

16th Meeting of the IHO Hydrographic Services and Standards Committee (HSSC16)

Tokyo, Japan 28 to 31 May 2024

| Contribution to the IHO Work Programme 2024 | |
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| Element 2.1 | Monitor and implement Programme 2 through the HSSC and its subordinate organs. |

The 16th Hydrographic Services and Standards Committee was hosted by the Hydrographic and Oceanographic Department, Japan Coast Guard and was attended by 31 Member States including Australia, Belgium, Brazil, Canada, Chile, China, Denmark, Estonia, Finland, France, Georgia, Germany, India, Indonesia, Iran, Italy, Japan, Malaysia, Netherlands, Norway, Poland, Portugal, Republic of Korea, Romania, Russian Federation, Singapore, Spain, Sweden, Thailand, United Kingdom, and United States. Additionally, 6 NGIOs¹ were represented, PRIMAR and a few other invited expert contributors.

The meeting was chaired by Mr. Magnus Wallhagen, National Hydrographer of Sweden, who opened the meeting by recognizing that the HSSC16 agenda well represented the critical period that the IHO HSSC was in the midst of. Mr. Wallhagen was supported by Ms. Nathalie Leidingier – HSSC Vice Chair (France), Dr. John Nyberg – Director (IHO), and Mr. Yong Baek – Assistant Director (IHO).

Opening remarks were delivered by Dr. Masayuki Fujita-san, National Hydrographer of Japan, who warmly welcomed the IHO and its Member States to Tokyo. He presented his strong support for the work that the HSSC does and his sincere desire for a successful meeting to advance the agenda of the Committee and its Working Groups.



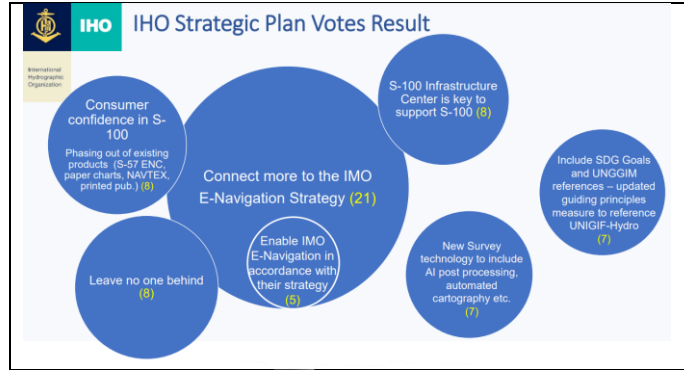
HSSC 16 participants – Figure 1

Taking advantage of the February VTC Chair Group meeting on the HSSC inputs to the revised

