



2022 DIGITAL@SEA NORTH AMERICA FINAL REPORT OF THE CONFERENCE

EXECUTIVE SUMMARY

The 2022 Digital@Sea North America conference was held 11-12 May 2022 at the Florida Aquarium, Tampa, Florida. Organized by the International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA) and the Radio Technical Commission for Maritime Services RTCM, the conference was attended by 61 delegates, representing 7 countries. Sponsorship was provided by two firms. In addition to IALA and RTCM, three organizations supported the conference as identified below. 25 Presenters covered a wide variety of e-Navigation topics which were grouped in four Sessions.

Session I – e-Nav Plans and Implementation
Session II – e-Nav Initiatives
Session III – VDES Progress Report
Session IV – e-Nav on the Horizon
Session V – e-Nav Initiatives
Session VI – e-Nav Today
Session VII – Closing Plenary Session

The Closing Plenary Session provided a review of the proceedings and recommendations from participants by a panel of experts. The analysis generated a set of conclusions and recommendations that were presented to the plenary and either accepted as written key points from their sessions, followed by general discussion and development of consensus on a series of conclusions and recommendations. A summary of these appears in Section 10.

SUPPORTING ORGANIZATIONS



Comité International Radio-Maritime (CIRM) is the principle non-profit international association for marine electronics companies, promoting the application of electronic technology for the Safety of Life at Sea and efficient conduct of vessels; fostering relations between all organizations concerned with electronic systems for maritime navigation and information technology.



International Hydrographic Organization (IHO). The International Hydrographic Organization is an intergovernmental consultative and technical organization established to support safety of navigation and the protection of the marine environment. The mission of IHO is to create a global environment in which states provide adequate and timely hydrographic data, products and services and ensure their widest possible use.



Nautical Institute. The Nautical Institute is an international representative body for maritime professionals, providing a wide range of services to enhance the professional standing and knowledge of its members who are drawn from all sectors of the maritime world.

SPONSORING ORGANIZATIONS



ICAN's head office is based in St. John's, Newfoundland, Canada. ICAN designs and implements sophisticated navigation and communications software including Electronic Chart Systems (ECS) designed on the IMO specification for ECDIS. The company also provides AIS and VDES Infrastructure, consulting services, system design, and project management. ICAN has a US based office in Dallas, Texas. The US office provides sales, technical support and administration for US customers of ICAN Systems and related hardware. The operations of ICAN Ltd. and ICAN Inc. are closely integrated to create a unified ICAN brand in the market.

EXHIBITORS

GateHouse Maritime A/S is a pioneer in maritime tracking, it provides maritime decision makers and



operators in global markets with world class tools for tracking and monitoring maritime traffic. Its market-leading products have wide applications in Coastal Surveillance, Port Management, Offshore Surveillance and Risk Analysis. As an Automatic Identification

System (AIS) provider, GateHouse has a track record of providing decision-makers and operators all over the world with best-in-class maritime domain awareness tools based on unique operational pictures and situational awareness. AIS solutions from GateHouse can be bolted on to existing solutions bringing added value for Data Fusion, Anomaly Detection, Statistics and Risk Assessment.



1. CONFERENCE OVERVIEW

The 2022 Digital@Sea North America was organized by IALA and RTCM as the first of the Digital@Sea series for North America and the seventh North American regional version of the ***e-Navigation Underway*** series. The venue for the meeting was the Florida Aquarium, Tampa, Florida and the conference theme was ***Navigating our Digital Waterways***. The presentations focused on the broadening application of the maritime information environment that digitalization is creating and the many initiatives that have advanced since the previous North American conference of November 2019. The program was developed by a Steering Committee composed of representatives of RTCM, IALA, CMTS, and the Canadian Coast Guard. The process included reaching out to other affected parties.

Presentations will specifically address digitalization and implementation plans by key stakeholders including key Canadian and U.S. government agency representatives, technology experts, mariners, international coastal administrators, and creators of maritime safety information. The transition from paper to electronic charts, the introduction of S-100, and the opportunities presented by technology, such as the VHF Data Exchange System (VDES), are few examples of the topics to be presented and discussed. The format gave participants the opportunity to share information about the challenges they face and interact with presenters and organizers throughout the conference.

