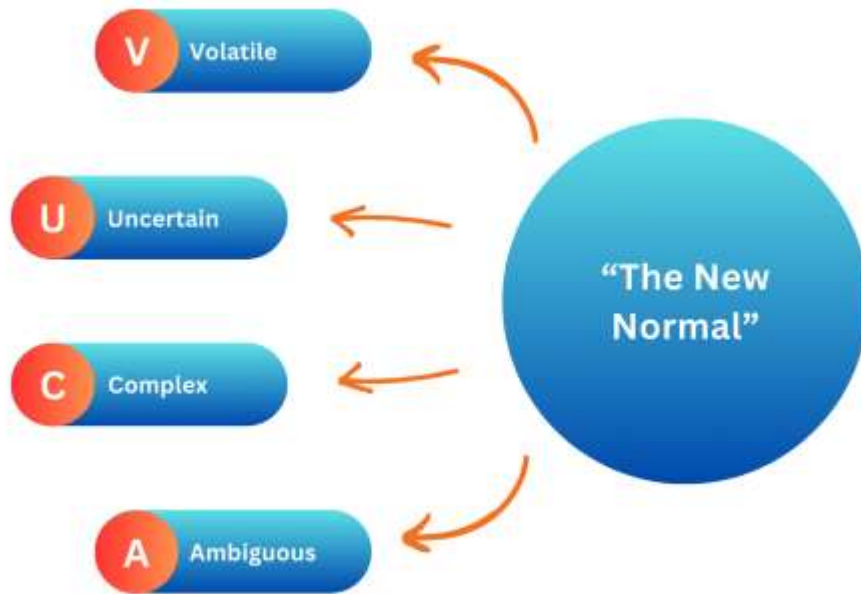


Positioning Space Science, Technology & Innovation as the main
driver for Africa's Development

THE
SOUTH AFRICAN NATIONAL SPACE AGENCY

Mr Humbulani Mudau : SANSA CEO

VUCA WORLD



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SPACE FOR SDGS

African space agencies can play a crucial role in advancing sustainable development across the continent, aligning their efforts with the United Nations Sustainable Development Goals (SDGs).



UNOOSA and space contribute to the SDGs through:

- 1 NO POVERTY** promoting space data for census mapping, aid provision, and sustainable utilisation of natural resources.
- 2 ZERO HUNGER** improving food security & supporting the use of remote sensing for agriculture, forestry, fishing, and irrigation.
- 3 GOOD HEALTH AND WELL-BEING** harnessing space for tele-medicine & education, -19 recovery, and improving quality of life.
- 4 QUALITY EDUCATION** offering unique fellowships & opportunities to launch satellites and conduct experiments in outer space.
- 5 GENDER EQUALITY** empowering women in space through UNOOSA's Space4Women mentorship programme.
- 6 CLEAN WATER AND SANITATION** using space for sustainable management of water to address diseases, pollution, drought, and water scarcity.
- 7 AFFORDABLE AND CLEAN ENERGY** identifying optimal sites for solar farms and the use of nuclear power in space.
- 8 DECENT WORK AND ECONOMIC GROWTH** promoting socioeconomic prosperity by establishing space-capable workforces and industries.
- 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE** supporting trade, transport, and security through global navigation satellite systems.
- 10 REDUCED INEQUALITIES** space technologies connect remote communities to services, education and work opportunities.
- 11 SUSTAINABLE CITIES AND COMMUNITIES** promoting the use of space data and technologies to sustain an 8 billion population.
- 12 RESPONSIBLE CONSUMPTION AND PRODUCTION** promoting the safe & sustainable use of space, and preserving the space environment for future generations.
- 13 CLIMATE ACTION** coordinating international efforts for climate monitoring, adaptation, mitigation and resilience.
- 14 LIFE BELOW WATER** fostering awareness in using space applications to protect marine life, & addressing coral bleaching & oil spills.
- 15 LIFE ON LAND** monitoring land-use, poaching, biodiversity, forest fire risk, smuggling routes, and protecting vulnerable species.
- 16 PEACE, JUSTICE AND STRONG INSTITUTIONS** fostering robust regulation & national legislation in line with international space law.
- 17 PARTNERSHIPS FOR THE GOALS** establishing partnerships with space agencies, UN entities, civil society, and industry for international cooperation.



