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Information Plan to promote VHF Data Exchange System (VDES)

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Document Status

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V 1.0	12/12/2016	JACJ	Initial document
V2.0	06/03/2018	SD	Format review

Review

Name	Organisation
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1 Background

In WP1 of EfficienSea 2, IALA leads Task 1.3: Coordinating standardization of solutions. IALA manages the work In Task 1.3, preparing reports and deliverables in conjunction with the other members of the Task Group (CIRM, UKHO).

2 Introduction

This Information Plan provides a framework for managing and coordinating communications; promoting support and engendering commitment and ownership amongst those stakeholders involved in the development and implementation of the VHF Data Exchange System (VDES).

This Information Plan has been designed to promote VDES by responding to the following questions:

- Who needs to know about VDES development?

- What do they need to know? (message)

- What methods can be used to tell them? (channel / communications method)

- Who is going to do the telling? (responsible person)

- When are they going to be told? (deadline)

2.1 Background

AIS is well recognized and accepted as an important tool for safety of navigation and is a carriage requirement for SOLAS vessels (Class-A). However, because of its effective and useful technology, the use of AIS has expanded to vessels not subject to the SOLAS carriage requirement, and to completely different applications. This expanding use of AIS technology has caused significant increase in VHF Data Link (AIS VDL) loading which has become an active concern in IMO and ITU. It is necessary to consider urgently allocation of new frequencies for new and emerging applications in order to mitigate overloading of AIS VDL.

Simultaneously, because of increasing demand on radio spectrum for digital communication such as mobile phone and data, ITU now requests more efficient and effective use of radio spectrum.

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 techniques providing higher data rates than those used for AIS will become a core element of VDES. Furthermore, VDES network protocol should be optimized for data communication so that each VDES message is transmitted with a very high confidence of reception.

2.2   Reference

This document should be read taking into account to the documents listed below:

Document	Description	Status / Location
IALA Maritime Communications Plan Edition 2 – October 2012	Provides basis for development of enhanced digital communications in the maritime VHF mobile band	IALA website (Published)
Draft IALA Guideline – VDES	Provides the business / user requirements for VDES with high level overview of technical aspects of VDES.	In development / IALA E2 work / ENAV committee
Draft IALA Guideline – Strategy for digital communications	Working towards IALA Maritime Communications Plan Edition 3 / based on outcomes of trials carried out by GLA (ENAV17/11/20)	In development / IALA E2 work / ENAV committee
ITU-R Recommendation M.2092-0	Technical Characteristics for VHF data exchange system in the VHF maritime mobile band	ITU / published 10/2015)

3   Information objectives

The information objectives are:

- Raise awareness and understanding of VDES
- Promote development of full VDES capability (including terrestrial and satellite elements)
- Keep stakeholders informed and up to date on VDES developments
- Encourage support for, and engagement with, the development of VDES
- Foster cooperative and collaborative stakeholder relationships to enable mutually beneficial outcomes.
- Establish and maintain effective and transparent methods for timely communications about VDES.

3.1   Information approach

Information will be provided in coordination with the EfficienSea 2 Communications Plan and in accordance with IALA policies. The EfficienSea 2 Project Team and the IALA Secreatriat will be fully informed of the objectives and implications.

The information plan will take the following approach:

- Information will be kept as simple as possible with respect to the target audience
- Information will be provided in a timely, consistent and appropriate manner
- Information methods will make use of credible and accepted communications channels, with opportunity for feedback.
- Information methods and content will be revised as required to reflect changing objectives and feedback received.

- Information will be consistent in format; content and presentation and will reflect the IALA style guide.

3.2   Information Plan Focus

This Information Plan focuses on the coming 18 months of development, and will be revised as VDES continues to develop. The plan will tailor messages to different stakeholders. The overall goal for VDES is to:

- Provide information on the development of the VDES that will be available from the IALA website, with ongoing development of a focus area for VDES. Implementation by January 2017.

- Present and seek input on the development of VDES to all IALA Committees with a focus on specific aspects appropriate to the objectives of each Committee. Presentations, with opportunity for input to operational and technical development aspects of the VDES, will be completed by July 2017.

- Promote and seek input on the development of the VDES to identified international bodies including: IMO, ITU, IHO, IEC, IMPA, IHMA, CIRM, NI and other organisations as may be identified. This will be completed by December 2017.

