



IALA ENAV COMMITTEE

REPORT OF THE 27TH SESSION OF THE IALA E-NAVIGATION INFORMATION SERVICES AND COMMUNICATIONS (ENAV) COMMITTEE

1st to 26th March 2021

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26 March 2021

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Report of the 27th Session of the IALA e-Navigation Information Services and Communications (ENAV) Committee Executive Summary

The 27th meeting of the ENAV Committee was held virtually from 1 to 26 March 2021; chaired by Hideki Noguchi and vice-chaired by Jorge Arroyo. The Secretary for the meeting was Jaime Alvarez.

There were 134 participant, 28 for the first time, from 33 countries and 8 organisations; and 3 observers.

This was the 5th meeting for the 2018-2022 Work Programme and the Committee considered 34 input papers and produced 16 output papers.

Key highlights:

- Continued progress on the 2018 – 20202 Work Programme as noted in the ENAV Task Plan. A new version updated is available [here](#).
- Completed revisions to Standard 1060 and 1070 which will go to PAP for final review.
- Completed development of new Guideline on the evaluation of platforms for the provision of maritime services in the context of e-Navigation which will go to the Council for approval.
- Completed a liaison note on IMT for the Joint IMO/ITU expert group which the Secretariat will finalise in IMO template format, to be sent to IALA Council for approval prior to forwarding to IMO/ITU EG 17 (possible deadline for input: 5 June 2021, to be confirmed).

Planned intersessional work:

- ARM, VTS and ENAV agreed to further consider at ARM13 and VTS50 a Liaison Note to ITU on the draft revision of recommendation ITU-R M.1371-5: Technical characteristics for an automatic identification system using time division multiple access in the VHF maritime mobile frequency band. The deadline to submit the Liaison Note at ITU is Monday, 3 May 2021, 16:00 UTC.
- ENAV WG2 have forwarded the draft Recommendation and Guideline on developments in MASS from a marine aids to navigation perspective as inputs to PAP and the MASS Task Group for further development as deemed appropriate.
- ENAV WG2 have forwarded the draft Recommendation and Guideline on developments in International Mobile Telecommunications (IMT) (formerly referred to as 3GPP) to Secretariat for further development as deemed appropriate.
- ENAV WG2 commenced a review of the maritime radio communications plan (MRCP). It was agreed that this document will become a manual within the IALA documentation structure. This work will progress through a series of intersessional sessions, to be advertised on the Dashboard.
- ENAV WG3 to progress a VDES transceiver standard with their IEC counterparts with physical attendance on :
 - August 16th, 13:00 to August 20th, 12:00 local time, IALA Headquarters, Saint Germain-en-Laye; and
 - September 13th, 13:00 to September 17th, 12:00 local time, IALA Headquarters, Saint Germain-en-Laye.

Contents

Executive Summary	3
General	7
1. Introduction	8
1.1 Welcome from the Secretary-General	8
1.2 Approval of the agenda	9
1.3 Introductions and apologies	9
1.4 Working arrangements	9
1.5 Style Guide	10
2. Review of Action Items from ENAV27 (ENAV27-2.1.1)	10
2.1 Action Items – IALA Secretariat	10
2.2 Action Items – ENAV Committee Participants	10
3. Reports from other bodies	10
3.1 IALA	10
3.1.1 IALA Council	10
3.1.2 IALA Policy Advisory Panel	11
3.1.3 IALA World-Wide Academy	11
3.1.4 Update on IALA ENAV-VTS 14 th Symposium	11
3.2 Digital@Sea	11
3.3 IMO	11
3.4 IHO	11
3.5 ITU	12
3.5.1 ITU-R WP5B	12
3.6 IEC	12
3.7 RTCM	12
3.8 ETSI	13
3.9 3GPP	13
4. Presentations	13
4.1 Web Service based Implementation of Maritime Services / Julius Möller	13
4.2 VDE-SAT / Lars Moltsen	13
5. Review of input papers	14
6. Establish Working Groups and task groups	14
7. Working Group 1 – Digital Information System (WG1)	14
7.1 Review of Work Plan	14
7.2 Task Group 2.2.2 on draft Guideline on Platforms to support the provision of maritime services in the context of e-Navigation	14

7.3	Task 1.1.5 on Presentation for IALA 2020 Symposium	14
7.4	Liaison with WG3 on VDES applications for Maritime Services	15
7.5	IALA NAVGUIDE 2022	15
7.6	S-100/S-212 Referencing of Data Sets	15
7.7	Task 2.2.1 on Developing Technical Service Specifications for the Provision of ATON Information ..	15
7.8	Task 2.2.3 on Position Paper on Maritime Services	15
7.9	Task 2.4.2 on Cyber Security Workshop	15
7.10	IALA Standard 1070 – Information Services.....	16
7.11	Work Programme 2022-2026	16
8.	Working Group 2 – Emerging Digital Technology (WG2).....	16
8.1	Task 1.1.5 on review of Candidate Technologies	16
8.2	Task 2.2.10 on Maritime Internet of Things.....	17
8.3	Task 3.1.2, 3.1.4 on Maritime Radio Communication Plan.....	17
8.4	Task 3.4, 3.4.2 on Developments in IMT (3GPP)	17
8.4.1	Liaison notes related to IMT (3GPP) (Task 3.4, 3.4.2)	18
8.5	Task 4.1.1, 4.1.2, 4.2.1 on MASS from marine AtoN point of view	18
8.6	Task 4.3.1, 4.3.5, 4.3.10 on Technologies to facilitate the implementation of Maritime Single Window (MSW)	18
8.7	Review of IALA Standards	19
8.8	Review of NAVGUIDE.....	19
8.9	Proposed work items for IALA Work Term 2022-2026.....	19
9.	Working Group 3 – Digital Communication System (WG3)	19
9.1	Task 3.2 on VDES	19
9.2	Task 3.1 on the revision of the MRCP	21
9.3	Task 3.6 on Autonomous Maritime Radio Device (AMRD)	21
9.4	Support to task WG2 Task 2.2 in the development of a Rec. on Maritime IoT	21
9.5	Task 3.4.3 on working document towards a PDR of Annex 2 of ITU-R M.585-7	21
9.6	Task 3.3 on the revision of AIS documentation	21
9.7	Provide input for the revision of the IALA NAVGUIDE.....	21
10.	Review of output and working papers.....	22
11.	Review of session report	22
12.	Date and venue of next meetings.....	22
13.	Closing of the Meeting	22
14.	List of Annexes.....	22
ANNEX A	ENAV27 Committee Agenda	23
ANNEX B	List of Participants	25
ANNEX C	List of input papers	30
ANNEX D	List of Output Documents	32

ANNEX E Action Items34

Report of the 27th Session of the IALA e-Navigation Information Services and Communications (ENAV) Committee

GENERAL

The 27th meeting of the IALA e-Navigation Information Services and Communications (ENAV) Committee was held virtually from 1 to 26 March 2021, chaired by Hideki Noguchi and vice-chaired by Jorge Arroyo. The Secretary for the meeting was Jaime Alvarez.



There were a number of new arrangements carried out in the Dashboard area in response to comments, concerns and requests from the previous session's virtual committee questionnaire and to fulfil the expectations of the Committee participants. As done in the previous session, the following platforms were used:

- MS Teams (to conduct meetings)
- Outlook Groups (to communicate with the Committee participants, sharing and seeking for document approval)
- Nextcloud Platform (to support the collaborative work of the committees, sharing documents, uploading, and downloading and make them available to all the Committees at any time)

These tools were supported by the revamping of the [IALA Dashboard](#), developed and maintained by the Secretariat that is designed to enhance the user experience of participants and provide situational awareness regarding committee activity.

The Committee Chair, Hideki Noguchi, welcomed the 134 participant, 28 for the first time, from 33 countries and 8 organisations and 3 observers. The Chair introduced Jorge Arroyo, Vice Chair of the ENAV Committee and Jaime Alvarez, who served as the Committee Secretary.

An analysis of the attendance at ENAV27 is shown in Figure 1.

