



EGNOS: a satellite navigation system for Europe, and an opportunity for Africa!

Michel Bosco

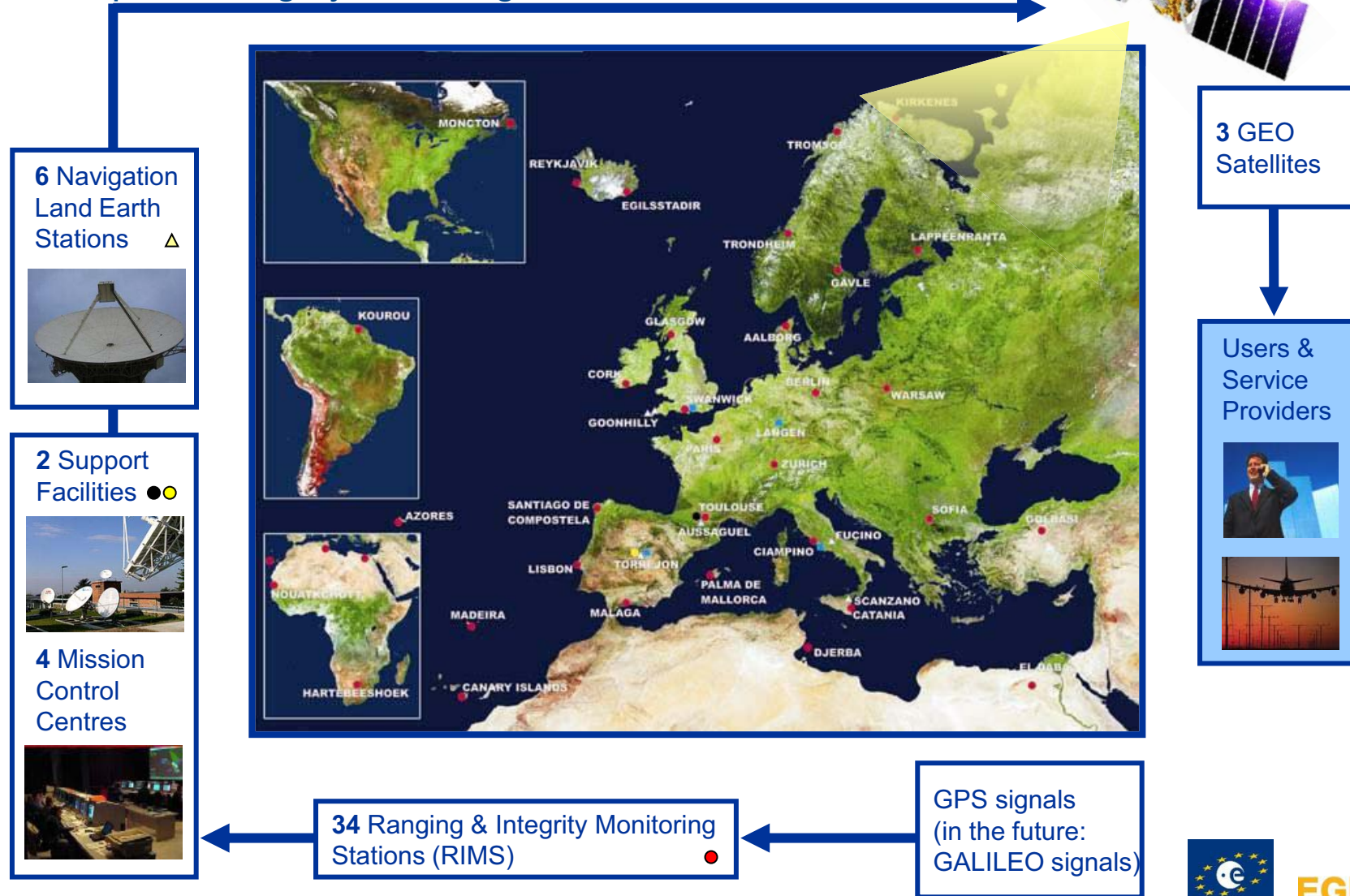
Head, Galileo and EGNOS Applications and International Cooperation

