



## **IALA ENAV COMMITTEE**

# **REPORT OF THE 22ND SESSION OF THE IALA E-NAVIGATION INFORMATION SERVICES AND COMMUNICATIONS (ENAV) COMMITTEE**

**8 to 12 October 2018**

**Wim van der Heijden**  
Committee Secretary

**12 October 2018**

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International Association of Marine Aids to Navigation and Lighthouse Authorities  
Association Internationale de Signalisation Maritime

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## **Report of the 22<sup>nd</sup> Session of the IALA e-Navigation Information Services and Communications (ENAV) Committee Executive Summary**

The 22<sup>nd</sup> session of the ENAV Committee was held at IALA Headquarters from 8 to 12 October 2018.

117 Delegates from 25 countries, 4 sister organisations and 4 observers participated in ENAV22. This included 34 participants for the first time;

This was the first meeting for the 2018-2022 Work Programme and the ENAV Committee considered 93 input papers and produced 20 output papers of three Working Groups.

Key outputs included:

The completion of the following revised Guidelines:

- Guideline G1128 on the Specification of e-Navigation Technical Services;
- Guideline G1139 on Technical Specification of VDES

The following liaison notes were prepared:

- To Council to approve the draft Guidelines as given above;
- To Council to approve the following submissions:
  - To ITU-WP5B on AMRD;
  - To IMO-NCSR on AMRD;
  - To IMO-NCSR on ITU WRC-23;
  - To ITU on WRC-23;
  - To ITU on VDE-SAT;
  - To ITU on the IALA position on WRC-19.
- To Council for approving to hold a workshop on Initial Operating Capability (IOC) for e-Navigation;
- To PAP to inform on the Terms of Reference of each Working Group;
- To ARM on the draft Recommendation and Guideline on AMRD;
- To ARM on Maritime Services (MS);
- To ENG on PNT and R-mode.

Based on the Work Programme 2018 – 2022 the ENAV Task Plan was reviewed and completed.

Some members raised their concern regarding the assignment of Maritime Services to ARM, see section 8.6 of the ENAV22 report.

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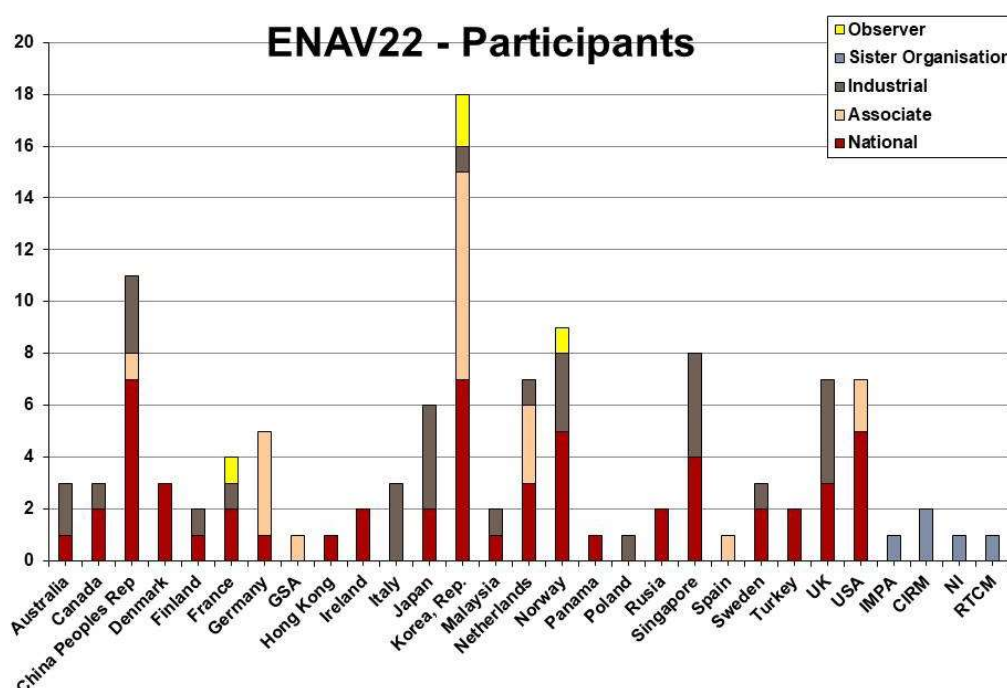
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## Report of the 22<sup>nd</sup> Session of the IALA e-Navigation Information Services and Communications (ENAV) Committee

### 1. INTRODUCTION

The 22<sup>nd</sup> meeting of the ENAV Committee was held from 8 to 12 October 2018 at IALA with Hideki Noguchi as Chair and Jorge Arroyo as Vice Chair. The Secretary for the meeting was Wim van der Heijden.

117 Participants from 25 countries and 4 Sister organisations participated in ENAV22; 34 for the first time. There were 4 observers.



The Chair welcomed all participants to ENAV22 being the first meeting of the working period 2018 – 2022. A special welcome was addressed to delegates participating for the first time. The name of the Committee for this working period is: **e-Navigation Information Services and Communications (ENAV)**.



#### 1.1 Administrative announcements

Paper ENAV22-1.1 (presentation) refers

The Secretary briefed some safety information which is also available at the registration desk.

He informed shortly about WiFi access, Fileshare facility and the printing facilities in the Lounge area.

The following question was asked:

*Does anyone present have the 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?*

No patents were noted.

The following statement on the IALA General Data Protection Policy was made:

*IALA has a policy regarding compliance with the General Data Protection Regulations. IALA will include a list of participants with their contact information in the report of this meeting. Any participant who wishes to remove their information from the participants list should advise the Committee Secretary as soon as possible.*

## **1.2 Welcome from IALA**

The Secretary-General welcomed all participants to ENAV22.

The 18<sup>th</sup> IALA Conference and the General Assembly meeting in Korea were very successful and he thanked Korea for the perfect organisation of these important events. He referred to a number of valuable conclusions of the Conference, also for the ENAV Committee as reflected in the Conference report.

He attended on changes in the Secretariat. Contracts with consultants will be ended on the end of 2018. This concerns Michael Card, Deputy Secretary-General, Stephen Bennett, Vice-Dean of the WWA and Seamus Doyle and Wim van der Heijden, both Committee Secretary. In addition he welcomed for Tom Southall, mainly secretary work, and Kevin Gregory, mainly WWA work, who will be full time employed by IALA.

The Deputy Secretary-General attended to the new work period 2018 – 2022 with some relevant changes based on decisions of the General Assembly meeting in Korea this year. The revision of the Strategic Vision for the next eight years was approved and available on the IALA website. Also approved are the first seven high level IALA Standards which gives an overview of the IALA Recommendations, both normative and informative.

The 67<sup>th</sup> Council meeting approved the new work programme for all Committees based on the new document policy. Derived from the work programme are Task Lists for each individual Committee. Some Committees have slightly changed their responsibilities and the new Committee structure has been published. The ENAV Committee will mainly focus on data modelling and connectivity.

## **1.3 Approval of the agenda**

The agenda was reviewed and adopted (ENAV22-1.2).

## **1.4 Introductions and apologies**

The Chair welcomed the new participants of the Committee. Two apologies were received.

See Annex B for the list of attendees, new participants and apologies.

## **1.5 Programme for the week**

The Chair explained the programme for the week (ENAV22-1.4) which was adopted.

# **2. REVIEW OF ACTION ITEMS FROM ENAV21**

Input paper ENAV22-2.1 refers.

## **2.1 Action Items – IALA Secretariat**

The Secretary informed that action item 9, on the generation of statistics for testbeds was not completed.

It was noted that all other IALA Secretariat actions from ENAV21 had been completed.

## **2.2 Action Items – ENAV Committee Participants**

There were no comments or remarks from the Committee on action items from the previous meeting.



### **3. REVIEW OF INPUT PAPERS**

Input papers are numbered in line with the agenda.

The Committee had no comments on the list input papers as presented by the Secretary. All papers are available on the IALA website and on the file-share during the meeting.

### **4. REPORTS FROM OTHER BODIES**

#### **4.1 19<sup>th</sup> IALA Conference**

The Committee noted the report of the 19<sup>th</sup> IALA Conference in Incheon, Republic of Korea, paper ENAV22-4.1. The Committee was attended to the conclusions and the remark on e-Navigation in particular.

