

**EGNOS Exploitation
Grant Plan 2016**

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1. EGNOS Exploitation 2016 Grant Plan

1.1 EGNOS and SoL Activities - Maritime Receiver Development, Test and Validation 2016 (EEX.0045)

LEGAL BASIS Regulation (EU) No 1285/2013

Call for proposals

BUDGET LINE:

BO3920 - EGNOS Exploitation

BACKGROUND:

GNSS have become the primary means of obtaining Position, Navigation and Timing (PNT) information at sea. Today the majority of ships are equipped with GNSS receivers (c.a. 90% in merchant vessels, 20% in recreational vessels and 10% in fishing vessels) and different types of augmentation systems are in use.

EGNOS receivers currently used in the maritime domain are set to process only the EGNOS Open Service data and are not satisfying the applicable IMO Resolution A.1046(27); indeed, the Open Service provides corrections to increase the accuracy of GPS but not an integrity warning of system malfunction. One of the reasons is that there is no SBAS standard for maritime receivers that would guarantee the proper implementation of system integrity information.

IMO Resolution MSC.401(95) adopts the performance standards for multi-system shipborne radionavigation receivers and recommends government to ensure that new equipment installed from 2018 conform to this standards.

This call should result in the development of a prototype of multisystem receiver using navigation signals from at least GPS with augmentation provided by SBAS corrections directly from the Signal-in-Space (SiS) and a Guideline for Rx manufacturers.

Priorities of the year, objectives pursued and expected results:

The first objective of this call is to support the development of SBAS L1 receivers for maritime use compliant with IMO resolution A.1046. The receivers will have to process a specific selection of message types to implement the SBAS corrections and to inform the user about the system integrity. The second objective is the preparation of a guideline for receiver manufacturers for the implementation of the solution developed.

Description of the activities to be funded under the call for proposals:

Development, testing and validation of SBAS L1 receivers in the maritime domain compliant with IMO resolutions A.1046. The project will:

- Define the architecture and the specification of the EGNOS receiver
- Specify the message types from the SiS to be used to check the system integrity in order to be compliant with IMO Resolution A.1046 (e.g. EGNOS SiS Message Type 6 that provides an alert function when the information shall not be trusted and Message Type 17 to check health and status of SBAS satellites). Open Service receivers can be adapted by using additional software to process this integrity information
- Analyse the operational benefits derived by the use of these new receivers and to analyse potential impacts on relevant standards
- Develop the receiver and to perform qualification and demonstration activities in selected applications
- Provide a guideline for Rx manufacturers

Eligibility, selection and award criteria:

- Eligibility and non-exclusion criteria
- The proposal is submitted by:
 - o legal entities established in an EU Member State or Norway or Switzerland;
- Applicants shall not be in one of the situations referred to in Articles 106(1) and Articles 107, 108 and 109 of the EU Financial regulation.
- The applicants must fulfil the following selection criteria:
- The financial capacity of the applicant to perform the proposed activities
- The operational (technical and management) capacity of the applicant must demonstrate how to perform/complete the operation of the proposed activities and also demonstrate their capacity to manage the scale of activity corresponding to the size of the project.
- Award criteria:
- Relevance of the proposal to the objectives of the call and credibility of the proposed approach
- Impact in terms of economic and public benefits derived from the proposal
- Coherence and effectiveness of the work plan, including appropriateness of the allocation of tasks and resources

Indicative timetable and indicative amount of the call for proposals:

- Indicative amount: € 1,000,000 (i.e. expected 4 grants of € 250,000)

	Stages	Date and time or indicative period
a)	Publication of the call	September 2016
b)	Deadline for submitting applications	December 2016
c)	Evaluation period	January 2017
d)	Information to applicants on the outcome of the evaluation	February 2017
e)	Signature of the Grant Agreements	March 2017

Maximum possible rate of co-financing of the eligible total costs: 70%

1.2 Acceleration of EGNOS adoption in the field of civil aviation 2016 (EEX.0031)

LEGAL BASIS Regulation (EU) No 1285/2013

Call for proposals

BUDGET LINE:

BO3920 - EGNOS Exploitation

BACKGROUND: The European Global Navigation Satellite System (EGNSS), operated under civilian control, encompasses satellite radio-navigation system established under the Galileo programme and European Geostationary Overlay System (EGNOS). The EGNOS Safety of Life service was certified for use in aviation in March 2011 and today all European Air Navigation Service Providers (ANSPs) are enabled to implement EGNOS based approach procedures.