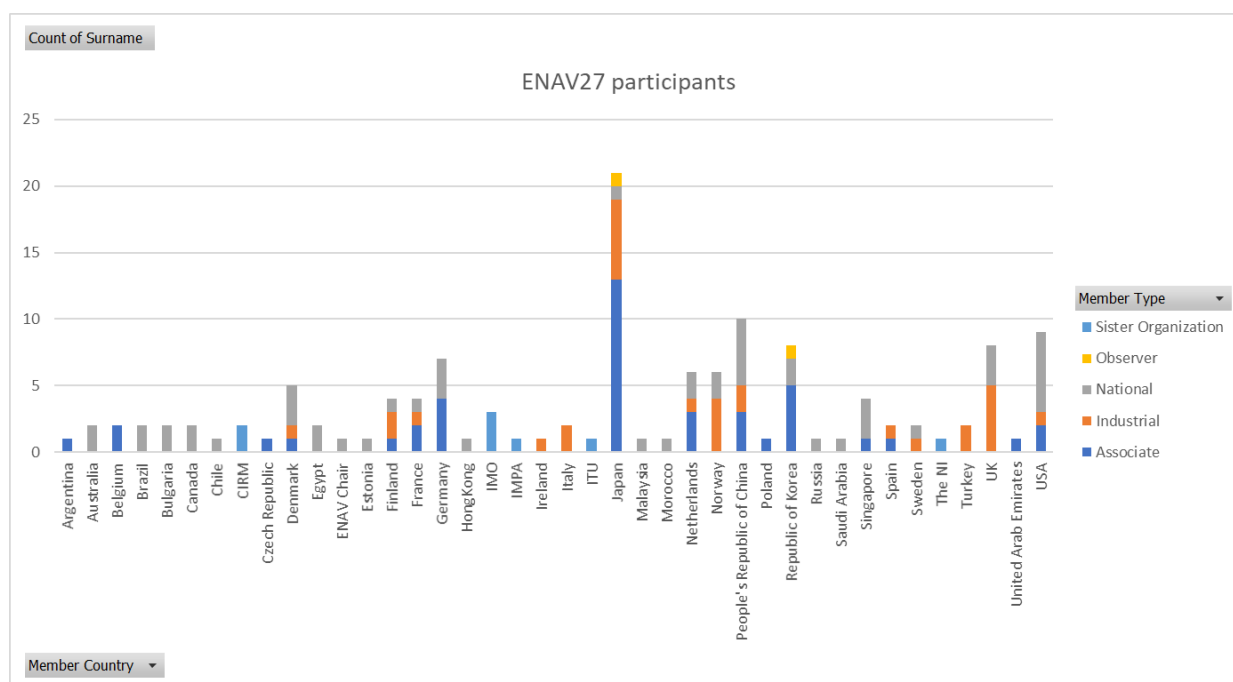


Figure 1 - Number of Participants per Country

1. INTRODUCTION

1.1 Welcome from the Secretary-General

The Secretary-General welcomed all participants and was extremely glad to see them all, albeit on a computer screen. The Secretary-General expressed his wish to come back to normal again and thanked the Chair and Vice Chair of the Committee for their hard work in preparing for this meeting and for facilitating the friendly and hardworking atmosphere for which the Committee is known. The Secretary-General noted that notwithstanding the COVID-19 pandemic restrictions, IALA and the World-Wide Academy were on track with their respective work programmes and planned activities.

Each of the four Committees and the Legal Advisory Panel met remotely once again, during March and April, in accordance with established procedures. These innovative working arrangements proved remarkably effective for the meetings in the latter part of last year. In total, 546 attendees from 35 countries and sister organisations logged on, and 139 participants attended for the first time. The Secretary-General informed that the updated version of the arrangements will be discussed later on the agenda.

The Secretary-General took the opportunity to recall that this success is a great tribute to the flexibility of the committee participants, and he thanked all for the tremendous efforts and work in the well-known spirit of IALA.

As stated by the Secretary-General, Face-to-face meetings remain IALA's preferred mode of operation, and the secretariat is planning for the committee and panel meetings to take place with a physical element at the IALA Headquarters during the second half of this year. A physical element because the meeting will most probably be in a new hybrid version with a combination of virtual and physical meetings. The Headquarters is currently being updated with new Wi-Fi and equipment for a more hybrid and virtual post pandemic method of working.

However, everything – especially long-term planning - is of course, uncertain for the moment, and IALA will have to follow the health situation very carefully. There is a risk that all meetings for the rest of 2021 will actually be virtual.

All information on the postponed 2020 IALA Symposium is available from the official [website](#). After the Steering Group meeting last week, the Netherlands Ministry of Infrastructure and Water Management and the Secretariat have been finalizing the details of the programme together with the online registration arrangements.

The Secretary-General also mentioned that on the initiative of the Netherlands and Singapore, Policy Advisory Panel has established a cross committee MASS task group. The group will examine the way forward for IALA regarding the MASS developments.

The Secretary-General reported that the Minister for Maritime Affairs of France signed the Convention on the International Organization for Marine Aids to Navigation on 27 January 2021 on behalf of the French Republic. The Convention is now open for signature by interested States during the next 12 months. Thereafter, it will be open for accession by any State that is a member of the United Nations. He was confident of speedy progress as many of the 50 States who agreed to adopt the Convention at the Diplomatic Conference held in Kuala Lumpur in February 2020 indicated their readiness to sign it. The text is also ready in the six official languages of the UN on the web site.

The Secretary-General informed that the coming issue of the Bulletin will be the last printed version. Its long-established provision of important updates on IALA and WWA activities will however, continue via the regularly e-mailed, electronic newsletter – the e-Bulletin. He encouraged all to send your ideas or articles to the secretariat for the next editions.

The Secretary-General wished all the participants good luck and thanked them once again for their contribution to global safety of navigation over this busy period.

1.2 Approval of the agenda

The agenda (ENAV27-1.2.1) was reviewed and adopted.

1.3 Introductions and apologies

The Chair welcomed all participants, especially the new participants of the committee.

See ANNEX B for the list of attendees and new participants.

No apology was received.

1.4 Working arrangements

The following statements were read to Committee members:

IALA is required to comply with the General Data Protection Regulations of the European Union. In the report of this meeting, IALA will include a list of participants with their contact information. Any participant who wishes to remove their personal information from the participants' list should advise the Committee Secretary as soon as possible.

If anyone present has knowledge of any patents, including pending Patents, held either by themselves or by other organisations or individuals, the use of which may be required to practice or implement the content of IALA Documents being developed or worked on in this Committee to inform the IALA Secretariat.

Jaime Alvarez introduced the updates on the working arrangements for the Committee working period:

- Related to the time zone, even if there is no standard time window for meetings to take place, the task group leaders must take into consideration the time zones that the groups participants reside in when scheduling meetings.
- Related to the Silent Approval Process, the chair and working group chairs will determine whether to send document(s) to participants for silent approval for a discretionary period of not less than 3 calendar days; and deemed approved if no substantial comments are received. Whether comments are substantial are at the discretion of the Chair, who may revert the document for further work.

The Secretary presented the Dashboard developed by IALA staff and will continue to be the One-Stop-Shop for conducting the Committees and centralised all the information, status and meeting needs for the member during the Committee working period. A new view of the calendar has been set up, providing a more understanding description of the meetings and discussions on going across the four Committees and within the ENAV Committee. The Dashboard includes the following information within the All Committees area and the dedicated Committee section:

- All Committees bulletin board and ENAV bulletin board
- Committee Action Plan
- Meeting Calendar
- Presentations scheduled
- Information Related to Silent Approval Process
- Link to the Nextcloud (file-share) Platform
- Link to the Meeting Documents
- IALA Style Guide and Working Arrangements links

1.5 Style Guide

The Secretary presented the recently released [IALA Style Guide](#) designed to assist those members in preparing and reviewing IALA documentation. The purpose of this guide is to provide a common language, structure, and appearance.

