

From: IALA ARM Committee
To: PAP

ARM17-11.3.1
27 October 2023

LIAISON NOTE

Roadmap for the S-200 Implementation Decade

1 Background

The ARM committee has an assigned task to develop an S-200 Implementation Plan similar to the S-100 Implementation Strategy and/or Roadmap, offering a transition plan aiming at the creation, adoption, and delivery of S-200 products and services.

2 Discussion

In spite of various discussions on the necessary steps to implement S-200 products and services, there are no clear milestones or deadlines identified to date for the operationalization of data. Without concrete milestones and deadlines, developing a roadmap is difficult. For a roadmap to be useful to IALA members, ARM is requesting additional information or ideas on implementation strategies, particularly where concrete goals can be established.

One example can be found in IHO's Implementation Decade documentation, which established goals for the publication of versions 1.0.0 and 2.0.0 of S-125. IHO's plan identifies that version 1.0.0 should be complete by 1 January 2024, followed by a two-year period of Preliminary Implementation, and the development of S-125 v2.0.0 starting on 1 January 2026. Logically, for S-125 to achieve these milestones, S-201 versions 1.0.0 and 2.0.0 must precede those dates. It is worth noting that S-201 version 1.0.0 has been published to date. In addition, documentation on technical service specifications, service registries, and authentication mechanisms must also be in place. Such specifications related to S-201 and S-125 need to be developed in a short time.

Another example is the Canadian e-Navigation Implementation Plan, which identifies a national-level plan for offering operational data and services, as well as other essential e-Navigation components. While such a national-level plan is not requested by PAP, this example helps identify critical framework necessary to operationalize new products, and the inter-relatedness of various e-Navigation components.

3 Related documents (see Annex)

Canadian e-Navigation Implementation Plan

Roadmap for the S-100 Implementation Decade (2020 – 2030), Annex 2; S-100 Timelines, Version 2.0 Dated: 12 July, 2022 (IHO)

4 ACTION REQUESTED

- PAP is requested to determine whether IALA milestones (goals for operationalization of S-2XX standards and products) can be established independent of other sister organizations, in order to establish timelines to inform an Implementation Decade Roadmap.
- PAP is requested to consider IALA engagement with IMO to determine whether the e-Navigation Strategic Implementation Plan is due for an update in order to better inform plans for an IALA Implementation Decade with milestones and concrete deliverables for Maritime Services.

Annex A

Link to the: [Canadian e-Navigation Implementation Plan](#).

Roadmap for the S-100 Implementation Decade (2020 – 2030), Annex 2 S-100 Timelines Version 2.0 Dated: 12 July, 2022

S-100 Implementation Priorities

For the first edition of S-98, which will handle interoperability between different layers in the future S-100 ECDIS, priority will be given to layers used in route monitoring mode. In the next step layers used in route planning mode will be included. In order to achieve usage of S-100 products in future S-100 ECDIS it is critical to also develop the supporting framework in accordance with the S-100 timeline and even in some cases to speed up this development. The critical S-100 framework consist of the IHO Geospatial Information (GI) Registry, the S-100 Universal Hydrographic Data Model, the Interoperability Specification (S-98), the Catalogue of Nautical Products (S-128) and the Test Data Set for S-100 and ECDIS Type Approval (S-164). It should be noted that priorities given to the products used in route monitoring mode and the critical S-100 framework does not prevent route planning products to be developed in parallel to the once in the first step. In addition to the route monitoring products, also S-122, S-127 and S-131 should be operational 2026.

Table A – IHO list of S-100 products with special focus	
First step – Route monitoring mode	
S-101	Electronic Navigational Chart (ENC)
S-102	Bathymetric Surface
S-104	Water Level Information for Surface Navigation
S-111	Surface Currents
S-124	Navigational Warnings
S-129	Under Keel Clearance Management
Critical Framework	
	IHO Geospatial Information Registry
S-98	Interoperability Specification
S-100	Universal Hydrographic Data Model
S-128	Catalogue of Nautical Products
S-164	Test Data Set for S-100 and ECDIS Type Approval
Second step – Route planning mode	
S-122	Marine Protected Areas
S-123	Marine Radio Services
S-125	Marine Aids to Navigational (AtoN)
S-126	Marine Physical Environment
S-127	Marine Traffic Management

S-131	Marine Harbour Infrastructure
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Figure 1 The S-100 Implementation Priorities. The first step is product specifications for Route Monitoring which must be mode supported by the Critical S-100 Framework. Product specifications for Route Planning will be developed as the second step.

