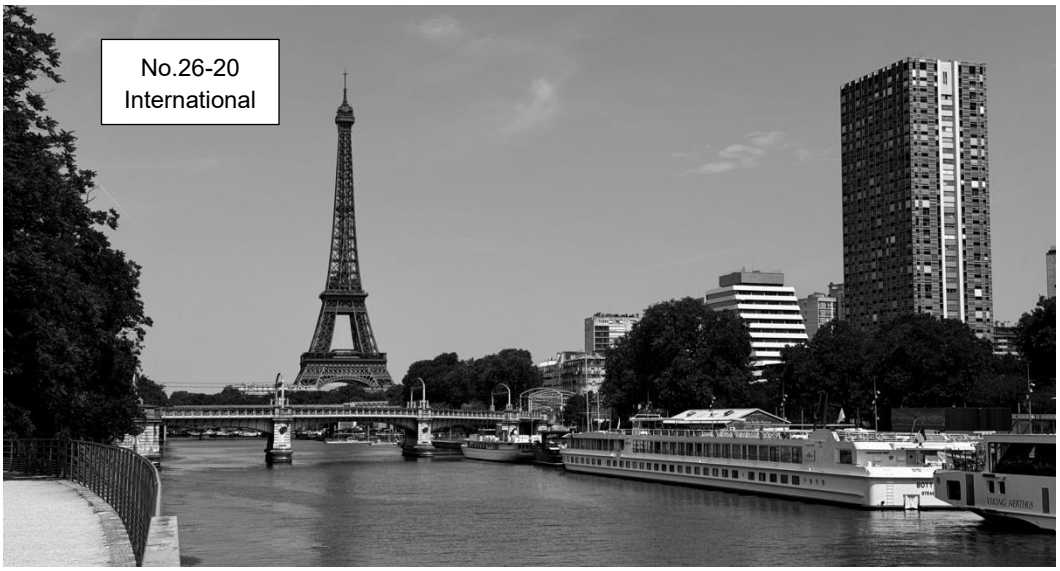

No.26-20
International

European Maritime
Safety Report

The Japan Association of
Marine Safety
London Research Office

The Eiffel Tower and the River Seine, Paris, France

Supported by THE NIPPON FOUNDATION

Report on Seawork 2026

– Trends in Autonomous Navigation Technology and Maritime Innovation in the United Kingdom –

1. Introduction

This report provides an overview of “Seawork 2026”[1] held at Mayflower Park in Southampton, United Kingdom, from 9 to 11 June 2026. The organiser describes the event as Europe’s largest commercial marine and workboat exhibition, distinguished by its on-water displays of actual vessels. The London Office attended the event on 10 June, visiting the exhibits and attending conference sessions. This report summarises the main observations from the visit.

Seawork 2026 venue

The event was first held in Southampton in 1998 under the name “Seawork International” and has been held regularly ever since, growing in scale over time.[2] Seawork 2026, the twenty-seventh edition, brought together 522 exhibiting companies and organisations and attracted 7,972 visitors from more than 60 countries.[3] Two features of this year’s exhibition were particularly notable.

The first was the substantial involvement of supporting bodies and industry associations. The official website describes Seawork primarily as a platform for building business networks in the commercial marine and workboat sector, supported by more than 50 supporting bodies and industry associations from the UK and overseas.[4]

---

[1] https://seawork.com/home
[2] https://seawork.com/news/13666
[3] https://www.bairdmaritime.com/gear/services/conferences-exhibitions/gear-seawork-2026-concludes-with-visitor-count-of-nearly-8000
[4] https://seawork.com/about-seawork

The second was the display of actual vessels on the water. The maritime media outlet Marine Inspect reported that the exhibition featured more than 70 vessels and craft.[5] The on-water displays also allowed vessels and equipment to be examined at close quarters, under conditions similar to their normal operating environment.

In light of these characteristics, this report focuses on autonomous navigation technology and maritime innovation, areas of particular interest to the London Office, and presents an account of the booths visited and conference sessions attended. It is intended solely as a record of the author's research visit and does not constitute an endorsement or recommendation of any company, product or service.

Inside the Seawork 2026 venue

2. The Exhibition and Related Conference Programme

(1) Exhibition Booths and Initiatives

Exhibitors presented a broad range of products and services relating to the maritime industry, including vessels, marine equipment and automation-related systems. Only four national and regional pavilions were present, while exhibits by UK companies and UK-related institutions appeared to predominate. As covered in the London Office's European Safety Report No. 26-17[6], Posidonia 2026[7] featured 24 national pavilions. By comparison, Seawork 2026 gave the impression of an international exhibition with a strong UK focus, while also attracting overseas participants.

