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Department of Science, Technology  
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## Towards a National Strategy for Geodesy in SA

Making  $\leq$  sure  $\left( \frac{\text{it's}}{\text{possible}} \right)$



science, technology  
& innovation

Department:  
Science, Technology and Innovation  
REPUBLIC OF SOUTH AFRICA

**South African Geodesy Workshop**  
1-2 October 2025, SAAO, Cape Town



**SAGWG**  
South African Geodesy  
Working Group



# UN-GGCE Activities for Member States

**1. Attend the UN-GGCE Capacity Development Workshop:** 19-23 May 2025, Nairobi, Kenya

**2. Join the UN-GGCE MMoU on Strengthening the Global Geodesy Supply Chain:**

The MMoU is a shared recognition by Member State government departments and agencies, private sector companies, organisations, associations, and academic institutions, together with the UN-GGCE, that action is required to make the foundations of positioning, navigation and timing services robust

**2. Develop a Country Level Working Group for Geodesy:**

- Work through the activities of the 1st Joint Development Plan together
- Carry out the activities of the 1st Joint Development Plan
- Manage your countries progress against the activities (Asana online project management tool)
- Report on progress to the UN-GGCE

**4. Lead the Development and Implementation of a Country Level Strategy and Action Plan**

**5. Become a UN-GGCE Partner:**

Partners to review the 1st Joint Development Plan and choose activities they will lead or assist with

# What have we done so far?

Geodesy  
Workshop to  
bring together  
all Geodesy  
stakeholders in  
SA



**SAGWG**  
South African Geodesy  
Working Group

- Govt. Departments, National Facilities, Universities, Industry
- ToR, Roadmap, Implementation of UN-GGCE 1st Joint Development Plan
- Eight Pillars or Subcommittees

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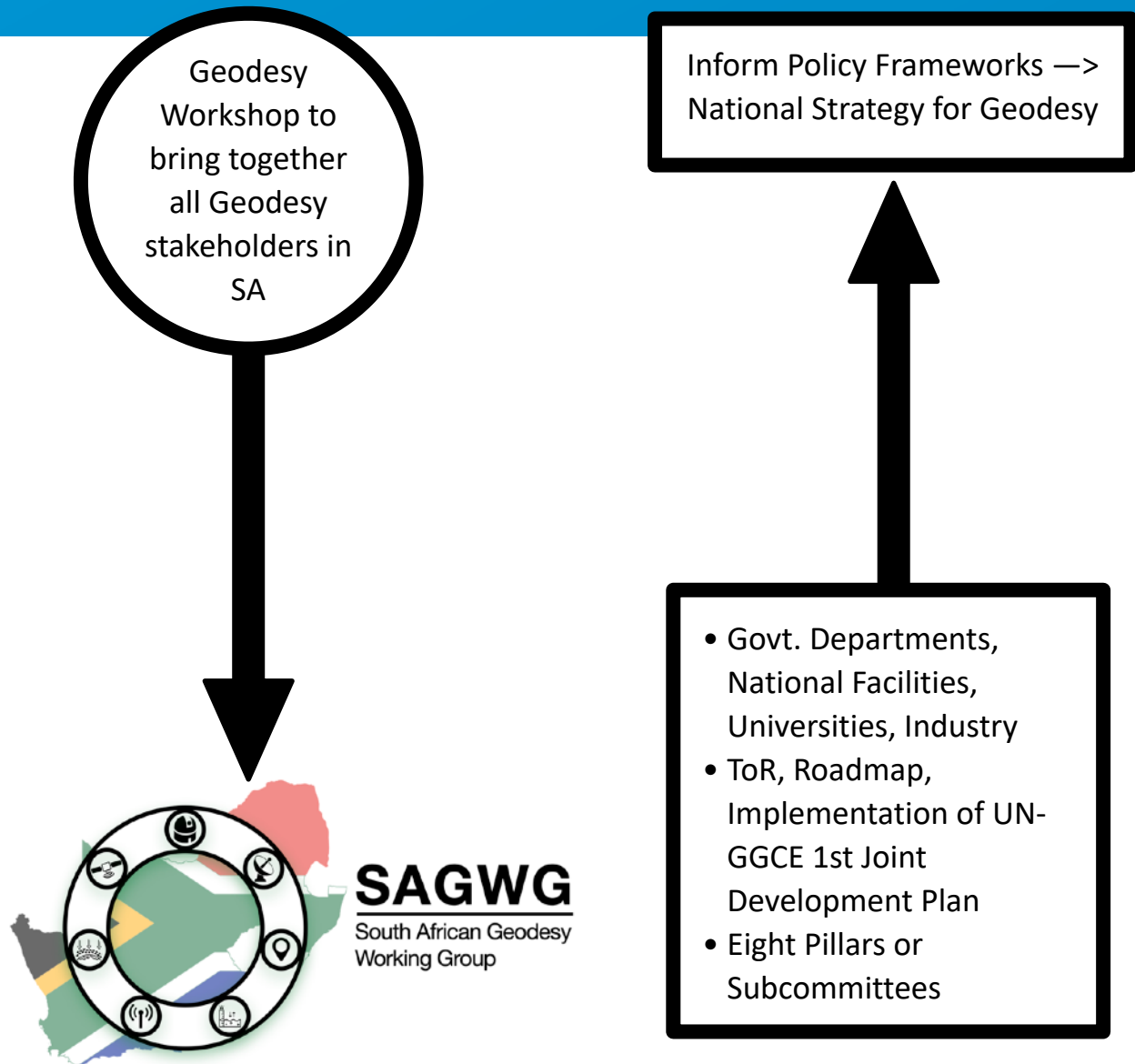
**\*\* See next talk by  
A. Parker on the  
Establishment and  
Structure of the  
SAGWG!**