#### **4.2 IALA Council**

The Committee noted the Council report of the 65<sup>th</sup> Session, IALA, December 2017, paper ENAV22-4.2.1 refers.

The Chair informed briefly about the report and informed that all finalised Recommendations and Guidelines from ENAV21 were approved.

The Committee noted the Council report of the 66<sup>th</sup> and 67<sup>th</sup> Sessions, IALA, May 2018; paper ENAV22-4.2.2 and ENAV22-4.2.3 refers.

The new Council approved the work programme of all Committees which forms the basis for the task description in the four Committees. The Council also approved the nominations for Chairs and Vice-Chairs of the four Committees during the work period 2018 – 2022.

#### **4.3 IALA Policy Advisory Panel**

The Committee noted the reports of PAP34, PAP35 and PAP36; ENAV22-4.3.1, ENAV22-4.3.2 and ENAV22-4.3.3 refers.

There were no special remarks for the ENAV Committee.

#### **4.4 E-Navigation Underway**

Since ENAV21 three E-Navigation Underway Conferences were held, North America 2017 (ENAV22-4.4.2), International 2018 (ENAV22-4.4.1) and Asia-Pacific 2018 (ENAV22-4.4.3) The reports were noted.

#### **4.5 Seminar on Arctic Navigation**

The Committee noted the report of a seminar hold on Arctic Navigation, November 2017; paper ENAV22-4.5 refers. The Committee was attended to the six conclusions of this event.

#### **4.6 IMO**

Input papers ENAV22-4.6.1, ENAV22-4.6.2, ENAV22-4.6.3 and ENAV22-4.6.4 refers.

The Committee noted the reports of IMO.

Attention was given on the report of IMO MSC99 with respect to the approval of the new agenda item for NCSR 7 in 2020 on the revision of IMO Recommendation A.857(20) Guidelines for vessel traffic services.

#### **4.7 IMO/IHO HGDM**

Input paper ENAV22-4.7 refers.

The Committee noted the report. Attention was given on the template for Maritime Services.

#### 4.8 IHO

Input paper ENAV22-4.8.1 refers.

This report concerns the first Technical Coordination meeting between IALA and IHO. Focus was on the developments in S-100 and S-200. Also the implementation of the concept of Maritime Service Portfolios (MSP) was discussed. A second meeting took place recently. The report is expected soon.

#### 4.9 EfficienSea2

Input paper ENAV22-4.9.1 till ENAV22-4.9.4 refers.

The Committee noted the final reports of this project.

#### 4.10 ITU

Input paper ENAV22-4.10.1 and ENAV22-4.10.2 refers.

The Committee noted the reports and decided that Stefan Bober will be rapporteur for ITU in the following Committee meetings (see chapter 5).

### 5. REPORTS FROM RAPPORTEURS

The following rapporteurs for the 2018 – 2022 working period were nominated:

IMO	Hideki Noguchi
RTCM	Jorge Arroyo
ITU	Stefan Bober
ETSI	Derek Love

### 6. PRESENTATIONS

#### 6.1 European Maritime Big Data

Paper ENAV22-6.1 (presentation) refers.

The presentation was made by Waldo Kleyhans.

datAcron was introduced as a mean to detect abnormal activity from data. AIS data can be used for this purpose in maritime situations e.g. to detect vessel movements in a Marine Protected Area. Some opportunities were suggested as Data compression and Data storage.

#### 6.2 Maritime Messaging Service (MMS)

Paper ENAV22-6.2 (presentation) refers.

The presentation was made by Jin Hyoung Park.

The Maritime Connectivity Platform is a communication framework to exchange information between maritime stakeholders. The MMS can be used to facilitate this and several functions were presented.

#### 6.3 Japan's consideration on VDES

Paper ENAV22-6.3 (presentation) refers.

The presentation was made by Yu Nemoto.

A focus group on the utilization of VDES in Japan was established to discuss possible operations. A plan was presented for a test bed for VDES operations including scenarios based on needs from maritime stakeholders.

#### **6.4 Ship-borne VDES development in Singapore**

Paper ENAV22-6.4 (presentation) refers.

The presentation was made by Dr Peng Xiaoming.

A ship-borne VDES mobile station was presented. A series of field trials were conducted in the lab, land and open sea to measure the performance of the station. Results of the trials were presented and other interested parties were invited for interoperable tests.

#### **6.5 ENAV23 meeting and workshop in Singapore**

Paper ENAV22-6.5 (presentation) refers.

The presentation was made by David Foo.

Maritime Singapore was introduced together with the next generation port in 2030 based on single window. E-navigation will play an important role which requires new systems. Singapore invites IALA to organise ENAV23 and a three days workshop in Singapore with the objective to develop capabilities in IALA's e-Navigation work programme. It will be in conjunction with the Singapore Maritime Week which attracts over 20,000 people from more than 20 countries.

#### **6.6 3GPP cooperation**

Paper ENAV22-6.6 (presentation) refers.

The presentation was made by John Meredith.

An introduction was given to explain what and who 3GPP is. The project covers several network technologies and services and has members from a number of branches and industries. It was requested that IALA consider to become a Market Representation Partner in the future.

#### **6.7 S-211**

Paper ENAV22-6.7 (presentation) refers.

The presentation was made by Michael Bergmann.

The Port Call Message Format (PCMF) was developed in MonaLisa2 and STM validation project and finally accepted by IALA as S-211. The presentation showed the concept for sharing time stamps and the validation of functional and data definitions and formats.

#### **6.8 E-NAV testbed in China**

Paper ENAV22-6.8 (presentation) refers.

The presentation was made by Liang Zhang.

To improve the capacity of the Yangtze Estuary for deep water vessels, an E-NAV testbed was introduced to demonstrate the increase in the safety of extra-wide vessels. The system set-up consists of a shore-based system, ship-based system and Maritime Services in accordance with IALA Guidelines. Each element of the set-up was further explained and presented.

#### **6.9 IALA World-Wide Academy (WWA)**

Paper ENAV22-6.9 (presentation) refers.

The presentation was made by Gerardine Delanoye.

The presentation showed the main activities of the WWA based on the strategic goals for IALA and the achievements of the WWA on this respect. The increase of ATO's and Level 1 AtoN Manager Courses was presented but there is still a need for African countries in particular. The activities are based on three pillars: Education and Training, Capacity Building and Research and Development.

## 6.10 GNSS Augmentation using VDE-SAT

Paper ENAV22-6.10 (presentation) refers.

The presentation was made by Hans Christian Haugli.

VDE-SAT can provide wide area coverage in the Arctic and elsewhere. The NCA NorSat-2 has already broadcasted icecharts over the Barents sea. An ESA study has concluded that low latency satellite-based augmentation (SBAS) messages and Advanced RAIM integrity support messages can be provided by VDE-SAT. It requires support for VDE-SAT frequencies at WRC-19 by all IALA member states

The Chair thanked all speakers for the presentations.

## 7. ESTABLISH WORKING GROUPS

Prior to breaking out into Working Groups, the Chair provided an explanation on the current working group composition and tasking. This sparked a discussion on abolishment of WG4 Maritime Service Portfolios and the transfer—upon completion of new guideline on Maritime Services at this session—of maritime services tasking and responsibilities to the ARM Committee. Various members expressed concerns and reservations in doing so. While this change in tasking was presented to the membership via PAP35 and Council 67 Reports, on the website, and in the three invitations to ENAV22, several members stated the intent was not well understood and some members expressed concerns that ARM was not well versed to manage this tasking and had concerns that they could revise work that was previously agreed to in previous ENAV WG.

It was noted by those in dissent that ENAV was the central location where both technical and operational entities could collaborate and where IMO e-Nav familiarity resided, which is not the case with ARM. It appeared to some members that this reassignment of responsibilities was only focused on reducing the numbers participating in ENAV without due regard for subject matter. Furthermore, several delegations, representing industry, sister organizations, and smaller associate members, noted that it is not often possible to provide representatives to multiple IALA Committees, when IALA ENAV previously provided that single opportunity.