This document is divided into three main parts:

- Style - Content (section 2) - this includes the preferred standards for grammar, language, punctuation, and spelling.
- Structure – Structure and formatting (section 3) - this includes how documents should be structured and ordered and includes the use of customised styles and fields in Microsoft Word.
- Appendices – including a supplementary table of spelling, a summary of the styles applied within the document templates and an extract from the IALA Brand Guidelines to illustrate the corporate colours.

2. Review of Action Items from ENAV27 (ENAV27-2.1.1).

2.1 Action Items – IALA Secretariat

The Secretary informed that action items allocated to the Secretariat had been completed, and the following action is under development:

- ENAV27 Action Item 8: The IALA Secretariat is asked in cooperation with Jeffrey van Gils to add a column in the ASM list to indicate the compatibility of ASM messages with the three types of ASM transports above. Latest arrangements on the values of the table are in consideration and will be implemented as soon as they are agreed.

2.2 Action Items – ENAV Committee Participants

The Chair reviewed the progress of the action items allocated to committee participants and noted that some input papers had been received associated with them, which will be considered in the respective Working Groups.

3. REPORTS FROM OTHER BODIES

3.1 IALA

3.1.1 IALA Council

Minsu Jeon, IALA Technical Manager, provided the committee with the report of Council 72 (ENAV27-3.1.1), which was held in December 2020. The meeting noted that:

The Council approved five recommendations and nine guidelines, and the followings are related to the ENAV Committee:

- G1157 Web Service based S-100 Data Exchange, Ed1.0, Dec 2020.

- G1158 VDES R-Mode, Ed1.0, Dec 2020.

And the Council advised further committee discussion on the following documents:

- G1139 Technical Specification of VDES, Ed4.0.

The Council also noted an update from the IMC Mid-Term Assembly meeting on the change of the Terms of Reference (ToR) for the IMC and the development of a Code of Conduct (CoC) for members.

3.1.2 IALA Policy Advisory Panel

Minsu Jeon provided the committee with the report of PAP 40 (ENAV27-3.1.2.1), which was held virtually from 3 to 5 February 2021. The following was highlighted to the participants:

- Proposal on IMSAS audit manual to MSC 103 was finalised based on the inputs from ARM and VTS.
- All participants are asked to contribute to the committee work program of 2022 to 2026 with a new work item proposal.
- Plan for the standards update was agreed.
- The MASS task group was established under the auspices of PAP. The Netherlands Ministry of Infrastructure and Watermanagement and the Maritime and Port Authority of Singapore will take the chairmanship and will start the work in due course.

3.1.3 IALA World-Wide Academy

Kevin Gregory, IALA WWA Education and Development Manager, informed the committee of the latest progress on the WWA. Please refer to the [video](#) recorded for more information.

3.1.4 Update on IALA ENAV-VTS 14th Symposium

On behalf of the Symposium hosts, Maarten Berrevoets provided ENAV27 with a brief update. The Symposium will start on Monday 12 April and will finish with a closing session the 16 April 2021. There will be a unique working place for networking and broadcast of relevant sessions. All sessions will start at 11.00 UTC for three hours and will be recorded and posted on the Symposium and IALA website. The programme for the event and speakers are advertised, and the registration is open on the Symposium [website](#).

3.2 Digital@Sea

Digital@Sea initiative is a broaden version of the e-navigation underway conferences. By the coordinating group, it was decided to widen the scope to cover broader technical subjects under the new initiative such as MASS, SMART Navigation, SMART Port and etc.

Digital@Sea webinar will be held during the Symposium on 10:00 UTC, 14 April 2021, with the Danish Maritime Authority (DMA), Korea Ministry of Oceans and Fisheries (KMOF), United State Coast Guard (USCG), and Radio Technical Commission for Maritime Services (RTCM).

3.3 IMO

The Chair briefed about IMO, all the meetings of the first half of the year have been postponed or cancelled due to the pandemic situation. IMO/ITU joint expert group meeting was held on 3 to 18 September 2020 by correspondence:

- Modernisation of GMDSS, especially amendments in SOLAS Chapter 3 and Chapter 4 to include digital and satellite communications, these outputs will be submitted to the NCSR Committee, April 2021 and for final approval on MSC104. The amendments of SOLAS will enter force on 1st January 2024.

MSC 102 was held online in November 2020, some of the agenda was postponed to MSC103 on May 2021 (for instance, the MASS Regulatory Scoping Exercise and new work proposals including VDES and NAVDAT). During MSC102, the VTS Guideline was approved and sent to the Assembly for adoption.

3.4 IHO

Minsu Jeon reported that the 4th IALA-IHO technical coordination meeting was held on 14 October 2021. The session covered updates on S-100, and S-200, and S-124 and S-125. MRN was also another issue, and the next meeting will be held in April this year during ARM. At this time, the Guideline on Web service-based S-100 data exchange will be discussed, Minsu Jeon will update it at the next meeting.

3.5 ITU

3.5.1 ITU-R WP5B

Stefan Bober provided participants with an update on ITU-R WP5B matters; refer to ENAV27-3.5.1.

Input paper to get further details - Maritime mobile service including Global Maritime Distress and Safety System (GMDSS); aeronautical mobile service and radiodetermination service - held its meeting from 9th to 20 November 2020.

The following documents and topics of interest for IALA were reviewed:

- Revision of Recommendation ITU-R M.2092-0 (VDES): the revision of Recommendation ITU-R M.2092-0, in which IALA was extensively involved, has been agreed as the baseline for further development. The status of the document has been elevated as preliminary draft Revision Recommendation ITU-R M.2092-0 at the WP 5B plenary meeting in November 2020, which is an important step towards the expected approval of ITU-R M.2092-1 in November 2021, to later on published.
- Revision of Recommendation ITU-R M.1798-1 (HF digital data exchange).
- WRC-23 agenda item 1.11 (Modernisation of the GMDSS and implementation of e-Navigation)
- Revision of Recommendation ITU-R M.2058-0 (NAVDAT HF) and ITU-R M.2010-1 (NAVDAT System in 500 kHz)
- Revision of Recommendation ITU-R M.585-8 (Maritime Identities)
- Revision of Recommendation ITU-R M.493-15 and ITU-R M.541 (Digital Selective-Calling DSC)
- Draft new report on the UHF ONBOARD USAGE

The following documents were received from ITU to be considered and addressed during ENAV27:

- Preliminary draft revision of Recommendation ITU-R M.2092-0
- WD towards the revision of Recommendation ITU-R M.1371-5
- ITU-R WP5B Liaison statement to IMO, IALA, CIRM on the revision of Rec. ITU-R M.1371-5
- ITU-R WP5B Liaison statement to IALA on the revision of Rec. ITU-R M.1371-5, Msg. 21 and 28

3.6 IEC

Jorge Arroyo, ENAV Vice-Chair, briefed about the progress on IEC reporting on the work on third edition of the Navigation presentation standard (IEC 62288) which will be circulated as Committee Draft for Voting (CDV) in the coming weeks. Vice chair encouraged members to vote in favor of this standard which progressed and clarified portrayal regarding AIS AtoN, MAtoN and ASM.

IEC WG15, chaired by Stefan Bober is progressing VDES and completed a VDES-ASM station publicly available specifications (PAS) that will allow manufacturers to the development on those stations. Another work is on the Man Over-Board (MOB) device standard to unify RTCM and ETSI standards.

Progress on S-100 standards and secured exchange communications on S-100 is also subject to work in IEC WG17.

3.7 RTCM

Jorge Arroyo continued with the update on RTCM, explaining the ongoing preparation for the Digital@Sea event, which will be conducted during their Annual Assembly. He also reported that three of RTCM's special committees are currently active:

- SC110 on Emergency Beacons
- SC114 on Differential GNSS Service
- SC119 on Maritime Survivor Locating Devices
- SC137 on Electromagnetic Interference between LED lights with VHF and AIS

Several meetings are planned for April 2021. RTCM will make a presentation during the ENG Committee 23 March 2021 14:00 UTC, available [here](#).