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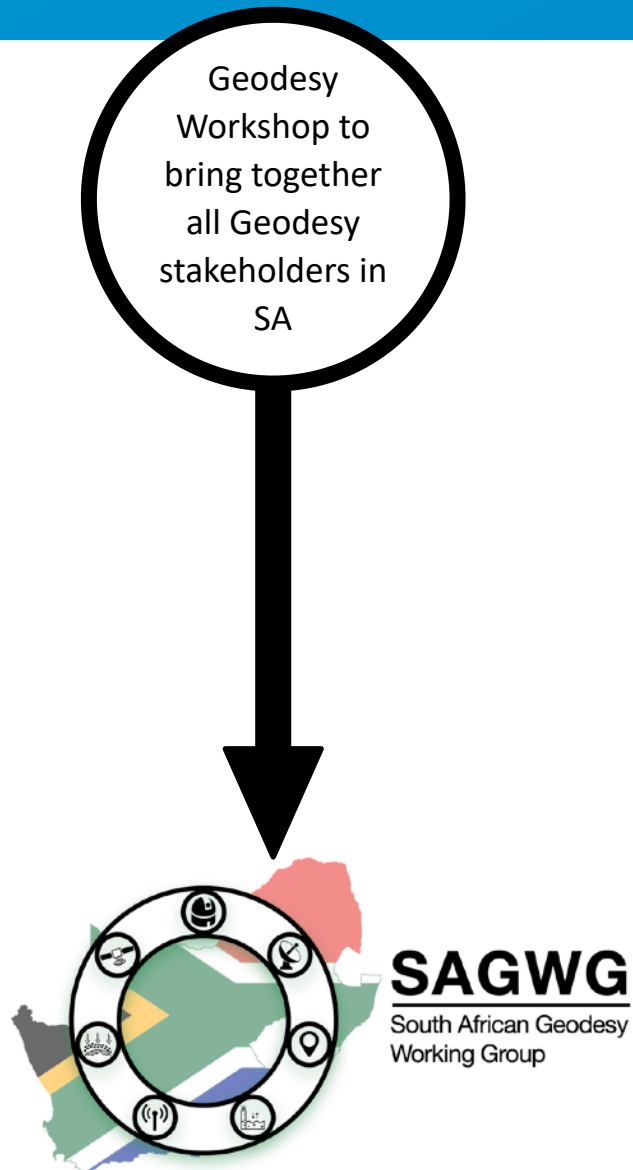


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Inform Policy Frameworks →  
National Strategy for Geodesy

- Govt. Departments, National Facilities, Universities, Industry
- ToR, Roadmap, **Implementation of UN-GGCE 1st Joint Development Plan**
- Eight Pillars or Subcommittees

## UN-GGCE 1st Joint Development Plan (Objectives)

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

- 1.1 member states are engaged in geodesy governance
- 1.2 maintain current accuracy and reliability of geodetic products
- 1.3 decision-makers are convinced of importance of geodesy
- 1.4 develop and retain talented and diverse workforce
- 1.5 value of geodesy understood by other science org., industry, society

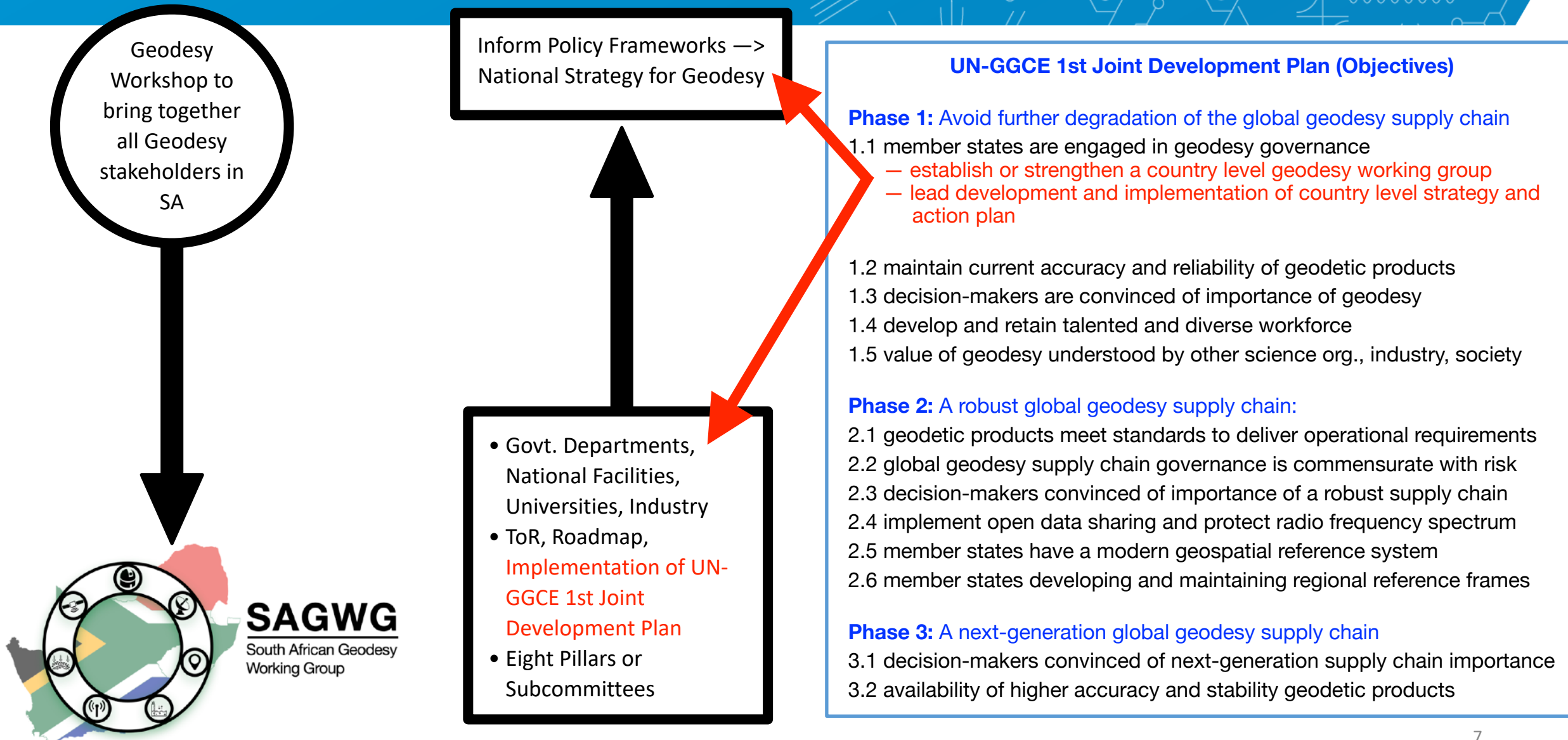
### Phase 2: A robust global geodesy supply chain:

- 2.1 geodetic products meet standards to deliver operational requirements
- 2.2 global geodesy supply chain governance is commensurate with risk
- 2.3 decision-makers convinced of importance of a robust supply chain
- 2.4 implement open data sharing and protect radio frequency spectrum
- 2.5 member states have a modern geospatial reference system
- 2.6 member states developing and maintaining regional reference frames

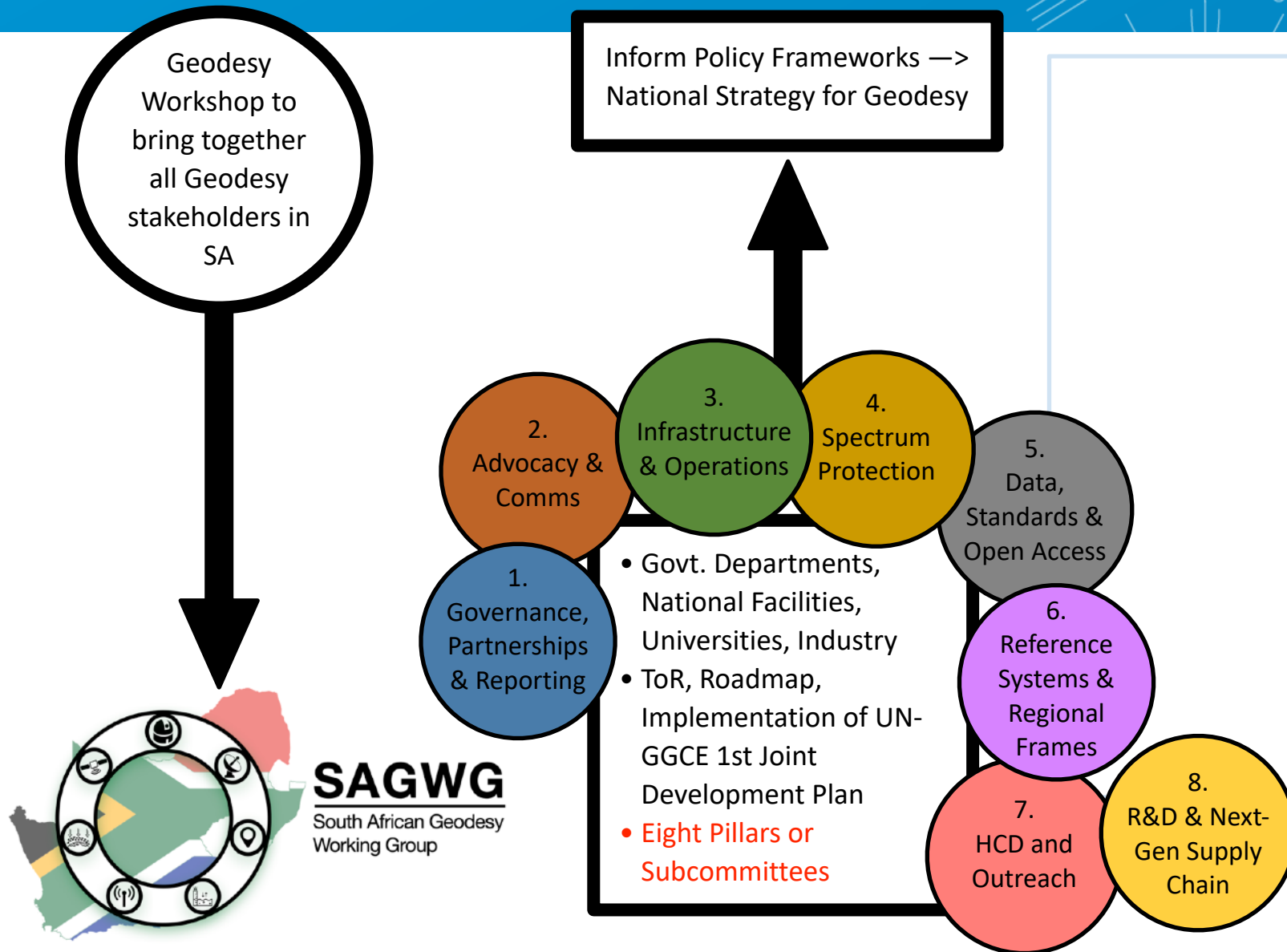
### Phase 3: A next-generation global geodesy supply chain

- 3.1 decision-makers convinced of next-generation supply chain importance
- 3.2 availability of higher accuracy and stability geodetic products

