

European GNSS Applications in Horizon 2020

H2020 Galileo Call 2017

IALA ENAV 19, St. Germain-en-Laye

19 September 2016



European
Global Navigation
Satellite Systems
Agency

HORIZON 2020

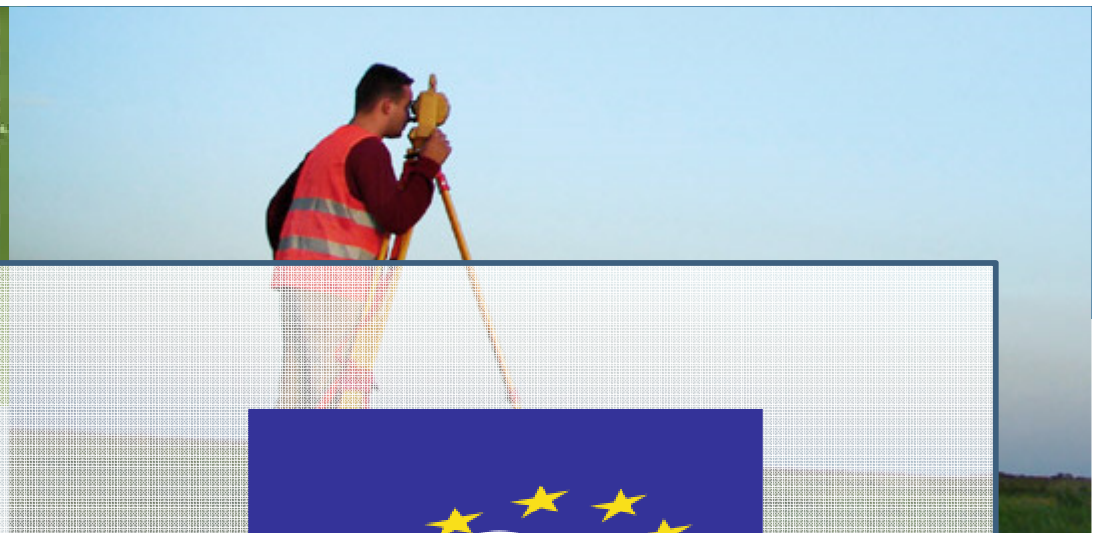
Dr. Manuel Lopez
European GNSS Agency

GSA 2016

The European GNSS Agency (GSA) today:

- Staff: about **145**
- Nationalities: **21**
- Headquarters: **Prague**
(since September 2012)
- Other Locations:
St Germain en Laye, Toulouse, Swanwick,
and Torrejon





EGNOS services are operational

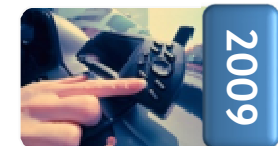
European Geostationary Navigation Overlay Service

- Uses geostationary satellites and a network of ground stations to **receive, analyse and augment GPS signals (in the future also Galileo)**.
- Makes existing GNSS signals suitable for **safety critical applications**.
- **Increases the accuracy** of existing satellite positioning signals while providing a crucial **'integrity message'**, informing users in the event of problems.



EGNOS Open Service (OS)

- Service Declaration: 1st October 2009
- Already extensively used in road, agriculture, maritime, and mapping segments



EGNOS Data Access Service (EDAS) http://www.essp-sas.eu/service_definition_documents

- EDAS Service provided since 2010
- Service Declaration: 26th July 2012
- Commercial/professional multimodal applications



Galileo is being implemented



GALILEO:

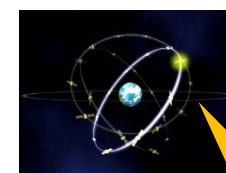
- Fully autonomous satellite-based positioning, navigation and timing capability
- **Global** high performance services.
- Run by **civil** authorities.
- Dual frequencies as standard.
- Interoperable with other GNSS.