4   Target Audience

The target audiences (also called 'stakeholder') for this information plan are those individuals, groups or organisations who are:

- Primary (Directly involved in the development of VDES) – this includes those who are involved at the technical and operational levels and those who are supportive and critical. Primary stakeholders are people, or groups of people, directly affected, either positively or negatively, by VDES

- Secondary (Indirectly involved in the development of VDES) – this includes those who will review the development; implement systems once developed; promote VDES as delegates to ITU, IMO and other international organs.

- Tertiary (Not involved in the development of VDES) – this includes general public and those not directly involved in VDES development or implementation.

The target audience can be further identified as 'internal' (IALA staff / IALA membership/E2 partners) and 'external' (IMO, ITU, other international organs).

4.1   Stakeholders

The stakeholders for VDES development are identified in

Table 1. In addition to identifying them as primary, secondary or tertiary, each stakeholder has been assigned a priority for engagement from 1 - 4 where:

1 = highest priority (must to address - critical stakeholder; will require conscious effort with time / resources)

2 = strong priority (need to address – important stakeholder)

3= lesser priority (needs communications, but less attention required)

4 = low priority (general communications required only)

Table 1 - Stakeholders / Target Audience for VDES development

Stakeholder	Priority	Description	Type
Internal			
Group 1 – Internal Decision Makers			
IALA Secretary General /Deputy SG	1	Confirming IALA's role / leadership in development.	Secondary
IALA Council	2	Confirming IALA's role / leadership in development.	Secondary
IALA PAP	1	Coordination of work of IALA Committees	Secondary
Efficiency 2 oversight (IALA)	1	Ensuring elements identified for completion by IALA are addressed	Primary
IALA ENAV Committee	1	Managing overall development of VDES (IALA perspective)	Primary
Group 2 – Internal Operational / technical development			
IALA VTS Committee	1	Overall development of VDES (meeting VTS requirements)	Primary
Other IALA Committees	2	Possible implications of VDES on work of the Committees	Secondary
IALA Industry members	1	Technical development / test bed implementation and reporting	Primary
IALA members (general)	3	General overview and awareness (those who are not IALA Committee members)	Tertiary
External			
Group 3 – External Decision Makers			
IMO	1	Status of development / link to e-Navigation and GMDSS modernisation. Receives reports.	Secondary
ITU	1	Spectrum allocation / focus work satellite component. Receives reports.	Secondary
Group 4 – External operational / technical development			
IEC	1	Needs performance standard to develop testing standard	Primary
IHO	2	Implications on S-100 series / presentation of information received through VDES	Secondary
IMSO	3	Expected to monitor developments.	Secondary
IMPA	1	Expected user of VDES	Secondary
Satellite (LES) providers	1	Participate in test beds / provide input to support satellite spectrum requirements at ITU	Primary

Stakeholder	Priority	Description	Type
AIS technology providers (other than IALA industry members)	1	Participate in trials test beds / provide reports.	Primary
Nautical Institute	3	Opportunity to gather input from maritime professionals / members will be users of VDES	Secondary
IHMA	3	Opportunity to gather input from HM / VTS personnel	Secondary
Group 5 – External - Other			
General Maritime Interests	4	Monitoring developments	Tertiary

5 Key messages

Key messages help to ensure that information shared and promoted is consistent. There are a number of global key messages that apply to all stakeholders. In addition, there are sub sets of key messages that need to be tailored to different stakeholder groups.

To support and promote the development of VDES, key messages used in communications will articulate the expected benefits of VDES. These messages will be reviewed and refined over the course of the development of VDES, and the life of this information plan.

The key message and broad message themes will be tailored to engage the target audience. The intent is to highlight VDES benefits and then use this as a hook to communicate more detailed information about VDES capability. Depending on the communication activity, it may also be appropriate for more detailed or specialised sub-themes to be developed.

The overriding key message for VDES is:

> *"VDES will provide enhanced digital communications on the VHF maritime mobile band, supporting the transfer of information to support safe and secure navigation, protection of the environment and the efficient movement of vessels."*

Key catch phrases to use in the promotion of VDES are:

> *VDES – a digital maritime communications evolution!*
>
> *VDES – enhancing maritime communications in a digital world.*
>
> *VDES – a truly global, standard, digital maritime communications capability.*

5.1 Broad messages

Broad message themes for VDES include:

1. VDES is a digital evolution of data exchange over existing VHF channels.

2. VDES is a truly global, digital maritime communications solution, making use of terrestrial and satellite developments.

3. VDES is made possible by the use of software defined radios and enhanced digital communications techniques.

4. VDES uses 'banded' VHF channels to provide increased capability for data exchange. While AIS can be regarded as a single lane country road with a 50km/hr speed limit (30 mph) for car traffic only; VDES can be regarded as a multi-lane highway with a 110 km/hr speed limit (60 mph) where cars, buses and trucks can transit – transferring more data, more quickly.

