



Space for Africa

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European Commission
DG Enterprise and Industry

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International cooperation and the European Space Policy

Programmes

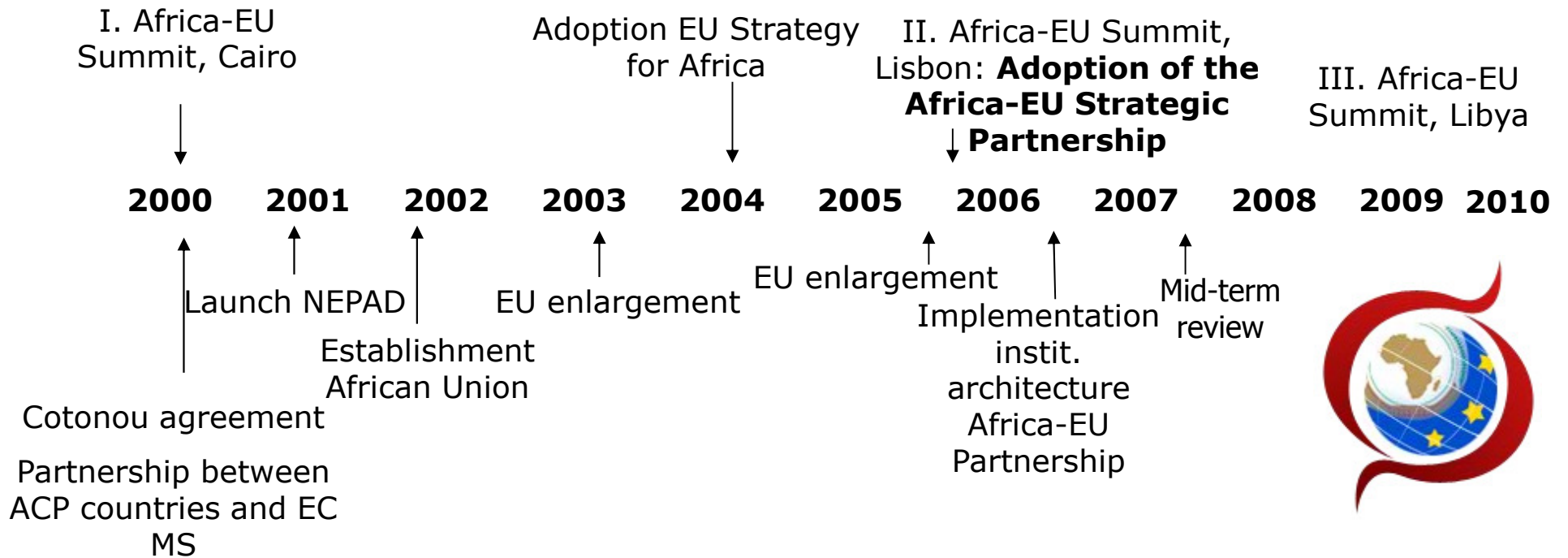
Policies

space industry
competitiveness

Environment, Climate change, Sustainable development, Education,
Access to knowledge, Humanitarian aid, ...

