IHO HYDROGRAPHIC SERVICES AND STANDARDS COMMITTEE

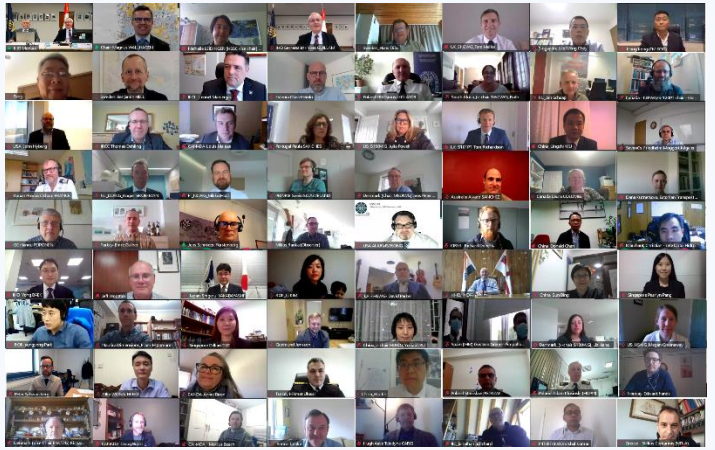
Report from HSSC12 and HSSC13 to MBSHC

(19-22 Oct 2020) VTC
(3-7 May 2021) VTC

Introduction

HSSC work is guided by the IHO Work Programme 2 "Hydrographic Services and Standards", approved by the 2nd IHO Assembly, and by the Council key priorities

https://iho.int/en/iho-strategic-plan-and-work-programme



- **Meetings since MBSHC-21:**
  - (19-22 Oct 2020) VTC
  - (3-7 May 2021) VTC
- **Next Meetings:**
  - HSSC-14 Bali (Indonesia)- hybrid meeting (May 2022)
  - HSSC-15 Finland (Helsinki) (2023)

- **Operational/strategic Level**
  - IHO Strategic Plan (2021-2026), v 1.1 dated January 2021
  - Roadmap for the implementation of S-100 based products family
  - Future of Paper charts (report of NCWG)

- **Technical Level**
  - New working group/project teams
  - Future Joint Singapore-IHO innovation and technology Lab
  - S-100 GI Registry
  - Standards and Products Specifications published
  - Challenges for coming years

IHO strategic Plan/Goals/Targets/SPIs

- Goal 1: Evolving the hydrographic support for safety and eficiency of maritime navigation, undergoing profound transformation.
- Goal 2: Increasing the use of hydrographic data for the benefit of society.
- Goal 3: Participating actively in international initiatives related to knowledge and the sustainable use of the Seas and Oceans.

https://iho.int/uploads/user/About%20IHO/strategic%20plan%20summary%208.5x11%20-%2017nov20.pdf

Roadmap for the S-100 implementation decade

Strategic fields of engagements to develop an accepted roadmap

- 1. Operational infrastructure
- 2. Technical standardization. Priority one: S-101 ENCs
- 3. Coordinated implementation of services
- 4. Synchronization with IMO
- 5. Collaboration with industry
- 6. Capacity Building of Hydrographic Offices
- 7. Development of Global Distribution Capability

S-101	Electronic Navigational Chart (ENC)
S-102	Bathymetric Surface
S-104	Water Level Information for Surface Navigation
S-111	Surface Currents
S-122	Marine Protected Areas
S-123	Radio Services
S-124	Navigational warnings
S-129	Under Keel Clearance Management

Future of paper charts

HSSC welcomed the establishment of a Baseline Symbology Project Team under the **NCWG (next meeting in Cádiz -Spain-),** aiming to support the automated production of paper charts from S-101 data. This PT will provide a Project Plan.

- Goal: to create a common symbology library, colour specifications and associated rules for how to define the appropriate symbology from source data.

