

Liaison Note

Identification of tasks relevant to IALA in the finalised e-navigation Strategy Implementation Plan (SIP)

IALA SECRETARIAT ADDENDUM

This ENAV paper contains many items which need the lead of the VTS Committee. However, since preparation of this Liaison Note, strategy regarding implementation of the SIP has move on.

IALA is to co-sponsor an input to MSC 95 entitled 'Implementing e-navigation to enhance the safety of navigation and protection of the marine environment'. 'This document proposes six outputs on e-navigation as well as an amended High-level Action 5.2.6, "Development and implementation of e-navigation."

While the paper to MSC 95 prioritises and reduces the tasks of the e-Navigation SIP in order to keep e-Navigation in IMO, the other tasks in this ENAV paper should be considered in future by IALA.

This Liaison Note is therefore submitted as an information paper to VTS39.

1 SUMMARY

This document has been developed on the assumption that the finalized e-navigation SIP, as presented to MSC 94 (November 2014), will be approved.

This document contains the list of tasks identified in the e-navigation Strategy Implementation Plan (SIP) and identifies those tasks which might be related to the work of IALA. It also provides recommendations on how IALA could contribute to the future related work or for the development of similar tasks for the shore side (VTS, aids to navigation, etc.), including the proposed leading Committees.

1.1 Purpose of the document

The aim of this document is to assist the IALA Committees and PAP to identify future work within IALA related to e-navigation in order to implement the tasks contained in the SIP.

1.2 Related documents

NSCR 1/28, annex 7.

2 BACKGROUND

The SIP has been finalized at NCSR 1 and is expected to be approved by MSC 94 in November 2014. The list of 18 tasks contained in the SIP addresses the 5 prioritized e-navigation solutions.

Depending on the output of MSC 94, the impact on the work of the IALA committees may change from that outlined in this liaison note.

It is anticipated that the SIP would be revised or further developed in the future to address the remaining identified e-navigation solutions or any additional consequential tasks.

3 DISCUSSION

The committee is of the view that IALA should contribute to the work of the following tasks listed in the SIP:

- **T8:** VTS participation in the concept of Single Window should be further considered. This task could be co-ordinated by the VTS Committee.

- **T9:** This task refers to the investigation of the best way to automate the collection of internal ship data for reporting. This task could be co-ordinated by the E-NAV Committee, with the focus on receiving this information ashore.
- **T14:** IALA should contribute to the development of the CMDS guidelines, in particular, on aspects related to the shore side. The ENAV Committee should lead this work within IALA.
- **T15:** IALA should participate in the identification of currently available communications infrastructure which would be part of services provided from the shore side. This task should also be co-ordinated by the ENAV Committee.
- **T16:** IALA should participate in the consideration of the harmonization of IMO conventions and regulations for navigation and communication equipment. The results of these deliberations should be taken into consideration for the revision of any related documentation. The appropriate Committee to deal with this task should be decided after the outcome of considerations.
- **T17:** IALA should support the identification of services which are relevant to its remit. This task is connected to T15 in respect to communication infrastructure available for each one of the identified services. The ENAV Committee should co-ordinate this task within IALA and in conjunction with other organisations.
- **T18:** These guidelines are expected to be approved by MSC 94. IALA has already developed similar guidelines (1107 – Reporting of results of e-Navigation testbeds). These IALA guidelines will be reviewed during the 2014-2018 work period.

The committee was also of the view that IALA should contribute with the further development of the SIP.

The committee identified a number of additional tasks that could be conducted within IALA for the shore side (e.g. VTS, Aids to navigation, etc.). Although these tasks are related to the ship side, similar guidance could be developed by IALA for the shore side:

- **T1, T2 and T11:** These tasks are expected to be completed at NCSR 2 as part of a consolidated and harmonized guideline. The work is already being conducted by a correspondence group coordinated by Australia. This work could be co-ordinated by the VTS Committee.
- **T3:** Develop the concept of VTS equipment and Aids to navigation electronic manuals. Relevant Committees to perform this task within IALA should be identified.
- **T6:** Develop guidance on the display of accuracy and reliability of information in relevant VTS equipment. The VTS Committee should lead this task.
- **T12:** Develop guidance for the relevant shore-based systems to support the onboard PNT. This task should be conducted by the ENAV Committee.
- **T13:** Develop guidance for the harmonised display of information received from communications equipment in VTS and other relevant shore based equipment. The VTS Committee should lead this task.