# What have we done so far?

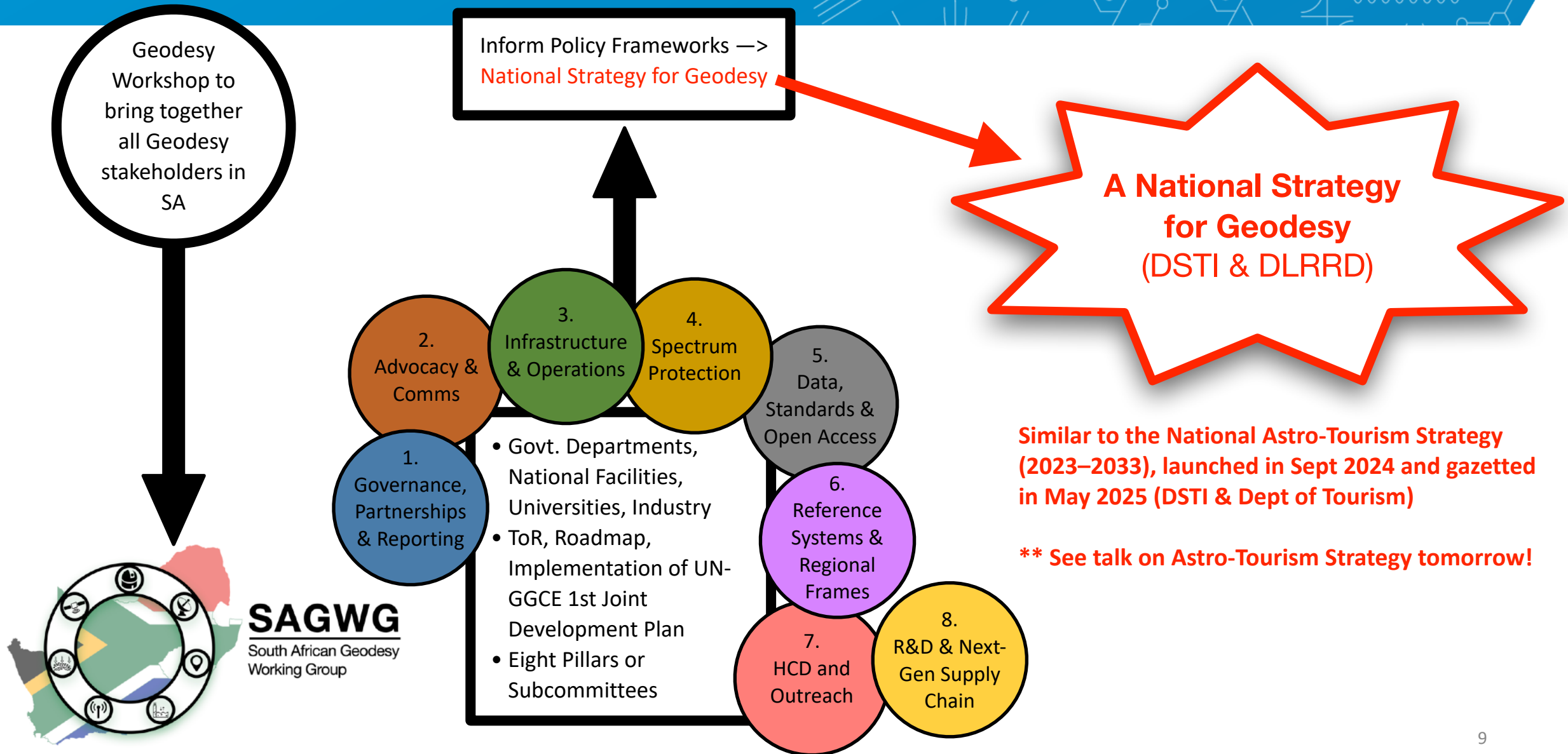


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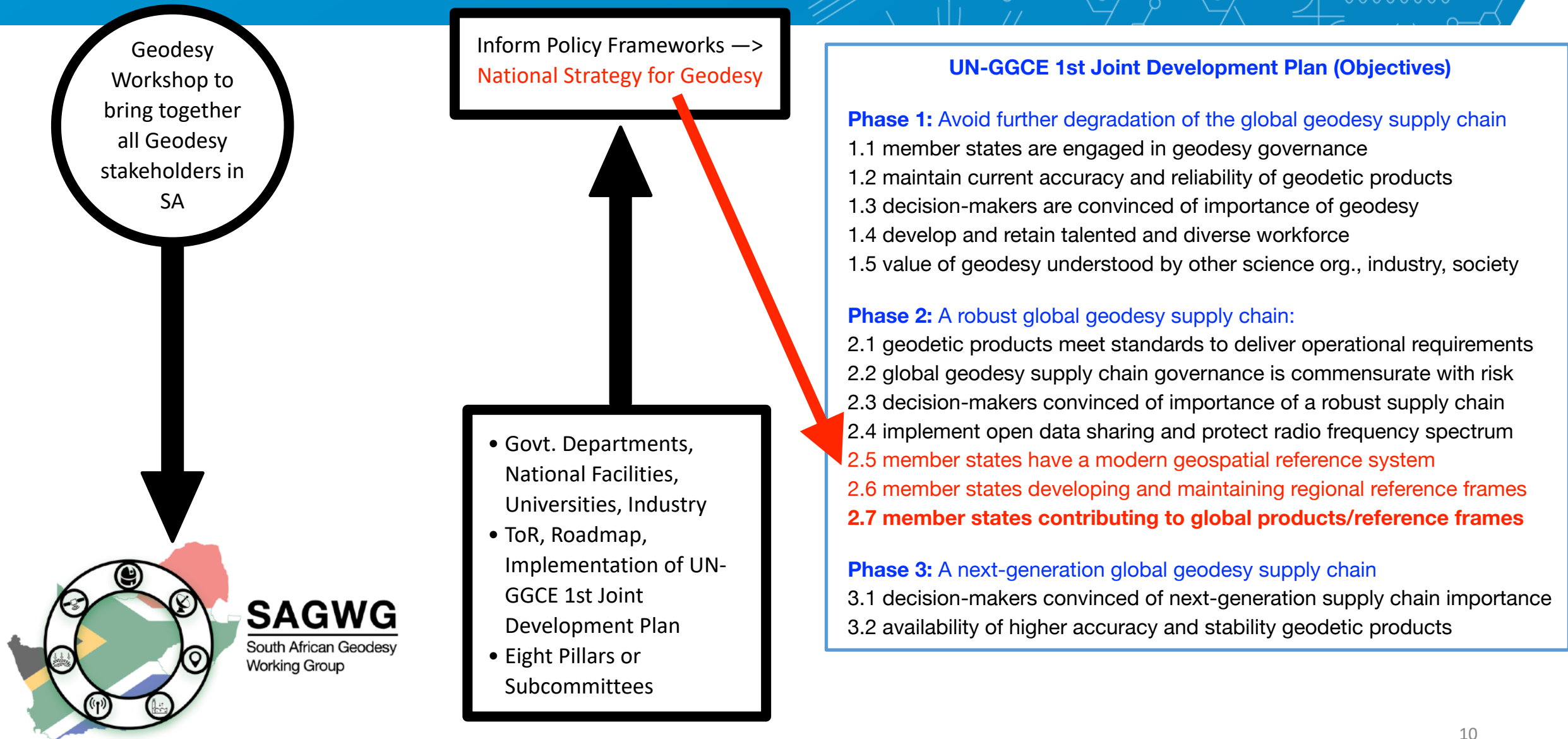