Conclusions and recommendations were generated by the delegates to provide useful input to regulators, educators and maritime training establishments. These are submitted as part of this Conference Final Report for further consideration for dissemination by IALA to the appropriate international and national authorities for consideration.

2. CONCLUSIONS

The following set of conclusions were made as a result of the conference proceedings:

- The digital transformation of marine navigation is underway in earnest
- There remains a great deal of work to accomplish the goal of digitalization and vastly improved marine navigation capabilities and services
- There are many parallel efforts underway within N. America and beyond to develop new data sets, and applications that must converge over time. For example, there should be seamless delivery across N. American ports and waterways.
- We recognize that we're at a tipping point where we will soon have vast and diverse terrestrial and satellite communications resources available.
- We can continue to learn useful lessons from mariners and shore authorities that have used existing communications and data to solve real-world problems
- AtoNs can be multi-talented, a digital buoy can be marker, visual and audio aid, communications relay, a data source. (e.g., weather source)



- As new products are developed, harmonized portrayal will be critical to targeted service delivery and successful use by the mariner.
- Ultimately, the delivery of more timely and accurate data via new more robust means of communications will enable maritime community and automated systems to make better decisions at sea affecting improved safety and efficiency.
- The Marine Exchange of Southern California & Vessel Traffic Service Los Angeles/Long Beach provided a summary of the project queuing issue at the Port of LA and Long Beach. A summary of the report could be of value as a lessons learned for others.
- Coastal State Authorities require ships to submit reports that are not (yet) included in the IMO Compendium.
- It is clear that the success of our efforts will require a resilient PNT source with a backup.
- It is essential that radiocommunications regulatory authorities engage with the maritime community to ensure that the necessary RF spectrum is available to support essential maritime services.
- The meeting was highly successful in communicating the progress of Digitalization at Sea for the U.S. and Canada. However, no information related to Mexico was included.
- S-100 is the framework for the future of navigation information services
- The Maritime Single Window concept promises to provide many benefits in efficiency and accuracy of information required to be reported by ships for arrival and departure
- VDES is rapidly developing and use cases need to be developed to determine how it can help deliver certain maritime services

3. RECOMMENDATIONS

The following recommendations are forwarded for consideration by IALA and are derived from Paragraph 2. Conclusions.

- Transition plans must be developed and understood on a national level so the work can proceed as efficiently as possible. In particular, we note the excellent example provided by CCG.
- National authorities need to evaluate the new communication resources as part of their transition plans to determine the most viable products and services.
- Let's make sure our mariners and shore authorities are engaged in the development of our new products.
- IALA take a new look at the 21st century AtoN and its complementary use to deliver new data sources and capabilities.



- Encourage FAL Member States to publish a National Ship Report Registry (NSRR) that supplements the IMO Compendium with report templates (and their data elements) that have not (yet) been included in the IMO Compendium.
- Coastal authorities and service providers consider alternate means of supplying resilient PNT with back up such as VDES R-Mode.
- Contact Mexican National Authorities, known shippers, Cruise Lines and others that may operate in their waters.
- IALA and its committees should continue to support the development of ship reporting product specifications.
- IALA members should continue to coordinate the development of harmonized portrayal.

4. CONFERENCE DETAILS

The conference proceedings and list of attendees are provided as annexes to this report.

5. FINAL COMMENTS

The **2022 Digital@Sea North America** conference was deemed highly successful based on feedback received from the attendees and the Steering Committee members. All are in favor of continuing the conference in 2023 as an in-person event as much of the positive feedback was a result the direct interaction of speakers, attendees and other guests during the plenary, breaks, meals and reception. Ideally, the conference will alternate hosting countries among the participating nations, currently Canada and the U.S. and is tentatively planned to be held in Canada. Steering committee members are actively searching for the appropriate venue and targeting the first half of April 2023 for next year's conference.

- *End of Report* -



ANNEX A – DIGITAL@SEA NORTH AMERICA 2022 PROCEEDINGS



ANNEX B - DIGITAL@SEA NORTH AMERICA 2022 LIST OF ATTENDEES