



15 Years of
EU Satellite
Navigation



EGNSS Innovation procurement opportunities within Horizon 2020 and Horizon Europe

H2020 Space Info Day

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EGNOS

NAVIGATION MADE IN EUROPE

Galileo and EGNOS adoption is widespread



USE GALILEO.EU

FIND A GALILEO-ENABLED DEVICE TO USE TODAY

Galileo is Europe's Global Satellite Navigation System (GNSS), providing users with improved positioning and timing information.

Click on the icons to find Galileo-enabled devices.



GNSS is a transversal technology employed in many application fields



C. 1 billion smartphones sold since 2016 are equipped with Galileo

Galileo recognized by the International Maritime Organization as a “*World Wide Radio Navigation System*” for the use in regulated domains
80% EGNOS OS penetration in receivers’ models

- Road tolling: 58% of EU tolled road are EGNSS-based (DE,SK,BE and HU)
- Regulated applications: eCall and Smart Tachograph regulations leveraging EGNSS
- 17 car brands are already commercializing EGNOS and Galileo car models

GNSS technology has been included in the European Railway Traffic Management System roadmap in view of its expected operational and safety benefits

EGNOS leadership with 82% of new tractors in Europe using GNSS are equipped with EGNOS, thanks to partnerships with tractor manufacturers actively promoting EGNOS affordable accuracy

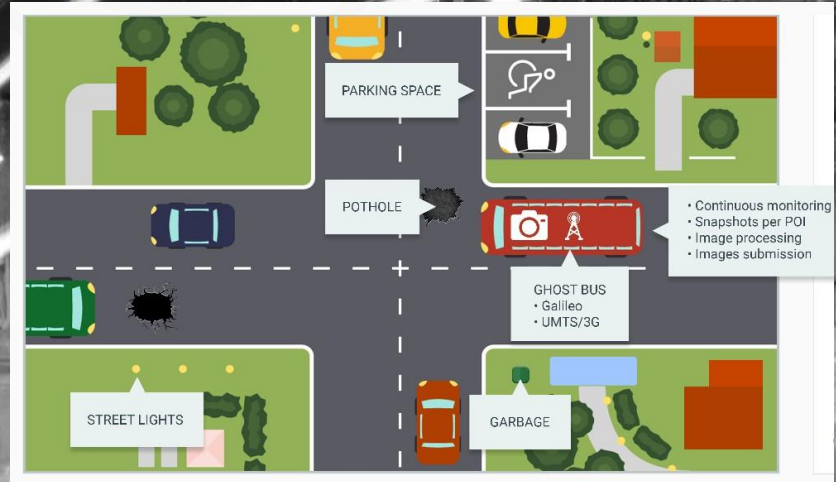
EGNOS integrated in 100% of newly sold handheld mapping devices, Galileo widely adopted in surveying equipment (>50% of receivers’ models)

600+ EGNOS based approach procedures in 330+ airports in 23 EU countries

European GNSS status of adoption

GHOST System

- It is a GALILEO-based intelligent solution which aims at **monitoring city infrastructure and assets**
- Relies on an intelligent system for public transport vehicles enabling the **automatic photos of Points of Interests**. The pictures are processed in a centralised database
- The pictures can be a key enabler for the **creation of many services, e.g.** new cross-functional applications for infrastructures maintenance, parking and garbage management in cities.

