



***GAMBAS - Galileo Advanced features for the Maritime domain:
Breakthrough Applications for Safety and Security***

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**Maritime, inland waterways, fisheries and aquaculture
session – User Consultation Platform 2022**

3 October, Prague



AGENDA

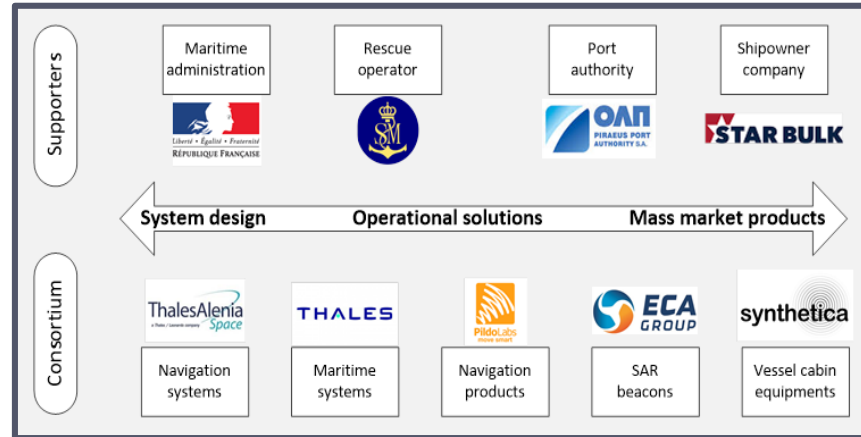


GAMBAS project
Galileo SAR Services
Distress Position Sharing
Demonstration
Consultation



GAMBAS – consortium & planning

Partners and supporters from 3 nationalities directly involved to address safety and security issues



Kick Off Jan.
2021

Demonstrations Q2 2023

Closure mid-2023

GAMBAS - Objectives

To support the deployment of Galileo exclusive features for the maritime domain:

- SAR Return Link Services
- Location Authentication Service
- Emergency Warning Service

The GAMBAS project will demonstrate the new exclusive Galileo services developing 3 exclusives products:

1. NEW GENERATION SSAS BEACON *

Supporting new Galileo Return-Link services and relying on state-of-the-art waveform design

- > Better discretion for enhanced security.
- > New capabilities for more efficient SAR operations.
- > Authenticated position for higher GNSS resilience.

2. NEW TOOL FOR MARITIME SAR OPERATORS

Enabling new Galileo Return-Link & Emergency Warning services in an ergonomic way for SAR operators

- > New capabilities for more efficient SAR operations.
- > Complete integration in existing procedures.
- > No additional workload for SAR operators.

3. NEW MODERNIZED GMDSS

Enabling new Galileo Return-Link & Emergency Warning services for Ship-owners community

- New capabilities for more efficient SAR – ship-owner collaboration
- Complete integration with existing procedures and equipments
- No additional workload for vessel's crew