POLICY COHERENCE

The evolving Africa-EU relations

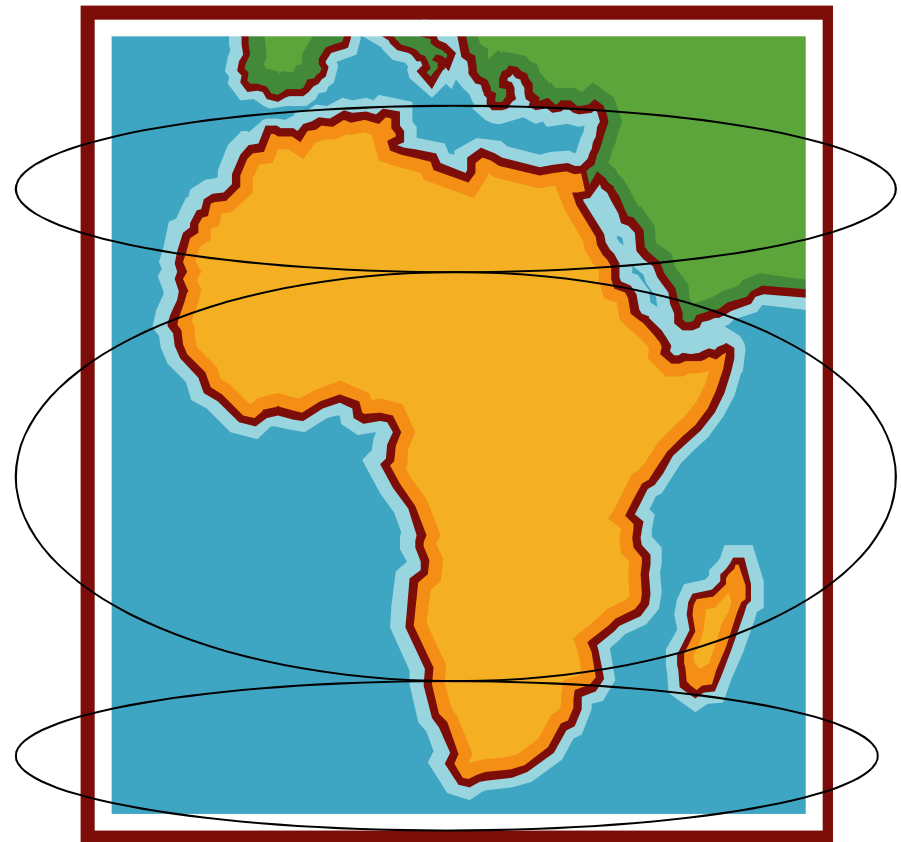


Addressing Africa as one

Euro-Mediterranean
Partnership with North Africa
+
Neighbourhood Policy

Cotonou Agreement
with sub-Saharan
Africa

Agreement on Trade,
Development and Cooperation
with South Africa



Eight thematic Africa-EU partnerships

- 1. Peace & Security**
- 2. Democratic Governance and Human Rights**
- 3. Trade, Regional integration & Infrastructure**
- 4. MDGs**
- 5. Energy**
- 6. Climate Change**
- 7. Migration, Mobility & Employment**
- 8. Science, Information Society & Space**



***"8th Africa-EU
Partnership on
Science, Information