3.8 ETSI

Derek Love provided an overview of the progress of ETSI TG Marine concerning the update of standards: DMC load management and remote-control units, MOB devices, non-SOLAS radar and Enhanced Radar Positioning System.

3.9 3GPP

Minsu Jeon updated the latest news on 3GPP that release 16 was finalized in July 2020, which includes phase 1 of the satellite component using a hybrid router. He highlighted 3 interesting developments of release 17.

- Sidelink technology for unmanned cars
- Ultra-reliable low latency communication (URLLC)
- Non-terrestrial network (NTN)

4. PRESENTATIONS

Below presentations were provided during the Opening Plenary and the links are available in the [dashboard](#):

4.1 Web Service based Implementation of Maritime Services / Julius Möller

Julius Möller presented the Council 72 approved document Guideline 1157, highlighting the following aspects:

- Maritime Services are currently being developed and deployed in many areas as a core concept of e-Navigation.
- Web Service technologies have the potential for enabling an interoperable and powerful implementation of Maritime Services.
- Web Service communication can abstract from low-level communication channels, and common cyber security technologies can be utilized.
- A more fine-grained message exchange is possible, and interoperability can be enhanced by using the S-100 framework.
- Further details on Web Service Based S-100 Data Exchange can be found in Guideline 1157.

Thomas Christensen recalled members about the Guideline 1128 for e-Navigation technical services, which describe widely possible technologies. Both Guidelines are complementary.

4.2 VDE-SAT / Lars Moltsen

Lars Moltsen (Sternula ApS, Denmark) presented the VDE-SAT technologies, stressing the following matters:

- Satellite-based VDES (VDE-SAT) is here to be exploited for digital services in the IMO e-Navigation Strategy Implementation Plan (SIP) from the beginning of 2023

- Moreover, Sternula offers a VDE-SAT test-bed for the validation of such services from April 2021

5. REVIEW OF INPUT PAPERS

Input papers were numbered in line with the agenda and allocated to the relevant Working Group.

Mahesh Alimchandani requested to the WG Chairs to review and update the dedicated sections in the NAVGUIDE (ENAV27-5.1.3) so that the document could be approved next Council 73 and presented in the IALA Conference. The Chair also recalled the need to review and update the Standards to final submission to PAP. All papers are available on the IALA website.

6. ESTABLISH WORKING GROUPS AND TASK GROUPS

The Chair invited all Working Group Chairs to introduce the work planned for ENAV27.

Working Group (WG)	Working Group Chair / Vice Chair
WG1 – Digital Information System	Axel Hahn / Jin Park
WG2 – Emerging Digital Technology	Jillian Carson-Jackson / Ernie Batty
WG3 – Digital Communication System	Stefan Pielmeier / Stefan Bober

7. WORKING GROUP 1 – DIGITAL INFORMATION SYSTEM (WG1)

WG1 worked on several tasks regarding Platforms in the context of e-Navigation, documentation on the e-Navigation concept, providing AtoN technical services, cyber security, S-100 and plans for future work. Two liaison notes, a guideline and input to the new work programme for 2022-2026 of the WG1 were finalized at the end of the session. The following sections provide detailed descriptions of the work. The following topics were addressed during the WG1 at ENAV27.

7.1 Review of Work Plan

Referencing Document(s): ENAV26 WG1 Work Program and ENAV Task List (ENAV27-6.2)

The ENAV Task List (ENAV27-6.2) was introduced, reviewed, and adopted by the WG.

7.2 Task Group 2.2.2 on draft Guideline on Platforms to support the provision of maritime services in the context of e-Navigation

Referencing Document(s): ENAV27-7.2.1 Draft Guideline on Platforms to support the Provision of Maritime Services in the context of e-Navigation, Committee silent approval process – participant comment form from Canadian Coast Guard.

The guideline was not forwarded to Council in ENAV26 due to a comment from a member. The concerns were discussed and the guideline was further developed: The motivation of the guideline was clarified; the guideline was restructured, and it was emphasized that platforms may coexist with other means of distributing information. Furthermore, the guideline was revised editorial. The guideline was finalized and forwarded to the silent approval process. The WG adapted the name of the document to “Draft Guideline on the Evaluation of Platforms for the Provision of Maritime Services in the Context of e-Navigation”.

Action Item

The IALA Secretariat is requested to submit the draft Guideline on the Evaluation of Platforms for the Provision of Maritime Services in the Context of e-Navigation (ENAV27-12.1.1) to the Council for approval.

7.3 Task 1.1.5 on Presentation for IALA 2020 Symposium

Referencing Document(s): A layperson’s description of e-Navigation (ENAV26-7.2.2)

A presentation introducing the basic concepts on e-Navigation from a Layman's perspective had been drafted for the IALA 2020 Symposium in Rotterdam (moved to 16 April 2021). The draft was reviewed by the TG and more examples (VTS service) and analogies were added to the presentation. The presentation was finalized and will be held by Axel Hahn.

7.4 Liaison with WG3 on VDES applications for Maritime Services

Referencing Document(s): Guideline 1157 Web Service Based S-100 Data Exchange

The WG3 requested the support of WG1 in the matter of how VDES could be used as a communication technology for Maritime Services. A meeting between members from WG1 and WG3 had been conducted. The general concepts of VDES and S-100 File Transmission were presented. The group concluded that an extension of existing S-100 encodings is required to transmit application specific messages via VDES. This was added as a new task in the proposed working programme of the two WGs.

7.5 IALA NAVGUIDE 2022

Referencing Document(s): ENAV27-5.1.3 Draft chapter on e-navigation for the NAVGUIDE 2022

The final revision of the NAVGUIDE 2022 was presented to the WG 1. Final comments on the NAVGUIDE 2022 were forwarded to the task leader Mahesh Alimchandani. Finally, the WG1 approved the sections that are related to the work of the WG.

7.6 S-100/S-212 Referencing of Data Sets

Referencing Document(s): ENAV27-7.1.1 Liaison Note from VTS to ARM and ENAV Committees - S212 referencing assumptions (VTS49-12.1.2.1)

ENAV received a Liaison Note from the VTS Committee ENAV27-7.1.1 with the request for a recommendation on data set referencing methods. While the WG1 session, this liaison note was noted. The WG1 agreed with the proposals of the VTS committee, and an answer to the VTS committee was prepared.

Action item

The IALA Secretariat is requested to forward liaison note ENAV27-12.1.2 on Answer to S-212 Referencing to other S-100 Product Specifications to the VTS Committee.

7.7 Task 2.2.1 on Developing Technical Service Specifications for the Provision of ATON Information

The ARM WG2 had liaised with IHO NIPWG regarding S-125. It was considered to develop a technical service specification for a Service that may utilize this data model. The TG was established under the name "Development of a Technical Service Specification for the provision of AtoN information". It was found that two service specifications are required for completing the task (AtoN information transmission between AtoN authorities with S-201, and a sub-set of AtoN information for end-users with S-125) and that Guideline 1128 should be used for the specification. The results were summarized in a Liaison note to the ARM committee as inter-committee collaboration between ARM and ENAV is planned.

Action item

The IALA Secretariat is requested to forward liaison note ENAV27-12.1.3 on technical service specifications for the provision of AtoN information to the ARM Committee.

7.8 Task 2.2.3 on Position Paper on Maritime Services

Referencing Document(s): (Task 2.2.3 from ENAV WP)

This topic was originating from Task 2.2.3 in the WG1 task list: Develop a Position Paper on the concept of Maritime Services as basic concept of eNAV (Quality of Services, Service Level Agreements). As there were no resources in the WG to process this task, no task group was established, and the task was postponed to the next sessions.

7.9 Task 2.4.2 on Cyber Security Workshop

Referencing Document(s): ENAV27-7.3.1 Draft Technical Programme IALA Workshop on Cyber Security V1.2

The cyber security workshop programme ENAV27-7.3.1 was provided to the WG1 and has been discussed. Comments and proposals were directly noted by Martijn Ebben.