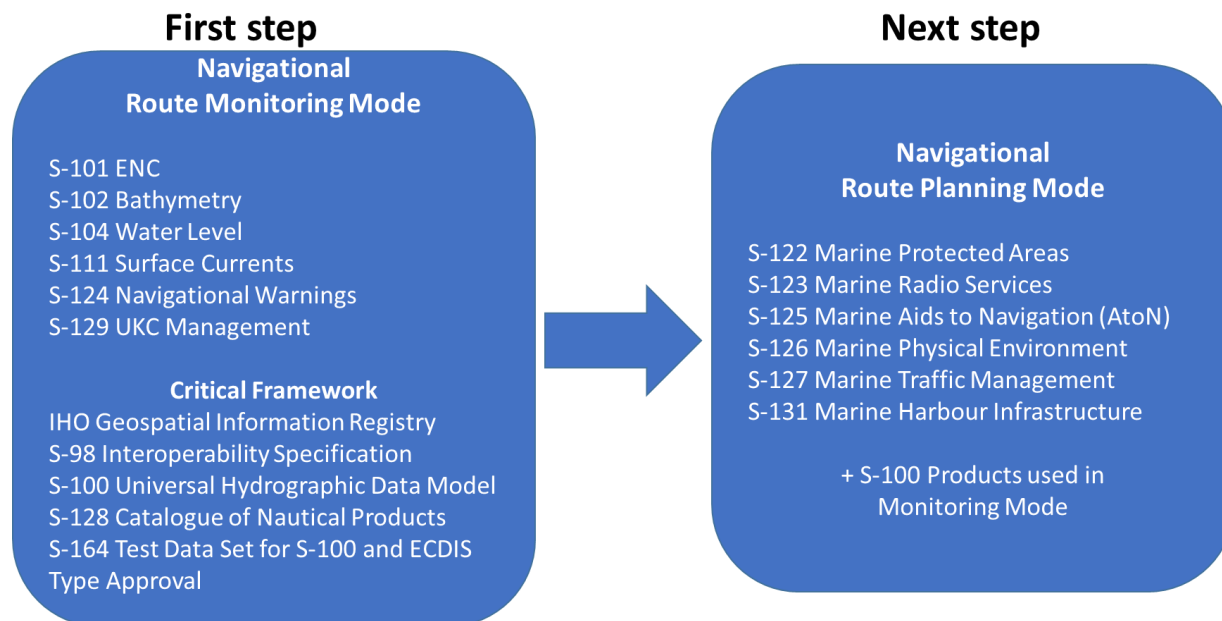


Figure 2 The IHO Navigational Package to be handled by the Interoperability Specification S-98. Additional layers may be added in the future.

S-100 Timeline for the prioritized IHO Product Specifications

The S-100 timeline is maintained by the IHO Secretariat as a version controlled Gantt Diagram and is updated and reported annually to the IHO Council.

