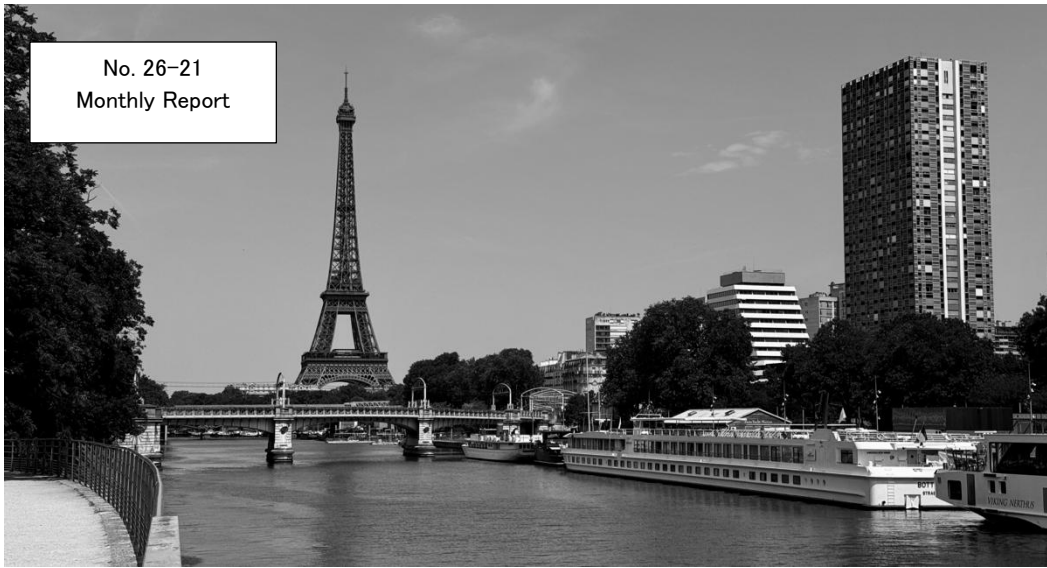




The Eiffel Tower and the River Seine, Paris, France

European Maritime Safety
Report
The Japan Association of
Marine Safety
London Research Office

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Article Summaries

26-21-1. EMSA Document on Assessing the Risks of Malicious Use of Unmanned Aircraft Systems

- Growing threats from attacks, reconnaissance and other malicious uses of UAS, as highlighted by recent conflicts.
- Publication by EMSA of a methodology for assessing UAS-related risks to ships and port facilities.
- Need to strengthen detection, protective measures and coordinated public–private response arrangements against “threats from above”.

26-21-2. Developments in Asia–Europe Transport via the Northern Sea Route

- Growing commercial use of the Northern Sea Route as an alternative route for Asia–Europe logistics.
- China’s continued seasonal container services and the launch of the Republic of Korea’s first trial voyage.
- Building operational experience and developing vessels, personnel and logistics hubs with a view to scheduled, year-round services.

26-21-3. MoU between the Maritime and Port Authority of Singapore (MPA) and Ocean Infinity

- Singapore’s development of a test environment ahead of the practical deployment of MASS.
- MPA–Ocean Infinity trials and knowledge-sharing on autonomous and remote vessel operations encompassing both vessels and shore-based ROCs.



- Building operational experience and developing regulatory and safety arrangements for the future acceptance of MASS.

(End of summaries)

Full Articles

26-21-1. EMSA Document on Assessing the Risks of Malicious Use of Unmanned Aircraft Systems

On 7 August, the European Maritime Safety Agency (EMSA) published “Quantifying the risk to maritime security from malicious use of UAS”, which sets out a methodology for assessing maritime-security risks arising from the malicious use of Unmanned Aircraft Systems (UAS). The document is intended for public- and private-sector maritime-security stakeholders, including authorities responsible for ship and port-facility security, port authorities, shipping companies and ship operators. It provides a common framework for assessing risks associated with UAS-enabled attacks, criminal activity, sabotage and other malicious acts. EMSA presents it as a general-purpose risk-assessment tool for use across both sectors. The document applies to ships and port facilities within the scope of EU Regulation (EC) No 725/2004. ([1-1])

The publication comes against a backdrop of civilian drones becoming cheaper, smaller and more capable, while recent conflicts have demonstrated the rapid expansion of UAS use for military and other malicious purposes. In the war in Ukraine, relatively inexpensive commercial drones have been used extensively for reconnaissance and attack, while in the Red Sea the Houthis have continued to use drones against merchant shipping. These cases demonstrate that even inexpensive, commercially available drones can provide effective means of reconnaissance and attack, increasing concern that similar methods could be replicated by a much wider range of actors, including criminal and terrorist organisations. Although the document does not set out direct countermeasures against attacks on ports in interstate armed conflict, such as the war between Russia and Ukraine, it can be viewed as an effort to apply to peacetime ship and port security within the EU the lessons arising from the weaponisation and malicious use of UAS demonstrated in Ukraine and the Red Sea.

