

# Asgard Presentation Nor-Shipping

## Advanced Shipborne Galileo Receiver Double Frequency

ASGARD Consortium



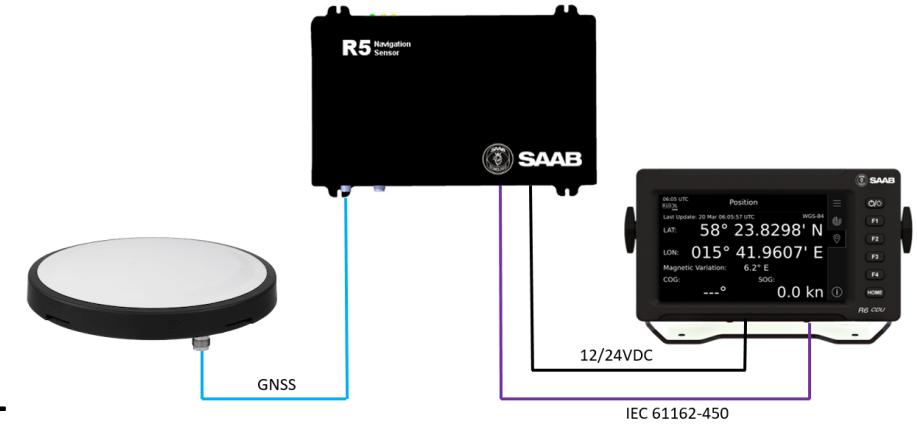
- Project coordinator
- Proven experience on standardization aspects and on the design, development and integration of positioning algorithms, products, SW and GNSS receivers



- One of the most important manufacturers of high performance shipborne navigation receivers

# Introduction to ASGARD project and objectives

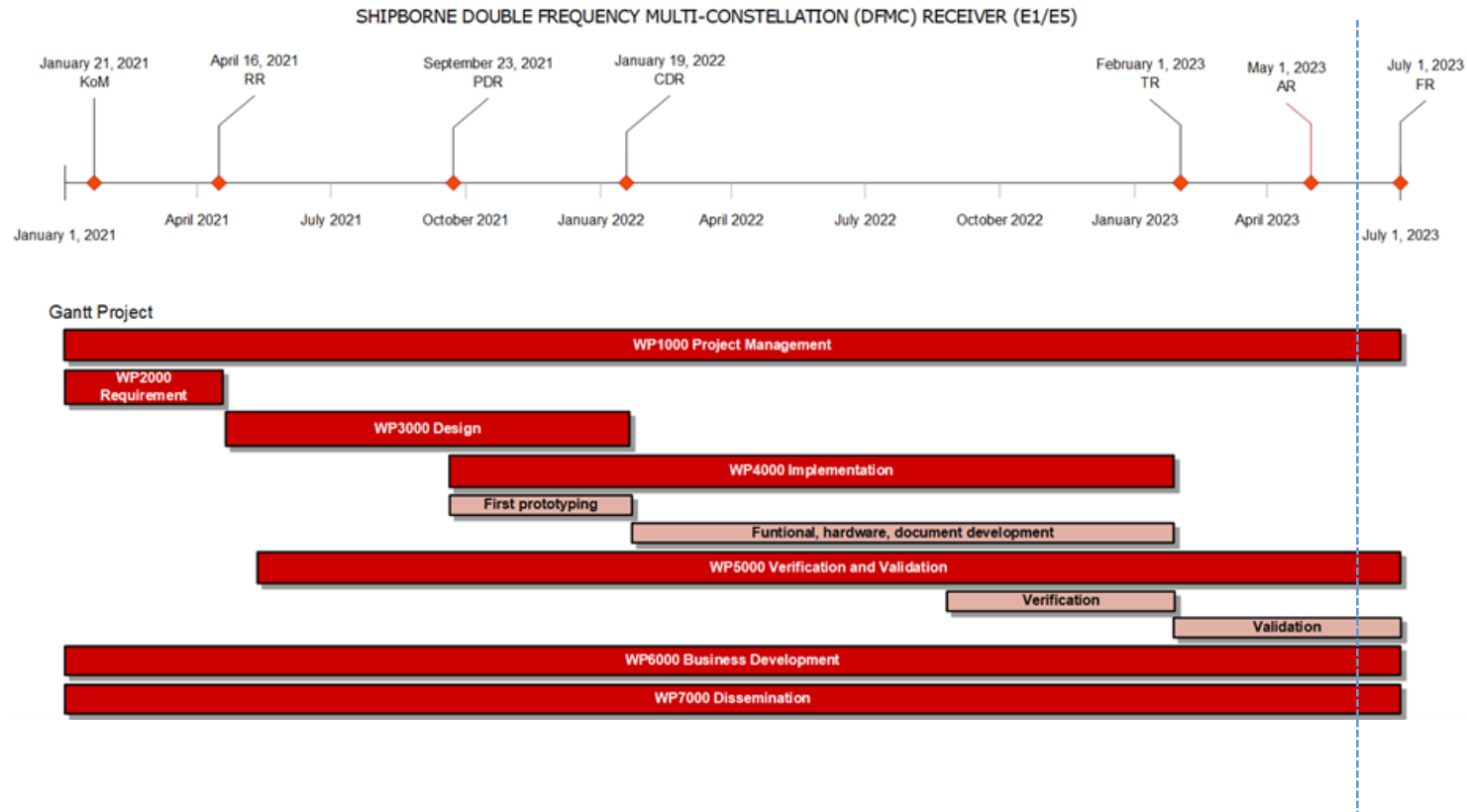
- **ASGARD objectives**
- Three main objectives define the complete scope of ASGARD project:
  - **Objective 1:** Develop and test a **dual-frequency** (E1/E5a) shipborne **multi-constellation** receiver implementing **Galileo**, compliant with
    - IMO Performance standards for MSR: MSC.401(95) and MSC.432(98)
    - Galileo multi-frequency receiver in IMO MSC.233(88)
  - **Objective 2:** Demonstrate that the dual frequency shipborne receiver developed in the frame of the project is compliant to **IEC 61108-3** and **IEC 61108-1**. Aiming to obtain a TRL-7 equipment that will be aligned with MED/4.56
  - **Objective 3:** Implement the algorithms to use **OSNMA** to support resilient PNT in maritime navigation following Galileo OSNMA specifications issued by EC.



