Development Of The African Open Science Platform (AOSP)
Towards a Continental Open Science Vision

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Policy | Infrastructure | Data | Access | Skills | Incentives | Collaborations | Partnerships |
Topics

1. Science for Transformation in the Digital Era
   • African Landscape
     o Cyberinfrastructure Ecosystems
     o Open Science
   • AOSP Overview
     o Strategy and “Roadmap”
     o Value Proposition

2. AOSP Operationalisation Management
   • Structure - Hub and Spoke Model
   • Regional Nodes
   • Prominent Programmes and Partnerships
   • Other Activities
The True Size of Africa
A small contribution in the fight against rampant mismapping, by Kai Krause

Graphic layout for visualization only; some countries are cut and rotated. But the conclusions are very accurate—refer to the table below for exact data.

<table>
<thead>
<tr>
<th>COUNTRY</th>
<th>AREA (x 1330 km²)</th>
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<td>China</td>
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<td>USA</td>
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<td>India</td>
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<td>AFRICA</td>
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In addition to the well-known social issues of illiteracy and innumeracy, there also should be such a concept as "mismapping", meaning insufficient geographical knowledge.

A survey with random American schoolkids let them guess the population and land area of their country. Not entirely unexpected, but still rather unsettling, the majority chose "1-2 billion" and "largest in the world", respectively.

Even with Asian and European college students, geographical estimates were often off by factors of 2-3. This is partly due to the highly distorted nature of the predominantly used mapping projections (such as Mercator).

A particularly extreme example is the worldwide misjudgement of the true size of Africa. This single image tries to embody the massive scale, which is larger than the USA, China, India, Japan and all of Europe... combined!

Source: Society of African Missions
Africa : Developmental Challenges and STI Policy Environment

The African Science, Technology and Innovation Indicators (ASTII) Initiative

- Multifaceted
- Interlinked
- Transcend national boundaries
- Cannot be addressed by government single-handedly

AGENDA 2063: THE AFRICA WE WANT

- Integrated = Prosperous and Peaceful Africa
- Rapid Change of the African Global Landscape
- Global challenges

- Agriculture, Natural Resources and Water
- Energy
- Blue Economy
- Digital Infrastructure
- Climate change and variability
- Disaster Risk Reduction
- Post-2015 on Sustainable Development
- Impressive Economic growth: the aggregate GDP of the continent has doubled in the last 10 years, to over USD 2.2 trillion.
- Increase of democracy level (number of countries and quality)
- Societal: Mass movements (migration), Population growth, and growing youth population (60% under 30 year-age)

AFRICAN UNION DIGITAL TRANSFORMATION STRATEGY

CROSS CUTTING THEMES
- Digital Content and Applications
- Digital ID
- Emerging Technologies
- Research and Development
- Cyber Security, Privacy and Personal Data Protection

CRITICAL SECTORS TO DRIVE DIGITAL TRANSFORMATION
- Digital Industry
- Digital Trade and Financial Services
- Digital Governance
- Digital Education
- Digital Health
- Digital Agriculture

FOUNDATION PILLARS
- Enabling Environment/Policy and Regulation
- Digital Infrastructure
- Digital Skills and Human Capacity
- Digital Innovation and Entrepreneurship

slide courtesy of AU
Science and Technology Diplomacy

“The use of scientific, technological and academic collaborations among countries, regions and societies to address common issues and to build sound international partnerships...”

Source: Scitechdiplohub

Establishment of large research infrastructures that require scientific cooperation of number of countries [that have been opponents in the past?]

Source: SD4DC
Cyberinfrastructure for Collaboration

Source: SADC CI Framework
Morocco’s UM6P university launches Africa’s most powerful supercomputer

3.15 petaflops supercomputer will help conduct research for institutions across Africa

February 22, 2021  By: Graeme Burton  3 Comments

Mohammed VI Polytechnic University in Rabat (UM6P), Morocco has formally opened its new data center, which will host what it claims is the most powerful supercomputer in Africa.

Sahara was home to some largest sea creatures, study finds

Scientists reconstructed extinct species using fossils found in northern Mali from ancient seaway.

Phosphorite, phosphate Rock
4% to 20%
phosphorus pentoxide

Master’s Degree Dedicated to
HIGH PERFORMANCE COMPUTING

Source: https://www.um6p.ma/

Advancing knowledge. Transforming lives. Inspiring a nation.

