Proposal for the Work Programme 2023-2027 for IALA ENAV WG3 - Digital Communication Systems

# Overview

The following major topics are part of the responsibility WG3 takes in the future work program:

1. Develop necessary changes to ITU-R M.1371 AIS through liaisons with IMO, IEC and ITU; Example Topics:
   1. Improve AIS operability, security, integrity and reliability for all actors.
2. Develop necessary changes to ITU-R M.2092 VDES through liaisons with IMO, IEC and ITU; Example Topics:
   1. Identify required clarification and potential improvements for VDES from the workgroup’s experience
   2. Revise VDES for identified items during development and test of equipment.
3. Create/maintain IALA standards, recommendations, and guidelines on the implementation of e-Navigation services through VDES;   
   Example Topics:
   1. Creation of guidelines on shore, satellite, and ship infrastructure.
4. Discuss status updates from AIS and VDES experiences in test beds, development and infrastructure deployment and develop solutions to problems seen.
5. Liaise with other committees and organisations supporting the development and the implementation of VDES R-mode into ITU and IMO.
6. Consider writing IALA guidelines for new maturing technologies, such as, e.g NAVDAT, ACS digital voice.

# Existing Tasks

This section discusses the tasks from previous sessions, that will be continued in 2022-2026.

The following existing Tasks will be continued (source: the e-Nav task sheet as of 2021-03-17):

Table

Description automatically generated with medium confidence

# New Tasks / Tasks that have not been Started

Work on the following new tasks is proposed to be established:

| **ENAV Committee Work Programme 2023-2027** | | | |
| --- | --- | --- | --- |
| **Standard** | **S1060** | | |
| **Topic Area** | Digital Communication System | | |
| **Task** | Develop a Guideline for .VDES VDL integrity monitoring | | |
| **Objectives of the task** | Provide references and advice for authorities to monitor the integrity of VDL.   * Internally, make .VDES VDL operating normally. * Externally, specify the common services and functions of the AIS/VDES VDL monitoring system or platform.   WG 3.  *(Describe the objective/s of the task)* | | |
| **Expected outcome** | An IALA Guideline.  In case of the vulnerability of .VDES VDL, relative authorities can respond quickly according to the guidelines, in order to enhance the capability to protect the integrity of AIS channels and ensure the safety of navigation.  *(Describe the expected outcome: e.g. Recommendation, Guideline or Other)* | | |
| **Compelling need** | * The VDES VDL is vulnerable. Assess whether the VDL could be made more robust. * Currently, IALA does not have a guideline for relative authorities to specify the functions and services to monitor the VDES VDL integrity.   *(Describe briefly why this task should be included in the Work Programme)* | | |
| **Strategic Alignment**  *(See IALA Strategic Vision)* | **Goal**  G1 – All coastal states have contributed to a sustainable and efficient global network of Marine Aids to Navigation through capacity building and the sharing of expertise.  **Strategy**  S1 - Develop standards suitable for direct citation by States, in areas deemed important by the General Assembly, and the related Recommendations and Guidelines.  S2 - Position IALA as the source of standards, knowledge, and expertise that will enable States to provide Marine Aids to Navigation, in accordance with relevant international obligations and recommendations.  S3 - Coordinate the further development of Marine Aids to Navigation, taking into account evolving operational and functional requirements, new techniques, new technologies and sustainability.  S4 - Continue to develop capacity building activities to improve the global provision of Marine Aids to Navigation. | | |
| **Scope** | **In Scope:**   * Establish of structure and content of the Guideline * To draft and align the guideline with the new IALA document structure * Associated with the implementation and operation of AIS and VDES systems   **Out of scope:**  *(Describe key items that are in scope/out of scope)* | | |
| **Brief and concise description of the work to be undertaken and programme mile­stones** (where appropriate). | Provide guideline of services and functions for relative authorities to monitor the integrity of VDES VDL;  Key milestones include:   * March 2022(ENAV29) – Scope Task and research * October 2022(ENAV30) – Prepare skeleton. * March 2023(ENAV31) – Draft document prepared * October 2024(ENAV32) – Draft guideline reviewed by ENAV Committee and forwarded to Council for approval. | | |
| **Expected numbers of sessions for completion** | Session number:  29 30 31 32 33 34 35  X  X  X  X | | |
| **Committee notes** | **Origins** | Requested by ENAV Committee at ENAV27 | |
|  | **Agreed by session** | **TD#** | **Comments** |
|  |  |  |
|  | **Approved by Council** | *(Council Session)* | *(Date)* |
|  | **Revision Notes:** |  | |