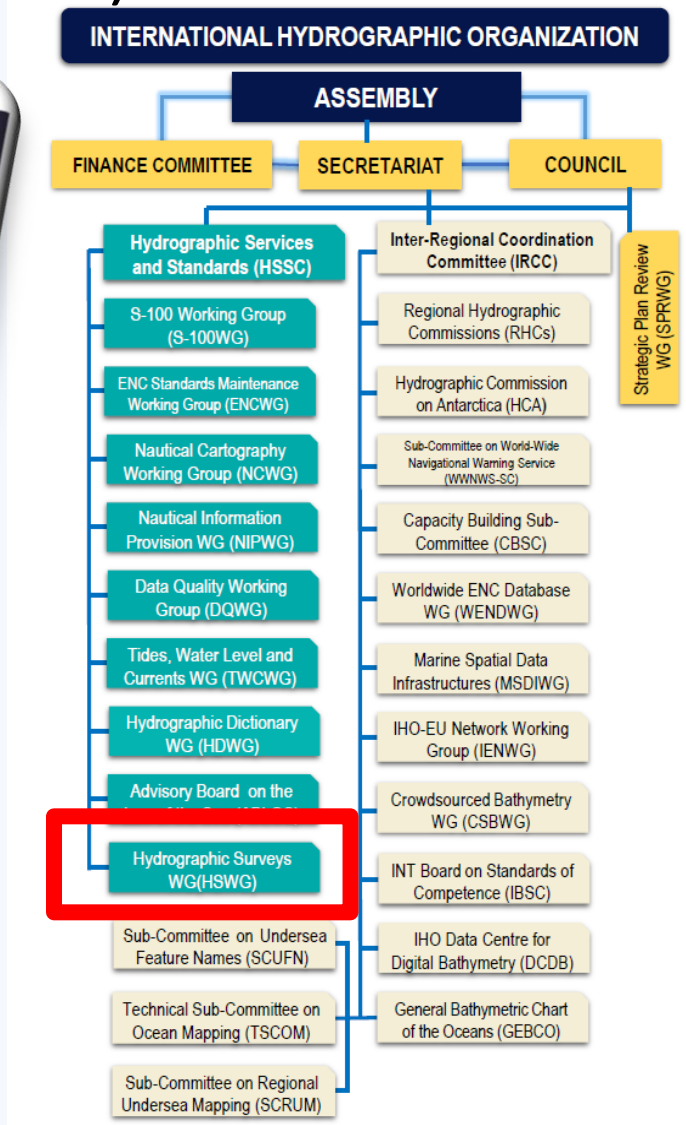
New WG in HSSC (Hydrographic surveys WG)

New edition: S-44 ed 6.0.0 (sep 2020)
First meeting in April

WG Goals:

- Maintain and update S-44 & C-13.
- Maintain close liaison with other WGs (DQWG, CBSC…).
- Create a collaborative discussion space to exchange experiences of new technology, data processing, QA, automation, amongst others.
- Act as a focal point for hydrographic surveys industry/scientific/academic engagement with the IHO.

https://iho.int/uploads/user/Services%20and%20Standards/TOR/HSWG_ToRs_E_2020.10.22.pdf



New Project Teams under HSSC

- **S-130 PT:**

- Develop S-130 PS (polygonal demarcations of global sea areas) as dataset model to designate geographic sea areas by a system of unique numerical identifiers.