National Research Foundation
1. RI policy-makers, including regional authorities, are invited to place RIs at the **forefront of their policy-making**, 

2. RI policy-makers and funders are invited to explore the **convergence of responsible policy-making on RIs with other sectorial policy-making** in the areas such as energy, environment, agriculture or health, 

3. RI policy-makers and funders are encouraged to consider RIs as a **strategic investment** and to take into account that construction of RIs embedded in regional and national strategies holds a great potential to accelerate socioeconomic development. 

4. RI policy-makers and funders are encouraged to treat RIs as a **long-term commitment** in order to create a stable, reliable and predictable funding environment 

5. RI managers are encouraged to develop projects of RIs based on robust and sustainable economic models, 

6. RI policy-makers, funders and operators are encouraged to **share experiences and exchange good practices internationally**  

7. RI policy-makers, funders and stakeholders are encouraged to set up a dialogue on the principles for the international RI cooperation  

African RI Roadmaps Required

- Relevance of research infrastructures to South African research priorities
  - The White Paper on Science and Technology
  - The National Research and Development Strategy
  - The Ten-Year Innovation Plan
  - National Development Plan

- Research infrastructures in the context of scientific domains
  - Humans and society
  - Health, biological and food security
  - Earth and environment
  - Materials and manufacturing
  - Energy

- Selected research infrastructures across scientific domains
  - Expanded terrestrial and freshwater environment observation network
  - Network of health and demographic surveillance sites
  - National centre for digital language resources
  - Natural science collections facility
  - Shallow marine and coastal research infrastructure
  - Material characterisation facility
  - Solar research facility

- Implementation
  - Ordering of research infrastructures for roll-out
  - Funding requirements
  - Cyberinfrastructure
In 2021, at the UNESCO 41st General Conference, 193 Member States adopted the first international standard-setting instrument on Open Science in the form of a UNESCO Recommendation on Open Science.

**UNESCO Recommendations**

Legal instruments in which “the General Conference formulates principles and norms for the international regulation of any particular question and invites Member States to take whatever legislative or other steps may be required in conformity with the constitutional practice of each State and the nature of the question under consideration to apply the principles and norms aforesaid within their respective territories”.

In adopting the Recommendation, Member States agreed to embrace the culture and practice of OS and committed to reporting on their progress every 4 years.

https://www.unesco.org/en/open-science
Member States are encouraged to prioritise seven areas in their implementation of the *Recommendation*:

1. Promoting a common understanding of OS and its associated benefits and challenges, as well as the diverse paths to OS
2. Developing an enabling policy environment for OS
3. Investing in infrastructure and services which contribute to OS
4. Investing in training, education, digital literacy and capacity-building, to enable researchers and other stakeholders to participate in OS
5. Fostering a culture of OS and aligning incentives for OS
6. Promoting innovative approaches to OS at different stages of the scientific process
7. Promoting international and multistakeholder co-operation in the context of OS with a view to reducing digital, technological and knowledge gaps.
Open Science Context
AOSP Landscape Study

• Status of Open Science (Capacity and Activity)

• Dimensions
  ✓ Policy
  ✓ Cyberinfrastructure
  ✓ Education and Skills
  ✓ Culture

• Gaps and Key Findings
  ✓ Enabling Policy
  ✓ Role Players
  ✓ Coordination - Data Activity, Projects
  ✓ Funding
  ✓ Advancing Open Science
  ✓ Barriers To Open Science

• Developed Frameworks

AFRICA WEEK 2023
Africa and The Operationalisation of International OS Framework


Operationalisation of international framework of Open Science.

Development of National, Continental and Global, Open Science Platforms

Joint Action e.g. SDGs, Climate Change, Disaster Risk Reduction, Pandemics and dissemination of information

United Nations

ECA/RFSD/2022/L.1

Economic and Social Council

Economic Commission for Africa
Africa Regional Forum on Sustainable Development
Eighth session
Kigali (hybrid), 3-5 March 2022

Item 11 of the agenda*
Consideration and adoption of key messages and the Kigali Declaration

Eighth session of the Africa Regional Forum on Sustainable Development: summary, key messages and the Kigali Declaration

(f) To support research to understand and design measures to mitigate the impact of climate change and human activities on oceans and water bodies, given the importance of the United Nations Decade of Ocean Science for Sustainable Development (2021–2030) and noting the need for member States to support the implementation of the Africa Blue Economy Strategy and the 2050 Africa’s Integrated Maritime Strategy, as Africa will reap economic benefits from the oceans.

