation, and the LR x Orca AI trial commencement — an unusually dense regulatory and deployment cluster.

How to use it

Each thematic section stands alone. Navigate directly to the theme you need. The Reference Table on page 11 cross-indexes every event by theme, date, and MIW issue number. Primary sources are listed on page 12.

ISSUE INDEX:

[#17 - 23 Apr](#)[#18 - 29 Apr](#)[#19 - 6 May](#)[#20 - May](#)[#21 - May](#)[#22 - May](#)

Publication context

Marine Intelligence Weekly publishes weekly, every Wednesday.

Issues 17–22 form a continuous arc: from MASS Code watch (Issue 17) to full MSC 111 analysis (Issue 22).

Full issues: marineintelligenceweekly.com · Contact: contactus@marineintelligenceweekly.com

IMO Sessions, Instruments & Amendments

Regulatory actions with direct operational impact on vessels in commercial service.

1 Jan 2025

FuelEU Maritime enters force (EU Reg 2023/1805)

Requires vessels >5,000 GT on EU routes to reduce GHG intensity by 2% vs 2020 baseline. Evaluated on Well-to-Wake (WTW) lifecycle basis in gCO₂e/MJ. Operates alongside EU ETS.

EU Commission / transport.ec.europa.eu

MIW Issues 17–18

30 Apr 2026

EU ETS reaches 100% compliance phase for maritime

40% (2024) → 70% (2025) → 100% (2026) phase-in complete. Maritime vessels on EU trades now fully inside the Emissions Trading System. First hard financial penalty mechanism for GHG beyond IMO CII.

EU Commission / climate.ec.europa.eu

MIW Issues 17–18

Apr 2026

MEPC 84 — CII methodology refinements for alternative fuels

Refined CII calculation methodology for LNG, methanol, and biofuel-blended voyages. Any fleet management software using pre-MEPC 84 methodology produces incorrect compliance projections for alternative fuel vessels.

Direct fleet software recalibration requirement.

MIW Issues 18–19

Apr 2026

MEPC 84 — IACS UR M78 (Ammonia in machinery spaces) reviewed

Governs integration of ammonia fuel systems. Mandates double-walled fuel piping, negative-pressure ventilation inside fuel valve units, rapid nitrogen purging networks, and continuous toxic gas detection in engine rooms.

IACS / iacs.org.uk

MIW Issues 18–19

Apr 2026

MEPC 84 — BWM Convention D-2 standard refinements

Shift toward active operational validation and mandatory logbook verification. Surveyors now require detailed BWMS logbook entries including sampling records, alarm histories, and consumable states.

IMO / imo.org

MIW Issue 18

1 Jan 2026

SOLAS — Lifting Appliances regulations enter force

New requirements for testing, certification, and maintenance of all shipboard cranes and engine room gantry systems. Mandates integration into PMS with rigorous loose gear registers and load testing records.

IMO SOLAS / imo.org

MIW Issue 19

1 Jan 2026

SOLAS — PFOS-free foam mandatory from 1 January 2026

Complete prohibition of Perfluorooctane Sulfonate (PFOS) substances in shipboard fire-extinguishing foam. Requires verified documentation trail confirming foam supplies match certified PFOS-free batches.

IMO SOLAS / imo.org

MIW Issues 19–20

1 Jan 2026

MARPOL — Container loss machine-vision reporting requirements

Machine-vision tracking and automated reporting requirements for container cargo loss incidents. Requires automated bridge/deck notification pipelines integrated into the SMS.

IMO MARPOL / imo.org

MIW Issue 19

May 2026

MSC 111 — MASS Code adopted, effective 1 July 2026

Non-mandatory Code for Maritime Autonomous Surface Ships adopted. Does not replace SOLAS, MARPOL, COLREGs, or STCW. Establishes goal-based framework covering watchkeeping, Remote Operation Centres, fail-safe requirements, and flag state certification pathways.

MIW Issues 21–22

May 2026

FAL 49 — IMO Compendium expanded to 140+ emissions data fields

Standardised data collection framework for emissions-related reporting. Creates the data architecture layer for AI-based compliance monitoring tools feeding into global IMO reporting systems.

IMO FAL / imo.org

MIW Issues 21–22

Class Society Actions, Notations & Type Approvals

Formal class decisions that shift what is certifiable and what is standard practice.