7.10 IALA Standard 1070 – Information Services

Referencing Document(s): ENAV27-5.1.2 Draft revision S1070 Information Services

The Standard 1070 – Information Services was revised during the session of the WG1.

Output Document(s): ENAV27-12.0.6 Draft revision Standard 1070 on Information Services

Action item

The IALA Secretariat is requested to forward ENAV27-12.0.6 Draft revision Standard 1070 Information Services to PAP.

7.11 Work Programme 2022-2026

As requested by the WG Chair, topics for the next work program have been discussed in the WG. Also, current topics that will be continued for the next four years have been selected by the WG. The WG1 provided a detailed document including the Topics and Tasks for a proposal to the further work plan.

Output Document(s): ENAV27-12.1.4 Proposal for the Work Programme 2022-2026 for IALA ENAV WG1 – Digital Information System.

Action item

The IALA Secretariat is requested to note ENAV27-12.1.4 Proposal for the Work Programme 2022-2026 for IALA ENAV WG1 – Digital Information System and adopt the tasks defined in the document for the ENAV task list at the discretion of PAP.

8. WORKING GROUP 2 – EMERGING DIGITAL TECHNOLOGY (WG2)

The Chair and Vice-Chair of the Working Group thanked all participants for their hard work during the session.

A number of WG sessions, were held over the course of the session. The WG focused on the following tasks:

- 1.1.5 - Review of Emerging Technologies
- 2.2.10 - Develop a Recommendation on the Maritime Internet of Things (IoT) (intelligent sensors, AtoN monitoring) (related to tasks 1.1.5 and 3.4.2)
- 3.1.2, 3.1.4 - Develop a Recommendation on the Maritime Radio Communication Plan (MRCP) (deprecate the MRCP).
- 3.4, 3.4.2 - Monitor developments in International Mobile Technologies (IMT) (formerly referred to as 3GPP), liaise with IMO NCSR regarding 3GPP activities.
- 4.1.1/4.1.2/4.2.1 - Related to MASS (liaise with IMO; Monitor and report on emerging technologies to support and develop IALA position paper on MASS).

All input papers for WG2 were addressed. In addition, the Standards and the NAVGUIDE were reviewed. Looking at possible future work items, a brainstorming session (termed 'Blue Sky Thinking') to identify future work items for work term 2022-2026 was held. The results of the brainstorming session were reviewed, prioritised and potential work items identified for further consideration.

8.1 Task 1.1.5 on review of Candidate Technologies

There were no identified candidate technologies presented for review at ENAV27.

It was noted that there are ongoing developments on the following technologies, however, no input was provided to facilitate a review:

- NAVDAT - noting developments as presented at IMO, including the recent input to NCSR, this technology may be reviewed if expertise and input is received.
- Li-Fi - or light fidelity, is a communications capability based on Visual Light Communication (VLC) that uses LEDs to network a wireless system.

Members are reminded of the opportunity to identify candidate technologies for review using the template provided in Guideline 1153.

Action item

*That **Committee participants** provide information on candidate technologies for review using the template provided in Guideline 1153.*

8.2 Task 2.2.10 on Maritime Internet of Things

Task Group Leader: E Batty

This task is related to tasks 1.1.5 and 3.4.2. Based on input provided, the WG progressed the development of a draft Guideline on the internet of things.

Action Item

*That **Committee participants** are requested to review ENAV27-12.2.7, draft guideline on the internet of things, and provide comments to ENAV28.*

*The **IALA Secretariat** is requested to forward ENAV27-12.2.7, draft guideline on the internet of things as a working paper to ENAV28.*

8.3 Task 3.1.2, 3.1.4 on Maritime Radio Communication Plan

Task Group Leader: W Quinn

The WG commenced a detailed review of the MRCP, noting the task initially identified a need to deprecate the MRCP into a Recommendation and a Guideline. This approach was to put the MRCP within the new IALA documentation structure.

It was noted that the content of the MRCP is of general interest and that the document is actually at more of a 'manual' level within the IALA documentation structure. As such, the WG agreed to continue the review of the MRCP as a manual – with a working title of 'Maritime Radiocommunications Manual', 'MarCom Manual' or COMSGUIDE (to be in line with NAVGUIDE).

Noting the development within IALA of the VTS Manual, which is now an online living document, it was agreed to follow a similar format for the MarComs Manual.

Considering the request from ITU and the usefulness of the MRCP, IALA will liaise with ITU and IMO, when the MRCP is amended.

The input provided by WG3, in particular Yoshio Miyadera, was acknowledged and the initial review of the document commenced. The work on the MarCom Manual will continue through intersessional meetings, with a goal to have the revised document finalised and provided for review and approval at ENAV28.

Action item

*That **Committee participants** are requested to note the development of the MarCom Manual, which will be progressed through intersessional work. Committee participants are welcomed to participate, noting the intersessional meetings will be provided through the Dashboard.*

8.4 Task 3.4, 3.4.2 on Developments in IMT (3GPP)

Task Group Leader: J Carson-Jackson

Input papers ENAV27-5.1.1.14, 8.2.1 and 8.2.2 were reviewed, noting the intersessional work carried out on this item as identified in ENAV27-8.1.0. As noted at ENAV26, the terminology used to describe the

technologies of 3G, 4G, LTE, and 5G was amended to reflect the terms used at ITU – IMT (International Mobile Technologies).

The WG noted that the work on this item is part of a holistic approach by IALA on the development and use of IMT. A draft recommendation and guideline were reviewed and completed to the best of the ability of the ENAV Committee. These documents are now provided to IALA for further consideration and for forwarding to PAP and other IALA Committees as deemed appropriate.

This item is now considered as complete for the purposes of reporting on status in the ENAV Task Register.

Action Item

The IALA Secretariat is requested to forward the working documents Recommendation on IMT (ENAV27-12.2.3) and Guideline on integration and use of IMT by AtoN Authorities (ENAV27- 12.2.4) to the IALA Secretariat for further development as deemed appropriate.

8.4.1 Liaison notes related to IMT (3GPP) (Task 3.4, 3.4.2)

Input paper ENAV27-5.1.8 was reviewed, noting the ongoing liaison between IALA and 3GPP over the current work term of the IALA Committees. It was noted that the liaison was informative in nature and did not warrant a response.

It was noted that, as referenced in paragraph 8.9 of document NCSR 7/12, which identified that IMO should be more proactive and get involved in the work of the 3rd Generation partnership project (3GPP), the Group invited IALA to keep IMO informed of future developments. A liaison for the 17th meeting of the IMO/ITU Experts Group (IMO/ITU EG 17), to be held 5-9 July 2021, was agreed to be forwarded to the IALA Council and, if approved, to the IMO/ITU Experts Group, **prior to their deadline**.

Action Item

The IALA Secretariat is requested to forward the liaison note on developments in 3GPP (IMT) (ENAV27- 12.2.6) to IALA Council and, if approved, to IMO / ITU Experts Group. (Note - the deadline for submissions to IMO/ITU EG 17 to be confirmed by the Secretariat).

8.5 Task 4.1.1, 4.1.2, 4.2.1 on MASS from marine AtoN point of view

Task Group Leader: J Carson-Jackson

Input papers ENAV27-8.1.1 and 8.1.2 were reviewed, noting the intersessional work carried out on this item as identified in ENAV27-8.1.0.

The Committee noted that the work on this item is part of a holistic approach by IALA on the development MASS and the implications for AtoN authorities. To support this work, task group on MASS has been established, with representation from each of the committees.

The draft recommendation and guideline were reviewed and completed to the best of the ability of the ENAV Committee. These documents are now provided to IALA for further consideration and for forwarding to PAP and other Committees as deemed appropriate. It was noted that these documents may also be suitable for review at the IALA MASS Workshop to be held in May 2021.

This item is now considered as complete for the purposes of reporting on status in the ENAV Task Register.

Action item

The IALA Secretariat is requested to forward the working documents Recommendation on MASS (ENAV27-12.2.1) and Guideline on developments in MASS (ENAV27- 12.2.2) to the IALA task group on MASS and PAP for further development as deemed appropriate.

