



UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA



Development of the internationalization of PhD studies in South Africa

“Toward institutional structures that support the complete PhD life cycle”

Pretoria, Training session 2, 26-29 March 2019



Co-funded by the
Erasmus+ Programme
of the European Union



The National Research Foundation

Global Knowledge Partnerships

Dr Aldo Stroebe
Executive Director
Strategic Partnerships



science
& technology

Department:
Science and Technology
REPUBLIC OF SOUTH AFRICA



National
Research
Foundation

*‘...internationalisation of PhD studies is
a shared institutional responsibility...’*



science
& technology

Department:
Science and Technology
REPUBLIC OF SOUTH AFRICA



National
Research
Foundation

Foresight, planning, strategy, and needs analysis



science
& technology

Department:
Science and Technology
REPUBLIC OF SOUTH AFRICA



National
Research
Foundation

The NRF and the YEBO Country Sisters

Country	Science Granting Council
France	CNRS
Germany	DFG
Sweden	SRC, STINT
Belgium	FWO, FNRS
Lithuania	RCL

- Global Research Council

Legislative and other Mandates

National Plan for
Higher Education

National Research
and Development
Strategy (NRDS)
New White Paper

National Human
Capital
Development
Strategy (HRDS)

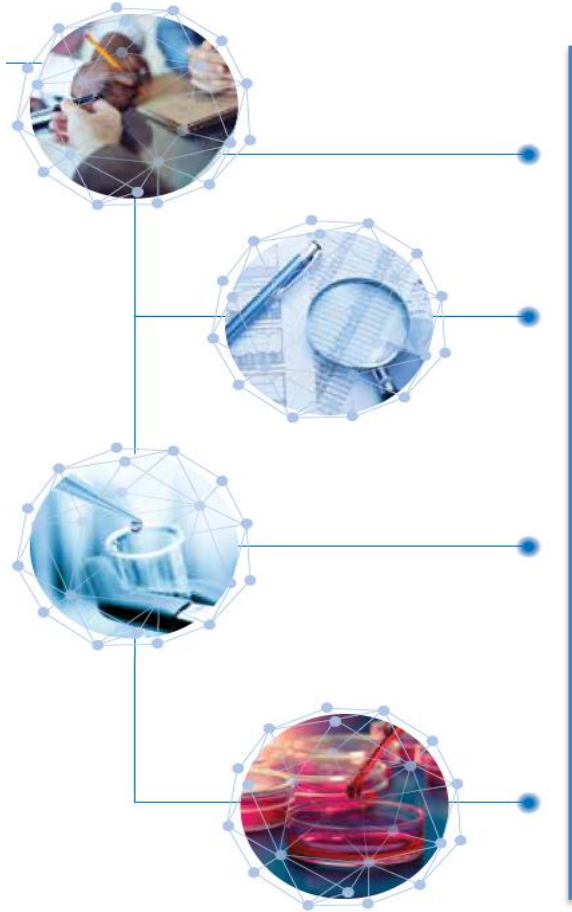
National
Development
Plan 2030

National Strategy
for
Multiwavelength
Astronomy

Science
Engagement
Framework

South African
Research
Infrastructure
Roadmap (SARIR)

NRF Mandate



- supporting, promoting and **advancing research** and **human capacity development**, through funding and the provision of the necessary research infrastructure, in order **to facilitate the creation of knowledge**, innovation and development in all fields of science and technology, including humanities, social sciences and indigenous knowledge;
- developing, supporting and maintaining **national research facilities**;
- supporting and promoting public awareness of, and **engagement with, science**; and
- promoting the **development and maintenance of the national science system** and support of Government priorities.



