

15th Meeting of the Worldwide ENC Database Working Group (WENDWG), Wollongong, NSW, Australia 18 – 20 February 2025

Contribution to the IHO Work Programme 2025

- Task 3.4.1 Organize, prepare and report annual meetings of the WEND Working Group - Foster the implementation of the WEND principles including WEND100 principles). Monitor progress and report to IRCC.

High level summary

- S-100 readiness still remains challenging in most of the hydrographic regions,
- WENDWG consolidated some key structuring documents to prepare and facilitate the entry of the regions in the S-100 era,
- The overlap management within the S-100 era, particularly with the transition from S-57 to S-101, will be one of the main challenges to face in the coming years,
- The process of designing the S-100 distribution framework should involve all types of stakeholders of our community, i.e. Hydrographic Offices, Harbour Masters, RENCs, VARs and OEMs.

Key Outputs

- **Attendance**

The 15th meeting of the Worldwide ENC Database Working Group (WENDWG) was held from 18 to 20 February 2025 in Wollongong, New South Wales, Australia. The meeting was hosted by the Australian Hydrographic Office (AHO).

The meeting was chaired by Mr Jens Schröder-Fürstenberg (Germany), seconded by Mr Jason Scholey, Vice Chair (UK). Delegates from 21 Member States (Australia, Brazil, Canada, China, Denmark, France, Germany, Greece, India, Indonesia, Japan, Malaysia, Morocco, New Zealand, Norway, Republic of Korea, Spain, Sweden, Türkiye, United Kingdom and the United States) representing 12 Regional Hydrographic Commissions. All RENCs (IC-ENC, PRIMAR, and the EAHC-RECC) and a couple of Industry stakeholders (NAVTOR, ChartWorld) attended the meeting as expert contributors. Assistant Director Eric Langlois represented the IHO Secretariat as WENDWG Secretary.

- **S-100 Readiness**

Despite the progress and concerns raised by the representatives of numerous RHCs on S-100 Readiness, basic/subjective assessment of the S-100 coordination readiness level in most RHCs for meeting the 2026-2029 milestones remains at low/intermediate level.

The 2024 assessment of the IHO strategic performance indicator (SPI 1.3.1) through a questionnaire also raises the question of how to better capture the readiness status in each region. The 2024 results indicated a slight decrease compared to the past year (53% to 43%), but with a response rate three times higher (23% to 60%). The WENDWG agreed to pursue the use of a questionnaire to calculate SPI 1.3.1 for 2025, in compliance with the SPI definition set for the 2020-2026 period. The WENDWG noted that IC-ENC will no longer issue a questionnaire on S-100 readiness, stating that its outcome no longer reflects the needs of its members.

Most RHC representatives raised the importance of specific capacity building opportunities to increase overall S-100 awareness and readiness in their respective region.

The WENDWG noted that multiple CB initiatives are available, either by submission or by the distance learning platform, provided through either the IHO CB fund or the RENCs special funds.

Some RHCs presented their own approach to harmonize S-100 Products:

- In the EATHC region, harmonization is implemented by the definition of 6 UB layers for S-101 ENCs and harmonization of min and max display scales,
- In the BSHC region, harmonization rules are being defined and will be delivered under the EU funded BSeNAv Project.

WENDWG invited both regions to share their own approach with the Nautical Cartography Working Group (NCWG) for the purpose of identifying common harmonization guidelines.

The WENDWG also agreed that, despite the need to grant more time for the development of a S-100 GIS platform fit for S-100 production and scheming, the IHO Secretariat should start without delay to collect relevant data from RENCs and hydrographic regions to issue consistent reporting to external stakeholders (e.g. IMO).

Besides, the WENDWG consolidated several key papers over the different meeting sessions:

- A paper on raising importance of ENDS, to be submitted to HSSC for further processing by the responsible technical Working Group,
- Part C of S-11 Publication, to be submitted to IRCC for endorsement and release under IHO resolution 2/2007 life cycle, and
- The WEND-100 Guidelines, to be submitted to IRCC for acknowledgment.

• Overlapping Policy

Discussions on that matter were initiated with an information paper submitted by Germany (i.e. S-98 Chair) on “Overlapping in S-100 products and effects on ECDIS” and an information paper by an IC-ENC on “Overlapping Policy”. The latter, stated their inability to transpose their S-57 overlapping policy to the S-100 world and apply their lessons learnt. Delegates agreed on the following overview of the current situation:

- No overlapping of affected S-100 products (S-101, S-12x and others) is according to the WEND100 principles (repetition of the current WEND principles);
- No overlapping in the S-100 world remains the ultimate goal.

Nowadays, overlaps occur worldwide due to the following reasons:

- o Geopolitical aspects,
- o Use of different sources (e.g. different horizontal reference systems for border line determination),
- o Acceptance of UNCLOS decisions,
- o Release of S-57 ENC cells without consideration at Regional Hydrographic Commission level,
- o Release of ENC not following the Annex 1 as amended of the IHO Resolution 1/19 process.
- It is expected that current overlaps will be transferred to the S-101 world when HOs simply convert their current S-57 into S-101.
- Expecting a quick solution for existing 500+ overlaps globally is unrealistic (it was reported by one RHC that resolving **one** overlapping issue took one year).

The following three potential solutions were discussed:

- Do not publish S-100 datasets where overlap exists noting that this will degrade the S-100 acceptance, which would put burden on the RENCs/ECDIS manufacturers to check appearance and might produce data coverage gaps;

- Provide a hidden dataset specifying which area belongs to which S-100 products producer, considered as quite unrealistic approach;
- Provide a technical solution in S-98 to provide guidance to ECDIS OEM for managing overlaps in a harmonised way (mariners' preference).

The meeting agreed that WENDWG will approach HSSC to develop a technical solution for managing overlaps. The meeting further agreed that the intended overlapping part of the WENDWG report to IRCC will be circulated through the WENDWG members for comments before the report will be submitted.

- **S-100 Distribution Framework**

Discussions took place following a joint presentation by NAVTOR and Chartworld and a presentation by the Australian Maritime Safety Agency (AMSA).

The former shared some recommendations to the WEND-100 Principles focused on:

- Capitalize their own experience in the design of new distribution methods for S-100 products,
- Use of generic and non-prescriptive technologies and methods for the dissemination of S-100 data,
- Distribute S-100 data to SOLAS Vessels to be primarily based on PAYS or equivalent principles,
- Facilitate the access of S-100 Products to onshore uses,
- Leave the S-100 product distribution and data delivery aspects (including security) to the industry (VARs, OEMs, service providers).

The latter provided an overall presentation on a dissemination proposal limited to near and/or real-time products in phase 1 such as S-124 and S-129, to be submitted to the forthcoming IMO's Sub-Committee on Navigation, Communications and Search and Rescue (NCSR) which is being held from 13 to 22 May 2025 at the IMO in London. The proposal is based on the following aspects:

- Goal-based requirements to implement global IP-based connectivity to support real-time data exchange between shore-based facilities and ships, and
- A system architecture for S-100 data exchange between shore-based facilities and ships supported by IP-based connectivity.

The following points came out of the discussion:

- Regardless of the dissemination solution that will be adopted, S-124 and S-129 should be disseminated at no additional cost to the mariners,
- The new distribution framework should focus on enhancing end-users experience,
- The above proposals should be used to consolidate the definition of the S-100 product distribution concept rather than imposing their technology.

- **Any other business**

The next WENDWG meeting will be held in Hong-Kong (China) from 25 to 27 February 2026.

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