# ASGARD activities and planning

## ASGARD Planning

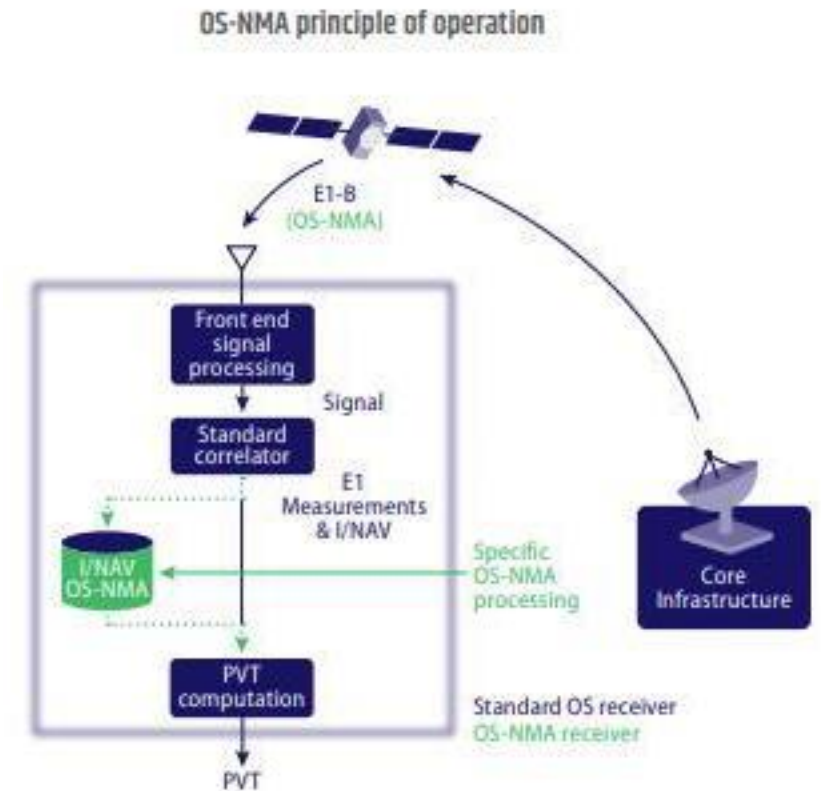
The activities are planned to be developed during the 30 months of the Project duration



# ASGARD added value of project outcomes

## ASGARD added value

- It is expected that ASGARD project will fulfil its requirements of developing a **new multi constellation**, double frequency and OSNMA processing capable **maritime navigation equipment**.
- It will follow the current **international maritime regulations** and standards, such as IMO 122, IMO 233 and IEC 61108-1, IEC 61108-3.
- A proposal of implementation following other new regulations (still without IEC test) such as IMO MSC.401/432 that provides an MSR approach for more robust resilient PNT, **better performances** and **integrity** functionalities.
- Despite not specifically included in any current maritime regulation, ASGARD new equipment will include the **implementation of OSNMA** processing capabilities



# ASGARD Vessel Test, May 2023

## Finalized 2 days Vessel test in Seville, Spain

- Successfully tested Asgard Equipment tested in port, inland, coastal and ocean.
- Tested all operation modes GPS , Galileo and multi-constellation
- Multi Frequency, Single Frequency and OSNMA



# ASGARD Webinar



Dear, Industry Partner!

On June 14, GMV and SAAB will celebrate "The Galileo safety and security benefits in the maritime field" webinar.

This session will address the benefits of using Galileo services in the maritime field, under the frame of the ASGARD project. ASGARD is a research project focused on developing a multi-constellation and double-frequency maritime receiver that uses Galileo. Cofounded by EUSPA, ASGARD is led by GMV as coordinator, partnering with SAAB.

Find below the details:

- Time: 11 am – 12:30 pm (CEST).
- English language.
- Click [here](#) to register.

We will be expecting you!

Kind regards,

*SAAB TransponderTech*

# Thank you for your attention

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ASGARD Project

 <https://asgard.gmv.com/>

 @AsgardGnss

 ASGARD GNSS project