

IALA COUNCIL 65th session



12-15 December 2017
IALA Headquarters

13 - INTERNATIONAL

13.1 - IMO

13.1.2 – IMO-IHO Harmonization Group on Data Modelling (HGDM)

Note by the Secretariat

1. BACKGROUND

At its 98th session, the IMO Maritime Safety Committee decided to activate the IMO-IHO Harmonization Group on Data Modelling (HGDM): -

“IMO/IHO Harmonization Group on Data Modelling (HGDM)”

“11.37 The Committee agreed to activate the IMO/IHO Harmonization Group on Data Modelling (HGDM) to work only on the output to “Develop guidance on definition and harmonization of the format and structure of MSPs”; and endorsed the holding of the first meeting of this Group, at the IMO Headquarters in London, from 16 to 20 October 2017 (refer to NCSR 4/29, paragraph 27.10 and NCSR 4/WP.4, annex 5).”

2. IALA PREPARATION

During IMO NCSR4, informal agreement was made between the DSG and the IHO to coordinate input to the first meeting of the HGDM, should it be activated by the then-subsequent MSC98.

Following MSC98, extensive communication between the Secretariat and IHO culminated in a meeting at IALA HQ. A copy of the report of that meeting is at Annex A.

IALA and IHO then prepared a joint input paper to the HGDM. This was approved by Council via correspondence. A copy is at C65-13.1.2.1.

3. IALA REPRESENTATION AT THE HGDM MEETING

The first meeting of the HGDM was held at IMO London from 23 to 27 October 2017. Both SG and DSG were committed on other activities that week (e-Navigation Underway North America and FERNs Council respectively) and were unable to participate in the HGDM meeting.

With the kind assistance of the US Coast Guard, and of Offis, Germany, Mr David Lewald and Dr Axel Hahn represented IALA at the meeting.

4. FIRST MEETING OF THE IMO-IHO HARMONISATION GROUP ON DATA MODELLING (HGDM)

The HGDM was tasked by the Maritime Safety Committee at its ninety-eight session (MSC 98) to work only on the Guidance on the definition and harmonization of the format and structure of Maritime Service Portfolios (MSPs).

The agenda for the first meeting of the HGDM was as follows.

- 1 Adoption of the agenda
- 2 Consideration of the reports of NCSR 4 and MSC 98 and any related matters emanating from IMO meetings
- 3 Considerations of reports on developments emanating from IHO meetings
- 4 Considerations of testbed reports related to the application of MSPs



- 5 Development of a definition for MSPs and consideration for the harmonization of the format and structure of MSPs
- 6 Any other business
- 7 Development of draft revised Terms of Reference for the next meeting of the HGDM
- 8 Report to NCSR 5 and IHO

5. OUTCOME OF THE FIRST MEETING OF THE HGDM

The HGDM at its first meeting:-

- Completed a first draft of the Guidance on the definition and harmonization of the format and structure of maritime services within the Maritime Service Portfolio (MSP), including the template for maritime services
- Proposed a revised definition of MSP
- Discussed methods of control and registration of MSPs
- Decided that it required a second meeting to continue its work

Its report will go to the IMO Sub-Committee NCSR at its 5th meeting in London in February 2018.

6. THE COUNCIL IS REQUESTED TO

Note.



7. ANNEX A



IALA-IHO Coordination Meeting, 18 July 2017

Report

Participants:

IALA: Michael Card, Hideki Noguchi, Jorge Arroyo, Jin Park, Jon Leon Ervik, Axel Hahn, Mahdi Al Masawi, Nick Ward.

IHO: Gilles Bessero, Tony Pharaoh, Jens Schroeder Fuerstenberg, Yves Le Franc, Julia Powell (by phone).

1. Welcome and introductions

Michael Card welcomed the participants to IALA and they introduced themselves

2. Adoption of Agenda

The proposed agenda was agreed.

