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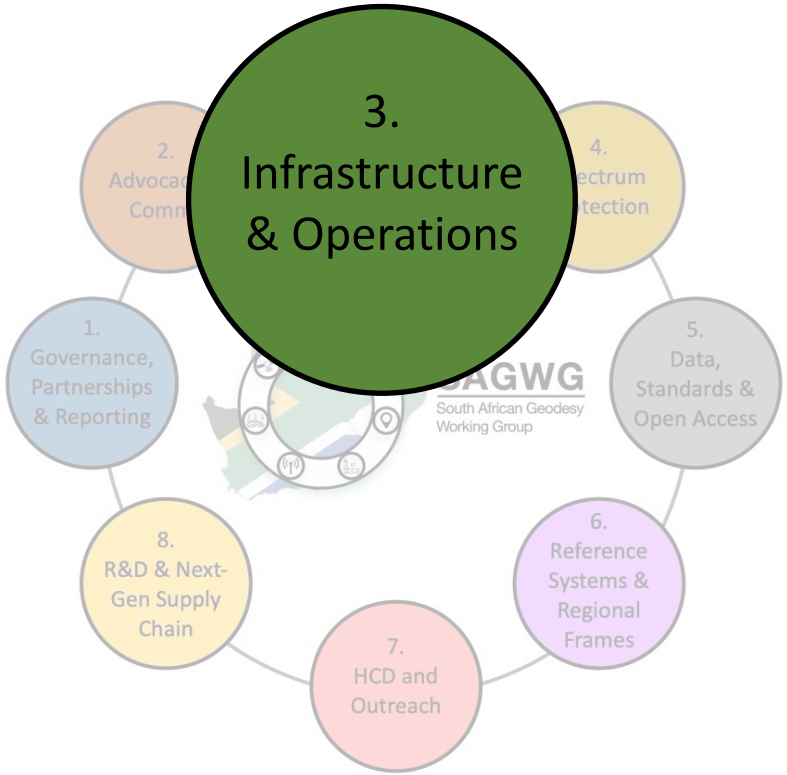
South African Geodesy Working Group

SA Geodesy Workshop: Pillar 3



Determine national operational requirements and assess, maintain, modernise, and share geodetic infrastructure and resources to ensure reliable services

Development Plan Activities

Phase 1: Avoid further degradation of the global geodesy supply chain

- Assessment of geodetic infrastructure in SA and Africa
- Formalize long term agreements for the operation and maintenance of: existing ground observatory stations; and, data, analysis, combination, correlation and geodetic product development centres including consideration of land lease agreements, infrastructure maintenance, cybersecurity and staffing
- Where possible, provide redundant GNSS equipment to regional hubs for other Member States to use

Phase 2: A robust global geodesy supply chain:

- Provide the UN-GGCE with your country's operational requirements from the global geodesy supply chain for critical national infrastructure and key resource sectors
- Financially contribute (e.g., by hosting infrastructure, providing data, or staff time) to the implementation and sustainment of a robust global geodesy supply chain

Phase 3: A next-generation global geodesy supply chain

- Same as Phase 2, but for next-generation requirements and a next-generation geodesy supply chain

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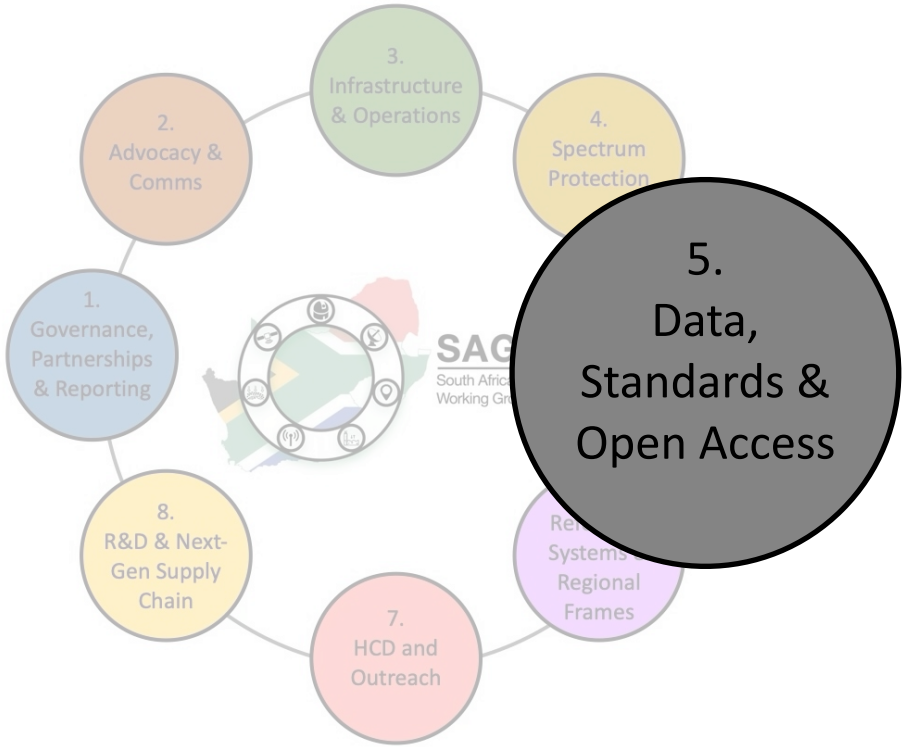
SA Geodesy Workshop: Pillar 5