Finally, the committee was of the view that the following tasks were only related to the ship side: T4, T5, T7 and T10.

4 REFERENCES

NCSR 1/28, annex 7, E-navigation strategy implementation plan.

5 ACTION REQUESTED

All IALA Committees and PAP are requested to note the information provided above and take it into account when reviewing their work programs.

ANNEX A LIST OF TASKS LISTED IN THE SIP, INCLUDING COMMENTS AND REMARKS

Task No	Task	Expected Deliverable	Transition Arrangements	Prioritized Implementation Schedule	Comments/remarks
T1	Development of draft Guidelines on Human Centred Design (HCD) for e-navigation systems.	Guidelines on Human Centred Design (HCD) for e-navigational systems.	None	2014/2015	<p>This task is expected to be completed at NCSR 2 as part of a consolidated and harmonized guideline with T2 and T11.</p> <p>Although this task is related to the ship side, similar guidance could be developed by IALA for the shore side.</p> <p>Proposed lead: VTS Committee</p>
T2	Development of draft Guidelines on Usability Testing, Evaluation and Assessment (UTEA) of e-navigation systems.	Guidelines on Usability Testing, Evaluation and Assessment (UTEA) of e-navigation systems.	None	2014/2015	<p>This task is expected to be completed at NCSR 2 as part of a consolidated and harmonized guideline with T1 and T11.</p> <p>Although this task is related to the ship side, similar guidelines could be developed by IALA for the shore side.</p> <p>Proposed lead: VTS Committee</p>
T3	Develop the concept of electronic manuals and harmonize the layout to provide mariner with an easy way of familiarization for relevant equipment.	Guidelines on electronic equipment manuals.	Provide existing manuals as .pdf	2019	<p>Although this task is related to the ship side, similar guidance could be developed by IALA for the shore side (VTS, Aids to navigation, etc.).</p> <p>Proposed lead: TBD</p>
T4	Formulate the concept of standardized modes of operation, including store and	Guidelines on S-mode.	None	2017	Not needed for the shore side (VTS).

	recall for various situations, as well as S-mode functionality on relevant equipment.				
T5	Investigate whether and extension of existing Bridge Alert Management Performance Standards (PS) is necessary. Adapt all other alert relevant PSs to the to Bridge Alert Management PS.	(a) Guidelines on implementation of Bridge Alert Management. (b) Revised Performance Standards on BAM.	None None	2016 2019	N/A to the shore side (VTS)
T6	Develop a methodology of how accuracy and reliability of navigation equipment may be displayed. This includes a harmonized display system.	Guidelines on the display of accuracy and reliability of navigation equipment.	None	2017	Similar guidelines could be developed for the shore side (VTS). Proposed lead: VTS Committee
T7	Investigate if an INS, as defined by resolution MSC.252(83), is the right integrator and display of navigation information for e-navigation and identify the modifications it will need, including a communications port and a PNT module. If necessary, prepare a draft revised performance standard. Refer to resolution MSC.191(79) and SN/Circ.243.	(a) Report on the suitability of INS. (b) New or additional modules for the Performance Standards for INS.	None None	2016 2019	N/A to the shore side (VTS)
T8	Member States to agree on standardized format guideline for ship reporting so as to enable "single window" worldwide (SOLAS regulation V/28, resolution A.851(20) and	Updated Guidelines on single window reporting.	National/Regional Arrangements	2019	VTS participation in the concept of Single Window should be further considered. Proposed lead: VTS Committee

