



R: Reviewed by TWCWG TBR: review to be done by TWCWG



- Guidance to complete, design the Maritime Services MS15
- + HGDM draft MS15 submitted toNCSR6, & to MSC101 in June 2019. Doc All MS were deemed to be evolving and therefore the IMO anticipated they will be amended TBR
- Interactions with NIPWG members
- S-126 discussion: def of actions scope for debate TWCWG4
- NIPWG doc, status report, strategy implementation (2019-03-25 TBR: 2019 08)

IMO NCSR NAVIGATION. COMMUNICATIONS AND SEARCH AND RESCUE

•2018, 2019: S-111 R

•2018-2019 : Strateg implementation (R+

Details next slides

SPRWG: S-100 strategy implementation

S-129

NIPWG

Dictiona DOWG S-32

S-100

For our information = Input for S-104 Received 2019-04 Tide, portrayal, model <u>draft</u>

•S-32 template Hydro. 2018) Dictionary (2018-12) TBR For our review 2019-05

• 2018 TWCWG asked for a review of S-111, S-104)

• DQWG mail 2019-04 From DQWG: a shared interest between chart producer and user TBR

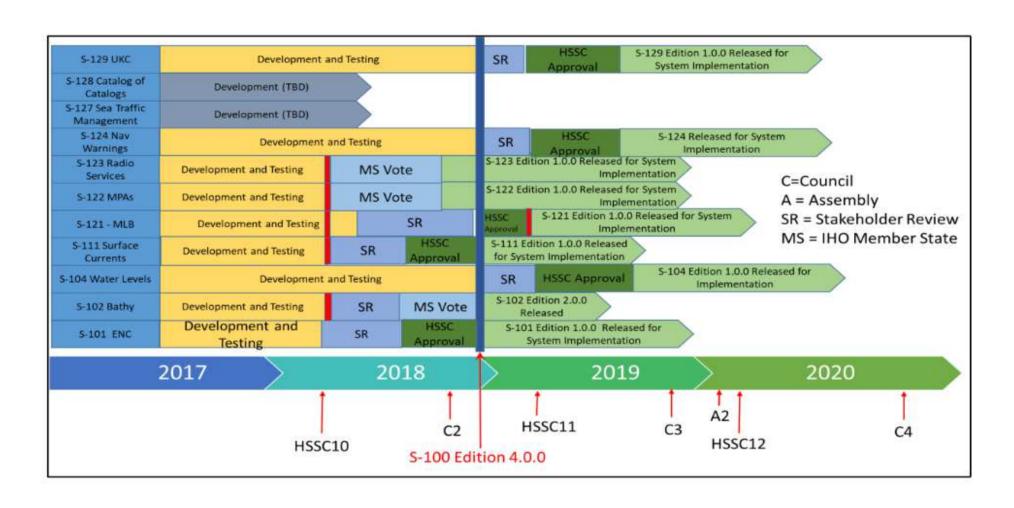
• Paper for Consideration by Data **Quality Working Group Data Quality** : Gridded data, IMO test cases

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18.04.19

TIMELINE: S-100





TWCWG4 (src: S-100WG) 2019-04-08

S-100 INPUTS, DISCUSSION



S-100 scope to be considered: Portrayal purpose: Works is going one.

- Use cases needed in the S-100 wake, because interoperability depends on the products use context.
- Framework defined by IMO (« Guidelines for the harmonized display of information received via communications equipment » et S-MODE) to be considered.
- Risk: Development of concepts that don't fit the end user needs.
- NIPWG input: strategy implementation (2019-03-25 TBR: 2019-08) see buisiness cases in doc.

Suggestion:

- Include elements of S100 strategy + Continue to share exp.ce with other WGs + AND define test cases.
- TWCWG review and send feedback to NIPWG : 2019-08) . Volunteers? NIPWG approach provides some good suggestions.
- List the TWCWG concerns, issues and linked them to points identified in the documents.

S-100 WG





Ideas shared in the scope of S-100 WG:

- Prioritize the products S-100 each other.
- Position of the S-100 products in comparison with OMI products.
- Promote an apporach focused on end users, mariners.
 - What for? The need.
 - In which context?

