

WENDWG Report to the 29th BSHC Conference

by Jarmo Mäkinen, BSHC WENDWG representative

1. Status of the work of WENDWG

Chair: Jens Schröder-Fürstenberg (Germany).

Vice-Chair: Jason Scholey (UK).

Secretary: Yves Guillam, IHO Secretariat.

Members: Representatives of Regional Hydrographic Commissions, representatives of IHO Member States, RENCs. [Link to WENDWG membership List](#)

[Link to WENDWG Terms of Reference](#) (June 2023)

2. Meetings since last BSHC (BSHC28 Sept 2023)

WENDWG14, Norfolk, USA, 20 - 22 February 2024

[Link to WENDWG14](#)

3. WENDWG14

The following key issues were discussed during the WENDWG14 meeting:

- S-100 Implementation and coordination
 - WENDWG survey 2023
 - WEND IGIF Matrix
- WEND-100 Principles and S-1xx Implementation Guidelines, S-11 Part C
- INTogIS III and S-128
- RENC cooperation and support
- Stakeholders forum

S-100 Implementation and coordination

- WEND reports S-100 readiness to IRCC annually to aid SPI 1.3.1 completion.
- There are two Readiness evaluation methods (WEND IGIF-matrix and Readiness Status of RHCs for the provision of S_{ixx} datasets by 2026 (WENDWG CL1/2023). Only under 50% of the Regional Hydrographic Commissions (including HCA) responded to WENDWG survey (CL1/2023).
- Reports received from RHC's show varying levels of the S-100 readiness and coordination.
- According RHC reports and WENDWG surveys basic assessment of the S-100 coordination readiness level in RHCs for meeting 2026-2029 milestones is:
 - BSHC (very good)
 - USCHC (very good inc. S-411, S-412)
 - EAHC (good)
 - HCA (intermediate inc. S-411)
 - SAIHC (low)
 - SWAtHC (intermediate)
 - MBSHC (low)
 - EAHC (low)
 - MACHC (intermediate)
 - SWPHC (low)
 - ARHC (low)
 - NSHC (low)
 - NIOHC (low)
 - SEPRHC (no information)
 - RSAHC (no information)



Readiness Status of RHCs for the provision of S-1xx datasets by 2026 in the Baltic Sea.

(WENDWG CI1/2023, BSHC28 actions 16 and 17). The survey was made in November 2023 and answered by 7/9 of the Baltic Sea Member States.

Product	Priority 1	Priority 2	Other Priority	2025	2026	2027	2028	2029	2030	No exact data (tbd)
S-101	DE, DK, EE, FI, LT, LV, SE			DK	DE, FI, LT, LV, SE					EE
S-102	DE, DK, EE, FI, SE	LT, LV		DK, EE (2024)	DE, FI, LT, LV, SE					
S-104	FI	DE, EE, SE			DE, FI	SE				DK, EE, LV
S-111	FI	DE, EE			DE, FI		SE			DK, EE, LV
S-124	EE, FI	LT, SE			LT, FI, LV	SE				DE, DK, EE
S-128	DK, FI, SE			DE, DK	FI, SE					
S-129										DK
Other										
S-121			FI		FI					
S-122			SE					SE		
S-123			FI, SE		FI				SE	
S-125			FI		FI					
S-127			FI, SE		FI				SE	
S-131			SE						SE (2032)	
S-201			FI		FI					

WEND-100 IGIF Matrix (Status Nov 2023) (BSHC28 actions 16 and 17)