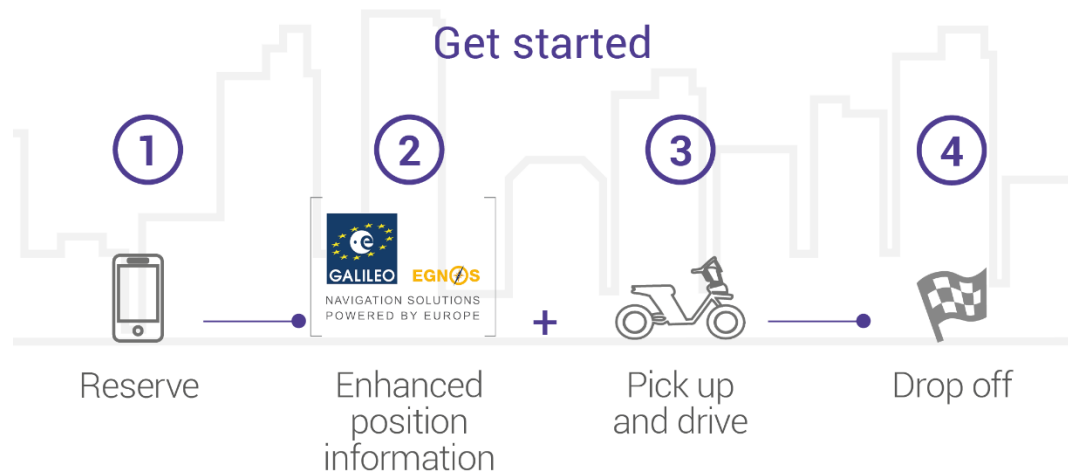


RESULTS

- ✓ The project developed and validated pre-commercial solution: GHOST intelligent monitoring system for smart cities based on GALILEO.
- ✓ 4 demonstrations performed in Turin, Belgrade and Cuneo



Gmotit aims enhancing an innovative electric scooter sharing system (**motit**) for urban mobility with EGNSS-based location technology, ensuring its readiness to market and support its expansion into other cities in Europe.



environmental
friendly



reduces
locating time








precise
location



available everywhere:
no link to stations

How public authorities can take advantage of EGNSS

EXAMPLES

Areas		Applications and technologies
Public safety		<ul style="list-style-type: none">• Drones for Search and Rescue , firefighting, police, urgent medicine• Border management• Earthquake warning systems• Profesional mobile radio
Road		<ul style="list-style-type: none">• Cooperative intelligent transport systems (ITS)• Management of public transport• Emergency vehicle location• Autonomous shuttles
Maritime		<ul style="list-style-type: none">• Management of autonomous/unmanned vessels• Smart ports• Navigation in IWW• Container tracking
Aviation		<ul style="list-style-type: none">• EGNOS to plan helicopter approaches to hospitals• Navigation for firefighting aircrafts
Rail		<ul style="list-style-type: none">• Driver advisory systems• Asset management• Command & control system, train integrity

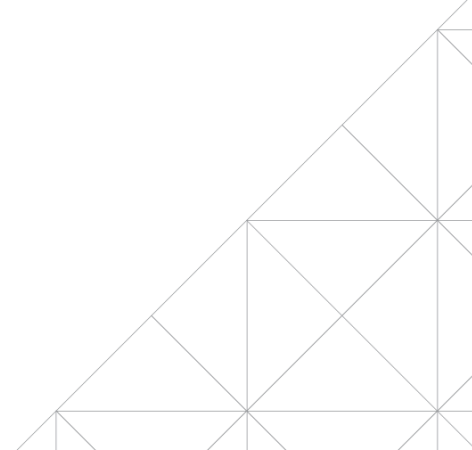
Why public procurement is important ?



- Every year, over **250 000 public authorities in the EU spend around 14% of GDP** (c. €2 trillion) on the purchase of services, works and supplies
- **Public authorities are the main purchasing bodies** in many domains: energy, transport, waste management, health and education
- The public procurement has the **potential to boost our economies**: more jobs, growth and overall to create an economy that is more innovative, resource and energy-efficient, and socially-inclusive
- A modern, well-managed and **efficient procurement is fundamental to provide high quality public services**
- **Improving public procurement can yield big savings**: a 1% efficiency gain would correspond to €20 billion per year in savings

Why are we looking into innovation procurement ?

- Galileo and EGNOS produce a wealth of positioning, navigation and timing data, useful to **develop new/ enhance existing services**
- Public sector important user for EGNSS applications: Via pre-commercial procurement, **EGNSS applications can be adapted to the specific needs of public authorities**
- **Suppliers:** interested in public sector as “first customer” for innovative EGNSS products
- Growing impact/ importance of **innovation procurement in Horizon 2020**
- Increased use of innovation procurement instruments in **ICT, security, transport, health etc.**
 - Increased funding for PCP/ PPIs in Horizon 2020
 - 2019: PCP/PPI calls in a value of 83 €m
 - 2020: PCP/PPI calls more than 100 €m
 - Positive results (new players, SMEs, universities, research etc.)



