

Draft FAQ regarding VDES

Questions highlighted in Green are complete have already been posted to the IALA website.

Questions highlighted in Orange have been reviewed and are ready for posting to the IALA website.

Forward full document to ENAV22.

Question	Proposed Response
1. What does VDES stand for?	VHF Data Exchange System (VDES)
2. What is VDES?	VHF Data Exchange System (VDES) is a radio communication system that operates between ships, shore stations and satellites on Automatic Identification System (AIS), Application Specific Messages (ASM) and VHF Data Exchange (VDE) frequencies in the Marine Mobile VHF band.
3. What is the difference between VDES and AIS?	AIS is a component of VHF Data Exchange System (VDES) which operates using the Gaussian Minimum Shift Keying (GMSK) modulation scheme, other components of VDES will use higher capacity modulation schemes.
4. Why VDES?	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 is a core element of VDES. Furthermore, VDES network protocol is optimized for data communication so that each VDES message is

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	transmitted with a high confidence of reception. VDES supports e-Navigation and provides access to the Maritime Cloud.
5. What frequencies does VDES use?	VHF Data Exchange System (VDES) comprises a suite of channels in the Maritime mobile VHF band, which are detailed in the IALA VDES Guideline on the IALA website [http://www.iala-aism.org/product-category/publications/guidelines/] (Ref. Guideline number / section)
6. What is the roadmap for VDES?	VHF Data Exchange System (VDES) will continue to be developed over the next few years in accordance with the roadmap published in the VDES Guideline. [http://www.iala-aism.org/product-category/publications/guidelines/] (Ref. Guideline number / section)
7. Are there any VDES test beds?	There are several VHF Data Exchange System (VDES) test beds detailed on the IALA website [http://www.iala-aism.org/products-projects/e-navigation/test-bedsprojects/]. Some of these test beds are currently active and others have now completed and the results are published under the test bed name on the website.
8. Where can I find more information on VDES?	Further information on VHF Data Exchange System (VDES) can be found in the IALA Guideline on VDES which is located on the IALA website [http://www.iala-aism.org/product-category/publications/guidelines/]
9. Who are the users of VDES	Current users of AIS and... 1. Mariners; including those engaged in Commercial Trans-ocean and

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	<p>inland waterway shipping & light commercial operations, fisheries, marine transportation services, recreational activities, ocean and waterway research, and maritime monitors.</p> <p>2. Administrations, VTS, Port authorities, Maritime Authorities, and Regulatory Authorities.</p> <p>3. Organizations, scientific, environmental, educational, industrial and other service providers for Maritime industry</p>
10. How does an IALA member prepare for VDES?	IALA Guideline 1117 (edition 2) provides an overview of VDES, including considerations that may be appropriate to take into account for implementation of shore side infrastructure to support VDES.
11. What are the benefits of the satellite component of VDES?	<p>The VDES satellite component provides very large area coverage cost effectively, this is particularly important in the Polar Regions outside geostationary satellite coverage. In addition, VDES satellite can assist with coverage beyond the range of terrestrial VDES, or where VDES infrastructure does not exist.</p> <p>The satellite component of VDES may increase the ship terminal adoption rate as a cost effective, global (but low capacity) capability while the terrestrial VDES is widely deployed.</p> <p>As an example, NAVAREA XIX is 1500 km wide at 75 N and the North-South distance is more than 2000 km between 65 N and 85 N. This</p>

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	<p>area is poorly served with affordable communications, and this is the reason Norway launched its Norsat-2 satellite with a VDES test transceiver in July 2017. Two such satellites in polar orbits would provide automatic store and forward VDES messaging for typically 10 minutes 26 times per day for latitudes higher than 70 degrees. A terrestrial VDES base station may have limited coverage range, and there are very few islands with access to the internet and power in the Arctic. Providing coverage with a terrestrial solution only would not be possible in these regions.</p>
12. What are the technical characteristics of VDES?	
13. What will VDES deliver?	
14. How does VDES work ?	
15. What are the user needs for VDES? [what are the user requirements for VDES?]	
16. What are the benefits of VDES for the users? [Will VDES help protect the marine environment?]	<p>VDES provides a level playing field that all vessels whatever their size can use.</p> <p>Technology wise unlike Inmarsat, Iridium, or VSAT which all require specialised antenna systems or terminals, VDES will only require a simple antenna and a transceiver modem that can be linked to a display, on board equipment or linked by blue tooth to a smart tablet or phone.</p>

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	<p>A further advantage of VDES is that it is that unlike any other service it can use terrestrial or satellite channels to exchange information. It is as such is unique in its ability to exchange information by satellite or terrestrial and suitable for all vessels and maritime infrastructures irrespective of their size.</p> <p>Safe AIS VDL / provides communications facilities to ensure a safe navigation environment.</p>
17. Who will VDES impact? [Does VDES pertain to only SOLAS vessels and equipment?] [who will be affected by VDES implementation?]	
18. How will VDES affect small commercial, fishing and recreational vessels?	
19. Are there training implications for VDES?	
20. Will VDES change traditional navigation?	
21. Will VDES impact on the provision of aids to navigation and VTS?	
22. What are some of the expected consequence of VDES?	
23. What is the cost implication for VDES?	
24. What is the [usage] limitation of VDES? [What are the parameters of VDES, including amount of data that can be exchanged, range of VDES, etc?.]	
25. Will VDES replace other communications means (i.e. Inmarsat /	VDES will complement digital maritime communications ...

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iridium, VSAT)?	<p>E2 Deliverable / maritime digital comms reference</p> <p>Additional / designed for maritime use / why VDES over other?</p> <p>VDES provides a level playing field that all vessels whatever their size can use. Technology wise unlike Inmarsat, Iridium, or VSAT which all require specialised antenna systems or terminals, VDES will only require a simple antenna and a transceiver modem that can be linked to a display, on board equipment or linked by blue tooth to a smart tablet or phone. A further advantage of VDES is that it is that unlike any other service it can use terrestrial or satellite channels to exchange information. It is as such is unique in its ability to exchange information by satellite or terrestrial and suitable for all vessels and maritime infrastructures irrespective of their size.</p>
26. How will VDES units be approved (type approval, testing standards)?	IEC work reference
27. How will applications used on VDES be developed, tested, approved (for example - type approval – self certification or third party?) and be made available?	
28. What will it cost?	
29. How will make my life better? (small boat / big boat)	