(f) To operationalize the international framework for open science outlined in the Recommendation on Open Science of the United Nations Educational, Scientific and Cultural Organization to enhance the efficiency, inclusivity, reliability and responsiveness of science to societal challenges in Africa and to increase the access of early researchers to be able to publish in indigenous languages.
Gaps In National OS Policy Frameworks

✓ Context – Regional, National
✓ Science Policy - New vs Amendment?
✓ NDPs, Sectors and Policy Interoperability/Linkages?
✓ Open Access and Open Data policies first?
✓ Trade/Economic Issues - IP/Licensing/Ownership
✓ Other legislation – including Data Protection
✓ Indigenous Systems - Cultural/Traditional Knowledge
✓ FAIR Data/Open Data/Research Data/Government Data
✓ Resourcing and Sustainability
✓ Infrastructure Support
✓ Rewards, Culture and Incentives
✓ Harmonization
✓ Societal Engagement (e.g. Citizen Science)
✓ Education and Skills
✓ Stewardship
AOSP OS Policy Tracker

- Country
- Policy Instrument (Policy, Roadmap etc)
- Lead Ministry
- Policy Development process/Methodology
- Policy Pillars
  - IP, Open Access, Open/FAIR Data, Education & Awareness, Rewards & Incentives, Infrastructure, Citizen Science, Advocacy, Resourcing
- Accompanying Instruments (Strategy, Implementation plan etc.)
- Notable Initiatives
- Related Policies
Example Policy – Ethiopian OA Policy

- Aims and Scope
- Roles and Responsibilities
  - Government Ministry of Science and Higher Education
  - National Academic Digital Repository Ethiopia (NADRE)
  - Universities
  - University Libraries
- Open Access to Publications
- Open Access to Research Data
- Licensing
- Resourcing for training and awareness
- Policy Review
Government Actions Examples

AUGUST 25, 2022

OSTP Issues Guidance to Make Federally Funded Research Freely Available Without Delay

Today, the White House Office of Science and Technology Policy (OSTP) updated U.S. policy guidance to make the results of taxpayer-supported research immediately available to the American public at no cost. In a memorandum to federal departments and agencies, Dr. Alondra Nelson, the head of OSTP, delivered guidance for agencies to update their public access policies as soon as possible to make publications and research funded by taxpayers publicly accessible, without an embargo or cost. All agencies will fully implement updated policies, including ending the optional 12-month embargo, no later than December 31, 2025.

Source: https://www.whitehouse.gov/ostp/news-updates/2022/08/25/ostp-issues-guidance-to-make-federally-funded-research-freely-available-without-delay/
AOSP and Regional STI Policy Alignments
Open Science

Decision 14:
Promotion of Open Science and Open Access

15.4 Ministers are invited to urge Member States to:

(i) take into account international standard-setting instruments such as the UNESCO Recommendation on Science and Scientific Researchers and the UNESCO Recommendation on Open Science when designing or revising STI policy and legal frameworks with a view to achieving the UN 2030 Agenda for Sustainable Development and the AU Agenda 2063: "The Africa We Want."

(ii) support and advocate for the inclusion of the norms and standards of the UNESCO Recommendation on Science and Scientific Researchers in the upcoming Science, Technology and Innovation Strategy for Africa (STISA) 2024 review.

(iii) engage the Secretariat and UNESCO for technical support to participate in the follow up actions on the "Strengthening Science, Technology and Innovation Systems for Sustainable Development in Africa" project; and

(iv) participate in the activities, programmes and engagements of the African Open Science Platform.

15.5 Ministers are invited to direct the Secretariat:

(i) working with UNESCO to develop a draft regional Framework and Guidelines on Open Science taking into account the values and principles of the 2021 UNESCO Open Science Recommendation, and report progress at the next meeting in June 2024; and

(ii) working with the African Open Science Platform and UNESCO to implement capacity building, awareness and advocacy programmes on Open Science in the region; and

(iii) working with UNESCO to promote and track the implementation of the 2021 UNESCO Recommendation on Open Science in the region and report progress annually at the meeting.

15.6 Ministers are invited to commend the Republic of Malawi for being nominated as the host for the Southern Africa African Open Science Node.
AOSP and Regional STI Policy Alignments

Cyberinfrastructure

SADC/ET-STI/1/2023/1C
22 June 2023

Decision 10:
Implementation of SADC Cyber-Infrastructure Framework

11.8 Ministers are invited to note and commend the progress made towards the implementation of the SADC Cyber-Infrastructure Framework during the periods 2022 and 2023 to date in the areas of human capacity development, research and development, Cyber-Infrastructure roll out and policy exchange.

