

**8<sup>TH</sup> MEETING OF THE HYDROGRAPHIC SERVICES AND STANDARDS COMMITTEE  
IHO Secretariat, Monaco, 15-18 November 2016**

**Paper for Consideration by HSSC**

**Additional comments on paper HSSC8-07.2A - IMO activities affecting HSSC (including e-navigation)**

***Activation of the IMO/IHO Harmonization Group on Data Modelling (HGDM)***

<b>Submitted by:</b>	IHB
<b>Executive Summary:</b>	As announced in paper HSSC8-07.2B (see paragraph 4), this paper reports on the outcome of the additional consultation of potential co-sponsors and of the IMO Secretariat on developing a submission to NCSR 4 on activating the IMO/IHO Harmonization Group on Data Modelling (HGDM).
<b>Related Documents:</b>	HSSC8-07.2A - <i>IMO activities affecting HSSC (including e-navigation)</i> HSSC8-07.2B - <i>IMO activities affecting HSSC (including e-navigation) – Comments on paper HSSC8-07.2B</i>
<b>Related Projects:</b>	HSSC Work Programme Maintenance of IHO Publications and Services related to ENC and ECDIS.

1. This comment paper reports on the outcome of further consultations on the development of a draft submission to NCSR 4 related to the activation of the IMO/IHO Harmonization Group on Data Modelling (HGDM) to progress the post-biennial output agreed by the Maritime Safety Committee (MSC) on “*Develop guidance on definition and harmonization of the format and structure of Maritime Service Portfolios (MSPs)*”.
2. The revised draft (V2) annexed to HSSC8-07.2B was circulated to potential co-sponsors and to the IMO Secretariat for a third round of consultation.
3. Annex A reports on the outcome of the third round and the revised version of the draft submission (Draft V3) is attached at Annex B.
4. **The HSSC is invited to consider this paper when discussing papers HSSC8-07.2A and HSSC8-07.2B.**

**Annexes:**

- A. Preparation of a submission to NCSR 4 on the activation of the IMO-IHO Harmonization Group on Data Modelling (HGDM) - Outcome of Round 3 - 24 October - 11 November 2016
- B. Draft submission to NCSR 4 on activating the IMO/IHO HGDM (Draft V3)



**Preparation of a submission to NCSR 4 on the activation of the IMO-IHO Harmonization Group on Data Modelling (HGDM)  
Outcome of Round 3  
24 October - 11 November 2016**

No.	Source <i>(Chronological order)</i>	Comment	Response of the Proposal Coordinator
3-01	<b>IALA</b> E-mail from <i>Francis Zachariae</i> dated 25 Oct 2016 08:15:22 +0000	IALA will at this stage ask Council permission to support the document.	Noted.
3-02	<b>IMO</b> E-mail from <i>Hans Van Der Graaf</i> dated 25 Oct 2016 14:43:59 +0000	First of all, we would like to suggest to submit this document under 'Any other business' (agenda item 28).	Agreed, subject to the understanding that this will not prevent consideration of the paper early enough in the week of NCSR 4 so that the option to refer it to the relevant working group, in connexion with the papers on the related e-navigation outputs listed in paragraph 9, remains open if considered appropriate by the Sub-Committee.
		Regarding the summary box, we suggest to explicitly refer to the post-biennial output on MSPs, since the activation of the HGDM is linked to this output (see MSC 96/25, paragraph 23.16). The last part of the sentence could read '...to work on the post-biennial output on the development of guidance on definition and harmonization of the format and structure of Maritime Service Portfolios (MSPs).'	Agreed.
		With regard to the timing, it is understood that the outcome of the four outputs / agenda items mentioned in paragraph 9 will provide input for the consideration of the post-biennial output on MSPs. According to the NCSR Sub-Committee's Work Plan, the 3 e-navigation related outputs should be completed at NCSR 4.	Agreed. The connexion with the three e-navigation related outputs to be completed at NCSR 4 is the reason why it would seem appropriate to submit the HGDM paper to NCSR 4.

