



# **Policy Perspectives in European-African Partnership through the Use of Satellite Applications**

Christina Giannopapa

## Mission Statement

The mission of the European Space Policy Institute (ESPI) is to **provide decision-makers with an independent view and analysis** on mid- to long-term issues relevant to the use of space.

Through its activities, ESPI **contributes to facilitate the decision-making process**, increases awareness of space technologies and applications with the user communities, opinion leaders and the public at large, and supports students and researchers in their space-related work.

To fulfil these objectives, the Institute supports a network of experts and centres of excellence working with ESPI in-house analysts.



# What ESPI provides for decision-makers and the whole space community

- Arguments for the “Case for Space”
- Policy concepts for international, regional and national activities
- Analyses for mid-term visions
- Platforms for exchange
- Sources of information



## ESPI members



## ESPI partners



and the  
**European Space Policy Research and Academic Network (ESPRAN)**  
 coordinated by ESPI



## Products and Services



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Studies in Space Policy



ESPI Perspectives



Position papers and Memoranda



Specials



Information resources



Conferences

## Assignments



Coordination of ESPRAN



Support for EISC



Ambassadorship for IAP

# Presentation Overview

1. ESPI Project
2. International and European Goals and Strategies
3. Use of Satellites and Mapping of Activities and Actors
4. Policy relevant actors in Africa
5. European Member State- African Agreements
6. Space Agencies, Laws and Policies in Africa
7. ESA Africa Related Projects
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13. Future Work

# 1. ESPI Project

## Fostering European-African Partnership for Sustainable Development in Africa through the Use of Satellite Applications

Through its activities, ESPI contributes to facilitate the decision-making process, increases awareness on space technologies and their applications with user communities, opinion leaders as well as the public at large.

ESPI is conducting a study aiming to provide a comprehensive mapping of ongoing activities in Africa using satellite applications and to draw policy perspectives for European-African Cooperation.

- The mapping will include projects by EC, UN, Eumetsat, ESA, national projects of EU countries, private initiatives, etc.
- The mapping of existing projects and cooperation mechanisms will be analyzed and existing gaps and good practices will be identified.
- Policy perspectives for European-African cooperation will be drawn
- Study will be published as an ESPI report
- The Belgian EU Council Presidency, in the second half of 2009, will use the ESPI study as an input.

# 1. ESPI Project

## 10 February - European- African Roundtable at ESPI



Roundtable from left: Colin Hicks (President Eurisy), Adigun Ade Abiodun (Former Chairman UNCOPUOS, Founder of the African Space Foundation, Nigeria), Driss el Hadani (Director Royal Centre for Remote Sensing, Morocco), Peter Martinez (Division Head of Space Science and Technology, South African Astronomical Observatory), Jean-Francois Mayence (Belgian EU Council Presidency 2/2010), Marie-Elisabeth de Vel (International Relations ESA) and Kai-Uwe Schrogl (Director ESPI)