11.9 Ministers are invited to direct the Secretariat:
(i) to convene a multi-sector engagement technical meeting of experts to develop a regional programme of action to promote scientific and industrial development in key priority regional sectors (such as mining, energy, education, health, transport, agriculture etc.) through the use of cyber-infrastructure facilities and services and report at the next meeting in 2024;
(ii) working with the SADC Cyber-Infrastructure Steering Committee and International Cooperating Partners to provide support to the Member States who still need to establish their national High Performance Computing platforms and programmes including establishment of their National Research and Education Networks (NRENs);
(iii) working with the SADC Cyber-Infrastructure Steering Committee to produce a report documenting the region’s advancements, successes and challenges over the past ten years in developing capacities and capabilities and establishing infrastructures in the area of cyberinfrastructure and report at the next meeting in 2024;
(iv) working with the SADC Cyber-Infrastructure Steering Committee to develop regional model guidelines and specifications on enabling national cyber-infrastructure facilities and services to and report progress at the next meeting in 2024;
(v) working with the Centre for High Performance Computing in South Africa to convene a Ministerial session during the annual High Performance Computing Conference in celebrating the ten (10) years implementation of the SADC Cyber-Infrastructure Framework.

11.10 Ministers are invited to commend:
(i) Namibia for establishing and launching the UNESCO Chair on Secure High-Performance Computing for Higher Education and Research on 27 July 2022, at the Namibia University of Science and Technology (NUST); and
(ii) Dr Mary Jane Bopape from (South Africa) for being awarded the honorary award by the Ghana based Humanitarian Awards Global (HAG), during an awards ceremony held on 27 August 2022 in Accra, Ghana to recognize her work of service and achievements on the SADC weather and climate pilot project carried out in the period 2019/20-2021 as part of the implementation plan of the SADC CI framework.

11.11 Ministers are invited to urge Member States to take up opportunities offered by the SADC Cyber-Infrastructure programme and initiative in order to develop their national capacities and capabilities in High Performance Computing to advance scientific research and innovation.

Joint Meeting Of Ministers Of Education And Training And Science, Technology And Innovation

20 – 23 JUNE 2023
JOINT HYBRID MEETING
DEMOCRATIC REPUBLIC OF CONGO
### Decision 18:
#### Regional Space Science and Technology programme

19.7 Ministers are invited to note the outcomes and recommendations of the second regional experts meeting on space science and technology which was held on 40 June 2023.

19.8 Ministers are invited to endorse the establishment of the proposed regional multi-disciplinary Space Science & Technology Technical Working Group (SSTTWG), membership comprising the following member states and partners: Malawi, Democratic Republic of Congo Mozambique (Troika Member States), Angola, Botswana, Namibia, South Africa, Seychelles, Tanzania, Zambia, Zimbabwe and SADC Secretariat including participation by Strategic Partners such as (FEWSNET, AfrigEO, Chair of SADC Shared Satellite Programme), AUC, AUDA-NEPAD, UNESCO, SASSCAL, AOSP (Eswatini as observer for purposes of learning).

19.9 Ministers are invited to direct the Secretariat to:

1. develop Terms of Reference to guide the work of the Space Science & Technology Technical Working Group (SSTTWG);

2. work with the Space Science & Technology Technical Working Group to conduct a regional needs and cost benefit assessment on space science and technology which will inform the development of a draft regional strategy and action plan on space science and technology and report progress at the next meeting; and

3. work with industry, academia and international cooperating partners and industry to implement and support human capital development programmes on space science and technology at all levels.

19.10 Ministers are invited to urge Member States to:

1. strengthen cooperation and partnerships in space sciences for shared and coordinated investments in satellite development, launching and implementation of joint common missions on research and innovation and human capital development;

2. launch programmes on space sciences and technology for the youth especially targeting girls to promote their interest and skills development;

3. join the African Group on Earth Observations (AfrigEO) and the Group on Earth Organization (GEO) to leverage socio-economic benefits offered by earth observation; and

4. participate in the upcoming earth observation meetings such as the AfrigEO in September 2023 in Namibia and the GEO Ministerial Summit in South Africa in November 2023.
AOSP – Overview (1)

AOSP is an Open Science Diplomacy platform stimulating interactivity and creating opportunity through the development of efficiencies of scale, building critical mass through shared capacities, amplifying impact through a commonality of purpose and voice, and to engage in Global Commons to address continental and global challenges through joint action.