Society and **Space**"***

***"3rd Africa-EU
Partnership on
Trade, Regional
Integration and
Infrastructure"***

Environment, resource management, climate change, peace
and security, transport

Joint Africa-EU initiatives on space

GMES-Africa

EGNOS-Africa

- Discussions to support the creation of the African Space Agency
- Space Sciences Institute of the pan-African University

Dialogue between the European Commission and the African Union Commission (Collège-to-Collège)

GMES-Africa

- Action plan prepared
- Validation by stakeholders through thematic workshops

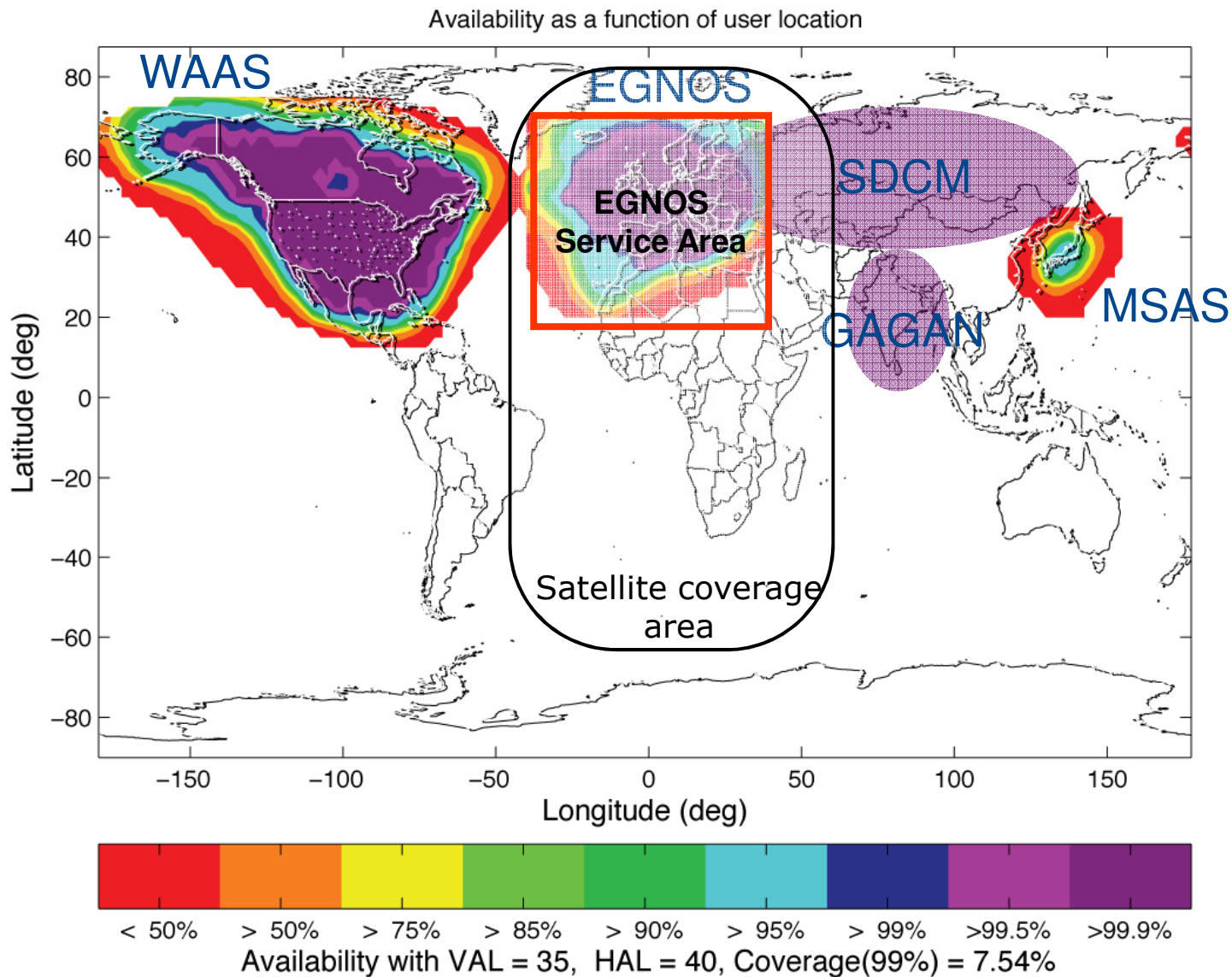
Maritime and
coastal area
(Kenya)