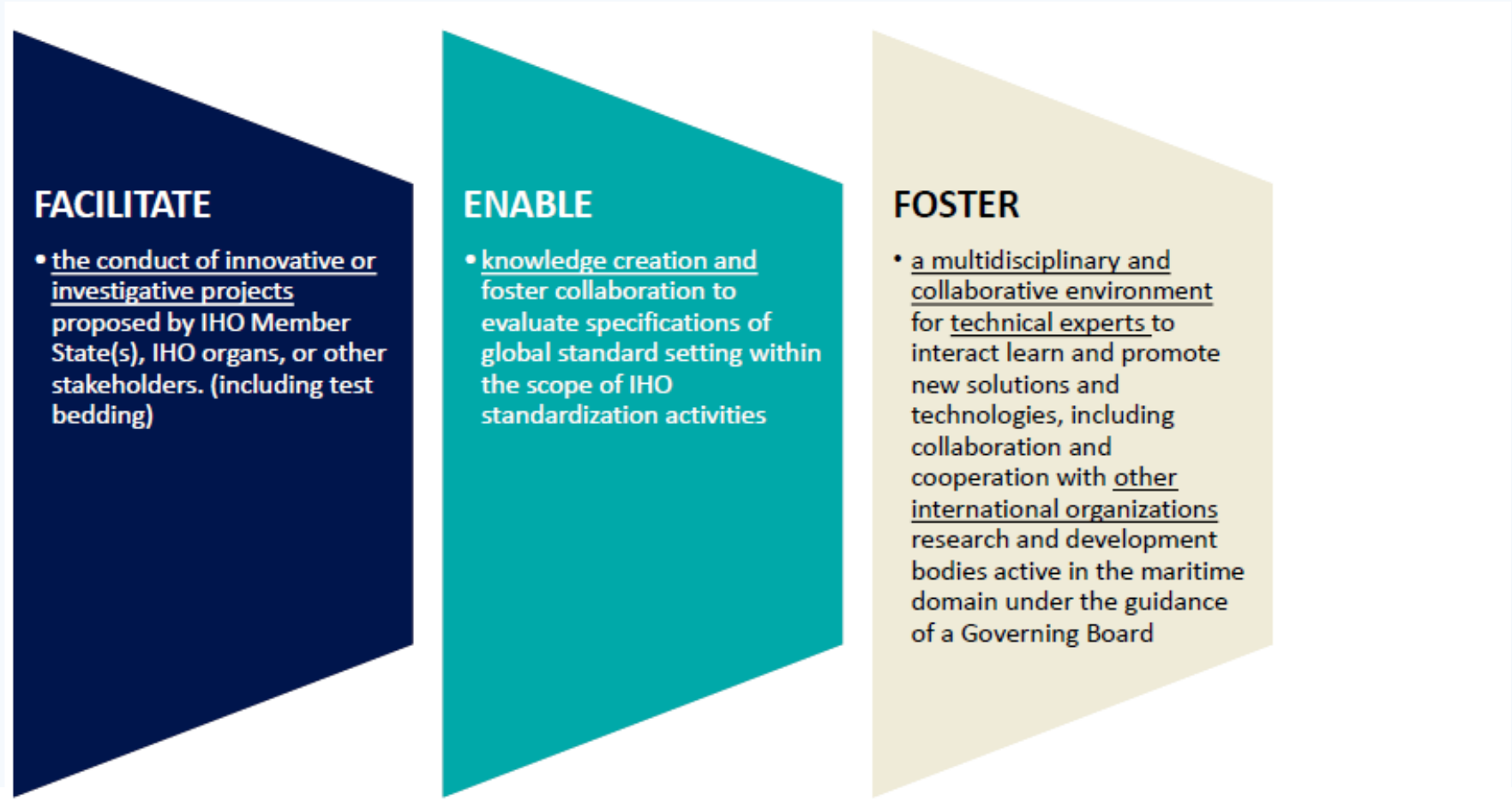
- **MARITIME AUTONOMOUS SURFACE SHIPS (MASS) PT:**

- Identify and prioritize MASS navigation requirements;
- Analyse their impacts on current hydrographic standards and services;
- Develop a set of recommendations/issues to be addressed by existing working groups.

- **BASELINE SYMBOLOGY PT:** under the NCWG aiming to support the automated production of paper charts from S-101 data.

Joint Singapore-IHO innovation and technology Lab

HSSC noted the status report on this Lab to be submitted to C-5.
Lab is planned to be officially launched in october 2021.