- Operationalization of the UNESCO Open Science Recommendations, sharing best practices, development of continental research commons,
- Enhancing and entrenching dialogue on open science, skills development, infrastructure, sustainability and resourcing in Africa,
- Promotion of development of interoperable and aligned open science policy frameworks,
- Showcasing African Research addressing developmental agenda and societal impacts,
- Coordination and creating linkages between open data and open science programmes across disciplines across continents and promoting Open Science Diplomacy,
- Contribution to the development of global standards, community of practice,
- Plugging in to global architecture for international open science framework,
- Pragmatic incremental approach in implementation.
Overview (3) - (AOSP) - Vision and Strands

“African scientists are at the cutting edge of contemporary, data-intensive science as a fundamental resource for a modern society. They are innovative global exponents and advocates of Open Science and leaders in addressing African and Global Challenges.”

✓ Develop a federated network of computational facilities and services, software tools and advice on policies and practices of research data management,
✓ Develop Data Science and AI Institute spanning and embedded at African institutions,
✓ Promote collaboration on African priority application programmes – ranging from health, biodiversity, disaster risk reduction, agriculture and open innovation, resilient cities, indigenous knowledge etc.,
✓ Create a Network for Education and Skills in data and information,
✓ Create a Network for Open Science Access and Dialogue.
Overview (4) - AOSP Strategy & Implementation Elements

- Governance
- Platform Management
- Stakeholder Engagement
- Resource Mobilisation
- Operations
- Enabling Activities
- Application Activities
- Monitoring & Evaluation Framework

AOSP Evolution

- 2015 SFSA: Hosted the first meeting of Science International (ICSU, ISSC, TWAS, IAP) which led to the publication of an international accord on open data in a big data world.
- 2017 SFSA: Reported on progress in building an AOSP community of practice and challenges.
- 2019 Library of Alexandria: Delivery phase planning; key regional stakeholders and international partners consultation.
- 2022 NRF: Delivery phase implementation; NRF as AOSP Office host.
- 2016 SFSA: Launched the Pilot Phase of the AOSP as an outcome of the 2015 Science International meeting (ASSAF and CODATA).
- 2018 SFSA: Launch of the vision and strategy of the Operationalization of the AOSP.
- 2020 - 2021: Resourcing (competitive process); appointment of staff; AOSP business plan development; strategic partner engagement.

1. **Roadmap**
   - Required to implement the AOSP strategy and objectives
   - Driven by the AOSP Coordinating hub and directed by the AOSP Governing Council

2. **Planning and Implementation Timeframe**

3. **Financial Framework**

4. **Partnership Categories**

5. **Work Packages**

6. **Directorate Resources**
1. **Data and Infrastructure Strands**
   - **Hard Infrastructure**
     - Strand 1: A federated network of computational facilities and services
   - **Soft Infrastructure**
     - Strand 2: Policies, practices, and tools of research data management
     - Strand 3: A Data Science and AI Institute at the cutting edge of data analytics

2. **Programme Strands**
   - **Network of excellence in open science**
     - Strand 4: Science programmes: e.g. cities, disease, biosphere, agriculture & food
     - Strand 5: A Network for Education and Skills in data & information
     - Strand 6: A Network for Open Science Engagement, Dialogue and Policy, including issues on open access
Business Plan (3) – Time Frame

1. Phase 1: 3 years (2022-2023):
   ✓ Year 1 priorities.
   - Appointment of Director and support staff,
   - Development of a business plan and Workplan,
   - Enhancing international awareness,
   - Plan and initiate first fund-raising approaches,
   - Engage with African partners in each of the 5 nodal regions,
   - Engage with potential federated infrastructure partners,
   - Liaise with African Union.
   ✓ Establishment of the Governing Council (See AOSP Strategy) - https://aosp.org.za/resources/
   ✓ Year 2-3 priorities
   - Develop value proposition,
   - Membership structure,
   - Create regional nodes,
   - Sequential start-up of the activities of strands 1-6.

2. Phase 2: 2024 - 2025:
   ✓ Increase the proportion of funding from African members of the Platform, and
   ✓ increase project-based funding from external funders.

3. Phase 3 – Beyond 2025
   ✓ Strong growth and Impact
Business Plan (4) – Financial Framework & Sustainability

![Graph showing funding, regional & international funding, DSI/ISC funding, and membership funding across phases and years.]