The Chairs were attentive to these comments, yet exhorted the Committee to give the new organizational construct a chance and ensured everyone that ENAV Committee would still collaborate as needed, and, that joint ARM and ENAV Workshop(s) would be envisioned to facilitate this work in one venue and time. That for now it encourage encouraged those involved in maritime services to continue this work in ARM, and that ARM is best committee for this work to reside because the program managers usually attending it would be the ones ultimately responsible to develop, execute and sustain their respective maritime services.

The Vice-Chair outlined the procedure to be followed by working groups, including the associated paperwork, after which three working groups were established and their tasks outlined. A list of working group participants is at Annex C.

Working Group (WG)	Working Group Chair / Vice Chair
WG1 – Digital Information System	Axel Hahn Jin Park Jon Leon Ervik (MSP)
WG2 – Digital Communication System	Jillian Carson-Jackson Jonny Schultz
WG3 – Emerging Digital Technology	Mahesh Alimchandani Wayne Quinn

It was agreed that, for future number of the ENAV working groups, the Digital Communication System Working Group will revert to WG3, while the Emerging Digital Technology Working Group will become WG2.

## 8. WORKING GROUP 1 – DIGITAL INFORMATION SYSTEM (WG1)

The following activities were addressed during the WG1 at ENAV22. WG1 received 15 input documents to be discussed at ENAV22.

### 8.1 Review of ENAV 22 Work Plan

Input documents: all

The actual workplan as introduced by this document is reviewed and adopted.

### 8.2 Review of the Terms of Reference

Input documents: ENAV22-8.0

The document was reviewed by the working group. Several changes were made due to the fact of cross-cutting issues between different ENAV Working Groups and IALA Committees and other organisations. The Terms of Reference are submitted for approval by the ENAV22 committee. Further work on the topic of coordination between the IALA committees is reflected in 1.6 Maritime Services.

#### *Action Item:*

*The **Committee Secretary** is requested to retain the Terms of Reference for WG1 on Digital Information System within the Committee, for future reference and forward to PAP to note (ENAV22-11.2).*

### 8.3 Report on IHO S-100WG3

Input documents: ENAV8.1.1

The comprehensive document about the S-100WG3 meeting in Singapore April 2018 was reviewed. IHO has undertaken a refinement of S-100 to include a new part on Online Communication (S-100WG3-4.7, S-100WG3-4.7.1, S-100WG3-4.7.2 and S-100WG3-4.7.3). The issues found during testing of the first proposal from IALA were accepted but needs more clarification. The Online Communication concept will become Part 14 of S-100 Edition 4.0.0.

#### *Action Item:*

***ENAV Committee members** are invited to attend the next IHO S-100WG4 Meeting in Aalborg from the 25<sup>th</sup> of February 2019 to the 1<sup>st</sup> March 2019 as representative from WG1 to provide further explanations.*

### 8.4 S-211 Port Call Message Format

Input documents: ENAV22-8.1.3

The input paper intended to provide the committee with the necessary context of the development of the S-211 draft from the perspective of the International PortCDM Council. It explained the development to date, the reason for the submission to IALA and the initial usage of the standard as foundation of the PortCDM concept. Further usages are envisioned. The input document also explained the role of the International PortCDM Council, who was the submitter. The Committee invited the authors to develop an appropriate specification of technical e-navigation services.

#### *Action Item:*

*The **Committee Secretary** is requested to forward the paper on S-211 context (ENAV22-12.1.12) as input to ARM for further consideration.*

### 8.5 SMART Navigation Project

Input documents: ENAV22-8.1.4

The Republic of Korea decided to use SMART-Navigation as the name of the Korean e-navigation implementation project, which realizes exchange of data between ship and shore for SMART-Navigation services

that adhere to the S-100 standard. The SMART-Navigation product specification is developed as message-level product standard rather than developing a product-specific product standard. The report was noted. The Committee requested a detailed plan for (potential) standardisation and the further project progress.

## 8.6 Maritime Services

Input documents: ENAV22-8.2.1, ENAV22-8.2.2, ENAV22-8.2.3, ENAV22-8.2.4, ENAV22-8.2.5, ENAV22-8.2.6

The Committee recognized the contribution from IHO, WMO, IALA VTS and IMPA in the Guidelines. Input documents were noted and reviewed. The Committee states, that the guidelines are being developed in accordance with the IMO guidance on maritime services. The Committee combines the given input from ENAV22-8.2.3, ENAV22-8.2.4, ENAV22-8.2.5, ENAV22-8.2.6. and ENAV22-8.2.1. As discussed in the Committee, the resulting draft guideline “Maritime Service Portfolios: Digitising Maritime Services” needs to be further elaborated with input from ARM Committee, VTS Committee.

Prior to breaking out into Working Groups, the Chair provided an explanation on the current working group composition and tasking. This sparked a discussion on abolishment of WG4 Maritime Service Portfolios and the transfer—upon completion of new guideline on Maritime Services at this session—of maritime services tasking and responsibilities to the ARM Committee. Various members expressed concerns and reservations in doing so. While this change in tasking was presented to the membership via PAP35 and Council 67 Reports, on the website, and in the three invitations to ENAV22, several members stated the intent was not well understood and some members expressed concerns that ARM was not well versed to manage this tasking and had concerns that they could revise work that was previously agreed to in previous ENAV WG.

It was noted by those in dissent that ENAV was the central location where both technical and operational entities could collaborate and where IMO e-Nav familiarity resided, which is not the case with ARM. It appeared to some members that this reassignment of responsibilities was only focused on reducing the numbers participating in ENAV without due regard for subject matter. Furthermore, several delegations, representing industry, sister organizations, and smaller associate members, noted that it is not often possible to provide representatives to multiple IALA Committees, when IALA ENAV previously provided that single opportunity.

The Chairs were attentive to these comments, yet exhorted the Committee to give the new organizational construct a chance and ensured everyone that ENAV Committee would still collaborate as needed, and, that joint ARM and ENAV Workshop(s) would be envisioned to facilitate this work in one venue and time. That for now it is encouraged those involved in maritime services to continue this work in ARM, and that ARM is best committee for this work to reside because the program managers usually attending it would be the ones ultimately responsible to develop, execute and sustain their respective maritime services.

With regards to this, the delegation of American Pilots’ Association made a statement attached as Annex F.

### Action Item:

*The **Committee Secretary** is requested to forward the liaison note on Maritime Services (MS) ENAV22-12.1.20 to the ARM Committee together with the related working document ENAV22-12.2.3 for further development.*

## 8.7 Guideline on Specification of Technical Services G1128

Input documents: ENAV22-8.2.7, ENAV22-8-2.9

The Committee highly appreciates the input from the MSA (ENAV22-8-2.9). It is a well-structured application of the G1128 for service specification. The herein proposed addition of the data exchange patterns in G1128 could be achieved by using the current list of already provided (more generic) messaging patterns. To maintain the generalization of G1128, it is the recommendation of the Committee, that the proposal will not be facilitated inside the guideline. The Committee also discussed the input from KRISO and OFFIS (ENAV22-8.2.7). This proposal contains changes of the G1128 in order to fix identified inconsistencies. Moreover, the Committee fixed during the session the re-definition of MSP / MS Terminology in the document.

The Committee submitted the revised G1128 for approval.



#### Action Item:

The **Committee Secretary** is requested to forward the revised Guideline G1128 (ENAV22-12.1.11) to Council for approval.

### 8.8 Service Integrity MCP

Referencing Documents: ENAV 22-8.2.8

The input document is motivated by the needs for authenticity and integrity checking of technical e-Navigation Services and their specifications based on IALA Guideline 1128. Ensuring authenticity and integrity is the basis for the establishment of trust within the involved actors such as service provider and service consumer. The Committee stated that there is the need to distinguish between a valid security concept and its realization. Beside others, CIRM and BIMCO provide documents to be evaluated for cyber security. The input paper was noted. The Committee outlines the importance of cyber security for e-navigation technical services and their specifications.

### 8.9 ID Import Service

The information document is about how existing IDs can be imported to the MCP environment, especially the Maritime Identity Registry (MIR). The input paper was noted. The Committee recommends an interaction between the authors and the MCP team (formerly known as MCDF) for further development. The Committee takes this document under consideration for further actions as appropriate.