New Joint S-100 GI Registry

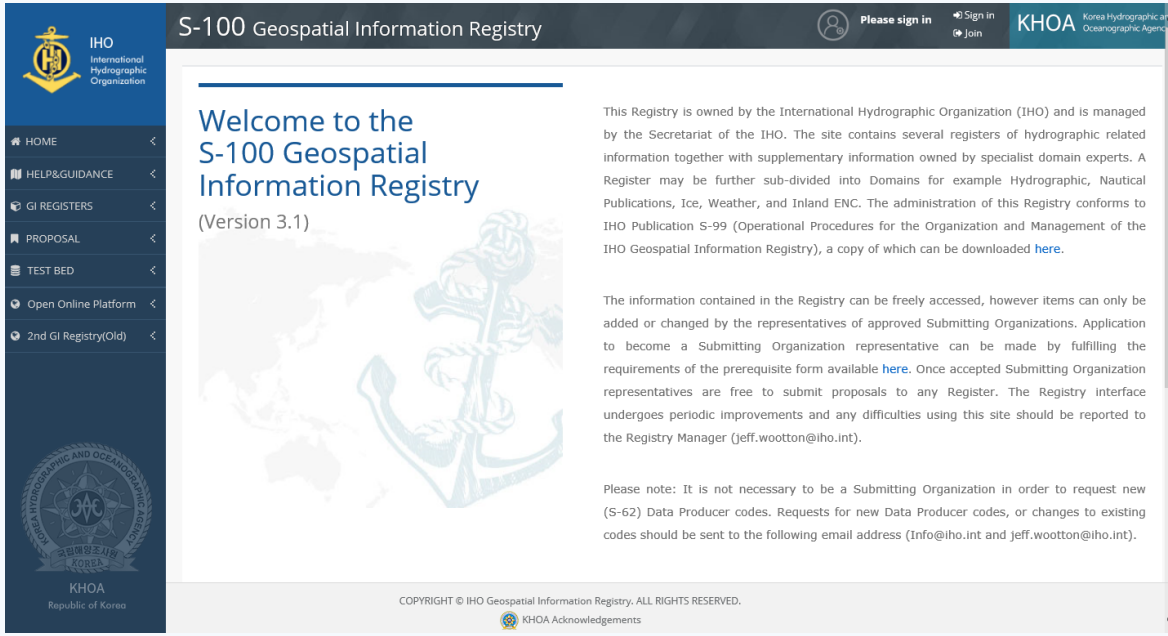
http://registry.iho.int/

Outreach (Ongoing)

-Engage with all Registry Stakeholders on the role and functionality of the IHO GI Registry.

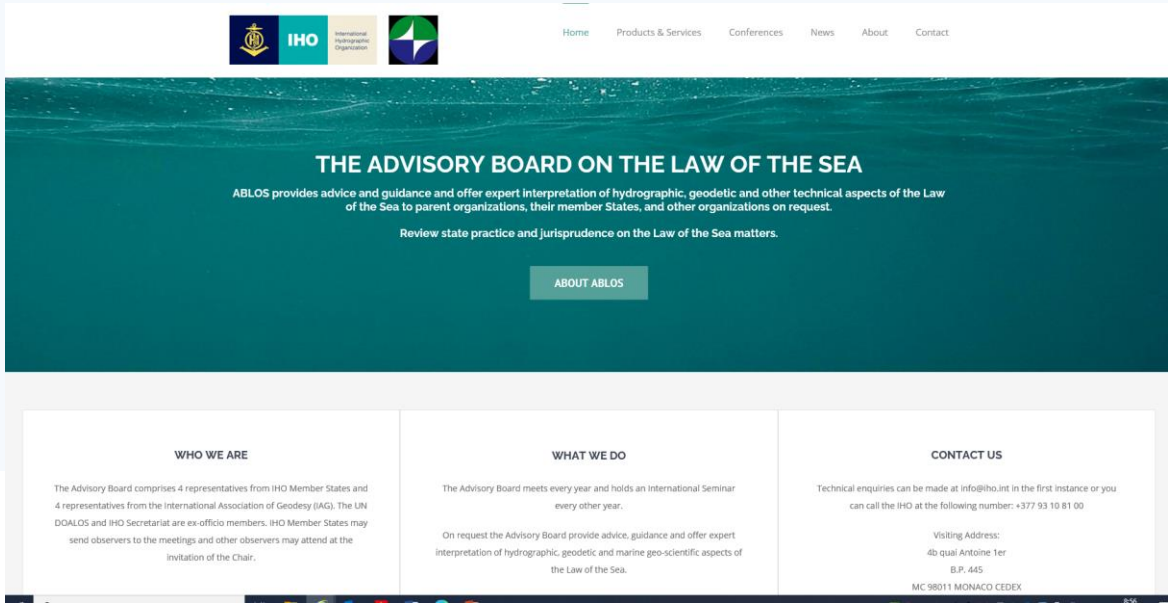
-Resolve remaining conflicts in Registry content (in progress)

-Educational sessions; possible 2ndIHO GI Registry Workshop



New ABLOS website:

https://www.ablos.org/



Standards and specifications approved

S-4 Regulations for International (INT) Charts and Chart Specifications of the IHO (Edition 4.9.0, April 2021)

S-44 IHO Standards for Hydrographic Surveys (Edition 6.0.0, September 2020)

S-49 Standardization of Mariners' Routeing Guides (Edition 2.1.0, September 2020)

S-63 IHO Data Protection Scheme (Edition 1.2.1, March 2020)

S-64 IHO Test Data Sets for ECDIS (Edition 3.0(.3), December 2020)

S-67 Mariners' Guide to Accuracy of Depth Information in Electronic Navigational Charts (ENC) (Edition 1.0.0, September 2020