# 1. ESPI Project

## 24 July - European stakeholders workshop

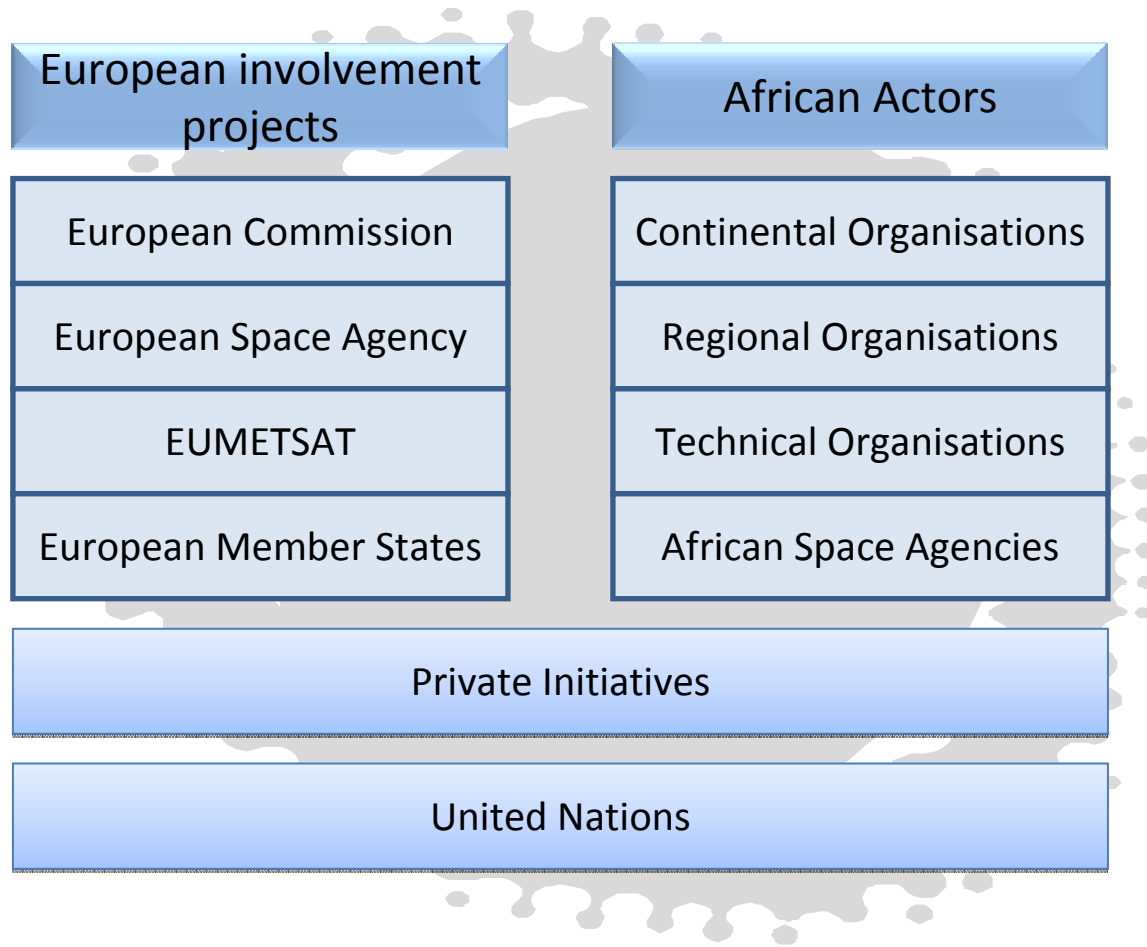


Participants in the stakeholder workshop organised by ESPI (from left): Michel Bosco (EC), Christine Leurquin (SES), Cecile Desnos (ESPI), Christina Giannopapa (ESPI), Lionel Poncelet (Belgian EU Council Presidency 2/2010), Sebastian Rieder (Eurisy), Vincent Gabaglio (Eumetsat)

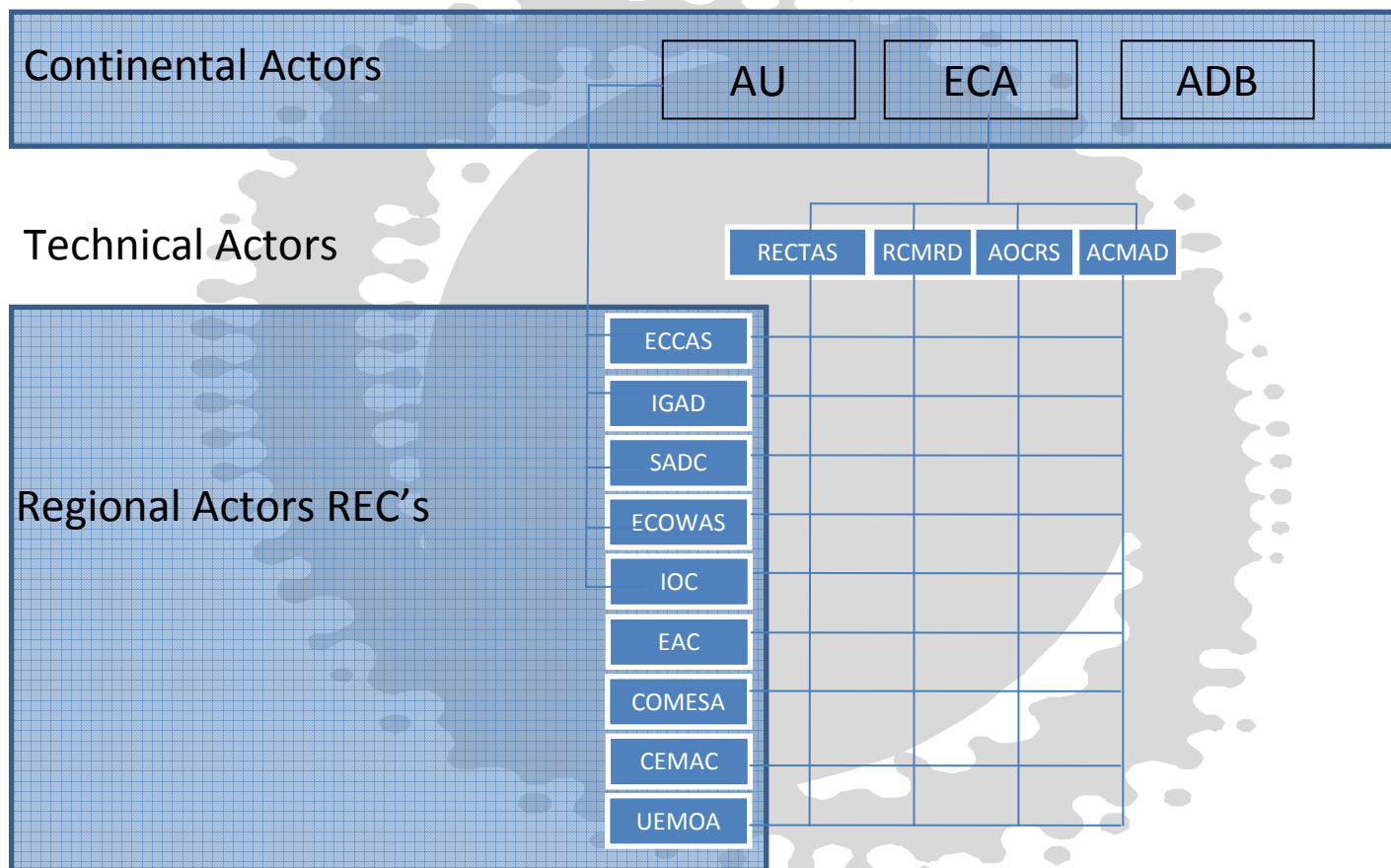
## 2. International and European Goals and Strategies