8.6 Task 4.3.1, 4.3.5, 4.3.10 on Technologies to facilitate the implementation of Maritime Single Window (MSW)

In commencing this work, Secretariat brought C72-11.2.6 – Draft Guidelines on Ship Reporting from a shore-based perspective – to the attention of the Committee. Council 72 had indicated a need for further coordination on the development of the Guideline with the VTS Committee.

A meeting between the WG2 Chair and Vice-Chair of ENAV WG2, Secretariat (Minsu Jeon) and the TG Leader for the Ship Reporting Guideline in ARM (Fred Pott) provided further insight into the development of the Guideline. It was agreed that the most appropriate response from the ENAV Committee on their task item was to provide input to the review and further development of the Guideline.

The Committee identified potential input for the Guideline, and agreed Liaison note ENAV27-12.2.5 to be forwarded for consideration by the ARM Committee, specifically the task group developing the Guideline on Ship Reporting from a shore-based perspective.

In addition, the WG2 Chair and Vice-Chair agreed to participate, where possible, in the work of the ARM task group developing the Guideline.

This item is now considered as complete for the purposes of reporting on status in the ENAV Task Register.

Action item

*The **IALA Secretariat** is requested to forward the liaison note ENAV27-12.2.5 to ARM for consideration in the further development of the Guideline on Ship Reporting from a shore-based perspective.*

8.7 Review of IALA Standards

Input papers ENAV27-3.1.2.3, 3.1.2.4, 3.1.2.5, 3.1.2.6, 3.1.2.7, 5.1.1 and 5.1.2 were reviewed. Comments were identified and provided to Secretariat for collating and forwarding as appropriate.

Action item

*The **IALA Secretariat** is requested to forward Draft revision of Standards to PAP or other Committees.*

8.8 Review of NAVGUIDE

Input paper ENAV27-5.1.3 was reviewed. Comments were identified and provided to Mahesh Alimchandani for inclusion in the revised NAVGUIDE.

8.9 Proposed work items for IALA Work Term 2022-2026

A brainstorming session (called ‘Blue Sky Thinking’) was held to identify potential work items for work term 2022-2026. The results of the brainstorming session were reviewed, prioritised and a list of potential items was developed as provided in ENAV27-12.2.8

Action item

*The **IALA Secretariat** is requested to forward the potential work items for IALA work term 2022-2026, as provided in ENAV27-12.2.8 to PAP for further consideration in the development of the work plan for the IALA term 2022-2026.*

9. WORKING GROUP 3 – DIGITAL COMMUNICATION SYSTEM (WG3)

The group successfully worked on the pressing liaison work with ITU and has helped to:

- create in-depth answers to ITU WP5B’s questions regarding the revision of the AIS standard Rec. ITU-R M.1371-5, and
- review the US proposal finalizing the work on the ITU VDES standard revision.
- review the US proposal towards revision of the ITU AMRD standard Rec. ITU-R M. 2135-0

A liaison note to ITU on the revision of ITU-R M.1371-5 was prepared to motivate the changes proposed to ITU by different proposals throughout the last WP5B meetings.

9.1 Task 3.2 on VDES

The following input papers were addressed in the course of the task:

- Input ENAV27-5.1.6.2 Change Proposal for Guideline 1139
- Input ENAV27-5.1.6.4 VDE-TER field tests
- Input ENAV27-5.1.9: GLA VDES Testing
- Input ENAV27-5.1.6.1 Time Synch. Methods of R-Mode Base Stations
- Input ENAV27-5.1.5 Study of SAT VDES by OPRI

The WG3 Chair reminded the group to report all testbeds to IALA Secretariat, according to Guideline 1107.

The WG received a presentation of ENAV27-5.1.5 by Koichi Yoshida (The Sasakawa Peace Foundation) on VDE-SAT; which is available on the ENAV Presentation [folder](#).

The WG received a presentation of ENAV27-5.1.9 by Jan Safar (GLA Research and Development (GRAD)) on VDES terrestrial measurements; which is available on the ENAV Presentation [folder](#).

The WG received a presentation by Ronald Raulefs (DLR) on R-Mode measurements; which is available on the ENAV Presentation [folder](#).

The WG received a presentation of ENAV27-5.1.6.4 by Zhe Zhang (Shanghai Spaceflight Institute of TT&C and Telecommunication) on VDE-SAT; which is available on the ENAV Presentation [folder](#).

This task was progressed further and will be carried over to the next session.

The WG took notice of the input ENAV27-5.1.6.1 on Time synchronization methods of R-Mode Base Stations and slot map of VDE ranging signal, for individual reference.

The WG reviewed a US change proposal for further revision of ITU-R M.2092-0 at ITU, see WG3/20210301_ENAV27/M-2092 re-numbering. The group did not find any further necessary changes to the US proposed revision of ITU-R M.2092-0. The input ENAV27-5.1.6.1 is already considered in this updated US proposal. The reviewed proposal is planned to be submitted by the US WP5B delegation as input to the next WP5B meeting in May 2021.

The group noted that the proposed revision of Guideline 1139 was not approved by the Council. The group does not propose further updates of Guideline 1139 during ENAV27, due to the fact that ITU WP5B will work with the revision of ITU-R M.2092-0 during May 2021, i.e. a publication of a Guideline 1139 update would collide again with further development at ITU (Task 3.2).

The group foresees to consider updating Guideline 1139 again at ENAV28, dependent on the progress at ITU WP5B.

[Action Item](#)

The IALA Secretariat is requested to keep Guideline 1139 edition 3 on the IALA homepage but add a disclaimer to it that ITU is working on the VDES standard during 2021 and ITU-R M.2092-1 will supersede Guideline 1139 edition 3.

The WG received a presentation by Stefan Bober (German Federal Waterways & Shipping Administration) on the developments on IEC performance standards for VDES. The presentations is placed in the dedicated [folder](#). The development goes very slow due to the lack of time and personnel. Therefore, the group decided to hold following joint IEC/IALA ENAV WG3 intersessionals with physical participation (assuming COVID-19 allows us to meet):

- August 16th, 13:00 to August 20th, 12:00 local time, IALA Headquarters, St. Germain-en-Laye
- September 13th, 13:00 to September 17th, 12:00 local time, IALA Headquarters, St. Germain-en-Laye

The group welcomed the initiative of Ross Norsworthy to start a RTCM special committee on R-Mode.

The group noted that the guideline on R-Mode that was proposed during ENAV26, was approved by the Council (Task solved).

Action Item

That **Committee participants** are asked to support the inclusion of R-Mode via NCSR into the corresponding ITU WRC-23 work item AI 1.11.

The revision of Guideline 1117 and Recommendation 1007 were not progressed and will be carried over to the next session.

9.2 Task 3.1 on the revision of the MRCP

This task was progressed further and will be carried over to the next session.

The group was represented by Yoshio Miyadera (JRC) and Stefan Bober (German Waterways & Shipping Administration) in the work on MRCP organized by WG2.

9.3 Task 3.6 on Autonomous Maritime Radio Device (AMRD)

This task was progressed further and will be carried over to the next session and potentially to the new eNAV work program.

The group liaised with ARM at ENAV25 (Task solved).

The group reviewed a US proposed draft revision of AMRD ITU-R M.2135-0 and agreed to it. When this ITU recommendation will be published by ITU in the new revision ITU-R M.2135-1, the group will as a new task consider to develop a new guideline on how to move AMRD class B devices to the new channel 2006.

9.4 Support to task WG2 Task 2.2 in the development of a Rec. on Maritime IoT

The group didn't receive any inputs from WG2 on the topic, therefore this task was not progressed further and will be carried over to the next session.

9.5 Task 3.4.3 on working document towards a PDR of Annex 2 of ITU-R M.585-7

This task was not progressed further and will be carried over to the next session, the group is awaiting feedback from ITU.

9.6 Task 3.3 on the revision of AIS documentation

This task was not progressed further and will be carried over to the next session.

