



13th Meeting of the Hydrographic Services and Standards Committee

IALA Activities

Agenda Item 7.3A

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HSSC-13, VTC Event, 3 – 7 May 2021



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IALA'S ROLE ON S-200 DEVELOPMENT

International
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- IHO has approved IALA as a **Submitting Organization** and **Domain Controller**
- IALA Product Specifications compliant with the IHO S-100 standard, use the numbering series S-201 to S-299
- **IALA Domain covers:**
 - Aids to Navigation (AtoN)
 - Vessel Traffic Services (VTS)
 - Positioning Systems
 - Communication Systems
 - AIS, ASM, VDES
- **Publications**
 - IALA G1106 on the Development of Product Specifications
 - IALA G1087 on the Management of the IALA Domain

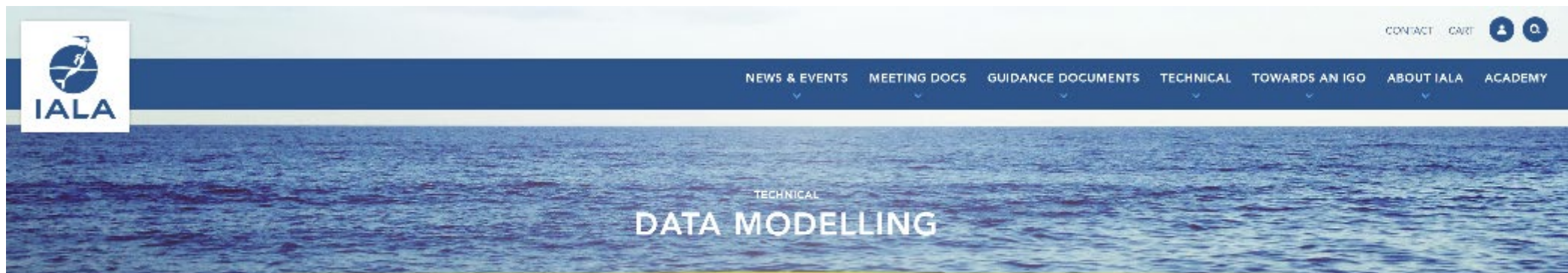


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IALA'S ROLE ON S-200 DEVELOPMENT

International Hydrographic Organization

<https://www.iala-aism.org/technical/data-modelling/iala-s-200-development-status/>



- DATA MODELLING
- MRN (MARITIME RESOURCE NAME)
- CONNECTIVITY
- POSITIONING, NAVIGATION AND TIMING
- RISK ANALYSIS AND MANAGEMENT
- MARITIME AUTONOMOUS SURFACE SHIPS (MASS)
- E-NAVIGATION TESTBEDS AND FAO
- INFORMATION PORTRAYAL
- ATON SOFTWARE

[IHO S-100 GI REGISTRY →](#)

[IALA S-200 PRODUCT SPECIFICATION AND DEVELOPMENT STATUS →](#)

- [S-201 →](#)
- [S-210 →](#)
- [S-211 →](#)
- [S-212 →](#)
- [S-230 →](#)
- [S-240 →](#)
- [S-245 →](#)
- [S-246 →](#)
- [S-247 →](#)

IALA is establishing the S-200 domain, in consultation with IHO. This domain uses the range S-201 to S-299 for product specifications compliant with the IHO S-100 standard, covering fields within the IALA remit, including Aids to Navigation (AtoN), Vessel Traffic Services (VTS), positioning systems and communication systems.

IALA has worked closely with IHO and other bodies to develop S-200 product specifications within its areas of responsibility, in particular AtoNs and VTS. A supervisory structure (IALA Guideline 1087) has been established within IALA to manage its domain, which, with the approval of IHO, has been allocated the numbering series S-201 to S-299.

The IALA ARM Committee oversees this work. IALA Guideline 1106 sets out the process for preparing S-200 product specifications and has been revised and updated as experience has been gained. 2 product specifications (S-201 and S-240) are ready for review and approval and several others are under development.

