



*International Civil Aviation Organization
Eastern and Southern African Office*

**Joint Meeting of the APIRG Performance Based Navigation and
Global Navigation Satellite System Implementation Task Forces (Joint
PBN & GNSS/I TFs)**

First Meeting
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Agenda Item 8: GNSS Strategy

EXTENSION OF SBAS SERVICES TO AFI

Submitted by the European Commission

SUMMARY

The recently updated cost-benefits analysis on the implementation and utilisation of SBAS in AFI has shown an important value for the aviation community. The utilisation of EGNOS in Africa is a political priority for the European Commission, and concrete steps have been already undertaken for its implementation in Southern Africa. The GNSS Task Force is invited to consider the proposed plan as input for the definition of the AFI GNSS strategy.

1. INTRODUCTION

1.1. In compliance with Decision 4/1 took at GNSS/I/TF/3, the Cost-Benefit Analysis (CBA) for ISA (Interregional SBAS in Africa) has been updated. The results are presented under Agenda Item 7 of the GNSS/I/TF/4.

1.2. The European Commission reckons the favourable outcome of the analysis, which shows how the adoption of SBAS in Africa can generate important benefits to civil aviation, guaranteeing higher safety, operational efficiency, and economic value. The study has been conducted together with aviation industry players. The analyses have estimated robust business cases for the airlines, showing positive and significant financial benefits (just considering the use in approach and landing) obtainable even by retrofitting an entire commercial fleet with EGNOS avionics.

1.3. The CBA demonstrates that the provision of EGNOS services will bring further benefits in Africa, covering areas currently not equipped with the traditional navigation aids, opening-up airports and isolated regions, and saving on local investments. The use of EGNOS will increase safety (reducing the number of accidents that result in controlled flight into terrain), will save costs for installation and maintenance of traditional ground based navigation aids, and will increase operational efficiency (through the reduction of delays, diversions and flight cancellations). Routes could also be optimised, bringing further savings to airlines from reduction of time and fuel consumption. Many aviation

stakeholders in Africa have been already advocating an extension of the EGNOS coverage to the continent, to reap safety, economic and operational benefits similar to those already available in Europe. Those benefits have been evaluated by a recent cost-benefit analysis in an NPV of over Euro 100 Million¹.

1.4. The benefits derived by SBAS utilisation are already exploited since 2003 in the US with WAAS, which has expanded service provision to neighbouring countries. Other SBAS are being developed also in the Asian region by India and Japan. Leading aircraft and equipment manufacturers have already envisaged that the extension of SBAS regional coverage will form a worldwide SBAS capacity, of which EGNOS would be a key central component in Europe and Africa, allowing seamless operations and reaping benefits across the world.

1.5. The implementation of SBAS in Africa is part of the First Action Plan (2008-2010) for the Implementation of the Africa-EU Strategic Partnership (Lisbon Summit, Dec 2007), as more recently reaffirmed by the European Commission Vice-President at the African Union Open Day on Infrastructure (Addis Ababa, Jan 2009) and in the Communication from the Commission to the European Parliament and to the Council "Partnership between the European Union and Africa. Connecting Africa and Europe: working towards strengthening transport cooperation" (COM(2009) 301 final, dated 24 June 2009).

1.6. The European Commission is currently preparing a Programme Proposal to work with African organisations and stakeholders for the implementation of SBAS in Africa.

2. IMPLEMENTATION PLAN

2.1. The interregional SBAS in Africa is to be implemented in a step-wise, modular approach. In particular:

- a) The implementation of the first module, aimed to cover the Mediterranean area and the North Africa, is ongoing. Ground stations of EGNOS are being deployed, notably in Egypt, Algeria and Morocco.
- b) A second step is being designed, with the objective of providing services in Southern Africa, with sufficient capability for APV-I. An agreement is being set-up in the frame of co-operation between the European Union and the Republic of South Africa, and in collaboration with the South African National Space Station, the European Commission and the European Space Agency.
- c) An intermediate step would allow the coverage of the entire African continent, with service sufficient for NPA.
- d) The final step would provide the full coverage of the entire African continent, with service compliant with APV-I requirements.

¹ This amount includes all costs to be borne by African airlines to equip with EGNOS

3. ACTIONS FOR THE TASK FORCE

3.1. The task force is invited to:

- a) Take note of the information enclosed to this Working Paper;
- b) Utilize the information provided in the revision of the AFI GNSS strategy.