■ Increased since last year ■ Decreased since last year

	S-101										S-102									
	SE	DE	DK	FI	LT	LV	PL	EE	BSHC		SE	DE	DK	FI	LT	LV	PL	EE	BSHC	
Governance and Institutions	11,1	11,1	11,1	11,1	3	8,4	8,4	8,4	8,4	8,4	5,7	8,4	8,4	11,1	3	5,7	8,4	8,4	8,4	
Policy and Legal	11,1	11,1	8,4	11,1	3	8,4	8,4	8,4	8,4	8,4	3	8,4	3	11,1	3	3	3	5,7	3	
Data	3	11,1	3	3	3	3	3	3	3	3	3	8,4	3	3	3	3	3	8,4	3	
Financial	11,1	11,1	11,1	11,1	3	5,7	3	5,7	11,1	11,1	3	8,4	3	5,7	3	3	3	5,7	3	
Innovation	5,7	0	3	5,7	3	5,7	5,7	3	5,7	5,7	11,1	5,7	5,7	5,7	3	3	5,7	5,7	5,7	
Standards	5,7	0	11,1	5,7	3	5,7	5,7	5,7	5,7	5,7	5,7	5,7	11,1	5,7	3	5,7	5,7	11,1	5,7	
Partnerships	3	0	3	3	5,7	3	3	5,7	3	3	3	5,7	3	3	5,7	3	3	5,7	3	
Capacity and Education	11,1	0	3	8,4	3	5,7	5,7	3	5,7	5,7	3	3	3	8,4	3	5,7	5,7	3	3	
Communication and Engagement	11,1	0	3	8,4	3	5,7	11,1	3	8,4	8,4	8,4	8,4	3	8,4	3	3	11,1	3	5,7	
	S-122										S-124									
	SE	DE	DK	FI	LT	LV	PL	EE	BSHC		SE	DE	DK	FI	LT	LV	PL	EE	BSHC	
Governance and Institutions	3	11,1	3	3	0	3	5,7	3	3	3	11,1	11,1	8,4	11,1	0	3	5,7	3	11,1	
Policy and Legal	3	8,4	3	3	0	3	5,7	3	3	3	3	11,1	5,7	11,1	3	3	3	3	3	
Data	3	8,4	3	3	0	3	5,7	3	3	3	3	0	5,7	3	0	3	3	3	3	
Financial	3	3	3	3	0	3	0	3	3	3	3	0	5,7	5,7	0	3	3	3	3	
Innovation	3	11,1	3	3	0	3	0	3	3	3	3	0	3	3	0	3	3	3	3	
Standards	3	11,1	3	3	0	3	0	3	3	3	5,7	0	8,4	5,7	0	3	5,7	3	5,7	
Partnerships	3	8,4	3	3	0	3	0	3	3	3	5,7	0	3	5,7	0	3	3	3	3	
Capacity and Education	3	8,4	3	3	0	3	0	3	3	3	3	0	3	3	0	3	3	3	3	
Communication and Engagement	3	11,1	3	3	0	3	8,4	3	3	3	3	0	3	8,4	0	3	11,1	3	3	

[Link to BSHC WENDWG representative report to WENDWG14](#)

	S-104									S-111								
	SE	DE	DK	FI	LT	LV	PL	EE	BSHC	SE	DE	DK	FI	LT	LV	PL	EE	BSHC
Governance and Institutions	3	8,4	5,7	11,1	0	3	5,7	3	5,7	3	8,4	5,7	11,1	0	3	5,7	3	5,7
Policy and Legal	3	8,4	3	11,1	0	3	5,7	3	3	3	8,4	3	11,1	0	3	5,7	3	3
Data	3	3	3	3	0	3	0	3	3	3	3	3	3	0	3	0	3	3
Financial	3	3	3	5,7	0	3	0	3	3	3	3	3	5,7	0	3	0	3	3
Innovation	3	5,7	3	3	0	3	0	3	3	3	5,7	3	3	0	3	0	3	3
Standards	3	5,7	3	5,7	0	3	0	3	3	3	5,7	3	5,7	0	3	0	3	3
Partnerships	3	3	3	3	0	3	0	3	3	3	3	3	3	0	3	0	3	3
Capacity and Education	3	3	3	5,7	0	3	0	3	3	3	5,7	3	5,7	0	3	0	3	3
Communication and Engagement	3	11,1	3	8,4	0	3	8,4	3	8,4	3	11,1	3	8,4	0	3	8,4	3	8,4
	S-128									MSDI								
	SE	DE	DK	FI	LT	LV	PL	EE	BSHC	SE	DE	DK	FI	LT	LV	PL	EE	BSHC
Governance and Institutions	5,7	11,1	5,7	8,4	0	5,7	8,4	3	5,7	8,4	11,1	8,4	8,4	0	5,7	8,4	8,4	8,4
Policy and Legal	5,7	11,1	3	8,4	0	5,7	5,7	3	5,7	11,1	11,1	8,4	11,1	0	5,7	8,4	8,4	8,4
Data	3	3	3	3	0	3	0	3	3	5,7	11,1	8,4	5,7	0	5,7	8,4	5,7	5,7
Financial	5,7	5,7	3	5,7	0	3	5,7	3	5,7	8,4	11,1	5,7	8,4	0	5,7	3	5,7	5,7
Innovation	3	11,1	3	5,7	0	5,7	3	3	3	3	11,1	8,4	8,4	0	3	5,7	8,4	8,4
Standards	3	5,7	3	5,7	0	5,7	0	3	3	3	3	8,4	3	0	3	3	5,7	3
Partnerships	3	5,7	3	5,7	0	5,7	0	3	3	5,7	3	5,7	5,7	0	3	3	3	5,7
Capacity and Education	3	3	3	3	0	3	0	3	3	3	11,1	11,1	5,7	0	3	11,1	3	8,4
Communication and Engagement	3	5,7	3	5,7	0	5,7	8,4	3	5,7	3	11,1	8,4	8,4	0	3	3	8,4	8,4

WENDWG Chair will send a follow-up survey on the readiness level of ENC Producing Member States, in November 2024 for calculating SPI 1.3.1 (2024) in preparation of the IHO Annual Report and WENDWG-15 meeting.

WENDWG also agreed to make the annual fulfilment of the WEND100-IGIF matrix by RHCs only optional.