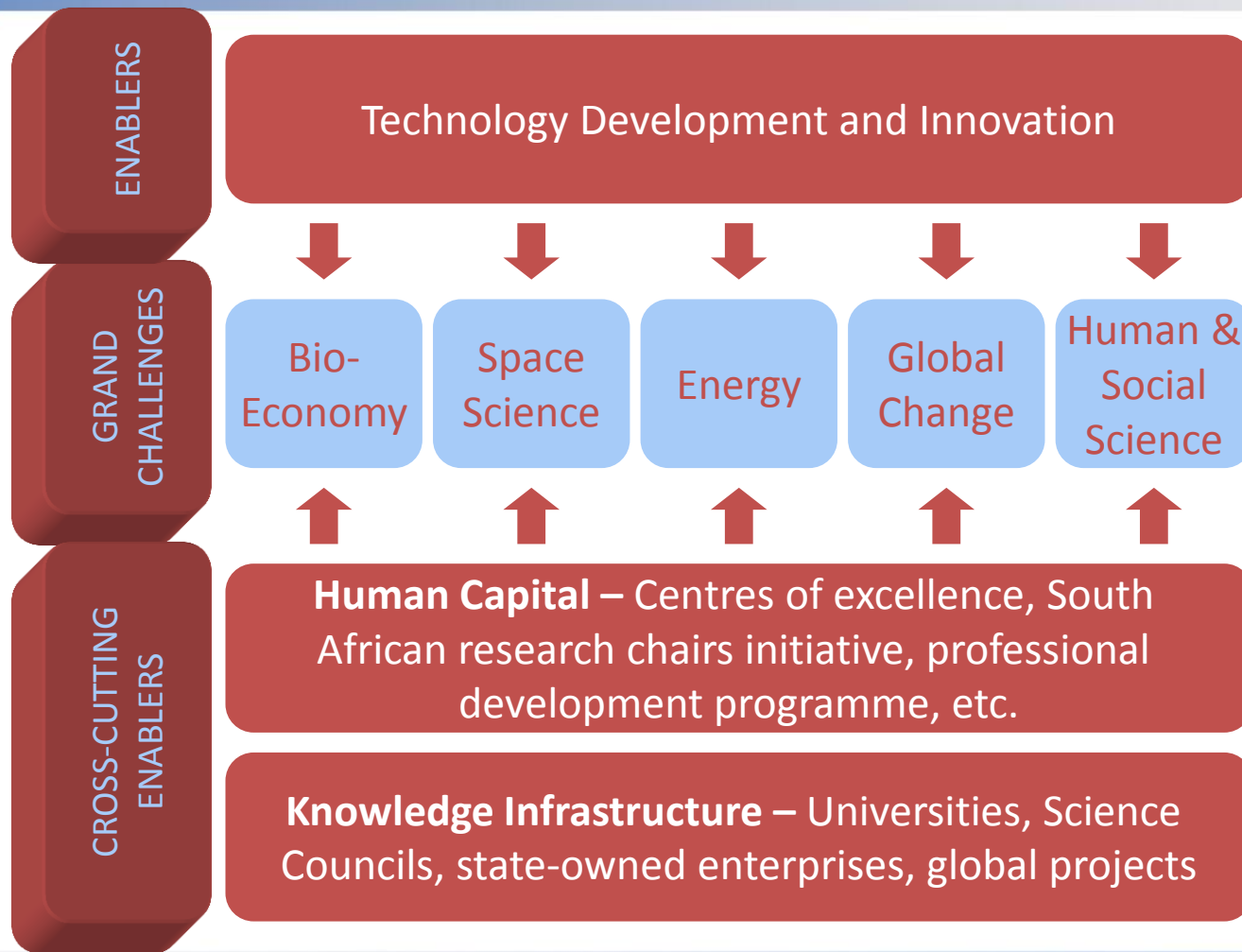
science
& technology

Department:
Science and Technology
REPUBLIC OF SOUTH AFRICA



National
Research
Foundation

DST 10-yr Innovation Plan: Grand Challenges



The international environment and priorities

International Science Sector

- Part of the global science sector of Global Research Councils/ Science-Granting Councils
- SDGs, AU's Agenda 2063, AU's Science, Technology & Innovation Strategy for Africa 2024 (STISA - 2024)
- Focus on expanding HCD, knowledge development, infrastructure, innovation & entrepreneurship, STI environment, transformation
- Priorities: poverty, inequality, health, education, environmental concerns, agriculture, innovation, economic growth

Science Councils

- Strategies emphasise measuring impact and discerning **benefit of research for society** (national development).
- Some include evidence of breakthroughs/ impact.
- **Multi-disciplinary approach** to challenges (UK has combined Councils).
- Identify **thematic focus areas** and challenges such as poverty & inequality; environment & global climate change.
- **Engaging society** is emphasised.

