



IHO



International
Hydrographic
Organization

Partnerships and Innovations for Integrated Marine Geospatial Information Management

Joint IHO-Singapore Innovation and Technology Laboratory

UNGGIM, Bali, Indonesia, 4 March 2024



UN-GGIM

United Nations Committee of Experts on
Global Geospatial Information Management

WORKING GROUP ON
MARINE GEOSPATIAL INFORMATION

Positioning geospatial information to address global challenges

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Objectives of IHO-Singapore Lab

01 Facilitate

The conduct of innovative or investigative projects proposed by IHO Member States(s), IHO organs, or other stakeholders. (including test bedding)

02 Enable

Knowledge creation and foster collaboration to evaluate specifications of global standard setting within the scope of IHO standardization activities

03 Foster

A multidisciplinary and collaborative environment for technical experts to interact learn and promote new solutions and technologies, including collaboration and cooperation with **other international organizations** research and development bodies active in the maritime domain under the guidance of a Governing Board

Composition of the Governing Board



John Nyberg
Chair
(Director, IHO)



Thomas Dehling
Member
(Chair, IRCC)



Magnus Wallhagen
Member
(Chair, HSSC)



Thomas Ting
Member
(Host Country Rep)



Yong Baek
Secretariat
(IHO)



Parry Oei
General Manager
(IHO Lab)

IHO-SG Lab (since 2021)



*Moving beyond
hydrographic products*

1

IALA, IHL

S-124/S-125

IHO-IALA collaboration to demonstrate interoperability of S-101 and S-124/S-125 at sea using wireless updating via 4G/5G telecom links
[Completed]

2

**Ports,
Harbours**

S-131 Information Portal

Creation of database and interface that will improve the information exchange between harbours and hydrographic offices by acting as a neutral repository of harbour information

3

**HOs, OEMs,
RENCs, Navy**

S-57 to S-101 ENC Conversion and Workshop

Test and propose refinements to the "Conversion Guidance" document

S-102 interfacing with S-101

Explore display options to best match user needs & requirements without cluttering of information

Dual-Fuel ENCs

Make available dual-fuel ENCs in S-100 covering major shipping routes

4

**Cross-domain,
Industry**

Integrate sea and land datum for monitoring of possible rise in sea level

Understanding the significance of integrated monitoring of relative and absolute sea level variation using tide gauge and GNSS data to address short and long-term issues in climate change monitoring and adaptation.



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Increased **readily accessible, available and reliable hydrographic data** can streamline maritime operations, optimize shipping routes and facilitate efficient port management and e-navigation

The **entrenched role of hydrographic information in supporting sustainable marine practices**, such as ecosystem conservation, pollution prevention, and the responsible development of marine resources

Continued innovation, including the adoption of S-100 standards and digital navigation tools, can **enhance the accessibility and utility of hydrographic information** for stakeholders across the maritime sector

Thriving partnerships and knowledge-sharing efforts to leverage hydrographic information for the benefit of diverse stakeholders, including policy makers, government agencies, industry players, and environmental groups

Matured awareness about the value of hydrographic information and engaging with relevant communities to promote a culture of maritime safety and environmental stewardship.

Efficiency Improvement

Sustainability Focus

Technological Advancements

Collaborative Initiatives

Awareness and Engagement

Desired Outcomes



Take-aways

- The IHO-SG Lab serves as a **conduit to pool resources**, acting as a middle ground for Member States, industry, and Institutions of Higher Learning.
- It is an extension of the IHO, offering a **flexible instrument** for test-bedding or investigative projects, with endorsement and accountability from the Governing Board
- Looking both within and **beyond traditional navigation users**, including global policy influencers, in areas such as sustainability in marine activities, climate resilience, and other relevant domains.
- Interested parties are strongly **encouraged to actively engage** and support in identifying and participate in collaborative projects.

THANK YOU
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