European Commission

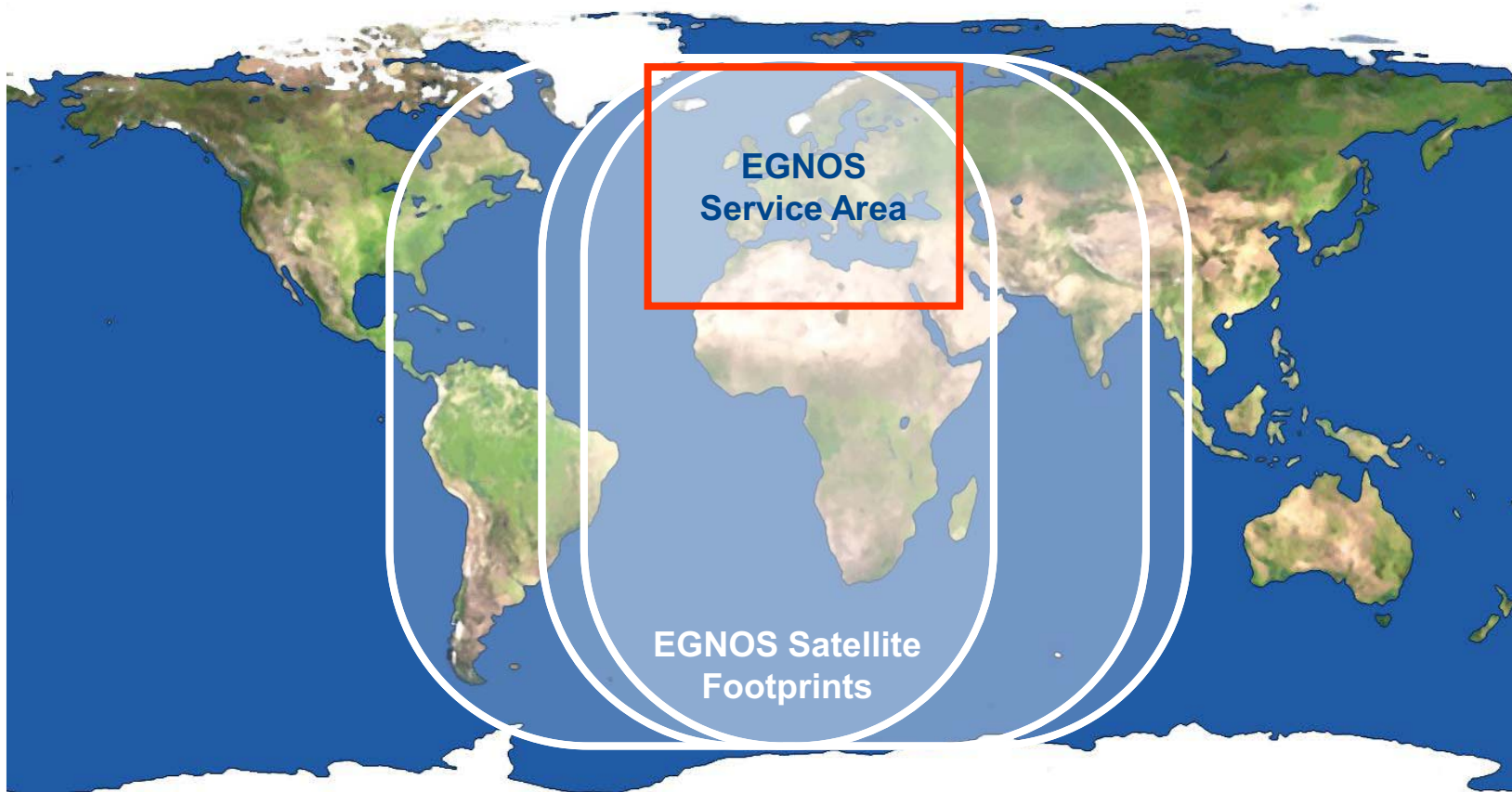


EGNOS System Architecture

EGNOS is an SBAS that “augments” the signal of satellite positioning systems e.g. GPS, GALILEO, GLONASS