No.	Source <i>(Chronological order)</i>	Comment	Response of the Proposal Coordinator
		<p>As a matter of caution, NCSR 4 might find it not appropriate to advise MSC 98 to establish the HGDM to consider matters related to the post-biennial output on MSPs at that stage, since it is not common practise to establish an intersessional group before an agenda item has been discussed first by the Sub-Committee. The normal practise is, that interested Member Governments and international organizations submit material on such a new item for consideration by the Sub-Committee when it is on the Sub-Committee's agenda for the first time. On the basis of the information available, the Sub-Committee normally decides on the need for a meeting of an intersessional group.</p>	<p>The view of the IHO Secretariat is that, at this stage of the e-navigation "voyage", the preparation of relevant material on the MSP output requires coordination between the relevant organizations and the earlier this coordination takes place the better. It is our understanding that this coordination should take place under "the scope of the (IMO)" as agreed by the MSC (see MSC 96/25, paragraph 23.15) and therefore that the HGDM is the appropriate existing vehicle for that. This being said, it is fully recognized that it is up to the Sub-Committee to decide on the actions proposed in the paper. The intent of the paper is to ensure that the Sub-Committee is well-informed on the issues at hand and decides accordingly.</p>
		<p>With regard to paragraph 10, we do recognise that NCSR 4 should review the impact of related outputs on the future development of the MSP guidance, which could be done on the basis of the progress made on these outputs. Consideration of the progress in developing the S-100 framework could be done by NCSR 4 when there is appropriate information submitted to the Sub-Committee on this matter.</p> <p>If NCSR 4 would advise MSC 98 to establish the HGDM, then a planning of a meeting in January 2018 seems to be unrealistic since the outcome of this Group could not be submitted after the deadline of documents for NCSR 5. We would like you to consider proposing such a meeting for October, or November 2017, the latest.</p>	<p>January 2018 was proposed (subject to MSC authorizing a late submission to NCSR 5 - see sub paragraph 10.1) to fit with the "post-biennial" (2018-2019) constraint (i.e. no "IMO activity" on the output before January 2018). If an earlier date would be considered acceptable to NCSR and MSC, I do not have any problem with that.</p>
		<p>Regarding an interesessional meeting of the HGDM between NCSR 5 and NCSR 6 the same applies, the deadlines for NCSR 6 should be taken into account.</p>	<p>Agreed. December is proposed to give as much time as possible for preparing material for the HGDM meeting by correspondence after NCSR 5 (March 2018?), on the assumption that NCSR 6 would take place around mid-March 2019.</p>

No.	Source <i>(Chronological order)</i>	Comment	Response of the Proposal Coordinator
		<p>Finally, we feel that the draft Work Plan has to include only work to be done under an approved output, and should include clear deliverables. In this context, a clear definition of the expected deliverables is required in order to decide whether the work intended to be undertaken falls within the post-biennial output on MSPs.</p>	<p>The work plan is meant to identify the items that need to be considered to deliver the agreed output (draft guidance on ...). Most items currently listed in the draft have been requested by other stakeholders (IALA in particular).</p>
3-03	<p><b>IMO</b> E-mail from <i>Hans Van Der Graaf</i> dated <i>28 Oct 2016 08:34:38</i> <i>+0000</i></p>	<p>I see your concern by submitting it under any other business, but we will deal with all e-navigation related matters after each other, before sending out a Working Group which has to deal with these matters.</p> <p>We understand the reason why IHO would like to progress the establishment of the HGDM. To achieve a positive outcome from NCSR 4, it is, therefore, important to align the proposal as much as possible with IMO's schedule and procedure. When NCSR 4, MSC 98 and Council support the establishment of the HGDM with the aim to provide input to NCSR 5 in 2018, there should be no objection to schedule a meeting of the HGDM in 2017. Therefore, again I would like to propose meetings in October or November 2017 and 2018.</p> <p>You might even wish to consider to propose the week after IALA's E-NAV meeting, which is scheduled for 18 to 22 September 2017. This might save people from farther away travelling costs and time. There are a few other intersessional meetings (including IHO's WWNWS Sub-Committee) between meetings of the NCSR Sub-Committee, which all take place between the end of August and the beginning of October. Mainly, because it is more or less half way between two meetings of the Sub-Committee.</p> <p>In terms of venue, I suggest we aim for IMO Headquarters.</p> <p>Finally, the Work Plan will be the most important part of the</p>	<p>The IMO input will be incorporated in the revised draft that will be presented to HSSC-8.</p>