- Millennium Development Goals
  - Eight international development goals that 192 UN Member States and 23 international organizations agreed to achieve by 2015 including, reducing extreme poverty, fight disease epidemics and developing a global partnership for development.
- Joint Africa-EU Strategy
  - 2007 Joint Africa-EU strategy defines the long-term policy orientations between the two continents.
  - The first action plan outlines 8 areas for strategic partnership for 2008-2010.  
Area 8: Science, Information Society and Space

### 3. Use of Satellites and Mapping of Activities and Actors



## 4. Policy relevant actors in Africa



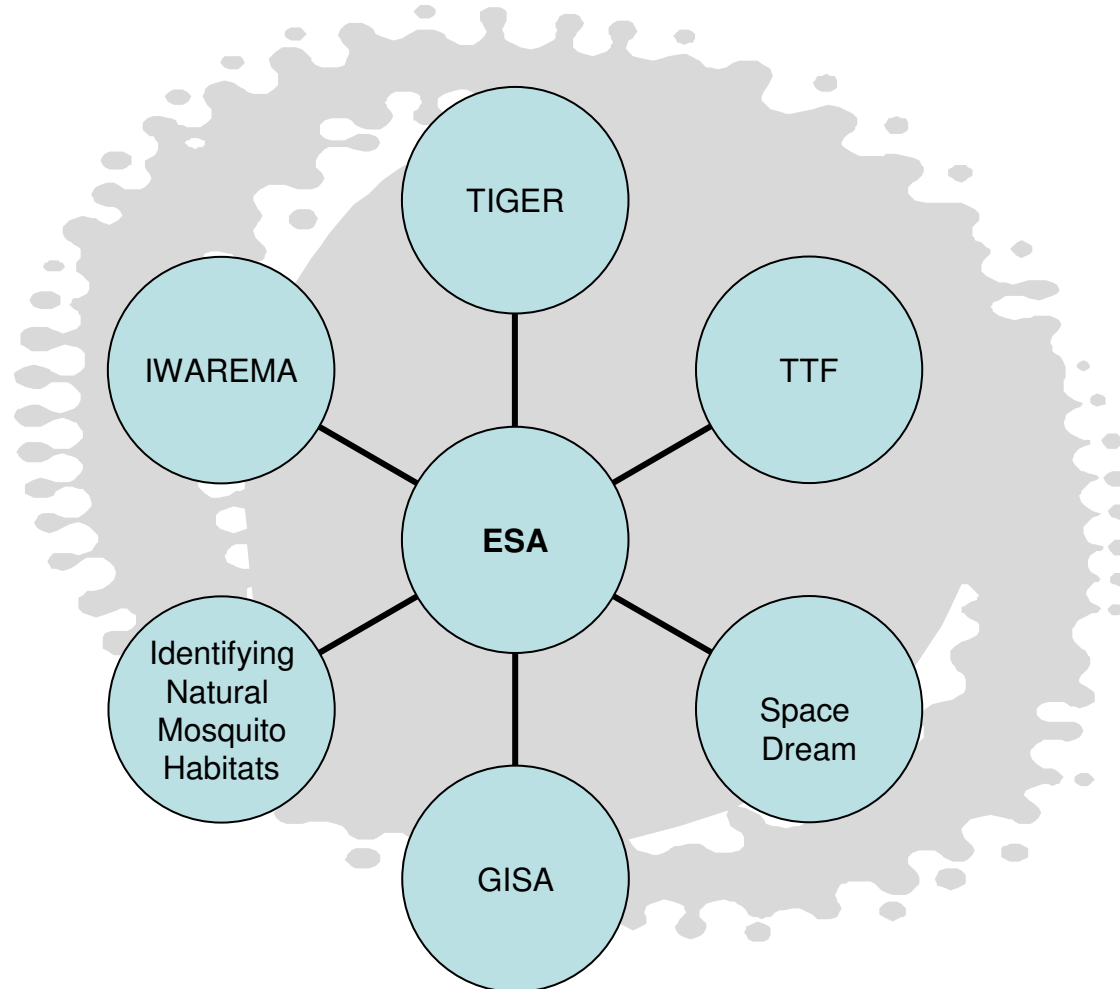
## 5. European Member States- African Counties Agreements

Country	Agreement with African Countries/Agencies
Germany	- German Aerospace Centre DLR signed framework agreement with CSIR of South Africa (1995)
Italy	- Government of Kenya and - Government of Italy (1964). - Agreement at San Marko Malindi, Kenya (1995, renewed 2010) on satellite tracking and launching station.
United Kingdom	- MOU British National Space Center (BNSC) (since April 2010 UK Space Agency) and the Algerian Space Agency (ASAL) (2006)
France	- Intergovernmental agreement between France and Algeria (2006). Implemented by the National Centre for Space Studies (CNES) and the Algerian Space Agency (ASAL). Three themes of cooperation: a) Telemedicine and tele-epidemiology; b) Hyper-Spectral space technologies; c) reduction of seismic vulnerability.