Leader: Jean-François Cotu (Canadian Coast Guard)

The WG received a presentation by Jean-François Cotu (Canadian Coast Guard) on the proposed changes to ENAV documents (see [link](#)), and agreed to the proposed changes to Guidelines 1008, 1050, Recommendations A-123, A-124.

This task was progressed further and will be carried over to the next session. The task group leader may decide to work further intersessionally.

The WG took into consideration a Liaison Note from ITU (ENAV27-5.1.10) on the revision of ITU-R M.1371-5, a reply has been prepared by a subgroup led by Stefan Bober (German Waterways & Shipping Administration) and was approved in the ENAV Committee with the number ENAV27-12.3.1. The way forward for the document is the submission into the VTS50 and ARM13 for further considerations. The deadline to submit the Liaison Note at ITU is Monday, 3 May 2021, 16:00 UTC.

Action Item

The **IALA Secretariat** is requested to forward the Liaison Note on the revision of ITU-R M.1371-5 further to ARM13 meeting for review and completion, council approval and forwarding to ITU not later than the ITU WP5B Input deadline (Monday, 3 May 2021, 16:00 UTC).

9.7 Provide input for the revision of the IALA NAVGUIDE

This task was finished.

The WG prepared input on updating the NAVGUIDE in a subgroup led by Jeffrey van Gils (Ministry of Infrastructure and Water Management). The prepared change proposal was reviewed by the group and is delivered to the editor, Mahesh Alimchandani.

10. REVIEW OF OUTPUT AND WORKING PAPERS

The Working Group Chairs reported on the work carried out by their Working Groups.

The output documents listed at Annex E were reviewed and agreed.

The Committee Chair then thanked the Working Group Chairs, Vice Chairs, and participants of the working groups for all their efforts during the week.

11. REVIEW OF SESSION REPORT

The report of the meeting (ENAV27-12.1) was reviewed and approved by the Committee.

Action Item:

The IALA Secretariat is requested to send the report of ENAV27 (ENAV27-13.1) to the Council to note.

12. DATE AND VENUE OF NEXT MEETINGS

ENAV28 is planned to be held between 4 and 8 October 2021 at Headquarters, Saint Germain-en-Laye. The secretariat will continue to monitor global events of the COVID-19 pandemic and advise its Members of any changes that may be instigated.

Other IALA events will be publicised on the IALA website.

13. CLOSING OF THE MEETING

The Committee Chair thanked the Committee and Working Group chairs for their active participation, accommodation, effectiveness, hard work and diligent outputs during the session.

He also hoped that everyone could take the survey that is sent out after every Committee session in order to receive feedback for continuous improvements.

The Chair hoped to see all participants at ENAV28.

14. LIST OF ANNEXES

- A. Agenda
- B. List of Participants
- C. List of Input Papers
- D. List of Output Papers
- E. List of Action Items



27th Meeting of the e-Navigation Information Services and Communications Committee (ENAV27)

The 27th meeting of the **ENAV Committee** will be held from 1 March – 26 March 2021 virtually.

The opening plenary will commence at 1100 – 1300 UTC on Monday 1 March 2021, and the closing plenary will begin at 1100 – 1300 UTC on Friday 26 March.

Agenda

1. Introduction
 - 1.1. Welcome from the Secretary-General/Deputy Secretary-General
 - 1.2. Approval of agenda Hideki Noguchi
 - 1.3. Apologies and introductions Hideki Noguchi
 - 1.4. Working arrangements Jaime Alvarez
 - 1.5. Style Guide Jaime Alvarez
2. Review of action items from last meeting
 - 2.1. Review of action items from ENAV26
3. Reports from other bodies:
 - 3.1. IALA
 - 3.1.1. IALA Council Minsu Jeon
 - 3.1.2. Policy Advisory Panel (PAP) Minsu Jeon
 - 3.1.3. IALA World-Wide Academy Kevin Gregory
 - 3.1.4. IALA VTS-ENAV Symposium Maarten Berrevoets
 - 3.2. Digital@Sea Minsu Jeon
 - 3.3. IMO Hideki Noguchi
 - 3.4. IHO Minsu Jeon
 - 3.5. ITU Stefan Bober
 - 3.6. IEC Jorge Arroyo
 - 3.7. RTCM Jorge Arroyo
 - 3.8. ETSI Derek Love
 - 3.9. 3GPP Minsu Jeon
4. Online Presentations
 - 4.1. Web Service based Implementation of Maritime Services Julius Möller
 - 4.2. VDE-SAT Lars Moltsen
5. Review of input papers
 - 5.1. Introduction of input papers to ENAV27
 - 5.2. Allocation of input papers

- | | | |
|-------|---|------------------------|
| 6. | Work Programme and task list (2018 - 2022) | |
| 6.1. | WG1 Working program and arrangements presentation | Axel Hahn |
| 6.2. | WG2 Working program and arrangements presentation | Jillian Carson-Jackson |
| 6.3. | WG3 Working program and arrangements presentation | Stefan Pielmeier |
| 7. | WG1 – Digital Information System | |
| 7.1. | S-100 & S-200 | |
| 7.2. | Maritime Services | |
| 7.3. | Cyber security | |
| 7.4. | Maritime Resource Name | |
| 7.5. | Rapporteurs | |
| 8. | WG2 – Emerging Digital Technology | |
| 8.1. | Maritime Autonomous Surface Ship | |
| 8.2. | Digital Voice Communications | |
| 8.3. | Single Window Data Exchange | |
| 8.4. | Rapporteurs | |
| 9. | WG3 – Digital Communication System | |
| 9.1. | Maritime Radio Communication Plan | |
| 9.2. | VHF Data Exchange System (VDES) applications | |
| 9.3. | Autonomous Maritime Radio Device (AMRD) | |
| 9.4. | Maritime Services | |
| 9.5. | Automatic Identification Systems | |
| 9.6. | Other digital communication technology | |
| 9.7. | Rapporteurs | |
| 10. | Any Other Business | |
| 11. | Establish Working Groups and task groups | |
| 12. | Review of output and working papers | |
| 12.1. | Working Group reports | |
| 12.2. | Working papers | |
| 12.3. | Output papers | |
| 13. | Review of session report | |
| 14. | Date and venue of next meeting | |
| 15. | Close of the meeting | |

ANNEX B

LIST OF PARTICIPANTS

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All papers are posted on the Committee section of the IALA website

Meeting	Agenda Item	Output Paper Title	Source
ENAV27-	1.2.1	Agenda ENAV27	IALA
ENAV27-	2.1.1	ENAV26 Action Items	IALA
ENAV27-	2.1.2	Report of ENAV26	IALA
ENAV27-	3.1.0	Cross-committee Work 1st half 2021	IALA
ENAV27-	3.1.1	Report Council 72 Final	IALA
ENAV27-	3.1.2.2	Revision of IALA Standards (PAP40-6.1.4.1)	IALA
ENAV27-	3.5.1	IALA Report of ITU-R WP5B meeting November 2020	ENAV WG3 Vice Chair
ENAV27-	5.0	Input paper Committee meeting template	IALA
ENAV27-	5.1.1	Draft revision S1060 Digital Communication Technologies ver 0.1_29012021	ENAV Chair
ENAV27-	5.1.2	Draft revision S1070 Information Services ver0.1 29012021	ENAV Chair
ENAV27-	5.1.3	Draft chapter on e-navigation for the Navguide 2022	M Alimchandani
ENAV27-	5.1.4	CML comments on Technical Requirements for Group B AMRD using channel 2006	CML
ENAV27-	5.1.5	Study of satellite VDES by OPRI rev4	OPRI
ENAV27-	5.1.6.1	Time synchronization methods of R-mode base stations and slot map of VDE ranging signal	CMSA
ENAV27-	5.1.6.2	Change Proposal for IALA G1139	CMSA
ENAV27-	5.1.6.3	VDE-TER Multipoint Communication Field TestS in East China Sea	CMSA
ENAV27-	5.1.7	ARM Liaison note to other committees regarding revision of MBS R1001 (ARM12-11.2.1.1)	ARM
ENAV27-	5.1.8	3GPP LN to IALA SP-200877 rev SP-200655	3GPP
ENAV27-	5.1.9	VDES Testing in the Times of COVID-19	Jan Saffard
ENAV27-	5.1.10	R19-WP5B-201109-TD-0073!!MSW-E LN ITU WP5B to Int. organisations on the revision of Recommendation ITU-R M.1371-5	ITU
ENAV27-	5.1.11	R19-WP5B-201109-TD-0074!!MSW-E LN ITU WP5B to IALA on the revision of Recommendation ITU-R M.	ITU
ENAV27-	5.1.12	R19-WP5B-201109-TD-0038!R1!MSW-E LN to WP7C concerning WRC-23 agenda item 9.1, topic A	ITU
ENAV27-	5.1.13	Liaison Note ENG to ENAV on VDES R-Mode Draft	ENG
ENAV27-	7.1.1	7.1.1 Liaison Note from VTS to ARM and ENAV Committees - S212 referencing assumptions (VTS49-12.1.2.1)	VTS
ENAV27-	7.2.1	Draft Guideline on platforms for MS v10 ENAV26-9.2.3.1	WG1