S-98 DATA PRODUCT INTEROPERABILITY IN S-100 NAVIGATION SYSTEM



Interoperability at the center of ECDIS process

- l'ECDIS S-100 not described,
- S-100 Implementation strategy has started.

There is a need to define ECDIS S-100 and test interoperability: Test case, show cases, considering route monitoring and route planning

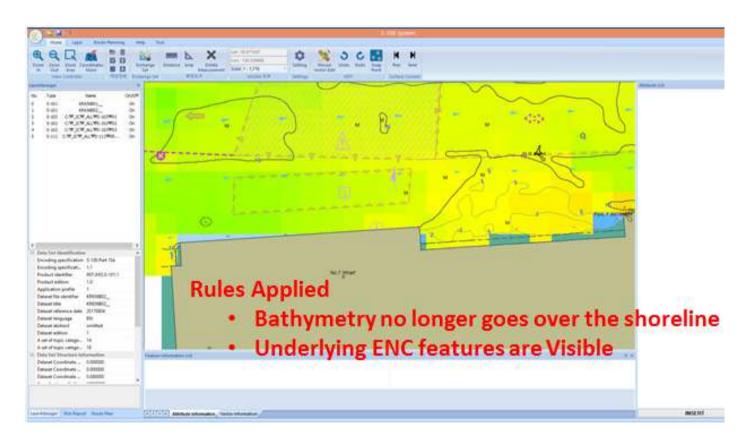
And there is a need to define precisely the scope of the products to consider. Testbed strategy meeting (2019)?

SPRWG Strategic Plan Review Working Group,: S-100 strategy implementation (=> HSSC11)

S-100WG HSSC10: INTEROPERABILITY (S-98)



- Publications S-98, ed. 1 schedulded for 2019:
 - ✓ Ed. 1 submitted to HSSC11 (2019, May)



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INTEROPERABILITEY(S-98)



• Tests: S-100 done by South Korea

- ✓ Products creation: S-101, S-102, S-111, etc;
- ✓ Data set created for S-100;
- ✓ ECDIS S-100 prototype done (2screens);
- ✓ In situ test;
- ✓ Go/No Go areas with data S-102 (bathy) et S-104 (tide).

So:

✓ TWCWG asks to S-100WG if the outputs of this work are available to consult them



WGs feedbacks provided but could still be provided (in-line with reference to the IHO Strategic Plan)

- Governance
- IMO directions
- Main actors to implement the Strategy
- HOs role
- Future role of RENCs
- WEND principles
- Industry involvement
- Provision of standards
- PSs: interoperability, (backward) compatibility, quality harmonization, cyber security, synchronization, operationalization, dissemination, and distribution
- ENCs future

Only part of such topics can be covered by HSSC, as others fall under the remit of IHO Secretariat, COUNCIL and IRCC.