	SN.1/Circ.289)				
T9	Investigate the best way to automate the collection of internal ship data for reporting including static and dynamic information.	Technical report on the automated collection of internal ship data for reporting.	None	2016	Further consideration should be given after the results of the investigation. Proposed lead: E-NAV Committee
T10	Investigate the general requirements resolution A.694(17) and IEC 60945 to see how Built In Integrity Testing (BIIT) can be incorporated.	(a) Revised resolution on the general requirements including Built In Integrity Testing. (b) Revised IEC Standard on General Requirements including Built In Integrity Testing.	None None	2017 2019	N/A to the shore side (VTS)
T11	Development of draft Guidelines for Software Quality Assurance (SQA) in e-navigation. This task should include an investigation into the type approval process to ensure that software lifetime assurance (software updates) can be carried out without major re-approval and consequential additional costs. Refer to SN/Circ/266/Rev.1 and MSC.1/Circ.1389.	Guidelines for Software Quality Assurance (SQA) in e-navigation.	None	2014/2015	This task is expected to be completed at NCSR 2 as part of a consolidated and harmonized guideline with T1 and T2. Although this task is related to the ship side, similar guidelines could be developed by IALA for the shore side. Proposed lead: VTS Committee
T12	Develop guidelines on how to improve reliability and resilience of onboard PNT systems by integration with external systems. Liaise with Administrations to ensure that relevant shore-based systems will be	Guidelines on how to improve reliability and resilience of onboard PNT systems by integration with external systems.	None	2016	IALA could develop guidance for the relevant shore-based systems to support the onboard PNT. Proposed lead: E-NAV Committee

	available.				
T13	Develop guidelines showing how navigation information received by communications equipment can be displayed in a harmonized way and what equipment functionality is necessary.	Guidelines on the harmonized display of navigation information received from communications equipment.	None	2019	Similar guidelines could be developed for the shore side. Proposed lead: VTS Committee
T14	Develop a Common Maritime Data Structure and include parameters for priority, source, and ownership of information based on the IHO S-100 data model. Harmonization will be required for both use on shore and use on the ship and the two must be coordinated (Two Domains). Develop further the standardized interfaces for data exchange used on board (IEC 61162 series) to support transfer of information from communication equipment to navigational systems (INS) including appropriate firewalls (IEC 61162- 450 and 460).	(a) Guidelines on a Common Maritime Data Structure. (b) Further develop the IEC standards for data exchange used onboard including firewalls.	None Use latest IEC standards	2017 2019	IALA should contribute to the development of the CMDS guidelines, in particular, from the shore side. Proposed lead: E-NAV Committee
T15	Identify and draft guidelines on seamless integration of all currently available communications infrastructure and how they can be used (e.g. range, bandwidth, etc.) and what systems are being developed (e.g. maritime	Guidelines on seamless integration of all currently available communications infrastructure and how they can be used and what future systems are being developed along with the revised GMDSS.	Use existing onboard communications infrastructure	2019	IALA should participate in the identification of currently available communications infrastructure which would be part of the services provided from the shore side. Propose lead: E-NAV Committee

	cloud) and could be used for e-navigation. The task should look at short range systems such as VHF, 4G and 5G as well as HF and satellite systems taking into account the 6 areas defined for the MSPs.				
T16	Investigate how the Harmonization of conventions and regulations for navigation and communication equipment would be best carried out. Consideration should be given to an all-encompassing e-navigation performance standard containing all the changes necessary rather than revising over 30 existing performance standards.	Report on the Harmonization of conventions and regulations for navigation and communication equipment would be best carried out.	None	2017	IALA should participate in the considerations of these issues. Proposed lead: TBD based on developments
T17	Further develop the MSPs to refine services and responsibilities ahead of implementing transition arrangements.	Resolution on Maritime Service Portfolios.	National/Regional Arrangements	2019	IALA should support the identification of currently available services which are relevant to its work. Proposed lead: ENAV Committee
T18	Development of Draft Guidelines for the Harmonization of testbeds reporting.	Guidelines for the Harmonization of testbeds reporting.	None	2014/201	These guidelines are expected to be approved by MSC 94. IALA has already developed similar guidelines, which are will be reviewed in the 2014-2018 term. Proposed lead: ENAV Committee