Monitoring of
natural
resources
(Egypt)

Water
management
(Nigeria)

- Coordination committee: EC + AUC + RECs + MS
- On-going projects
 - MESA (post-AMESD)
 - FP7

EGNOS as part of a worldwide SBAS coverage system



Source: Stanford University

Aviation

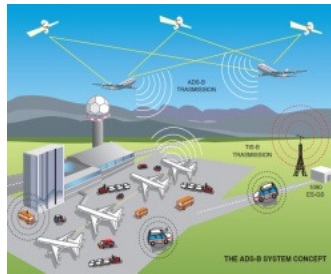
Benefits for passengers, airports, airlines and the environment

Use

Instrumental vertical guidance, reduces accident probability



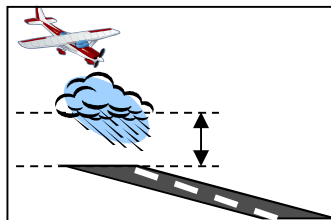
Route optimisation with the use of ADS-B (*Automatic Dependent Surveillance-Broadcast*)



Phasing out of current ground-based equipment for aid to navigation



Reduction of *decision height* during landing



Impact

Safer landing,
fewer accidents

Fuels savings,
CO₂ emissions reduction

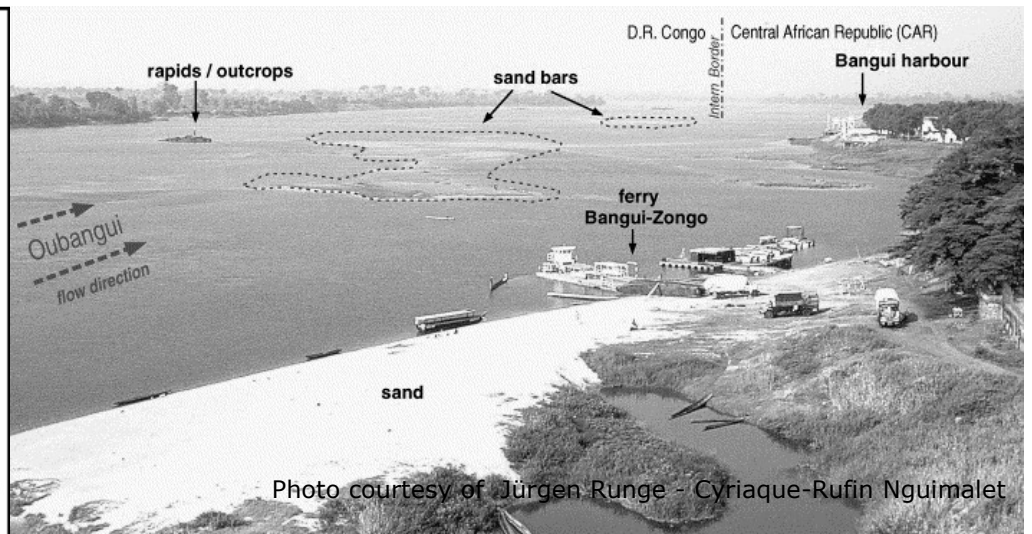
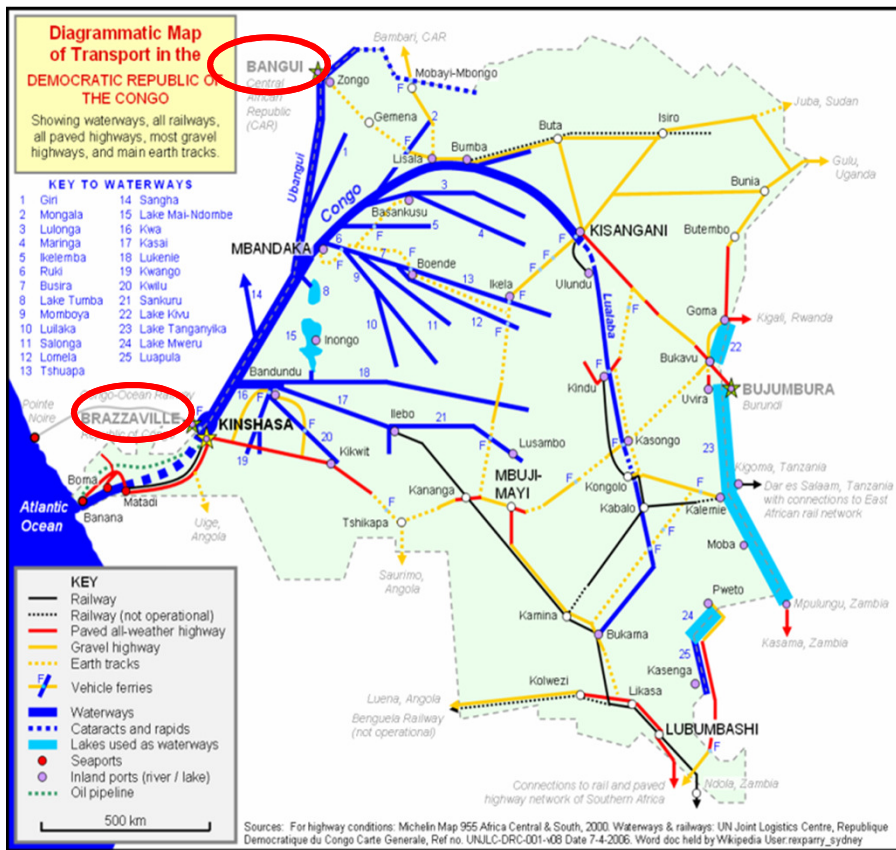
Costs reduction for airports

Less delays,
diversions and cancellations

Case study: Congo river basin

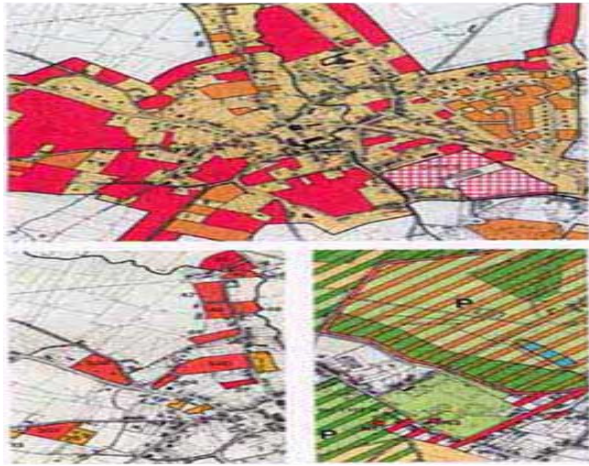
95% of the Central African Republic (CAR) imports (c. **270€m per year**) transit through the Congo.

Navigation to Bangui is **blocked for 5-6 months** per year due to rocky sills and decline in the Oubangui level .



