

Press Release

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Sternula to Lead new Danish VDE-SAT Partnership

Small low-orbit satellites shall ensure that vessels in difficult waters will have better onboard communications options. This will save the vessels thousands of miles of travel time and increase the level of safety to the crew. A new partnership project aims to develop a solution for Denmark's first commercial satellite operator, Sternula, to launch the first out of 50 satellites for distribution of ice charts and other maritime digital services in 2022.

The new research project, which is named MARIOT (Maritime Internet-of-Things), will demonstrate that micro satellites in low orbit can provide cheap data exchange for maritime safety and navigational services even in difficult waters. Initially, the project will focus on Arctic demands because the diminishing sea ice around the North Pole opens for new sea routes saving thousands of miles of sailing compared to the traditional inter-continental routes.

The next step will be common safety and navigational services such as maritime safety information and coastal surveyance. In the long term, the system will provide connectivity for a range of industrial services including e.g. preventive monitoring of ship engines and critical systems onboard.

The project is based on the new *VHF Data Exchange System* (VDES) which is the 2nd generation of the popular AIS standard. AIS is a system that enables ships to exchange small messages containing ship position, course, and speed with other ships and coastal radio networks over the VHF antenna. It is installed in more than 200,000 vessels today. AIS is limited by the terrestrial range of VHF radio of around 30 nautical miles.

VDES offers a more efficient exchange of many more types of data, and adds satellite connectivity. The project will exploit that in November 2019, dedicated radio spectrum was allocated globally for satellite-based VDES. This means that there is currently a window-of-opportunity for the first global VDES network.

It will be three Danish "New Space" companies, GateHouse, Space Inventor, and Satlab, who will develop the technical components in the project. Aalborg University shall contribute with technological knowhow from its many "CubeSat" missions over the past 20 years. The Danish Meteorological Institute (DMI) participates based on concrete maritime services to be adapted in the project for VDES. The project is headed by newly-established satellite operator, Sternula.

Lars Moltsen, Founder and CEO of Sternula said, *"This project will help us in achieving our goal of becoming Denmark's first commercial satellite operator and bring a range of new digital services to the maritime sector. We have selected a number of highly competent partners to work with us over the next 3 years. It will be very interesting and hopefully also a lot of fun!"*.

The MARIOT project is partly funded by Innovation Fund Denmark by 20 million kr. (2.7 million Euro) and will significantly strengthen the Danish maritime ICT sector and space industry. On top of the development of a technical solution in the form of a satellite and its underlying network, the partners want to develop a scalable platform to enable service providers to offer new innovative solutions. Denmark has the World's 5th largest merchant fleet and a leading position in maritime ICT, which will be a great asset for this type of project.

About Sternula

Sternula offers global VDE-SAT connectivity for maritime authorities and industry through our own fleet of advanced micro satellites in Low-Earth Orbit (LEO) which will be operational from 2022. At Sternula, we are proud to enable safety at sea and to help shipping companies save costs and reduce pollution.

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See also:

<https://www.sternula.com/index.php/maritime-iot-mariot>