## 6. Space Agencies, Laws and Policies in Africa

- Countries with National Space Law
  - South Africa
- Countries with National Space Policy
  - South Africa
  - Nigeria
- Countries with Space Agency
  - Nigeria      NASRDA- National Space Research and Development Agency
  - South Africa    SANSA – South African National Space Agency
  - Algeria      ASAL – Algerian Space Agency
  - Morocco      CRTS – Royal Center for Remote Sensing, Morocco
  - Egypt      NARSS- National Authority for Space Science and Remote Sensing

## 7. ESA Africa Related Projects

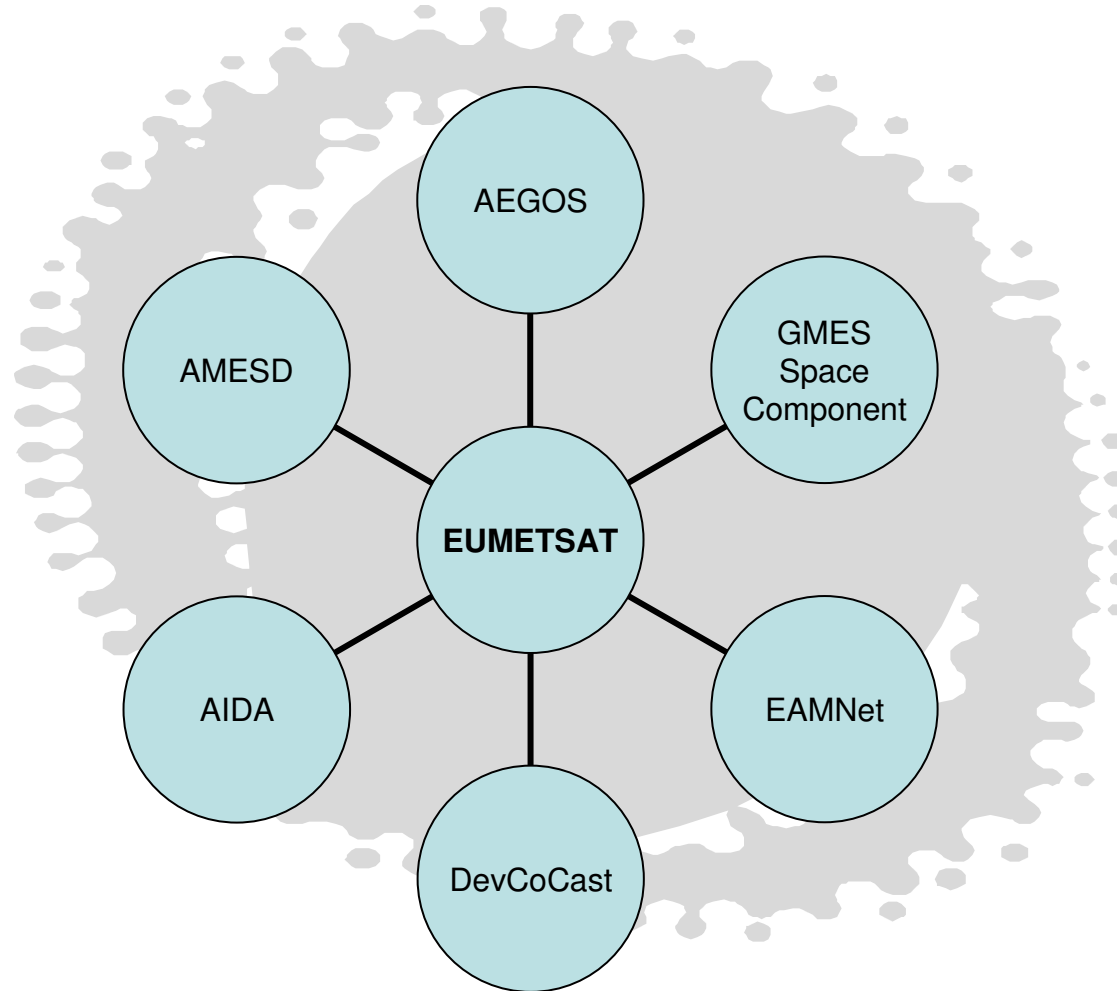


## 7. ESA Africa Related Projects

<b>Projects</b>	<b>Objectives</b>	<b>Body</b>	<b>Partners</b>	<b>Status</b>
<b>GMES Space Component</b>	Provision of EO data for monitoring environment and supporting civil security	EC, ESA	ASI, BNSC, CDTI, CNES, CSA, DLR, EC, EUMETSAT, ESA	pre-operational; Sentinel-1 to be launched in 2011
<b>TIGER</b>	Help African nations overcome difficulties in collection, analysis and dissemination of water-related geo-information Through EO exploitation	ESA	expert centres in EO applications for water management, private sector, NGOs, finance & development agencies (collectively representing the <i>TIGER Stakeholder Group</i> )	first implementation period over (2005-2007); second implementation period ongoing
<b>TTF</b>	Investigate potential for satellite communication technology as support for healthcare systems in sub-Saharan Africa	ESA	African organisations, WHO, EC, ESA	pilot project proposed
<b>SpaceDream</b>	space-based technologies for support to supply antiretrovirals for treatment of HIV/AIDS in sub-Saharan Africa	ESA	Comunita di Sant'Egidio, LUXSpace, CISAS 'G.Colombo', ESA	ongoing
<b>GISA</b>	study potential role of geographic and space techniques related to HIV/AIDS and ARV issues in sub-Saharan Africa. GIS for tracking epidemics	ESA	WHO, Medecins Sans Frontieres, ESA, UNAIDS, Telecoms Sans Frontieres	ongoing
<b>Identifying Natural Mosquito Habitats</b>	Development and demonstration of EO tehcnology for identifying natural mosquito habitats and predicting Malaria risk in Africa	ESA	ESA	ongoing
<b>IWAREMA</b>	provide local Zambian policy makers with necessary tools for effective water resource management	ESA	Zambian Water Authorities, ESA	ongoing