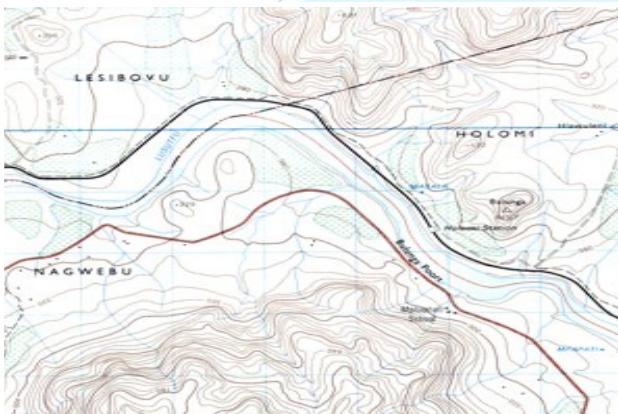
EGNOS can support **navigation and dredging** vessels operations through the 'shallow' areas, allowing **all season navigation** (with a substantial impact on CAR's imports).

Land management



Cadastral

- **High accuracy, free of charge**
- Particularly useful for **rural parcels measurements**
- Supports **land reform** programmes and helps **solving land disputes**



Cartography

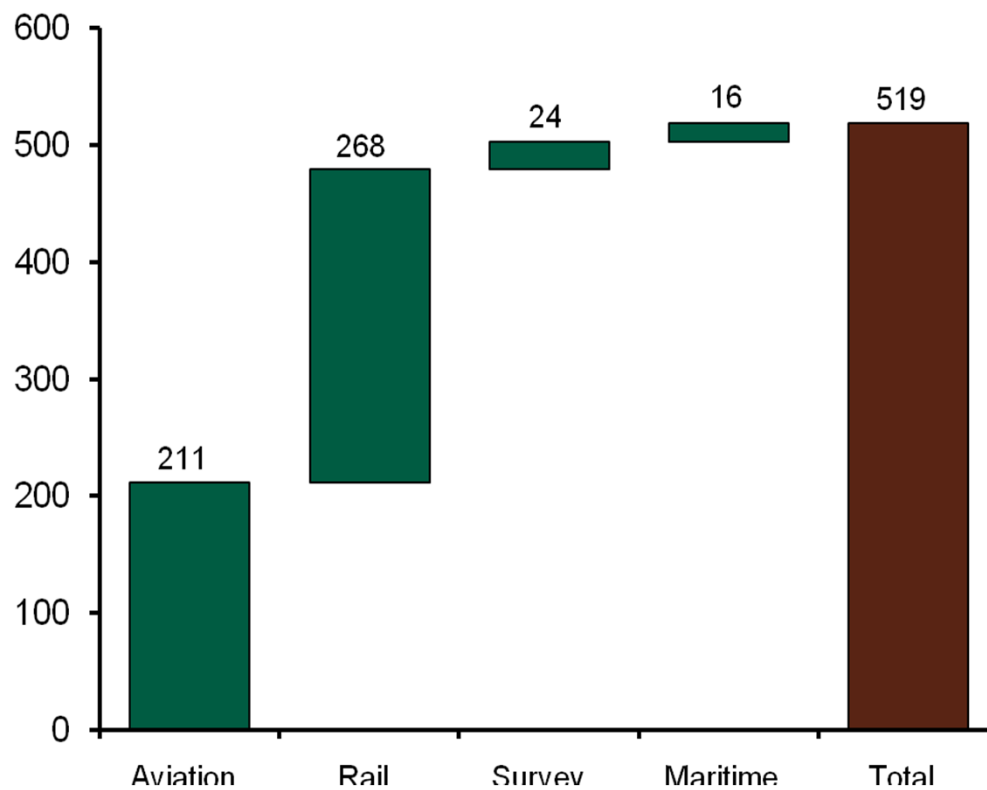
- **High accuracy, low-cost** service
- Hydrographical survey
- Cartography and geographic data collection

Courtesy: South African National Geo-Spatial Information (NGI)

Cost-benefit analysis

Only for aviation, cumulative undiscounted net benefits on a 30 years timeframe (2011-41) will amount to c. €1.7b, vs investments of c. €359m