PAPERS SUBMITTED TO HSSC11



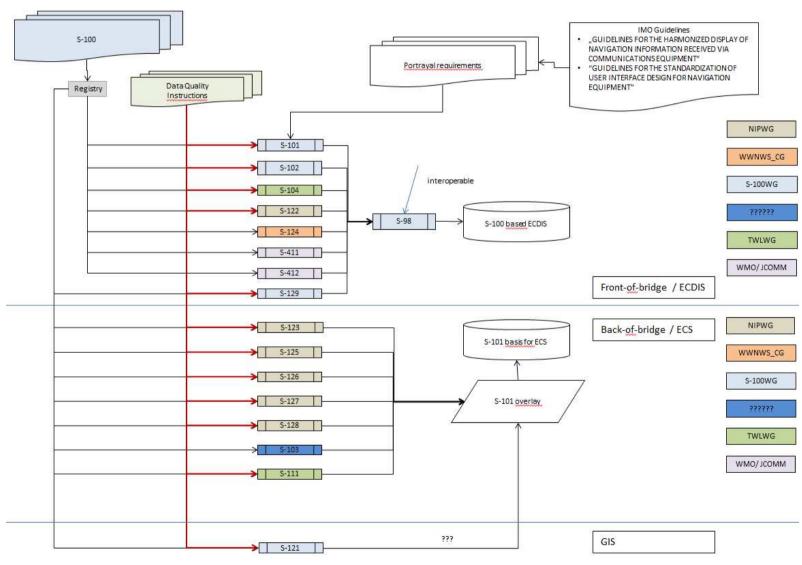
Standards submitted to HSSC 11

- > S-121 Maritime Limits Boundaries (Ed 1.0.0)
- S-98 Interoperability specification (Ed 1.0.0)
- ➤ S-97 Guidebook for developping S-100 product specification (Ed 1.0.0)
- > S-102 Bathymetric content specification (Ed 2.0.0)
- > S-129 Underkeel Clearance Management (UKCM) Information (Ed 1.0.0)

ARCHITECTURAL DISPLAY OF S-100 RELATED PRODUCT (NIPWG) HSSC 11-05.3D



Front-of-bridge/ECDIS & Back-of-bridge/ECS



S-100 CLOUD SERVICE DISTRIBUTION



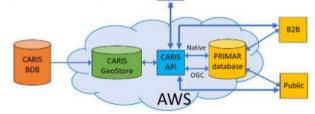
Extrait de https://www.iho.int/mtg_docs/com_wg/WEND/WENDWG9/PRIMAR%20S-100%20development%201.2.pdf

S-100 Data as a Service



Pilot Project Overview:

- This pilot will allow CHS, Teledyne CARIS and PRIMAR to demonstrate its ability to provide a service that consumers of bathymetry data can subscribe to.
- · Data will be available in pre-determined geographic areas of interest.
- By bathymetry data we mean coverages, vector features and S-102 products.
- · CARIS will develop a cloud hosted datastore located outside of the CHS infrastructure.
- CARIS will develop a rich API providing 3rd party access to the data store.
- PRIMAR will expand its existing database and web applications to provide a store front to subscribe to the latest available S-102 bathymetry data and access OGC services.



part

FREEDOM TO CHOOSE

S-100 CLOUD SERVICE DISTRIBUTION



Extrait de https://www.iho.int/mtg_docs/com_wg/WEND/WENDWG9/PRIMAR%20S-100%20development%201.2.pdf

S-100 Data as a Service



Pilot Project Objectives:

- Garner support from potential stakeholder groups e.g. hydrographic offices, ports, pilots, other government agencies, global mapping initiatives (Seabed 2030).
- Expose the hydrographic community to these capabilities to foster support for the potential benefits of S-102 and bathymetry as a service.
- Explore potential for use of S-104 and S-111 standard for supplementary services.
- Refine the cloud and service technology to work towards a robust and commercially viable service.
- Determine the costs involved in offering cloud based storage and services.
- Develop innovative business models to ensure customer adoption by providing value added benefits for stakeholders.

ENCWG3 NORMES

INPUT



• **S-58** (ENC tests)

- ✓ Edition 6.1 accepted 2018 Sept.(Application schedulded for 01/09/19);
- ✓ Data sets will be (are) delivered for the tests.
- ✓ From Tony Pharaoh (OHI) a S-58 databasis will be done → « machine readable ».

ENC bathymetry

- ✓ UKHO presentation (technical process) et AUS (evaluates the need);
- ✓ Sub WG ceration in charge of providing a guide on how to producce and maintain an ENC bathymetry

<u>Comment</u>: Don't forget the readability (info density, generalization degree, isobathes smooth).

Next ENCWG meeting joint with S-101PT : June 2019, Monaco

HSSC10 REPORT





TWCWG HSSC10 report

Talk 2018-05

OTHER PAPERS (HSSC11)



- HSSC11-05.5B (DQWG Chair) Proposal for a conditional method to display quality information in an ECDIS
- HSSC11-05.1D S100 Technical Readiness levels
- HSSC11-05.3B (NIPWG) Summary of M-3 amendments proposal
- HSSC11-05.1F (Canada, Norway, PRIMAR, Caris, OGC) S-100 Cloud Service Distribution

TWCWG volunteers to summarize the content of these papers?

Thank you