Galileo SAR Services

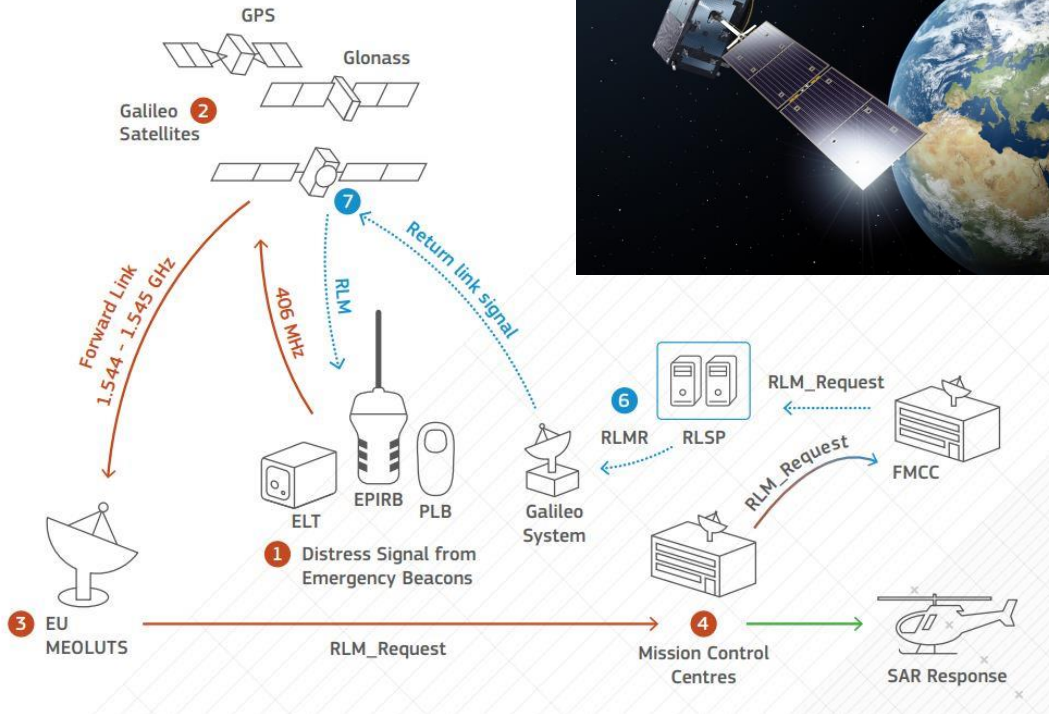
Galileo SAR Return Link

Automatic Acknowledgement – to provide an automatic acknowledgement to the beacon

Two-Way Communication – to allow the SAR forces and the beacon user to exchange messages

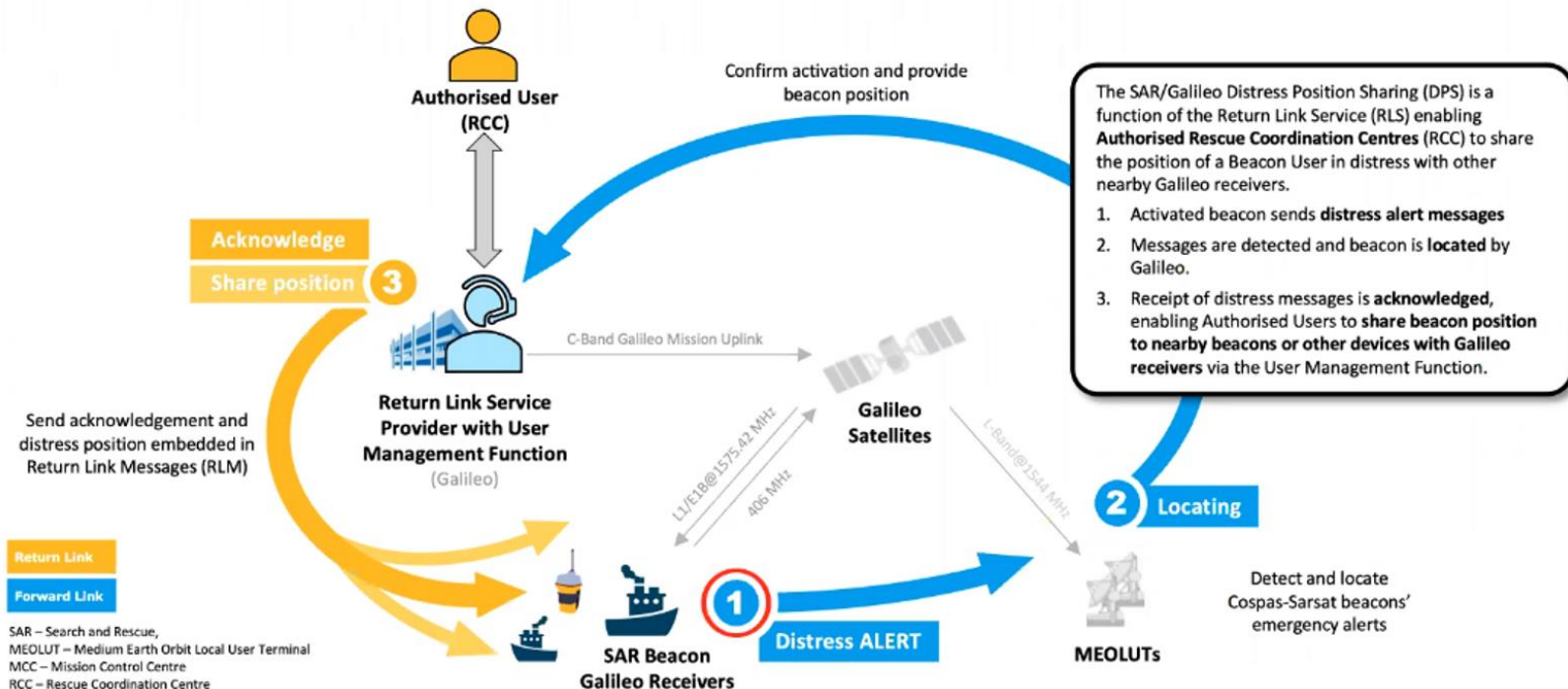
Distress Position Sharing – to inform GNSS handheld or manned devices about nearby activated distress beacons