Moreover, as noted at the outset, many exhibits were organised in collaboration with industry bodies and research institutions, rather than being limited to individual companies presenting their own products and services. This suggested a substantial level of organisational support. This was also evident in Hall 3, one of the three halls comprising the venue, where, according to the official floor plan, exhibition areas involving such organisations and related institutions occupied more than half

[5] https://www.marine-inspect.co.uk/blog/seawork-2026-highlights-commercial-marine-tech
[6] https://www.nikkaibo.or.jp/london/no-26-17%e3%80%8c%e6%b5%b7%e5%a4%96%e6%83%85%e5%a0%b1-posidonia-2026-%e5%8f%82%e5%8a%a0%e5%a0%b1%e5%91%8a%e3%80%8d
[7] https://posidonia-events.com/

of the hall. Against this background, the following section highlights three organisations visited by the London Office that are engaged in initiatives supporting the practical application of maritime innovation in the UK.

a. Maritime and Coastguard Agency (MCA) / UK Maritime Innovation Hub

The UK Maritime Innovation Hub[8] is an advisory service for new technologies in the maritime sector, announced on 3 June 2026 by the Maritime and Coastguard Agency (MCA). It was presented as enabling operators to engage with the regulator at an early stage, with a focus on four areas: Maritime Autonomous Surface Ships (MASS), decarbonisation, digital technology and nuclear propulsion.

The MCA booth

As discussed in the London Office's Report No. 26-05[9], the testing of new technologies presents a recurring challenge: companies need approval to build a track record through trials, while regulators require prior assurance of safety before permitting those trials. The Hub is intended to address this challenge by receiving enquiries from operators, clarifying the regulatory issues arising in each case, and supporting the preparation of applications, access to test environments and related matters.

Moreover, as introduced in the London Office's Report No. 26-15[10], the Hub's autonomous vessels workstream sets out which MCA rules and guidance may apply to MASS and remotely operated vessels, according to vessel size and mode of operation. The Hub can therefore serve not only as a point of consultation for individual operators, but also as a guide to the regulatory steps required for the demonstration and deployment of MASS.

b. Society of Maritime Industries (SMI) / Six Specialist Groups

The Society of Maritime Industries (SMI)[11], the UK's maritime industry association, used its booth to highlight its sector-specific specialist networks. Through six specialist groups – commercial marine, digital technology, autonomous systems, maritime defence and security, marine science, and ports and terminals – SMI supports collaboration among companies, research institutions and government representatives.

[8] https://www.gov.uk/government/collections/uk-maritime-innovation-hub
[9] https://www.nikkaibo.or.jp/london/no-26-05%e3%80%8c%e6%b5%b7%e5%a4%96%e6%83%85%e5%a0%b1%e3%80%80oceanology-international-2026-%e5%8f%82%e5%8a%a0%e5%a0%b1%e5%91%8a%e3%80%8d
[10] https://www.nikkaibo.or.jp/london/no-26-15%e3%80%8c%e6%9c%88%e5%88%8a%e3%83%ac%e3%83%9d%e3%83%bc%e3%83%88%ef%bc%882026%e5%b9%b46%e6%9c%88%e5%8f%b7%ef%bc%89%e3%80%8d
[11] https://www.maritimeindustries.org/

An SMI representative emphasised the importance in the UK not only of technology development within individual companies, but also of information sharing through industry bodies, the submission of views to government, and the development of networks across a wide range of related organisations. In relatively new fields such as MASS and decarbonisation, a single company may find it difficult to keep abreast of regulatory developments and move technology towards implementation; the representative therefore stressed the importance of these specialist groups.

c. National Oceanography Centre (NOC) / NOC Innovation Hub

At Seawork 2026, the National Oceanography Centre (NOC)[12] presented its NOC Innovation Hub[13] in a central space within the Autonomous & Remote-Operated Vessel Pavilion.

The Autonomous & Remote-Operated Vessel Pavilion

The NOC is a UK research institution engaged in ocean research and observation. It is also active in the development and operation of marine robotics, including Autonomous Underwater Vehicles (AUV), gliders and Remotely Operated Vehicles (ROV). The NOC Innovation Hub brings together companies involved in the marine industries, promotes collaboration both among those companies and with the NOC, and supports technology development and commercialisation.