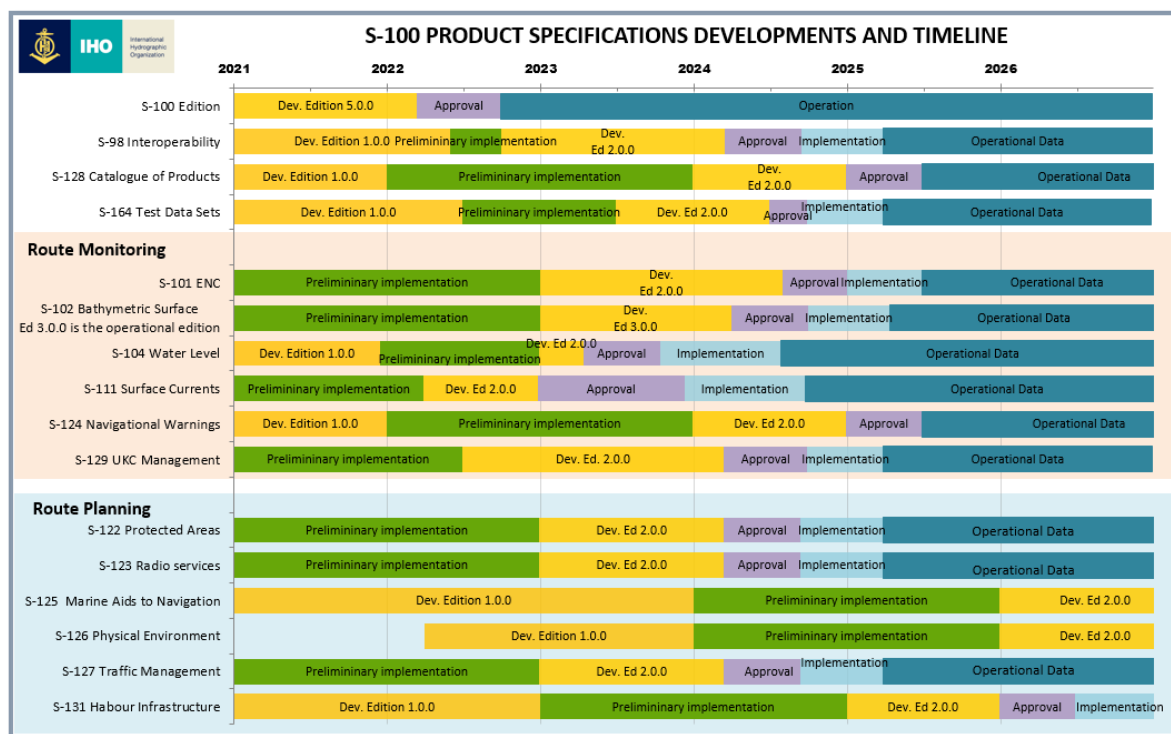


Figure 3 This S-100 timeline is updated: 12 July, 2022.

Synoptic Diagram on Options for HOs for Parallel Production of S-101 and S-57 ENC

It is concluded that the preferred option for HOs would be to produce their ENCs from a database driven production system since it is expected that production systems software companies will include support for parallel ENC production (S-57 and S-101) when using a database driven system. However, HSSC has prepared a synoptic diagram to show other possible options for HOs in regards to parallel production.

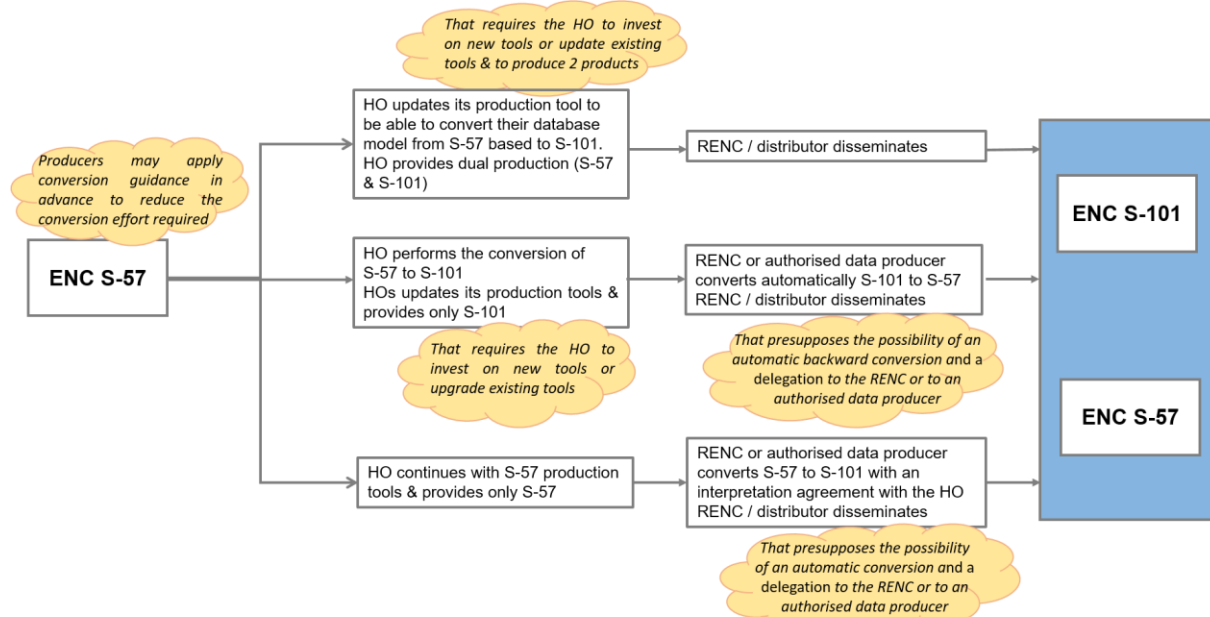


Figure 4 Potential options for HOs for future production of S-101 ENCs in conjunction with S-57 maintenance/production