8th Meeting of the S-100 Working Group (S-100WG)
Singapore, 13 – 17 November 2023

Contribution to the IHO Work Programme 2023	
Task 2.1.2.1	Organize, prepare and report meetings of S-100WG

The 8th Meeting of S-100 Working Group (S-100WG8) was held in Singapore from 13 to 17 November 2023 as face to face with added live streaming capability. During the week of the S-100WG meeting, there were also breakout sessions for the S-102 and S-129 Project Teams to discuss the development of their respective S-100 Product Specifications.

The S-100WG8 meeting was chaired by Ms Julia Powell (USA), supported by Co-Vice Chairs Ms Elizabeth Hahessy (Denmark) and Ms Iji Kim (Republic of Korea). 42 delegates from 19 IHO Member States (Australia, Brazil, Canada, Denmark, Finland, France, Germany, India, Indonesia, Italy, Japan, Netherlands, Republic of Korea, Singapore, Slovenia, Spain, Sweden, United Kingdom, and USA), 3 External Liaisons (International Electrotechnical Commission (IEC), International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA) and NATO Geospatial Maritime Working Group (GMWG)), and 27 Expert Contributors were registered for the meeting. The IHO Secretariat was represented by Director John Nyberg, Assistant Director Yong Baek and Technical Standards Support Officer Jeff Wootton.

Plenary session for S-100WG-8

In John Nyberg's welcome address, he highlighted the publication of S-100 Ed.5.1.0 in October 2023 and commended the efforts of S-100 Working Group (WG) for their accomplishments thus far. Additionally, he underscored the importance of preparing the operational versions of S-100 based Product Specifications to achieve Phase 1 of the S-100 Roadmap by 2024. He encouraged active participation from IHO Member States and Expert Contributors to ensure the successful achievement of our goals by 2026, aligning with the revised IMO ECDIS Performance Standards.

The Chair opened the meeting by informing participants that major items to be discussed at the meeting were proposals for corrections and clarifications for inclusion in the next S-100 Edition 5.2.0 and the approval timeline and impact of Edition 5.2.0 of S-100 on S-100 based Product Specifications. It was also noted that Edition 6.0.0 of S-100 would be deferred until after 2026 due to resource constraints and possible impacts on implementers.

During a session addressing matters arising and S-100 Project Team reports, the Working Group approved Edition 1.2.0 of the S-101 Electronic Navigation Chart (ENC) Produce Specification for the Data Product Specification (Main Document) and the Data Classification and Encoding Guide (DCEG).

Consequently, the S-101PT will develop the Feature and Portrayal Catalogues for Edition 1.2.0 of S-101, with plans to publish in early 2024 subsequent to final S-101PT approval of these Catalogues. Additionally, Edition 1.1.0 of S-129, Under Keel Clearance Management (UKCM) Product Specification, was approved during the meeting.

The Working Group discussed the maintenance efficiency of the S-100 Validation component and its correlation to the S-100 based Product Specifications. As a follow-up to the HSSC15 meeting in June 2023, it was agreed to designate the specification number for the S-100 Validation component as S-158. This will be submitted for confirmation by the HSSC at the HSSC16 meeting in May 2024.
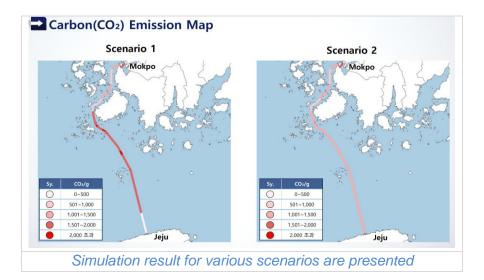
During the meeting, 17 change proposals for S-100 were reviewed, and 11 proposals were approved for inclusion in S-100 Edition 5.2.0. A significant modification, suggested in the approved proposals, includes enhancing cyber security for the distribution of S-100 data products by incorporating the latest digital signature algorithm technology. The remaining 6 submitted proposals were rejected due to their introducing substantial changes to S-100 constituting extensions. These rejected proposals will be considered for the next full Edition 6.0.0 of S-100 Ed.6.0.0.

The meeting established a timeline for the approval of S-100 Edition 5.2.0, with the HSSC endorsement targeted for March 2024 and IHO Member State approval anticipated by June 2024. This will allow for S-100 based Product Specifications for Phase 1 implementation to be aligned with S-100 Edition 5.2.0.

The Republic of Korea (ROK) presented a paper discussing the results of an ecological benefits and navigational safety study, which utilized S-100 data through a S-100 simulator. The study focused on optimizing ship route and engine RPM usage, taking into consideration S-100 data products.

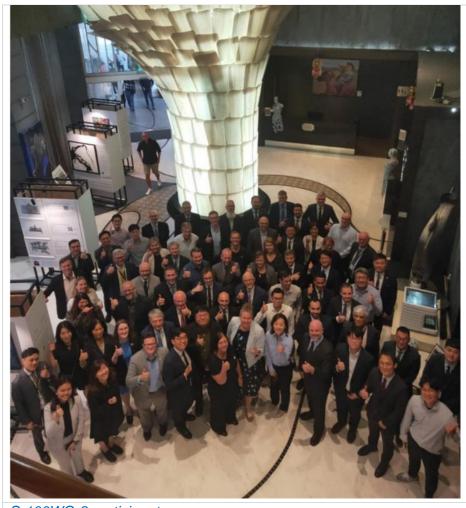*Simulation systems for the ecological benefits study in Rep. of Korea*

The study showed a ship's optimal routing plan utilising S-100 data products is able to minimize fuel consumption, which increases operational efficiency and lowers CO2 emission of the vessel.

Simulation result for various scenarios are presented

The S-100WG elected Ms Julia Powell (USA) as Chair, and Ms Elizabeth Hahessy (Denmark) and Mr Benjamin Hell (Sweden) as co Vice-Chairs by acclamation.

The S-100WG welcomed the offer by Italy to host S-100WG9 in Genoa in November 2024; and an offer from Indonesia to host S-100WG10 in 2025.

S-100WG-8 participants