

Meeting: Pilot project on “Facilitation of ship to shore reporting” – 7th meeting

Place and date: Video conference, 14 October 2021

Agenda item: IRD phase 3 – VDES on-board application – progress report

Document number: 7.4

Submitted by EMSA

Summary	The document presents the progress report on the development of a specific on-board application (OBA) for exchange of MRS/VTs reports via VDE-SAT.
Action to be taken	As per paragraph 4.
Related documents	7.3 IRD phase 3 – planning and preparation of operational tests and demonstration

1 Background

During the facilitation of ship to shore reporting project meetings, the project participants identified a use case aiming at reporting of MRS/VTs data to coastal station by using an on-board application or graphical user interface. EMSA presented the concept of ship-to-shore MRS/VTs reporting by electronic means, which, in addition to using existing communication links (internet through 3G, 4G or satellite communication), will test VDE-SAT¹ connection when the ship is sailing on high seas. The proposal was approved by the participants and the content of an IRD phase 3 was agreed.

Tests of the VDE-SAT connection are being executed in close cooperation with the European Space Agency (ESA) and Space Norway (SPN) with whom EMSA reached an agreement to participate in a VDE-SAT Application and Services Platform (VASP²) demonstration project, using a Norwegian NorSat-2 LEO satellite as a testbed, and involving test vessels equipped with VDES equipment. It has been agreed between the project partners that EMSA is responsible for the development of a specific ship on-board application (OBA) to allow sending VTS/MRS reports to shore and consulting responses from authorities.

2 Current status

The contract for the development of the OBA was signed in May 2021 with Kongsberg Seatex AS (KSX). The development took place during summer and has been completed in September 2021. Full communication

¹ The VDES (VHF Data Exchange System), as developed by IALA, offers a more robust communication platform that allows for better data exchange between ships and between ships and shore via satellites. The new system aims to facilitate the introduction of new applications and services that will improve maritime radio communications significantly. The use of satellite communications in the VDES is facilitating the possibility of having a standardised and automated reporting and improved communications when a ship is outside coastal coverage areas.

² More information about VASP project can be found at: <https://business.esa.int/projects/vasp>

chain (OBA – VDE-SAT ground station – IRD) is being tested by using Internet connection between KSX development environment and EMSA pre-production environment.

The VDE-SAT OBA offers two main functionalities:

- Graphical user interface (GUI) for ship data providers, to consult, create, update and submit VTS/MRS reports to the maritime authorities and consult authorities' responses;
- Backend services to orchestrate message exchanges with the VDE-SAT equipment installed on-board the ship.

The concept of the OBA is depicted in **Error! Reference source not found.** below. Blue boxes indicate developments being executed by KSX.

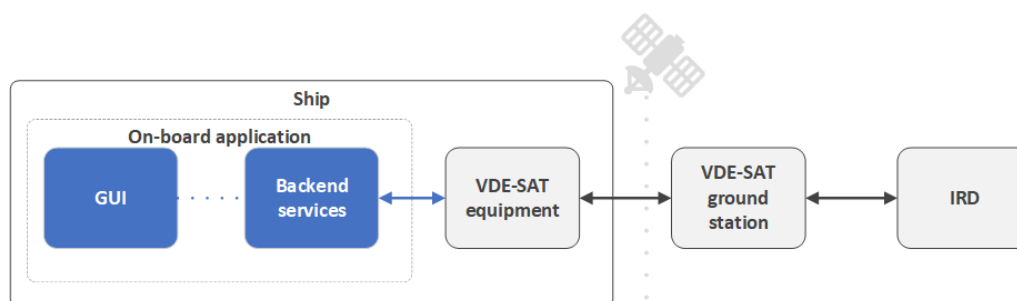


Figure 1: Concept of the On-Board Application

Operational testing is foreseen to be carried out around the BAREP reporting area with 8 vessels flying the Norwegian flag. The vessels will also be involved in other testing activities under the VASP project (e.g. SAR coordination and ice chart distribution services). The testing will be carried out in close cooperation with SPN and ESA.

The VDE-SAT equipment has already been installed on two Norwegian vessels. A third installation is expected to be completed by mid-October, with the site acceptance test (SAT) of OBA.

3 Planning for VDES OBA

The following milestones are planned for the OBA:

- Development: May – September 2021 (completed)
- Factory acceptance test (FAT): end-to-end communication testing between KSX development environment and IRD – October 2021.
- Site acceptance test (SAT): application is tested onboard first participating vessels – October 2021.
- Operational tests, maintenance: November 2021 – January 2022.

4 Actions required

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