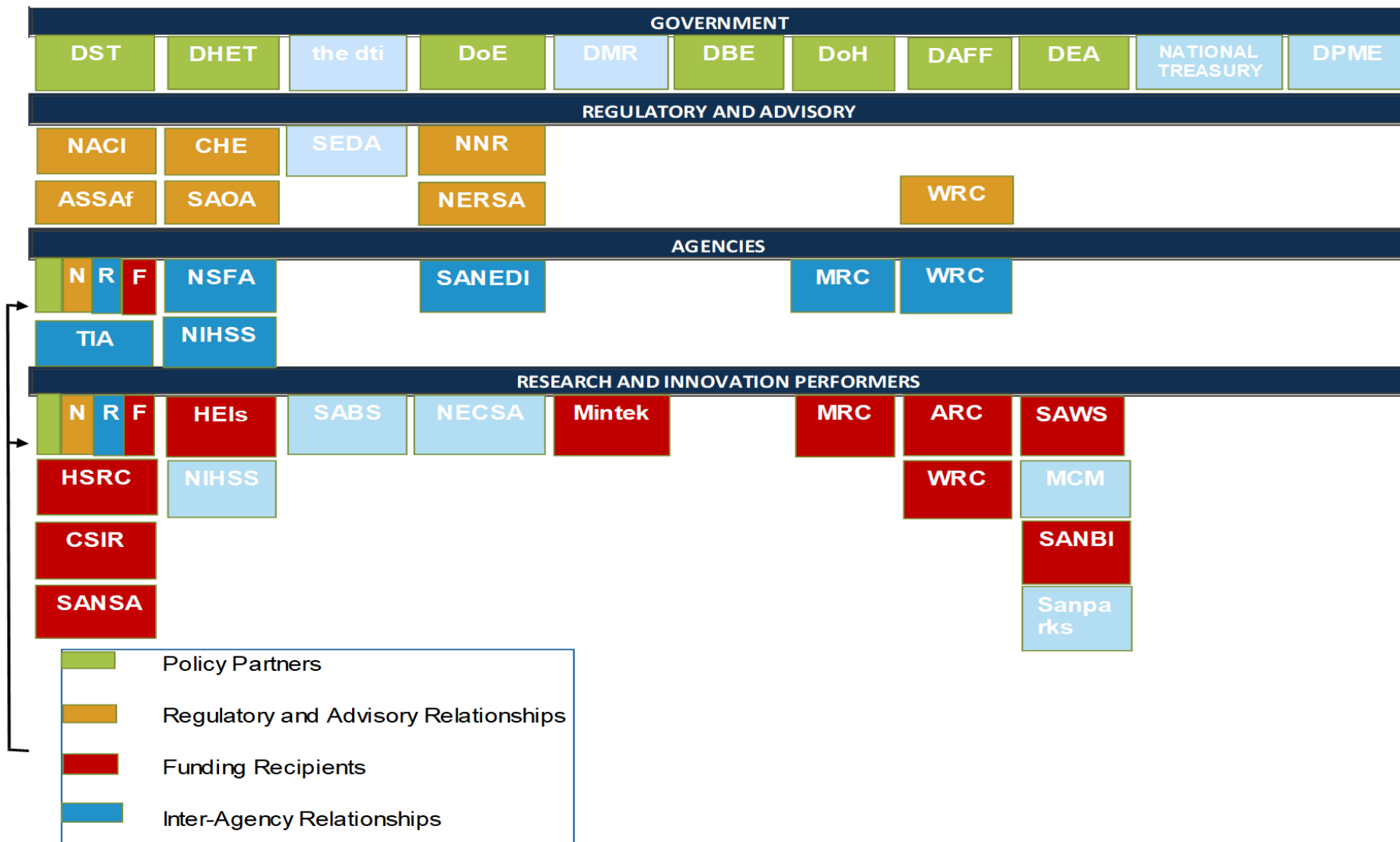
The national environment and priorities

National and NSI context

- National Development Plan: Towards overcoming triple challenge of poverty, inequality and unemployment through interventions in education, science, health etc.
- Coherence of NSI.
- Targets in HCD, SET, knowledge development & innovation – these are needed for delivery in other areas.
- Responses by DST, DHET, Science Councils etc. to meet these targets.

