

PROJECT PROPOSAL PART 1 – TO DEMONSTRATE AVAILABILITY OF ENC'S (S-101 and S-57) in S-100 ECDIS for DUAL FUEL ALONG MAJOR SHIPPING ROUTES

Background

At the recent IHO's S-100 Working Group meeting held in Singapore, the idea of S-57 and S-101 ENC's dual fuel S-100 ECDIS was noted. Following the successful completion of the joint hydrographic survey of the SOMS, the Hydrographic Offices of Indonesia, Malaysia and Singapore agreed to take this opportunity as one of the busiest waterways in the world to carry out a demonstration project using data acquired from the joint survey to produce S-101 Malacca and Singapore Straits ENC's. The IHO-Singapore Lab could potentially coordinate among different entities, e.g NOAA, KHOA etc.

The potential project would be an excellent opportunity to signal to stakeholders, including the IMO and shipping community that the IHO stands ready to start delivering S-101 ENC's by 1 Jan 2026.

Propose Areas for the Demonstration

Phase 1 - Straits of Malacca and Singapore (SOMS) could be used. The advantage of SOMS is that the 3 littoral States – Indonesia, Malaysia and Singapore – share a common set of ENC's, i.e MSS-ENC. There is also an opportunity to leverage resources on the recently completed joint hydrographic survey of waters shallower than 30 meters covering the entire 600 km of navigable waters. The survey results could be used to produce S-101, and then displayed with existing S-57 to demonstrate dual-fuel ENC's.

Phase 2 - Global project and demonstration with Italian naval vessel. This will likely involve coordination with RENC's for areas not covered by MSS-ENC. Combined with MSS-ENC's from Phase 1, the ENC's will cover the planned route of the Italian naval vessel as it circumnavigates the world.

Objectives of the Project

The objectives of the Project are to:

- a. coordinate and provide S-57 and S-101 ENC's covering the planned routes;
- b. demonstrate to the shipping community and other users that the IHO and our stakeholders stand ready to make available ENC's in S-100 for Dual Fuel covering major shipping routes ahead of the 1 January 2026 commitment to the IMO;
- c. carry out testing of wireless updating of the S-101 ENC's; and
- d. applying the latest IHO standards at sea.

Potential Benefits to IHO, Hydrographic Community and Shipping Industry

The main impact of the proposed demonstration would be to highlight IHO's commitment to IMO and IEC in providing ENC's for S-100 ECDIS along major shipping routes before 1 January 2026.

The proposal will clearly show the high-level cooperation among the stakeholders eg. IHO Member States, RENC's and OEM's working together towards a common goal of providing official ENC's covering major shipping routes.

Besides providing both versions of ENC's, the project will also carry out wireless updating of the ENC's and IHO standards at sea. The updating will be done using the S-100 ECDIS provided by the OEM and Research Institute.

Main beneficiaries would be the shipping community for safer navigation and other users of the ENC's.

Project timeline

Phase 1 - 12-18 months to commence in Q1/Q2 of 2024. Phase 2 to commence after Q2 of 2024.

Project risk assessment and mitigation plan

Low risks. Project results will be shared and discussed with the Lab SC and participating organizations before making them public.

Brief description of the Intellectual Property (IP) arrangements to facilitate eventual commercialisation of the project IP developed.

None.

Proposed Technical and Funding Support

Potential Participating agencies to support the project proposal are:

Hydrographic Offices of Indonesia, Malaysia and Singapore	To carry out production and validation of MSS-ENCs for this project, and possibly ships for sea trials.
RENC (PRIMAR, IC-ENC)	To provide S-57 and S-101 ENC's outside the coverage of MSS-ENC.
Korea Research Institute of Ships & Ocean Engineering (KRISO) and 7Cs	S-100 ECDIS (Software and Hardware)
Italian Navy	Vessel for sea demonstration.
IHO-SG Lab	Coordinate among various HOs/entities and provide S-57 and S-101 ENC's covering demonstration areas.