MAREC

MAREC

Key facts

Full name
MAREC

Project call number
GSA/GRANT/03/2017

Project call
Development of SBAS-enabled Shipborne Receivers

Funding
714 285,71 EUR

EU contribution
500 000,00 EUR

Topic
Maritime

Market segment
Maritime

Project start/end
01/03/2018 – 31/12/2020

Context and motivation

The Global Navigation Satellite System (GNSS) has become the primary means of obtaining Position, Navigation, and Timing (PNT) information at sea.
The current existing capabilities of the Global Positioning System (GPS) constellation, although adequate for ocean navigation, have some shortfalls for coastal navigation: some user communities have a need for enhanced performance, and they can benefit from the available "augmentation" techniques, resulting in improved GPS performance.
Nowadays, the users can take advantage of Satellite-Based Augmentation Systems (SBASs). The maritime domain has been using SBAS for several years and it is supported by GNSS receivers used in the recreational and professional sectors.
The SBAS/European Geostationary Navigation Overlay Service (EGNOS) can be used to complement the differential GNSS (DGNSS) for the provision of enhanced accuracy and integrity information with additional benefits.
However, the equipment standards are not yet available for using SBAS for navigation under the International Convention for the Safety of Life at Sea (SOLAS) rules.
In this context, the MAREC project comes into play, with the objective of supporting **SBAS standardisation for the maritime domain.**

Targeted GNSS innovation

SBAS

Targeted Product

SBAS guidelines for SOLAS and non-SOLAS applications and AIS

Scope

The MAREC project contributes to the ongoing work with **SBAS standardisation for SOLAS and non-SOLAS applications both for navigation equipment and for AIS.** Among the achievements of the MAREC project it is worth mentioning the **guidelines for the implementation of SBAS in the maritime domain and** contribution to the work on **test specifications.**
The project also raised awareness of the benefits of using SBAS.

Challenge & technical solution

In the project, the **SBAS functionality was added to existing GPS and DGPS navigation receivers** from Kongsberg Seatex. The **implementation was carried out in compliance with the SBAS guidelines**, foreseeing possible modifications to solve issues arising during implementation.
As a result, three prototype receivers were achieved, i.e. :

- EGNOS-enabled Shipborne Receiver for navigation in SOLAS vessels
- EGNOS-enabled Shipborne Receiver for navigation in non-SOLAS vessels
- EGNOS-enabled Shipborne (AIS) Automatic Identification System mobile station.