Beacon Command Service – to remotely activate/de-activate activate and deactivate distress beacons



Distress Position Sharing

To broadcast a distress position to nearby and / or pre-determined stakeholders in order to improve the Search & Rescue operations.



Distress Position Sharing

Two different complementary operational concepts

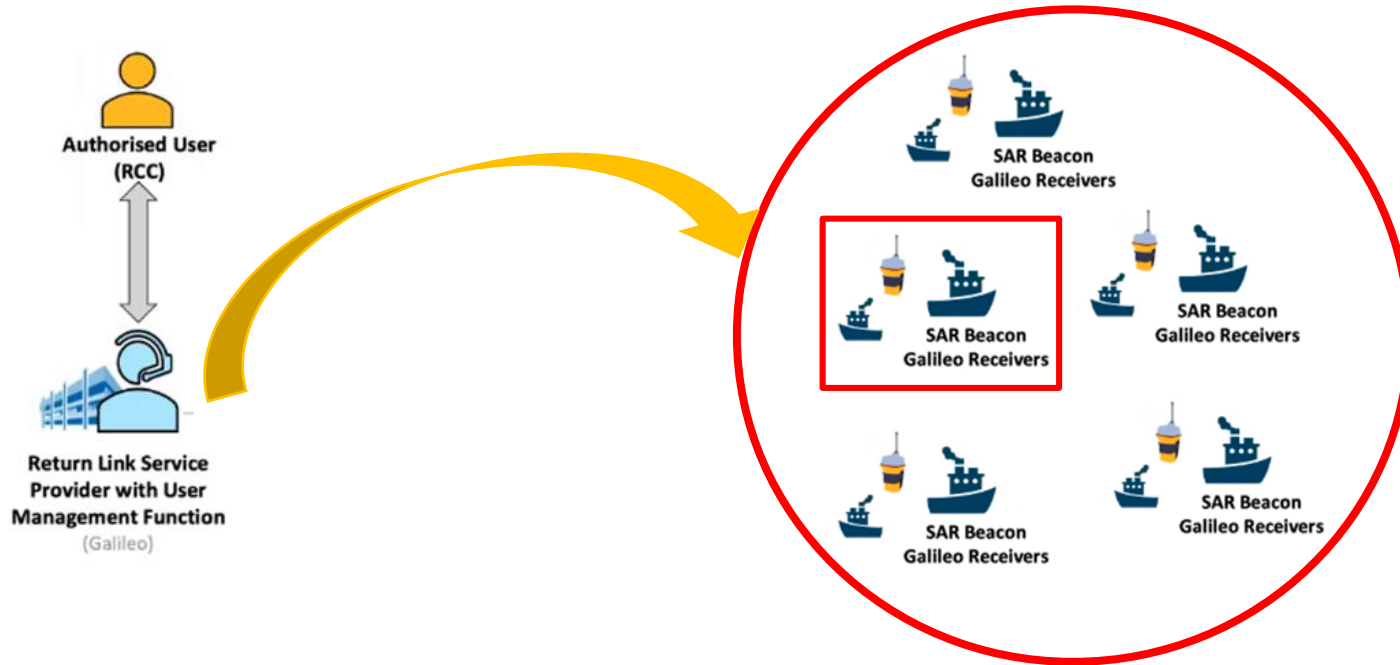
1. **Beacon pairing/grouping concept**
2. **Geographic targeting concept**

One fundamental concept

- The request for a Distress Position Sharing RLM relies on the RCC in charge of the initial distress. The RCC is fully responsible of the use of the service
- The RCC can use the service through a dedicated web-interface connected to RLSP