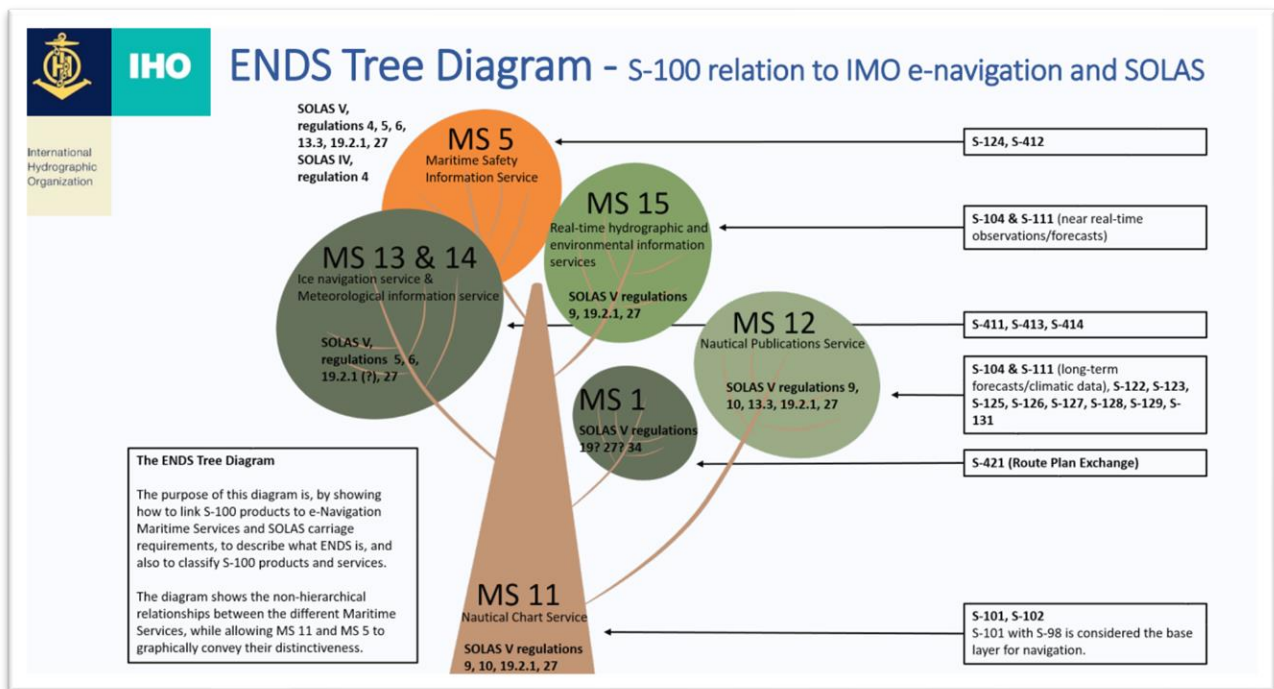
¹ CIRM, IALA, ICPC, IEC, OGC, WMO

IHO Strategic Plan Votes results – Figure 2

IHO Strategic Plan, Mr. Wallhagen and Dr. Nyberg presented a refined summary of areas that the WG Chairs agreed needed some refining. This was followed by a decision to post a list for each MS to submit three priority votes on items of importance for the strategic direction of the IHO. The results were shared at the end of the meeting. The IHO relationship with IMO was considered as highly important.

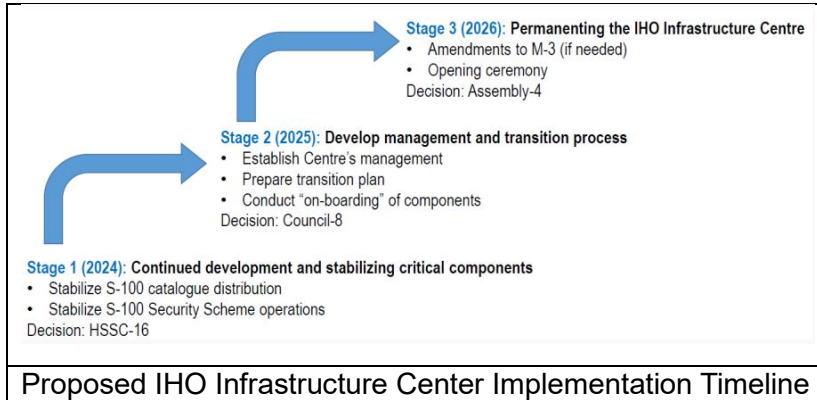


In close relation to the IMO relationship, the NIPWG, as part of their report, presented an Electronic Navigation Data Services (ENDS) Tree Diagram. The meeting considered this to be an important tool for communicating the relationship between S-100 products and services to the IMO e-navigation series of Maritime Services (MS). It was also noted that the diagram can be a useful tool to help hydrographic offices communicate the importance of their work, particularly in instances like IMO audits.



ENDS Tree Diagram – Figure 3

Additionally, the Committee agreed to work with the IMO to hold an industry stakeholder session in conjunction with a 2025 IMO meeting in London.



Infrastructure Center – Figure 4

Furthering HSSC’s shift to incorporate a strong strategic agenda, the Committee considered the Infrastructure Centre Establishment Project Team’s (ICE PT) report, presented by the Chair of the PT, Dr. Benjamin Hell. The name of the centre was agreed as “IHO Infrastructure Centre”

and along with the general roles and responsibilities of the Centre, a timeline was agreed on for implementation, to be presented to Council. Importantly, the ICE PT was tasked to start analysing the IHO Resolutions in M3 to see how they might need to be adjusted, and it was also recognized that the IHO Security Scheme will need to be an integral part of the Centre’s responsibility. The Committee agreed that the location of the Centre will be in the Republic of Korea, likely in Busan or Incheon.

The Joint IHO-Singapore Innovation and Technology Laboratory presented progress on all of its current projects with notable successes with S-57-101 conversion guidance, and testing S-102 and 104 and sea trials with S-124 and S-125. The Lab also presented future projects including the testing and operation of the dual fuel ENCs (S-57/S-101) datasets along major international shipping routes and the integration of sea and land datums to monitor sea level rise.

A session on the IHO Security Scheme was held with a focus on updating IHO processes and procedures regarding the S-63/S-100 security scheme process. The Security Scheme Project Team presented progress on updating the contracting process for OEM and Data Server agreements. The agreements were in need of a legal review and have already been edited to reduce legal exposure for the IHO but will be further reviewed to improve the terms for both the IHO and signatories of the agreements. A security scheme review process will be put in place for future scheme adjustments.