Challenges identified

- DHET – PSET WP & New National Plan & Staffing SA Universities Framework
- DST – WP on STI & HCD
- Coherence NSI & across government.
- Capacity and throughput (limited space, SET pipeline, ageing academics)
- Slow transformation, HDI remains.
- Resources – below target investment in R&D, postgraduate students, infrastructure, new universities.



NRF Global Engagement



**science
& technology**

Department:
Science and Technology
REPUBLIC OF SOUTH AFRICA



**National
Research
Foundation**

Research funding as vehicle to implement internationalisation, and funding options



science
& technology

Department:
Science and Technology
REPUBLIC OF SOUTH AFRICA



National
Research
Foundation

Human Capital Development Pipeline

		Funding Opportunities Call Schedule for 2017															
		2017												2018			
Call category	Funding Instrument	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr
Research Grants - General	African Coelecanth Ecosystem Programme (ACEP)											x					
	Blue Skies Research (Concept Notes)											x					
	Indigenous Knowledge Systems (IKS)											x					
	Foundational Biodiversity Information Programme											x					
	Knowledge Fields Development Grants																
	Marine Research Grants (incl. SANCOR)											x					
	SA National Antarctic Programme (SANAP)											x					
	Support for Unrated, Rated and Y-rated Researchers											x					
	Thuthuka											x					
Research Grants - International	Brazil (FAPESP) - SA Bilateral																
	BRICS Multilateral																
	China (NSFC) - SA Bilateral																
	EU Co-investment and Seed Funding																
	Germany - SA Bilateral																
	Iran - SA Bilateral																
	Jamaica - SA Bilateral																
	Japan (JSPS) - SA Bilateral																
	Mexico - SA Bilateral																
	Oman - SA Bilateral																
	Portugal - SA Bilateral																
	SA - Tanzania - Swiss Trilateral Chair																
	Sweden (STINT) - SA Bilateral																
Student Grants	Extension Support for Masters and Doctoral Completion												x				
	Germany (DAAD) - NRF Scholarship												x				
	Honours Block Grants (incl. NSFAS)																
	Masters & Doctoral Bursaries - Innovation, NRF Free Standing and Science Skills																
	National Astrophysics and Space Science Programme (NASSP)																
	Renewal & Sustainable Energy Scholarships (M. D)																
	Sabbatical Grants to Complete Doctoral Studies																
	SA Systems Analysis Centre (SASAC) PhD Programme																
	SKA Scholarships Programme																
	Students with Disabilities (M. D)																
Postdoctoral Fellowships Grants	Newton Fund Postdoctoral Fellowships												x				
	Postdoctoral Fellowships - Innovation, NRF Freestanding, TWAS												x				
Travel and Conference Grants	DST - NRF Conference Fund																
	Equipment-Related Travel and Training Grants																
	ERC - NRF																
	ICSU Grants for Travel and Hosting Events																
	ICTP - NRF Bilateral																
	Joint Institute for Nuclear Research (JINR) - Student Practice																
	JINR Researcher Mobility																
	Knowledge Interchange & Collaboration (KIC) Mobility																
Institutional Grants	SANCOR International Travel Student Awards																
	AOP - Research Career Advancement																
Infrastructure Grants	Centres of Excellence (CoEs)																
	Institutional Engagement Programme Development (IEPD)																
Other Grants	SA Research Chairs Initiative (SARChI)																
	National Equipment Programme (NEP)																
Internship Calls (Reviews not required)	Strategic Research Equipment Programme (SREP)																
	Collaborative Postgraduate Training (CPT) Block Grant (H.M.D)																
Evaluation and Rating of Individuals	Incentive Funding for Rated Researchers																
	Infrastructure Bridging Finance																
	nGAP Research Development Grant																
	Professional Development Programme (PDP)																
	Internship Programme (Applicants)																
	Internship Programme (Host Institutions)																
Evaluation and Rating of Individuals		2017															

