



International Civil Aviation Organization

MIDANPIRG Communication, Navigation and Surveillance Sub-Group

Seventh Meeting (CNS SG/7)
(Cairo, Egypt, 31 May - 02 June 2016)

Agenda Item 4: CNS Planning and implementation in the MID Region

INTERNATIONAL AGREEMENT WITH THE EC FOR THE USE OF EGNOS SoL

(Presented by the Secretariat on behalf of the European Commission)

SUMMARY

This paper presents the progresses achieved in the MID/ACAC States in relation to EGNOS (European Geostationary Navigation Overlay Service) that is the European SBAS (Satellite Based Augmentation System). The progresses are the results of implementations carried out in the frame of a European project funded by the European Commission (EC) and carried out with the involvement of the concerned MID/ACAC States.

Action by the meeting is at paragraph 3.

REFERENCES

- ACAC/ICAO MID WORKSHOP ON GNSS, Rabat (Morocco), 5 April 2016
- galileo.cs.telespazio.it/medusa

1. INTRODUCTION

1.1 The European Geostationary Navigation Overlay Service (EGNOS) is the European Satellite Based Augmentation System (SBAS).

1.2 EGNOS and Galileo also provide benefits to non-European (EU) countries, in terms of increased accuracy and reliability.

1.3 EGNOS delivers three distinct services with European regional coverage:

- EGNOS Safety-of-Life Service (SoL) certified for use in aviation applications since 2011
- EGNOS Open Service (OS) for use with consumer-grade receivers and in mass-market applications
- EGNOS Data Access Service (EDAS) for professional applications requiring accurate and reliable positioning.

1.4 Backed by the European Commission under the umbrella of its Neighbourhood Policy, the Euromed GNSS programme promotes EGNOS service extension to countries in North Africa and the Middle East around the Mediterranean (ENP¹ South States).

1.5 Among the ENP South States, the members of ACAC are Algeria, Egypt, Jordan, Lebanon, Libya, Morocco, Palestine, Syria, and Tunisia.

1.6 METIS and MEDUSA, Euromed GNSS ran programs providing technical assistance, training, capacity building and “regulatory analysis”, and specifically for the use of EGNOS in aviation involving the Ministries of Transport and aviation authorities of the participating States.

1.7 The following achievements and results were obtained:

- Flights and benefits validation
- Technical and know-how transfer
- Feasibility assessment
- Cost and benefits analysis
- Development of pre-operational landing procedures based on EGNOS
- Elaboration of safety assessment
- Identification of enablers for operational introduction and “to-dos” for procedure publications
- Support to decision-making.

1.8 As part of the enablers and “to-dos”, important elements are:

- The identification of the appropriate regulatory and operational framework, and the "regulatory analysis" with respect to this framework;
- The definition of the necessary institutional process for the adoption of EGNOS in aviation operations;
- The identification of the next steps on the basis of the outcomes of the "regulatory analysis" and of the institutional process.

1.9 The regulatory framework is based on 20 ICAO provisions, which are the minimum set of provisions to which the non-EU interested State shall comply with, for being able to adopt EGNOS SoL in aviation. The list of the 20 ICAO provisions and the details on the criteria driving their selection are available on galileo.cs.telespazio.it/medusa (LPV operational implementation & "regulatory analysis").

1.10 The institutional process consists of an institutional arrangement, i.e. the “international agreement”, with the European Commission (EC). It is required to establish the “international agreement” with the EC to introduce EGNOS SoL operations in aviation. To start the discussion of the “international agreement”, any interested State has to officially express the interest through a formal letter to the EC.

¹ European Neighbouring Partnership

1.11 For each of the above listed ENP South States, the "regulatory analysis" consists in the evaluation of the State's relevant regulations, conducted in coordination with the State's civil aviation and ANSP (Air Navigation Service Provider), in order to assess the readiness of the State for introducing EGNOS SoL operations in aviation (State's "evaluation grid").

1.12 The next steps are the necessary actions to be undertaken by the State, identified on the basis of the outcomes of the "regulatory analysis" and of the institutional process ("to-dos").

1.13 The implementation of these steps is among the enablers to introduce EGNOS operations in aviation, and has to be included in the State's GNSS national strategy.

1.14 METIS and MEDUSA confirmed the significant mutual benefits for the involved ENP South States and the EU in terms of increased safety and improved operational efficiency that implementation of EGNOS SoL can generate for aviation.

1.15 Thanks to METIS and MEDUSA, the above listed States:

- Are informed about EGNOS services have learnt how to use them for aviation.
- Are aware of the relevant added value and the benefits that can be reaped by adopting EGNOS in aviation applications (identified among priorities for them). Pre-operational landing procedures were already developed in three ACAC ENP South States, i.e. Algeria, Lebanon, Tunisia.
- Know which are the priorities for EGNOS coverage extension over their airports.
- Know what to do in order to create favourable conditions for EGNOS services' introduction in operations and exploitation.
- Are ready from the regulatory perspective to introduce EGNOS SoL operations in aviation and they can progress to the "international agreement" with the EC.
- Know which are the next steps to be included in their GNSS national strategy.

1.16 Other non-EU countries/regions interested to use EGNOS have been leveraging on METIS and MEDUSA's outcomes (e.g. experience sharing with other non-EU countries like the Western Balkans).

2. DISCUSSION

2.1 The "international agreement" with the EC is required to adopt EGNOS SoL service in aviation.

2.2 To start the discussion of the "international agreement", any interested State has to officially express the interest through a formal letter to the EC (addressed to the Commissioners Johannes Hahn and Elżbieta Bienkowska), as the EC will be able to act only upon the reception of this formal expression of interest/letter.

2.3 Three ACAC ENP South States (i.e. Lebanon, Libya, Tunisia) have already submitted the official expression of interest from their relevant Ministries.

2.4 The EC is organizing a workshop on 26 and 27 October 2016 in Brussels as part of the tutoring activity for progressing in the discussion of the "international agreement".

2.5 The workshop is open only to the ENP South States that have officially expressed their interest through the above mentioned letter to the two EU Commissioners.

2.6 For each State a representative of the Ministry of the Foreign Affairs and a representative of the Ministry of Transport possibly supported by a representative from aviation will be invited to attend.

2.7 The workshop will consist of a full day with all the interested ENP States' representatives, during which the EC will present, discuss and share the main pillars of the "international agreement", also on the basis of other similar experiences in negotiating similar international agreements and on the basis of the outcomes from the Euromed GNSS II project MEDUSA.

2.8 Bilateral meetings of about one hour with the representatives of each ENP State present will follow the day after the workshop (on 27 October 2016), to have the opportunity to discuss specific issues and aspects.

2.9 ENP South States interested in further progress on EGNOS that have not yet submitted their official expression of interest to the EC, are invited to progress in this respect in order to be involved in the workshop, by 31 August 2016 at latest.

2.10 EC is ready to assist any other ACAC/MID State that is not an ENP South State to give support in conducting cost benefit analysis upon official request from the interested State's aviation authority or ACAC.

2.11 The outcomes of MEDUSA are available on galileo.cs.telespazio.it/medusa.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) Note the information in this paper; and
- b) encourage concerned States to:
 - i. send office letter to EC before 31 August 2016; and
 - ii. participate actively in the workshop on 26 and 27 October 2016.