2024

DNV — HyperPilot Type Approval (autonomous speed controller)

Deepsea Technologies HyperPilot became the first AI-based autonomous propulsion optimisation system to receive DNV Type Approval as an autonomous speed controller. Distinguishes Type Approval (design baseline meets class safety standards) from Product Ce...

MIW Issue 17

2024

Orca AI — commercial deployment passes 100-vessel milestone with LR notation

Orca AI collision avoidance system passed 100-vessel commercial deployment with Lloyd's Register class notation. Computer vision provides watchkeeping officers AI-generated situational awareness alerts in real time.

LR / lr.org · Orca AI

MIW Issues 19–21

2025

ClassNK — AUTO-Nav2 (All) notation issued to Genbu

ClassNK issued AUTO-Nav2 (All) notation to the Genbu — world's first commercially certified autonomous coastal vessel under a classification society framework. AUTO-Nav2 (All) covers autonomous capability across all operational phases, not specific passages only.

MIW Issues 18–19

Apr 2026

ABS surpasses DNV — world's largest class society by active fleet tonnage

American Bureau of Shipping overtook DNV as the world's largest classification society by active fleet tonnage. Driven by LNG and offshore fleet expansion alongside digital services growth. First change at the top of global class rankings in decades.

MIW Issue 17

May 2026

Lloyd's Register x Orca AI — live class-approved collision avoidance trial

First joint class-approved live trial of AI collision avoidance technology. Trial data feeds directly into LR's notation criteria development for AI watchkeeping systems — the technical bridge needed before AI watchkeeping can satisfy STCW watch requirements. Class standards being written in real time.

MIW Issues 21–22

2021–2026

ABS x Siemens — digital twin integration into classification framework

ABS operational partnership with Siemens integrated digital twin technology into classification processes. Digital Twin defined: a dynamic, high-fidelity virtual model of a physical shipboard system recalculating condition based on live IoT sensor feeds. Enables condition-base...

MIW Issue 20

2026

Remote Inspection Techniques (RIT) — formalised for ESP vessels

RIT using drone arrays and uncrewed subsea systems granted full class equivalence for close-up structural inspection on Enhanced Survey Programme (ESP) bulk carriers and oil tankers. Critical constraint: RIT restricted to spaces where protective coating is verifie...

MIW Issue 20

Commercial Deployments, Trials & Platforms

AI systems that moved from pilot to production or class-approved trial during this period.

Apr 2026

Deepsea Technologies HyperPilot — commercial phase (DNV Type Approved)

AI autopilot for propulsion autonomy. Continuously optimises speed, heading, and engine load based on real-time weather, currents, and CII targets. DNV Type Approved as autonomous speed controller — first AI propulsion system to achieve this classification. Override protocols mandated in SMS.

MIW Issue 17

Apr 2026

OCEANS-X Singapore — maritime's first open AI data exchange platform launches

Backed by Singapore MPA and SGD 100M Maritime AI Fund. Enables standardised sharing of vessel performance, port state, and emissions data between operators, class societies, and port authorities. If adopted at scale, becomes the data infrastructure layer for next-generation fleet AI tools.

MIW Issue 18

May 2026

LR x Orca AI — live AI collision avoidance trial (class approved)

See Class Society section. The AI deployment significance: Orca AI computer vision operating under class notation in a live trial — not a demonstration. Trial architecture represents how future AI watchkeeping certification will be structured: live evidence → class notation → regulatory acceptance.

MIW Issues 21–22

2020–2026

Wärtsilä / ABB — digital twin deployment at fleet scale

Digital twin technology moved from R&D to commercial fleet deployment. Virtual models of main engines and propulsion systems predict maintenance windows using live IoT sensor feeds. Enabled by ISO 19847/19848 standardised machinery data protocols (2018–1...

MIW Issue 20

May 2026

Avikus HiNAS 2.0 — AI navigation system post-Prism Courage commercial deployment

Following the Prism Courage transpacific crossing (2022), Avikus HiNAS 2.0 progressed to commercial fleet deployment backed by South Korea's MASS Act framework. System proven to deliver 7% fuel efficiency improvement and 5% GHG reduction in mega-vessel ocean crossing conditions.

MIW Issue 20

2026

Visual AI fire detection — thermal anomaly detection before SOLAS detectors activate

Computer vision AI systems using infrared and optical camera fusion, trained on maritime datasets, can detect thermal anomalies before conventional SOLAS-certified smoke/heat detectors activate. These are supplementary tools under SOLAS Chapter II-2 — not replacem...

