

Policy perspectives for the use of satellite applications in Africa

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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.



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Presentation Overview

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4. International and European Goals and Strategies
5. Mapping of Activities and Actors
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1. Background and Aim of the ESPI Study

Study conducted under the auspices of the Belgian EU Council Presidency to produce a mapping of actors and activities in Africa regarding the use of space based information and satellite applications.

Space applications in Africa are utilized by numerous collaborations at various levels between various actors from Africa countries, European and international partners, where there has been very little overview.

Aim of the study is to tackle three main questions:

1. "who is who?"
2. "who is doing what?"
3. "who is cooperating with whom?"

- Provide a mapping of actors and activities in Africa
- Provide policy recommendations

2. Study Methodology

Methodology used for the study:

- desktop research
- interviews with African and European stakeholders
- questionnaires send out the African and European stakeholders
 - Regarding country information on space based information and satellite applications
 - Regarding the social, legal, economic, political and social factors influencing current activities
- Roundtable and workshop with African and European stakeholders organized by ESPI

3. Roundtable and Workshops

10 February 2010 – African-European 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)

3. Roundtable and Workshops

24 June 2010 - European stakeholders workshop in Vienna



Photo left: 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)

3. Roundtable and Workshops

6-10 July 2010 – Participation at the UNSPIDER workshop in Addis Ababa



Workshop organised by the United Nations Platform for Space-based Information for Disaster Management and Emergency Response (UN-SPIDER) on "Building Upon Regional Space-based solutions for Disaster Management and Emergency Response for Africa"

Participants included representatives from the African Union, Economic Commission of Africa, European Commission, Regional Economic Communities, various National Ministries of African Countries, UN-Spider focal points, regional, national and international institutes, centres and universities, NGO's, private companies.

3. Roundtable and Workshops

15-16 September 2010 – ESPI Brussels presentation and Belgian EU Council Presidency High Level Conference on “Space for the Africa Citizen”



Introductory remarks

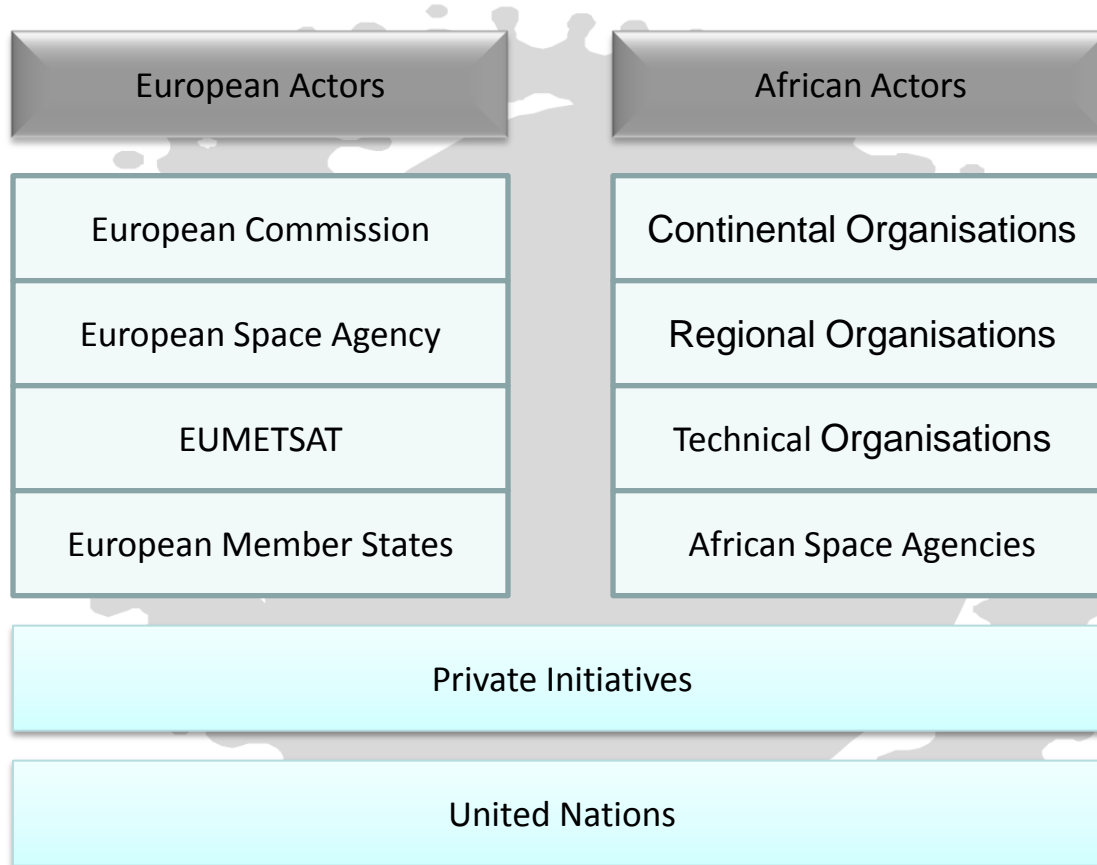
Makane Faye, United Nations Economic Commission for Africa (UNECA) and Jiri Burianek
Director, EU Council Secretariat