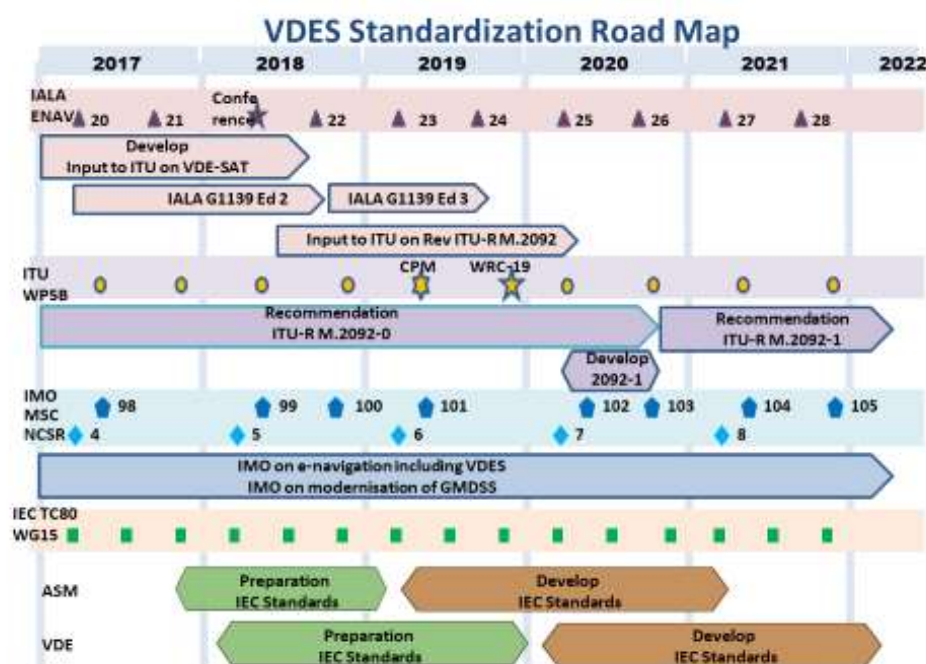
## 9. WORKING GROUP 2 – DIGITAL COMMUNICATION SYSTEM (WG2)

The working group reviewed the terms of reference and task list, noting that these will be further reviewed at ENAV23. The new work process for ENAV was noted, with the three working groups as presented by the Chair and Vice-Chair.

### 9.1 Revise G1139 – Technical Specification of VDES

All input related to the development of VDES were reviewed, noting the developments that had taken place during the intersessional meetings held in January 2018 (reference ENAV22-9.0.2 ESTEC) and July 2018 (reference ENAV22-9.0.3 Yiwu)

The standardization process for VDES was reviewed, noting the role of G1139.



The change log was reviewed and updated. Changes were implemented in the existing G1139 (edition 1). A revised G1139 (edition 2) was reviewed and agreed. As per the agreed process, work will now commend on G1139 (edition 3), which is planned for publication after ENAV24. As noted on the time-line, following the conclusions of WRC-19, G1139 (edition 3) will be used, as appropriate, to provide input to ITU WP5B as proposed revision to ITU-R M.2092-0, working towards ITU-R M.2092-1.

Detailed presentations highlighted additional developments that will be considered in the development of G1139 edition 3.

Following a presentation on the VDES trials, members were requested to investigate fading and provide reports on observed VDE-TER received signal levels. The goal of the input would be to provide input on statistical fading and fading bandwidth parameters. The input should address sea conditions (rough / calm), in order to allow the channel model to be parametrised accordingly.

#### *Action Items:*

*The **Committee Secretary** is requested to forward ENAV22-12.1.14, G1139 edition 2 – Technical Specification for VDES, to Council for approval.*

***ENAV Committee Members** are asked to note the development process for G1139 – Technical Specification for VDES and provide input on edition 3 to ENAV23.*

### **9.2 Support ARM with regards to the development of Autonomous Marine Radio Devices (AMRD)**

Input papers ENAV22-9.3.2, ENAV22-9.3.5 and ENAV22-9.3.7 (liaison from ITU WP 5B) were noted. The work was completed at this meeting by amending input paper ENAV22-9.3.8 and will be sent, as agreed, to council and ARM committee meeting to be approved. After approval by council the liaison note will be send to ITU WP 5B. Based on the liaison note to ITU WP 5B a liaison note was drafted for IMO.

A liaison note was drafted to ARM for completing the draft recommendation and guideline on the use of [implementation of] Autonomous Maritime Radio Devices (AMRD) using AIS technology. The purpose of this recommendation is to give guidance to competent authorities on the use and acceptance of AMRDs in their waters.

Input papers ENAV22-9.5.1, ENAV22-9.5.2 and ENAV22-9.5.3 concerning modifications to ITU.R M-1371 and ITU.R M-585 were reviewed and send to the United States of America to take in account for their liaison note to ITU.

Input papers related to AMRD were reviewed, with a focus on the liaison from ITU to IALA regarding AMRD (ENAV22-9.3.3).

Noting the liaison with ARM on this matter, the liaison was reviewed in conjunction with the Chair of ARM (P Day).

#### *Action Items:*

*The **IALA Secretariat** is requested to forward ENAV22-12.1.4 liaison from IALA to ITU WP5B on AMRD to Council for approval using email approval process and then to ITU WP5B, noting the deadline for input to WP 5B is 1600 UTC 29 October, 2018.*

*The **ARM Committee** is requested to review ENAV22-12.1.4 liaison from IALA to ITU WP5B on AMRD and advise the IALA secretariat of any proposed changes prior to the submission to ITU WP5B, noting the deadline for input to WP 5B is 1600 UTC 29 October, 2018.*

*The **IALA Secretariat** is requested to forward ENAV22-12.1.5 liaison from IALA to IMO NCSR on AMRD to Council for approval using email approval process and then to IMO, noting the deadline for input to NCSR6 is 13 November 2018.*

*The **Committee Secretary** is requested to forward ENAV22-12.1.1 liaison note as a cover note for the draft IALA Recommendation (ENAV22-12.1.2) and Guideline (ENAV22-12.1.3) on AMRD to ARM.*



### 9.3 Monitor the work of ITU

#### 9.3.1 ITU-R M. [VDE-SAT]

The Committee reviewed the output from the ENAV WG3 Intersessional meeting in July related to, and in preparation for, IALA input to the next to ITU-R WP 5B meeting in November on the Working Document towards a Preliminary Draft New Report ITU-R M.[VDES-SAT].

The open tasks were addressed and proposals to resolve them were reviewed and discussed.

A brief draft Liaison Statement to ITU-R WP 5B was prepared to serve as a cover letter for the input from IALA to the Working Document towards a Preliminary Draft New Report ITU-R M.[VDES-SAT].

The Committee also reviewed a draft IALA position on the proposals for WRC-19 Agenda Item 1.9.2 (VDE SAT). It was agreed that this draft position, if agreed, would be suitable for including with the liaison to ITU WP5B in November.

#### *Action Item:*

*The **IALA Secretariat** is requested to forward, ITU Liaison note ENAV22-12.1.9 and ENAV22-12.1.10 the Preliminary Draft New Report ITU-R M.[VDES-SAT], and ENAV22-12.1.8 the draft IALA Position on WRC-19 Agenda Item 1.9.2 (VDE-SAT) to Council for urgent approval by the IALA Council by correspondence and, in the event of approval, forward it to the ITU WP 5B meeting by the deadline of 1600 UTC 29 October 2018.*

*If approved, the IALA Secretariat is requested to forward ENAV22-12.1.8 the draft IALA Position on WRC-19 Agenda Item 1.9.2 (VDE-SAT) to the ITU Conference Preparatory Meeting (CPM 19-2) by the deadline of 18 December 2018.*

#### 9.3.2 ITU-R M.1371 Revisions

The input papers related to ITU-R M.1371 (revisions) were reviewed. The committee continued the work on collecting and identifying inputs for a revision of ITU-R M.1371-5.

The review resulted in revised text which was captured in a working document ENAV22-12.2.4.

#### *Action Item:*

*The **Committee Secretary** is requested the forward working document ENAV22-12.2.4 on the revision of ITU-R M.1371 to ENAV23 for further development.*

#### 9.3.3 Draft agenda items for ITU WRC-23

Building on the work initially carried out at the ENAV WG3 Intersessional meeting in Yiwu, China, the Committee noted two possible agenda items for consideration within the ITU process for WRC-2023:

- providing a means to accommodate digital systems in the VHF maritime mobile band, which would include digital voice;
- providing a radionavigation allocation for VDES R-Mode to support resilient position, navigation and timing.