| **ENAV Committee Work Programme 2023-2027** | | | |
| --- | --- | --- | --- |
| **Standard** | **S1060** | | |
| **Topic Area** | Digital Communication System | | |
| **Task** | Develop Guidelines on VDES Authentication Techniques | | |
| **Objectives of the task** | Describe potential methods for authenticating VDES transmissions, including VDES R-Mode signals.  Provide basis for the development of an international standard for VDES authentication, so that all mariners can have trust in e-navigation communications and future resilient positioning, navigation and timing solutions based on VDES.  *(Describe the objective/s of the task)* | | |
| **Expected outcome** | New IALA Guideline  *(Describe the expected outcome: e.g. Recommendation, Guideline or Other)* | | |
| **Compelling need** | The AIS and most aspects of VDES are vulnerable to spoofing. With the advent of software defined radio, spoofing unprotected radio transmissions has become much easier than in the past and can be accomplished using relatively low cost equipment.  With the exception of AIS vessel position reports, most e-navigation data cannot easily be corroborated with other sources of information available on-board maritime vessels (consider, for example, virtual aids-to-navigation).  Mariners should be able to authenticate all e-navigation data that they receive (no matter how trivial) as we do not know how the data may be used in the future.  *(Describe briefly why this task should be included in the Work Programme)* | | |
| **Strategic Alignment**  *(See IALA Strategic Vision)* | **Goal**  <Goal number>  **Strategy**  Harmonization of e-Navigation, cybersecurity | | |
| **Scope** | **In Scope:**  AIS, ASM, VDE-TER, VDE-SAT transmission, Public Key Infrastructure  **Out of scope:**  Encryption  *(Describe key items that are in scope/out of scope)* | | |
| **Brief and concise description of the work to be undertaken and programme mile­stones** (where appropriate). | Build up the structure of the Guideline by intersessional work   * Description of the threat and vulnerabilities * Potential solutions * Discussion of solutions * Conclusion | | |
| **Expected numbers of sessions for completion** | Session number:  29 30 31 32 33 34 35    X  X  X  X | | |
| **Committee notes** | **Origins** | Requested by ENAV Committee at ENAV27 | |
|  | **Agreed by session** | **TD#** | **Comments** |
|  |  |  |
|  | **Approved by Council** | *(Council Session)* | *(Date)* |
|  | **Revision Notes:** |  | |

| **ENAV Committee Work Programme 2023-2027** | | | |
| --- | --- | --- | --- |
| **Standard** | **S1060** | | |
| **Topic Area** | VDE-SAT and VDE-TER | | |
| **Task** | Develop Guidelines on VDES resource sharing and coordination/cooperation | | |
| **Objectives of the task** | Establishment of international cooperation and resource sharing and management on VDES terrestrial and satellite communication  *(Describe the objective/s of the task)* | | |
| **Expected outcome** | An IALA Guideline that provides framework of VDES resource sharing and coordination/cooperation for VDES satellites providers, VDES land-stations and VDES users to realize smooth and effective VDES communications on both official and private communications. | | |
| **Compelling need** | WRC 2019 agreed to allocate VHF channels to VDES including for VDES satellite communications. IMO agreed a new work item for introduction of VDES into SOLAS and will start the consideration from 2022 for two years. In near future, there will be available several VDES satellites and VDES land stations world-wide.  In the circumstances, IALA shall lead the collaboration on VDES communication services for establishment of international cooperation and resource sharing and management on VDES terrestrial and satellite communications. | | |
| **Strategic Alignment**  *(See IALA Strategic Vision)* | **Goal**  G1 – All coastal states have contributed to a sustainable and efficient global network of Marine Aids to Navigation through capacity building and the sharing of expertise.  **Strategy**  S1 - Develop standards suitable for direct citation by States, in areas deemed important by the General Assembly, and the related Recommendations and Guidelines.  S2 - Position IALA as the source of standards, knowledge, and expertise that will enable States to provide Marine Aids to Navigation, in accordance with relevant international obligations and recommendations.  S3 - Coordinate the further development of Marine Aids to Navigation, taking into account evolving operational and functional requirements, new techniques, new technologies and sustainability.  S4 - Continue to develop capacity building activities to improve the global provision of Marine Aids to Navigation. | | |
| **Scope** | **In Scope:**   * Establish of structure and content of the Guideline * To draft and align the guideline with the new IALA document structure * Associated with the implementation and operation of AIS and VDES systems   **Out of scope:** | | |
| **Brief and concise description of the work to be undertaken and programme mile­stones** (where appropriate). | Provide guidelines on VDES resource sharing and coordination/cooperation for use by VDES satellites providers, VDES land-stations and VDES users.  Key milestones include:   * March 2022(ENAV29) – Scope the task and establish framework * October 2022(ENAV30) – Prepare skeleton and first draft * October 2023(ENAV31) – Draft document prepared * March 2024(ENAV32) – Draft guideline reviewed by ENAV Committee and forwarded to Council for approval. | | |
| **Expected numbers of sessions for completion** | Session number:  29 30 31 32 33 34 35  X  X  X  X | | |
| **Committee notes** | **Origins** | Requested by ENAV Committee at ENAV28 | |
|  | **Agreed by session** | **TD#** | **Comments** |
|  |  |  |
|  | **Approved by Council** | *(Council Session)* | *(Date)* |
|  | **Revision Notes:** |  | |