# Towards a National Strategy for Geodesy

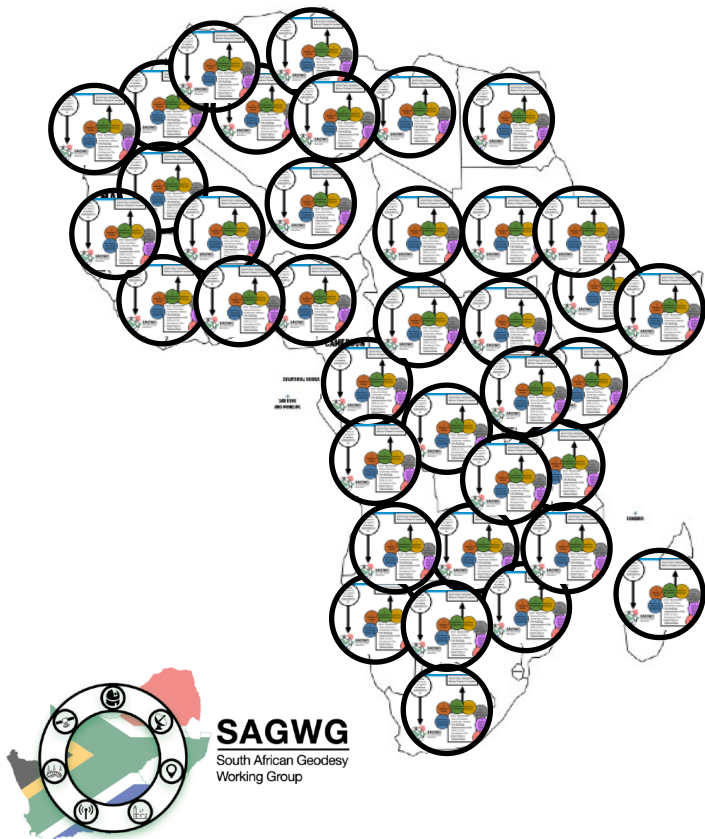


# Think Locally, Regionally, and Globally



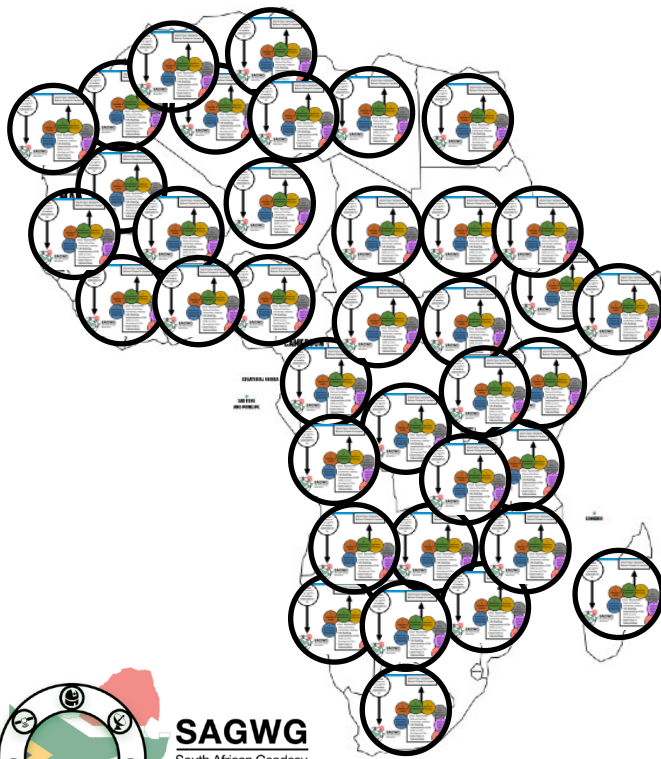
# Think Locally, Regionally, and Globally

Member states have a modern  
geospatial reference system (GRS)



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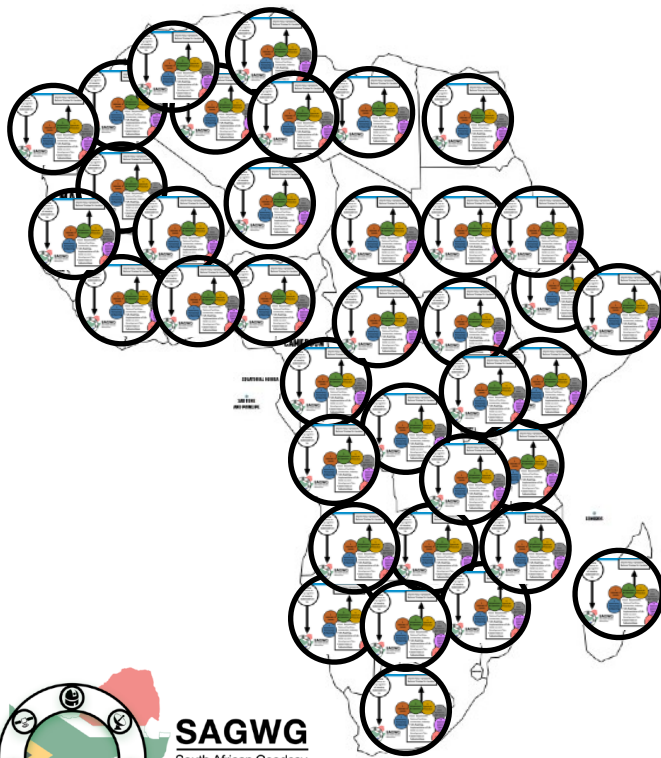
Member states developing and maintaining regional reference frames



