

Call for Expression of Interest for the implementation of LPV non-instrument runways used for general aviation

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TABLE OF CONTENTS

1	INTRODUCTION.....	3
2	BACKGROUND.....	4
3	PURPOSE OF THE CALL.....	6
3.1	GENERAL.....	6
3.2	INPUTS FROM THE SELECTED APPLICANTS.....	6
4	ASSESSMENT OF APPLICATIONS.....	8
4.1	ELIGIBILITY CRITERIA.....	8
4.2	EXCLUSION CRITERIA.....	8
4.3	EVALUATION CRITERIA.....	8
5	RESERVE LIST.....	10
6	SUBMISSION OF EXPRESSION OF INTEREST.....	11
7	REFERENCE DOCUMENTS.....	12
8	ANNEXES.....	13
9	ACRONYMS AND ABBREVIATION.....	14
APPENDIX A	DECLARATION OF HONOUR.....	15

1 Introduction

The European Union Agency for the Space Programme (hereinafter “EUSPA”, “the Agency”) is launching a call for expression of interest (hereinafter referred to as “the Call”) to invite external stakeholders (hereinafter referred to as “Participant(s)”) to participate in the pilot project for the implementation of EGNOS-based approaches to non-instrument runways used for general aviation (hereinafter also “GA”). This action will support the validation of the safety assessment guidance material for implementation of the EGNOS-based approaches to non-instrument runways for general aviation.

2 Background

The EUSPA is the Agency formed by the European Union to accomplish specific tasks related to the European Union Space Programme programme as indicated in the Regulation Regulation (EU) 2021/696 of the European Parliament and of the Council of 28 April 2021 establishing the Union Space Programme and the European Union Agency for the Space Programme and repealing Regulations (EU) No 912/2010, (EU) No 1285/2013 and (EU) No 377/2014 and Decision No 541/2014/EU (available here https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv%3AOJ.L_.2021.170.01.0069.01.ENG&toc=OJ%3AL%3A2021%3A170%3ATOC).

EGNOS (European Geostationary Navigation Overlay Service) is the European satellite-based augmentation service (SBAS) that provides corrections to GPS (e.g. ionosphere delay, clocks errors) increasing the accuracy of the position and informing about its reliability (i.e. so-called “integrity” information).

EUSPA’s mission is, *inter alia*, to facilitate implementation and use of EGNOS at any aerodrome. Nowadays, there are more than 400 aerodromes with EGNOS-based approach procedures in Europe. The said procedures are mainly implemented in instrument runways, usually medium size or larger aerodromes.

In addition, for instrument runways, there is the Performance-Based Navigation (“PBN”) Implementing Regulation (EC) No 2018/1048 that addresses the safety, interoperability, proportionality and coordination issues related to the implementation of PBN within European airspace. This regulation includes the following provisions:

- By 2020 : EGNOS approaches Localizer performance with vertical guidance (“LPV”) are to be available to all instrument runways not currently served by ILS;
- By 2024 : EGNOS approaches (LPV and Instrument landing system Category I (“CAT I”)) are to be available to all instrument runways;
- By 2030 : Preference is given to PBN approaches (LNAV/VNAV and LPV) and ILS will be rationalised to a minimum network level.

The EUSPA worked together with European Union Aviation Safety Agency (EASA)¹ and other general aviation stakeholders on the strategy and other materials supporting the implementation of EGNOS for general aviation with the focus to increase instrument approaches with use of EGNOS to non-instrument aerodromes, especially within an EUSPA-EASA GNSS Working group (GNSS GA WG) for general aviation. In December 2019, the [Safety promotion material for implementation of EGNOS based procedures to general aviation](#) has been published and in November 2021, the follow up material on the [Safety assessment guidance material](#) that is focusing to support safety assessment development. One of the biggest challenge of the implementation of EGNOS-based approaches to non-instrument runways for general aviation is the safety assessment. To this

¹ <https://www.easa.europa.eu>

end, pilot projects implementing the EGNOS procedures are needed to develop the safety assessment and validate the safety guidance material for development of these safety assessments.

In view of the above, the EUSPA envisages to facilitate the implementation of EGNOS-based procedures to non-instrument runways for general aviation by supporting aerodromes within the so-called “EUSPA Network of pilot projects” in order to demonstrate the added value of EGNOS-based approaches to non-instrument runways for general aviation, validate the Safety Assessment Guidance material and create the pilot implementations to the non-instrument runways in EU Member States. These implementations will help EUSPA to gain experience with first EGNOS procedures to non-instrument runways for general aviation concept of operations in specific countries including solving all related implementation blocks. Such experience would further help to build the national process and strategy and trigger the smooth implementation in the future in other countries for these users. Therefore, the strategy to accelerate adoption is to facilitate the first implementations in as many Member States as possible and build the real show cases that can be repeated or learnt from.

