

19th SYMPOSIUM ON SMALL SATELLITE MISSIONS (B4)
Small Earth Observation Missions (4)

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JOINT EMSA/ESA INITIATIVE FOR AN EUROPEAN SATELLITE AIS PROGRAMME

Abstract

Space-based Automatic Identification System (SAT-AIS) will provide AIS data via satellite, allowing for the detection and tracking of seafaring vessels on global scale and contribute therefore to maritime awareness. The provision of SAT-AIS data would bring additional added value to existing maritime information services. SAT-AIS will be able to assist European entities and institutions in law enforcement, fisheries control campaigns, maritime border control operations, maritime safety and security issues including marine pollution response, search and rescue and anti-piracy.

The possibility of establishing a European-based SAT-AIS capability is being considered by ESA in partnership with the European Maritime Safety Agency (EMSA). The ARTES 21 SAT-AIS element currently defines the design of a sustainable space-based system that will provide AIS data as a self-standing institutional system or as a hybrid solution in combination with commercial systems. EMSA and ESA are currently implementing a SAT-AIS Data Processing Centre (DPC) under a joint project team. Presently EMSA is developing an Integrated Maritime Data Environment (IMDatE) that will host EMSA's new SAT-AIS data processing service. ESA has provided EMSA with complementary SAT-AIS data and performance evaluation to the Blue Belt pilot project whose aim was to explore new ways to promote and to facilitate Short sea shipping in the European Union by reducing the administrative burden for intra-Community trade. The use of SAT-AIS data helped customs to benefit from an added degree of certainty with regard to ship's voyage when ships were transiting outside the range of shore based AIS coverage.

The current SAT-AIS initiative covers activities that are implemented through different ARTES (Advanced Research in Telecommunications Systems) programme elements, which will be discussed in detailed in the paper:

- ARTES 5 – technology activities, currently underway as antenna miniaturization, receiver developments and performance testbed.
- ARTES 20 – implementation and validation of the Data Processing Centre in close cooperation with EMSA for full data integration into SafeSeaNet services.

- ARTES 21 – covers the system design (phase B1 studies), comparative performance assessments, as well the exploration of possible Hybrid Solutions and Public Private Partnership (PPP) implementation schemes for the European SAT-AIS operational system.

Consultation with users has taken place through workshops hosted jointly by ESA and EMSA. The 3rd EMSA/ESA information meeting took place in January 2012. The outcome of the meeting together with the current achievements and updates of the joint European SAT-AIS programme, are summarized in the following paper.