



**BALTIC SEA
HYDROGRAPHIC
COMMISSION**



IHO

HSSC Report

Agenda item C.1, Magnus Wallhagen, HSSC Chair

16th HSSC Meeting



Tokyo, Japan, 27 – 31 May 2024

31 Member States, 6 IGO/NGO* and RENC PRIMAR. 90 attendees

*CIRM, IALA, IEC, ICPC, OGC and WMO



BSHC 29, Tallinn Estonia, 17 – 19 September 2024



S-100 Developments

Phase 1

Route Monitoring Mode

S-101 ENC
S-102 Bathymetry
S-104 Water Level
S-111 Surface Currents
S-124 Navigational Warnings
S-129 UKC Management

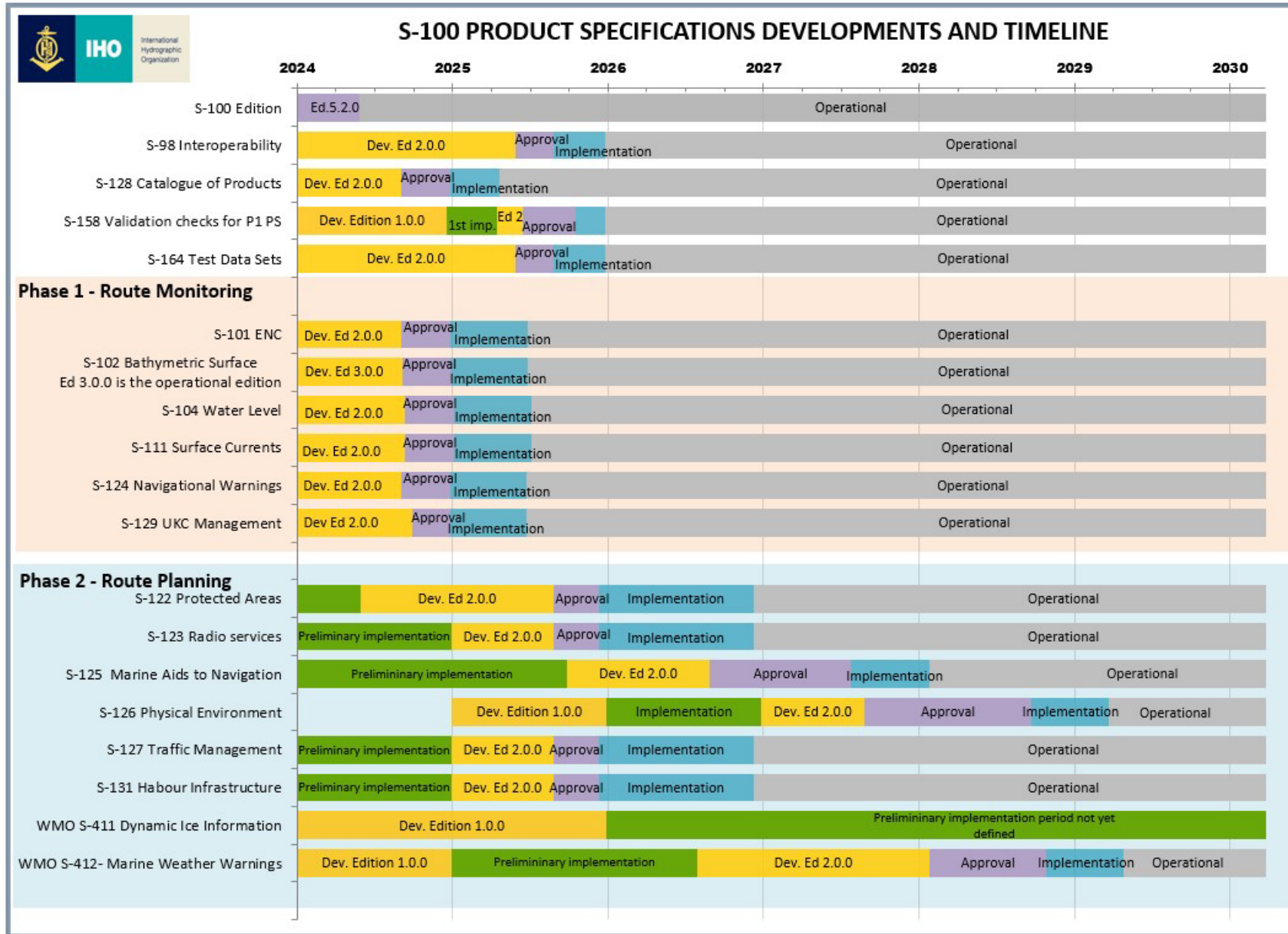
Critical Framework

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

- S-100 Edition 5.2.0 approved by IHO Members States.
- Core phase 1 Product Specifications in line with the S-100 timeline. IHO MS approval is assumed in December 2024. **Please advise MS to respond to the IHO CL in a timely manner to avoid delaying the approval process.**
- S-98 Interoperability PS and S-164 Tests datasets PS delayed. IHO MS approval is assumed August 2025 (agreed upon with IEC).
- S-411 Ice Information and S-412 Weather and Waves Warnings now part of Phase 2 PS. Included in the S-100 Timeline. **Consider if BSMSIWG should be tasked to coordinate the implementation of S-412 as a second priority after S-124.**