3 Purpose of the Call

3.1 General

The EUSPA is launching a call for expression of interest (hereinafter referred to as “the Call”) to invite external stakeholders (hereinafter referred to as ‘Participant(s)’) to participate in the EUSPA Network for pilot projects for the implementation of EGNOS based approaches to non-instrument runways for general aviation. This action will mainly support the validation of the safety assessment guidance material for implementation of the EGNOS-based procedures to general aviation and build real examples for future implementations of the EGNOS-based procedures to general aviation in the EU Member States.

3 pilot projects will be selected (without prejudice to section 5 below). The selected pilot projects will showcase the methodology and best practices for these implementations in general aviation environment, including the validation of the safety assessment methodology, that can be replicated to other similar aerodromes and will help to validate different implementation possibilities. The results of this work will be disseminated and shared publicly so it can help to build experience and confidence in these procedures in EU and facilitate further implementation.

In particular, the pilot projects will be launched in **different EU Member States (“MS”) (different MS per pilot project)**, with intention to facilitate the implementation of EGNOS/LPV to aerodromes used for general aviation with non-instrument runway and without any air traffic service or AFIS in order to validate the concept of operations, development of the Safety assessment guidance with the specific functionalities/solutions and support the national processes to adopt EGNOS for general aviation (GA). Such pilot projects will include:

- Analysis of needs and collection of requirements for implementation from the National Aviation Authority (“NAA”), incl. provision of the required documentation;
- Development of the feasibility study including the procedure design draft considering the NAA requirements;
- Development of the Safety assessment based on the Safety Assessment Guidelines for the implementation of EGNOS based procedures at GA aerodromes;
- Provision of feedback and validation of the Safety Assessment Guidelines for the implementation of EGNOS based procedures at GA aerodromes prepared by GNSS GA WG based on the pilot implementations, identify gaps, propose improvements;
- Provision of support to NAA to include these procedures in their roadmap;
- Provision of recommendations for granting the future approval for operational approach.

3.2 Inputs from the selected applicants

All the above-listed activities will be performed by EUSPA. However, the applicants to be selected following the listed criteria in Section 4, will support EUSPA for each above listed activity. The summary of the documentation developed within the Pilot project will be publicly available within the workplace of GNSS GA

WG and available to any other third party upon request or on public weblinks in order to help to facilitate implementation in other Member States and other interested aerodromes.

The support will cover the following:

- Provide all necessary inputs needed for the development of:
 - the feasibility study including the procedure design draft and NAA requirement analysis;
 - safety assessment based on Safety Assessment Guidelines for the implementation of EGNOS based procedures at GA aerodromes;
 - the validation of the procedure and methodology;
 - the lessons learnt and best practices.

The final steps to achieve operational implementation, i.e. (i) flight validation and (ii) submission to NAA will be up to each Participant to finalise.

4 Assessment of applications

The EUSPA will assess the applications on the basis of the below-mentioned criteria. Minimum of 3 applicants will be selected for participating in the pilot project by fulfilling the criteria of sections 4.1, 4.2 and based on the ranking of 4.3 criteria.

4.1 Eligibility criteria

1. General

Participation in this procedure is only open to interested parties who are general aviation aerodromes or aerodromes serving GA traffic significantly, however other stakeholder can express the interest under condition that have the confirmation letter or any other proof from the aerodrome for which the pilot project is planned.

2. Participation conditions

Considering that the scope of the EGNOS Safety of Life commitment (and thus the pilot project scope) is expected to cover the European Region, participation in this Call shall be open in equal terms to all general natural and legal persons established in the territory of the Member States of the European Union, Switzerland, Iceland or Norway.

Legal persons referred to above are considered established in the EU, Switzerland, Iceland or Norway, when they are formed in accordance with the law of an EU Member State, Switzerland, Iceland or Norway, and have their central administration or registered office or principal place of business in an EU Member State, Switzerland, Iceland or Norway, (if legal persons), or they are nationals of one of the EU Member States, Switzerland, Iceland or Norway (if natural persons).

4.2 Exclusion criteria

Participation in this procedure is only open to interested parties who will be able to sign the Declaration of Honour (Annex I to the present document).

Supporting evidence requested as part of the Declaration of Honour shall be submitted only upon request by the EUSPA.