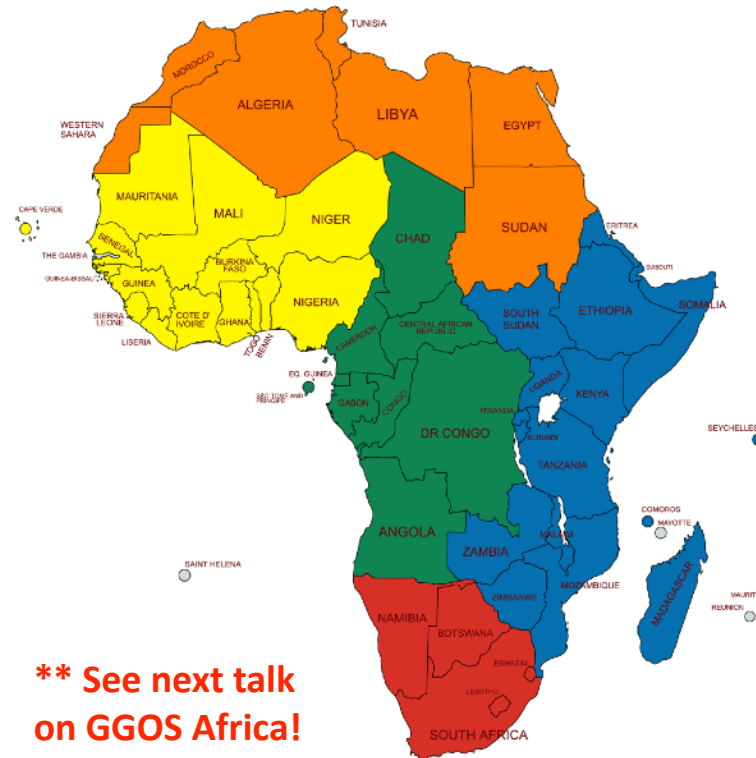
South Africa playing a leading role in GGOS Africa, AFREF, geo-AVN

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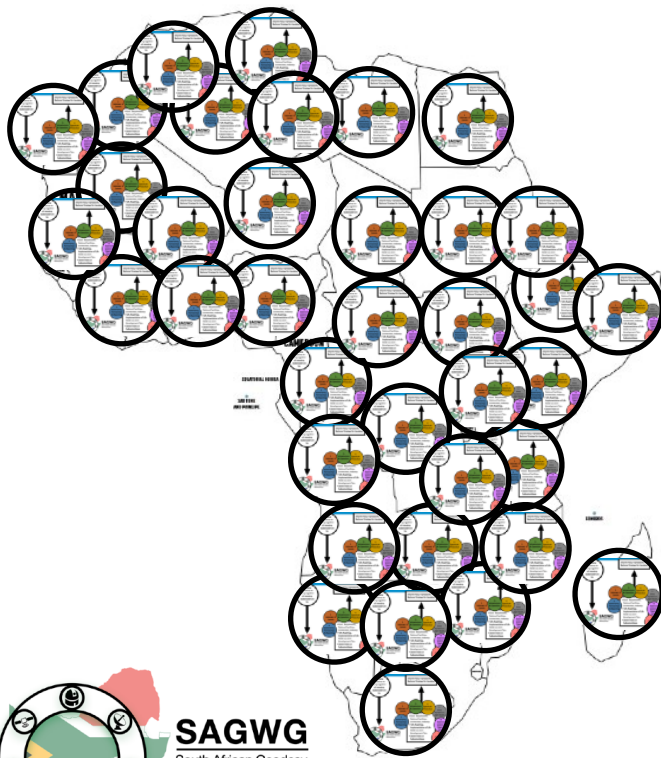
**\*\* See next talk  
on GGOS Africa!**