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SATELLITE-BASED DATA FOR DECISION-MAKING



Provision of satellite data and remote sensing information to governments, organizations, and communities to support informed decision-making



AGRICULTURE



FORESTRY



WATER RESOURCE
MANAGEMENT



DISASTER
PREPAREDNESS



URBAN
PLANNING



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FOOD SECURITY



Space agencies can collaborate with agricultural ministries and organizations to improve crop yields, reduce food shortages

Satellite technology can help monitor:
crop health
soil conditions
weather patterns



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ACCESS TO EDUCATION AND HEALTH INNOVATION

Space agencies can support initiatives that bring education and telemedicine services to rural and marginalized communities, contributing to SDG 4 (Quality Education) and SDG 3 (Good Health and Well-being).



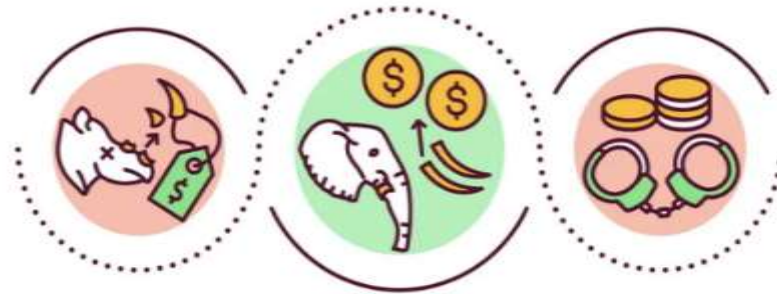
Satellite communication can help bridge the digital divide in remote and underserved areas.

ENVIRONMENTAL CONSERVATION

African space agencies can use satellite imagery to monitor and combat:



Deforestation



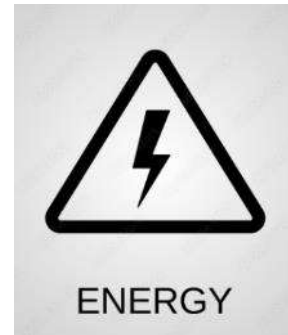
Wildlife Trade



This supports SDG 15 (Life on Land) and SDG 14 (Life Below Water).

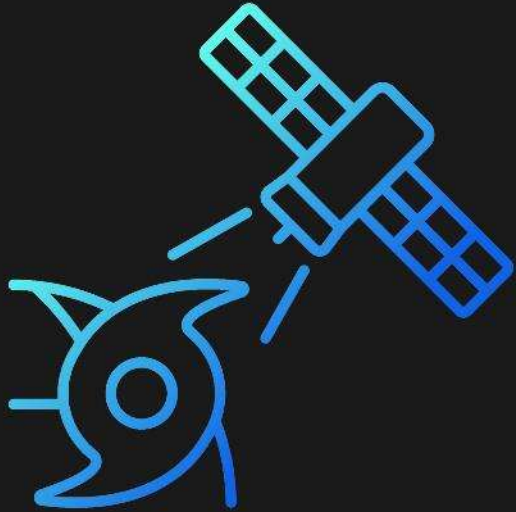
INFRASTRUCTURE DEVELOPMENT

Assist government in infrastructure planning and development: make informed choices