Full Operational Capability
Full services, 30 satellites
2020

Initial services declaration
for OS and SAR,
2016



In-Orbit Validation
4 operational satellites and
ground segment
2013



GIOVE A/B
2 test satellites
2005/2008



Galileo System Testbed v1
Validation of critical algorithms
2003



12 satellites + 4
more coming this
year



H2020 Galileo 2017 Call



Source: www.visionaryadvertising.co.uk

Applications in Satellite Navigation – Galileo – 2017 Call Is Published!

The screenshot displays the European Commission Research & Innovation Participant Portal. The header includes the European Commission logo and the text 'RESEARCH & INNOVATION Participant Portal'. A navigation bar shows the path: 'European Commission > Research & Innovation > Participant Portal > Opportunities'. The main navigation menu includes 'HOME', 'FUNDING OPPORTUNITIES', 'HOW TO PARTICIPATE', 'EXPERTS', 'SUPPORT', a search bar, and 'LOGIN'/'REGISTER' buttons.

On the left sidebar, under 'EU Programmes 2014-2020', there are links for 'Search Topics', 'Updates', 'Calls', and a list of specific programmes: 'H2020', 'Research Fund for Coal & Steel', 'COSME', '3rd Health Programme', 'Consumer Programme', and 'Justice Programme'. Below this, 'FP7 & CIP Programmes 2007-' are also listed.

The main content area features a prominent announcement for the 'CALL: APPLICATIONS IN SATELLITE NAVIGATION – GALILEO – 2017'. It includes the call identifier 'H2020-GALILEO-GSA-2017' and the publication date '14-10-2015'. A link for 'Call budget overview' is provided. Below this, a section for 'Horizon 2020 > Industrial Leadership' includes a link to the 'H2020 website'.

The 'Call summary' section, which can be expanded or collapsed (currently showing '- Less'), describes the 'Scene Setter' and provides details about the European Global Navigation Satellite System (EGNSS). It states that EGNSS encompasses the Galileo programme and the European Geostationary Overlay System (EGNOS), providing position, navigation, and timing services to increase availability and reliability of other GNSS, while ensuring European non-dependence from other GNSS. It also mentions that EGNOS improves accuracy and provides information on the reliability of the GPS system, and in the future, also of the Galileo system.

At the bottom left, logos for the 'European Global Navigation Satellite Systems Agency' and 'HORIZON 2020' are visible.

<http://ec.europa.eu/research/participants/portal/desktop/en>

Applications in Satellite Navigation-Galileo-2017

Type of Action	Topic	Budget (EUR mln)	Funding rate	Indirect costs
IA	EGNSS Transport Applications	14.50	70% (except for non-profit legal entities, where a rate of 100% applies)	25% of the total eligible costs excluding: • Subcontracting • Costs of resources made available by 3rd parties • Financial support to 3rd parties
IA	EGNSS Mass Market Applications	9.00		
IA	EGNSS Professional Applications	8.00		
CSA	EGNSS Awareness raising and capacity building	1.50	100%	
Total budget:		33.00	Opening: 08 November 2016 Deadline: 01 March 2017	

IA: activities aimed at producing plans and arrangements or designs for new, altered or improved products, processes or services.

CSA: consisting of accompanying measures such as standardisation, dissemination, awareness-raising and communication, networking, policy dialogues and studies.

Compulsory Preliminary Business Plan

GALILEO-1,2,3

What: Demonstrate the commercial potential of the product and/or service and describe how this potential will be realised.

Why: It is an input to evaluate the Impact criteria.

How: Template available in the participant portal.

- **Define the proposed offering:** the product and/or service and target market sector.
- **Review the market sector:** structure, size, drivers, market and technology trends.
- **Assess the competition:** main players, their current offerings and market share.
- **Describe the innovation** of the proposed offering in the context of the competition and the sector's needs
- Summarise **potential business model(s)** together with possible entry price(s) and costs
- Assess the **key risks to market entry** and possible options for risk mitigation.
- Outline, graphically, the **roll-out of the offering:** timescale, sales growth and market share.