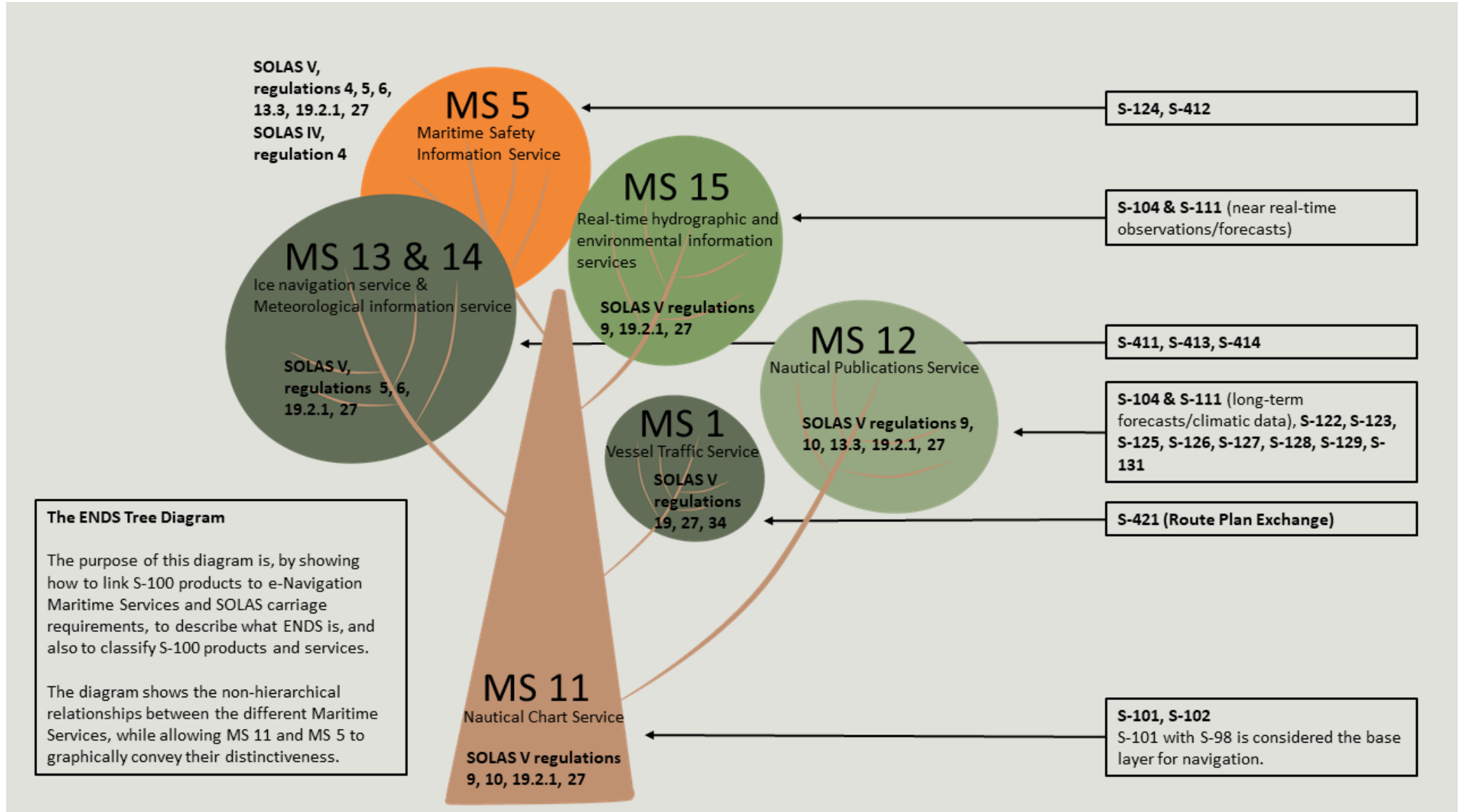
S-100 Timeline



This S-100 timeline is updated: 02 07 2024