4.3 Evaluation criteria

The evaluation of expressions of interest will be based on the criteria defined below. Please note that the evaluation will only be performed for the applicants who fulfil the eligibility and exclusion criteria as listed in the sections 4.1 and 4.2 above.

1. **Aerodrome characterization** – The aerodromes should have limited infrastructure and be serving GA traffic significantly, such as, but not limited to equipped with at least one non-instrument runway end and without air traffic service or AFIS. (max 6 points);
2. **Motivation** - Motivation of aerodromes to implement EGNOS based procedure/LPV shall be demonstrated, including, but not limited to the potential increased traffic, safety, accessibility thanks to LPV implementation in the future, support from the GA operators, flight schools or pilots of these aerodrome, etc. (max 5 points);
3. **Knowledge of the national environment** –Explanation of the national regulation on implementation of Instrument flight procedure (“IFP”) to non-instrument runways, and of the feasibility of implementation of IFP to non-instrument runways in the country (i.e. by listing the similar ongoing or implemented projects in the country, including its limitations and challenges) (max 1 points);
4. **Support by national aviation authority (NAA) and/or other relevant stakeholders** – The interest being part of the pilot project should be shared with the NAA and/or other relevant stakeholders. The letter of support from NAA and/or other relevant stakeholders should be attached to the application if feasible (max 3 points).

Note: As the aim of the Call (see section 3 above), is that all the selected applicants be from different Member States, please note that:

- in case there are more than one applicants from the same EU Member State, the evaluators will choose the applicant with the highest score among the applicants from this particular EU Member State;
- in case the participation from at 3 different EU Member States is not covered, more than one applicants coming from the same EU Member State will be selected.

5 Reserve list

The EUSPA reserves the right to select more applications from the reserve list, at any time of the pilot project execution. In such case, the applicants will be selected according to their ranking on the reserve list (without prejudice to the participation of at least 3 different EU Member States) and will be informed accordingly.

6 Submission of expression of interest

In order to be considered in the selection process the interested parties shall submit their description of the pilot project to the Agency via email to tenders@euspa.europa.eu including:

- a) Filled and signed Legal Entity Form and the attachments requested in (available here: https://ec.europa.eu/info/publications/legal-entities_en);
- b) Declaration of honour on the eligibility and exclusion criteria (sections 4.1 and 4.2) and the, as dated and signed by the applicant's authorised representative as per Annex I;
- c) Evidence proving that the person signed the documents under points a, b and d above is applicant's authorised representative (e.g. power of attorney, entity's extract from commercial registry etc.).
- d) Description of:
 - the pilot project describing all the points indicated in the section 4.3 Assessment criteria in word/PDF document and no longer than 20pages.
- e) In addition, selected pilot projects commit to provide all the necessary information and supporting documentation in order for EUSPA to be able to:
 - Development the feasibility study including the procedure design draft and NAA requirement analysis;
 - Develop Safety assessment based on Safety Assessment Guidelines for the implementation of EGNOS based procedures at GA aerodromes;
 - Validate of the procedure and methodology;
 - Derive the lessons learnt and best practices.

The deadline for submissions of expression of interest is 18 February 2022 (23:59, Prague local time, CZ).

Requests for clarification shall be submitted no later than 4 February 2022 (23:59, Prague local time, CZ). The last date on which clarifications are issued by the EUSPA is 11 February 2022 (23:59, Prague local time, CZ).

The evaluation of the Call is planned in February-March 2022 with start of the project in March 2022 the latest.

7 Reference Documents

[1] GNSS-based Instrument Flight Procedures implementation for General Aviation, Uncontrolled Aerodromes and Non-Instrument Runways, v1.0, December 2019.

[2] Safety Assessment Guidelines for the implementation of EGNOS based procedures at GA aerodromes, planned to be published by November 2021 (not published yet, will be provided for implementation of selected aerodromes if it is not be published before)

8 Annexes

Document	Annex reference
Template Declaration of honour on exclusion criteria	Annex I

9 Acronyms and Abbreviation

CAT I	Instrument landing system Category I
EASA	European Union Aviation Safety Agency
EGNOS	European Geostationary Navigation Overlay Service
EU	European Union
GNSS	Global Navigation Satellite System,
GNSS GA WG	EUSPA-EASA GNSS Working group for general aviation
GPS	Global Positioning System
IFP	Instrument flight procedure
LPV	Localizer performance with vertical guidance
PBN	Performance based navigation
SBAS	Satellite Based Augmentation System

Appendix A **Declaration of Honour**



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