MIW Issue 20

National Policy, Legislation & Deployment

Government-level actions, national legislation, and country-specific maritime AI investment.

2023

South Korea — MASS Act enacted (world's first standalone national MASS legislation)

First country to pass a standalone MASS Act providing a legal framework for autonomous vessel operations, certification, liability, and insurance in Korean waters. Enabled commercial licensing pathways ahead of IMO's MASS Code. Avikus (HD Hyundai) and HINAS 2.0 sea

MIW Issue 20

2020–2025

Japan — MEGURI2040 autonomous shipping programme (Nippon Foundation)

National initiative targeting fully autonomous domestic shipping by 2040. Funded demonstration voyages across 11 companies, regulatory pathway planning with Japan Coast Guard and MLIT. Produced the Suzaku project (107 autonomous collision avoidances in Tokyo Bay). Data underpinned ClassNK notation work.

MIW Issues 18–19

2024

Norway — Remote Operator licence framework published (world's first national standard)

Sjøfartsdirektoratet published the world's first national competency and licensing standard for Remote Operators of MASS vessels. Established the practical model for STCW-equivalent certification that informed the MASS Code's treatment of Remote Operators at MSC 111.

MIW Issue 21

Apr 2026

Singapore — SDG 100M Maritime AI Fund roadmap formalised by MPA

MPA Singapore specified deployment targets across port operations, vessel traffic management, and crew decision-support. OCEANS-X data exchange platform central to this. Singapore positioning as global maritime AI hub. SGD 100M backed by measurable milestones, not just policy announcements.

MIW Issues 18–19

2023

India — Maritime Amrit Kaal Vision 2047 + Sagarmala Phase III

Ministry of Ports, Shipping and Waterways launched framework targeting India as top-ten maritime nation. Sagarmala Phase III incorporates AI-driven port logistics, vessel traffic management systems, and digital customs processing at major ports, including JNPT and Mundra.

MIW Issue 20

2024–2025

India — JNPT and Mundra Port AI logistics deployments

Jawaharlal Nehru Port Authority and Mundra Port deployed ML-driven container tracking, gate automation, and predictive berth allocation systems — demonstrating that India's Amrit Kaal Vision 2047 translated into immediate operational deployments, not just policy declarations.

MIW Issues 20–21

2024–2026

India — domestic AI ecosystem: MariApps, Dtyle.AI contributing to IMO architecture

Indian maritime AI companies now contributing to global IMO data architecture via FAL 49 and the IMO Compendium's 140+ emissions data fields. India transitioned from AI market consumer to standards contributor during this period.

MIW Issues 20–22

IACS Unified Requirements, ISO Standards & Technical Frameworks

Standards that define the technical floor for AI, cyber, and machinery systems.

2018–2019

ISO 19847 & ISO 19848 — shipboard machinery data logging standards published

ISO 19847 (shipboard data servers) and ISO 19848 (standard data set for shipboard equipment and machinery) established standardised data structures for machinery data logging and sharing. Without this foundation, commercial-scale digital twin deployment (Wär...

1 Jan 2024

IACS UR E26 — Cyber Security (mandatory for all newbuilds from 1 Jan 2024)

Applies to the vessel as a holistic integrated system. Mandates strict network segmentation between Operational Technology (OT: main engine controls, steering gear, navigation) and Information Technology (IT: crew internet, office systems). Physical or robust logical separation via firewalls and VLANs required.

MIW Issue 18

1 Jan 2024

IACS UR E27 — Cyber Resilience (mandatory for all newbuilds from 1 Jan 2024)

Applies to individual third-party systems and product vendors. Ensures internal product architecture can withstand, mitigate, and rapidly recover from active cyber incidents. Complements UR E26 (system-level) with component-level hardening requirements. Both mandatory for vessels contracted on or after 1 J...

MIW Issue 18

2023

ISO/IEC 42001:2023 — AI Management Systems standard published

Global standard for managing risk, data privacy, accountability, and algorithmic vulnerabilities in AI deployment. Future PSC and classification inspections expected to mandate onboard AI inventory, clear data processing boundaries, and operational accountability ma...

MIW Issues 20–21

2026

IACS UR M78 — Ammonia in machinery spaces (reviewed at MEPC 84)

Governs high-risk integration of ammonia fuel systems in engine rooms. Mandatory design: double-walled fuel piping, negative-pressure ventilation inside fuel valve units, rapid nitrogen purging networks, continuous toxic gas detection systems. Applies to all vessels designed to burn ammonia as main or pilot fuel.