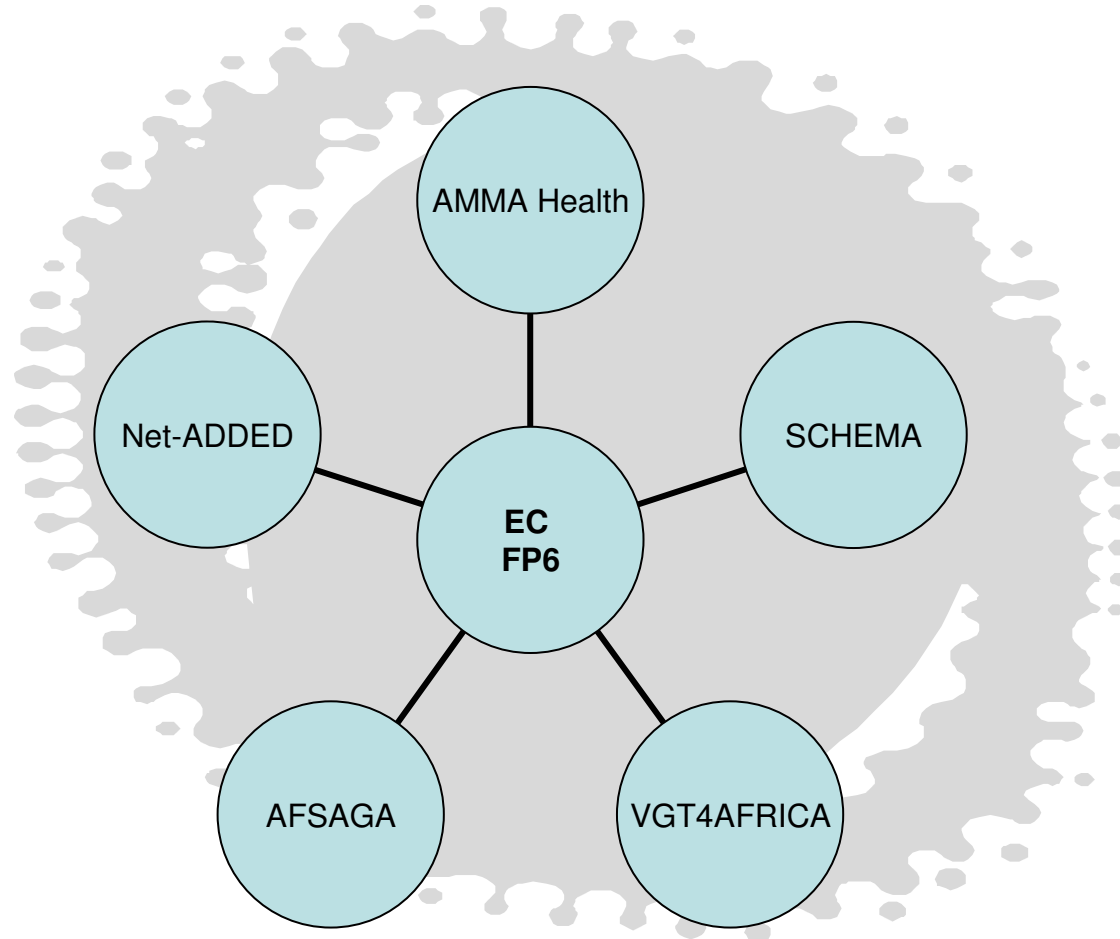
## 8. EUMETSAT Africa related projects



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<u>Projects</u>	<u>Objectives</u>	<u>Body</u>	<u>Partners</u>	<u>Status</u>
<b>EAMNet</b>	Aims to construct a network linking EO information providers, user networks and centres of excellence in Europe and Africa in the area of coastal and marine observations towards sustainable development in Africa	Plymouth Marine Laboratory; EC FP7	PML; UCT; Portuguese Institute of Marine Research; DMI; EUMETSAT; NERC/NOCS; Institute of Marine Sciences University of Dar-es-Salaam; University of Ghana; MeteoFrance; Egypt National Institute of Oceanography & Fisheries	ongoing started end 2009 duration 36 months
<b>DevCoCast</b>	Providing reliable, worldwide and continuous access to EO data and derived environmental information for sustainable development. A core infrastructure and early success of GEOSS.	VITO; EC FP7	VITO; ACMAD; AGRHYMET; CONAB; CREAN; CSIR; DMI; EMBRAPA; EUMETSAT; INPE; INTA; ITC; JRC-IES; UCT/MA-RE; NERC/NOCS; PML	ongoing started 01/05/08 duration 36 months
<b>AIDA</b>	Aims to fill ICT information gap, and collect and share ICT for Disaster and Risk Management knowledge and solution in Africa	VITO; EC FP7	VITO; ARU; CSIR; EUMETSAT; GEOSAT Technology; IER; ITC; FUTM; NET Qi; TSF	completed 01/06/08 - 01/06/10
<b>AMESD</b>	Aims to extend the operational use of EO technologies and data to environmental and climate monitoring applications in order to provide all African nations with the resources needed to manage their environment more effectively and ensure long term sustainable development in the region.	AUC; EU-EDF	AUC; Thales Alenia; IRD; BLR; AGRYMET; CICOS; BDMS; ICPAC; MOI; EUMETSAT; EC-JRC	ongoing started October 2007 duration 48 months
<b>AEGOS</b>	Aims at setting up the preparatory phase for the building of an information system containing and making accessible data and knowledge on African geological resources including mineral resources, raw material, groundwater and energy (georesources).	EC FP7	Beak Consultants; BGR; BGS; BRGM; CIFEG; CGS; CzechGS; DNG; GD-SUM-UNZA; GSD; GSE; GSM; GTK; INETI; IRA; IRD; JRC-IES; MMI; PGI; RBINS; SEAMIC; TNO; UEMOA; DGS; DNG M; EUMETSAT; MAWF; RMCA; SGU	ongoing started 09/02/09 duration 30 months