No.	Source (Chronological order)	Comment	Response of the Proposal Coordinator
		submission. Having a clear definition of the expected deliverables will support the consideration of the proposal at NCSR 4.	
3-04	<b>Australia</b> E-mail from <i>Nick Lemon</i> dated <i>10 Nov 2016 00:45:02</i> <i>+0000</i>	As mentioned before Australia won't co-sponsor the paper but we will do as much as we can to support it at NCSR4. We have no comments to add to this version and we look forward to reviewing and contributing to any further iterations post HSSC8	Noted.
3-05	<b>CIRM</b> E-mail from <i>Richard Doherty</i> dated <i>10 Nov 2016 10:58:22</i> <i>+0000</i>	We do not have specific comments on the draft, nor are we in a position to co-sponsor. We will be happy to review any further iterations of the document.	Noted.

SUB-COMMITTEE ON NAVIGATION,  
COMMUNICATIONS AND SEARCH AND  
RESCUE  
4<sup>th</sup> session  
Agenda item 27

NCSR 4/27/xx - Draft V3  
xx November 2016  
Original: ENGLISH

## DECISIONS OF OTHER IMO BODIES ANY OTHER BUSINESS

### Proposal to activate the IMO-IHO Harmonization Group on Data Modelling (HGDM)

Submitted by ... and the International Hydrographic Organization (IHO)

#### SUMMARY

*Executive summary:* At the invitation of the Maritime Safety Committee (MSC), this document invites the Sub-Committee to consider and endorse a proposal to activate the IMO-IHO Harmonization Group on Data Modelling (HGDM) to work on the ~~relevant agreed outputs related to the e-navigation Strategy Implementation Plan (SIP)~~ post-biennial output on the development of guidance on definition and harmonization of the format and structure of Maritime Service Portfolios (MSPs).

*Strategic direction:* 5.2

*High-level action:* 5.2.6

*Planned output:* [Post-biennial output No. 132]

*Action to be taken:* Paragraph 12

*Related documents:* MSC 90/28/Add.1, MSC 96/23/7, MSC 96/25, MSC 96/25/Add.1  
NCSR 1/28, NCSR 4/2

#### Background

1. As a result of identified user needs, gap analysis and the IMO process leading to the development of the e-navigation Strategy Implementation Plan (SIP), one of the five prioritized solutions uses the concept of Maritime Service Portfolios (MSPs).
2. At MSC 96, the Committee agreed to include in its post-biennial agenda (2018-2019) an output on "Develop guidance on definition and harmonization of the format and structure of Maritime Service Portfolios (MSPs)", with two sessions needed to complete the item, assigning the NCSR Sub-Committee as the coordinating organ.
3. Regarding the proposal in document MSC 96/23/7 to activate the IMO-IHO Harmonization Group on Data Modelling (HGDM) to work on this output, the Committee

recalled that MSC 90 had established this group, including its terms of reference, but the aforementioned group has never been formalized. Therefore, the Committee, taking into account the decision to include the output in its post-biennial agenda, agreed to invite the IHO to submit a proposal to the Committee and/or to NCSR to activate the HGDM, to work on this issue and include the modalities, e.g. venue and frequency for consideration at a later session of the Committee.

4. At the invitation of the Committee, the IHO coordinated the preparation of this proposal for the initial consideration of the NCSR Sub-Committee as the coordinating organ of the related output.

### **Analysis**

5. The terms of reference of the HGDM adopted by MSC 90 are provided in Annex 1. They address the need of “some form of overarching coordination to ensure the ongoing management and maintenance of the (maritime information and data) structure” and task the group to “consider matters related to the framework for data access and information services under the scope of SOLAS”. The membership is currently open to “representatives of IMO and IHO Member States and Secretariats, and organizations with an official IMO/IHO observer status”.