At the booth, an NOC representative explained that autonomous technologies can be applied not only to vessel operation, but also across a wide range of fields, including ocean observation, the inspection of marine infrastructure, and defence and security.

The visits to the MCA, SMI and NOC booths suggested that, alongside companies developing technology, regulators, industry bodies and research institutions each play an organised supporting role in bringing autonomous navigation technology and maritime innovation into practical use.

(2) Sessions and Panel Discussions

A total of 22 sessions were held over the three days, principally in the venue's two conference rooms. The London Office was able to attend only a limited number of these sessions. The following section therefore summarises three sessions concerning support for autonomous navigation technology and maritime innovation.

[12] https://www.noc.ac.uk/
[13] https://noc-innovations.com/innovation-hub/

a. Current Status and Challenges in Bringing Autonomous Navigation Technology into Practical Use

This session examined the current state of autonomous navigation technology and the challenges involved in putting it into practical use. While the development of sensors, control systems and communication technologies for autonomous vessels continues to advance, safe and sustained operation at sea requires coordination with regulators and access to suitable test sites. Further challenges raised included the accuracy of the data obtained from sensors, operation in adverse weather, and whether the benefits and market demand are sufficient to justify the cost of adoption.

From a regulatory perspective, Jonty Slater, head of the MCA's UK Maritime Innovation Hub (noted above), explained that the Agency is strengthening the Hub's arrangements for handling initial enquiries from operators free of charge. He also introduced an initiative under which a test area has been established at Plymouth for trialling autonomous vessels and new technologies, which can generally be used for up to three months and, where necessary, extended to a maximum of six months. These arrangements should make it easier for operators to prepare trial plans and safety documentation in consultation with the regulator.

Private-sector speakers also highlighted technical challenges encountered at sea and the measures being taken to address them. Toby Freeman of the vessel design firm Chartwell Marine[14] explained that hull motion and bubbles generated by propulsors can affect sensor data. In response, he explained that the company uses CFD* analysis to examine such effects at the design stage.

* CFD: Computational Fluid Dynamics; a technique that uses computer simulation to model the flow of water and air around a vessel's hull.
(Reference: https://repun-app.fish.hokudai.ac.jp/course/view.php?id=1197)

On market demand, Slater explained that UK-flagged autonomous vessels already number more than 80, and that enquiries from operators are increasing. On cost, however, Danny Shipp and Rob Armstrong of the maritime consultancy BMT observed that even where automation reduces crew numbers, the overall cost of a vessel does not necessarily fall, given the cost of automation equipment and of highly skilled personnel operating vessels from shore. They therefore stressed that automation should not be pursued uniformly from the outset. Instead, operators need to identify which tasks can be automated in a way that delivers benefits and cost savings commensurate with the costs of implementation and maintenance.

[14] https://chartwellmarine.com/

Overall, the session highlighted a broad range of issues being examined with a view to the practical application of autonomous navigation technology, including coordination with regulators, the development of environments for demonstration trials, vessel design informed by operation in actual sea conditions, and market demand and commercial viability.

b. The Future of Autonomous Operations – Approaches to Regulation and Assessment

This session discussed the future direction of regulation for the autonomous technologies employed in MASS, USV and AUV. It also considered the need to assess autonomy not only at whole-vessel level, but also at the level of individual systems, taking into account the respective roles of human operators and automated systems.

At the IMO, the non-mandatory MASS Code was adopted in May 2026[15] and became applicable on 1 July of the same year. The Code sets out a safety framework for autonomous vessels, applying in principle to cargo ships subject to the SOLAS Convention.

Against this background, Roger Moore of the International Marine Contractors Association (IMCA)[16], referring to the IMO's four-degree classification based on the extent of human involvement with the vessel as a whole, pointed out that such whole-vessel categorisation may not always adequately capture the respective roles of humans and automated systems within individual functions. He went on to introduce the approach of the UK Ministry of Defence's Defence Maritime Regulator (DMR)[17], which distinguishes between the roles of humans and systems for each individual function.

To illustrate this distinction, Moore cited the offshore sector, encompassing marine resource development, offshore wind power and marine construction. In operations of this kind, a crewed support vessel currently serves as the operating platform, holding its position by means of Dynamic Positioning (DP) while Remotely Operated Vehicles (ROV) and Autonomous Underwater Vehicles (AUV) are deployed underwater.

