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Technical Domain / Task Number 2 …………………………………

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Proposal of initiating discussion on the VDES resource sharing

# Summary

## The VHF Data Exchange System (VDES) is seen as an effective and efficient use of radio spectrum, building on the capabilities of AIS and addressing the increasing requirements for data through the system. New technologies providing higher data rates than those used for AIS is a core element of VDES. VDES supports e-Navigation, providing data exchange via satellite as well as terrestrial. To ensure this capability, international sharing and coordination of VDES resources is necessary. This document proposes an initiation of consideration on international cooperation and resource sharing and management for VDES communications.

## Purpose of the document

This document proposes an establishment of a new work item and agenda within ENAV Committee on international cooperation and resource sharing and management on VDES terrestrial and satellite communications. The work should start as soon as possible. Outcome of the work item will be recommendations and guidelines on this issue.

## Related documents

[1] ENAV26-4.2 Presentation: Proposals on the Use of Satellite VDES submitted by OPERI, Japan

[2] ENAV27-5.1.5 Study of satellite VDES by OPRI

# Background

## Necessity

WRC 2019 agreed to allocate VHF channels to VDES including for VDES satellite communications. This allocation allows actual start-up of VDES terrestrial and satellite communications.

Maritime Safety Committee (MSC) of International Maritime Organization (IMO), at its 103rd session (MSC103) held in May 2021 agreed a new work item for introduction of VDES into the International Convention of Safety of Life at Sea (SOLAS) and will start the consideration from 2022 for two years. This will allow VDES as an alternative of AIS and furthermore as a communication way for maritime safety and e-navigation.

These international movement will bring us a near-future wide development of VDES terrestrial and satellite communications [1] [2]. IALA has worked on development of VDES standards (G1139, etc.) under the collaboration with ITU-R. This effort should be continued.

Under these circumstances, it is necessary for IALA to consider and establish international cooperation and resource sharing and management on VDES terrestrial and satellite communications.

## Urgency

ITU-R is now considering the revision of IRU-R M.2092-0 (Technical characteristics for a VHF data exchange system in the VHF maritime mobile band) with a view to finalization in 2021 and issue of M2092-1 in early 2022.

IEC has published Publicly Available Specification (PAS) on VDES-ASM, and is in the process of development of IEC formal standards for VDES.

Under these circumstances, it is urgent for IALA to start-up the work for establishment of recommendation/ guidelines for international operation of VDES terrestrial and satellite communications in order to realize the VDES communications under the leadership of IALA.

# Discussion

Following items should be considered.

## International cooperation and resource sharing and management for VDES communications

It is necessary to consider the establishment an international collaboration on the of following points for the establishment of international cooperation and resource management of VDES communications in line of IRU-R M2092 Annex 6 Resource sharing method for VDES terrestrial and satellite services:

1 Coverage of land-based stations (control station of communication)

2 Sharing resources among land-based stations (control station of communication)

3 co-operation between VDE-TER and VDE-SAT

4 cooperation and resource sharing among VDES satellites

## Need of establishment of an international organ for cooperation of VDES satellite communication

It would be necessary to establish an international organ for international cooperation and resource sharing and management for VDES communications. This international organ may consider, establish and manage protocols for harmonization of scenario of use and application for VDES terrestrial and satellite communications.

## Systematic review on IALA Guideline for VDES

It is necessary to review and update, systematically, IALA Guideline G1117 "VDES overview" Ed.2.0(2017) and IALA Guideline G1139 "Technical specification of VDES" under the revision of ITU-R M.2092.

## Influence of VDES to AIS

It is necessary to consider and evaluate the influence of VDES to existing AIS system.

# References

1. ENAV26-4.2 Presentation: Proposals on the Use of Satellite VDES submitted by OPERI, Japan
2. ENAV27-5.1.5 Study of satellite VDES by OPRI
3. ITU-R Recommendation M.2092-1 (Draft) Annex 6

# Action requested of the Committee

The Committee is requested to establish a work item and agenda for international cooperation and resource sharing and management on VDES terrestrial and satellite communication, with a view to initiate the consideration and discussion at the next ENAV session (e.g. in March 2022). The proposer will be able to offer the moderator/coordinator for the discussion and coordination.

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1. Input document number, to be assigned by the Committee Secretary [↑](#footnote-ref-1)
2. Leave open if uncertain [↑](#footnote-ref-2)