

10th Meeting of S-100 Working Group Bali, Indonesia 22 – 26 September 2025

Contribution to the IHO Work Programme 2025

Task 2.1.2.1

Organize, prepare and report annual meetings of the S-100 Working Group

High level summary

- The meeting reviewed 27 S-100 change proposals following the publication of S-100 Edition 5.2.0. Twenty-four proposals were approved for inclusion in Edition 5.2.1, scheduled for publication by the end of 2025. The meeting also reviewed the development status of S-98 and S-164, confirming mandatory Phase 2 S-100 Product Specifications in S-98 Edition 3.0.0.
- During the meeting, there was a dedicated session on the implementation of S-100 Part 15 and the data protection application procedure by demonstrating the process for digital signature; and the corresponding application mechanism in the S-100 ECDIS. It noted that the development of a procedure for the use of digital signatures by Data Producers and an online interface for Producer authentication through the IHO Portal should be developed.
- The meeting endorsed the draft S-97 Edition 2.0.0 and its Annexes for submission to the HSSC; and discussed options for hosting the S-100 and related Product Specification validation checks, agreeing to adopt the GI Registry as the long-term solution.
- The meeting also noted progress on S-100 test bed and sea trial activities in New Zealand, Canada, and the Republic of Korea, as well as updates on other S-100-based product developments by IALA, WMO, NATO and other stakeholders.
- This meeting represented a key step in advancing the S-100 Edition 5.2.1 clarification edition, reinforcing the framework for data protection and validation, and strengthening coordination across the S-100 community to support global implementation of the S-100 Roadmap.

Details:

The 10th meeting of the S-100 Working Group (S-100WG10) was held from 22 to 26 September 2025 in Bali, Indonesia. A total of 81 participants attended the meeting, including 8 who joined remotely. Delegates represented 24 IHO Member States, as well as representatives from IALA, WMO, NATO, IEHG, and IEC. The 25th meeting of the S-102 Project Team and the 17th meeting of the S-129 Project Team were held on 25–26 September, following the S-100WG plenary. The IHO Secretariat was represented by Assistant Director Yong Baek, with Technical Standards Support Officer Jeff Wootton.

Main Discussions and Decisions:

S-100 Maintenance

The meeting reviewed 27 change proposals submitted since the publication of S-100 Edition 5.2.0. The group approved 24 proposals as clarifications for inclusion in S-100 Edition 5.2.1, which is targeted for publication by the end of 2025. The remaining three proposals, primarily considered to be extensions to S-100, will be reconsidered in the next full revision cycle.

S-98 and S-164 Development

The meeting reviewed the progress of S-98 Ed.3.0.0 and S-164 Ed.2.0.0 development. It was confirmed that S-122, S-123, S-127, and S-131 are to be treated as mandatory Phase 2 Product Specifications for implementation in ECDIS for S-98 Edition 3.0.0; while the S-125, S-411, and S-412 Product Specifications remain optional at this stage.

A dedicated session was held to demonstrate the implementation of S-100 Part 15 (Data Protection Scheme) and the Data Protection Scheme application process. The meeting recognized the importance of strengthening data security and authenticity within the S-100 ecosystem and supported the development of a standardized procedure for digital signatures applicable to data producers. The Working Group also agreed to design an online interface through the IHO Portal to support producer authentication and facilitate secure data management.

S-97 Revision

The meeting endorsed the draft S-97 Edition 2.0.0, including Annexes A, B, and C, and agreed to submit it to HSSC for endorsement in accordance with IHO Resolution 2/2007.

S-100 General Topics

A presentation by France (SHOM) introduced the S-100PS Explorer Tool, which was acknowledged as a valuable utility for reviewing and exploring S-100 based Product Specifications. The Working Group expressed appreciation for the tool and encouraged continued refinement based on community feedback, with the aim of future broader application within IHO processes.

The meeting also noted the need for a machine-readable format for Data Producer Codes (S-57/S-100). The IHO Secretariat, Yong BAEK, presented a preliminary draft during the meeting, which was well received as an initial step toward standardized digital management. The group agreed that such a format could be considered for integration into a future S-98 edition, if appropriate.

S-100 Validation Specification Development (S-158:100)

The S-158:100 and S-158:98 validation checks are currently maintained in Excel and Word formats to facilitate document sharing and frequent updates. However, as these validation checks have matured, the S-100WG9 meeting recognized the need for a more permanent and structured storage solution that accommodates all user requirements. Given the diverse needs and format preferences of various stakeholders, identifying a unified approach has proven challenging.

The meeting discussed options for hosting S-100 validation checks, including the use of Excel-based lists, Metanorma GitHub, and the GI Registry. After consideration, the Working Group decided on the GI Registry as the preferred option; and established a dedicated task group to progress the work. In the meantime, spreadsheets will continue to be used during the validation checks development phase to maintain consistency.

Test Bed and Sea Trial

Test bed and sea trial activities were also reported during the meeting. The Working Group noted presentations on S-100 Products Testing in the Tory Channel (New Zealand), the IHO–Canada S-100 Sea Trial, and a progress report on the OpenS100 open-source viewer project from KHOA, Republic of Korea. These initiatives were recognized as key components in validating the practical implementation of S-100 standards.

Status of S-100 PS by liaison Organizations

The meeting received comprehensive updates on the progress of S-100-based Product Specifications developed by partner organizations. The Working Group noted ongoing work on the S-2xx series and continued support from IALA in advancing S-125. The Inland ENC Harmonization Group (IEHG) reported progress on the S-40x series of Product Specifications, including the development of S-158:401 and the planned publication of S-401 Edition 2.0.0 in October 2026; along with continued efforts to improve interoperability within S-403. The WMO provided updates on the development of the S-41x series of Product Specifications, with an anticipated implementation timeline from 2025 to 2029. The meeting also acknowledged ongoing work on the AML standards being developed by the NATO GMWG S-501 Project Team.

Photo



Upcoming meetings:

The meeting agreed on the following schedule for upcoming S-100WG meetings:

- S100TSM12 will be held from 17 to 20 March 2026 in Monaco.
- S-100WG11 will take place from 21 to 25 September 2026 in New Zealand.