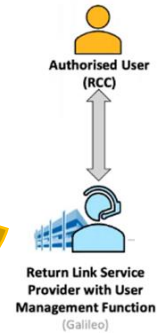
Distress Position Sharing

Beacon pairing / grouping concept



Distress Position Sharing

Geographic targeting concept



Distress Position Sharing

Main benefits for maritime community:

- For RCC, Easy reach of vessels in the distress zone
- DPS information received by compatible GNSS receiver: no additional equipments for vessels
- For RCC, communication with nearby vessels is faster
- Mobile satellites communication systems are recognized by the IMO A.1001 (25) resolution

Similar existing services:

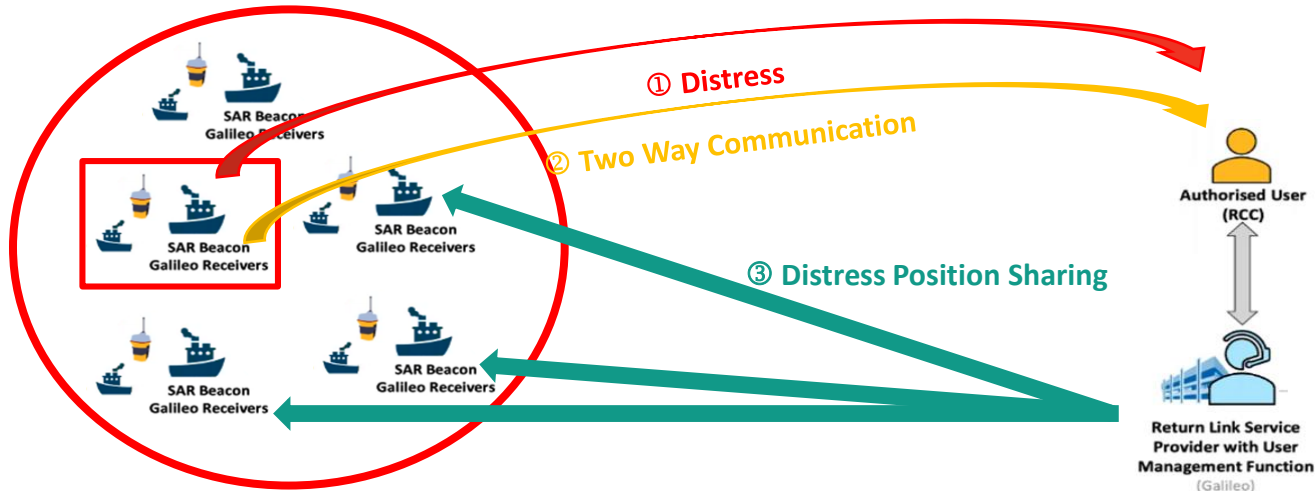
Distress Alert Relay (DAR) feature already existing in GMDSS

GAMBAS' solution added value:

- Free of charge
- Satellite based technology: global access and independent from bad weather
- Service compatible with existing GNSS receivers
- Provide complementary service: enlarge the potential vessels to come on rescue

GAMBAS Demonstration

Distress Position Sharing is to be activated during a SCENARIO related to



3 demonstrations being organized:

- Lomé, TOGO
- Barcelona, SPAIN
- Athens, GREECE

A wide consultation was initially performed with various maritime stakeholders :
Institutional, SAR forces and Ship-Owners organizations

The interest for DPS is strong:

- Acceleration of the rescue process,
- Other vessels could act as relay with RCCs to get information and organize rescue,
- 80% of the SAR forces respondents state that this service might improve their operation
- The service is global : polar zones as well as equatorian (compared to existing similar services),
- It is fully integrated in the C/S existing system → no new infrastructure needed,
- 4 out of 7 ship owners put DPS in highest priority with regards to other foreseen Galileo services (EWS, RBA, TWC...).

Users Consultation Platform

1. What would be your expectations/interest for DPS?
2. Which problem/situation could DPS solve/improve for you?
3. As DPS is a sharing of a distress position with other boats, would you consider:
 - a. Sending this distress position to all your boats? Only your boats in the zone (to be defined as a circle around the distress)?
 - b. Sending this distress position with all boats (not only yours) in the zone?
4. What would be the expected time for response / latency using this service ?
5. What would be the expected Coverage area using this service? (maximum and minimum radius considering a circle area size.)

Thank you for your attention

Want to know more about our project? Any questions?

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