5. VDES is a 'system' that includes existing AIS VHF channels, including long range AIS; Application Specific Message (ASM) channels and VHF data exchange (VDE) channels.

6. VDES supports e-navigation requirements identified in the IMO Strategic Implementation Plan (SIP), and detailed in the Maritime Service Portfolio (MSP) work of the IMO on e-navigation.

7. VDES can support some communications requirements as part of the GMDSS modernization work at IMO.

8. VDES is a communications medium to transfer information – it is the communication link layer, on which applications can be developed.

9. The full VDES capability envisioned includes the ability to send data to, and from: ships (ship to ship); shore (ship to shore / shore to ship); and low earth orbiting satellites (LES) (ship to satellite/ shore to satellite; satellite to ship / satellite to shore)

10. VDES builds on the success of AIS, with packets of digital data transmitted over VHF channels that were agreed at ITU WRC-2015.

11. The current agreement from ITU does not yet include the transfer of data on the VDE channels to / from satellites.

12. VDES development needs input from stakeholders.

5.2 Stakeholders and key messages

Each stakeholder has specific expectations and issues with regards to the development of VDES. As appropriate, the overriding messages and additional key messages will be tailored to each stakeholder. This is to help ensure that the content of the communication is relevant and promotes understanding of VDES.

It is important that all communications are consistent, with the overriding message promoted at all levels. Repetition of messages is effective in ensuring comprehension, understanding and promoting further communications from the stakeholders identified.

6 Information Methods

A range of information methods will be used to engage stakeholders and promote the key and broad messages related to VDES. These are presented in Table 2.

Table 2 – Information Methods

Channel*		Information Activity
Face to Face	Briefings	Verbal updates as side bar to other events Scheduled updates (IALA SG)
	Meetings (participate in)	IALA ENAV/VTS Combined meeting, Malaysia, August 2016 IALA ENAV 19, France, September 2016 ITU-R WP 5B, Geneva, November 2016 IALA ENAV 20, France, March 2017 ITU-R WP 5B, March 2017 [date TBC]
	Presentations at Workshops / Symposiums / Conferences	IALA VTS Symposium, Malaysia, August 2016 IALA Virtual AtoN Workshop, Korea, October 2016 INC 2016, Glasgow, November 2016 IMO MSC 98 (2017) (Information paper and presentation)
Published	Progress reports	E2 project reports (updates from IALA into overall E2 reporting) Newsletter (IALA / IALA sister organisations)
	Printed media	Articles in maritime publications – Seaways, Navigation News, IALA Bulletin, WMU Alumni Magazine, Safety@Sea Media Statements
	Other	Test bed reports IALA documents related to VDES
Online	Website	VDES information, FAQ, including major announcements 'News' section of IALA website
	Social Media	VDES linkeIn / forum, including updates and documents
	Other?	Podcast / VDES updates for IALA youtube channel

Note: This list is not intended to be exhaustive.

7 Information requirements

Communication efforts will be developed and appraised against each stakeholder's information requirements.

Stakeholder	Priority	Description	Type	Communication Method	Responsibility
Internal					
Group 1 – Internal Decision Makers					
IALA Secretary General /Deputy SG	1	Confirming IALA's role / leadership in development.	Secondary	F2F – Briefing Published – Progress Reports	N Ward
IALA Council	2	Confirming IALA's role / leadership in development.	Secondary	Published – Progress Reports Online – website	N Ward
IALA PAP	1	Coordination of work of IALA Committees	Secondary	Published – Progress Reports Online – website	N Ward
Efficiency 2 oversight (IALA)	1	Ensuring elements identified for completion by IALA are addressed	Primary	F2F – Briefing Published – Progress Reports Online – website	N Ward
IALA ENAV Committee	1	Managing overall development of VDES (IALA perspective)	Primary	F2F – Briefing; Meetings; Presentation Published – Progress Reports; other Online – website; social media	J Carson-Jackson; S Doyle; N Ward; E Batty

Stakeholder	Priority	Description	Type	Communication Method	Responsibility
Internal					
Group 2 – Internal Operational / technical development					
IALA VTS Committee	1	Overall development of VDES (meeting VTS requirements)	Primary	F2F – Briefing; presentation Published – Progress Reports; Articles; other Online – website; social media	W vH N Ward; J Carson-Jackson
Other IALA Committees	2	Possible implications of VDES on work of the Committees	Secondary	Published – Progress Reports; other Online – website; social media	N Ward
IALA Industry members	1	Technical development / test bed implementation and reporting	Primary	Published – Progress Reports; other Online – website; social media	N Ward
IALA members (general)	3	General overview and awareness (non IALA Committee members)	Tertiary	Published – Progress Reports; Articles Online – website; social media	N Ward; J Carson-Jackson

