European Maritime Safety Agency

Meeting: Pilot project on "Facilitation of ship to shore reporting" – 4th meeting

Place and date: Video conference, 10 December 2020

Agenda item: Interaction with VDE capability project – progress report

Document number: 4.5

Submitted by EMSA

Summary	The document presents the progress report on the VDE capability project.
Action to be taken	As per paragraph 3.
Related documents	3.4 Possibility for ships to report by electronic means - progress report.

1 Background

At the 2nd meeting of the pilot project for the Facilitation of Ship-to-Shore Reporting, which took place on 25 September 2019, EMSA informed the project participants on the new technological advancement known as the Very High Frequency (VHF) Data Exchange System (VDES) and its benefits.

The VDES is primarily a maritime radiocommunication system which provides the means for exchange of digital data by integrating the functions of terrestrial and satellite VHF data exchange, application specific messages (ASM) and automatic identification systems (AIS). The data exchange can take place between ships, shore stations and satellites through the VDES terrestrial and satellite components1 using frequencies in the VHF Maritime Mobile band (156 025 - 162 025 MHz). The VDES concept, as developed by IALA2 and by the International Telecommunication Union (ITU), will offer a more robust communication platform that allows for better digital data exchange between ships and between ships and shore. At IMO, discussions on the use of VDES are expected to start soon, particularly in respect to the amendments needed in the relevant regulations of the SOLAS Convention (Chapter V and possibly Chapter IV). This will allow for the integration of the VDES as a new digital maritime radiocommunication system that can be used within the context of the implementation of e-navigation and potentially within the modernization of the Global Maritime Distress and Safety System (GMDSS).

During the past years, EMSA has been collaborating extensively with the European Space Agency (ESA) and Norway (Norwegian Coastal Administration and Space Norway) through a joint demonstration project to test the feasibility of ship reporting through the satellite component (VDE-SAT) of the VDES by using Norway's NorSat-2 LEO satellite with a VDES test-payload and VDES equipment on board (test) vessels.

During the facilitation of ship to shore reporting meetings, Member States identified a use case aiming at reporting MRS/VTS data to coastal stations by electronic means. Some synergies were found between the two projects and EMSA presented the concept of a ship-to-shore MRS/VTS reporting by electronic means

[1] The regulatory frequency spectrum required for the satellite component of the VDES was approved by the ITU World Radiocommunication Conference (WRC 19) in November 2019.

[2] IALA Guideline G1117: VHF Data Exchange System (VDES) OVERVIEW, 12.2017, https://www.iala-aism.org/product/vhd-data-exchange-system-vdes-overview-1117/

during the 2nd meeting, which, in addition to using existing communication links (3G, 4G, and satellite communication), will test the VDE-SAT connection to address cases of ships sailing in high seas. The proposal was approved by the participants.

Considering the technical similarities between the foreseen VTS/MRS reporting by electronic means, and the Integrated Ship Report (ISR) message content, at the 3rd meeting it was agreed to re-use the data exchange service of the Integrated Reports Distribution (IRD) system with Member State authorities, and to extend it to cover the possibility for ship data providers to report VTS/MRS reports to Coastal Stations.

2 Current status

The system-to-system interface is being developed in IRD phase 3 to address the exchange of data between IRD and the VDE-SAT ground station (operated by Space Norway) to communicate ISR, VTS/MRS reports and responses from authorities. It is expected that IRD phase 3 will be available in March/April 2021.

A specific “on-board application” for creating MRS/VTS reports and displaying returned responses will be developed through a specific contract. The tender has been launched and the deadline for receiving offers is set to 9 December 2020. This “on-board application” will be installed on-board test ships and linked with VDES equipment. There will be limited number of VDES devices for testing (maximum 5).

A conceptual overview is presented in the diagram below (blue colour indicates changes or new developments):

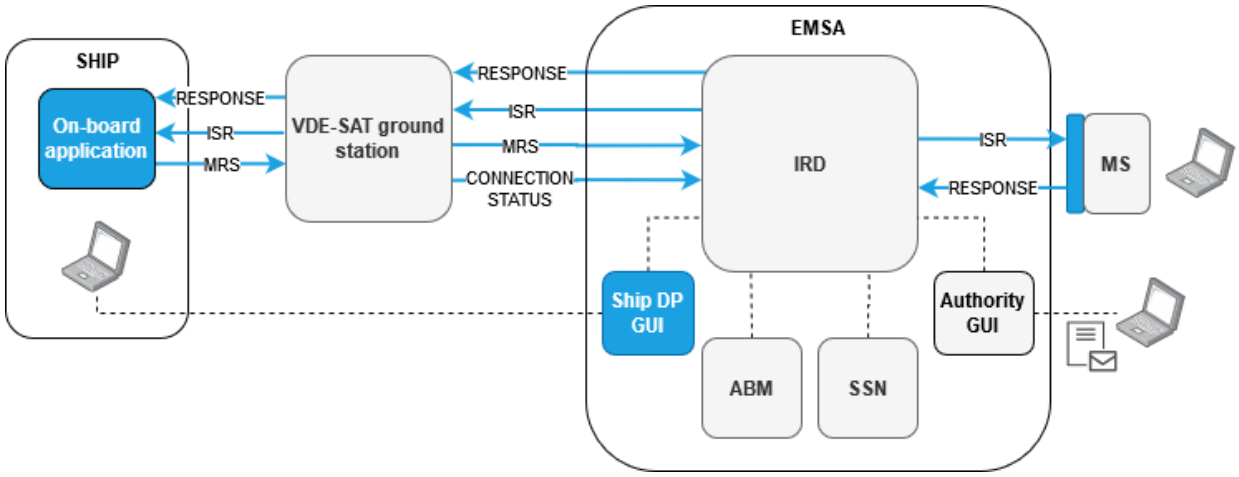

Figure 1: Context diagram of IRD phase 3 (note: “Ship DP GUI” stands for “ship data provider GUI”).

3 Actions required

Member States are invited to take note of the above information and to provide their feedback.

MSs willing to participate in the testing of the VDE-SAT solution are invited to express their interest and to identify ships which could participate in the test and have VDES equipment installed onboard.