To meet the overall objectives of the EGNOS programme, the uptake in civil aviation is vital. This call should result in the implementation of EGNOS based operations, increasing safety and reducing distortions for the benefit of European aerodromes and airspace users.

Priorities of the year, objectives pursued and expected results:

Operational implementation of EGNOS in aviation is a strategic goal to ensure the success of the programme. In this context, the objective of this activity is to foster EGNOS adoption in the European aviation, enabling on the one hand, users to equip their aircraft/rotorcraft fleet with GPS/SBAS enabled avionics and, on the other hand, Air Navigation Service Providers and airports/heliports to publish RNP APCH down to LPV, including approaches benefitting from the LPV200 capacity, PinS LPV procedures and low level IFR routes in Europe. It will also consider pilot cases on advanced navigation operations benefitting from EGNOS and activities promoting the use of EGNOS for other communication and surveillance applications in all phases of flight.

The activity will encourage implementation in regional, business (corporate) aviation, general aviation (training, emergency services) and rotorcraft, considered the main aviation market segments for EGNOS and those maximising public benefits. Commercial operators and OEMs interested in benefitting from EGNOS are also encouraged to apply to the call.

The result of this activity will be a wide scale operational implementation of the EGNOS based operations throughout European airports and airspace users.

Description of the activities to be funded under the call for proposals:

Proposals submitted to the call should cover one or more of the activities described below:

- The design, development and implementation of EGNOS LPV/LPV 200 approach procedures, PinS, low level IFR routes at different European airports/heliports/routes and publication in the national AIP.
- Design and implementation of other communication, navigation and surveillance applications benefitting from EGNOS for all phases of flight.
- The installation of GPS/EGNOS enabled avionics and granting of airworthiness certification for RNP APCH procedures down to LPV minima, including PinS.
- Development of retrofit and forwardfit solutions including LPV capabilities.
- Implementation of approach procedures benefitting from the LPV 200 capabilities provided by EGNOS.
- Implementation of enablers or catalysts for EGNOS adoption, such as, but not limited to simulators, validation tool or training material.

Eligibility, selection and award criteria:

- Eligibility and non-exclusion criteria
- The proposal is submitted by:
 - o legal entities established in an EU Member State or Norway or Switzerland;
 - o for implementation of LPV procedures : entities representing Air Navigation Service Providers ANSPs, Aerodromes/heliports/helipads.
 - o for avionics upgrade or AOC approval : entities representing airspace users;
- Applicants shall not be in one of the situations referred to in Articles 106(1) and Articles 107, 108 and 109 of the EU Financial regulation.
- The applicants must fulfil the following selection criteria:
 - The financial capacity of the applicant to perform the proposed activities
 - The technical capacity of the applicant to perform the proposed activities
 - The operational (technical and management) capacity of the applicant must demonstrate how to perform/complete the operation of the proposed activities and also demonstrate their capacity to manage the scale of activity corresponding to the size of the project.
- Award criteria:
 - Relevance of the proposal to the objectives of the call and credibility of the proposed approach
 - Impact in terms of economic and public benefits derived from the proposal
 - Coherence and effectiveness of the work plan, including appropriateness of the allocation of tasks and resources

Indicative timetable and indicative amount of the call for proposals:

- Indicative amount: € 6,000,000

	Stages	Date and time or indicative period
a)	Publication of the call	September 2016
b)	Deadline for submitting applications	December 2016
c)	Evaluation period	February 2017
d)	Information to applicants on the outcome of the evaluation	March 2017
e)	Signature of the Grant Agreements	May 2017

Maximum possible rate of co-financing of the eligible total costs: 60%