Admissibility criteria

1. **Submitted in the electronic submission system before the deadline** → Acknowledgement of Receipt
2. **Complete** (requested administrative forms + proposal description + supporting documents)
3. **Readable, accessible and printable**
4. **Respecting page limit** (RIA/IA: 70 pages; CSA:50 pages; PCP 90 pages)
 - Outside the limit:
 - participating organisations
 - ethics self assessment, data management plan

Eligibility criteria

- 1) Out of scope
- 2) Minimum participation and any other eligibility conditions set out for the type of action

Research & innovation action	a. Three legal entities.
Innovation action	b. Each of the three shall be established in a different Member State or associated country. c. All three legal entities shall be independent of each other.
Pre-commercial Procurements (PCP)	The same as RIA & IA (a, b & c) out of which there are two independent legal entities which are public procurers from two different Member States or associated countries.
Coordination & support action	One legal entity established in a Member State or associated country.

EGNSS applications development

Synergies with other H2020 calls

Transport

- **MG-2.3-2016:** New and improved transport concepts in waterborne transport
- **MG-5.2-2017:** Innovative ICT solutions for future logistics operations
- **MG-6.2-2016:** Large-scale demonstration(s) of cooperative ITS
- **ART-01-2017:** ICT infrastructure to enable the transition towards road transport automation
- **ART-02-2016:** Automation pilots for passenger cars

Secure societies – Protecting freedom and security of Europe and its citizens

- **SEC-01-DRS-2016:** Integrated tools for response planning and scenario building
- **SEC-19-BES-2016:** Data fusion for maritime security applications



Information and Communication Technologies

- **ICT-16-2017:** Big data PPP: research addressing main technology challenges of the data economy

Space

(other than Applications in Satellite Navigation Call)

- **COMPET-7-2017:** Technology transfer and business generators
- **SME instrument** SMEInst-04 -2016-2017: Engaging SMEs in space research and development
- **Other actions:**
 - Galileo Evolution, Mission and Service related R&D activities
 - EGNOS, Mission and Service related R&D activities
 - GNSS evolution, infrastructure-related R&D activities

Successful proposal- some hints

Be focused and concrete:

- ✓ Build on fairly mature application or business concepts and fill the gap
- ✓ Think to bring the products / services on the market at the end of the project



Build on market understanding and business expertise:

- ✓ Ideally, coordinator with good expertise in the specific market
- ✓ Demonstrable capability to commercialise the products and services developed



Demonstrate a clear motivation to commercialise the products and services:

- ✓ Market entry plan (marketing strategy & business plan)
- ✓ Previous achievements in the specific market



Focus on practical impact:

- ✓ Maximise the use of the **available signals**
- ✓ Prefer **trials** and **large scale demonstration**, involving final users in their real life procedures
- ✓ Produce **practical tools useful for the GNSS developer community**



Select applications where EGNOS and Galileo differentiators are key for the product/service success



Galileo-1-2017 EGNSS Transport Applications

Maritime is ready to benefit from EGNSS

Examples of emerging EGNSS applications in maritime and inland waterways (including the Arctic):

- vessels navigation,
- traffic management and surveillance,
- search and rescue,
- port operations,
- fisheries monitoring.



*Proposals should in particular build on the use of **current and future EGNOS dedicated services** for maritime, and the **Search and Rescue service of Galileo**, other Galileo differentiating features and services, such as **authentication, and high precision**.*

Examples of H2020 Galileo 1st call projects

spyGLASS- Galileo-based passive radar system for maritime surveillance

The recurrence of illegal activities at sea such as clandestine immigration, smuggling and trafficking, have made maritime surveillance a priority.

- A **passive bistatic radar** (PBR) based on Galileo transmissions for maritime surveillance is proposed
- A ground based receiver is considered for **coastal monitoring and also placed on mobile platforms** to assure open sea surveillance
- The primary task of this system is to detect and localize ships.
- This feature potentially enables surveillance both in coastal areas and the open sea



Horizon 2020 Space Information Days - Prague 4-5 October



Agenda and registration

<http://www.spaceinfoday.eu/h2020-space-infoday/pages/14920-information-day-prague>



Questions time

Thank you!

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