4. International and European Goals and Strategies

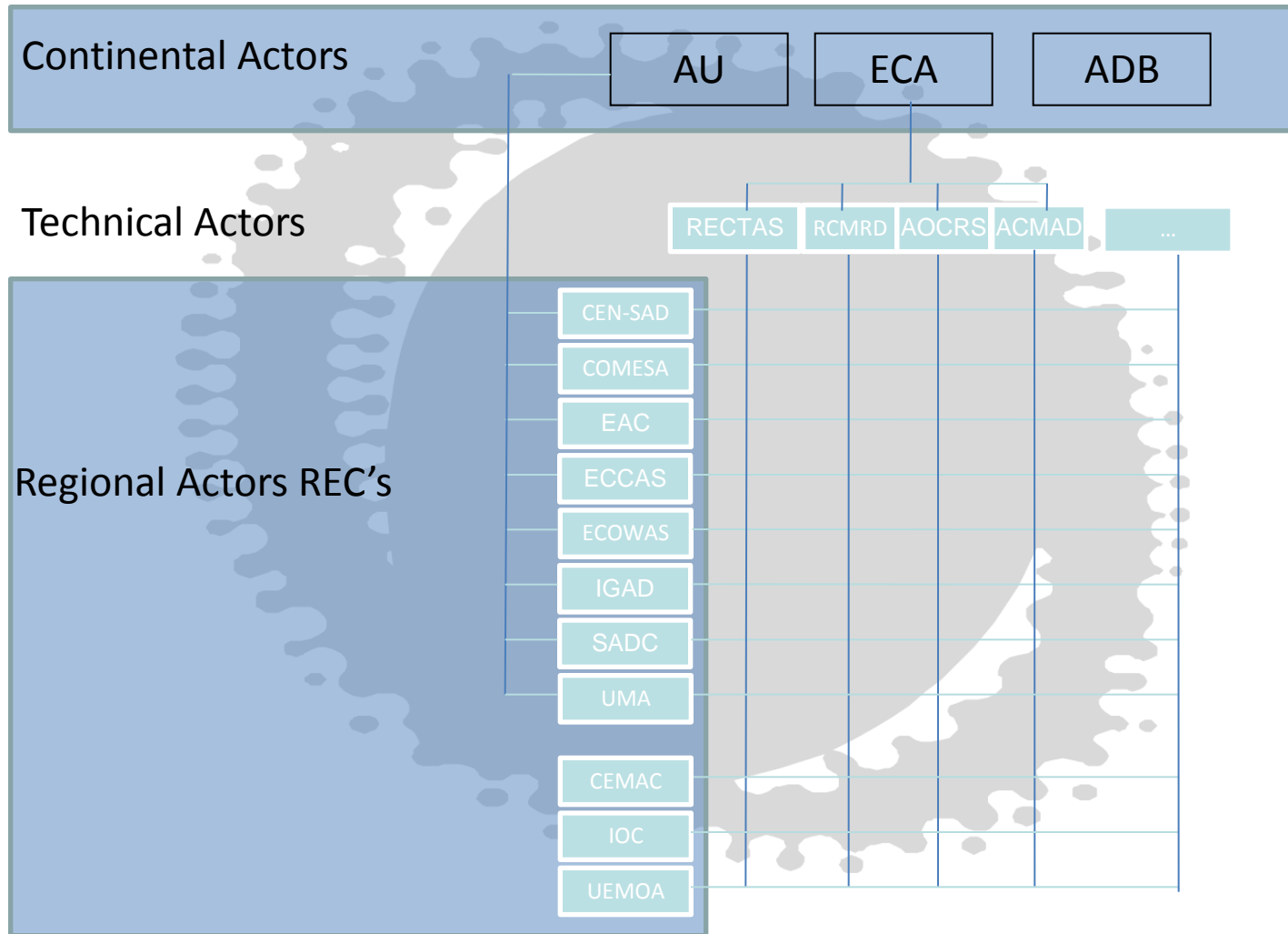
- Millennium Development Goals
 - Eight international development goals that 192 UN Member States and 23 international organizations agreed upon to achieve by 2015, including reducing extreme poverty, fight disease epidemics and developing a global partnership for development.