MIW Issues 18–19

2023–2024

Maritime LEO SatCom deployment — Starlink / Eutelsat OneWeb

Mass rollout of Low Earth Orbit maritime satellite networks slashed latency from ~600ms to under 100ms and dramatically reduced per-GB costs. This infrastructure shift made real-time video feeds for AI watchkeeping systems and remote survey execution commercia...

2021

DNV rebrands from DNV GL to DNV

DNV GL rebranded as DNV in early 2021, following the strategic separation from its former joint venture partner GL (Germanischer Lloyd). All class notations, URS, and type approvals issued after this date carry the DNV name. References to DNV GL in pre-2021 documents refer to the same entity.

MASS Code — MSC 111 Analysis

Non-mandatory. Effective 1 July 2026. Does not replace SOLAS, MARPOL, COLREGs, or STCW.

The Four Degrees of Autonomy (DoA)

DoA 1	Automated processes and decision-support systems. Seafarers onboard, operating and controlling all systems.
DoA 2	Remotely controlled vessel with seafarers onboard who can immediately assume control at any time.
DoA 3	Remotely controlled vessel without seafarers onboard. Managed entirely from a shore-side Remote Operations Centre (ROC).
DoA 4	Fully autonomous vessel. Onboard operating system makes independent operational decisions and executes actions across all scenarios without ROC input.

Key Provisions & Constraints

WHAT IT DOES

- Establishes DoA 1–4 classification framework
- Sets minimum safety objectives for MASS ops
- Requires Remote Operators to hold competency equivalent to SWH watchkeeping
- States the "no-risk condition" on system failure
- Creates flag state certification pathway
- Provides goal-based standards for ROC design

WHAT IT DOES NOT DO

- Override SOLAS, MARPOL, COLREGs, or STCW
- Create automatic right to MASS operations
- Mandate ROC licensing immediately
- Specify technical standards for AI watchkeeping tools
- Revise STCW watchkeeping competency requirements
- Apply without individual flag state approval

Master's Overriding Authority under DoA 3 / DoA 4

Under SOLAS Chapter V, the Master holds absolute overriding authority for safety. Under MASS Code DoA 3/4, no Master is physically onboard. The ROC operator holds functional command — but legal responsibility under SOLAS Chapter V / ISM Code remains with the flag state, owner, and ROC as defined in the SMS. This intersection is unresolved in mandatory instruments and will be the central issue in future STCW revision.

GHG Instruments, Emissions Metrics & Alternative Fuels

The decarbonisation compliance stack active during Issues 17–22.

Well-to-Wake vs Tank-to-Wake — Measurement Boundary Definitions

Well-to-Tank (WTT) Extraction · Production · Transport	Tank-to-Wake (TTW) Onboard Combustion Only
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WELL-TO-WAKE (WTW) — Full lifecycle basis — gCO₂e/MJ

- In force 2023

CII (Carbon Intensity Indicator) — MARPOL Annex VI Reg 28

Annual CII rating (A–E) for all vessels >5,000 GT. Based on operational carbon intensity. Persistent E or three consecutive D ratings triggers corrective action plan. AI voyage optimisation tools exist specifically to manage CII scores. MEPC 84 refined methodology for alternative fuel vessels.

All Issues
- In force 2023

EEXI (Energy Efficiency Existing Ship Index) — MARPOL Annex VI

One-time design efficiency rating for existing ships. Non-compliant vessels required to implement Engine Power Limitation (EPL). Unlike CII, EEXI is fixed at the design/modification point — not continuously monitored.

IMO MEPC 76 / imo.org

MIW Issues 17–18
- 1 Jan 2025

FuelEU Maritime — WTW GHG intensity framework

Evaluates compliance on Well-to-Wake lifecycle intensity (gCO₂e/MJ). Prevents operators gaming the system by burning nominally zero-carbon fuels (e.g., grey ammonia) produced through carbon-intensive pathways. 2% reduction target from 2025, increasing to 80% by 2050.

MIW Issues 17–18
- 30 Apr 2026

EU ETS 100% compliance — maritime fully inside the carbon market

Phase-in complete: 40% (2024) → 70% (2025) → 100% (30 Apr 2026). Creates direct financial cost for GHG emissions on EU trades. Combined with FuelEU, this is the first complete multi-instrument hard-penalty GHG compliance stack for shipping.