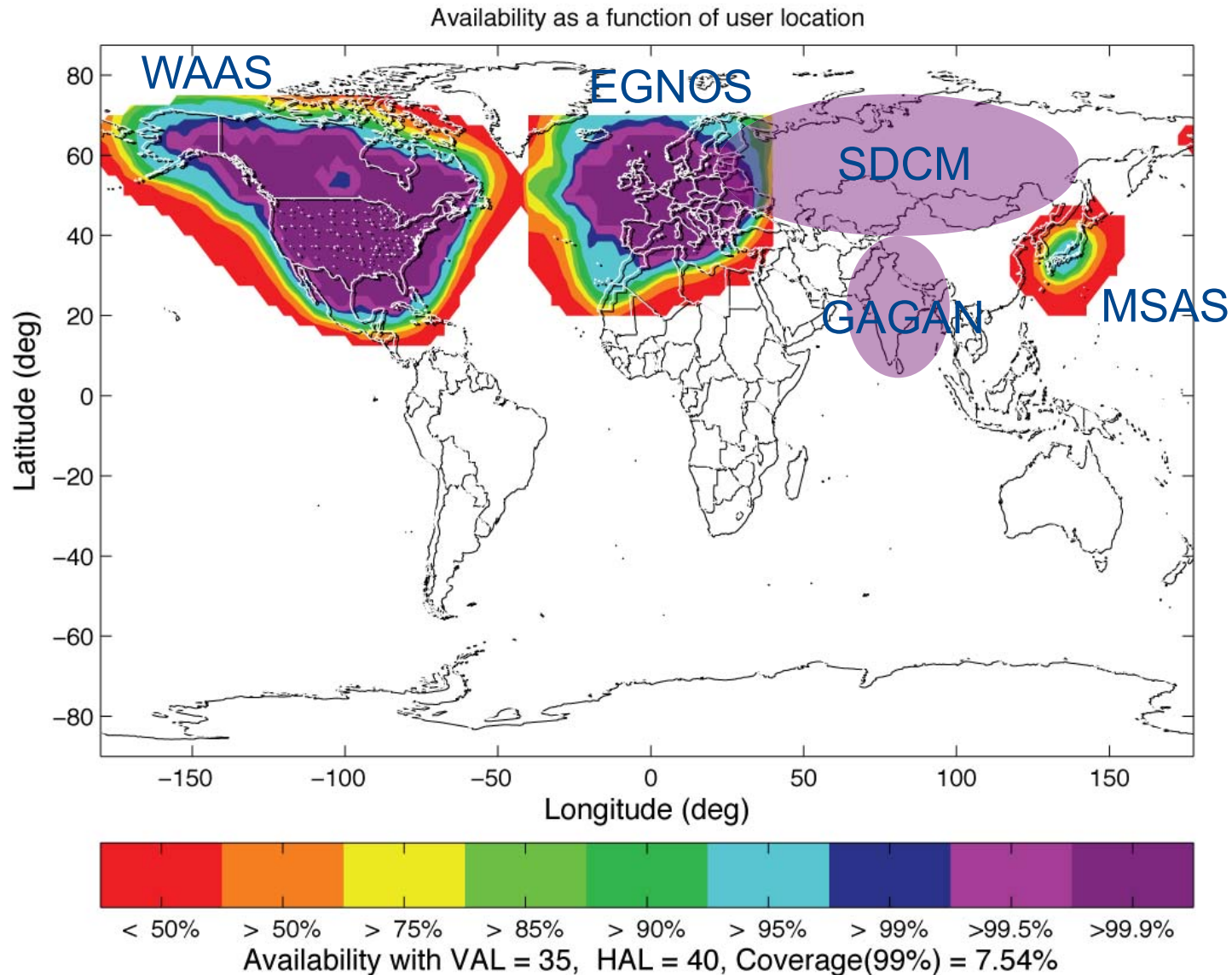
EGNOS Service Area



INMARSAT AOR-E (15.5°W), ARTEMIS (21.3°E), INMARSAT IOR-W (25°E)