A study has been prepared to suggest EGNSS innovation procurement implementation



Objectives of the study:

- To review the impact of PCP/ PPI implementation in other R&D activities
- To analyse interesting EGNSS applications for the introduction of PCP/ PPI
- To define a list of relevant public institutions and mapping of needs that can be responded by EGNSS applications and PCP/ PPI
- To select PCP/ PPI pilot cases and to draft recommendations for EGNSS innovation procurement implementation strategy
- To organize a workshop with interested stakeholders to rise awareness

Study “Potential use of Innovation Procurement (PCP/PPI) within H2020 and Horizon Europe EGNSS market uptake calls” (VVA,GMV,LS)

New Call: EGNSS market uptake 2020

H2020-SPACE-EGNSS-2020



Type of Action	Topic	Indicative budget (EUR mln)	Funding rate
IA	EGNSS applications fostering green, safe and smart mobility	10	70% (except for non-profit legal entities, where a rate of 100% applies)
IA	EGNSS applications fostering digitisation	4	
IA	EGNSS applications fostering societal resilience and protecting the environment	4	
PCP	EGNSS applications for public authorities' pilot	3	90%

Overall indicative budget: 21 €m

IA: activities aimed at producing plans and arrangements or designs for new, altered or improved products, processes or services
 PCP: Pre-Commercial Procurement actions aim to encourage public procurement of research, development and validation of new solutions that can bring significant quality and efficiency improvements in areas of public interest, whilst opening market opportunities for industry and researchers active in Europe. It provides EU funding for a group of procurers ('buyers group') to undertake together one joint PCP procurement, so that there is one joint call for tender, one joint evaluation of offers, and a lead procurer³ awarding the R&D service contracts in the name and on behalf of the buyers group.

5th call EGNSS – Pilot on Pre-commercial procurement of EGNSS applications for public authorities

Launch of demand-driven innovation actions by public authorities aiming at development and adoption of EGNSS applications that meet their needs

Open call. Non-exhaustive list of possible applications



Budget: EUR 3 million

- Mobility as a service, cooperative ITS, public transport and smart cities
 - Helicopter emergency medical services with EGNOS capabilities (operations and equipment)
 - EGNSS to support port operations
 - Integration of EGNSS into U-Space concept
 - Public rescue services with Galileo SAR capable helicopters, boats and drones
 - Monitoring of infrastructure with EGNSS (rail, road, critical infrastructure)
 - Others
- The main challenge of this topic is to deepen user integration and thus foster exploitation of EGNSS applications to match the needs of public authorities at national, regional or local levels.
 - Proposals should be building on procurement needs of the participating organizations.
 - The proposals should support the EGNSS market take-up across Europe and demonstrate a sustainability of solutions beyond the lifespan of the proposed project.
 - The choice of EGNSS market segment and application is left to the proposer.

Innovation procurement in Horizon Europe

- **Promotion of PCP call at various events/ via various means**
 - Horizon 2020 Info Days
 - Sector-specific events
 - Ad-hoc webinars to explain the instrument
 - European Space Week in Helsinki, December 2019
- **Assessment of study results, and first experience with PCP call**
- Discussion of using PCP/PPI more widely, in the framework **of EGNSS Horizon Europe stakeholder consultations**





16/09 Maritime

23/09 Rail&Public Transport

24 September - Timing

27 September – Aviation

Innovation procurement as an instrument to foster demand-driven innovation



- Innovation procurement can **complement** the range of **existing** EGNSS R&I instruments by targeting directly public players
- By fostering demand-driven innovation, it creates a **win-win situation** for procurers and suppliers
- Preliminary analysis suggests that there are **various interesting EGNSS areas of application**
- At the same time, innovation procurement represents a **new instrument** for satellite navigation with its specific rules and requirements
- The **pilot call** envisaged to open in October 2019 is ideally the first step of a **longer-term plan** to include EGNSS innovation procurement in Horizon Europe

Linking space to user needs



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EGNOS-portal.eu



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