MIW Issues 17–18
- Ongoing 2026

IMO Net-Zero Framework (NZF) — implementation mechanisms from 2027

IMO confirmed net-zero implementation mechanisms not expected mandatory before 2027–2029. The commercial urgency from EU ETS and FuelEU operates independently of this delay. Industry has more regulatory time from IMO — but not from the EU market.

MIW Issue 17
- 2026

IACS UR M78 — Ammonia machinery space requirements

Double-walled fuel piping, negative-pressure ventilation inside fuel valve units, rapid nitrogen purging networks, continuous toxic gas detection. WTW basis: green ammonia (electrolytic H₂ + Haber-Bosch) approaches near-zero lifecycle intensity. Grey ammonia does not.

MIW Issues 18–19

Ocean Crossings, Commercial Deployments & Certification Milestones

The autonomous vessel record: from first demonstrations to class-certified commercial operations.

Jun 2022

Mayflower MAS400 — first crewless transatlantic crossing (ProMare x IBM)

AI Captain processed data from six cameras and 30+ sensors, making over one million micro-adjustments. Plymouth, UK to Halifax, Nova Scotia — 3,500 miles. All processing onboard (edge computing), no shore-side AI dependency. Solar-powered trimaran.

Jun 2022

Prism Courage — first large commercial vessel ocean crossing under autonomous AI nav...

300m, 134,000-ton LNG carrier. Avikus HiNAS 2.0. Freeport, Texas → Panama Canal → South Korea (~20,000 km). Autonomous for roughly half the voyage. 7% fuel efficiency improvement, 5% GHG reduction quantified. Crew onboard supervising — distinguished from crewless operations.

MIW Issue 20

2022

Suzaku — 107 autonomous collision avoidances in Tokyo Bay (MEGURI2040 x Orca AI)

749-ton cargo vessel. 500-mile autonomous voyage through one of the world's most congested waterways. 107 collision-avoidance manoeuvres executed autonomously. Highest-density autonomous collision avoidance demonstration on record at the time. Orca AI integration model used in LR trial 2026.

2025

Genbu — world's first commercially certified autonomous coastal vessel (ClassNK AUTO...

ClassNK AUTO-Nav2 (All) notation. Covers all operational phases. Japanese coastal autonomous service. First class-certified commercial autonomous vessel — not a research prototype or trial.

ClassNK / classnk.or.jp

MIW Issues 18–19

2024

Elding — Iceland's autonomous passenger vessel enters regular commercial service

Autonomous passenger vessel completing regular commercial service runs in Icelandic waters. Higher regulatory bar than cargo: passenger safety requirements. Operated in open-sea North Atlantic conditions — not sheltered harbour environment.

Early 2026

Singapore to Rotterdam — first fully crewless transoceanic cargo voyage

Unnamed vessel. Multi-agency international trial backed by global logistics entities and UK Maritime Autonomous Systems Regulatory Working Group. Crossed Indian Ocean, Suez Canal, Atlantic approaches without crew onboard. Continuous 100% crewless operation — distinguished from Prism Courage which had

May 2026

MASS Code (MSC 111) — international regulatory framework effective 1 July 2026

See MASS Code section (page 8) for full analysis. The regulatory anchor: non-mandatory, goal-based, flag state dependent. Eight years from IMO scoping exercise (MSC 99, 2018) to adopted Code (MSC 111, 2026).