The Committee also noted that the proposed agenda items may be suitable for forwarding to IMO NCSR.

Liaison notes were drafted for both ITU and IMO.

#### *Action Item:*

*The **IALA Secretariat** is requested to forward ENAV22-12.1.7 liaison note on possible agenda items for WRC-23 to Council for urgent approval by the IALA Council by correspondence and, in the event of approval, forward it to the ITU WP 5B meeting by the deadline of 1600 UTC 29 October 2018.*

*The **IALA Secretariat** is requested to forward ENAV22-12.1.6 liaison note on possible agenda items for WRC-23 to Council for urgent approval by the IALA Council by correspondence and, in the event of approval, forward it to the NCSR6 meeting by the deadline of 13 November 2018.*

#### 9.4 Development of VDES R-Mode

A Liaison Note to the ENG Committee was drafted summarising discussions on R-mode held during the meeting. The liaison note invites the ENG PNT WG to provide input on the system requirements for VDES R-mode prior to the next ENAV WG3 inter-sessional meeting so that the required changes to the VDES specification can be appropriately assessed and reflected in the revision process for Recommendation ITU-R M.2092-0. The ENG Committee is also invited to consider the possibility of holding a joint ENG PNT WG – ENAV WG3 inter-sessional meeting / workshop to progress work on VDES R-mode.

##### *Action Item:*

*The **Committee Secretary** is requested to forward ENAV22-12.1.17 liaison note on the development of R-Mode together with the related input documents to the ENG Committee.*

#### 9.5 Other Items

The working group noted significant development in digitization in the maritime environment. In the lead up to ITU WRC-19 there will be further development required on a number of ITU related items including AMRD; ITU-R M.1371; and ongoing activity for VDES (VDE-SAT) development. In addition, there is a need to ensure technical elements are addressed to support the IEC Test Standard development for VDES. In order to progress the development, the working group highlighted the requirement for an intersessional meeting.

It was suggested that ENAV Committee work could progress through an intersessional Working Group meeting to be held in early 2019. It was agreed that an intersessional meeting will be planned in early 2019.

#### 9.6 3GPP

The working group reviewed the input provided by 3GPP and developed a response to the three questions posed in the liaison statement. The responses were reviewed and agreed by the Committee. It was agreed that the IALA Secretariat would forward the responses to 3GPP directly. In discussion, it was noted that there would be interest in a joint workshop between IALA Members and 3GPP. The Secretariat agreed to liaise with 3GPP regarding a potential workshop.

##### *Action Item:*

*The **IALA Secretariat** (Minsu Jeon) was asked to liaise with 3GPP regarding a possible joint workshop between 3GPP and IALA Members.*

### 10. WORKING GROUP 3 – EMERGING DIGITAL TECHNOLOGY (WG3)

#### 10.1 Review and update the Terms of Reference

The Committee reviewed input paper ENAV22-10.1 (draft Terms of Reference for a newly-formed working group, WG3) and, based on the discussions held in WG3, made changes to it. This was provided to the Secretariat, to be retained in the Committee as ENAV22-11.2.

In the main, the Committee was of the view that:

- a. There was need to identify Committee members who would act as rapporteurs for candidate emerging technologies. Many committee members volunteered to do so. A list of members and the topics they will monitor, are in the table below.
- b. It ought to reach out to:
  1. the readership of the IALA Bulletin, seeking information on (and associated subject matter expertise for) emerging technologies.
  2. all IALA National, Associate and Industrial Members, advising them of the formation of the new working group and its role. A liaison note to this effect was prepared (ENAV22-xx.yy refers).

A liaison note to the IALA Secretariat was developed to assist it in progressing 1. and 2. above.

- c. A template ought to be developed to assist with the methodical evaluation of new candidate digital technologies.
- d. It is important to have a good mix of technical and operational expertise when evaluating candidate emerging technologies.

ENAV Committee member	Topics to be monitored
Prema Bahutoo	Distributed ledger technologies, port management systems and autonomous tugs.
Waldo Kleynhans	Artificial Intelligence, big data analytics.
Todd Schuett	Autonomous ships, e-navigation testbeds (e.g. SEASAME), maritime broadband radio.
Mahesh Alimchandani	Maritime Single Window Reporting.
Ulrich Kouchou Tagne	LRIT, ship to shore communications.
Jean Francois Coutou	VDES, satellite technologies including new LEO constellations capabilities, single window reporting.
Christopher Henny	Optronic communications, ADS-B satellite communications, and LiDAR.

#### Action Items:

The **Committee Secretary** is requested to retain the Terms of Reference for the new working group on emerging digital technologies (WG3) within the Committee, for future reference (ENAV22-11.4).

The **IALA Secretariat** is requested to send the contents of the liaison note ENAV22-12.1.13 via e-mail to all IALA Committees and all IALA National, Associate and Industrial Members.

The **IALA Secretariat** is requested to use the relevant contents of the liaison note ENAV22-12.1.13 and prepare an information article for the next edition of the IALA Bulletin.

**ENAV Committee members** identified in the table in Section 10.1 of the ENAV22 report are requested to report on any relevant developments with their respective topics, either intersessionally or at ENAV23.

**ENAV Committee members** are requested to provide information on any (and identify associated subject matter expertise for) emerging digital technologies that they consider worthy of evaluation, to WG3.

## 10.2 Template to evaluate candidate emerging technologies

The Committee developed a new template to assist in the methodical evaluation of candidate new technologies (ENAV22-12.2.1 refers).

Noting the expertise available at ENAV22, the Committee also took the opportunity to ‘test drive’ the new template by evaluating 5G mobile communications technology. During this evaluation, it was evident that having a subject matter expert present when completing the template, was invaluable. ENAV22-12.2.2 refers.

#### Action Items:

The **Committee Secretary** is requested to forward the template for evaluating candidate digital technologies (ENAV22-12.2.1) to the other WGs for review and comment.

The **Committee Secretary** is requested to forward the provisional evaluation for 5G mobile communications (ENAV22-12.2.2) to the Communications WG for their review and comment.

### 10.3 Review of input papers

The Committee reviewed input papers ENAV22-10.3.1 to 10.3.6 and used them to inform its work.

The Committee also received a presentation from the visiting 3GPP officials and explored matters of common interest. The presentations given to WG3 are ENAV22-10.3.7 and ENAV22-10.3.8.

With reference to ENAV22-10.3.4, the Committee recommends that IALA take note of its content and raise awareness of the contents of IMO Circular SN.1/289.

### 10.4 Consolidated FAQs on E-Navigation

The Committee discussed the pros and cons of consolidated FAQs on E-Navigation. Noting the existence of several IALA documents on E-Navigation (The IALA NAVGUIDE 2018 edition), the Committee found it challenging to identify the target audience for the FAQs. The ENAV Committee Chair, Vice Chair and all three WG chairs are requested to discuss the need and scope of consolidated FAQs on e-navigation intersessionally.

#### *Action Item:*

**ENAV Committee Chair, Vice Chair and all three WG chairs** are requested to discuss the need and scope of consolidated FAQs on e-navigation intersessionally by correspondence.

### 10.5 VTS and ENAV Symposium - Rotterdam, The Netherlands, May 2020

The Committee noted the request from the IALA Secretariat, seeking suggestions for session titles and individual topics for the combined VTS and ENAV Symposium (to be held in Rotterdam, The Netherlands, in May 2020). Owing to time constraints, this topic was unable to be discussed.

#### *Action Item:*

**ENAV Committee members** are requested to send (to the IALA Secretariat) any suggestions they may have for session titles and individual topics for the combined VTS and ENAV Symposium (to be held in Rotterdam, The Netherlands, in May 2020) before the end of 2018.

## 11. WORK PROGRAMME (2018 – 2022)

From the Council approved work programme (ENAV22-3.1.6) a detailed Task Plan for the work period 2018 – 2022 was developed, discussed and presented during the meeting. It will be used as working document for future ENAV Committee meetings. As such it is not needed to get Council approval for updates of the Task Plan.

#### *Action item:*

The **Committee Secretary** is requested to forward the Task Plan 2018 – 2022 to ENAV23 (ENAV22-11.1).

The WG's revised the proposed Terms of Reference. A liaison note to PAP was drafted for further consideration.

