

SEASON

Satellite Early Alerting for Safety Of Navigation

Key facts

Full name

Satellite Early Alerting for Safety Of Navigation

Project call number

EUSPA/GRANT/04/2022

Project call

Emergency Warning Satellite Service - Galileo Devices

Funding

984 738,91 EUR

EU contribution

689 305,33 EUR

Topic

Emergency Response

Market segment

Emergency Management and Humanitarian Aid

Project start/end

01/04/24 – on-going

Galileo differentiators

EWSS

Context and motivation

SEASON aims at relying on VDES (VHF Data Exchange System) to support the diffusion of EWSS (Early Warning Satellite Service) in the maritime environment and, thus, to improve safety and security of the navigation. The concept of the proposed solution is based on a VDES equipment with an integrated EWSS receiver. The VDES standard is the successor of AIS (Automatic Identification System), an important system largely used in the maritime world, introduced in 2002. AIS was initially

conceived for collision avoidance and was mandatory for SOLAS (Safety Of Life At Sea) vessels (above 500 gross tonnage).

AIS was then expanded to encompass other users (fishing fleets, inland shipping, recreational vessels) and successively evolved into safety, security and tracking applications (AIS AtoN, AIS SART, AIS MOB, AIS EPIRB, Satellite tracking, etc).



Targeted GNSS innovation

Adoption of Galileo Emergency Warning Satellite Service in maritime



Targeted Product

VDES equipment (VHF Data Exchange System) with Galileo EWSS

Scope

SEASON is to develop a new VDES equipment with the capacity to decode Emergency Galileo Messages (EWM) and display notifications to seafarers. A VDES device will be integrated with a GNSS receiver, Galileo compliant, to which the capability to decode the EWSS information will be added, together with the possibility to inform the user through an audio/visual alert. To do this, the device will be equipped and integrated with a display and a sounder. Moreover, thanks to the digital nature of the VDES, the EWSS information exchange may be integrated with, and portrayed on, external systems on-board, such as the integrated bridge.

Challenge & technical solution

Some of the challenges for portable application would be the dimensions of the antenna and the power consumption, in this case the proposed solution is based on a device that will be carried on board of vessels, thus the antennas will be installed on the vessel and are not considered a critical aspect. Regarding the power consumption, the proposed solution can be considered as a "semi-fixed" installation, in the sense that it will rely on the vessel power source, however the vessel itself, while in navigation, shall be able to count on its own power reserve to feed all the onboard system including the VDES/EWSS.