

2nd Joint IHO/IALA Workshop S-100/S-200

September 9-13, 2024

Naval Academy Club // 2 Truxtun Rd, Annapolis, MD 21402

DAY 1 – Monday 9 September 2024

8:30 - 9:00

Registration

9:00 - 10:20

Session 1 – Opening of the Workshop // Chair: Dave Lewald, Chair of IALA ARM

Welcome

Ashley Chappell, Director CMTS

Welcome from IHO & IALA

John Nyberg (IHO), Francis Zachariae (IALA)

Administration and Safety Briefing

Dave Lewald

Technical program for the week and expectations

Dave Lewald

S-100 Implementation Update

Magnus Wallhagen, IHO

S-200 Implementation Update

Minsu Jeon, IALA

10:20 - 10:30

Group Photo

10:30 - 11:00

BREAK

11:00 - 12:45

Session 2 – Plenary presentations – World-wide Updates // Chair: Julia Powell

NOAA – Precision Marine Navigation - Implementation of S-100

Darren Wright, NOAA

Implementation of S-100 in the Baltic Sea [Operational]

Magnus Wallhagen, SMA

IHO-Singapore Testbed Project for S-124 [Technical]

Eivind Mong, CCG

IALA S-200 [Training]

Minsu Jeon, IALA

PRIMAR [Training]

Svein Skjeveland, PRIMAR

Report on the Joint IHO-Singapore Innovation and Technology Laboratory

Victor Sim, Singapore MPA

Q/A session

Julia Powell

12:45-13:30

LUNCH

13:30 - 14:35 **Session 3 – Plenary presentations – World-wide Updates // Chair: Magnus Wallhagen**

Examples of implementation from Norway, technical and training challenges encountered.

Guttorm Tomren, NCA

Examples of implementation from Denmark, technical and training challenges encountered.

Ulla Møller, DMA

Examples of implementation from Korea, technical and training challenges encountered.

Yunjee Kim and Taehee Kim, KRISO

S-124 /125 Implementation in the US – Modernized NtoMs

Dave Lewald, USCG

Q/A session

Dave Lewald, USCG

14:35 - 15:00 **BREAK**

15:00 - 17:00 **Session 4 – Introduction to Working Groups // Chair: Dave Lewald**

Update on S-100 infrastructure systems - IHO

Yong Baek, IHO

Identify Remaining gaps – Chairs' panel discussion

Dave Lewald

Working Group 1 – Operational Terms of Reference

Co-Chairs – Guttorm Tomren and Sean Legeer

Working Group 2 – Technical Terms of Reference

Co-Chairs – Eivind Mong and Yong Baek

Working Group 3 – Training Terms of Reference

Co-Chairs – Heather Gilbert and Ed Kuwalek

Q&A session

Dave Lewald

Day wrap up

Dave Lewald

18:00 - 20:00 **Workshop Icebreaker**

Venue: [William Paca House and Gardens](#)

(Dress code: Business casual)

DAY 2 – Tuesday 10 September 2024

9:00 - 10:30 **Session 5 – Working groups**

Introduction to the day and establish Working Groups

Dave Lewald

Working Group 1 – Operational

Co-Chairs – Guttorm Tomren and Sean Legeer

Working Group 2 – Technical
Co-Chairs – Eivind Mong and Yong Baek

Working Group 3 – Training
Co-Chairs – Heather Gilbert and Ed Kuwalek

10:30 - 11:00 **BREAK**

11:00 - 12:30 **Session 6 – Working groups**

Working Group 1 – Operational
Co-Chairs – Guttorm Tomren and Sean Legeer

Working Group 2 – Technical
Co-Chairs – Eivind Mong and Yong Baek

Working Group 3 – Training
Co-Chairs – Heather Gilbert and Ed Kuwalek

12:30 - 13:30 **LUNCH**

13:30 - 15:00 **Session 7 – Working groups**

Working Group 1 – Operational
Co-Chairs – Guttorm Tomren and Sean Legeer

Working Group 2 – Technical
Co-Chairs – Eivind Mong and Yong Baek

Working Group 3 – Training
Co-Chairs – Heather Gilbert and Ed Kuwalek

15:00 - 15:30 **BREAK**

15:30 - 17:00 **Session 8 – Working groups**

Working Group 1 – Operational
Co-Chairs – Guttorm Tomren and Sean Legeer

Working Group 2 – Technical
Co-Chairs – Eivind Mong and Yong Baek

Working Group 3 – Training
Co-Chairs – Heather Gilbert and Ed Kuwalek

17:00 - **FREE TIME**

DAY 3 – Wednesday 11 September 2024

9:00 - 10:30 **Session 9 – Working groups**

Working Group 1 – Operational
Co-Chairs – Guttorm Tomren and Sean Legeer

Working Group 2 – Technical
Co-Chairs – Eivind Mong and Yong Baek

Working Group 3 – Training
Co-Chairs – Heather Gilbert and Ed Kuwalek

- 10:30 - 11:00 **BREAK**
- 11:00 - 12:30 **Session 10 – Working groups**
Working Group 1 – Operational
Co-Chairs – Guttorm Tomren and Sean Legeer
Working Group 2 – Technical
Co-Chairs – Eivind Mong and Yong Baek
Working Group 3 – Training
Co-Chairs – Heather Gilbert and Ed Kuwalek
- 12:30 - 13:30 **LUNCH**
- 13:30 - 15:00 **Session 11 – Working groups**
Working Group 1 – Operational
Co-Chairs – Guttorm Tomren and Sean Legeer
Working Group 2 – Technical
Co-Chairs – Eivind Mong and Yong Baek
Working Group 3 – Training
Co-Chairs – Heather Gilbert and Ed Kuwalek
- 15:00 - 15:30 **BREAK**
- 15:30 - 17:00 **Session 12 – Working groups**
Working Group 1 – Operational
Co-Chairs – Guttorm Tomren and Sean Legeer
Working Group 2 – Technical
Co-Chairs – Eivind Mong and Yong Baek
Working Group 3 – Training
Co-Chairs – Heather Gilbert and Ed Kuwalek
- 1800 - 21:00 **Workshop Dinner**
Venue: [Annapolis Maritime Museum](#)
(Dress code: Business casual)