| **ENAV Committee Work Programme 2023-2027** | | | |
| --- | --- | --- | --- |
| **Standard** | S1060 – digital Communication technologies | | |
| **Topic Area** | Digital communication （WG2/WG3） | | |
| **Task** | Develop a Guidelines for migrating current analog VHF voice communications to digital VHF voice communications | | |
| **Objectives of the task** | * Define the elements within current analog VHF voice communications; * Define the new possibilities with digital VHF voice communication systems; * Develop guidance to assist Contracting States and Competent authorities to migrate their current analog VHF voice system to a mixture of analog VHF communications and digital voice VHF communications; * Establish links to existing IALA documentation; * Liaise with other bodies such as IMO, ITU, IHMA, IMPA, CIRM, ETSI, RTCM on this matter. * Liaise with IALA VTS Committees as appropriate * Take into consideration outputs from related IALA workshops and seminars * Consider the impact and implications of MASS with regards to communications and data exchange within the AtoN environment. * Develop a working document towards a preliminary draft new ITU-R Recommendation for digital VHF marine radio to be submitted to ITU-R WP5B as a proposal. | | |
| **Expected outcome** | New and/or amended IALA guidelines providing guidance to Contracting States and Competent Authorities in regard to migrate to digital VHF voice communications. The guidelines to include infrastructure requirements, integration of future voice networks with other digital networks, and related requirements as may be identified during the work.  ITU will accept the proposal on preliminary draft new ITU-R Recommendation for digital VHF marine radio and start the work.  Agenda item on digital VHF marine radio communications for WRC-27.  Radio Regulations revised to accommodate digital VHF marine radio communication. | | |
| **Compelling need** | The voice radio telephony in the VHF maritime mobile band is important for communications in shipping. The current congestion in the VHF maritime mobile band has become a serious problem not only in CEPT countries and is continuing to grow. The move to implement digital VHF capabilities for DSC, AIS and VDES means the number of voice channels in the VHF maritime mobile band has been reduced.  Expand the capacity for marine VHF voice communications.  This will be discussed further at the ITU World Radio Conference 2023 (WRC-23). Input will be required at WRC-23 to support this item on the agenda for WRC-27. There is a requirement for focus work in advance of WRC-23 on the digitalisation of the maritime mobile band to highlight the importance of for future radiocommunications to support IALA membership.  The initial intent was to reduce the 12.5 kHz/6.25 kHz bandwidths as indicated in Recommendation ITU-R M.1084-5, but this has never been implemented. Also splitting duplex channels into simplex does not lead to the doubling of available voice channels due to the fact that AIS receiver sensitivity will be degraded in the “upper legs” unless the antennas are separated significantly. This is not always possible on ships.  The Recommendation ITU-R M.1084-5 provides ways to improve efficiency in the use of the band 156-174 MHz by stations in the maritime mobile service; specifically describes technical characteristics when using channels spaced by 12.5 kHz and 6.25 kHz, migration to narrow-band channels, an example method for implementing interleaved narrowband channels at 12.5 kHz or 6.25 kHz offset spacing and assignment of channels numbers to interleaved channels and simplex operation of duplex channels.  The introduction of new techniques will provide higher quality and more channels for VHF voice radio communications. There are additional benefits such as better support for safety and security measurements and improved situational awareness for mariners, Contracting States and/or Competent authorities.  This has implications for ship and shore side, including opportunities to rationalize infrastructure requirements to support digital data exchange.  This activity relates to [proposed work item on migration plan] noting the requirement to liaise with other organisations including ITU, IEC and IMO. | | |
| **Strategic Alignment** | Goal 1:  G1 S1 Develop standards suitable for direct citation by States in areas deemed important by the General Assembly, and continue to improve strong governance, including document policy and procedure for standards.  G1 S2 Improve and harmonise the delivery of VTS globally and in a manner consistent with international conventions, legislative frameworks and public expectations.  G1‐S3 Harmonise the information structure, Maritime Service Portfolios, and communications for e‐Navigation by creating standards, and by cooperation with other IGOs, to achieve worldwide interoperability of shore and ship systems, including IMO sustainability goals for a maritime transport system.  Goal 2:  G2 S1 Position IALA as the source of standards, knowledge, and expertise that will enable States to undertake and share the technical development of aids to navigation, in accordance with UNCLOS, SOLAS, and other obligations.  G2 S3 Coordinate the further development of VTS, e‐Navigation, and short range aids to navigation, taking into account new technologies and sustainability.  G2 S4 Create standards for the design and analysis of aids to navigation systems in areas where increasing environmental and economic developments are affecting navigable waters | | |
| **Scope** | **In Scope:**  Creating guidelines for:   * Define key elements for voice communication and voice communication networks * Migrating from current analog VHF voice systems to digital VHF voice systems; * Liaise with VTS Committee * Consider developments at ITU, noting the outcomes of WRC-19, preparation for WRC-23 and the decision to consider digital VHF Voice at WRC-2027. * Liaise with IMO on developments, noting implications for ship side infrastructure and developments MASS. | | |
| **Brief and concise description of the work to be undertaken and programme mile­stones** | Preparation of a new IALA Guidelines.  Key milestones include:   * October 2022 (ENAV30) --Scope Task and prepare skeleton. * March 2023 (ENAV31) – Prepare Draft guidelines * October 2023 (ENAV32) – Improve Draft guidelines * March 2024 (ENAV33) – Improve Draft guidelines * October 2024 (ENAV34) – Complete Draft guidelines, submit for review by ENAV/ARM/VTS Committee and forwarding to Council for approval. | | |
| **Expected numbers of sessions for completion** | Session number:  29 30 31 32 33 34 35  X  X  X  x  X  - | | |
| **Committee notes** | **Origins** | Requested by ENAV Committee at [ENAV29] | |
|  | **Agreed by session** | **TD#** | **Comments** |
|  |  |  |
|  | **Approved by Council** | *(Council Session)* | *(Date)* |
|  | **Revision Notes:** |  | |

