EU-Africa cooperation on satellite navigation: Status of the EGNOS initiative

Joint EU-Africa Strategy Reference Group on Infrastructure

Brussels, 24 March 2015

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Background: EGNOS potential coverage

- EGNOS: Already available and operational in Europe today
- Possible extension with deployment of ground infrastructure (stations)

<table>
<thead>
<tr>
<th>Service</th>
<th>Accuracy</th>
<th>Availability</th>
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<tbody>
<tr>
<td>Open Service (OS)</td>
<td>Accuracy ~1m, free</td>
<td>Available since October 2009</td>
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<tr>
<td>Safety of Life Service (SoL)</td>
<td>Accuracy ~1m, compliant to aviation standards</td>
<td>Available since March 2011</td>
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<tr>
<td>EGNOS Data Access Service (EDAS)</td>
<td>Accuracy &lt;1m, corrections provided by terrestrial networks</td>
<td>Available since July 2012</td>
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Background: uses of EGNOS

**Aviation**
- Instrumental vertical guidance, reduces accident probability
- Route optimisation (Fuels savings, CO2 emissions reduction)
- Phasing out of current ground-based equipment for aid to nav (Costs reduction for airports)
- All-weather landing (Less delays, diversions and cancellations)

**Rivers and inland waterways**
- EGNOS can support navigation and dredging vessels operations through the ‘shallow’ areas, allowing all season navigation

**Land management**
- **Cadastre** (High accuracy, free of charge, for rural parcels measurements)
- **Cartography** (High accuracy, low-cost service, for hydrographical survey and geographic data collection)

**Precision Agriculture**
- Efficient irrigation and water management
- Precise spraying for better use of pesticides and fertilizers

**Rail**
- Satellite-based replaces balises
- **Costs savings** on track control, signalling equipment, maintenance, investments
Widespread political support to satellite navigation in Africa

- Space for the African citizens, High-level Meeting under the Belgian EU Presidency, September 2010
- 7th Space Council, Resolution on "Global challenges: taking full benefit of European space systems", Brussels, November 2010
- Declaration of the 4th EU-Africa Business Forum, Tripoli, 27-28 November 2010
- 3rd Partnership: Regional Economic Integration, Trade and Infrastructure - Second Action Plan adopted at the Africa-EU Summit (November 2010) - Priority No 2: Support to Air Transport Sector and Satellite Navigation

- ICAO 12th Navigation Conference (Montreal, November 2012), AU Member States resolved to embrace GNSS
- ACAC (Arab Civil Aviation Commission) formally expressed (May 2013) the intention to discuss institutional, financing and technical aspects

- Recommendations of the 5th Africa-EU Business Forum (March 2014)
Mandate from African and EU Member States

- Resolution of the ASECNA Admin Council (July 2011): Member States (17 African states) encourage EGNOS implementation and mandate the DG to cooperate with EU
Preliminary activities already funded

1. **Funds: ITF and own resources**  
   c. €6M

2. **Funds: ENPI (European Neighbouring Policy Instrument)**
   
   **Euro-Mediterranean Partnership (EUROMED)**
   
   Euromed GNSS I (2006-09): €4.5M
   Euromed GNSS II (2012-14): €4.5M

   I. Installations of EGNOS ground stations (RIMS) to improve the coverage of southern EU countries, the Mediterranean basin and Northern African coast
   II. Implementing actions aimed at preparing the Northern African countries towards the utilisation of EGNOS in civil aviation and other transport and non-transport domains

3. **Funds: Intra-ACP 10th EDF**  
   (€9M)

   I. Deployment of a regional sub-Saharan Joint Programme Office (5 recruitments on-going + 5 recruitments planned in 2014)
   II. Set-up and support for working sessions of stakeholders to address Governance, Liability & Certification, Services Roadmap, etc.
   III. Training of the Office staff by UNESCO/ICTP (training on managerial and technical aspects)
EGNOS-Africa Joint Programme Office

- Pan-African staff recruited in respect of *origin, language* and *gender* balance
- **High qualified** experts – trained on satellite navigation (TREGA project)
- Currently funded with Intra-ACP 10th EDF (until end-2015)
- Time-limited extension under consideration (2016-…)

Legal personality and long-term funding approach to be defined
The international agreement with ASECNA will allow the implementation of a first infrastructure module for the provision of initial services.

A longer-term approach for a pan-African coverage shall be pursued – governance and funding defined accordingly - in adherence with the political recommendations.

The Joint Programme Office shall evolve and secure its sustainability.

AUC (and possibly AFCAC) can be instrumental and take the lead for the implementation of a pan-African satellite infrastructure for regional integration and economic growth.