

African Space Policy and Strategy

EUMETSAT Users Forum

12 September 2016

Space Policy Goals

1. To use space science and technology to derive optimal socio-economic benefits that improves the quality of lives and creates wealth
2. To develop and maintain indigenous infrastructure and capabilities that services an African market

Addressing user needs

- Improve the economy and quality of life
- Address the essential needs of the African market
- Development of services and products using African capacities
- Develop requisite human resources to address user needs
- Maintain efficiency and sustainability

Identified user needs

Disasters

Health

Energy

Climate

Water

Weather

Ecosystems

Biodiversity

Peace &
Security

Education

Communication

Trade &
Industry

Transport

Infrastructure

Technical requirements

| User Needs | Earth Observation | | | | | | | | | | | Navigation and Positioning | Satellite Communications | Space Science and Astronomy |
|---------------------------------|--------------------|---------|---------|---------|--------|---------|---------|------|---------------------|----------|--------|----------------------------|--------------------------|-----------------------------|
| | Spatial Resolution | | | | | | | | Temporal Resolution | | | | | |
| | < 50cm | 50cm-1m | 1m-2.5m | 2.5m-5m | 5m-10m | 10m-20m | 20m-30m | >30m | Daily | Seasonal | Annual | | | |
| Disasters | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ |
| Health | | | | | ✓ | ✓ | | | | ✓ | | ✓ | ✓ | |
| Energy | | | | ✓ | ✓ | ✓ | | | | | ✓ | ✓ | ✓ | ✓ |
| Climate | | | | | ✓ | ✓ | | | ✓ | | | ✓ | | ✓ |
| Water | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | | ✓ | | |
| Weather | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ |
| Ecosystems | | | | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | | ✓ | | |
| Agriculture | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | |
| Biodiversity | | | | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | | |
| Peace, Safety and Security | ✓ | ✓ | ✓ | | ✓ | | | ✓ | ✓ | | | ✓ | ✓ | ✓ |
| Human Migration and Settlements | | ✓ | ✓ | ✓ | | | | | | | ✓ | ✓ | ✓ | |
| Education and Human Resources | | | | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ |
| Communications | | | | | | | | | | | | ✓ | ✓ | ✓ |
| Trade and Industry | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | | ✓ | ✓ | |
| Transport | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | |
| Infrastructure | | | ✓ | ✓ | ✓ | ✓ | | | ✓ | | | ✓ | ✓ | |

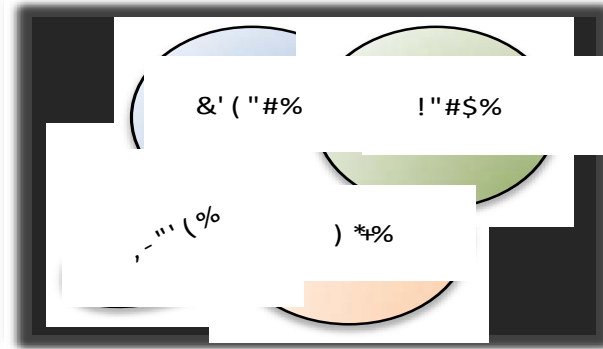
Space Applications

- Develop a data sharing policy
- Timely access to the right datasets
- Provision of appropriate services and products
- Robust processing capabilities
- Ensure all levels of government are able to access data through a centralised portal
- Provide geospatial and scientific data for R&D and education
- Provide geospatial data for commercial exploitation

Accessing space services

- Use existing space infrastructure
- Promote capacity building for accessing space services
- Adopt a data sharing framework
- Develop and increase our asset base
- Establishment of regional and sub-regional centers of excellence

Space Mission Concept



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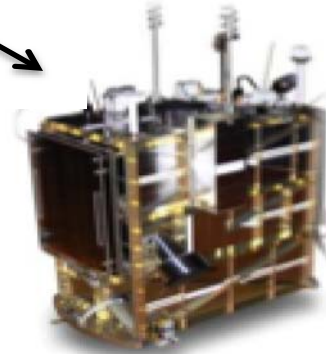
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Enabling Technologies

- Develop a fully indigenous capability for the medium to high-resolution payloads and subsystems
- Develop the SAR payload and subsystem requirements
- Develop a geostationary communications satellite with indigenous African participation

Space Mission Operations

- Develop AIT facilities and design centers to support satellite manufacturing facilities
- Develop ground segments for TTC to support satellite operations and data retrieval
- Develop space segments for housekeeping and health of satellites
- Secure orbital slots for use by indigenous satellites

Developing the regional market

- A people centered, market based industrial capability
- Globally competitive African space programme
- Promote public private partnerships
- Coherent development, upgrade and operation of African space infrastructure
- R&D led industrial development
- Use indigenous space technologies, products and services

Industrial development

- Develop an industrial framework to unlock industrial opportunities
- Building an industrial base to support Africa's requirements
- Maximising the benefits of innovation and technology transfer into and out of the space sector
- Creating an enabling environment for small and medium enterprises

Good governance and management

- Establish an organisational framework
- African financial support as the main funding source
- Promote knowledge sharing
- Monitor and evaluate space activities
- Regulate space activities
- Maintain an awareness campaign

Coordinating the African space arena

- Promote partnerships across all sectors
- Commit funds to optimise and improve effectiveness
- Harmonize and standardize all infrastructure
- Establish communities of practice
- Preserve the long-term sustainability of outer space
- Secure the space environment for Africa's use

Infrastructure

- CoEs and CoCs in the five regions
- Building new and expanding existing AIT centers
- Vicarious calibration facilities
- Data banks and high performance computing centers
- R&D centers
- Complementarities between space-based and in-situ infrastructure

Promoting international cooperation

- Space in Africa, for Africa and by Africans
- Ensuring a reasonable and significant financial and/or social return
- Respect international agreements
- Intra-continental partnerships must be promoted

International Partnerships

- Establishing a pan-African cooperation and partnership framework
- Cooperation agreements – reducing the space divide and technological gaps
- African academia to establish a partnership agreement with global networks
- African space infrastructure positioned as a global infrastructure

THANK YOU