6. As part of the improved provision of services to vessels through e-navigation, MSPs have been identified as the means of providing electronic information in a harmonized way. A MSP defines and describes the set of operational and technical services and their level of service provided by a stakeholder in a given sea area, waterway, or port, as appropriate. The relevant services, as currently defined by the SOLAS Convention, cover a broad scope, including aids to navigation, hydrographic services, maritime safety information, meteorological services, pilotage, vessel traffic services, etc.

7. MSPs have been identified in the SIP (NCSR 1/28, annex 7) as the framework for the electronic provision of information related to maritime services in a harmonized way between shore and ships. The agreed output aims to harmonize the format, structure and communication channels used to exchange that information. The intended output is an MSC resolution that provides guidance to Member States, international organizations, data and service providers to implement MSPs in a coordinated and harmonized manner.

8. The development of the MSP guidance will need to be coordinated with the development of the S-100 framework, which was adopted by MSC 90 as the baseline for the Common Maritime Data Structure which is at the heart of e-navigation.

9. The development of the MSP guidance will need to take into account the results of related developments coordinated by the IMO. They include the following outputs of the current biennium (2016-2017):

- Draft Modernization Plan of the Global Maritime Distress and Safety System (GMDSS);
- Additional modules to the Revised Performance Standards for Integrated Navigation Systems (INS) (resolution MSC.252(83)) relating to the harmonization of bridge design and display of information;
- Guidelines for the harmonized display of navigation information received via communications equipment;



- Revised Guidelines and criteria for ship reporting systems (resolution MSC.43(64)).

10. Subject to the related documents submitted to NCSR 4, the following modalities are proposed:

- .1 March 2017: NCSR 4 to task the appropriate working group to:
  - review the impact of related outputs on the future development of the MSP guidance,
  - review the progress in developing the S-100 framework,
  - draft a work plan for the HGDM on the basis of two two-day plenary sessions respectively in ~~January 2018~~ ~~September-October 2017~~ (to be reported to NCSR 5, ~~subject to the Sub-Committee authorizing a late submission if required~~) and in ~~December~~ ~~October-November~~ 2018 (to be reported to NCSR 6),
  - consider the expertise required, including technical, operational and services expertise,
  - agree on the Chair of the HGDM, and
  - report to the Sub-Committee.
- .2 June 2017: MSC 98 to consider approving two meetings of the HGDM in ~~January~~ ~~September-October 2017~~ and ~~December~~ ~~October-November~~ 2018, and inviting IMO and IHO Member States to nominate appropriate representatives to the HGDM, subject to the approval of the ~~2017-2018-2019~~ biennium by the Assembly;
- .3 July 2017: C 118 to consider endorsing two meetings of the HGDM ~~in 2018~~, subject to the approval of MSC 98;
- .4 ~~September-October 2017: first meeting of the HGDM at the IMO Headquarters (two days);~~
- .45 December 2017: A 30 to consider approving the ~~2017-2018-2019~~ biennium;
- ~~.5 January 2018: first meeting of the HGDM at the IMO Headquarters (two days);~~
- .6 March 2018: NCSR 5 to consider the interim report of the HGDM;
- .7 May 2018: MSC 99 to consider urgent matters emanating from NCSR 5;
- .8 November 2018: MSC 100 to consider non urgent matters emanating from NCSR 5;
- .9 ~~December~~ ~~October-November~~ 2018: second meeting of the HGDM at the IMO Headquarters (two days);
- .10 March 2019: NCSR 6 to consider the final report of the HGDM;
- .11 June 2019: MSC 101 to consider the report of NCSR 6.

11. The proposal to activate the HGDM before the output has been discussed first by the Sub-Committee is justified by the need to effectively coordinate the relevant organizations and stakeholders as early as possible in order to develop an appropriate scoping of the MSP guidance for initial consideration by NCSR 5 and further advice so that a robust draft

guidance may be developed in time for final consideration by NCSR 6, in accordance with the timeline of the output agreed by MSC 96.