ENAV27-	7.3.1	Draft Technical Programme IALA Workshop on Cyber Security V1.2	WG1
ENAV27-	8.1.1	Draft MASS Recommendation 20201216 ICG01	WG2
ENAV27-	8.1.2	Draft MASS Guideline 20210208 ICG02	WG2
ENAV27-	8.2.1	Draft (3GPP) IMT Recommendation 20201216	WG2
ENAV27-	8.2.2	Draft (3GPP) IMT Guideline tracked 20201216	WG2
ENAV27-	8.2.3	Template review new technologies LoRaWAN GTM04	WG2
ENAV27-	9.2.1	Draft Guideline 1139 Edition 4 on Technical Specification of VDES (C72-11.5.4)	WG3
ENAV27-	9.2.2	G1139 ChangeProposalTemplate	WG3
ENAV27-	9.2.3	20210129 re-numbering R19-WP5B-C-0225!N16!MSW-E	WG3

Output documents are submitted for review/action by a body other than the Committee initiating the document.

Meeting	Agenda Item	Output Paper Title	Source	Next Action
ENAV27-	12.0.1	Draft revision S1060 Digital Communication Technologies	ENAV27	PAP
ENAV27-	12.0.2	Draft revision S1070 Information Services_ver 0.1_29012021	ENAV27	PAP
ENAV27-	12.1.1	Draft Guideline on the Evaluation of Platforms for the Provision of Maritime Services in the Context of e-Navigation	WG1	Council
ENAV27-	12.1.2	Liaison note to VTS on Answer to S-212 Referencing to other S-100 Product Specifications	WG1	VTS
ENAV27-	12.1.3	Liaison note to ARM on technical service specifications for the provision of AtoN information	WG1	ARM
ENAV27-	12.1.4	Proposal for the Work Programme 2022-2026 for IALA ENAV WG1 – Digital Information System	WG1	PAP
ENAV27-	12.2.1	MASS Rec-WG2 review	WG2	All Committees / PAP / MASS TG
ENAV27-	12.2.2	Draft MASS Guideline-WG2 review	WG2	All Committees / MASS TG
ENAV27-	12.2.3	Draft_IMT_(3GPP)_Reco-WG2 review-rev2	WG2	All Committees
ENAV27-	12.2.4	Draft_IMT_(3GPP)- Guideline_WG2 review-rev2	WG2	All Committees
ENAV27-	12.2.5	Draft-ENAV Liaison to ARM re Ship Reporting-WG2 rev	WG2	ARM
ENAV27-	12.2.6	IMT input- IALA-IMO_ITU-EG-vs3	WG2	Council
ENAV27-	12.2.8	Proposed work items for IALA Work Term 2022-2026	WG2	PAP
ENAV27-	12.3.1	Draft IALA response to WP 5B TD 73 on Revision of Recommendation ITU-R M.1371-5	WG3	ARM / VTS
ENAV27-	12.3.2	Proposal for the Work Programme 2022-2026 for IALA ENAV WG3	WG3	PAP

Working papers will remain within the Committee for further review during ENAV27.

Meeting	Agenda Item	Output Paper Title	Source	Action
ENAV27-	12.2.7	WP Draft guideline on the Internet of Things (IoT)	WG2	ENAV28

Action Items for the Secretariat

1. The **IALA Secretariat** is requested to submit the draft Guideline on the Evaluation of Platforms for the Provision of Maritime Services in the Context of e-Navigation (ENAV27-12.1.1) to the Council for approval. 14
2. The **IALA Secretariat** is requested to forward liaison note ENAV27-12.1.2 on Answer to S-212 Referencing to other S-100 Product Specifications to the VTS Committee. 15
3. The **IALA Secretariat** is requested to forward liaison note ENAV27-12.1.3 on technical service specifications for the provision of AtoN information to the ARM Committee. 15
4. The **IALA Secretariat** is requested to forward ENAV27-12.0.6 Draft revision Standard 1070 Information Services to PAP. 16
5. The **IALA Secretariat** is requested to note ENAV27-12.1.4 Proposal for the Work Programme 2022-2026 for IALA ENAV WG1 – Digital Information System and adopt the tasks defined in the document for the ENAV task list at the discretion of PAP. 16
6. The **IALA Secretariat** is requested to forward ENAV27-12.2.7, draft guideline on the internet of things as a working paper to ENAV28. 17
7. The **IALA Secretariat** is requested to forward the working documents Recommendation on IMT (ENAV27- 12.2.3) and Guideline on integration and use of IMT by AtoN Authorities (ENAV27- 12.2.4) to the IALA Secretariat for further development as deemed appropriate. 18
8. The **IALA Secretariat** is requested to forward the liaison note on developments in 3GPP (IMT) (ENAV27- 12.2.6) to IALA Council and, if approved, to IMO / ITU Experts Group. (Note - the deadline for submissions to IMO/ITU EG 17 to be confirmed by the Secretariat). 18
9. The **IALA Secretariat** is requested to forward the working documents Recommendation on MASS (ENAV27- 12.2.1) and Guideline on developments in MASS (ENAV27- 12.2.2) to the IALA task group on MASS and PAP for further development as deemed appropriate. 18
10. The **IALA Secretariat** is requested to forward the liaison note ENAV27-12.2.5 to ARM for consideration in the further development of the Guideline on Ship Reporting from a shore-based perspective. 19
11. The **IALA Secretariat** is requested to forward Draft revision of Standards to PAP or other Committees. 19
12. The **IALA Secretariat** is requested to forward the potential work items for IALA work term 2022-2026, as provided in ENAV27-12.2.8 to PAP for further consideration in the development of the work plan for the IALA term 2022-2026. 19
13. The **IALA Secretariat** is requested to keep Guideline 1139 edition 3 on the IALA homepage but add a disclaimer to it that ITU is working on the VDES standard during 2021 and ITU-R M.2092-1 will supersede Guideline 1139 edition 3. 20
14. The **IALA Secretariat** is requested to forward the Liaison Note on the revision of ITU-R M.1371-5 further to ARM13 meeting for review and completion, council approval and forwarding to ITU not later than the ITU WP5B Input deadline (Monday, 3 May 2021, 16:00 UTC). 21
15. The **IALA Secretariat** is requested to send the report of ENAV27 (ENAV27-13.1) to the Council to note. 22

Action Items for Participants

16. That **Committee participants** provide information on candidate technologies for review using the template provided in Guideline 1153. 17

17. That **Committee participants** are requested to review ENAV27-12.2.7, draft guideline on the internet of things, and provide comments to ENAV28. 17
18. That **Committee participants** are requested to note the development of the MarCom Manual, which will be progressed through intersessional work. Committee participants are welcomed to participate, noting the intersessional meetings will be provided through the Dashboard. 17
19. That **Committee participants** are asked to support the inclusion of R-Mode via NCSR into the corresponding ITU WRC-23 work item AI 1.11. 21



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