

Information Paper for Consideration by IHO Council 8

Update on the Australian S-100 Working Group

Submitted by:	Australian Hydrographic Office (AHO)
Executive Summary:	Australia has been coordinating a national approach to S-100 since 2022. This paper aims at summarising the work so far and serve as a template for other countries that may be looking at similar initiatives.
Related documents:	AU S-100WG Terms of Reference
Related Projects:	N/A

Introduction/Background

1. The International Hydrographic Organisation (IHO) S-100 data model is the baseline for the Common Maritime Data Structure (CMDS), which defines what data should be exchanged in e-Navigation (MSC 90/28, paragraph 10.10).
2. The IHO and several other international organisations such as IALA, WMO and IEC are developing data exchange standards for various types of navigational information, and some of these product specifications are ready for testing.
3. In 2022, the Australian Hydrographic Office (AHO) decided to coordinate the establishment of a forum to oversee and manage the development and operationalisation of S-XXX products and services in the country and proactively contribute to the realisation of IMO and IHO strategic goals.

Analysis/Discussion

4. Australia's S-100 Working Group ([AU S-100WG](#)) was established under the Intergovernmental Committee on Surveying and Mapping (ICSM¹). The formation of the AU S-100WG establishes formal structure to bring together people, processes and knowledge to manage and set priorities for the implementation of S-100 based standards into Australia's maritime data chain now and into the future.
5. The Working Group membership is drawn from organisations involved in the maritime domain and likely to be impacted by the introduction of some of the S-100 based products and services. These organisations represent both government and private interests.

¹ ICSM's core function is to coordinate and promote the development and maintenance of key national spatial data including geodetic, topographic, cadastral, street addressing, tides & sea level, and geographical names.

6. The inaugural meeting of Australia’s S-100 Working Group was hosted by the AHO on the 2nd of November 2022. The meeting was conducted virtually and it was attended by almost 50 representatives from a diverse number of State, Federal and private organisations. Representatives from Land Information New Zealand (LINZ) attended as observers. The AU S-100WG members meet three times a year; two virtually and one hybrid meeting.

AU S-100WG Members



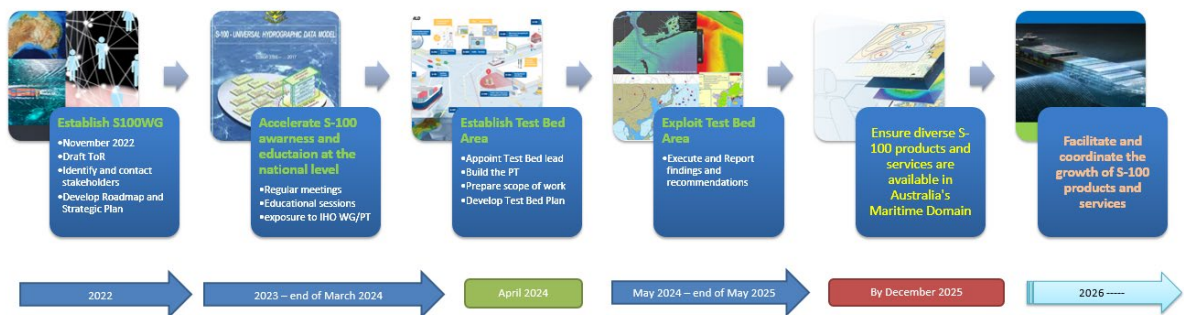
7. From November 2024, representatives from countries for which Australia is the Primary Charting Authority (Papua New Guinea and the Solomon Islands) will attend meetings as observers with the aim of introducing them to the benefits of forums like the one in Australia. The AHO, with support from the SWPHC, will then work together with those countries to assist them in standing up similar national initiatives.
8. Australia’s S-100 Working Group is responsible for coordinating and managing the timely and effective implementation of a broad range of S-100 products and services in the region. At the time of this paper, the WG is discussing the following product lines:
- 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-124 Navigational Warnings;
 - S-125 Marine Aids to Navigation (AtoN);
 - S-127 Marine Traffic Management
 - S-128 Catalogue of Nautical Products;
 - S-129 Under Keel Clearance Management (UKCM);
 - S-131 Marine Harbour Infrastructure;
 - S-201 Aids to Navigation Information;
 - S-411 Ice Information;

- n) S-412 Weather and Wave Hazards;
- o) S-421 Route Plan (*exchange of pilotage passage plans*).

9. The AU S-100WG Roadmap captures, at a high level, the national strategic direction for the introduction of S-100 based services in Australia.

AU S-100WG Roadmap

Planning our route for efficient navigation



10. The AU S-100WG Work Program 2024-2026 has been designed around the key milestones identified in the AU S-100WG Roadmap. For each task, the Work Program identifies:

- a) The strategic direction;
- b) Principal stakeholder(s);
- c) Deliverables and milestones;
- d) Lead authority;
- e) Estimated resources;
- f) Risk associated to completing the task.

11. A Testbed Focus Group (S-100TBFG) was established in October 2023 under the AU S-100WG. The group's main objective is creating a national testbed by 2025, to enable the development and testing of different S-100 product prototypes to support IHO's S-100 Implementation Priorities, Phase 1 – Route Monitoring. Having said this, the group is already working on prototyping Phase 2 datasets such as S-122 and S-412.

Conclusions

12. The AU S-100WG provides a national forum to facilitate, in the broadest sense possible, S-100 realisation in Australia's maritime domain. From education and awareness to the coordinated production, harmonisation of content and dissemination, Australian stakeholders will work together to deliver the coverage and quality of service required in the future.

13. A national Test Bed will provide a platform to develop, load, visualise and integrate a broad range of S-100 products both, in a simple viewer and in early S-100 Electronic Navigation Systems (ECS/ECDIS) prototypes. This would allow all participating agencies to test their use cases and work collaboratively in a way that ensures the most efficient implementation of S-100 products and services to enable e-Navigation in Australia and the region.

Action Required of Council

1. The IHO Council is invited to note Australia's initiative in establishing a national collaborative space to develop and implement S-100 services in Australia and the region.