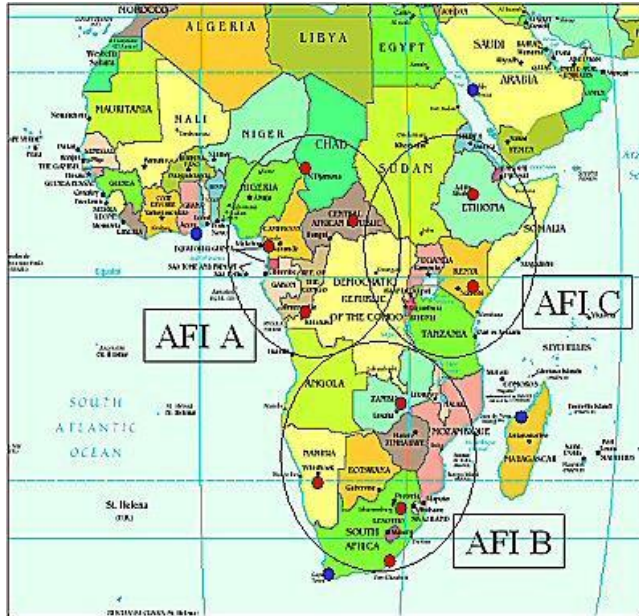


Towards a worldwide SBAS coverage



Source: Stanford University

Technical feasibility and users' interest



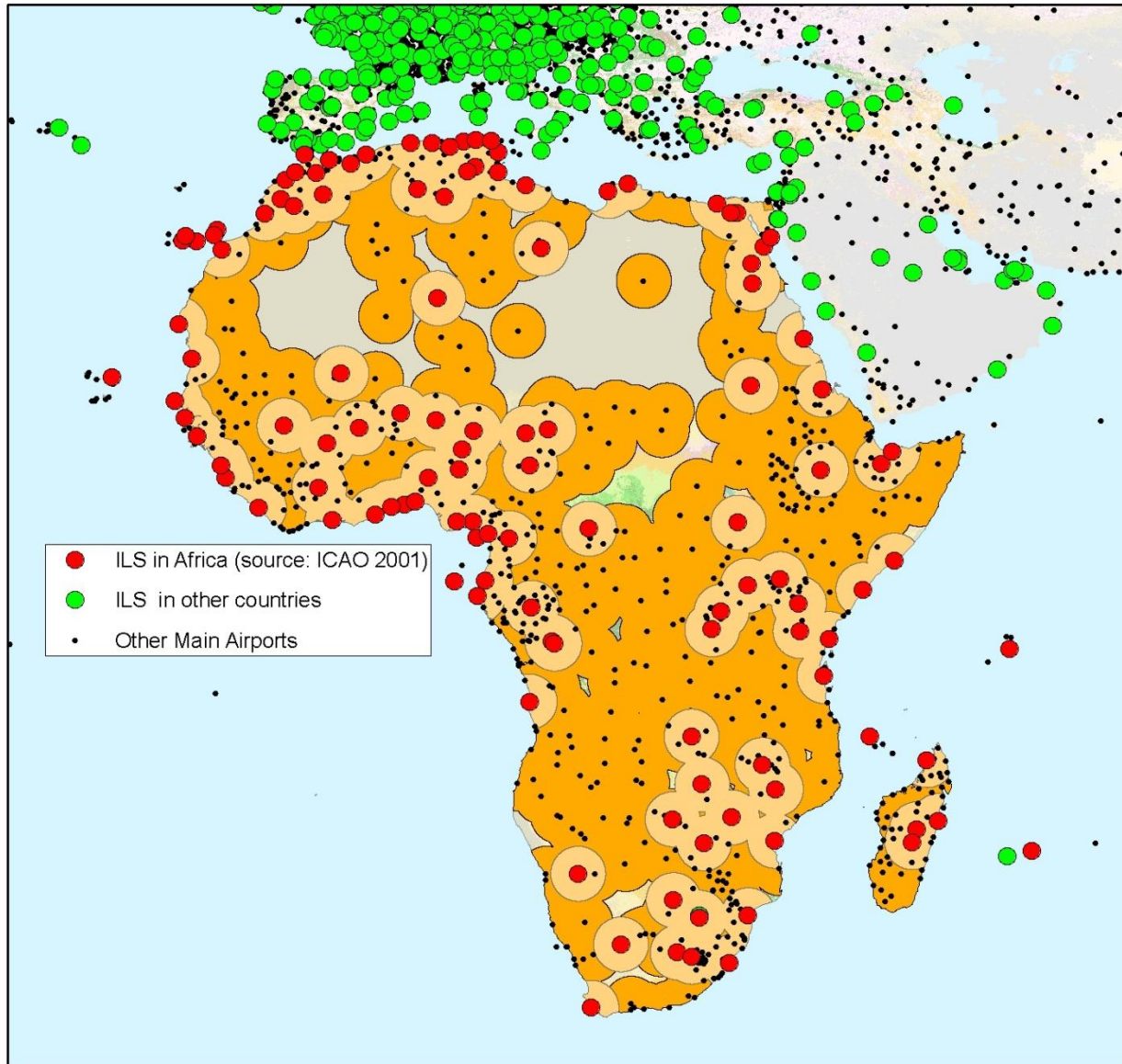
A demonstration of the use of EGNOS for advanced rail traffic management, on low-density rail lines, Gauteng, South Africa 2005



Temporary EGNOS reference stations installed in several African countries: Chad, Cameroon, Central African Republic, Congo, Ethiopia, Kenya, Zambia, Namibia and South Africa; flight testing took place during a East-to-West flight from Dakar to Mombasa on 19-20 May 2005