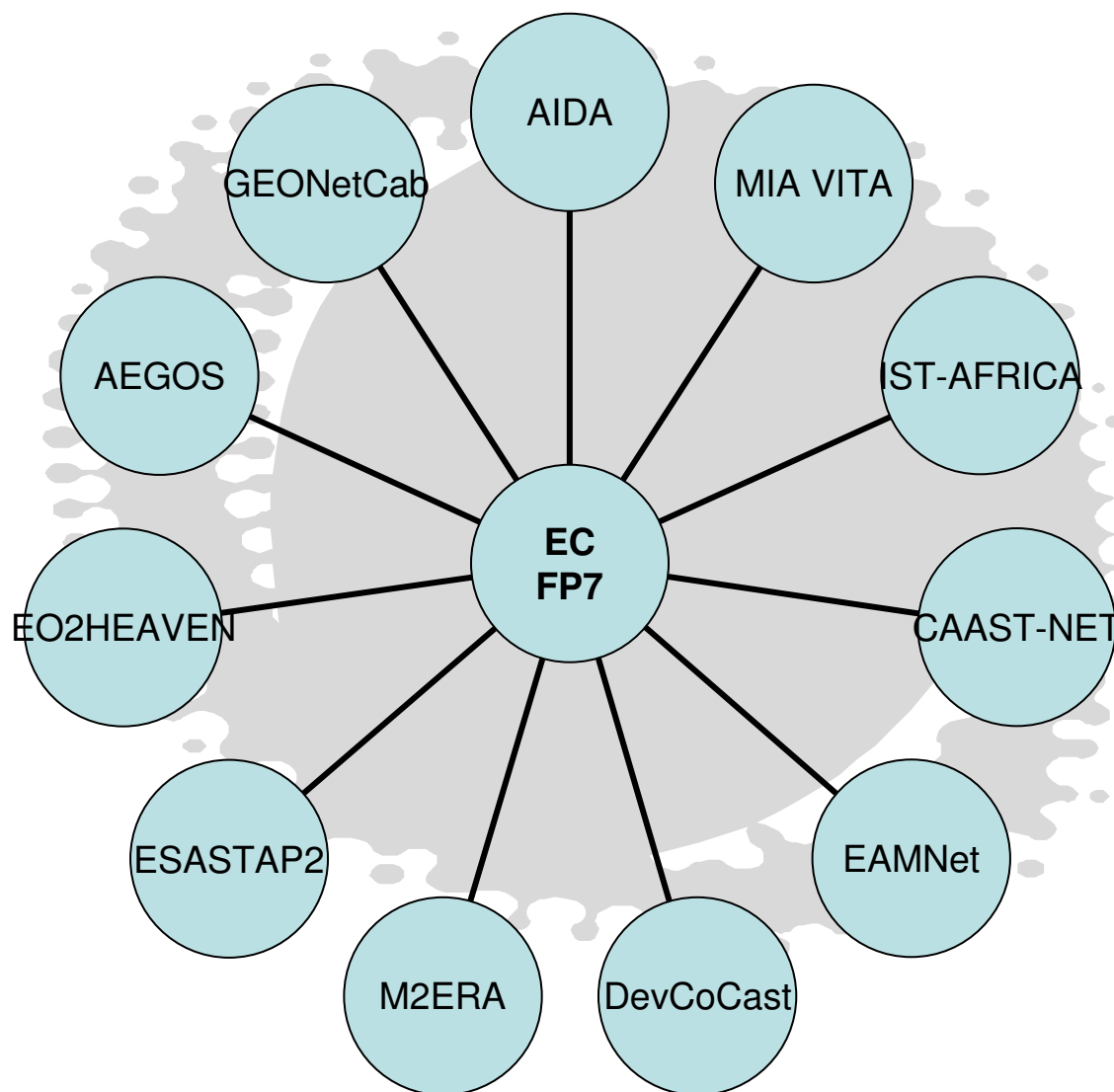
## 9. EC FP6 Africa related projects



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<b>Projects</b>	<b>Objectives</b>	<b>Body</b>	<b>Partners</b>	<b>Status</b>
<b>VG4-AFRICA</b>	Operational and timely distribution system of vegetation data from SPOT satellites and creating high level derived products to all African countries	Flemish Institute for Tehcnological Research; EC FP6	Flemish Institute for Tehcnological Research; EC-JRC-IES; MEDIAS-France	completed 01/01/05 - 01/01/08
<b>AFSAGA</b>	The project analyses the potential applications available from Galileo and satellite communications in South Africa and the SADC region.	Thales Alenia; EC FP6	CSIR; Thales Alenia	completed 01/03/07 - 01/03/08
<b>Net-ADDeD</b>	Aims at developing and validating technical features for improved performance of operation of hybrid satellite0wireless technologies.	Astrium SAS; EC FP6	Astrium SAS; CNES; Cemagref; Universite Blaise-Pascal; Sabanci University; Telemedicine Technologies; MICNTI Groupement des Retraites Educateurs sans Frontieres; Universite Medicale Virtuelle Francophone; Istanbul Medical Faculty; Faculte de Medecine et de Pharmacie Universite Hassan II; FORTHnet SA; Connected Schools	completed 01/04/07 - 01/04/09
<b>AMMA / AMMA Health</b>	International project to improve understanding of West African monsoon and its variability using a multi-scale approach	French initiative; EC FP6	Agencies from FR, UK, US and Africa; CSEI UCAD, IPD, DIREL; Medias-France	completed started in 2002
<b>SCHEMA</b>	Explores the use of EO techniques to elaborate generic method helping experts in building vulnerability and hazard impact maps associated with tsunamis and disaster scenarios	GEOSCIENCES CONSULTANTS srl; EC FP6	ALGOSYSTEMS; HIDROMOD; University of Bologna; University of Coventry; Naitonal Observatory of Athens; CRTS; ACRI-ST; Bulgarian Academy of Science; JRC-IPSC; TUBITAK-MRC-EMSC	ongoing 01/08/07 - 01/08/10