**Phase 1**
- Progressive implementation of strands 1-6
- Extending collaboration/engagement
- Developing international support

**Phase 2**
- Increasing membership funding

**Phase 3**
- Strong growth

**STRANDS**

1. Cloud computing, data access & analysis tools
2. Software tools and policies/practice for RDM
3. An African AI & Data Institute
4. Data intensive science research programmes
5. Network for Education and Skills
6. Network for Open Science Engagement

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Advancing knowledge. Transforming lives. Inspiring a nation.
Business Plan (5) – AOSP Partnerships Categories

1. **Users**
   - African scientists,
   - Scientific groups or citizens that utilise the resources of the Platform for scientific purposes

2. **Community of Practice**
   - This comprises all those bodies that could contribute to the operational work of the Platform
     - African bodies that operate scientific infrastructures or research programmes
     - African scientific societies
     - International bodies that support data-intensive science

3. **African Community Support**
   - Bodies that can provide political, strategic or financial support to the Platform
     - African Union, **RECS (e.g SADC)**, Individual States, Association of African Universities, African Development Fund etc.

4. **International Community Support**
   - Can potentially provide support from beyond Africa in political, scientific and financial terms
     - ISC, UNESCO, OECD, World Bank
1. **WP1: Creating awareness**
   - Through strong online presence (website/portal)
   - With the potential African community of support
   - With the potential community of practice
   - With the private sector
   - Policy makers and society

2. **WP2: Platform infrastructures (strands 1-3)**
   - Strand 1: A federated network of computational facilities and services
   - Strand 2: Software tools and advice on policies and practices of research data management.
   - Strand 3: A Data Science and AI Institute at the cutting edge of data analytics.
   - *(Seek collaboration with willing partners, seeking funding to fill critical gaps and extend capabilities)*

3. **WP3: Delivering programmes (strands 3-6)**
   - Strand 4: Science programmes
   - Strand 5: Education and skills programmes
   - Strand 6: Societal engagement, dialogue and policy
Business Plan (7) – Work Packages

1. **WP4: Funding and Fundraising**
   - Seed funding
   - Funding from “membership”
     - A national contribution made by a government
     - Institutional membership of the platform,
     - A hybrid model
   - External funding by non-members (e.g. foundations), Africa or beyond.
     - Potentially projects of Strands (e.g. 3-6)
     - Regional Nodes to lead funded projects
     - Projects to have continental footprint, reach and high collaboration network connectivity
   - Public Sources and leveraging existing funding lines
     - Contribution to infrastructure
     - Projects
   - Private Sources
     - Project Funding

2. **WP5: Strategy, Coordination and Control**
   - Director, Managerial roles and the AOSP coordinating directorate
   - Roles as defined in job functions and descriptions
AOSP Value Proposition

1. Benefits of Partnering with AOSP
✓ Governments, Institutions, Researchers, Development partners, funders and donors, Regional and continental Bodies

2. How AOSP Delivers on its Mandate
✓ Providing advice on policy, infrastructure, data, human capital development and incentive schemes to support open science
✓ Supporting implementation of UNESCO Open Science recommendations,
✓ Facilitating access to network – infrastructure, education and skills, funding, open science dialogue

3. AOSP Partnership Modalities
✓ Programme partner through regional AOSP Nodes (including theme focused and training initiatives)
✓ Shared networks through access to a large diverse network of networks,
✓ Government support through national open science policy development and modalities for implementation of UNESCO Open Science Recommendations

4. AOSP Sustainability Approach
✓ Membership subscription
✓ Support from developing partners, funders and science granting councils
✓ Support from Industry
✓ Alignment with existing national and regional academic institutional programmes
Call for nominations for Members of the Governing Council of the African Open Science Platform

The African Open Science Platform (AOSP) is now receiving nominations for its first Governing Council.
GC - Responsibilities and scope of work

✓ To provide **strategic advice** on Open Science engagements in Africa and the further strategic development of the AOSP, including plans to implement the AOSP strategy;

✓ Advise on appointments of AOSP **Technical Working Groups**;

✓ Provide **strategic leadership** and develop priorities agendas and associated activity and business plans for implementation of the AOSP;

✓ Support the **development of networks** in national, regional, and global systems of scientific priority setting and funding;

✓ Build **connections and collaborations** with major national, regional, and international science and data initiatives;

✓ **Build linkages** with influential decision-makers, policy-makers and leading scientists on a national and regional level;

✓ Serve in an **advocacy role** for the platform;

✓ Advise on and **support fundraising** initiatives;

✓ The Governing Council shall meet at least twice per year.
AOSP Operational Model (1) – AOSP Hub