ENDS Tree Diagram – S-100 relation to IMO e-navigation and SOLAS



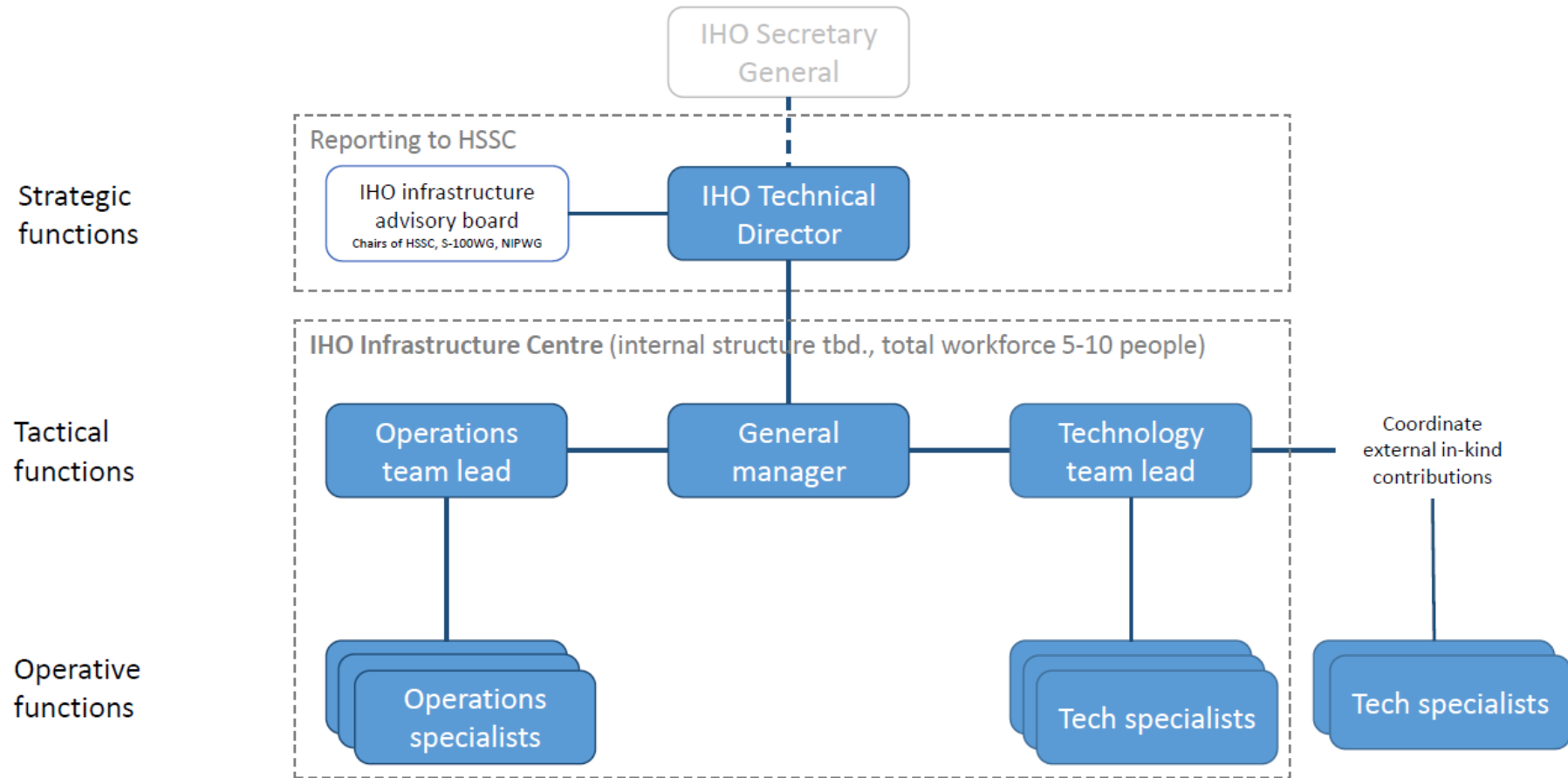
IHO Infrastructure Centre (1/3)