The threats considered in the document are not limited to direct attacks by UAS carrying explosives or other payloads. They also include reconnaissance and intelligence-gathering directed at port facilities and ships, smuggling, surveillance of law-enforcement activities, interference with communications and navigation equipment, support for cyberattacks and disruption of port operations. In particular, UAS can bypass conventional ground-level access controls such as fences, gates and security personnel by approaching from the air, creating new avenues of intrusion against critical assets including fuel tanks, cargo-handling equipment, communications facilities, power installations and ships’ bridges. Port and ship security, traditionally designed primarily to prevent intrusion by suspicious persons or vessels from land or sea, must therefore now address the additional threat of “access from above”.

Rather than establishing a new, standalone regulatory regime for UAS threats, the document incorporates them into existing ship and port security risk assessments. This involves identifying critical assets and functions, defining the threat actors and attack scenarios to be considered, assessing the likelihood and potential impact of each scenario, and determining the risk-reduction measures required. ([1-2])

The document also does not envisage countermeasures being undertaken by port authorities and shipping companies alone. Ports and ships can deploy radar, optical and infrared cameras,

and radio-frequency detection systems to detect UAS, as well as strengthen the physical protection of critical assets and revise security procedures. However, active counter-UAS measures such as jamming, forced landing and interception are subject to legal and safety constraints. The respective roles of government authorities, police, coastguard agencies and other relevant bodies, together with arrangements for information-sharing, should therefore be clarified in advance.

A key feature of the EMSA document is that it does not treat UAS as a discrete new technology but seeks to incorporate them into existing ship and port security arrangements as a new maritime-security risk requiring a shared public–private understanding. Given the possibility that the attack and reconnaissance capabilities demonstrated by UAS in recent conflicts could spread to criminal and terrorist organisations, the document points to a growing need for EU ports and merchant ships to establish, in peacetime, arrangements for UAS detection and protection, information-sharing, and coordinated response among the relevant authorities.

26-21-2. Developments in Asia–Europe Transport via the Northern Sea Route

In August 2026, Chinese and Korean shipping companies made tangible progress towards Asia–Europe container transport via the Northern Sea Route. In the Republic of Korea, the new administration has made development of the Northern Sea Route a national policy priority and is advancing dedicated legislation and an implementation framework. As part of these efforts, the shipping and logistics group PanStar has begun the Republic of Korea’s first trial voyage by a container ship. In China, meanwhile, New New Shipping is already operating container services via the Northern Sea Route, and efforts to develop the route for commercial use in Asia–Europe logistics are progressing. [\[2-1\]](#), [\[2-2\]](#)

According to the Republic of Korea’s Ministry of Oceans and Fisheries, the trial voyage is being carried out by PanStar Acro, a mid-sized container ship operated by PanStar, which departed Busan on 22 August. The vessel is scheduled to complete a round voyage of approximately 45 days, calling at major European ports in the United Kingdom, the Netherlands and Poland via the Northeast Passage before returning to Busan by the same route. PanStar describes the voyage as the Republic of Korea’s first trial voyage via the Northern Sea Route. [\[2-3\]](#)

The voyage is not an isolated private-sector trial; it forms part of the Korean government’s policy to develop the Northern Sea Route for commercial use. As one of its priorities for the second half of 2026, the Ministry of Oceans and Fisheries plans to conduct a 40–45-day trial voyage between Busan and Europe in August–September and, drawing on the operational experience and logistics data obtained, to lay the groundwork for a scheduled Korea–Europe service. The Ministry also plans to develop Busan as a hub for container logistics and Ulsan as a hub for energy logistics, while training seafarers for navigation in ice-covered waters, developing core technologies for domestically developed icebreaking container ships, and establishing a comprehensive Arctic route support centre in preparation for regular use of the Northern Sea Route in the future. [\[2-4\]](#)

In China, New New Shipping has operated seasonal services via the Northern Sea Route every summer since 2023 and, in 2024, launched the “Arctic Express No. 1” service linking Chinese ports, the Russian port of Arkhangelsk and Moscow. According to the company, the route is generally navigable from July to the end of October, weather and sea-ice conditions permitting, and can reduce one-way transit times by around 12 days compared with the Suez Canal route. Its fleet has ice class, denoting ice-strengthened construction for navigation in ice-covered waters, and receives icebreaker support where necessary. The company also deploys seafarers with Arctic navigation experience, Russian maritime pilots and Northern Sea Route specialists. In 2024, it also reached an agreement with Rosatom, the Russian state nuclear corporation responsible for administering the Northern Sea Route and operating a fleet of nuclear-powered icebreakers, to cooperate on the establishment of a future year-round container service. [\[2-2\]](#), [\[2-4\]](#), [\[2-5\]](#)

Taken together, these developments indicate that the Northern Sea Route is moving beyond a stage centred on resource transport and one-off demonstration voyages towards a stage in which its potential commercial use for container logistics is being tested. Particularly significant is the Republic of Korea’s integrated, policy-led approach, which extends beyond a single trial voyage to a broader package of supporting measures.