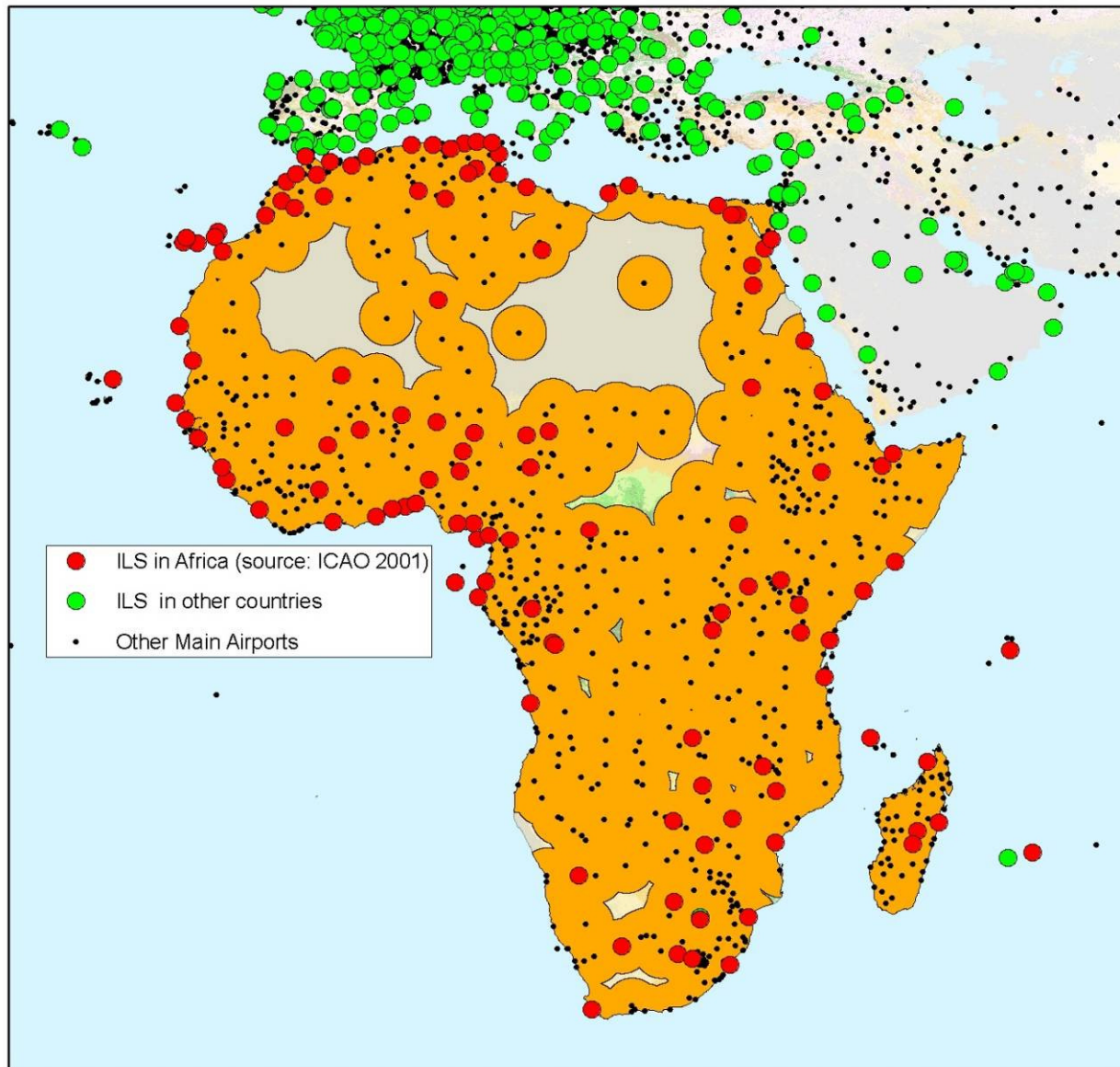
Millions of Euro



**Total Net Present Value (NPV)*
~520 €m**

* With a 8% discount rate

Potential for regional integration



**37 % of Africa
is 250km from
an ILS equipped
airport**

**87 % of Africa
is 250km from
a main or
regional airport**

**MDGs
goal 8.C**
Address the
special needs of
landlocked
developing
countries and
small islands
developing states

Widespread political support to satellite navigation in Africa

- **Partnership between the European Union and Africa. Connecting Africa and Europe: working towards strengthening transport cooperation**

COM(2009)301, June 2009

- **Action Plan on Global Navigation Satellite Systems (GNSS) Applications**

COM(2010)308, June 2010

- **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

EGNOS in Africa

Current activities

*Technical
definition*

*Initial infrastructure
deployment*

Capacity Building

The way forward

**Mission
requirements
and preliminary architecture
definition**

Infrastructure deployment phase

Exploitation phase

Definition of the **governance scheme**

Players involved: AUC, ACP secretariat, RECs, Member States, Space agencies, ANSPs, inter-governmental organisations

Conclusions

- Cooperation on space with Africa – aligned with EU policies
- Large potential benefits
- Involvement of wide stakeholders community
- Complexity of governance
- Instruments



Thank you!