| **ENAV Committee Work Programme 2023-2027** | | | |
| --- | --- | --- | --- |
| **Standard** | S1060 – digital Communication technologies | | |
| **Topic Area** | G1082 An Overview of AIS, (June 2016) | | |
| **Task** | Review und update G1082 | | |
| **Objectives of the task** | Update to the latest development of AIS | | |
| **Expected outcome** | New edition of G1082 | | |
| **Compelling need** | ITU-R is revising Recommendation ITU-R M.1371-5  This revision must be reflected in G1082 | | |
| **Strategic Alignment** |  | | |
| **Scope** | **In Scope:**   * G1082 | | |
| **Brief and concise description of the work to be undertaken and programme mile­stones** | Preparation of a new edition of G1082  Key milestones include:   * Scope Task and prepare skeleton. * Prepare Draft guidelines * Improve Draft guidelines * Improve Draft guidelines * Complete Draft guidelines, submit for review by ENAV/ARM/VTS Committee and forwarding to Council for approval. | | |
| **Expected numbers of sessions for completion** | Session number:  29 30 31 32 33 34 35  X  X  x  X  X- | | |
| **Committee notes** | **Origins** | Requested by ENAV Committee at [ENAV29] | |
|  | **Agreed by session** | **TD#** | **Comments** |
|  |  |  |
|  | **Approved by Council** | *(Council Session)* | *(Date)* |
|  | **Revision Notes:** |  | |

| **ENAV Committee Work Programme 2023-2027** | | | |
| --- | --- | --- | --- |
| **Standard** | S1060 – digital Communication technologies | | |
| **Topic Area** | G1062 Establishment of AIS as a [Marine] Aid to Navigation (Dec 2008) | | |
| **Task** | Review und update G1062 | | |
| **Objectives of the task** | Update to the latest development of AIS | | |
| **Expected outcome** | New edition of G1062 | | |
| **Compelling need** | ITU-R is revising Recommendation ITU-R M.1371-5  This revision must be reflected in G1022, i.e MAtoN | | |
| **Strategic Alignment** |  | | |
| **Scope** | **In Scope:**   * G1062 | | |
| **Brief and concise description of the work to be undertaken and programme mile­stones** | Preparation of an new edition of G1062  Key milestones include:   * Scope Task and prepare skeleton. * Prepare Draft guidelines * Improve Draft guidelines * Improve Draft guidelines * Complete Draft guidelines, submit for review by ENAV/ARM/VTS Committee and forwarding to Council for approval. | | |
| **Expected numbers of sessions for completion** | Session number:  29 30 31 32 33 34 35  X  X  x  X  X- | | |
| **Committee notes** | **Origins** | Requested by ENAV Committee at [ENAV29] | |
|  | **Agreed by session** | **TD#** | **Comments** |
|  |  |  |
|  | **Approved by Council** | *(Council Session)* | *(Date)* |
|  | **Revision Notes:** |  | |

| **ENAV Committee Work Programme 2023-2027** | | | |
| --- | --- | --- | --- |
| **Standard** | S1060 – digital Communication technologies | | |
| **Topic Area** | R1007 The VHF Data Exchange System (VDES) for shore infrastructure (June 2017) | | |
| **Task** | Review und update R1007 | | |
| **Objectives of the task** | Update to the latest development of AIS | | |
| **Expected outcome** | New edition of R1007 | | |
| **Compelling need** | New revision of Recommendation ITU-R M.2092 was published by ITU ,  (Recommendation ITU-R M.2092-1)  This revision must be reflected in R1007 | | |
| **Strategic Alignment** |  | | |
| **Scope** | **In Scope:**  R 1007 | | |
| **Brief and concise description of the work to be undertaken and programme mile­stones** | Preparation of an new edition of R 1007  Key milestones include:   * Scope Task and prepare skeleton. * Prepare Draft guidelines * Improve Draft guidelines * Improve Draft guidelines * Complete Draft guidelines, submit for review by ENAV/ARM/VTS Committee and forwarding to Council for approval. | | |
| **Expected numbers of sessions for completion** | Session number:  29 30 31 32 33 34 35  X  X  x  X  X | | |
| **Committee notes** | **Origins** | Requested by ENAV Committee at [ENAV29] | |
|  | **Agreed by session** | **TD#** | **Comments** |
|  |  |  |
|  | **Approved by Council** | *(Council Session)* | *(Date)* |
|  | **Revision Notes:** |  | |

| **ENAV Committee Work Programme 2023-2027** | | | |
| --- | --- | --- | --- |
| **Standard** | S1060 – digital Communication technologies | | |
| **Topic Area** | Recommendation ITU-R.M 2092-1 | | |
| **Task** | Input to future revision of Recommendation ITU-R.M2092-1 | | |
| **Objectives of the task** |  | | |
| **Expected outcome** | LN to ITU WP5B | | |
| **Compelling need** | Consider future development of VDES  (Recommendation ITU-R M.2092-1) | | |
| **Strategic Alignment** |  | | |
| **Scope** | **In Scope:**  Recommendation ITU-R.M 2092-1 | | |
| **Brief and concise description of the work to be undertaken and programme mile­stones** | Preparation of LN to ITU WP5B  Key milestones include:   * Scope Task and prepare skeleton. * Prepare LN * Complete LN, submit for review by ENAV/ARM/VTS Committee and forwarding to Council for approval. | | |
| **Expected numbers of sessions for completion** | Session number:  29 30 31 32 33 34 35  X  X  x  X  X | | |
| **Committee notes** | **Origins** | Requested by ENAV Committee at [ENAV29] | |
|  | **Agreed by session** | **TD#** | **Comments** |
|  |  |  |
|  | **Approved by Council** | *(Council Session)* | *(Date)* |
|  | **Revision Notes:** |  | |