Under the IMO's four-degree classification, however, the criterion is the extent of human involvement with the vessel as a whole. Where a support vessel carries a crew, therefore, the vessel as a whole is classified as Degree One – the lowest degree of automation – however highly

[15] https://www.imo.org/en/mediacentre/pressbriefings/pages/imo-adopts-mass-code.aspx
[16] https://www.imca-int.com/
[17] https://www.gov.uk/government/groups/defence-maritime-regulator-dmr

automated its onboard systems such as DP may be, and even where AUV and similar craft are employed in the same operation. Moore observed that whole-vessel categorisation of this kind fails to reflect adequately the autonomy of individual functions or the division of roles between humans and automated systems. He also noted that, in such circumstances, it may remain unclear, for example, who should make decisions or intervene at each stage if an anomaly occurs, and who bears responsibility for each element.

For this reason, Moore explained, it is important not only to assess the vessel as a whole under a single classification, but also – as in the DMR's approach – to ascertain how each individual function operates, the respective responsibilities of human operators and automated systems, and the stages at which human operators are involved in decision-making or operation.

The session therefore presented the view that classification based solely on human involvement with the vessel as a whole may fail to capture the respective roles of automated systems and human operators, and that those roles should also be assessed at the level of individual functions.

c. Collaboration towards the Commercialisation of Maritime Innovation

This session examined how collaboration can help move maritime innovation in the UK from research and development into actual products and services.

First, an overview of the UK maritime research and technology roadmap being developed by Maritime Research and Innovation UK (MarRI-UK)[18] was presented by Jake Rigby, Chair of its Technology Working Group. MarRI-UK is an industry-led membership organisation that supports the research and development of new maritime technologies through collaboration among companies, universities and research institutions.

The roadmap is being developed to identify technologies that should be prioritised for research and development in the UK maritime industry and to align priorities across companies, universities, research institutions and government. The presentation indicated that national security and economic prosperity are overarching goals, with clean technology, digital technology and autonomous navigation technology among the priority areas under consideration.

From the government side, Rod Paterson, CEO of the National Shipbuilding Office (NSO)[19], explained that the NSO is pursuing initiatives in maritime technology and autonomous operations in

[18] https://marri-uk.org/
[19] https://www.gov.uk/government/groups/national-shipbuilding-office

partnership with government, industry, universities and research institutions. He noted in particular that moving beyond the stage known as the “valley of death”, where technologies, despite having been successfully developed, fail to reach commercialisation because funding or testing opportunities are unavailable, requires support with fundraising, access to test sites, regulatory compliance and the identification of partners.

From an industry-body perspective, SMI described its role in consolidating the views of small and medium-sized enterprises that find it difficult to conduct research and development or secure funding on their own, and in promoting information sharing among companies and collaboration with government and research institutions.

The panel discussion further noted that the UK maritime industry involves a large number of small and medium-sized enterprises, and that a key challenge lies in how the technologies each company develops are to be tested and brought to domestic and international markets as products and services.

The discussion therefore emphasised that government, research institutions, industry bodies and companies need to collaborate from an early stage and provide support at each stage of the process – research and development, regulatory compliance, testing, fundraising and commercialisation. Examples cited included test areas operated in conjunction with the MCA, mechanisms for involving regulators and other authorities from the early stages of development, and research and development conducted in collaboration with universities.

Overall, the session emphasised that bringing maritime innovation through to actual products requires companies to work with government, research institutions and industry bodies from an early stage and to obtain support in addressing challenges that are difficult to overcome alone.

3. Conclusion

The exhibition booths and conference sessions at Seawork 2026 highlighted initiatives supporting autonomous navigation technology and maritime innovation in the UK. The on-water displays also provided an opportunity to view actual vessels and equipment at close quarters.

The visit suggested that, in the UK, the practical application of autonomous navigation technology and maritime innovation is supported not only by individual companies, but also by regulators, industry bodies and research institutions through organised support arrangements. Specifically, regulators provide early-stage consultation and test environments; industry bodies facilitate

information sharing and inter-company collaboration; and research institutions support technology development and commercialisation. This organised support, together with collaboration among the organisations concerned, appears important in moving new technologies from research and development into practical use.

The next Seawork is scheduled to take place from 15 to 17 June 2027, again at Mayflower Park in Southampton, United Kingdom.

Yoshihiro Kawakami
Researcher, London Research Office
The Japan Association of Marine Safety

On-water vessel displays