

European Space Programs Overview

Orolia has been selected by the European Commission on several occasions to coordinate the development and commercialization of Galileo related applications. This document provides details about the Helios, Tauceti and GEARS projects led by Orolia.

Orolia is the world leader in Resilient Positioning, Navigation and Timing (PNT) solutions that improve the reliability, performance and safety of critical, remote or high-risk operations. With a presence in more than 100 countries, Orolia provides virtually failsafe GPS/GNSS and PNT solutions to support military and commercial applications worldwide.



Helios



The Helios Project

Next-Generation Distress Beacons for MEOSAR and Galileo Satellite-Based Search & Rescue Systems

Abstract

Orolia was selected by the European Global Satellite Navigation Systems Agency (GSA) to lead the development of next-generation search and rescue distress beacons under the Horizon 2020 initiative, coordinated by Orolia, and Innovation Program's HELIOS project. Approximately 5M€ in program funding will be used to design several innovative aviation, maritime and outdoor search and rescue distress beacons in partnership with industry experts and government agencies including Airbus, Air France, SIOEN, CNES and Cobham.

Objectives

The HELIOS project aims at bringing a complete range of next-generation beacons to the market including an Emergency Locator Transmitter (ELT), an Emergency Position Indicating Radio Beacon (EPIRB), a Personal Locator Beacon (PLB) and their associated antennas, all compliant with the Cospas-Sarsat international standards. These new distress beacons are fully compatible with the satellite-based SAR distress alert detection system, MEOSAR (Medium Earth Orbit Search and Rescue System) which includes Galileo, the European Global Navigation Satellite System (GNSS). The project also includes the introduction and studies of the new specific SAR/Galileo services, such as the Acknowledgment Service or the Command Service. As a global leader in SAR infrastructure and beacon manufacturing, Orolia is involved in working groups such as ICAO, EUROCAE, RTCA, RTCM and gathers the HELIOS members' expertise in aircraft manufacturing, airline modifications, protective clothing design, as well as SAR operations with the goal to save more lives through innovative solutions to answer evolving market problems.

More on our website : <http://helios-gsa-project.eu/>



4.9 M€

Budget allocation



8 people

Full time equivalent

Aviation Applications



European Global Navigation Satellite Systems Agency

This project has received funding from the European GNSS Agency under the European Union's Horizon 2020 research and innovation programme under grant agreement No 687554.



The Tauceti Project

Next Generation Survival ELT

Abstract

Orolia was selected by the European Global Satellite Navigation Systems Agency (GSA) to lead the development of Survival ELT (ELT-S) beacons developed within the TAUCETI project to provide the market with the new technology and innovations expected by the SAR community and Aviation industry. From this technology, new mature and certified products will be launched by 2021.

Objectives

The TAUCETI project aims at providing a new range of Survival ELT (ELT-S) for large aircraft cabin crew and life rafts equipping on airplanes or helicopters.

This project will also define and develop distress beacons that are compatible with multiple GNSS constellations and meet the latest end-user requirements;

The project also includes GNSS & SAR system validation in the field. Certifications for the new Ultima-S range include:

- Medium Earth Orbit Search And Rescue (MEOSAR) Cospas/Sarsat compatibility
- Navigation Satellite System constellations, including Galileo GNSS navigation data
- Compatible with legacy LEO- and GEOSAR satellites
- Optional Galileo RLS automatic acknowledgment service

Orolia, as coordinator of the project and beacon manufacturer, will work with key stakeholders, such as Cospas-Sarsat, CNES, SAR Galileo Data Service Provider and TUV SÜD.



1.4 M€

Budget allocation



4 people

Full time equivalent

Aviation Applications



European Global Navigation Satellite Systems Agency

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The GEARS Project

Galileo Authenticated Robust timing System

Abstract

The GEARS team, with Orolia as the coordinator has been awarded an up to €1.7 million grant by the European Global Satellite Navigation Systems Agency (GSA) to develop a resilient time and frequency server to protect critical Global Navigation Satellite System (GNSS)-reliant systems. The Galileo Authenticated Robust Timing System (GEARS) project will deliver accurate and highly robust Galileo-based time and frequency data for critical infrastructure.

Objectives

The prototype to be developed and validated through the GEARS project will embed selected new technologies and innovations identified as immediate candidates to obtain necessary security, reliability and robustness standards.

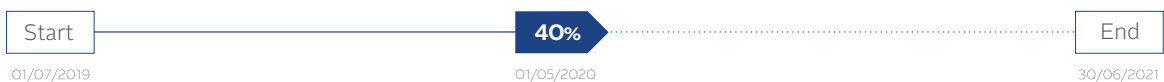
Thanks to performance and economic criteria shared during the project between the consortium (Orolia, FDC, NLR, NLS-FGI and NavCert) and a large committee of stakeholders, a new mature timing receiver will be ready for operators.

The key objectives of the GEARS project are:

- Improving performance and resilience of Galileo and GNSS Timing receivers
- Develop and demonstrate the effectiveness of unique Galileo services to operators
- Strengthen market adoption through standardization activities

This new standard for timing and synchronization applications will benefit from unique Galileo services such as accurate dual frequency time transfer and OS-NMA (Open Service Navigation Message Authentication) to provide unprecedented quality of service to critical applications.

More on our website : <http://gears-gsa-project.eu/>



2.5 M€

Budget allocation



7 people

Full time equivalent



Energy



Finance



Telecom



Critical Infrastructure



European
Global Navigation
Satellite Systems
Agency

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