Stakeholder	Priority	Description	Type	Communication Method	Responsibility
External					
Group 3 – External Decision Makers					
IMO	1	Status of development / link to e-Navigation and GMDSS modernisation. Receives reports.	Secondary	Published – Progress Reports; other F2F – Presentation (MSC 98; with inf paper) Online – website	N Ward To be advised
ITU	1	Spectrum allocation / focus work satellite component. Receives reports.	Secondary	Published – Progress Reports; test bed reports; appropriate IALA Documents related to VDES (Draft / for comment) F2F – Presentation (ITU-WP 5B) Online – website	N Ward E Batty S Bober

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Stakeholder	Priority	Description	Type	Communication Method	Responsibility
External					
Group 4 – External operational / technical development					
IEC	1	Needs performance standard to develop testing standard	Primary	Published – Progress Reports; test bed reports	N Ward
IHO	2	Implications on S-100 series / presentation of information received through VDES	Secondary	Published – Progress Reports F2F – Presentation Online – website	N Ward To be advised
IMPA	1	Expected user of VDES	Secondary	Published – Progress Reports; media release; article F2F – Presentation Online – website; social media	N Ward; J Carson-Jackson To be advised
IMSO	3	Expected to monitor developments.	Secondary	Published – Progress Reports Online – website	N Ward To be advised
Satellite (LES) providers	1	Participate in test beds / provide input to support satellite spectrum requirements at ITU	Primary	Published – Progress Reports; other Online – website	N Ward To be advised
AIS technology providers (other than IALA industry members)	1	Participate in trials test beds / provide reports.	Primary	Published – Progress Reports; other Online – website	N Ward To be advised
Nautical Institute	3	Opportunity to gather input from maritime professionals / members will be users of VDES	Secondary	Published – Progress Reports; other F2F – presentation Online – website; social media	N Ward; S Doyle To be advised
International Harbour Masters Association	3	Opportunity to gather input from HM / VTS personnel	Secondary	Published – Progress Reports; other F2F – presentation	N Ward; S Doyle To be advised

Stakeholder	Priority	Description	Type	Communication Method	Responsibility
				Online – website; social media	
Group 5 – External - Other					
General Maritime Interests	4	Monitoring developments	Tertiary	Published – Articles Online – website; social media	J Carson-Jackson To be advised

8 Information timeline

IALA has identified a number of focus areas for effort with regards to maritime communications, including VDES, in the short, mid and long term.

8.1 Short term (6 months) August 2016 – January 2017:

1. IALA is finalising the first version of the user requirements document for VDES, with a focus on the requirements of IALA members.

2. IALA is working with other organisations to ensure the requirements of other users are included in the user requirement documentation. IALA will support input to IMO, ITU, IHO and other organisations as required to promote VDES.

3. The Communications working group of the e-Navigation Committee (ENAV 19) is working to develop technical specifications to address the user requirements. This work requires input from all user groups and stakeholders.

4. IALA is engaging with sister bodies to promote VDES at the IMO and ITU. This requires a coordinated approach to ensure delegates are aware of the development status; benefits and limitations of VDES.

5. Key meeting of ITU WP-5B – November 2016.

6. IALA is participating in a VDES focus work element for the Efficiensea 2 project.

7. IALA is developing appropriate recommendations and guidance for IALA membership on maritime communications options, including VDES.

8.2 Mid-term (6 – 12 months) January 2017 – August 2018

8. IALA will complete the project work with Efficiensea 2 related to VDES.

9. Appropriate recommendations and guidelines regarding maritime communications will be published to assist IALA membership. (through IALA ENAV Committee – ENAV 20 – March 2017 and ENAV 21 – September 2017.

10. IALA will continue to publish reports on studies into maritime communications, with a focus on VDES and a focus area devoted to VDES on the IALA website.

11. Key meetings with ITU WP-5B (dates to be confirmed, likely May 2017; November 2017 and May 2018)

12. Plan presentation at IALA Conference – June 2018

13. IALA will continue to work closely with sister bodies to develop VDES, including focus work to highlight the approach to be taken for communications to and from shore stations for both terrestrial and satellite elements.