PS No.	Title	Developer	Field Manager	Status	Edition



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DEVELOPMENT STATUS OF S-200 SERIES

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S-200 development summary table

Subdomain	Product Spec. number	Title	Developer (owner)	Current version
AtoN	S-201	AtoN information	ARM	1.0.0
Positioning	S-240	DGNSS almanac	ENG	1.0.0
	S-245, S-246, S-247	eLoran ASF, almanac, reference stations	ENG	1.0.0
Communications	S-230	Application Specific Message (ASM)	ENAV	Planned
VTS	S-210	Inter VTS exchange	VTS	Started
	S-211	Port Call Message	IPCDMC ¹	1.0.0
	S-212	VTS digital information service	VTS	0.6.4

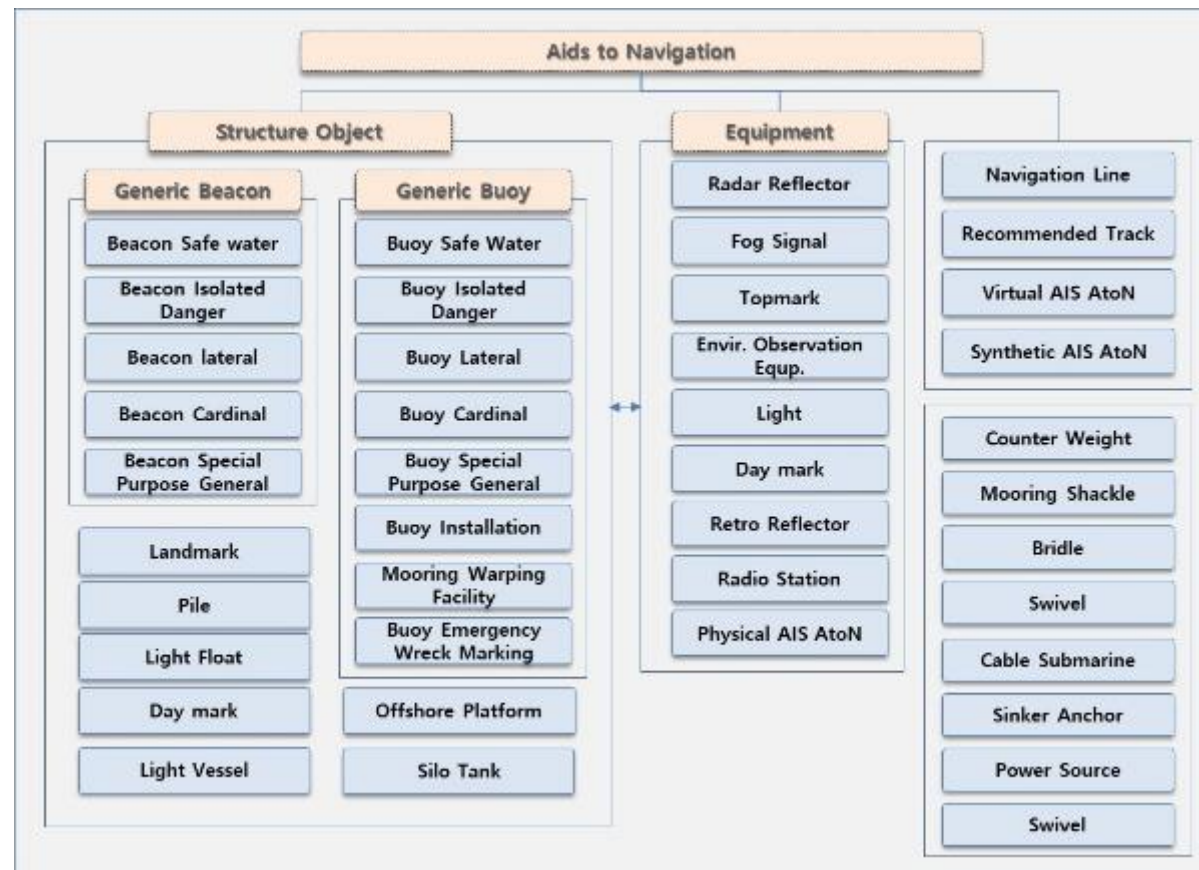
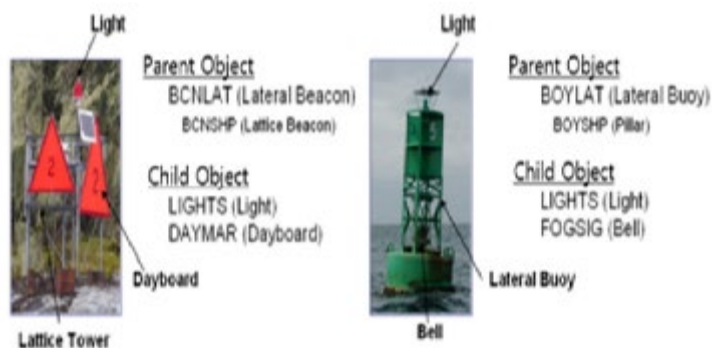