3. Opening remarks – IHO

Gilles Bessero welcomed the opportunity to coordinate with IALA in anticipation of the activation of the Harmonization Group on Data Modelling which was proposed to the IMO/NCSR via a submission co-sponsored with IALA. He recalled the long-standing cooperation between both organizations and in particular the adoption by IALA of the S-100 framework. He noted the importance of reaching a common understanding on the development and implementation of the concept of Maritime Service Portfolios (MSP) for the benefit of the safety and efficiency of navigation in the e-navigation environment.

He explained the new structure of IHO, with an Assembly and Council and two main committees: the Hydrographic Services and Standards Committee (HSSC), and the Inter Regional Coordination Committee (IRCC). The organs of most relevance to IALA are the S-100 Working Group (WG) and the Nautical Information Provision WG (NIPWG) under HSSC and the World Wide Navigational Warning Service Sub-Committee and the S-124 Correspondence Group under IRCC. All IHO documents are available free of charge on the IHO website (www.iho.int).

4. Opening remarks – IALA

Mike Card welcomed the IHO participants, remarking on the close relationship between the organisations and IHO involvement in the ENAV Committee. IALA has a structure similar to that being adopted by IHO, but would introduce technical standards in 2018. These would refer to recommendations. He also explained the Technical side of IALA and the WWA. The number of committees was expected to remain at 4, but ENAV would become Information Systems and PNT



would move to ENG. IALA documents were also available FOC on the website. The Policy Advisory Panel was deciding which documents were normative and which informative.

5. Coordination topics

a. Technical areas where cooperation is essential

It was agreed that S-100 and S-200 Product Specifications needed to be coordinated. JHP gave a short presentation on the structure envisaged for Operational Services/Technical Services and Data Models. This would see the gradual replacement of human interaction by M2M data connections, reducing human error. Operational Services were described in Maritime Service Portfolios. Yves Le Franc mentioned areas of cooperation on Technical Services and Data Exchange formats and it was noted that there was already cooperation on Navigational Warnings through EfficienSea 2. Jens Schroeder Fuerstenberg noted that IALA was defining services, but data models needed to be defined, by collaboration using S-100. Definitions and data structures should be common. There was a need for cooperation between different service providers. The draft Technical Service Specification guideline was mentioned. Standardised Technical Services harmonises data delivery with Operational Services. Need attributes to specify communications. A more detailed diagram should take account of the display on the ship. GB pointed out that different classes of vessel had different levels of connectivity, with a range of devices, but there should be a standard model for delivery. Jorge Arroyo considered that the market would deal with the human interface. Tony Pharaoh felt that the Technical Service model would have to take account of the S-100 based product specifications, their inherent data models and their classification of features and attributes. Jon-Leon Ervik pointed out that new regulations were usually triggered by major accidents. Digital standards would increase efficiency, allowing more timely operations.

b. Maritime Service Portfolio (MSP)

In preparation for the IMO/IHO HGDM Jon-Leon Ervik gave a presentation on MSP as a common platform, entitled Digitising Maritime Services. MSP define a set of operational services. These are implemented by a set of Technical Services. These services provide requirements for the development of the data models used for data exchange. He suggested that we need to move away from Liaison Notes for communication between organisations. The draft text was based on feedback from IHO. Jens Schroeder Fuerstenberg introduced a mind map showing the structure and questioned whether it was possible to change the terms of MSP. Jon-Leon Ervik said that we can add to the list. The Chair of the HGDM had indicated that he wants to use this work. It could be converted into an IMO document. Jorge Arroyo pointed out that not all MSP were supported by S-100 Product Specifications. Axel Hahn said that it was recognised that S-100 had applicability beyond hydrographic information and formed the basis for the CMDS. MSI was an example where the technical service layer described the data model used.

It was agreed that the Draft guideline on MSP and the Mind Map should be made available to the HGDM chair. JA thought the way forward could be a joint manual, like that on MSI. It was decided that a joint information paper should be drafted by Mike Card & Gilles Bessero.

c. Harmonization of Product Specifications for AtoN service & VTS



The potential overlap and ownership of product specifications was discussed. The data model specifications are actually split into sets of Product Specification (S1xx, S2xx,...). Between the different Product Specification some areas (lists of features and concepts) can be identified that need to be designed cooperatively.