| **ENAV Committee Work Programme 2023-2027** | | | |
| --- | --- | --- | --- |
| **Standard** | S1060 – digital Communication technologies | | |
| **Topic Area** | Test standard for VDES | | |
| **Task** | Input to IEC on test standard for VDES | | |
| **Objectives of the task** |  | | |
| **Expected outcome** | LN to IEC TC 80 WG 15 | | |
| **Compelling need** | Contribute to the development of VDES test standard | | |
| **Strategic Alignment** |  | | |
| **Scope** | In Scope:   * VDES tst standard | | |
| **Brief and concise description of the work to be undertaken and programme mile­stones** | Preparation of LN to IEC TC 80 WG 15  Key milestones include:   * Scope Task and prepare skeleton. * Prepare LN * Complete LN, submit for review by ENAV/ARM/VTS Committee and forwarding to Council for approval. | | |
| **Expected numbers of sessions for completion** | Session number:  29 30 31 32 33 34 35  X  X  x  X  X | | |
| **Committee notes** | **Origins** | Requested by ENAV Committee at [ENAV29] | |
|  | **Agreed by session** | **TD#** | **Comments** |
|  |  |  |
|  | **Approved by Council** | *(Council Session)* | *(Date)* |
|  | **Revision Notes:** |  | |

| **ENAV Committee Work Programme 2023-2027** | | | |
| --- | --- | --- | --- |
| **Standard** | S1060 – digital Communication technologies | | |
| **Topic Area** | Recommendation for the AIS Service (new planned R 1008) | | |
| **Task** | Develop Recommendation for the AIS Service  Planned in draft Standard 1060 (supersedes A-124) | | |
| **Objectives of the task** | Move recommendation A-124 content to Recommendation R1008 remainder to Guideline(s) | | |
| **Expected outcome** | New Recommendation | | |
| **Compelling need** |  | | |
| **Strategic Alignment** |  | | |
| **Scope** | **In Scope:**   * A-124 | | |
| **Brief and concise description of the work to be undertaken and programme mile­stones** | Preparation of new Recommendation  Key milestones include:   * Scope Task and prepare skeleton. * Prepare Draft guidelines * Improve Draft guidelines * Improve Draft guidelines * Complete Draft guidelines, submit for review by ENAV/ARM/VTS Committee and forwarding to Council for approval. | | |
| **Expected numbers of sessions for completion** | Session number:  29 30 31 32 33 34 35  X  X  x  X  X | | |
| **Committee notes** | **Origins** | Requested by ENAV Committee at [ENAV29] | |
|  | **Agreed by session** | **TD#** | **Comments** |
|  |  |  |
|  | **Approved by Council** | *(Council Session)* | *(Date)* |
|  | **Revision Notes:** |  | |

| **ENAV Committee Work Programme 2023-2027** | | | |
| --- | --- | --- | --- |
| **Standard** | S1060 – digital Communication technologies | | |
| **Topic Area** | New Guideline for R 1008 | | |
| **Task** | A-124 APPENDIX 0 to APPENDIX 19 become Guidelines for Recommendation R1008 | | |
| **Objectives of the task** | Move recommendation A-124 content to Recommendation R1008 remainder to Guideline(s) | | |
| **Expected outcome** | New Guidelines | | |
| **Compelling need** |  | | |
| **Strategic Alignment** |  | | |
| **Scope** | **In Scope:**   * A124 | | |
| **Brief and concise description of the work to be undertaken and programme mile­stones** | Preparation of new Recommendation  Key milestones include:   * Scope Task and prepare skeleton. * Prepare Draft guidelines * Improve Draft guidelines * Improve Draft guidelines * Complete Draft guidelines, submit for review by ENAV/ARM/VTS Committee and forwarding to Council for approval. | | |
| **Expected numbers of sessions for completion** | Session number:  29 30 31 32 33 34 35  X  X  x  X  X | | |
| **Committee notes** | **Origins** | Requested by ENAV Committee at [ENAV29] | |
|  | **Agreed by session** | **TD#** | **Comments** |
|  |  |  |
|  | **Approved by Council** | *(Council Session)* | *(Date)* |
|  | **Revision Notes:** |  | |