12. A draft work plan is proposed in Annex 2 to assist the deliberation of the Sub-Committee.

**Action requested of the Sub-Committee**

13. The Sub-Committee is requested to:

- .1 endorse the activation of the HGDM in accordance with the modalities proposed in paragraph 10;
- .2 invite the Committee to authorize the activation of the HGDM;
- .3 take any other action it considers appropriate.

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**ANNEX 1****TERMS OF REFERENCE FOR THE IMO/IHO HARMONIZATION  
GROUP ON DATA MODELLING (HGDM)**

(MSC 90/28/Add.1 - Annex 22)

1 In creating an e-navigation architecture, it is important to identify information and data flows, and the interactions between applications and user interfaces. Consequently, there needs to be a data structure to optimize the use, interoperability, flow and accessibility of relevant information and data within the maritime domain (including both ship and shore aspects). It is therefore important to harmonize efforts in data modelling, with the aim of creating and maintaining a robust and extendable maritime data structure. This maritime information and data structure will require some form of overarching coordination to ensure the ongoing management and maintenance of the structure.

2 There may be several management roles to be performed by such a coordinating body, (for example, the maintenance of registries and the development and adoption of product specifications). This management role may be shared between relevant organizations. The structure is a highly important element by which e-navigation can modernize the operational environment of the maritime industry and also fulfil the requirement of document MSC 85/26, annex 20.

3 The HGDM should be constituted of representatives of IMO and IHO Member States and Secretariats, and organizations with an official IMO/IHO observer status.

4 The HGDM should be chaired by an IMO Member State and supported by the Secretariat of the IMO.

5 The HGDM reports to the IMO Sub-Committee on Safety of Navigation (NAV)<sup>1</sup>, and to the IHO through the IHB Directing Committee<sup>2</sup>, as appropriate.

6 The HGDM should:

.1 as requested by the IMO or the IHO, consider matters related to the framework for data access and information services under the scope of SOLAS, using as a baseline IHO's S-100 standard, with a view to harmonize and standardize:

.1 formats for the collection, exchange and distribution of data;

.2 processes and procedures for the collection; and

.3 development of open standard interfaces; and

.2 review the results of studies by the IMO, the IHO and other related organizations which address aspects of access to information services under the scope of SOLAS, and advise the IMO and the IHO as to whether they are compatible with the e-navigation concept taking into account the identified user needs as they exist at the time.

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<sup>1</sup> Now the IMO Sub-Committee on Navigation, Communications and Search and Rescue (NCSR).

<sup>2</sup> Now the IHO Secretariat.



**ANNEX 2****DRAFT WORK PLAN FOR THE IMO/IHO HARMONIZATION  
GROUP ON DATA MODELLING (HGDM)**

- 1 To consider the [definition and management / format, structure and communication channels] of the Maritime Service Portfolios (MSPs) as identified in the e-navigation Strategy Implementation Plan (NCSR 1/28, annex 7) and in accordance with the approved MSC output on “Develop guidance on definition and harmonization of the format and structure of Maritime Service Portfolios (MSPs)” (MSP guidance);
- 2 To develop specifications for the architecture, implementation and management of the Common Maritime Data Structure (CMDS) necessary to support MSPs, taking into account the evolving e-navigation needs, [including data streaming], as well as current and future communication means;
- 3 To define, in particular, the role of S-100 and the related Geographic Information Registry and of submitting organizations in the implementation and management of the CMDS in order to ensure the harmonization and interoperability of related product specifications;
- 4 ...
- 5 To identify and propose work items that may require further consideration by the HGDM, under its current or revised terms of reference, and develop recommendations to that effect, if and as appropriate;
- 6 To submit an interim report with an initial scoping of the MSP guidance for the consideration of NCSR 5 by [November/December 2017];
- 7 To submit a report with a draft MSP guidance for the consideration of NCSR 6 by [November/December 2018].