Working Groups and Project Teams reports were delivered with many highlighted successes. The most important overall WG/PT success is the widescale coordination to complete operational versions of Phase 1 product specifications by the agreed date at the end of 2024. This coordinated IHO effort will allow for hydrographic offices around the world to begin full Phase 1 S-100 based production. The Committee noted that both S-98 and S-164 are on the critical path with medium risk for not meeting their 2025 edition 2.0 deadline. This would impact the type approval process for S-100 ECDIS.

Considerable discussion around data distribution IHO took place during the meeting with particular interest in Secure Exchange and Communication (SECOM) of S-100 based products and services. While S-100 data distribution still needs further testing and consideration, SECOM has presented itself as the most likely means for the secure transfer of S-100 based services. Additionally, the Committee engaged in a discussion around the allowance of SENC delivery for S-100. The majority of IHO MS agreed that SENC delivery is not needed for S-100 and that it may impact the ability to deliver digital signatures from the hydrographic office through the supply chain to the ECDIS. The Committee agreed that further testing should focus on determining if S-100

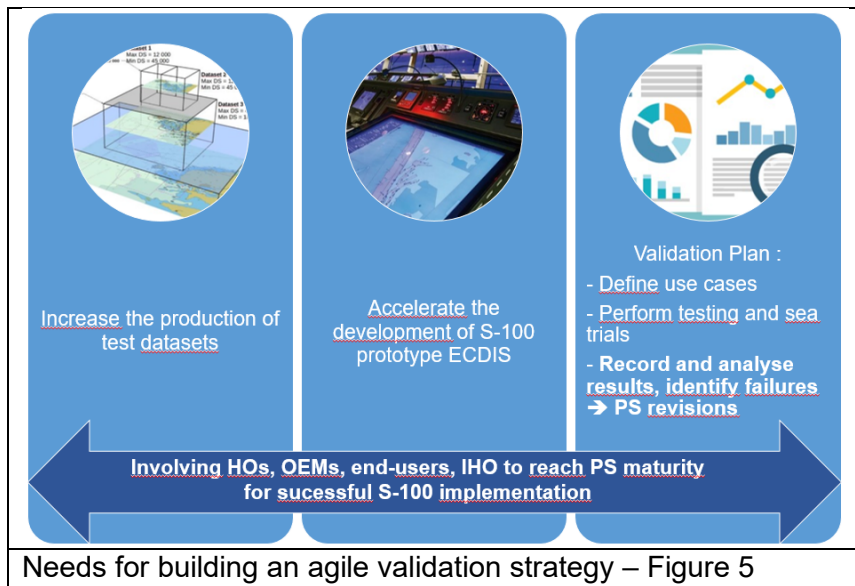
Part 15 is feasible for S-100 data distribution and that it should ensure that the digital signatures are retained from producer to end user system.

There were some items of particular interest beyond IHO S-100 Phase 1 implementation, including a discussion regarding the inclusion of S-401 Inland ENC in a future version of S-98. The HSSC agreed that a further discussion was needed to assist the Inland ENC Harmonization Group (IEHG) with a future solution for reconciling S-401 with S-98 or an inland version of S-98. HSSC also welcomed the participation and status update from WMO (World Meteorology Organization) on the development of the weather-related S-100 products, with first priority on S-412, Weather and Waves Warning which is a crucial part of the Maritime Safety Information (MSI).

Following a request from DOALOS, the Commission agreed that the S-121 PT should restart their activities in order to support the United Nations process for depositing maritime boundaries in the UN system.

The HSSC recognized the strategic importance of the MASS PT by agreeing to submit a proposal to elevate it to Working Group status at Council 8.

The Committee agreed to request that the IHO Council recognise the St. Lawrence River as an “IHO Canada Sea Trial Area” along with the possibility to identify additional official areas around the world. Canada agreed to share data for the St. Lawrence Sea area free of charge for 6 months for testing purposes. With the operational versions of the Phase 1 S-100 product specifications moving towards implementation, a more structured testing and experimentation approach for their validation, involving all the stakeholders, has been agreed upon, building on the work of the ISO 9001 cell.



Noting the considerable attention paid to strategic decisions, the HSSC Chair Group decided that it would be appropriate to extend the 2025 HSSC meeting for an extra half day with a strategic focus, including the management of the IHO/IMO/WMO/IALA/CIRM relationships, interaction with the WENDWG, resources and priorities for using them, and working to ensure that the Committee is taking decisions based on validated information including the HSSC ISO Cell.

HSSC-17 will be held in Norway during the week of 5-9 May 2025.