## 10. EC FP7 Africa related projects



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<b>Projects</b>	<b>Objectives</b>	<b>Body</b>	<b>Partners</b>	<b>Status</b>
<b>GEONetCab</b>	Create conditions for improvement and increase of GEO capacity building activities and framework with special emphasis on developing countries	EC FP7	Stichting International Institute for Geo-information Science and Earth Observation; CNRS; IRD; Karlova Universita; Centrum Badan Kosmicznych Polska Akademia Nauk; CSIR; CRAFT; Umvoto Africa	ongoing started october 2009 duration 36 months
<b>MIA-VITA</b>	Aims at developing tools and integrated cost effective methodologies to mitigate risks from various hazards on active volcanoes	EC FP7	BRGM; INGV; IST; CNRS; NILU; KELL; INESC-ID; Hehenheim University; University of Cambridge; DDSC; DPCI; INMG; MINIMIDT; CVGHM; PHIVOLCS	ongoing started 01/10/08 duration 48 months
<b>M2ERA</b>	Aims to reinforce S&T cooperation and partnership between Morocco and Europe in order to foster the integration of Morocco into the European Research Area.	EC FP7	MENARA; MENESFCRS; CNRST; Aster; TETHYS; CIRPS consortium	ongoing started 01/12/08 duration 36 months
<b>ESASTAP2</b>	Is based on the S&T agreement signed between South Africa and the European Union and seeks to build on the foundation laid by the European-South African Science and Technology Advancement Programme (ESASTAP).	EC FP7	DTS	ongoing started 01/09/08 duration 36 months
<b>EGNOS</b>	Improves the open public service offered by the USA's GPS, making it suitable for safety critical applications. The possibility of extending EGNOS coverage to Africa is being evaluated	EC; ESA; Eurocontrol	EC; ESA; Eurocontrol; AENA; DFS; ENAV; NATS; NAV; Skyguide	ongoing