- 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.
 - Transversal nature of space touches various other areas e.g. area 6: climate change.
 - The second action plan 2011-2013.

5. Mapping of Activities and Actors



6. Policy relevant actors in Africa



7. European Member States - African Counties Agreements

Country	Agreement with African Countries/Agencies
France	- Intergovernmental agreement between France and Algeria (2006). Implemented by the French Space Agency (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.
Germany	- German Aerospace Center 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) and the Algerian Space Agency (ASAL) (2006)

9. Recommendations

Political

- Capture adequately African Member States needs and translate them into concrete areas where space can assist in meeting them.
- Identify responsible actors from the beginning of projects and seek commencement for continuation after completion.
- Establish appropriate government links eg. AU, ECA, RECs and technical actors.
- Establish harmonized international relations between African countries to increase political stability and facilitate FDI attractiveness for industrial and technical development.
- Coordinate space policy and other policy areas (e.g agriculture, environment, health, transport, and security).
- Develop the basis for a pan-African space policy after establishing national and regional needs in common interest topics e.g disaster management and emergency response, climate change, telecommunications.
- Formalize intuitional relations for space based information and applications.
- Enhance communication of the benefits of space in particular by communication of the success stories and provide to politicians arguments for supporting space.
- Promote bilateral and/or multilateral investment treaties.

9. Recommendations

Economic

- Enhance institutional coordination according to common economic targets, complementarities and set out roadmaps for action.
- Align funding mechanisms provided by Europe, United Nations, private bodies, etc in terms of funding, time scale, topics, expected targets etc.
- Refocus allocation of funding based on criteria such as benefit to citizen, safety, job creation, etc.
- Improve economic regulatory frameworks for FDI providing incentives to attract investment.
- Enhance and regulate the environment for competition including promote careful liberalization and privatization in order to provide access to satellite operators and service providers and facilitate the involvement of African SMEs.
- Improve taxation including accelerate the conclusion of double taxation treaties.

9. Recommendations

Social

- Enhance communications about the benefits of space to society via appropriate mechanisms
- Enhance education regarding space and its applications at all levels of education (primary, secondary, tertiary and continuous learning)
- Enhance the involvement of community to ensure continuation and sustainability after pilot phase completion

Technological

- Identify relevant space technology in relation to providing solutions to needs of the African population promoting a bottom up approach of African-led initiatives.
- Implement technological innovation scoreboard suitable for the needs of the end user.
- Increase cooperation between those that have technology know-how and users and enhance community-to-community training.
- Enhance transfer-of-knowledge mechanism through initiatives of mutual learning platforms.
- Increase capacity building projects covering all levels including schools, universities, governments, employees, politicians, public at large.

9. Recommendations

Legal

- Implement appropriate regulations to foster initiatives to build instructional capacity in making treaties, setting standards, formulation policy, drafting regional integration protocols and harmonize regulations at a pan-African level.
- Coordinate policies and regulations regarding commercial and non-commercial space applications (e.g data policy).
- Harmonize licensing procedures and establish common licensing and authorization procedures instead of having them country by country.
- Facilitate cross border exchange and harmonize information infrastructure with regards to purchase of information from satellites through effective partnerships between public, private and non-profit sectors in order to achieve universal access and full inter-state exchange of information and data.

9. Recommendations

Addressees

- *European Union*
- EU Member States
- European Space Agency
- EUMETSAT
- *United Nations*
- *African Union*
- *Regional Economic Communities*
- African Member States
- African Space Agencies
- African Technical Organizations

9. Recommendations

European Union

- Strengthen its neighborhood policy towards Africa focusing on space as a strategic leverage crossing different thematic issues, such as extension of infrastructure, transport, energy, industrial development and trade, etc.
- Enhance thematic coordination of the activities of European Actors.
- Enhance coordination of EU financial instruments, European Investment Bank and Member States' contributions.
- Establish a closer dialogue with the UN agencies present and active in Africa and coordinate funding.
- Establish direct dialogue with RECs in Africa, the eight pillars of the AU and the other technical organizations.
- Promote the use of space in other areas of the strategic partnership for the 2011-2013 Action Plan.
- Promote the benefits of space for Africa's sustainable development to African politicians through the High Representative of the European Union for Foreign Affairs and Security Policy and External Action Service representatives in African countries.
- Maintain an overview mapping of funded projects, bilateral agreements, etc. on a regular basis
- Assist the African Union with obtaining adequate resources for its targets.
- Move towards a co-funding (Africa-European) system with African states and the Africa Development Bank to increase sustainability.
- Perform assessments of public funding activities and share best practices.
- Implement better mechanisms for follow-up impact assessment of pilot projects.