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S-201 ATON INFORMATION

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- Standardised method of exchanging information on AtoN between lighthouse authorities, hydrographic offices, and related organisations.
- The product contains the positions, properties, operational status and general comments related to an AtoN



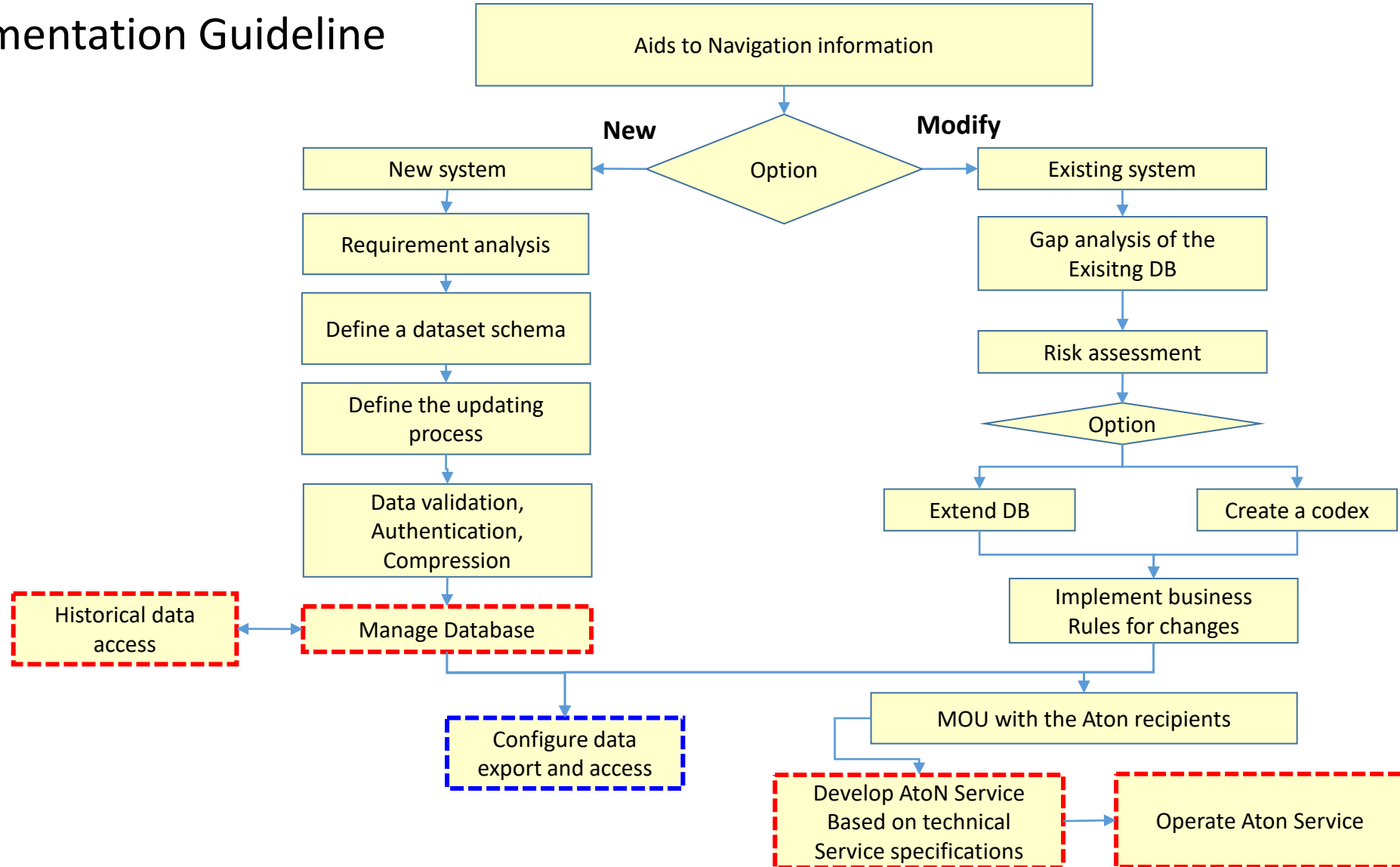


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S-201 ATON INFORMATION

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Implementation Guideline





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S-201 ATON INFORMATION

<http://tds.theprostat.com/>

International Hydrographic Organization

- Testbed

Light buoy

Create Feature

Name:

Type:

Structure Colour:

Buoy shape:

Installation Date:

Position:

Topmark:

Light Characteristic:

Signal Group:

Signal Period:

Signal Sequence:

AtoN MRN:

Light beacon

Create Feature

Name:

Type:

Structure Colour:

Beacon shape:

Installation Date:

Position:

Topmark:

Light Characteristic:

Signal Group:

Signal Period:

Signal Sequence:

AtoN MRN:

Beacon MRN:

Light house

Create Feature

Name:

Type:

Structure Colour:

Colour pattern:

Installation Date:

Position:

Category of landmark:

Visually conspicuous:

Buoy

Create Feature

Name:

Type:

Structure Colour:

Installation Date:

Position:

Topmark:

AtoN MRN:

Buoy MRN:

Beacon

Create Feature

Name:

Type:

Structure Colour:

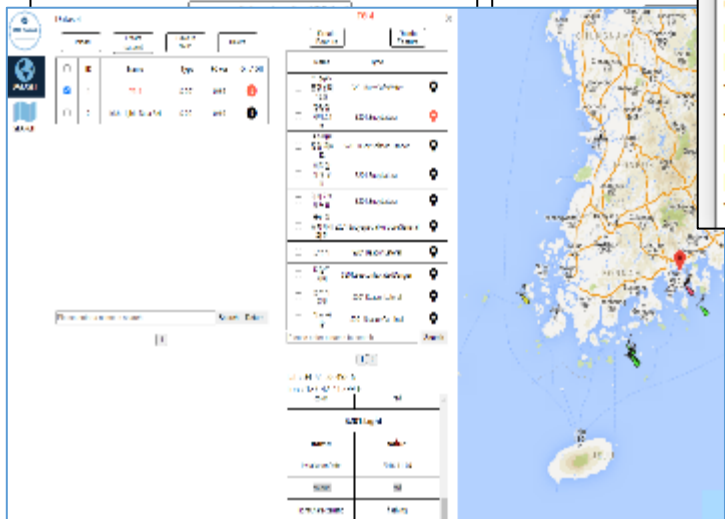
Installation Date:

Position:

Topmark:

AtoN MRN:

Beacon MRN:



- Green
- Red
- Red with one broad green horizontal band
- Green with one broad red horizontal band
- Black above yellow
- Black with a single broad horizontal yellow band
- Yellow above black
- Yellow with a single broad horizontal black band
- Black with one or more broad horizontal red bands
- Red and white vertical stripes
- Yellow



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S-212 VTS DIGITAL INFORMATION SERVICE

International Hydrographic Organization

1. VTS user needs

VTS46-13.3.9 - Annex A - VTS Digital Services

TYPE	CATEGORY	FEATURE	ATTRIBUTE
Vessel Information	Identification		IMO identity paper name, MMSI call sign, AIS, name, ...
	VTSK information		e.g. vessel measurements (length, width, draft, etc.), processing status of passages, ...; type of vessel (vessel type, ...)
	Dynamic information		e.g. speed, direction, position of passages, number of crew, flag, agent, captain, etc.
Voyage Information	certification information		
	identification		Message ID, TADA
	routing plan		e.g. waypoints, arrival, time, sequence, timing
	status		e.g. planned, confirmed, underway, arrival
	activities		e.g. current, last reported, last received
specific voyage information		e.g. ETD, ETA, VTSK information, port information, priority information, error activity (during anchoring, ...)	
warnings		e.g. AIS	

