



## 10 – TECHNICAL ACTIVITIES

### 10.6 – Product specifications and technical services

#### 10.6.1 – Committee work on S-200 PS

Note by the Secretariat

#### 1. INTRODUCTION

During their latest sessions, the ARM, ENG, VTS, and DTEC Committees made significant progress on various work items associated with the development and implementation of the S-200 series of Product Specifications (PS) and supporting activities under the S-100 framework.

Key achievements included the finalization of new editions, proposal of new S-200 product specifications, and updates to related guidelines and service descriptions.

#### 2. SUMMARY OF THE COMMITTEE WORKS

The following table provides a detailed summary of each committee's active PS development work:

Domain	PS	Title	Developing Committee	Edition
AtoN	S-201	AtoN information	ARM	2.0.0
	S-125	Marine Aids to Navigation	IHO NIPWG (ARM)	1.0.0
Positioning	<del>S-240</del>	<del>DGNSS almanac</del>	<del>ENG</del>	<del>1.2.0</del>
	<del>S-245</del>	<del>eLoran ASF</del>	<del>ENG</del>	<del>1.0.0</del>
	S-246	eLoran almanac	ENG	1.0.0
	S-247	eLoran reference stations	ENG	1.0.0
	S-241(New)	PNT station almanac	ENG	Planned
	S-242(New)	PNT grid data	ENG	Planned
Comms.	<del>S-230</del>	<del>Application Specific Message (ASM)</del>	<del>DTEC</del>	<del>Planned</del>
VTS	S-210	Inter VTS exchange	VTS	Started
	S-211	Port Call Message	IPCDMC	1.0.0
	S-212	VTS digital information service	VTS	0.6.4

#### 3. ARM

The ARM Committee finalized S-201 Edition 2.0.0 on Aids to Navigation (AtoN) Information, incorporating updates to the feature catalogue, portrayal, and data quality elements. This work strengthens the foundation for operational S-201 services and ensures alignment with ongoing developments under the S-100 framework.

The S-201 product specification is a comprehensive package of documents, including written guidance and technical frameworks for actual coding/implementation of the specification. The finalized S-201 Edition 2.0.0 has been submitted to the Council for approval (Document C02-10.6.1.1). Few AtoN authorities have started implementing S-201 version 1.0.0, and the S-201 version 2.0.0 will be the starting point for almost all nations. Many nations have their proprietary systems operating, and we suspect that interfacing the new S-201 and existing systems are a huge task, including discovering features/functions that might need adjustments to S-201.

During the work of updating the S-201, a strategic decision was made to adhere to the S-101 edition 2.0.0. This results in various small changes, for example types of allowable colours and the coding of such. As IHO is the prime owner of all S-100 documents, which S-201 is a subset of, the ARM Committee decided that is better to inherit methods from S-101, than start making exemptions.

The ARM Committee would like to highlight that the S-100 standard is a living standard. Unlike the S-57 standard, which was a “frozen” standard from the start. The launch of S-201 edition 2.0.0 is not the end, it is the start of evolving, expanding and tuning of the product specification.

In parallel, the ARM Committee advanced the development of S-125 Edition 1.0.0 on Marine Aids to Navigation (AtoN), working closely with the IHO’s NIPWG to prepare the document for external review.

The Committee also completed a revision of Guideline G1106 on producing S-200 Series Product Specifications (Document C02-10.2.3), updating it to reflect best practices for specification development, testing, and validation.

Further, the ARM Committee monitored the progress of the S-201 Testbed, which is critical for validating implementations and providing feedback to refine the specification. In addition, the Committee reviewed contributions to the harmonization of the Feature Concept Dictionary (FCD) to ensure consistency and support for S-201 and related product specifications.

#### 4. ENG

The ENG Committee reviewed all ongoing Product Specifications related to Positioning, Navigation, and Timing (PNT). Following this review, it decided to withdraw S-240, S-245, S-246, and S-247, and proposed the development of two new S-200 series Product Specifications focused on PNT services:

- S-241(New) - A PNT Station Almanac to support precise navigation and positioning.
- S-242(New) - A PNT Grid Data Product Specification to enhance integrity monitoring.

Preliminary frameworks for these new specifications were discussed, with the aim of strengthening the digital navigation infrastructure and supporting the development of future resilient PNT systems.

#### 5. VTS

The VTS Committee continued the development of S-212, a Product Specification addressing VTS Traffic Services under the S-100 framework. This includes defining core services such as traffic clearance and route exchange, aimed at ensuring digital interoperability between ships and shore authorities.

The Committee finalized Service Designs and Technical Service Specifications for these services, preparing them for testing and wider adoption.

Close coordination was maintained with other committees and organizations, responding to liaison notes regarding standardization needs and challenges in the development of S-200 domain-specific Product Specifications.

#### 6. DTEC

The DTEC Committee supported foundational work for S-200 implementation by:

- Contributing to the harmonization of Maritime Resource Names (MRN) and digital identifiers.
- Revising and enhancing G1128, the Specification for e-Navigation Technical Services, critical for supporting service-oriented S-200 and S-100 implementations.

DTEC also liaised extensively with IEC and ARM Committees to align work on OpenAPI specifications and service interfaces, ensuring that technical service specifications like VTS Traffic Clearance and AtoN Information Exchange under the S-200 umbrella are compatible and interoperable.

Additionally, DTEC discussed the initial concepts for a Product Specification for Disaster Management within the S-200 family, aiming to extend digital service offerings to emergency scenarios.

## 7. IALA S-200 TRAINING

From 4-7 March 2025, the IALA WWA organized a training programme on S-100/200 Product Specifications, concluding with a sea trial in Busan, Republic of Korea.

The training, developed with contributions from UKHO, KRISO, PRIMAR, and other experts, was designed to shape future courses tailored to specific audiences, including managers, data producers, developers, and system providers.

The course combined online self-study, live virtual lectures, and in-person workshops, culminating in practical demonstrations of data production and real-world application of AtoN updates at sea.

Twenty-one participants from 14 countries representing national authorities and maritime organizations attended the session, hosted by the Ministry of Oceans and Fisheries (MOF) and KRISO.

The curriculum covered key areas such as the structure and benefits of the S-100 framework, the development of S-200 series product specifications (notably S-124, S-125, and S-201), system architecture considerations, technical services, and the use of the IHO Geospatial Information Registry. Real-world experiences from USCG, CCG, and KRISO enhanced the learning experience.

Feedback gathered from participants and lecturers emphasized the strengths of the course, particularly the quality and breadth of expertise and the relevance of practical use cases. Recommendations for future sessions included clearly defining course objectives and target groups, increasing hands-on exercises and practical scenarios, focusing more on the application of the S-200 data models, providing additional tutorials on validation tools, and fostering greater interaction and engagement among participants through group activities and case studies.

## 8. CONCLUSION

The four Committees have demonstrated strong, coordinated progress on the development of the S-200 series.

Key achievements included finalizing operational editions like S-201 Edition 2.0.0, advancing new specifications like S-125 and S-212, and strengthening supporting tools and services such as G1128 and the S-201 Testbed.

These developments collectively advance IALA's objective of providing standardized, digital, interoperable solutions for aids to navigation, vessel traffic services, and broader maritime communication services under the S-100 framework.

Continued cross-committee collaboration and engagement with organizations such as IHO and IEC will be essential to ensuring the effective implementation and uptake of the S-200 series globally.

## 9. ACTION REQUESTED

The council is requested to:

**NOTE** the information provided in this document.

**APPROVE** the S-201 Aids to Navigation information, edition 2.0.0 (C02-10.6.1.1)