## 10. EC FP7 Africa related projects

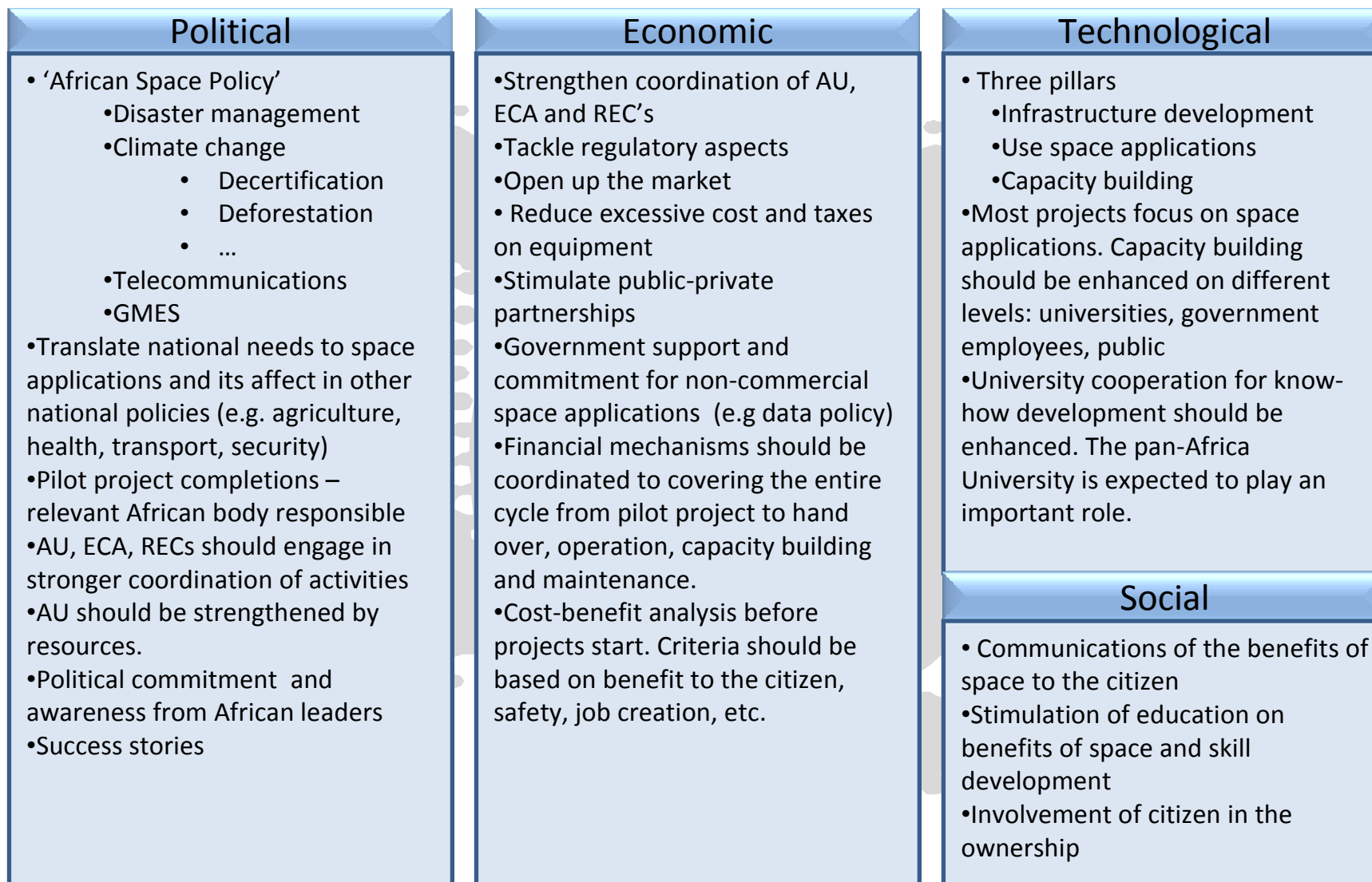
<u>Projects</u>	<u>Objectives</u>	<u>Body</u>	<u>Partners</u>	<u>Status</u>
<b>IST-Africa (2010-2011)</b>	Multi-stakeholder initiative focused on capacity building; open to collaboration and interested in having space projects	IIMC; EC FP7 & FP6	DST; MCST-Botswana; MCST-Lesotho; ICT PITU-Mozambique; ME-Namibia, NCB-Mauritius; COSTECH; UNCST; MoHEST; MESRS-Burundi; MPO-ICT-Rwanda; ANTIC-Cameroon; MRS; MCIT-Egypt	ongoing
<b>CAAST-Net</b>	A four year joint Africa-Europe platform dedicated to advancing bi-regional cooperation in science and technology	MOST-KE; AU-ACU; EC FP7	MoHEST; RA; UNCST; MINEDUC; DR-MENRS; CSIR-STEPRI; DGESC; MINRESI; MRS; DST; AU-ACU; PT-DLR; IRD; RCN; JyU-UniPID; VINNOVA; CIRAD; FCT	ongoing
<b>EO2HEAVEN</b>	Aim is to monitor changes induced by human activities, with emphasis on atmospheric, river, lake and coastal marine pollution. Three different cases (in Europe and South Africa) will be assessed and solutions evaluated.	EC FP7	ATOS; Tehcnical Universtiy Dresden; 52 North Initiative for Geospatial Open Source Software; Umweltbundesamt; SPOT image; NEVANTROPIC; EC-DG; JRC; CSIR; Open Geospatial Consortium; Fraunhofer; Bureau de recherche grologiques et minieres; Stichting International Institute for Geo-information Science and Earth Observation; University of Kwazulu-Natal; ICT Policy Implementation Tehcnical Unit	ongoing started 01/02/10 duration 36 months

## 11. Private Initiatives

- o3b
  - To launch a constellation of 16 satellites into orbit to provide inexpensive Internet service to developing countries.
  - Funding Google, HSBC, SES, and Liberty Global
- mHealth for development
  - Harnessing mobile technologies for global development, use of mobile technologies in healthcare delivery
  - Funding from UN Foundation/ mHealth Alliance
- South African Large Telescope
  - Funding from institutions in South Africa, United States of America, Germany, Poland, India, the United Kingdom and New Zealand.
- Réseau en Afrique Francophone pour la Télémédecine (RAFT)
  - The deployment of telemedicine and IT enabled diagnostic devices in Africa. Provision of healthcare through teleconsultations, tele-echography, and tele-education of healthcare providers.
  - Funding from Canton Genève
- ....



## 12. Draft Recommendations



## 13. Future Work

- 31<sup>st</sup> July study will be completed and findings will included in an ESPI report.
- 15<sup>th</sup> September will be presented in Brussels before the high level conference “Space for the African citizen” of the Belgian presidency of the EU.
- 16<sup>th</sup> September the ESPI report will be disseminated at the conference.