3.1.2. Vessel entering VTS Area
When a vessel enters the VTS Area, procedures for the following actions should be considered:

- Procedures for establishing communications and verifying vessel identity and position.
- Requirements for initial information exchange, which may include:
 - Confirm reporting requirements.
 - Provide relevant traffic information.
 - Provide navigational / safety information.
- Additional compliance with IMO requirements (chart and publications, passage plan, environmental orders, passenger identification).
- Procedures for updating information with other services.

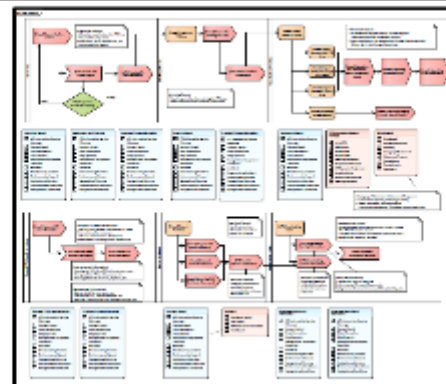
IALA V-127

Type of	Reported	VTS Action	Information category
IC300	Initial/intermittent/last position	Adding with information on location	Communication
IC300a	Initial VTS area, position, velocity vector	Traffic information to vessel	Traffic and safety information
IC300b	Passes reporting plan time	Provides information on current, next report, etc.	Hydrographical information
IC300c	Requires own information	Provides query details	Traffic and safety information
IC300d	Passes arrival reporting plan	Provides operational information on arrival	Navigation/Access
IC300e	Warning along shore	Clears the location on entry, speed, direction	

MS Guideline

Researching about product specification requirement(=need)
- VTS46 result, MS Guideline, VTS Guideline, VTS operator's comment, SMCP

2. Define data exchange scenario



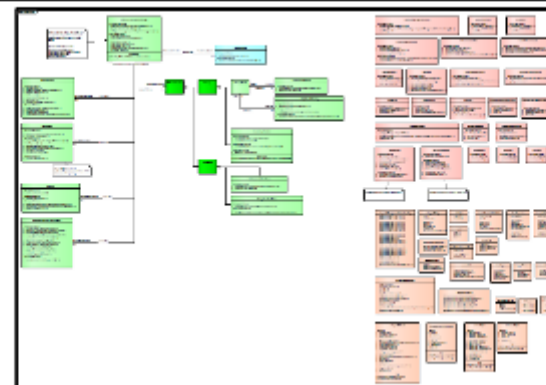
Define data exchange scenario based on requirements

3. Define Features & Attributes

Feature	Category	Description	Feature Characteristics		Status	Notes
			Priority	Impact		
Dynamic Data	Dynamic	Dynamic Data: Real-time data that changes frequently, such as vessel position, speed, and direction.	High	High	Active	
Static Data	Static	Static Data: Data that does not change frequently, such as vessel name, IMO number, and MMSI.	Low	Low	Active	
Configuration Data	Configuration	Configuration Data: Data that defines the system's behavior, such as VTS parameters and user preferences.	Medium	Medium	Active	
System Parameters	System	System Parameters: Data that defines the system's overall configuration, such as VTS area boundaries and communication protocols.	High	High	Active	

Analysis another standard(S-101, 124, 127, 211, 412, 421)
New feature for VTS determined

4. Product specification



Finally, development VTS-INS Product Specification



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IALA STRATEGY

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- IALA is developing and coordinating PS and data exchange formats that will underpin e-navigation services in the future.
- Focus on the technical service and streaming of the data.
- S-200 Product Specifications reaching maturity and their use needs to be tested and promoted.
- Promote the S-200 Testbed and invite members to participate.
- Continue the IALA/IHO technical cooperation meeting.
- Joint IALA/IHO Workshop is planned to be held in Norway in 2022.

HSSC is invited to note the information provided.