9. Recommendations

Unite Nations

- Coordinate the efforts between the different UN agencies and programmes regarding space use as "one UN".
- Establish coordination mechanisms with the EU regarding space activities in Africa
- Increase coordination of activities through the joint secretariat between the AU, UNECA and AfDB.
- Promote the use of space at the level of decision makers and through UNECA for the sustainable development of Africa.
- Establish in UNECA a specific department for space and coordinate and support the RECs in this area.
- Perform cost benefit analysis of the use of space as part of awareness campaigns in order to underline shadow-prices and cross-sectional benefits.

9. Recommendations

African Union

- Enhance its role as a catalyzer of Africa's Vision for Space. The main objectives of a space policy for Africa would be to focus on implementing those policy aspects that would allow successful use of space based information and applications for sustainable development.
- Establish a position responsible for space as a shared competence among African Member States which deals with space topics such as telecommunications, navigation, remote sensing, etc and is responsible for maintaining a database of African capabilities and projects and promoting the use of space for sustainable development
- Promote the implementation of space policy and space components in other policies for capacity building at various institutional levels and different actors (end-users, decision makers and trainers)
- Develop a capacity mapping database at the continental level (experts, institutions, data, information, infrastructure etc.)
- Map the different ongoing activities conducted by regional and international agencies and identify end users.
- Collect in a systematic way and disseminate case studies and lessons learned, promoting the benefits of space with arguments to inform politicians and assist them in supporting a case for space
- Establish closer coordination with the RECs and establish policies that cover regional needs and identify how space can assist in development
- Increase the resources of the AUC with regard to space

9. Recommendations

Regional Economic Communities

- Promote space based information and applications as a key development component for sustainable development.
- Create a map of existing mechanisms and capacities in the region (experts, institutions, data, information, infrastructure etc.).
- Promote the development and adoption at the regional level of space policies reflecting the needs of the regions.
- Establish regional centres for single point acquiring of data and maintaining a common database.
- Promote regional development in download capabilities, information processing and capacity building.
- Coordinate with member states to harmonise appropriate rules and regulations, licensing procedures, taxation etc. regarding space.
- Facilitate cooperation between universities, schools, technical centres and the local community for training on space assets and sustainability.
- Promote a fair investment climate in order to attract FDI for development and deployment of space.
- Conduct an evaluation of the use of space from different mechanisms in the region.
- Open intra-regional dialogues for continental integration.
- Facilitate horizontal cooperation to establish institutional groups.

9. Recommendations

EU Member States

- Improve coordination between national activities in Africa and EU activities.
- Maintain an overview of national activities regarding space based information and applications for Africa
- Perform assessments of public funding activities and share best practices with other European Member States and the EU.



9. Recommendations

European Space Agency

- Ensure that the actors involved in ESA projects properly deal with the transition from pilot projects to operational projects and assure the commitment of African government relevant bodies to continuation and local acquisition in terms of knowledge and technology transfer.
- Promote the coordination of space efforts through African space agencies for the space faring nations of Africa and through other governmental and technical bodies where space is relevant for those that are users of space and those that are not.
- Participate in education regarding the use of space at different levels.

EUMETSAT

- Promote coordination of space efforts on a regional level through its links with African government bodies and technical agencies.
- Increase support for capacity building efforts in Africa.
- Enhance the role of Africa to acquire data in-situ in order to merge with satellite data.