Nevertheless, the Northern Sea Route presents safety constraints not normally encountered in other waters, including sea ice, low temperatures, severe weather, limited communications and navigational-support infrastructure, and remoteness from search-and-rescue bases. The International Maritime Organization (IMO), through its Polar Code, likewise sets special requirements for ship structure, equipment, operations, crew training and search and rescue in light of these polar-specific risks. The Northern Sea Route therefore cannot, at present, be regarded as a comprehensive alternative to the Suez Canal or Cape of Good Hope routes. However, with China continuing seasonal commercial operations and the Republic of Korea now undertaking a national trial programme, the route’s practical viability for Asia–Europe logistics is beginning to be tested in earnest.

26-21-3. MoU between the Maritime and Port Authority of Singapore (MPA) and Ocean Infinity

On 17 August 2026, the Maritime and Port Authority of Singapore (MPA) entered into a Memorandum of Understanding (MoU) with Ocean Infinity, a marine robotics and technology company with bases in the United States and the United Kingdom, on Maritime Autonomous Surface Ships (MASS) and remote vessel operations. The MoU was announced at the opening ceremony of Singapore Safety@Sea Week 2026, held from 17 to 21 August, the MPA’s annual maritime safety awareness event.

The MoU provides a framework for cooperation to conduct, evaluate and validate trials of autonomous vessel operation and shore-based remote operation within Singapore’s port waters; it is not a contract for commissioned research, survey work or similar services. Ocean Infinity will share with the MPA operational insights and practical lessons from Armada, its commercially operated remotely controlled fleet, while the MPA will apply its expertise to guide the design and conduct of the trials and assess the safety and operational issues arising

from them. Through this cooperation, the two parties aim to deepen their understanding of autonomous vessels and shore-based Remote Operations Centres (ROCs), while advancing capability-building, operational trials and research collaboration. According to Singapore's Ministry of Transport, the MPA has already established a "sandbox" allowing its port waters to be used for trials of MASS from Singapore and overseas; in April 2026, an autonomous navigation trial involving the NYK Line car carrier Elder Leader was conducted there. [\[3-1\]](#)

Ocean Infinity applies robotics, AI, data technologies and remote operations to ocean surveys and related activities. It is developing an operating model in which functions traditionally performed on board, including planning, monitoring and decision-making, are transferred ashore, with vessels, robotics and data operated as an integrated system. In 2024, the classification society DNV issued a Statement of Compliance for the "remotely supported vessel operations" of Ocean Infinity's Armada fleet, which DNV describes as the first fleet to meet the technical and operational standards required for large vessels. Ocean Infinity states that it completed the build-out of the Armada fleet in December 2025 and is continuing its transition to an operating model based on remote and automated technologies. [\[3-2\]](#), [\[3-3\]](#)

A key feature of the cooperation is that it addresses not only vessel autonomy but the wider operating system, including shore-based ROCs. The non-mandatory MASS Code, adopted by the IMO in May 2026 and effective from 1 July 2026, establishes a comprehensive safety framework for remotely operated and autonomous vessels, covering navigation, communications, remote operation, cybersecurity and risk assessment. It also requires ROCs to be assessed, certified and operated under a safety management system. An Experience Building Phase (EBP) is planned, through which practical experience gained from applying the non-mandatory Code will inform development of the future mandatory Code. Against this background, the initiative provides an example of how individual states can build concrete operational experience following adoption of the MASS Code, drawing on insights gained by Ocean Infinity through actual operations. [\[3-4\]](#), [\[3-5\]](#)

Overall, the MoU with Ocean Infinity can be viewed as an initiative through which Singapore draws on the expertise of a company with commercial experience in remote operations to build practical capability and operational experience across autonomous and remote vessel systems, encompassing both vessels and ROCs. Alongside the establishment of the IMO MASS Code as an international framework, Singapore is moving into a phase of using its port waters as a test environment and systematically accumulating trial results and operational experience in preparation for the acceptance of autonomous and remotely operated vessels. The cooperation is therefore best understood not as an isolated technology demonstration, but as part of creating a "regulatory ready" environment for the future acceptance of autonomous and remotely operated vessels in the Port of Singapore. [\[3-6\]](#)

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