

Paper for Consideration by IRCC

Roadmap for Provision of S-100-based Services

Submitted by:	Chair of the Council on behalf of the C2-31 Drafting Group (SG, Council Chair, IRCC Chair, HSSC Chair)
Executive Summary:	The drafting group has drafted a high-level roadmap and presents it to the IRCC to invite comments prior to submission to Council in July.
Related Document s:	Report of the 2nd meeting of the IHO Council - http://iho.int/mtg_docs/council/C2/C2_2018_S_EN_SummaryReport_v1.2_clean.pdf
Related Projects:	IHO strategic plan Preparation of the 3-year plan Work Programme 2021-2023

Introduction / Background

The yearlong investment into development of the building blocks of the S-100 framework such as the IHO-Registry, the catalogue builder mechanism and the standardized product specifications, in particular into S-101 next generation ENC and a suite of amending S-100 based datasets of hydrographic content have now matured to a state that their application in operational services is the next logic step. But such ignition of operational services should not happen in isolation by one or the other nation. In order to provide an attracting offer for the industry to implement solutions for use of such data provisions, a regional if not a global approach seems to be the appropriate one. This approach can be separated into two main categories:

- S 101 next generation ENC to substitute S-57 ENC after a transition period
- Provision of amending S-10x products featuring new functionality through interoperability with S-101 ENCs

The commitment of a good number of Member States to the regular production of such data sets with reasonable coverage and update sequence is the precondition. A survey has to be made which timelines the individual Member States aiming to follow to set up such provisions and what sort of coordination either regional or global can be provided through RHCs and IRCC make it a joint campaign. Furthermore it has to be found out which Member States needs assistance for native production S-10x dataset production or if conversion of existing datasets for example for S-57 to S-101 can be a viable solution for a time of transition. Their dissemination should take benefit from the established mechanisms under the WEND-Concept – in particular the RENC system to maintain quality and access the market through qualified resellers.

This overarching assumptions should be reflected in an S-100 services roadmap for their introduction and maintenance. Such a roadmap would deliver a safe basis to attract industry and initiate an approval process of S-100 as the improved framework for cyber secure hydrographic information forming a comprehensive environment of interrelated hydrographic and other marine datasets.

The working draft of The S-100 service roadmap is attached in Annex I.

Analysis/Discussion

It is expected that more detail, including high level timelines will be added to this roadmap after gaining broader feedback on this high level plan.

Action Required of IRCC

The IRCC is invited to:

- a. note the early draft of the provision of S-100 services roadmap
- b. invite any interested parties to make comments and suggestions to the secretary of the drafting group (Council Chair, RDML Smith, shep.smith@noaa.gov) before June 24.

Annex I

International Hydrographic Organization (IHO) Roadmap for Provision of S-100 based Services

The provision of S-100 services drafting group met on June 2, 2019 in Genoa, Italy to discuss the way ahead for IHO leadership in the provision of S-100 based services. Present were Secretary General Mathias Jonas, Council Chair Shep Smith, IRCC Chair Parry Oei, and HSSC Chair Luigi Sinapi.

We came to consensus on the following points:

1. The requirements for coastal states to provide hydrographic services applies to new forms of hydrographic information envisioned to be provided by S-100 services.
2. The IHO and its associated organizations such as RHCs and RENCs are well positioned to coordinate the development, provision, and distribution of these services to promote broad coverage and to “deliver as one.”
3. The challenge for transition from S-57 ENC to S-101 ENC is different than the initiation of new services because of the need to transition existing users, and the existing global coverage.

For S-101 ENC, we envision the following:

1. There must be a transition period where both S-57 and S-101 ENC are available.
2. We propose that this period be 2022 through 2027, We will commit to having a full S-101 suite available by 2022 and will discontinue support for S-57 in 2027. (Secretariat to Communicate with IMO on this intended plan).
3. The provision of S-101 will be accomplished by a combination of natively-produced S-101 products and S-101 ENC converted from S-57 by the producer or by a RENC as a service. (HSSC ensure converter is available, WEND discuss with RENCs)
4. There will be other drivers that will trigger ECDIS upgrades in the coming years, such as IT security improvements, and it is important that we are clear about our plans. (Secretariat coordinate with IMO).

For other S-100 based services, we envision the following:

1. We note early pilot projects for provision of services based on new standards (i.e. S-102, S-111, S129) at their first Edition for initial implementation, testing and evaluation and further stakeholder review. These projects make clear that these services will be available soon, and that the hydrographic community needs to act to coordinate, harmonize and interoperate the provision and distribution of these services. A core of standards to be further operationalized and commercialized needs to be defined and fully supported.
2. We envision that RENCs with extended capabilities will have analogous responsibilities for distribution of additional S-100 services for navigation. (WEND to query RENCs for their readiness and intent in this regard)
3. We envision a set of principles analogous to the WEND principles to guide our coordination, and note the drafting group under the WEND WG has started to consider these principles, Worldwide Electronic Navigation Services (WENS). (WENDWG)

4. We note that the IHO will need to develop capacity-building activities to share best practices and technology for provision of non-chart services. (IRCC/CBSC)
5. In order to build momentum, identify focus areas for coordination, and to encourage support of services in navigation systems, conduct a survey of member states for their intent to provide S-100 based services. In order to promote HD charts (S-57 charts with more detailed bathymetry), the survey should include status and plans for production of HD charts, and how they are distributed. (Secretariat under guidance of WEND)
6. The IHO (HSSC) should set up a test-bed to ensure that new services are in compliance with the relevant standards.