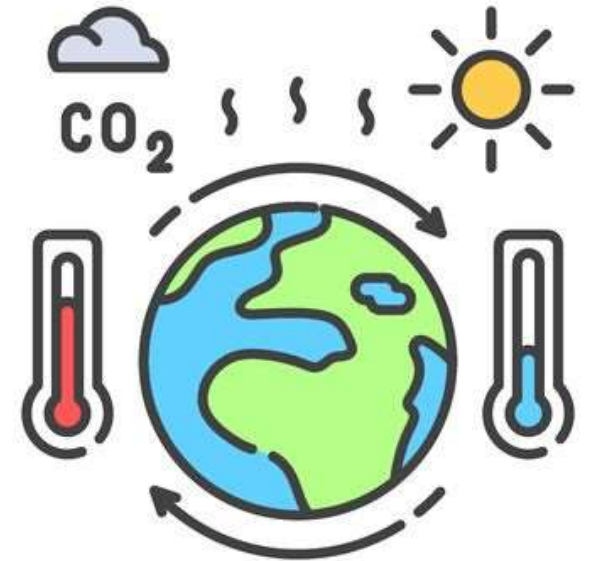


SDG 9 (Industry, Innovation, and Infrastructure)

CLIMATE CHANGE MITIGATION AND ADAPTATION



Climate monitoring and research, helping countries assess climate risks and develop strategies for climate change mitigation and adaptation



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NATURAL DISASTER MANAGEMENT



Disaster Management

Early warning systems based on satellite data can help reduce the impact of natural disasters,

- Floods
- Droughts
- Hurricane

support disaster response efforts (SDG 11 - Sustainable Cities and Communities).



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JOB CREATION AND CAPACITY BUILDING

SPACE AGENCIES CAN CONTRIBUTE TO JOB CREATION THROUGH THE GROWTH OF THE SPACE SECTOR, INCLUDING SATELLITE MANUFACTURING, LAUNCH SERVICES, AND DATA ANALYTICS.



THEY CAN ALSO FACILITATE TRAINING PROGRAMS TO DEVELOP A SKILLED WORKFORCE IN SPACE-RELATED FIELDS (SDG 8 - DECENT WORK AND ECONOMIC GROWTH).

THE LEADERSHIP WE NEED

African space institutions today require a form of leadership that is both visionary and pragmatic, capable of navigating the complexities of space endeavours in a collaborative manner. Some key elements of collaborative leadership that can drive success:



- Inclusive Vision
- Partnership Building
- Engage Stakeholders
- Adaptive and Agile Leadership

"I can do things you cannot, you can do things I cannot; together we can do great things." — Mother Teresa.

- **Bilateral and Multilateral Agreements**
- **Satellite Constellations**
- **Space Data Sharing**
- **Joint Space Missions**
- **Space Science and Education Networks**
- **Public-Private Partnerships (PPPs)**



Successful collaboration in African space institutions requires leaders who can navigate the complexities of the space sector while fostering cooperation and partnerships that benefit the entire continent. These leaders should balance ambition with pragmatism, always keeping the broader development goals and the well-being of African nations at the forefront of their efforts.

CHALLENGES WE FACE

- Over reliance of global platforms
- Resource mobilization and allocations
- Competing prioritization of programmes and allocation resources
- Lack of collaboration amongst us Africans

Our very survival depends on our ability to stay awake, to adjust to new ideas, to remain vigilant and to face the challenge of change.” – Martin Luther King Jr.



PRIORITIES TO CONSIDER

- **Policy Advocacy:** Advocate for supportive policies at the national and continental levels. Leaders should work with governments and international bodies to create an enabling environment for space activities and collaboration.
- **Resource Mobilization:** Seek and secure funding and resources for collaborative projects. This may involve negotiations with international partners, accessing grants and investments, and exploring innovative financing mechanisms.
- **Capacity Building:** Prioritize the development of human capital within the institution and the wider space community. Invest in education, training, and skill development to ensure that the workforce is equipped to meet the challenges of space activities.



Algeria



Angola



DRC



Egypt



Ethiopia



Gabon



Ghana



Kenya



Malawi



Namibia



Nigeria



Rwanda



Senegal



South Sudan



Uganda



Zimbabwe



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UNITY IS STRENGTH!