Therefore the IALA/IHO coordination meeting came to the conclusion that we should:

- Identify the related S-XXX Product specifications and Technical Services for each MSP
- Identify the areas for cooperation (e.g. reused concepts and features) between the different Sxxx Product Specifications and Technical Services.
- Find an appropriate and efficient way to organize the cooperation.

The harmonization of Product Specifications for AtoN service & VTS could be achieved by the joint membership of the relevant groups: particularly S100WG and NIPWG. The IALA/IHO representatives should be given rapporteur status.

d. Maritime Resource Names

The Danish Maritime Authority had submitted a Request For Consideration to Internet Engineering Task Force to define namespace and manage Organisation ID numbers. Organisations would define their own namespace and identities. IALA and IHO agreed to cooperate on MRN and establish a common mechanism. It was considered that a registry structure was needed and it would need to be adopted in S-100, possibly as a separate part, but the exact method needed further discussion. It was noted that IALA would maintain the list of OIDs.

e. Streaming data

Axel Hahn reported that applications needing streaming had been identified. Similar usage is already mentioned in the S-100 specification. A proposal for making provision for data streaming had been presented by IALA to the 2nd S-100WG meeting (April 2017). Although the S-100WG accepted the proposal in principle, it was agreed that some alternatives (e.g. ISO8211) should be investigated, and a more detailed proposal will be tabled again at the next S-100WG meeting (April 2018).

f. Symbols for AtoN

There was a discussion about problems with AtoN representation, in particular sector lights. It was considered that there were processes in place to deal with these.

6. Conclusions on cooperation between IHO and IALA

Julia Powell (S-100WG Chair) joined by GoToMeeting at this stage and draft conclusions were discussed, modified and agreed.

- 6.1 Cooperation is essential on Product Specifications, S-1xx/S-2xx, esp. on AtoN, VTS, radio-communication areas. This can be done through IALA attendees at NIPWG, acting as rapporteurs and also through the S101 Project Team (IALA – Dave Lewald)
- 6.2 The MSP/Operational Service – Technical Service – Product Specification concept was accepted, based on diagram by Jin H Park. Jens Schroeder Fuerstenberg would coordinate submissions made on the mind map
- 6.3 Maritime Resource Name (MRN / .mrn) concept was accepted, with IALA managing Organisation IDs



- a. IALA to finalise at ENAV21, September 2017, and then confirm in December (C65); to IHO January 2018
 - b. MRN should be a part of S-100 – exact method of incorporation tbd
 - c. IHO requires input for April 2018 IHO S-100 WG Meeting in Singapore, for update #4 of S-100
- 6.4 IALA & IHO would make a joint submission to the HGDM chair – to be drafted by Mike Card & Gilles Bessero to convey the draft IALA Guideline and the IHO draft mind map to the HGDM
- 6.5 IALA has made a proposal on data streaming to a previous S-100 WG meeting, and IHO will add a new part to S-100
 - a. IALA need to develop a framework for session-oriented services that can be added as a separate part to the next edition of S-100
- 6.6 Information on problems with portrayal of symbols for AtoN has been conveyed from IALA to IHO, and IHO is dealing with this (example visible range of range/sector lights)
 - a. Changes in S-201 may need to be reflected in S-101
 - b. IALA should review relevant portions of S-101 and advise IHO S-101 project team accordingly
 - c. New symbols are dealt with under an existing IHO procedure
 - d. IALA will have its own domain within the portrayal register (and may also include non-hydro symbols here, e.g. special VTS symbols)
- 6.7 Coordination of IHO and IALA meeting schedules is desirable, as well as a regular coordination meeting, perhaps annually, similar to that of today, together with:
 - a. Informal cooperation group meetings of experts
 - b. Ad hoc working groups/workshops

7. Future actions

Covered in 6.7 above

8. Closing remarks

GB, on behalf of the IHO, thanked IALA for arranging the meeting. The Chairman thanked all participants for a very useful meeting.