| **ENAV Committee Work Programme 2023-2027** | | | |
| --- | --- | --- | --- |
| **Standard** | S1060 – digital Communication technologies | | |
| **Topic Area** | New Guideline for Digital navigational data system (NAVDAT) | | |
| **Task** | Draft a guideline for NAVDAT MF and HF considering shore based infrastructure | | |
| **Objectives of the task** |  | | |
| **Expected outcome** | New Guidelines | | |
| **Compelling need** | IMO planes to develop a performance standard for NAVDAT.  NAVDAT will become a part of GMDSS | | |
| **Strategic Alignment** |  | | |
| **Scope** | **In Scope:** | | |
| **Brief and concise description of the work to be undertaken and programme mile­stones** | Preparation of new Recommendation  Key milestones include:   * October 2022 (ENAV30) --Scope Task and prepare skeleton. * March 2023 (ENAV31) – Prepare Draft guidelines * October 2023 (ENAV32) – Improve Draft guidelines * March 2024 (ENAV33) – Improve Draft guidelines * October 2024 (ENAV34) – Complete Draft guidelines, submit for review by ENAV/ARM/VTS Committee and forwarding to Council for approval. | | |
| **Expected numbers of sessions for completion** | Session number:  29 30 31 32 33 34 35  X  X  x  X  X | | |
| **Committee notes** | **Origins** | Requested by ENAV Committee at [ENAV29] | |
|  | **Agreed by session** | **TD#** | **Comments** |
|  |  |  |
|  | **Approved by Council** | *(Council Session)* | *(Date)* |
|  | **Revision Notes:** |  | |

| **ENAV Committee Work Programme 2023-2027** | | | |
| --- | --- | --- | --- |
| **Standard** | S1060 – digital Communication technologies | | |
| **Topic Area** | New Recommendation for Digital navigational data system (NAVDAT) | | |
| **Task** | Draft a guideline for NAVDAT MF and HF considering shore based infrastructure | | |
| **Objectives of the task** |  | | |
| Expected outcome | New Recommendation | | |
| **Compelling need** | IMO planes to develop a performance standard for NAVDAT.  NAVDAT will become a part of GMDSS | | |
| **Strategic Alignment** |  | | |
| **Scope** | **In Scope:** | | |
| **Brief and concise description of the work to be undertaken and programme mile­stones** | Preparation of new Recommendation  Key milestones include:   * Scope Task and prepare skeleton. * Prepare Draft guidelines * Improve Draft guidelines * Improve Draft guidelines * Complete Draft guidelines, submit for review by ENAV/ARM/VTS Committee and forwarding to Council for approval. | | |
| **Expected numbers of sessions for completion** | Session number:  29 30 31 32 33 34 35 | | |
| **Committee notes** | **Origins** | Requested by ENAV Committee at [ENAV29] | |
|  | **Agreed by session** | **TD#** | **Comments** |
|  |  |  |
|  | **Approved by Council** | *(Council Session)* | *(Date)* |
|  | **Revision Notes:** |  | |

| **ENAV Committee Work Programme 2023-2027** | | | |
| --- | --- | --- | --- |
| **Standard** | S1060 – digital Communication technologies | | |
| **Topic Area** | New Guideline for Digital navigational data system (NAVDAT) | | |
| **Task** | Draft a guideline for NAVDAT MF and HF considering shore based infrastructure | | |
| **Objectives of the task** |  | | |
| **Expected outcome** | New Guidelines | | |
| **Compelling need** | IMO planes to develop a performance standard for NAVDAT.  NAVDAT will become a part of GMDSS | | |
| **Strategic Alignment** |  | | |
| **Scope** | **In Scope:** | | |
| **Brief and concise description of the work to be undertaken and programme mile­stones** | Preparation of new Recommendation  Key milestones include:   * Scope Task and prepare skeleton. * Prepare Draft guidelines * Improve Draft guidelines * Improve Draft guidelines * Complete Draft guidelines, submit for review by ENAV/ARM/VTS Committee and forwarding to Council for approval. | | |
| **Expected numbers of sessions for completion** | Session number:  29 30 31 32 33 34 35  X  X  x  X  X | | |
| **Committee notes** | **Origins** | Requested by ENAV Committee at [ENAV29] | |
|  | **Agreed by session** | **TD#** | **Comments** |
|  |  |  |
|  | **Approved by Council** | *(Council Session)* | *(Date)* |
|  | **Revision Notes:** |  | |

| **ENAV Committee Work Programme 2023-2027** | | | |
| --- | --- | --- | --- |
| **Standard** | S1060 – digital Communication technologies | | |
| **Topic Area** | e-Nav 144 Harmonized implementation of Application Specific Message (ASM) | | |
| **Task** | Review und update e-Nav 144 | | |
| **Objectives of the task** | Update to the latest development of ASM | | |
| **Expected outcome** | New edition of e-Nav 144 | | |
| **Compelling need** | The ASM concept is now applicable to AIS, ASM, VDE TER and VDE SAT | | |
| **Strategic Alignment** |  | | |
| **Scope** | **In Scope:**   * e-nav 144 | | |
| **Brief and concise description of the work to be undertaken and programme mile­stones** | Preparation of an new edition of R 1007  Key milestones include:   * Scope Task and prepare skeleton. * Prepare Draft guidelines * Improve Draft guidelines * Improve Draft guidelines * Complete Draft guidelines, submit for review by ENAV/ARM/VTS Committee and forwarding to Council for approval. | | |
| **Expected numbers of sessions for completion** | Session number:  29 30 31 32 33 34 35  X  X  x  X  X- | | |
| **Committee notes** | **Origins** | Requested by ENAV Committee at [ENAV29] | |
|  | **Agreed by session** | **TD#** | **Comments** |
|  |  |  |
|  | **Approved by Council** | *(Council Session)* | *(Date)* |
|  | **Revision Notes:** |  | |