- HSSC endorsed the proposals and recommendations from the ICE-PT :
 - the name of the centre: “IHO Infrastructure Centre”.
 - Role : support the development, operation and management of IHO governed products and required IHO services with a common base infrastructure.
 - Initial focus will be to get S-100 operational with higher priority to 2 critical infrastructure components for the Centre
 - quality control and secure delivery of S-100 catalogues and S-164 test datasets
 - operative processes for the S-100 Part 15 security scheme
 - IHO Infrastructure Centre should be an integral part of the IHO secretariat
 - Republic of Korea is suggested as the host country.



IHO Infrastructure Centre (2/3)

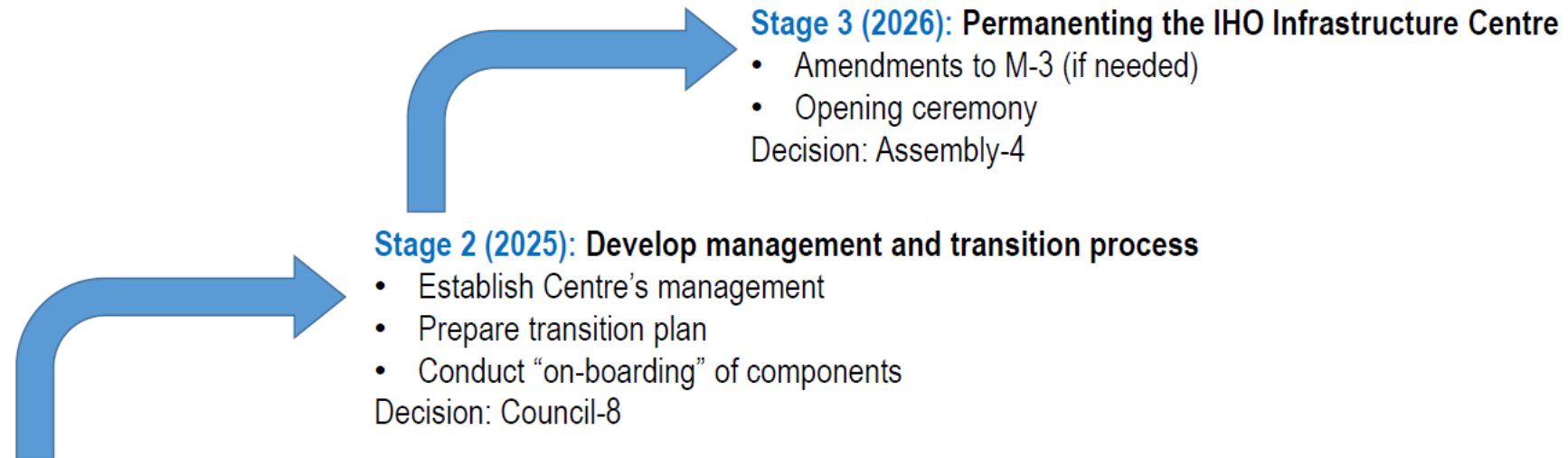
- Governance and composition



IHO Infrastructure Centre (3/3)

- **Proposal to the council will include :**

- approval for an interim establishment of the Centre at C-8, followed by permanent establishment
- task for the **ICE PT** in liaison with **HSSC** and the **IHO Secretariat** to supervise the establishment of the IHO Infrastructure Centre according to the PT Timeline :



Security Scheme PT

- **PT's main achievement :**
 - Addition clause to existing OEM and Data Server agreements to limit duration and allow termination
 - New draft S-63/S-100 OEM and data server agreements
 - **Approval process :**
 - Approval of the main process by HSSC Members by correspondence
 - Signature of the acceptance of new agreements and implementation of the new process delegated to IHO Secretariat.
- Collaboration required with **S-100 ICE PT**



Dissemination of S-100 data

1. Who will distribute S-100 products?

RENC/VAR for all S-100 products including “near real-time” products (e.g. S-104, S-111, S-124, S-412) or should some S-100 products be distributed by other data providers?