DAY 4 – Thursday 12 September 2024

- 9:00 - 10:30 **Session 13 – Working groups**
Working Group 1 – Operational
Co-Chairs – Guttorm Tomren and Sean Legeer
Working Group 2 – Technical
Co-Chairs – Eivind Mong and Yong Baek
Working Group 3 – Training
Co-Chairs – Heather Gilbert and Ed Kuwalek
- 10:30 - 11:00 **BREAK**

11:00 - 12:00 **Session 14 – Conclusion of the WGs in plenary // Chair IHO**

Working Group 1 – Operational

Co-Chairs – Guttorm Tomren and Sean Legeer

Working Group 2 – Technical

Co-Chairs – Eivind Mong and Yong Baek

Working Group 3 – Training

Co-Chairs – Heather Gilbert and Ed Kuwalek

12:00 - 13:00 **LUNCH**

14:00 - 1600 **Technical Visit**

Technical visit to:

Annapolis Harbor Cruise ([Thomas Point Shoal Lighthouse](#))

1700 - **FREE TIME**

DAY 5 – Friday 13 September 2024

9:00 - 11:10 **Session 15 – Workshop review and conclusions // Chair IHO and Dave Lewald**

Review of working group reports and Q & A

WG Chairs

Workshop highlights – recommendations for future workshops

Magnus Wallhagen and Dave Lewald

Closing of the workshop

Francis Zachariae (IALA), Magnus Wallhagen (IHO), Director CMTS

[2ND JOINT IHO/IALA Workshop on S-100/200 Development and Portrayal Web Page](#)

Workshop Working Group Terms of Reference

2nd Joint IHO/IALA workshop on S-100/200 development and portrayal

The International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA) and the International Hydrographic Organization (IHO) in association with the Committee on Marine Transportation System and Radio Technical Commission for Maritime Services (RTCM) are hosting the second joint workshop on S-100/200 development and portrayal to be held in Annapolis, Maryland, USA, from 09 to 13 September 2024.

Composition and chairs of working groups

In order to achieve the workshop objectives the participants will divide into three Working Groups (WGs) that are open to all participants of the workshop. The titles and chairs of these WGs are:

<ul style="list-style-type: none">- Working Group 1 – Operational- Working Group 2 – Technical- Working Group 3 – Training	Co-Chairs – Guttorm Tomren and Sean Legeer Co-Chairs – Eivind Mong and Yong Baek Co-Chairs – Heather Gilbert and Ed Kuwalek
--	---

Working Group objectives

The outcomes that are expected from these WGs have been identified as:

Working Group 1 – Operational:

- Review the actions identified during the first workshop and implement necessary follow-up steps.
- Identify gaps relating to portrayal within various product specifications related to Aids to Navigation and VTS product specifications. Additionally, identify and document any gaps in the planned S-101 AtoN portrayal, for example – sector (complex) lights.
- Define the interaction between S-101 ENC, S-124, S-125 and S-201 and using S-201 as the source data.
- Contribute to the proposals for the workshop conclusions.
- Submission of WG report to the Workshop Report.

Working Group 2 – Technical

- Consider lessons identified from IHO on S-124 and S-125 test beds (review test bed report).
- Identify and document technical gaps in standards S-101, S-124, S-125 and S-201.
- Consider and document any actions to undertake to support cyber security.
- Conduct a comprehensive review of standards S-124 and S-201 and its derivative S-125 product specification.
- Develop a framework for a machine-readable environment that includes alerts and alarms, enabling machine-to-machine communication with human response triggers.
- Address and resolve any outstanding questions regarding standard S-124.
- Consider if AIS AtoN will have S-101, S-124, S-125 symbology or use existing IEC62288 symbology? Will S-124 and S-125 develop same/different symbology for non-ENC displays, i.e. radar?
- Contribute to the proposals for the workshop conclusions.
- Submission of WG report to the Workshop Report.

Working Group 3 – Training:

- Present and discuss pilot IALA S-200 courses, review and document observations.
- Identify training gaps in the S-100 starter course for both external (mariners/users) and internal

- (Hydrographic Offices and AtoN authorities) audiences in preparation of a submission for IMO MSC.
- Identify and document technical training gaps within the S-100 infrastructure that may need to be addressed by the IHO and IALA, for both external (mariners/users) and internal (Hydrographic Offices and AtoN authorities) audiences.
 - Review and provide recommendations for amendment of relevant IALA and IHO documentation to determine the technical knowledge requirements for managers.
 - Contribute to the proposals for the workshop conclusions.
 - Submission of WG report to the Workshop Report.

Procedures

In order to achieve their objectives the Working Groups should:

- Keep under consideration the relevant IHO and IALA publications and documentation;
- Keep under review relevant requirements and regulations of marine navigation and aids to navigation accordingly;
- Consider the operational performance of competent authorities, the progress in relevant technologies and navigational equipment;
- Consider new relevant topics accordingly;
- Decisions and recommendations should generally be made by consensus;
- The working group report should be provided to the Workshop Secretary by the co-chairs by the end of the workshop sessions for inclusion in the Workshop Report; and
- The Working Groups should liaise with each-other to ensure coordination of work where topics overlap.