| **ENAV Committee Work Programme 2023-2027** | | | |
| --- | --- | --- | --- |
| **Standard** | S1060 – digital Communication technologies | | |
| **Topic Area** | e-Nav 144 Harmonized implementation of Application Specific Message (ASM) | | |
| **Task** | Review und update e-Nav 144 | | |
| **Objectives of the task** | Update to the latest development of ASM | | |
| **Expected outcome** | New edition of e-Nav 144 | | |
| **Compelling need** | The ASM concept is now applicable to AIS, ASM and VDE TER and VDE SAT | | |
| **Strategic Alignment** |  | | |
| **Scope** | **In Scope:**   * e-nav 144 | | |
| **Brief and concise description of the work to be undertaken and programme mile­stones** | Preparation of an new edition of R 1007  Key milestones include:   * October 2022 (ENAV30) --Scope Task and prepare skeleton. * March 2023 (ENAV31) – Prepare Draft guidelines * October 2023 (ENAV32) – Improve Draft guidelines * March 2024 (ENAV33) – Improve Draft guidelines * October 2024 (ENAV34) – Complete Draft guidelines, submit for review by ENAV/ARM/VTS Committee and forwarding to Council for approval. | | |
| **Expected numbers of sessions for completion** | Session number:  29 30 31 32 33 34 35  X  X  X  x  X  X | | |
| **Committee notes** | **Origins** | Requested by ENAV Committee at [ENAV29] | |
|  | **Agreed by session** | **TD#** | **Comments** |
|  |  |  |
|  | **Approved by Council** | *(Council Session)* | *(Date)* |
|  | **Revision Notes:** |  | |

| **ENAV Committee Work Programme 2023-2027** | | | |
| --- | --- | --- | --- |
| **Standard** | S1060 – digital Communication technologies | | |
| **Topic Area** | G1095 Harmonized Implementation of Application Specific Messages (ASMs) (May 2013) | | |
| **Task** | Review und update G 1095 | | |
| **Objectives of the task** | Update to the latest development of ASM | | |
| **Expected outcome** | New edition of G 1095 | | |
| **Compelling need** | The ASM concept is now applicable to AIS, ASM, VDE TER and VDE SAT | | |
| **Strategic Alignment** |  | | |
| **Scope** | **In Scope:**   * e-nav 144 | | |
| **Brief and concise description of the work to be undertaken and programme mile­stones** | Preparation of an new edition of R 1007  Key milestones include:   * Scope Task and prepare skeleton. * Prepare Draft guidelines * Improve Draft guidelines * Improve Draft guidelines * Complete Draft guidelines, submit for review by ENAV/ARM/VTS Committee and forwarding to Council for approval. | | |
| **Expected numbers of sessions for completion** | Session number:  29 30 31 32 33 34 35  X  X  X  x  X  - | | |
| **Committee notes** | **Origins** | Requested by ENAV Committee at [ENAV29] | |
|  | **Agreed by session** | **TD#** | **Comments** |
|  |  |  |
|  | **Approved by Council** | *(Council Session)* | *(Date)* |
|  | **Revision Notes:** |  | |

| **ENAV Committee Work Programme 2023-2027** | | | |
| --- | --- | --- | --- |
| **Standard** | S1060 – digital Communication technologies | | |
| **Topic Area** | Communications channels for [public service] digital information services in coastal areas | | |
| **Task** | New guideline | | |
| **Objectives of the task** | Single new Recommendation on (free-to-air, non-commercial) communications channels to be used by coastal authorities for digital information transfer between ship and shore in coastal areas  may absorb A-123 and A-124 | | |
| **Expected outcome** | New guideline | | |
| **Compelling need** |  | | |
| **Strategic Alignment** |  | | |
| **Scope** | **In Scope:** | | |
| **Brief and concise description of the work to be undertaken and programme mile­stones** | Preparation of a new IALA Guidelines.  Key milestones include:   * Scope Task and prepare skeleton. * Prepare Draft guidelines * Improve Draft guidelines * Improve Draft guidelines * Complete Draft guidelines, submit for review by ENAV/ARM/VTS Committee and forwarding to Council for approval. | | |
| **Expected numbers of sessions for completion** | Session number:  29 30 31 32 33 34 35  X  X  X  x  X  - | | |
| **Committee notes** | **Origins** | Requested by ENAV Committee at [ENAV29] | |
|  | **Agreed by session** | **TD#** | **Comments** |
|  |  |  |
|  | **Approved by Council** | *(Council Session)* | *(Date)* |
|  | **Revision Notes:** |  | |