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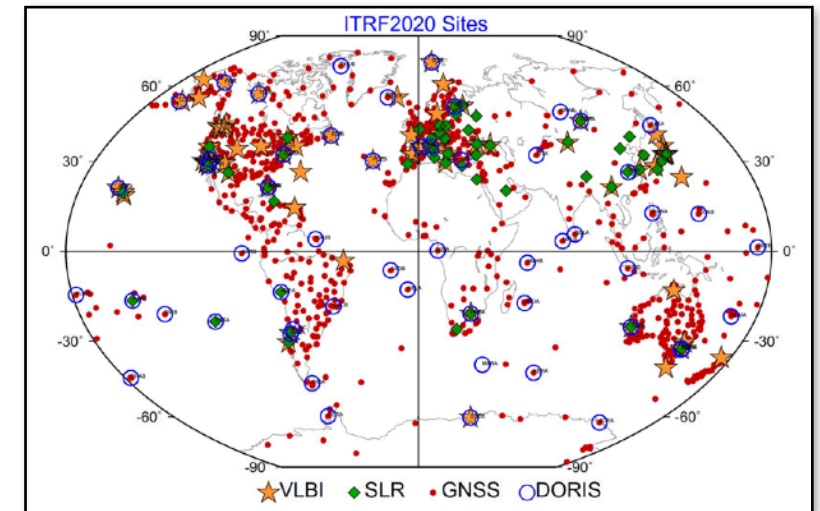
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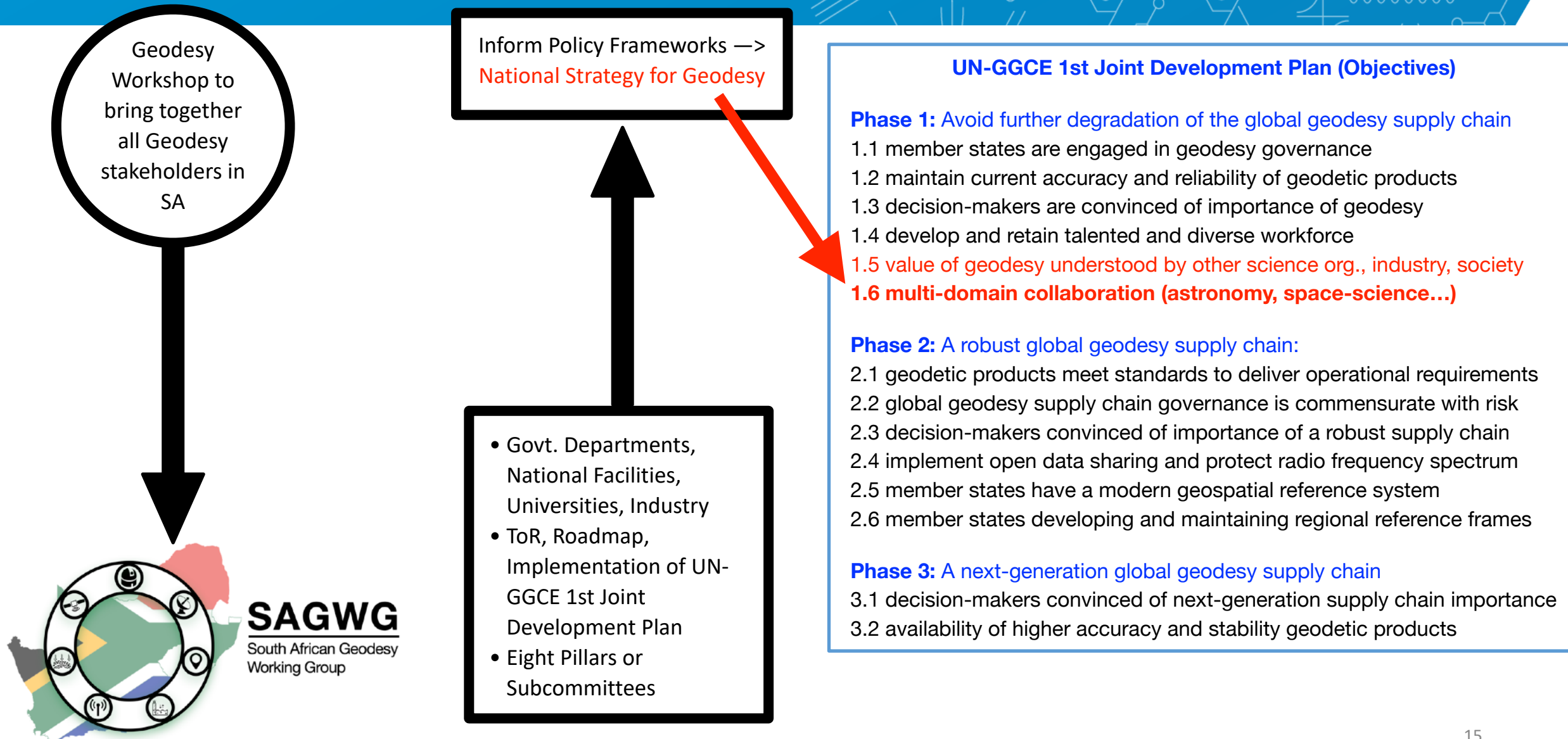
Member states contributing to global geodetic products and international reference frames



South Africa (as only core site) continuing to contribute essential data and expertise, while supporting other African countries to strengthen their own expertise