8.3 Longer term (12 – 24 months) August 2018 – August 2019

14. IALA will work with CIRM to develop testing standards for VDES equipment.

15. IALA will work closely with other organisations, including IALA members, to promote VDES at the ITU. This will include specific studies into VDES terrestrial and satellite components for input to ITU in the lead up to ITU WRC 2019.

Communication activities will be planned and managed to align with key international meeting deadlines.

Information objectives	Short term Aug 2016-Jan 2017	Mid-term Jan 2017 – Aug 2017	Longer term – Aug 2017 – Aug 2018
Raise awareness and understanding of VDES	Developed and promote information for stakeholders covering: • What VDES is • What are the benefits • Timing for development Develop fact sheet / brochure on VDES	Develop input to IMO / ITU Review Q & As on IALA VDES web page and identify any gaps or requirements in communication efforts	Develop materials and/or means to gauge understanding of VDES: • Feedback forms • Awareness session
Promote development of full VDES capability (including terrestrial and satellite elements)	Engage with satellite providers / key persons with ITU to promote satellite component Promote test beds / reporting	Promote test beds / results Analyse results of test beds / present on findings Input to IMO, ITU, other…	Work with IALA / ITU members to coordinate approach for ITU WRC2019 Input to ITU to support all aspects of VDES
Keep stakeholders informed and up to date on VDES developments	Identify opportunities for stakeholders to have input into the VDES program Presentations to IALA Council / Committees / workshops / etc.	Update Presentation to IALA Council Review and refine communication objectives, messages and strategy Updated articles in maritime publications	Update presentation to IALA Council

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Information objectives	Short term Aug 2016-Jan 2017	Mid-term Jan 2017 – Aug 2017	Longer term – Aug 2017 – Aug 2018
	Set up and promote the IALA VDES web page with FAQ VDES articles in maritime publications	Presentation to IMO, ITU, other	
Encourage support for, and engagement with, the development of VDES.	Identify and develop channels to promote stakeholder engagement Participate in E2 project	Review Information products Fact Sheet Brochure	Review Information products • Fact Sheet • Brochure
Foster cooperative and collaborative stakeholder relationships to enable mutually beneficial outcomes	Engage stakeholders in meetings / workshops / user requirement and technical requirements the VDES Promote regional / technology focused workshops. Develop materials for workshop leaders to use	Promote information sharing through test bed / trial results Continue to engage stakeholders through workshops / meetings Develop materials for workshop leaders to use	Develop communication products targeting external audiences
Establish and maintain effective and transparent mechanisms for timely information about VDES.	Develop and release Communications Plan for information Work with E2 project / other projects developing VDES.	Review / Update communication strategy and products Work with E2 project / other projects developing VDES.	Review communication strategy

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9 Budget

While many activities will be based on opportunity, some activities will require funding. Budget for these activities will be identified through E2 and related activities.

10 Monitoring and evaluation

Evaluation is critical to measure whether the communication objectives have been achieved. The effectiveness of the communication activities will be regularly monitored and evaluated by the e-Navigation committee, WG3 (*Communications* working group) and the IALA E2 Project Manager and reported through the Secretary General, IALA to IALA Council.

10.1 Measurement of success

As part of monitoring and evaluation process, mechanisms will be developed and implemented to measure the success or otherwise of the communication objectives. The initial parameters for measuring success are as set out below.

Communication objectives	Measurement of success	Mechanism
Raise awareness and understanding of VDES	Stakeholders have an increased awareness and knowledge of VDES	Short survey using surveymonkey to samples stakeholders as a benchmark, then resend at intervals.
Promote development of full VDES capability (including terrestrial and satellite elements)	Participation at meetings related to VDES remains steady, with effective engagement. Stakeholders have an understanding of what VDES will mean for them	Status of VDES at international meetings Agreement for VDES satellite component
Keep stakeholders informed and up to date on VDES developments	Stakeholders are knowledgeable of VDES capabilities and embrace VDES.	Level of participation in VDES related meetings / workshops.
Encourage support for, and engagement with, the development of VDES.	Stakeholders identify opportunities for test beds / highlight issues and questions to appropriate forums.	Tests beds / trials of VDES completed and promulgated. Activity on VDES area of IALA website monitored.
Foster cooperative and collaborative stakeholder relationships to enable mutually beneficial outcomes	Stakeholders have a positive perception of the changes VDES program will bring about	Q&A analysis of feedback to determine issues, knowledge gaps, level of interest; and identify successful mechanisms for engagement
Establish and maintain effective and transparent mechanisms for timely communications about VDES.	Stakeholders remain informed and active in VDES development.	Short email survey using surveymonkey to samples stakeholders as a benchmark, then resend at intervals.