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Input paper for the following Committee(s): check as appropriate Purpose of paper:

**□** ARM **□** ENG **□** PAP **x** Input

X DTEC **□** VTS **□** Information

Agenda item [[2]](#footnote-2) 5.2

Technical Domain / Task Number 2 7.1.1

Author(s) / Submitter(s) Nicholas Chiew / Maritime and Port Authority of Singapore

Discussion Paper on IALA’s Vision for Digitalisation

# Summary

This document proposes the approach to complete the task entitled “Develop A Discussion Paper on Digitalisation In The Scope of IALA” by 2027. A background to the task is provided, and the proposed task objectives, work schedule, and coordination activities are for the Committee’s consideration and inputs. This will help scope the task requirements so that progress can be made in subsequent DTEC sessions.

## Purpose of the document

The purpose of this document is to set out the proposed objectives, work schedule and coordination activities required to complete the task entitled “Develop A Discussion Paper on Digitalisation In The Scope of IALA” that has been included in the IALA work programme between 2023 to 2027.

## Related documents

* IALA Committee Work Programme 2023 -2027
* IALA Strategic Vision Ed. 2.0 (published June 2023)

# Background

The International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA)’s mission is to foster the safe, economic and efficient movement of vessels through Marine Aids to Navigation (AtoN) worldwide. Such AtoN can include devices, systems or services that enhances safe and efficient navigation of vessels.

Given the rapid pace of technological advancement, it is imperative for IALA to establish a clear vision, strategy and roadmap for digitalization. This will provide a critical reference for IALA committees to organise, coordinate and guide their work plan and deliverables.

## Importance of Digitalization in the Maritime Sector

Maritime transport accounts for more than 80% of international trade. Disruptions to maritime transport can have adverse effects on the global supply chain. To this end, digitalization has emerged as a transformative force in the maritime sector, offering unprecedented opportunities to enhance operational efficiency, optimize resource utilization, and improve safety standards. By embracing digital technologies, the maritime sector can potentially unlock significant benefits in streamlining processes, automating tasks, and enabling real-time monitoring and decision-making which often leads to cost savings, productivity gains and better risk management capabilities.

Digitalization also enables the integration of diverse data sources and systems, facilitating seamless communication and collaboration across different stakeholders in the maritime ecosystem. From port operations and vessel traffic management to navigational safety and environmental protection, digitalization empowers maritime stakeholders to collect, analyse and utilize data more effectively, enabling proactive decision-making and strategic planning.

Hence, IALA’s vision for digitalization will help shape and transform the future of navigation.

## IALA’s Vision for Digitalization

Having a well-defined vision is essential to provide a sense of direction and purpose, aligning stakeholders towards common goals and objectives. For IALA, a vision for digitalization articulates the strategic outcome for digital technologies that can enhance navigation. These include digital services such as e-Navigation, Data Analytics, Data Modelling, Artificial Intelligence, and Digital Twins; digital systems such as VHF Data Exchange System (VDES), Wireless Network technologies (i.e. 5G), Satellite technologies, Maritime Autonomous Surface Ships (MASS); as well as digital devices such as Maritime Sensors, Internet of Things (IoT), Smart Buoys/Beacons. Collectively, these technologies can serve to modernize maritime navigation systems, improve decision-making processes, and adapt to evolving industry trends.

By articulating a vision for digitalization, IALA can effectively communicate its long-term goals and aspirations to its members, partners and international stakeholders especially the industry. The shared vision will help to foster collaboration, innovation, and knowledge-sharing within the maritime community, driving collective efforts towards achieving a safer, more efficient, and sustainable maritime transport chain.

# Discussion

The following proposes the approach, objectives and plans for the development of an IALA vision for digitalisation to fulfil the task that was planned within the IALA committee work programme between 2023 to 2027.

## Task Objectives

The following objectives are proposed:

* Discuss IALA’s role in digitalisation in maritime transportation
* Identify and record past, existing and future IALA digital developments, initiatives, workstreams and systems from all IALA committees i.e. DTEC, ENG, VTS and ARM
* Propose an IALA digitalisation vision statement and strategy
* Propose an IALA digitalisation roadmap that spans five years (2027-2031) which can be refreshed from time to time

The Committee is requested to consider and provide inputs to the proposed objectives for the task. With the Committee’s approval of the objectives, it would kick-start and guide the work progress for subsequent DTEC sessions.

## Proposed Schedule

**Figure 1** shows the proposed schedule for the task work packages. The task is scheduled to be completed by DTEC7 (end-2026) with DTEC8 (mid-2027) as a contingency.

A diagram with blue and brown lines

Description automatically generated with medium confidence

1. Proposed Schedule for Execution of Task

## Work Coordination

A well-defined IALA vision, strategy and roadmap for digitalization would incorporate the range of perspectives gathered from key stakeholders. Hence, it is proposed for the Committee to seek the views/inputs from other IALA committees – i.e. VTS, ENG and ARM – using liaison notes or other appropriate means as well as engage other key stakeholders in the industry. For example, the Committee could use a survey questionnaire tool to collect feedback and views.

# References

1. IALA Strategic Vision Ed 2.0 (published June 2023)
2. <https://www.iala-aism.org/about-iala/strategy-definition/>

# Action requested of the Committee

The Committee is requested to:

1. Consider the proposed approach, objectives, schedule and coordination activities to complete the task of developing an IALA vision for digitalisation;
2. Consider the feasibility of using survey questionnaires between the various IALA committees and other stakeholders to gather feedback and views; and
3. Note the information and take actions as appropriate.

1. Input document number, to be assigned by the Committee Secretary [↑](#footnote-ref-1)
2. Leave open if uncertain [↑](#footnote-ref-2)