

Project title: SHIPTRACK - Improving ship and cargo tracking with multi-source spatial data

Duration: January 2021 - December 2026

Client: The Research Council of Norway

Project leader: Roar O. Ådland

Project description

The tracking of ships' movements around the globe has become substantially easier over the past decade through the use of data from the Automated Identification System (AIS) - position data that are sent out by all oceangoing ships that can be picked up by satellites. However, AIS data has several shortcomings: they are incomplete in space and time, they can be manipulated, the AIS transponder can be turned off, and there is no information about the type of cargo onboard.

The objective of the SHIPTRACK project is to investigate and demonstrate how other types of satellite data can be used to supplement and complement data to increase the accuracy and information that can be extracted about global ship and cargo movements. We are particularly interested in optical satellite data (i.e. pictures of the earth's surface) and radar satellite data that measure the height of objects and landscape formations.

As an example, we can envisage that optical data can be used to identify the type of commodity stored in a particular port terminal, which can then be used as input to identify the cargo that is loaded or discharged from a ship calling at the terminal. Radar satellite data, on the other hand, can potentially be used to measure the height of port stockpiles of commodities such as coal over time, facilitating the tracking of supply and demand dynamics of the commodity.

The SHIPTRACK project is a multidisciplinary co-operation between researchers at SNF AS at the Norwegian School of Economics in Bergen, Norway and UiT Arctic University of Norway, Narvik, as well as startup vake.ai, shipowners Utkilen and Western Bulk, and the Bergen Shipowners' Association.