2. Which technology should be used for distribution of the data?

NAVDAT and VDES are mentioned for S-124, IP (Internet) connection will most likely be required for heavier S-100 datasets.

3. How can we ensure that S-100 data is disseminated in a cyber-secure manner?

Can SECOM be used for delivery of all S-100 products or do we need different interfaces for different services and products? Can or should the concept of the Maritime Connectivity Platform (MCP) be used?

- Following a paper from Germany related to these open questions HSSC-16 tasked NIPWG, in liaison with other relevant IHO bodies, to recommend a way forward.
- It should be noted that similar open questions on S-100 have been raised at IMO MSC and NCSR. MSC 109, in December 2024 will decide if a specific task should be given to NCSR to address S-100 implementation matters. Increased need for coordination between IHO and IMO.



SENC Delivery

- **HSSC** concluded that testing should focus on determining if S-100 Part15 is feasible for use for data distribution, ensuring that the digital signature is retained from the issuing data producer and verified in the end user system.
- **HSSC** tasked the **S-100WG** to report the testing result as guided by HSSC above (November 2024)



Highlights from HSSC16

- Project Teams under S-100WG (S-101PT, S-102PT, S-129PT) will remain active at least until 2026.
- HSSC noted the request from CIRM that the IHO considers defining a retirement date for S-57 and inform the IMO of the outcome.
- ISO Cell has been tasked to secure a more structured testing and validation methods to meet end users needs (came from both MS and stakeholders)
- HSSC welcomed the offer from Canada and endorsed the proposal to designate the St-Lawrence River as an IHO Canada S-100 Sea Trial Area (2024-2025). **To consider additional IHO Sea Trial Areas such as IHO Baltic Sea Trial Area, IHO UK-FR Channel Sea Trial Area.**
- HSSC invited Member States to consider future participation in national representation at IMO MSC and NCSR.



Highlights from HSSC16

- Hydrographic Dictionary WG has changed to a Correspondence Group.
- MASS PT is proposed to become a working group – MASS WG. To be discussed at Council8.
- HSSC endorsed Ed. 2.0.0 of **S-66** - *Facts about Electronic Charts and Carriage Requirements* – merging S-66 and S-67 into one publication.
- HSSC endorsed the Ed. 4.4.0 of **S-57, Appendix B.1, Annex A - Use of the Object Catalogue (UOC) for ENC**.
- HSSC endorsed Ed. 8.0.0 of **S-58** - *ENC Validation Checks*.
- HSSC endorsed the standard *Hydrographic Surveys*, **S-44** edition 6.2.0.
- IHO CL will be issued for MS approval of the standards above.
- IALA IHO S-100 Workshop in Annapolis, US, 9 – 13 September.
- HSSC17 will take place in Stavanger, Norway 5 to 9 May 2024



IHO Strategic Plan Review. Inputs from HSSC.

Consumer confidence in S-100

Phasing out of existing products (S-57 ENC, paper charts, NAVTEX, printed pub.) (8)

S-100 Infrastructure Center is key to support S-100 (8)

Connect more to the IMO E-Navigation Strategy (21)

Include SDG Goals and UNGGIM references – updated guiding principles measure to reference UNIGIF-Hydro (7)

Leave no one behind (8)

Enable IMO E-Navigation in accordance with their strategy (5)

New Survey technology to include AI post processing, automated cartography etc. (7)



BSHC 29 is invited to:

1. Note the HSSC report
2. To advise MS to respond to the IHO CL, related to S-100 Phase 1, in a timely manner to avoid delaying the approval process.
3. Consider if BSMSIWG should be tasked to coordinate the implementation of S-412 as a second priority after S-124.
4. To consider if parts of the Baltic Sea could be designated as an IHO S-100 Sea Trial. E.g. test areas developed in the Baltic Sea e-Nav project.
5. Take any action as appropriate.