1. **AOSP Hub (Directorate/Coordinating Body)** Hosted at the NRF
2. **Centralised coordination** between regional nodes and work strands
3. AOSP Director and core staff
4. **Responsibilities**
   - **Lead** - development and implementation of the scientific and organisational objectives of the AOSP Strategy
     - by providing effective, responsive, and efficient administration and support,
   - **Oversight** - overall strategic direction, planning, coordination, administration, and evaluation functions of the AOSP Hub and the regional nodes,
   - **Build** - effective governance system, guided by the AOSP Strategy and the Governing Council,
   - **Mobilise** - Resources from stakeholders (incl., public, private and development partners) working closely with regional nodes,
   - **Nurture** - a wide network of stakeholders, including civil society, policymakers, and business to support the AOSP position and influence.
CALL FOR EXPRESSIONS OF INTEREST

Establishment of the African Open Science Platform (AOSP) Regional Nodes

Applications Submitted 15 January 2023
The African Open Science Platform appoints three regional nodes

https://www.nrf.ac.za/the-african-open-science-platform-appoints-three-regional-nodes/

Role of Nodes

- Programme delivery and implementation
- Coordination
- Policy
- Resource Mobilisation
- Education and skills programmes
- Societal engagement and dialogue
What Makes a Good Node?

- **Value addition**
  - Strong potential and capability to host the regional nodes and value addition to the AOSP secretariat
  - Adequacy and sufficiency of the provided expertise for supporting and facilitating a regional node
  - Comprehensive understanding of open science policies and programmes
  - Research and coordination expertise within the African region, and multi-stakeholder networks
  - Capability to collaborate with other African/international institutions, in the context of Open Science in the chosen thematic area

- **Expected impact of open science project**
  - Quality and feasibility of the expression of interest
  - Adequate potential for uptake of results including quality of the knowledge sharing approach with appropriate stakeholder engagement, capacity development and communication strategy.

- **Quality and efficiency of the implementation**
  - Objectives as well as the related work plan
  - Adequacy, feasibility, and coherence of the various proposed activities for the AOSP
  - Strong science technology and innovation networks, both public and private
Node Selection

1. **Applications**
   - 16 Institutions, 10 Countries
   - All RECS – SADC, EAC, ECOWAS, ECCAS

2. **Selection Criteria**
   - Institutional Profile
   - Research and coordination expertise and multi-stakeholder networks
   - Quality of physical and IT infrastructure
   - Capacity to collaborate with other African/international institutions, in the context of Open Science thematic area
   - Institutional and operational arrangements,
   - Proposed Workplan for the regional node

3. **Decision**
   - Three Nodes in this 1st Call round:
     - NORTH (Egypt) - Egyptian National Authority for Remote Sensing and Space Sciences (NARSS),
     - EAST (Kenya), African Institute for Capacity Development (AICAD),
     - SOUTHERN (Malawi) UbuntuNet Alliance
   - Three Programme partners (TODO)
     - **Strand 3**: A Data Science and AI Institute
     - **Strand 5**: Education and skills programmes
     - **Strand 6**: Societal engagement, dialogue and policy.
Application Programmes - Projects
Cross-cutting issues including Gender, Youth, Environment and Climate Change, and Disaster Risk Management; and Strategic Management of RISDP 2020–2030.

Potential Projects?

7 Years to 2030 for SADC RISDP

RSIDP Infrastructure Development (Meteorology Sector)

- **Institutional Support to African Climate Institutions Project (ISACIP)**
  - ✓ Strengthening the capacity of African climate institutions in the generation of relevant climate information.
- **Monitoring for Environment and Security in Africa (MESA)**
  - ✓ Promoted the use of satellite Earth Observation (EO) data for environmental monitoring and sustainable development.
- **Climate Services Centre (CSC)**
  - ✓ Implementing Southern African Regional Climate Services for Disaster Resilience (SARCIS-DR) project, Satellite and Weather Information for Disaster Resilience in Africa (SAWIDRA) project
  - ✓ Strengthen capacity to generate and disseminate climate information in response to climate-induced disasters
  - ✓ Capacity in numerical weather prediction and regional climate models for seasonal climate forecasting
- **Early Warning System (EWS)**
  - ✓ Providing operational regional climate information services for monitoring and forecasts of all facets of seasonal climate conditions;
  - ✓ Developing and distributing meteorological, environmental, and hydro meteorological products
- **Outlines the preparedness and response strategy and fund for the SADC region. Three priorities:**
  - ✓ Understanding risk and disaster management information systems;
  - ✓ Strengthening disaster preparedness and response planning;
  - ✓ Establishing the regional disaster preparedness and response fund.
- **Part of global and regional efforts of enhance resilience to disasters.**
Space Sciences