The WENDWG noted the simple business model proposed by the EAtHC for the implementation of Phase I S-100 Products in Region G (6 UB layers for S-101 ENCs and harmonization of min and max display scales, S-57 ENC Producers to produce S-100 products. Proposal is under consideration in BSeNav in S-101 harmonisation activity.

WEND-100 Principles and S-1xx Implementation Guidelines, S-11 Part C

- The WENDWG established an ad hoc drafting group for preparing amendments to the Guidelines on the Implementation of the WEND100 Principles and the IHO Strategic Plan (CA, DK, FR, GR, LV, NO, SE, SR, US, TR, UK, IC-ENC).
 - Results during the meeting:
 - No need to develop on WEND100
 - Work needed on Guidelines for Implementation of WEND100 Principles
 - Focus on S-1xx and S-128 catalogue

- The WENDWG established also another ad hoc drafting group; S-11 - Part C drafting team (AU, BR, DE, FI, GR, TR, IHO Secretariat) to develop a proposed Edition 1.0.0 of S-11 Part C (expect S-101), to be submitted to the approval of IRCC in 2025 for testing and experimentation.
 - Results during the meeting:
 - Naming; to include ENDS (Electronic Navigational Data Service)
 - Focus 1st priority Phase I, Phase 2 at a later date
 - To provide general overview of guidelines what applies to all products
 - S-100 data flow diagram to be maintained outside the Guideline
 - Skeleton ready for IRCC-16

S-128 and INTOGIS III

- The WENDWG noted Canada's vision for an integrated national S-128 catalogue and agreed on the benefits of this concept at national level. [Link to Presentation Canada](#).
- The WENDWG noted, that S-128 is a standard for the Catalogue of Nautical Products and therefore the coordination of different products catalogue at national level, should be assigned under the responsibility of the HSs.
- WENDWG will consider subsequent amendments to the WEND-100 Principles and the S-100 Roadmap.
- The S-128 content itself is under the NIPWG responsibility, but the S-128 content is important for automated INTOGIS III updates in the future.

- INTOGISIII, is a key IHO component of the S100 Implementation Roadmap, necessary to provide IMO NCSR with recognized and accurate plans and updates from 2025 onwards
- Once INTOGIS III (Coverage and Planning Catalogue) becomes operational, and if agreed by CA, the WENDWG agreed to consider the possibility of testing the interoperability of the Canada Hydrographic Service Catalogue and INTOGIS III.
- INTOGISIII was delayed during the meeting, but the testing phase is now going on.
- On the regional S-100 coordinator's role, some RHCs requested more guidance on what the role includes and entails. An amendment to include Section 300 in S-11 Part A to describe the Coordinator responsibilities was considered.

RENC Co-ordination and support

- IC-ENC and PRIMAR presented the status of the S-100 implementation activities. WENDWG commended RENCs for their very comprehensive update covering S-100 Service Status. Both RENCs are well in line with the S-100 roadmap.
- The WENDWG noted the decision made by the PRIMAR Advisory Committee by which PRIMAR will not support SENC/System Database distribution of S-100/S-101 data (risk of loss of signature file regarded as critical). The WENDWG then invited the S-100WG/RENCs to report on this issue to the HSSC and on consequences for S-100 ENDS Distribution Chain in the future.
- The WENDWG invited the RENCs/RECC to report at the next meeting on the outcome of their joint effort on the development of a new dynamic S-100 Products and Electronic Navigational Data Services (ENDS) Data Flow Diagram. [Link](#) to existing data flow diagram.
- Post meeting comment: IRCC16 tasked WENDWG to further investigate methods on how to clarify the understanding on the meaning of the term ENDS (Electronic Navigational Data Services), considering the ENDS tree diagram provided by HSSC.

Stakeholders forum

- Two of the invited OEMs were participating, Furuno och ChartWorld.
- Furuno and ChartWorld provided interesting presentations from the Mariners and End Users perspective.
- The WENDWG noted the vision on standardized services for ECDIS by Furuno and the recommendations related to the implementation of pull-mode cyber secure options from different sources of information using the SECOM interface (IEC 63173-2) on the Maritime Connectivity Platform for instance.

- Related to Chartworld's presentation and Australia's experiences, the WENDWG agreed to recommend to the IRCC, that the S-100 Roadmap should highlight that the S-100 strategic approach to support and attract end-users for the IHO is not to complete the full S-101 coverage first, then consider the other products, ... but to engage the IHO into the development of a new distribution model, including cybersecurity and integrity measures and ensuring that end-users can easily access and get all S-100 Phase I products and ENDS in confidence along a given route.

4. Next meeting

The next meeting (WENDWG 15) will be held in Australia, Wollongong, 18-20 February 2025.

5. Actions for the 29th BSHC Conference

- Note on this report.
- Discuss and provide updates for WEND100-IGIF Matrix and next WEND WG 100 readiness survey (Nov 2024).
- Give further guidance to BSHC WENDWG representative.