9. Recommendations

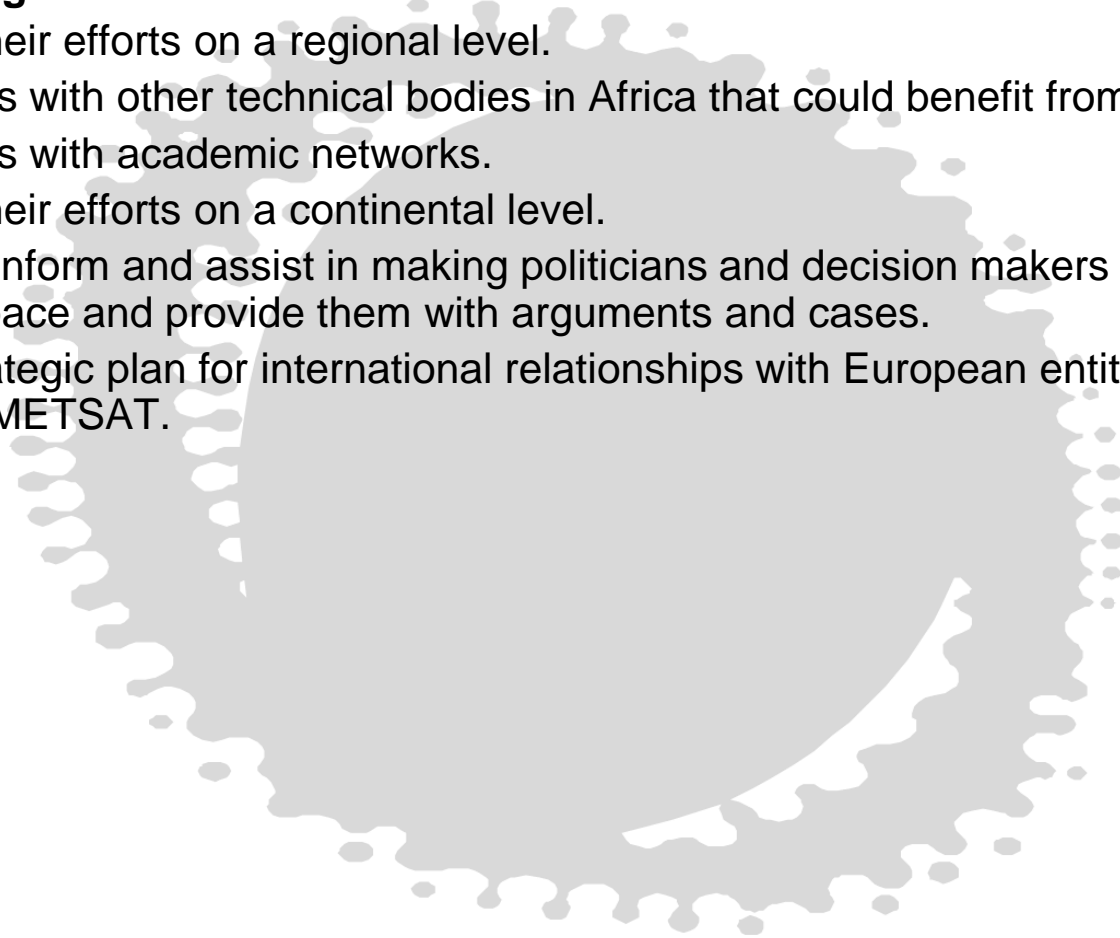
African Member States

- Develop a map of national needs and space relevance and develop a map of national capabilities (experts, institutions, data, information, infrastructure etc.).
- Facilitate local activities and commitment to build up capacity and avoid reliance on foreign actors.
- Explore ways to promote and benefit from public-private partnerships.
- Facilitate courses in space based information and applications and recognise such professionals in civil service positions.
- Coordinate with other member states to harmonise appropriate rules and regulations, licensing procedures, taxation etc. regarding space.
- Coordinate through the RECs to develop a common strategy on needs and how space can provide solutions and share costs for data acquisition, processing and capacity building.
- Promote the development and adoption at the regional level of a space policy or space policy component in other policy areas reflecting the needs of the nation
- Establish a centralised national approach and creation of centres for acquiring, distributing and maintaining databases of space information to avoid duplication of acquisition
- Promote cases of success to other countries and assist them in development

9. Recommendations

African Space Agencies

- Coordinate their efforts on a regional level.
- Establish links with other technical bodies in Africa that could benefit from space.
- Establish links with academic networks.
- Coordinate their efforts on a continental level.
- Strategically inform and assist in making politicians and decision makers aware of the benefits of space and provide them with arguments and cases.
- Identify a strategic plan for international relationships with European entities such as EU, ESA and EUMETSAT.



9. Recommendations

African Technical Organisations

- Strengthen existing networks and create new networks for cooperation and coordination of activities between the technical actors.
- Strengthen the existing institutions to be able to take up new technologies.
- Map and monitor the current local degree of technical feasibility for space.
- Focus on GIS and mapping activities.
- Strengthen capacity building in radar and image processing technologies.
- Explore opportunities to acquire information via African receiving stations.
- Promote and lobby professionals in the fields of space based information and applications.
- Increase the involvement of the local community.
- Strategically inform and assist in making politicians and decision makers aware of the benefits of space and provide them with arguments and cases.
- Facilitate data sharing among institutions.

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European-African Partnership in Satellite Applications for Sustainable Development. A Comprehensive Mapping of European-African Actors and Activities

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