#### *Action item:*

The **Committee Secretary** is requested to forward the liaison note to PAP regarding the Terms of Reference from the WG's for consideration (ENAV22-1.16.18).

## 12. 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 Secretary was requested to forward the output documents, as indicated earlier in the report.

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

*Action item:*

The **Committee Secretary** is requested to forward the liaison on new Draft Guidelines (ENAV22-12.1.15) to Council to note.

### 13. ANY OTHER BUSINESS

#### 13.1 Invitation workshop in Singapore

The Committee received an invitation from MPA, Singapore to host ENAV23 and a workshop on Initial Operating Capability (IOC) for e-Navigation back to back in April 2019 (ENAV22-3.1.4). The Committee approved this in principle. A liaison to Council was made to seek approval for this workshop (ENAV22-12.1.16).

*Action Item:*

The **IALA Secretariat** is requested to forward the liaison to Council (ENAV22-12.1.16) for approval of the workshop in Singapore by email correspondence.

#### 13.2 Farewell

The Committee marked the farewell of Wim van der Heijden as Secretary of the ENAV Committee and Michael Card as Deputy Secretary-General of IALA. Both were thanked for their work and cooperation with the Committee.

### 14. REVIEW OF SESSION REPORT

The report of the meeting (ENAV22-14) was reviewed and approved by the Committee on the 12<sup>th</sup> October 2018. Deadline for comments and corrections is 26 October 2018.

*Action Item:*

The **Committee Secretary** is requested to forward the report of ENAV22 (ENAV22-14) after completion (deadline 26 October 2018) to the IALA Council, to note.

### 15. DATE AND VENUE OF NEXT MEETINGS

- **E-Navigation Underway North America**, 6 - 7 November 2018, California State University Maritime Academy, USA
- **E-Navigation Underway International**, 3 days in the week of 4 - 8 February 2019 (precise dates to be announced), Copenhagen, Denmark
- **ENAV23**, 1 – 5 April 2019, Singapore
- **Workshop on Initial Operating Capability (IOC) for e-Navigation**, 8 – 10 April 2019, Singapore
- The combined IALA VTS and ENAV **Symposium** will be from 25 till 29 May 2020 in Rotterdam, the Netherlands.

For other IALA related events see the overview on the IALA web site.

### 16. CLOSING OF THE MEETING

The Chair thanked again all Committee participants for all the hard work done during the meeting.

He then asked if there were any final comments that members wished to make; there were none, at which he hoped to meet all during ENAV23. He wished everyone a pleasant stay and safe journey home.

## 17. LIST OF ANNEXES

- 1     Agenda  
      A copy of the agenda is at Annex A.
- 2     Participants  
      A list of participants is at Annex B.
- 3     Working Group Participants  
      A list of working group participants is at Annex C.
- 4     Input Papers  
      A list of input papers is at Annex D.
- 5     Output and Working papers  
      A list of output and working papers is at Annex E.
- 6     Action Items  
      A list of action items is at Annex F.



## 22<sup>nd</sup> Session of the e-Navigation Information Services and Communications Committee (ENAV22)

The 22<sup>nd</sup> session of the **ENAV Committee** will be held from 8 – 12 October 2018, at IALA, St. Germain en Laye, France.

The opening plenary will commence at 1300 on Monday 8 October 2018, and the closing plenary will end at approximately 1300 on Friday 12 October.

Committee Chair, Vice-Chair and Working Group Chairpersons are requested to meet at 0900 on Monday 8 October.

### Agenda

1. Introduction
  - 1.1. Administration and Safety Briefing Secretary
  - 1.2. Welcome from the Secretary-General/Deputy Secretary-General
  - 1.3. Approval of agenda
  - 1.4. Apologies and introductions
  - 1.5. Programme for the week
2. Review of action items from last meeting
  - 2.1. Review of action items from ENAV21
  - 2.2. Final Report from ENAV21 - for reference
3. Review of input papers
  - 3.1. ENAV Committee related input
  - 3.2. Input from other Committees
4. Reports from other bodies:
  - 4.1. 19<sup>th</sup> IALA Conference
  - 4.2. IALA Council
  - 4.3. Policy Advisory Panel (PAP)
  - 4.4. E-Navigation Underway
    - 4.4.1. International
    - 4.4.2. North America
    - 4.4.3. Asia Pacific
  - 4.5. Seminar on Arctic Navigation
  - 4.6. IMO
  - 4.7. IMO/IHO HGDM
  - 4.8. IHO
  - 4.9. EfficienSea2
  - 4.10. ITU

5. Reports from rapporteurs
  - 5.1 Nomination of Rapporteurs
6. Presentations
  - 6.1. European Maritime Big Data Waldo Kleynhans
  - 6.2. Maritime Messaging Service (MMS) Park Jin Hyoung
  - 6.3. Japan's consideration on VDES Yu Nemoto
  - 6.4. Ship-borne VDES development Singapore Dr Peng Xiaoming
  - 6.5. ENAV23 meeting in Singapore David Foo
  - 6.6. 3GPP John Meredith
  - 6.7. S-211 Michael Bergmann
  - 6.8. eNav testbed in China Liang Zhang
  - 6.9. WWA (Friday plenary) Omar Frits Eriksson
7. Establish Working Groups
8. WG1 – Digital Information System
9. WG2 – Digital Communication System
10. WG3 – Emerging Digital Technology
11. Work Programme (2018 - 2022)
12. Review of output and working papers
  - 12.1. Output papers
  - 12.2. Working papers
13. Any Other Business
14. Review of session report
15. Date and venue of next meeting
16. Close of the meeting



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## ANNEX D LIST OF INPUT PAPERS

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4	ENAV22-2.2	2.2	(ENAV21-16.1) Report of ENAV21
5	ENAV22-3.1.1	3.1	(ENAV21-14.2.3) Working Paper on draft e-navigation FAQs revised v2.0 r1 at ENAV21
6	ENAV22-3.1.2	3.1	(C65-11.4.2.10 and ENAV21-14.1.27) VDES FAQ revision
7	ENAV22-3.1.3	3.1	S1-182760 LS to IALA on maritime works in 3GPP
8	ENAV22-3.1.4	3.1	Invitation for ENAV23 and workshop Singapore
9	ENAV22-3.1.5	3.1	Conceptual Description on the Maritime Messaging Service (MMS)
10	ENAV22-3.1.6	3.1	(C67-7.2.1) Draft work programme for committees 2018-2022
11	ENAV22-3.1.7	3.1	(PAP36-13.3) Committee responsibilities in Information services
12	ENAV22-3.1.8	3.1	ENAV22 WG1 Work Program 20181008
13	ENAV22-4.1	4.1	19th IALA Conference 2018 report final
14	ENAV22-4.2.1	4.2	(C65-19.1) Report C65
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20	ENAV22-4.4.1	4.4	Report e-Navigation Underway International 2018 final
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23	ENAV22-4.5	4.5	Arctic Seminar report
24	ENAV22-4.6.1	4.6	NCSR 5-WP.4 - Draft Report of the Navigation Working Group
25	ENAV22-4.6.2	4.6	Report on IMO NCSR5
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36	ENAV22-8.0	8.0	Draft Terms of Reference for WG1
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50	ENAV22-8.2.10	8.2	(VTS45-12.1.15) Liaison VTS to ENAV on MS_03.10.2018
51	ENAV22-8.2.11	8.2	(VTS45-12.1.16) Draft Guideline on MS 20181004 rev2
52	ENAV22-9.0.1	9.0	Draft Terms of Reference for WG2
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54	ENAV22-9.0.3	9.0	July2018-Yiwu_O-01_Report-WG3-Intersessional-final
55	ENAV22-9.1.1	9.1	Research Progress on Smart navigation product specification...
56	ENAV22-9.2.1	9.2	(ENAV21-14.2.7) 20170921-1246 WD item182 SPI REC-M.2092
57	ENAV22-9.2.2	9.2	(ENAV21-11.17) Classification of VDES Message (Korean Register of Shipping)
58	ENAV22-9.2.3	9.2	(Jan2018-ESTEC-output02a)-Liaison note to ITU-R WP5B on [VDE-SAT]
59	ENAV22-9.2.4	9.2	(Jan2018-ESTEC-output02b)-PDNR_ITU-R_M_VDES-SAT_WG3_2018-01_output