| **ENAV Committee Work Programme 2023-2027** | | | |
| --- | --- | --- | --- |
| **Standard** | S1060 – digital Communication technologies | | |
| **Topic Area** | New IALA Guideline on VDES system integration into ship and shore side | | |
| **Task** | Write a new IALA Guideline | | |
| **Objectives of the task** | Develop documentation on the integration and operations of VDES for different user groups. | | |
| **Expected outcome** | New IALA Guideline | | |
| **Compelling need** | IALA Membership needs guidance in leveraging the capabilities VDES provide and maintain them by managing the resource by optimized operations. | | |
| **Strategic Alignment** | **Goal**  G1 – All coastal states have contributed to a sustainable and efficient global network of Marine Aids to Navigation through capacity building and the sharing of expertise.  **Strategy**  S1 - Develop standards suitable for direct citation by States, in areas deemed important by the General Assembly, and the related Recommendations and Guidelines.  S2 - Position IALA as the source of standards, knowledge, and expertise that will enable States to provide Marine Aids to Navigation, in accordance with relevant international obligations and recommendations.  S3 - Coordinate the further development of Marine Aids to Navigation, taking into account evolving operational and functional requirements, new techniques, new technologies and sustainability.  S4 - Continue to develop capacity building activities to improve the global provision of Marine Aids to Navigation. | | |
| **Scope** | **In Scope:**   * Analysis of work in other organizations (such as CIRM, IEC, IMO, RTCM, ETSI, ISO, IHO) * Harmonize our works with those avoiding duplication, recommending applicable means such as cyber security | | |
| **Brief and concise description of the work to be undertaken and programme mile­stones** | Preparation of a new IALA Guidelines.  Key milestones include:   * Scope Task and prepare skeleton. * Prepare Draft guidelines * Improve Draft guidelines * Improve Draft guidelines * Complete Draft guidelines, submit for review by ENAV/ARM/VTS Committee and forwarding to Council for approval. | | |
| **Expected numbers of sessions for completion** | Session number:  29 30 31 32 33 34 35  X  X  x  X  X | | |
| **Committee notes** | **Origins** | Requested by ENAV Committee at [ENAV29] | |
|  | **Agreed by session** | **TD#** | **Comments** |
|  |  |  |
|  | **Approved by Council** | *(Council Session)* | *(Date)* |
|  | **Revision Notes:** |  | |

| **ENAV Committee Work Programme 2023-2027** | | | |
| --- | --- | --- | --- |
| **Standard** | S1060 – digital Communication technologies | | |
| **Topic Area** |  | | |
| **Task** | Monitor the developments on new eNAV test beds and support the members in reporting testbeds using IALA G1107. | | |
| **Objectives of the task** |  | | |
| **Expected outcome** |  | | |
| **Compelling need** |  | | |
| **Strategic Alignment** | **Goal**  G1 – All coastal states have contributed to a sustainable and efficient global network of Marine Aids to Navigation through capacity building and the sharing of expertise.  **Strategy**  S1 - Develop standards suitable for direct citation by States, in areas deemed important by the General Assembly, and the related Recommendations and Guidelines.  S2 - Position IALA as the source of standards, knowledge, and expertise that will enable States to provide Marine Aids to Navigation, in accordance with relevant international obligations and recommendations.  S3 - Coordinate the further development of Marine Aids to Navigation, taking into account evolving operational and functional requirements, new techniques, new technologies and sustainability.  S4 - Continue to develop capacity building activities to improve the global provision of Marine Aids to Navigation. | | |
| **Scope** | **In Scope:** | | |
| **Brief and concise description of the work to be undertaken and programme mile­stones** |  | | |
| **Expected numbers of sessions for completion** | Session number:  29 30 31 32 33 34 35  X  X  x  X  X | | |
| **Committee notes** | **Origins** | Requested by ENAV Committee at [ENAV29] | |
|  | **Agreed by session** | **TD#** | **Comments** |
|  |  |  |
|  | **Approved by Council** | *(Council Session)* | *(Date)* |
|  | **Revision Notes:** |  | |

| **ENAV Committee Work Programme 2023-2027** | | | |
| --- | --- | --- | --- |
| **Standard** | S1060 – digital Communication technologies | | |
| **Topic Area** |  | | |
| **Task** |  | | |
| **Objectives of the task** |  | | |
| **Expected outcome** |  | | |
| **Compelling need** |  | | |
| **Strategic Alignment** | **Goal**  G1 – All coastal states have contributed to a sustainable and efficient global network of Marine Aids to Navigation through capacity building and the sharing of expertise.  **Strategy**  S1 - Develop standards suitable for direct citation by States, in areas deemed important by the General Assembly, and the related Recommendations and Guidelines.  S2 - Position IALA as the source of standards, knowledge, and expertise that will enable States to provide Marine Aids to Navigation, in accordance with relevant international obligations and recommendations.  S3 - Coordinate the further development of Marine Aids to Navigation, taking into account evolving operational and functional requirements, new techniques, new technologies and sustainability.  S4 - Continue to develop capacity building activities to improve the global provision of Marine Aids to Navigation. | | |
| **Scope** | **In Scope:** | | |
| **Brief and concise description of the work to be undertaken and programme mile­stones** | Preparation of a new IALA Guidelines.  Key milestones include:   * Scope Task and prepare skeleton. * Prepare Draft guidelines * Improve Draft guidelines * Improve Draft guidelines * Complete Draft guidelines, submit for review by ENAV/ARM/VTS Committee and forwarding to Council for approval. | | |
| **Expected numbers of sessions for completion** | Session number:  29 30 31 32 33 34 35  X  X  x  X | | |
| **Committee notes** | **Origins** | Requested by ENAV Committee at [ENAV29] | |
|  | **Agreed by session** | **TD#** | **Comments** |
|  |  |  |
|  | **Approved by Council** | *(Council Session)* | *(Date)* |
|  | **Revision Notes:** |  | |