South Africa playing a leading role in GGOS Africa, AFREF, geo-AVN

# Demonstrate the Value of Geodesy



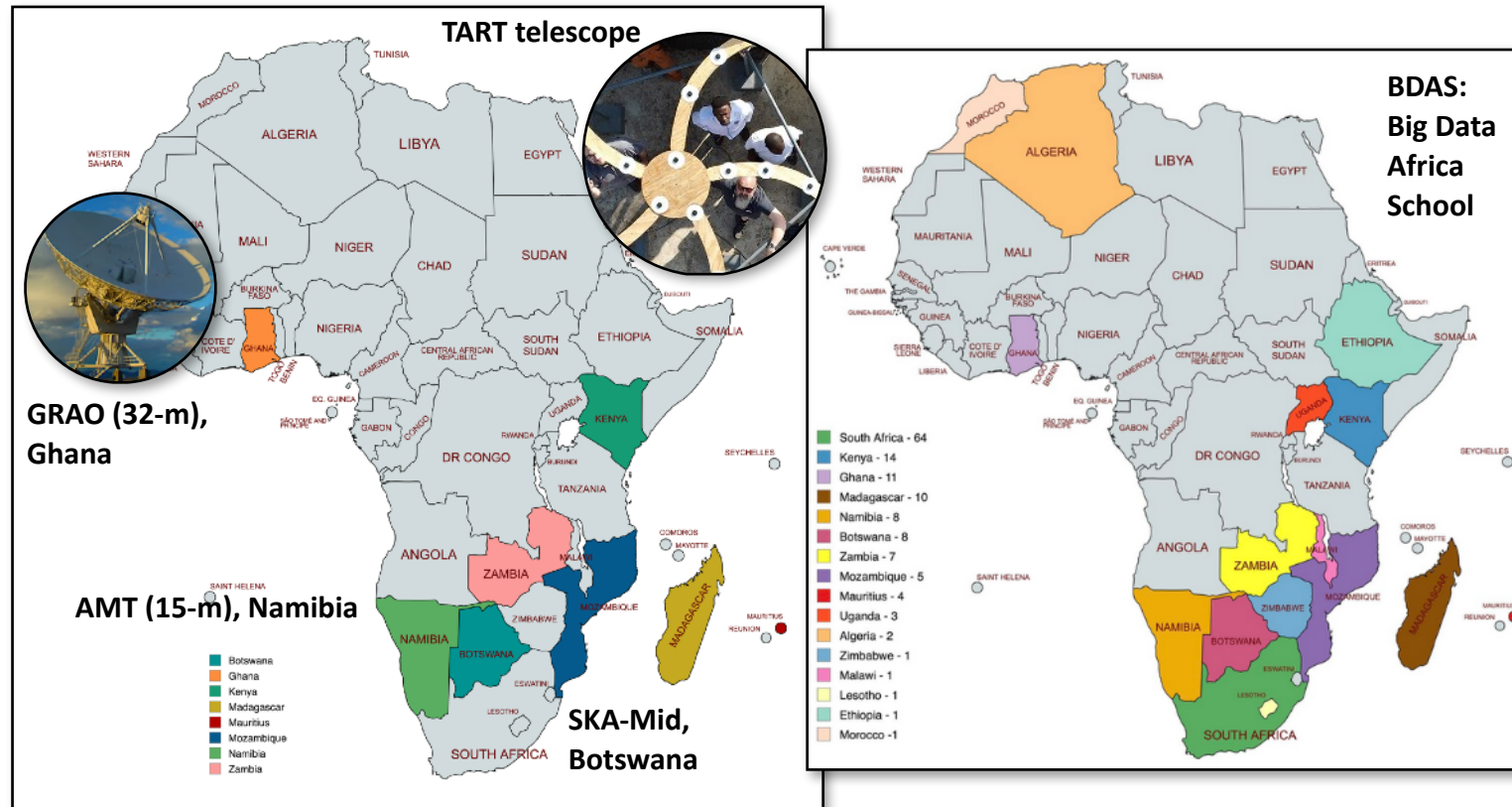
# Multi-Domain Collaboration

## Astronomy: Capacity Development Programmes

SARAO-ARAP, SKAO, DARA, AfAS, TART, SAAO, CHPC, BDAS

Observatory sites, Infrastructure, training instruments, HPC infrastructure, HCD

—> *Planned AstroGeo Focus Meeting at the IAU-GA 2027, Italy*



## Space Science: Infrastructure and Space Agencies

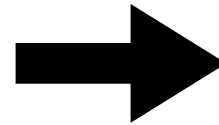
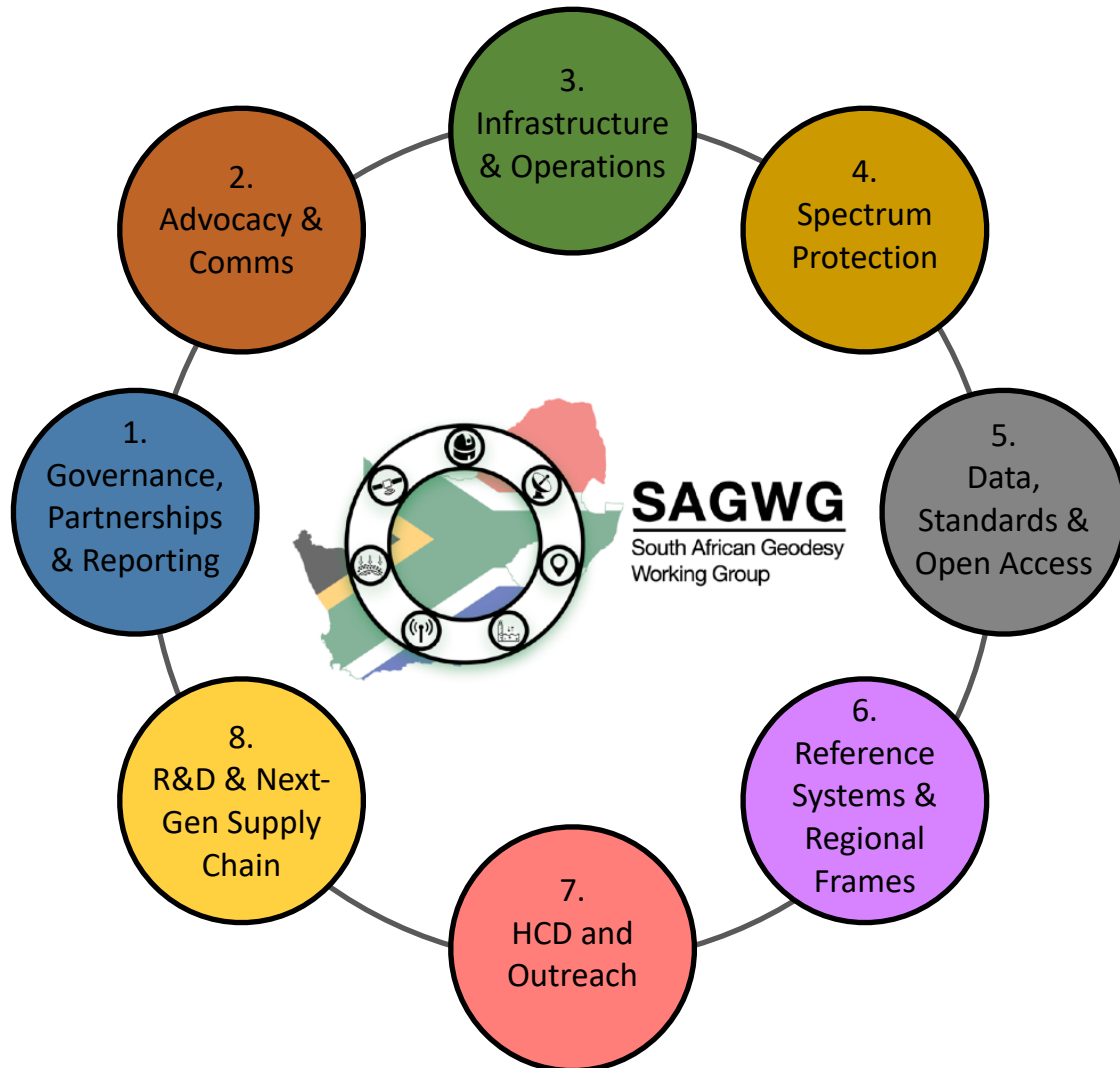
SANSA GNSS stations, Space Agencies in Africa, AfSA (specialised agency of AU, inaugurated April 2025) —>

*UNGA80 Space Plenary Session, NY, 26 Sep 2025*



List of Space Agencies in Africa, Updated: June 2024, Source: <https://spaceinafrica.com>

# National Strategy for Geodesy: Vision



## VISION

South Africa will be a global contributor and African leader in geodesy, sustaining a modern national geospatial reference system aligned with international standards, strengthening global reference frames through vital data and expertise, and advancing regional and continental systems for shared development



*Dankie  
Enkosi  
Ha khensa  
Re a leboga  
Ro livhuwa  
Siyabonga  
Siyathokoza  
Thank you*

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