	Document number	Agenda item	Title
60	ENAV22-9.2.5	9.2	(July2018-Yiwu_W-05) VDES_R-mode_Discussion
61	ENAV22-9.2.6	9.2	(July2018-Yiwu_W-06) Promote-VDES
62	ENAV22-9.2.7	9.2	(July2018-Yiwu_W-07) IALA response-IEC WG15_Liasison
63	ENAV22-9.2.8	9.2	Draft_IALA_position_on_WRC-19AI192_R4
64	ENAV22-9.2.9	9.2	VDES development and trial result in Singapore from ASTAR-I2R+ST+MPA v1.0
65	ENAV22-9.2.10	9.2	VDES_R-mode_Development_Status_Update
66	ENAV22-9.2.11	9.2	AIS_VDES_R-mode_Development-Technical_Report-1v1
67	ENAV22-9.2.12	9.2	WG2 - Analysis of the effect of short training sequence(Syncword) on Bit Error Ratio performance
68	ENAV22-9.2.13.1	9.2	VDES-SAT by JRC
69	ENAV22-9.2.13.2	9.2	proposed modification to ITU 5B-TEMP-225
70	ENAV22-9.3.1	9.3	Rec ITU-R M585-7e
71	ENAV22-9.3.2	9.3	Rec M.[AMRD]
72	ENAV22-9.3.3	9.3	R15-WP5B-C-0538!N29!MSW-E Liaison to IMO and IALA on AMRD
73	ENAV22-9.3.4	9.3	WG3 - Annex 29 Liaison ITU 181 WP-5B re AMRD
74	ENAV22-9.3.4.1	9.3	annex 3 to ITU-5B-411-E
75	ENAV22-9.3.4.2	9.3	annex 13 to ITU-5B-411-E
76	ENAV22-9.3.4.3	9.3	annex 14 to ITU-5B-411-E
77	ENAV22-9.3.4.4	9.3	annex 23 to ITU-5B-411-E
78	ENAV22-9.3.5	9.3	(Jan2018-ESTEC-output04a)- Liaison to ARM re ITU liaison on AMRD rev1
79	ENAV22-9.3.6	9.3	(Jan2018-ESTEC-output05) Liaison ENAV to ENG on R-Mode using VDES
80	ENAV22-9.3.7	9.3	(Jan2018-ESTEC-output03)-Draft Liaison note to ITU-R WP5B(May) on AMRD - rev1
81	ENAV22-9.3.8	9.3	(July2018-Yiwu_W-04) Liaison-IALA-ITU-WP5B-AMRD
82	ENAV22-9.4.1	9.4	(VTS45-12.1.2) Response to ENAV on IVEF
83	ENAV22-9.5.1	9.3	R15-WP5B-C-0470!!MSW-E
84	ENAV22-9.5.2	9.3	R15-WP5B-C-0470!P1!MSW-E
85	ENAV22-9.5.3	9.3	ITU-R-REC-M.1371-6_WD_18-09-29_usa
86	ENAV22-9.6.1	9.6	IDIservice-2018-final
87	ENAV22-10.0	10.0	Draft Terms of Reference for WG3
88	ENAV22-10.3.1	10.3	WG3 - Introduction of 3GPP and 5G
89	ENAV22-10.3.2	10.3	WG3 - Status of 3GPP MARCOM standardisation
90	ENAV22-10.3.3	10.3	WG3 - Example of the development of 3GPP use cases on IMO ...

	Document number	Agenda item	Title
91	ENAV22-10.3.4	10.3	(PAP36-7.3.1) The progress of VDES and the influence of AIS and mandatory carriage
92	ENAV22-10.3.5	10.3	S1-182760 LS to IALA on maritime works in 3GPP
93	ENAV22-10.3.6	10.3	22819-g10

### **Presentations given by rapporteurs and presenters**

Presentations are posted on the Committee section of the IALA website

Document number	Agenda item	Title
ENAV22-1.1	1	General information ENAV22
ENAV22-6.1	6	Big Data Analytics
ENAV22-6.2	6	MMS (ENAV22)-Jin H. PARK
ENAV22-6.3	6	Japan consideration on VDES
ENAV22-6.4	6	VDES development and trial result in Singapore from ASTAR-I2R+ST+MPA v1.0
ENAV22-6.5	6	MPA presentation at ENAV22 (FINAL)
ENAV22-6.6	6	3GPP_presentation_on_IALA_cooperation_v02
ENAV22-6.7	6	S-211 Presentation IALA e-NAV22 081018-Final
ENAV22-6.8	6	enav testbed in China
ENAV22-6.9	6	WWA brief to ENAV
ENAV22-6.10	6	GNSS Augmentation using VDE-SAT
ENAV22-10.3.7	10	making-5g-nr-a-commercial-reality
ENAV22-10.3.8	10	qualcomm-5g-vision-presentation

## ANNEX E LIST OF OUTPUT DOCUMENTS AND WORKING PAPERS

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

Number	Title	Status
ENAV22-14	Report ENAV22	To Council to note
ENAV22-11.2	Terms of Reference of WG1	To PAP to note
ENAV22-11.3	Terms of Reference of WG2	To PAP to note
ENAV22-11.4	Terms of Reference of WG3	To PAP to note
ENAV22-12.1.1	Liaison ENAV to ARM on AMRD Draft docs	To ARM to note
ENAV22-12.1.2	draft IALA Recommendation on AMRD-For ARM	To ARM to develop
ENAV22-12.1.3	draft IALA Guideline on AMRD- For ARM	To ARM to develop
ENAV22-12.1.4	Liaison-IALA to ITU-WP5B on AMRD	To ITU to consider To ARM to action
ENAV22-12.1.5	Liaison IALA to IMO-NCSR on AMRD	To IMO-NCSR to consider
ENAV22-12.1.6	Liaison IALA to IMO-NCSR on ITU WRC-23	To IMO-NCSR to note
ENAV22-12.1.7	Liaison IALA to ITU on WRC-23	To ITU to consider
ENAV22-12.1.8	Draft_IALA_position-WRC-19-AI-192	To Council to approve
ENAV22-12.1.9	VDE-SAT_LN_to_ITUWP5B (1)	To ITU to consider
ENAV22-12.1.10	VDE-SAT_Annex to LN	To ITU to consider
ENAV22-12.1.11	Draft Revision G1128 v1.1 on specification of enav technical service	To Council to approve
ENAV22-12.1.12	S-211 Context Input paper	To ARM to consider
ENAV22-12.1.13	Liaison ENAV to IALA Secretariat reach out for emerging technology	To ARM, ENG, VTS to note To Secretariat to action
ENAV22-12.1.14	Draft revision G1139 on Technical Specifications of VDES	To Council to approve
ENAV22-12.1.15	Liaison ENAV to Council on draft Recommendations and Guidelines	To Council to approve
ENAV22-12.1.16	Liaison ENAV to Council to hold a Workshop on Initial Operating Capability (IOC) for e-Navigation	To Council to approve
ENAV22-12.1.17	Liaison ENAV to ENG on PNT_on_R_mode-1v0 (1)	To ENG to action
ENAV22-12.1.18	Liaison ENAV to PAP on ToR of WGs	To PAP to note
ENAV22-12.1.19	Liaison ENAV to 3GPP	To Secretariat to action
ENAV22-12.1.20	Liaison ENAV to ARM on MS	To ARM to action

**Working papers** will remain within the Committee for further review during **ENAV23**.

Number	Title
ENAV22-11.1	ENAV Task Plan 2018 - 2022
ENAV22-11.2	Terms of Reference of WG1
ENAV22-11.3	Terms of Reference of WG2
ENAV22-11.4	Terms of Reference of WG3
ENAV22-12.2.1	Initial Stage proposal IALA template
ENAV22-12.2.2	Initial Stage proposal IALA Candidate Technology - Qualcomm 5G
ENAV22-12.2.3	Draft IALA Guideline on MSPs v21
ENAV22-12.2.4	20181011 WD ITUR M-1371 ENAV22-9.5.2 R15-WP5B-C-0470!P1!MSW-E.docx

## ANNEX F STATEMENT OF THE AMERICAN PILOTS' ASSOCIATION

### STATEMENT OF BILL CAIRNS, AMERICAN PILOTS' ASSOCIATION, AT ENAV22

First, let me preface this with my appreciation to you Mr. Chairman and your vice chair for your even handed approach to this issue.