Ensure geodetic data are open, standardised, and interoperable, preserve legacy records, and adopt international and next-generation standards to guarantee long-term trust and accessibility

Development Plan Activities

Phase 1: Avoid further degradation of the global geodesy supply chain

- Where possible, make geodetic products available under Findable, Accessible Interoperable and Reusable (FAIR) principles
- Ensure records of legacy systems are preserved and integrated into modern frameworks to maintain continuity of reference frames and long-term data integrity

Phase 2: A robust global geodesy supply chain:

- Where possible, make geodetic data and products open and FAIR.
- Ensure metadata records comply with international standards.
- Document and share case studies of data sharing, the benefits that have arisen, and strategies for overcoming barriers
- Make Geospatial Reference System (GRS) information available in the International Organization for Standardization (ISO) Geodetic Register and EPSG register

Phase 3: A next-generation global geodesy supply chain

- Develop next-generation data standards (e.g. for quantum sensors, digital twins, AI integration) and establish sustainable stewardship frameworks to ensure long-term open access, interoperability — including new approaches such as VLBI observations of GNSS satellites — and trust

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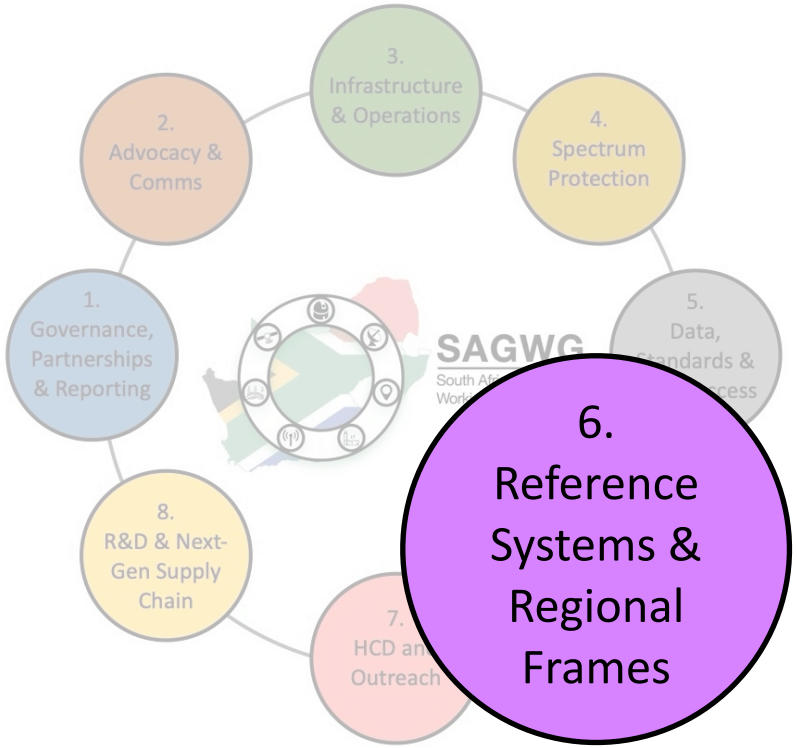
SA Geodesy Workshop: Pillar 6



Modernise national reference systems and sustain regional frames (e.g. AFREF) through coordinated governance and collaboration (e.g. SA Geodesy Working Group, GGOS Africa)

Development Plan Activities

Phase 2: A robust global geodesy supply chain:

- Review the current Geospatial Reference System (GRS) and determine if any elements need to be modernised to meet the needs of the country
- For Member States transitioning to a modern GRS, develop a country level roadmap and implementation plan describing how it will be realized (including resourcing, technical and stakeholder engagement requirements)
- For Member States transitioning to a modern GRS, develop a business case to seek resourcing needed to fund the development, implementation and communication of a modern GRS
- Create and sustain regional working groups to govern the establishment and maintenance of regional reference frames — including coordination, advocacy, data processing and analysis, and the sharing and communication of geodetic data and results (e.g. AFREF under UN-GGIM: Africa, GGOS Africa)