Earth Observation
Space Science & Exploration
Navigation
Communication
Enabling Technologies
Mission Development
Space Mission
Applications
Environment & Resource Management
Safety and Security
Innovation & Economic Growth

Infrastructure
International Partnerships
Human Capital

Strategic Goals
Thematic Areas
Supporting Platforms
Public Awareness

Source: CASC

Source: AU

Source: CASC

STATUTE OF THE AFRICAN SPACE AGENCY

AfriGeo
Earth Observations for Africa

Digital Earth Africa

Earth Observation
Space Science & Exploration
Navigation
Communication
Enabling Technologies
Mission Development
Space Mission
Applications

Environment & Resource Management
Safety and Security
Innovation & Economic Growth

Infrastructure
International Partnerships
Human Capital

Strategic Goals
Thematic Areas
Supporting Platforms
Public Awareness

Source: CASC

Advancing knowledge. Transforming lives. Inspiring a nation.
African Dialogue: Space For Africa’s Development
Health and Genomics

- **eLwazi Open Data Science Platform and Coordinating Center**
  - Genomics Research in Africa, Genomic Data, Data Science
  - Aims to provide a flexible, scalable open data science platform for the DSI-Africa consortium (NIH Project) to find and access data, select tools and workflows and run analyses on a choice of computing environments, all through easy-to-use workspaces.
  - UCT eResearch collaboration with H3ABioNet to build an Open Data science Platform
  - H3ABionet = large Pan-African bioinformatics network of 27 institutions in 17 countries
  - Scalable for Pan African Footprint
  - Can promote Open Science practices

https://elwazi.org/
Biodiversity and platforms

- Data relating to biodiversity are often lost and misplaced
- Should be used to inform conservation management decisions
- ORBIS can offer a platform where stakeholders can access data
- Provide training on data management, access and analysis
- Work with stakeholders to develop useful, tailored system
- Currently able to handle species occurrence point data
- Expand to incorporate wide variety of data types (images, GPS data, maps, PDFs)

ORBIS: Okavango Repository for Biodiversity Data Planning https://jrsbiodiversity.org/grants/okavango-research-institute-2020/
Key Partnerships
1. Partnerships
   - UNESCO – AOSP
     - Joint Programming (e.g. Activities - Policy Development, Dialogue etc)
     - UNESCO Open Science Steering Committee and OS Recommendations Implementation
   - ISC – AOSP
     - Engagement on AOSP Governance
     - Joint Programming - Leveraging ISC OS joint programming and opportunities for funding
   - AOSP- NRENs
     - MoU with Ubuntunet Alliance (NRENs)
     - Infrastructure
   - AOSP-RECS Joint Programming
     - e.g. SADC OS Agenda – Regional Policy Development?, Regional Indicative Strategic Plan RSIDP 2020-2030 Planning (long term)?
   - AOSP – Funders
     - Leveraging Science Granting Council Initiative (SGCI) Africa
     - Leveraging NFR co-partners
     - Identifying applying funding opportunities
     - Other strategic partners - SADC ICPs?

2. Positioning and Stakeholder Engagement
   - AOSP – Global Engagements
     - Draft MoU between Global Open Science Commons Research Infrastructures (2023 – 2025)
     - All Events – very active on local, regional and global platforms
3. Other Activities – Events

- Conferences
- World Science Forum
- Open Science Workshops
- Open Science Conference Committees
- Open Science Advisory Boards
- Open Science Journals

- Representing African Perspectives
Summary of Status AOSP

1. Operationalisation of the AOSP Strategy and AOSP Coordinating Hub Office
2. Gap Analysis
3. Positioning, Awareness, Outreach and Stakeholder Engagement
4. AOSP M&E Framework
5. Process to establish Regional Nodes
6. The AOSP Governing Council
7. Resource Mobilisation - Value Proposition, SGCI synergies
8. Leverage Regional/National/international Open Science Initiatives and Networks
   a. Supporting Open Science Policy Development
   b. Open Access
   c. Data
   d. Capacity Building and Training – Partnerships for training
   e. Application Programmes
Global Open Research Commons: Essential Elements
AOSP Assessment?

Slide Courtesy RDA GORC - IG
Thank you

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