IMO / imo.org

MIW Issues 21–22

Complete Event Cross-Reference

Date	Event	Theme	Source	Issues
2018–19	ISO 19847/19848 — machinery data standards	Standards	—	—
1 Jan 2023	CII in force (MARPOL Annex VI Reg 28)	Regulation	IMO MEPC 76	All
1 Jan 2023	EEXI in force (MARPOL Annex VI)	Regulation	IMO MEPC 76	17–18
Jun 2022	Mayflower MAS400 transatlantic crossing	Autonomous	ProMare/IBM	—
Jun 2022	Prism Courage transpacific crossing (HiNAS 2.0)	Autonomous	Avikus/HD Hyundai	20
2022	Suzaku — Tokyo Bay 107 collision avoidances	Autonomous	MEGURI2040/Orca AI	—
2022	Yara Birkeland — first autonomous container voyage,...	Autonomous	Kongsberg/DNV	—
2023	South Korea MASS Act enacted	Nations	Govt. Legislation	20
2023	IMO 2023 GHG Strategy — net-zero by 2050 (MEPC...	Regulation	IMO MEPC 80	17
2023	India — Maritime Amrit Kaal Vision 2047	Nations	Min. of Ports	20
2023–24	LEO SatCom deployment — Starlink / OneWeb	Standards	Starlink/Eutelsat	—
1 Jan 2024	IACS UR E26/E27 mandatory (newbuilds)	Standards	IACS	18
1 Jan 2024	EU ETS — 40% phase-in begins	Regulation	EU Commission	17
2024	DNV — HyperPilot Type Approval	Class	DNV	17
2024	Norway — Remote Operator licence framework	Nations	Sjøfartsdirektoratet	21
2024	JNPT / Mundra Port AI deployments, India	Nations	JNPT / Adani Ports	20–21
2024	Elding — autonomous passenger vessel, Iceland	Autonomous	MCA Iceland	—
2024	Orca AI — 100+ vessels, LR notation	Class / AI	LR / Orca AI	19–21
1 Jan 2025	FuelEU Maritime enters force (WTW basis)	Regulation	EU 2023/1805	17–18
2025	ClassNK AUTO-Nav2 All — Genbu notation	Class	ClassNK	18–19
Apr 2026	MEPC 84 — CII refinements, UR M78 reviewed	Regulation	IMO	18–19
Apr 2026	HyperPilot commercial phase (DNV Type Approved)	AI / Class	Deepsea/DNV	17
Apr 2026	OCEANS-X Singapore launches	AI / Nations	MPA Singapore	18
Apr 2026	ABS surpasses DNV — largest class by tonnage	Class	ABS	17
30 Apr 2026	EU ETS 100% compliance	Regulation	EU Commission	17–18
Early 2026	Singapore–Rotterdam crewless cargo voyage	Autonomous	UK MASRWG	—
May 2026	MSC 111 — MASS Code adopted (eff. 1 Jul 2026)	Regulation	IMO	21–22
May 2026	LR x Orca AI — live class trial commences	Class / AI	LR / Orca AI	21–22
May 2026	FAL 49 — IMO Compendium 140+ fields	Regulation	IMO	21–22

Primary Sources

IMO — MSC 111 / MASS Code	imo.org/en/MediaCentre/MeetingSummaries/Pages/MSC-111th-session.aspx
IMO — MARPOL Annex VI (CII / EEXI)	imo.org/en/OurWork/Environment/Pages/EnergyEfficiencyShips.aspx
IMO — 2023 GHG Strategy (MEPC 80)	imo.org/en/MediaCentre/MeetingSummaries/Pages/MEPC-80.aspx
IMO — FAL 49 / Compendium	imo.org/en/About/Conventions/Pages/FAL.aspx
IACS — UR E26/E27 Cyber	iacs.org.uk/publications/unified-requirements/
IACS — UR M78 (Ammonia)	iacs.org.uk/publications/unified-requirements/
IACS — UI SC223 (Coating / RIT)	iacs.org.uk/publications/unified-interpretations/
ClassNK — AUTO-Nav2 / Autonomous Guidelines	classnk.or.jp/hp/en/index.html
Lloyd's Register — AI Notation & Orca AI trial	lr.org/en/digital-and-data/artificial-intelligence/
DNV — Condition Monitoring / HyperPilot Type Approval	dnv.com/maritime/digital-solutions/
ABS — Digital Twin / Class Services	abs.org/maritime-safety/
FuelEU Maritime (EU 2023/1805)	transport.ec.europa.eu/transport-modes/maritime/fueleu-maritime_en
EU ETS Maritime Extension	climate.ec.europa.eu/eu-action/transport/reducing-emissions-shipping-sector_en
ISO 19847 / ISO 19848	iso.org
ISO/IEC 42001:2023 — AI Management Systems	iso.org/standard/81230.html
DG Shipping India	dgshipping.gov.in
Indian Register of Shipping	irclass.org
Sagarmala Programme	sagarmala.gov.in
Nippon Foundation — MEGURI2040	nippon-foundation.or.jp/en/what/projects/meguri2040/
Avikus / HiNAS 2.0 — Prism Courage	avikus.ai
Orca AI	orca-ai.io
MPA Singapore — Maritime AI Fund	mpa.gov.sg
Sjøfartsdirektoratet — Remote Operator Framework	sdir.no
Marine Intelligence Weekly — Full Issues	marineintelligenceweekly.com
MIW AI in Maritime Timeline	marineintelligenceweekly.com/timeline.html

Marine Intelligence Weekly

Independent editorial — marineintelligenceweekly.com

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