The report text [paras 7, 8.6] may well reflect the chronological order of discussion of Monday. The debate was **closed** with the exhortation to give the new construct a chance, but I do not believe it satisfactorily **resolved** the debate - - at least for those who voiced disagreement or concern with this new structure. I stand to be corrected, but I cannot recall any support from the floor for this change - - only from the chair, vice chair, and Secretary General - - high power though it is. I had been prepared to suggest that this reorganization was a process cloaked in darkness, only seeing the light of day after it was approved by Council. Despite the Deputy Secretary General's careful description this morning of that "open" process, clearly there were more than just a few members here this week who still anticipated working on the MSP [Maritime Service Portfolio guideline]. I would also add that implying this reorganization is predicated on the best assignment of responsibilities, is disingenuous. My personal opinion is that this is based on crowd control and nothing more. The size of this committee has always been an issue, but it always represented the full body of e-Navigation. From the birth of e-Navigation, there has always been a steady chorus of the requirement to consider user needs. Those user needs are embodied in the eNav maritime services, some might even say it is the heart of ENAV. And now, we are attacking the ENAV body, cutting out the heart...and attaching it to an ARM.

I believe the prepared text [paras 7, 8.6] covers adequately the major concerns expressed with this new structure, so I won't reiterate that. However, given the concerns expressed to this shift in responsibilities to ARM, I would suggest that, with the Committee's agreement, an Action be included here to ask PAP and Council to note the views expressed here, and decide as appropriate.

## ACTION ITEMS

### *Action Items for Secretariat*

1. The **Committee Secretary** is requested to retain the Terms of Reference for WG1 on Digital Information System within the Committee, for future reference and forward to PAP to note (ENAV22-11.2). 13
2. The **Committee Secretary** is requested to forward the paper on S-211 context (ENAV22-12.1.12) as input to ARM for further consideration. 13
3. The **Committee Secretary** is requested to forward the liaison note on Maritime Services (MS) ENAV22-12.1.20 to the ARM Committee together with the related working document ENAV22-12.2.3 for further development. 14
4. The **Committee Secretary** is requested to forward the revised Guideline G1128 (ENAV22-12.1.11) to Council for approval. 15
5. The **Committee Secretary** is requested to forward ENAV22-12.1.14, G1139 edition 2 – Technical Specification for VDES, to Council for approval. 16
6. The **IALA Secretariat** is requested to forward ENAV22-12.1.4 liaison from IALA to ITU WP5B on AMRD to Council for approval using email approval process and then to ITU WP5B, noting the deadline for input to WP 5B is 1600 UTC 29 October, 2018. 16
7. The **IALA Secretariat** is requested to forward ENAV22-12.1.5 liaison from IALA to IMO NCSR on AMRD to Council for approval using email approval process and then to IMO, noting the deadline for input to NCSR6 is 13 November 2018. 16
8. The **Committee Secretary** is requested to forward ENAV22-12.1.1 liaison note as a cover note for the draft IALA Recommendation (ENAV22-12.1.2) and Guideline (ENAV22-12.1.3) on AMRD to ARM. 16
9. The **IALA Secretariat** is requested to forward, ITU Liaison note ENAV22-12.1.9 and ENAV22-12.1.10 the Preliminary Draft New Report ITU-R M.[VDES-SAT], and ENAV22-12.1.8 the draft IALA Position on WRC-19 Agenda Item 1.9.2 (VDE-SAT) to Council for urgent approval by the IALA Council by correspondence and, in the event of approval, forward it to the ITU WP 5B meeting by the deadline of 1600 UTC 29 October 2018. 17
10. If approved, the IALA Secretariat is requested to forward ENAV22-12.1.8 the draft IALA Position on WRC-19 Agenda Item 1.9.2 (VDE-SAT) to the ITU Conference Preparatory Meeting (CPM 19-2) by the deadline of 18 December 2018. 17
11. The **Committee Secretary** is requested the forward working document ENAV22-12.2.4 on the revision of ITU-R M.1371 to ENAV23 for further development. 17
12. The **IALA Secretariat** is requested to forward ENAV22-12.1.7 liaison note on possible agenda items for WRC-23 to Council for urgent approval by the IALA Council by correspondence and, in the event of approval, forward it to the ITU WP 5B meeting by the deadline of 1600 UTC 29 October 2018. 17
13. The **IALA Secretariat** is requested to forward ENAV22-12.1.6 liaison note on possible agenda items for WRC-23 to Council for urgent approval by the IALA Council by correspondence and, in the event of approval, forward it to the NCSR6 meeting by the deadline of 13 November 2018. 17
14. The **Committee Secretary** is requested to forward ENAV22-12.1.17 liaison note on the development of R-Mode together with the related input documents to the ENG Committee. 18
15. The **IALA Secretariat** (Minsu Jeon) was asked to liaise with 3GPP regarding a possible joint workshop between 3GPP and IALA Members. 18
16. The **Committee Secretary** is requested to retain the Terms of Reference for the new working group on emerging digital technologies (WG3) within the Committee, for future reference (ENAV22-11.4). 19



17.	The <b>IALA Secretariat</b> is requested to send the contents of the liaison note ENAV22-12.1.13 via e-mail to all IALA Committees and all IALA National, Associate and Industrial Members.	19
18.	The <b>IALA Secretariat</b> is requested to use the relevant contents of the liaison note ENAV22-12.1.13 and prepare an information article for the next edition of the IALA Bulletin.	19
19.	The <b>Committee Secretary</b> is requested to forward the template for evaluating candidate digital technologies (ENAV22-12.2.1) to the other WGs for review and comment.	19
20.	The <b>Committee Secretary</b> is requested to forward the provisional evaluation for 5G mobile communications (ENAV22-12.2.2) to the Communications WG for their review and comment.	19
21.	The <b>Committee Secretary</b> is requested to forward the Task Plan 2018 – 2022 to ENAV23 (ENAV22-11.1).	20
22.	The <b>Committee Secretary</b> is requested to forward the liaison note to PAP regarding the Terms of Reference from the WG's for consideration (ENAV22-1.16.18).	20
23.	The <b>Committee Secretary</b> is requested to forward the liaison on new Draft Guidelines (ENAV22-12.1.15) to Council to note.	21
24.	The <b>IALA Secretariat</b> is requested to forward the liaison to Council (ENAV22-12.1.16) for approval of the workshop in Singapore by email correspondence.	21
25.	The <b>Committee Secretary</b> is requested to forward the report of ENAV22 (ENAV22-14) after completion (deadline 26 October 2018) to the IALA Council, to note.	21

#### *Action Items for Participants*

1.	<b>ENAV Committee members</b> are invited to attend the next IHO S-100WG4 Meeting in Aalborg from the 25 <sup>th</sup> of February 2019 to the 1 <sup>st</sup> March 2019 as representative from WG1 to provide further explanations.....	13
2.	<b>ENAV Committee Members</b> are asked to note the development process for G1139 – Technical Specification for VDES and provide input on edition 3 to ENAV23.....	16
3.	The <b>ARM Committee</b> is requested to review ENAV22-12.1.4 liaison from IALA to ITU WP5B on AMRD and advise the IALA secretariat of any proposed changes prior to the submission to ITU WP5B, noting the deadline for input to WP 5B is 1600 UTC 29 October, 2018. ....	16
4.	<b>ENAV Committee members</b> identified in the table in Section 10.1 of the ENAV22 report are requested to report on any relevant developments with their respective topics, either intersessionally or at ENAV23.....	19
5.	<b>ENAV Committee members</b> are requested to provide information on any (and identify associated subject matter expertise for) emerging digital technologies that they consider worthy of evaluation, to WG3. ....	19
6.	<b>ENAV Committee Chair, Vice Chair and all three WG chairs</b> are requested to discuss the need and scope of consolidated FAQs on e-navigation intersessionally by correspondence.....	20
7.	<b>ENAV Committee members</b> are requested to send (to the IALA Secretariat) any suggestions they may have for session titles and individual topics for the combined VTS and ENAV Symposium (to be held in Rotterdam, The Netherlands, in May 2020) before the end of 2018. ....	20



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