Impact on Economic development and integration



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

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

EGNOS
potential



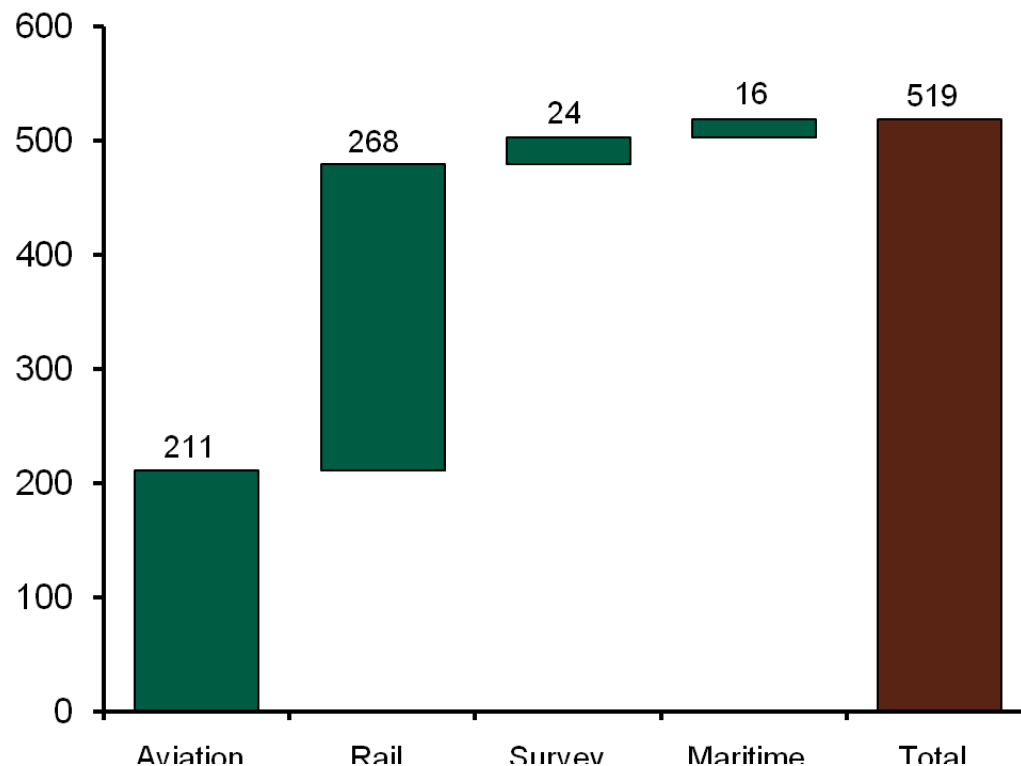
EGNOS benefits in Africa

- ★ Improving transport infrastructure at once by making regional airports accessible internationally
- ★ Reducing maintenance costs, safety and security of railways
- ★ Improving dramatically air and maritime transport safety
- ★ Reduction of costs, increased safety and greater reactivity for humanitarian interventions
- Economic opening-up of isolated regions, reduction of access costs to regional centres
- ★ Impacting positively land management
- ★ Impacting positively agriculture, mining, and energy
- ★ Establishing pan-African infrastructure
- Infrastructure development
- ★ Reinforcement of African academic institutions
- ★ Building African capacity at managing large projects
- ★ Training of African users and operators
- Human resource development and anti-brain-drain effect

Results of a Cost-benefits analysis (transport only)

The use of SABS for Africa can bring benefits surpassing 500€m over the 2012-2042 (30 years) period. This estimate does NOT include economic and social benefits resulting from induced economic development of remote regions, nor in other sectors

Millions of Euro



**Total discounted
net benefits
(Discount rate
of 8%, 2010 value)**

~ 520€m

Programme implementation steps

1. Preliminary studies
2. Cost Benefit Analysis ... - 2009
3. Programming
(implementation and management plan)
4. Governance scheme
5. Political support 2010
6. Funding 2011
7. Detailed system design
8. Deployment of EGNOS across Africa 2012
9. Service provision and operation


Main issues to be tackled

1. Rationale and benefits
2. Technical alternatives
3. Liability policy
4. Certification policy
5. Industrial issues
6. Training needs and capacity building
7. Exploitation
8. Costs
9. Governance structure
10. Funding options
11. Project management structure

We need contributions by African experts on these issues!

Manifest your interest: michel.bosco@ec.europa.eu



A composite image showing a satellite in orbit with solar panels, a yellow streak representing a satellite's path, and a view of Earth from space. The text "Thank you for your attention" is centered in white.

Thank you for your
attention

Further information:

<http://www.satellite-navigation.eu/>

We need contributions by African experts to the « EGNOS and Africa » project!

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