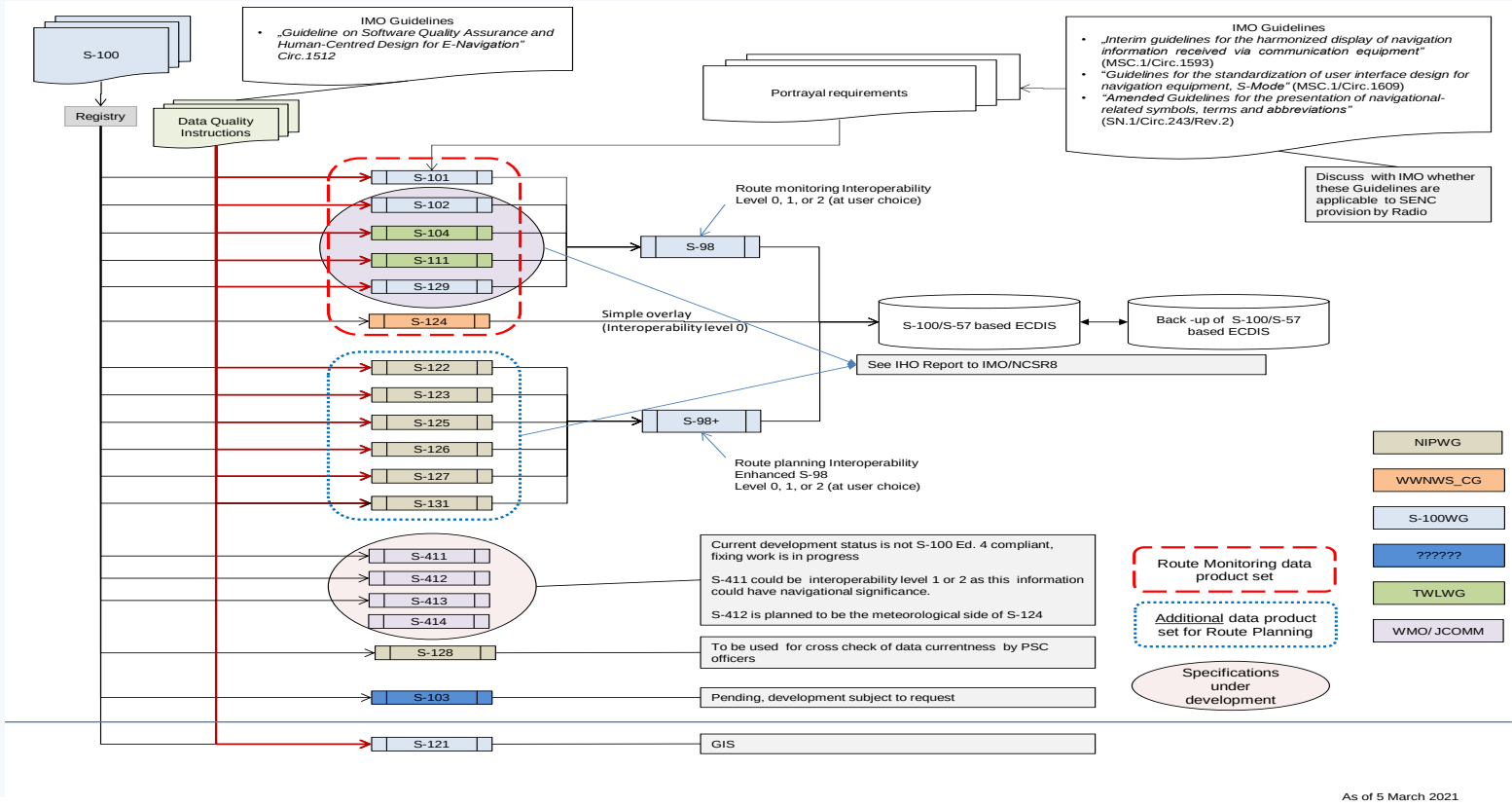
S-97 IHO Guidelines for Creating S-100 Product Specifications (Edition 1.1.0, June 2020)

S-102 Bathymetric Surface Product Specification (Edition 2.0.0, October 2019)

S-121 Maritime Limits and Boundaries Product Specification (Edition 1.0.0, October 2019)

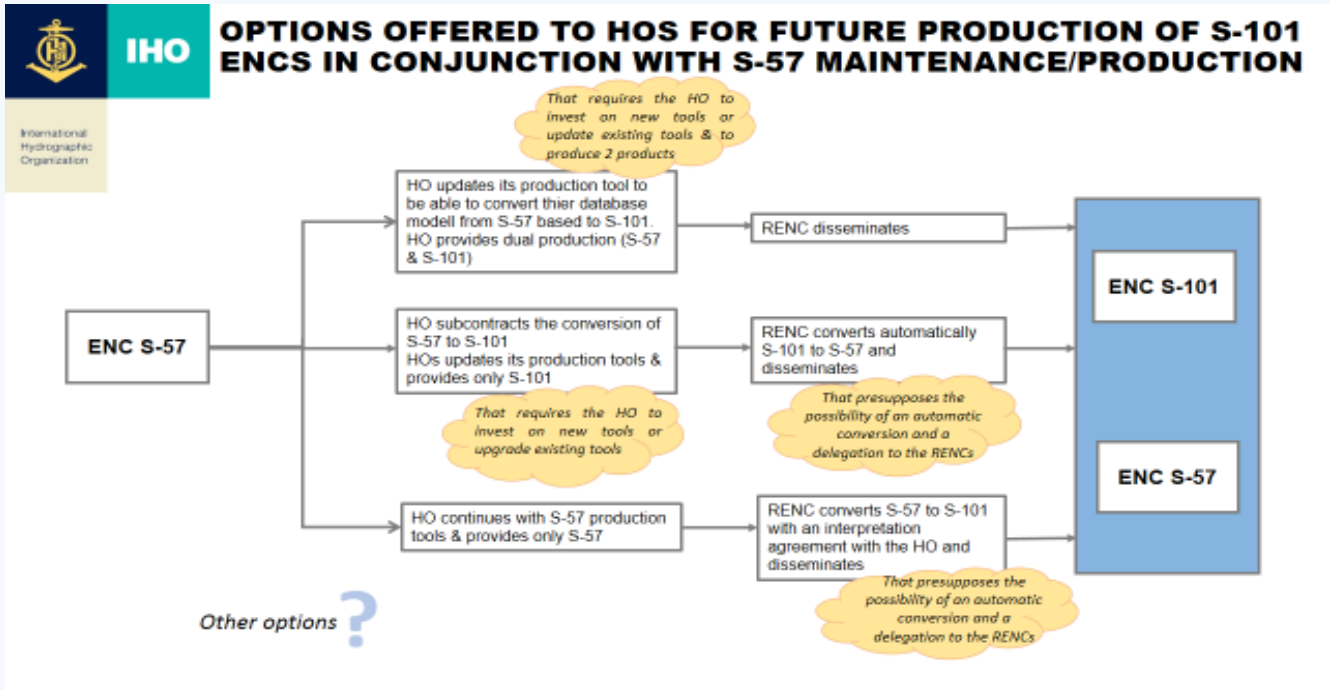
Challenges for coming years

- **IHO:**
  - **Ensure S-1xx, S-2xx, S-4xx, S-5xx (Adittional Military Layers) products and services can be used effectively on board, including in USVs**



Challenges for coming years

- **IHO:**
  - Ensure S-1xx, S-2xx, S-4xx, S-5xx (AMLs) products and services can be used effectively on board, including in USVs
  - **Joint Singapore-IHO innovation and technology Lab**
  - **New Joint S-100 GI Registry**
  - **Dual fuel ECDIS (S-57/S-101 data)**



Challenges for coming years

- **IHO:**
  - Ensure S-1xx, S-2xx, S-4xx, S-5xx (AMLs) products and services can be used effectively on board, including in USVs
  - Joint Singapore-IHO innovation and technology Lab
  - New Joint S-100 GI Registry
  - Dual fuel ECDIS (S-57/S-101 data)
  - **Validate S-1xx, S-2xx, S-4xx, S-5xx products and services, not only individually, but also collectively for consistency, prior to distribution**
  - **Raise more awareness on ECDIS. Cybersecurity testing on board (vessels, USVs….)**
- **IMO:**
  - **Regulate unmanned vehicles**

Actions to be taken by the MBSHC

The MBSHC is invited to:

- Note the report.
- Consider the work in progress for the development of S-101 and other S-100 based products and services, and the way forward for a seamless transition for their implementation by MBSHC Members.
- Consider the contribution of MBSHC Members to the SPIs, under HSSC.
- Take any other action deemed necessary.

https://iho.int/en/hssc13-2021