International Engagement - Research and HCD -



science
& technology

Department:
Science and Technology
REPUBLIC OF SOUTH AFRICA



National
Research
Foundation

Comprehensive Africa Focus

Strategies/ Programmes

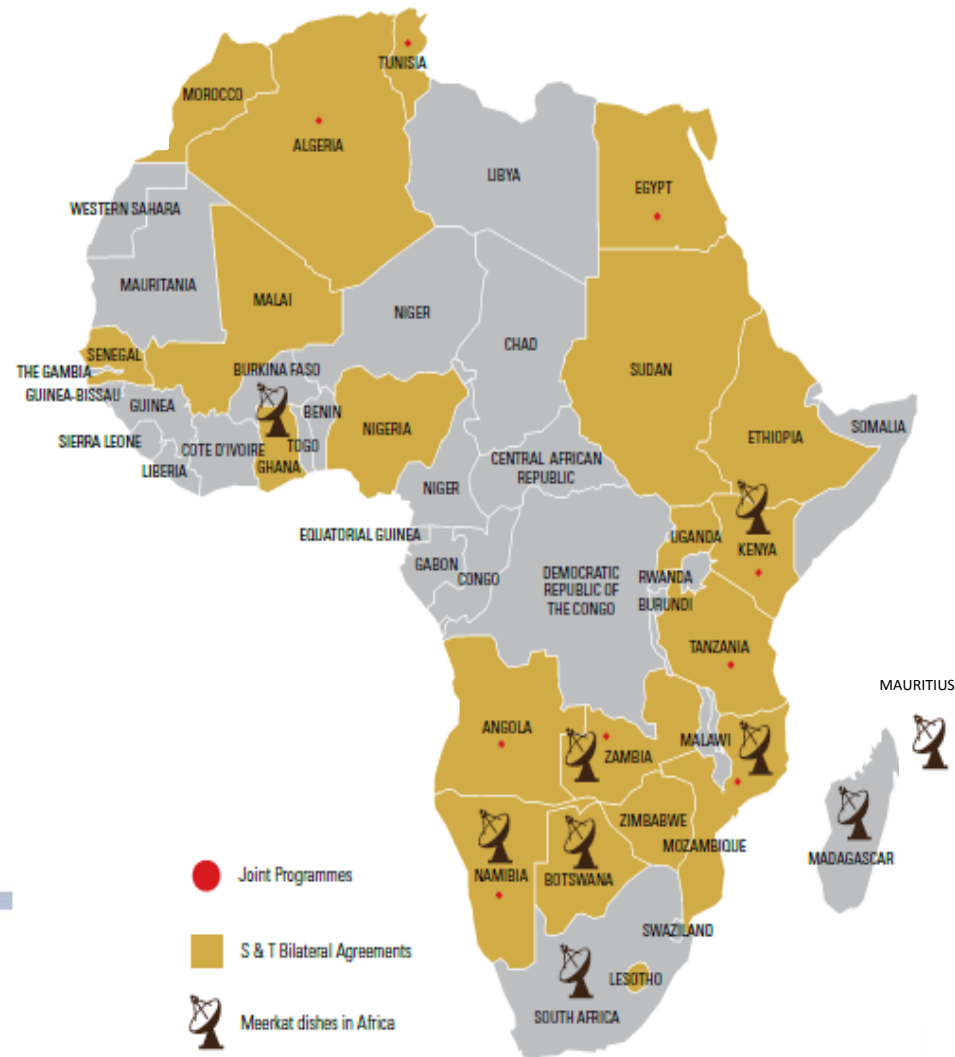
- Future Earth (SA; Rwanda)
- IORA
- GRC
- SGCI
- Africa Flagships: SANWATCE, SANBio, AIMS
- Canada Trilateral Chairs (Africa)
- Africa Bilateral Chairs
- Astronomy Bilateral Chair; VLBI
- LEAP-Agri
- TWAS
- SASAC Africa PhDs
- Strengthening ARUA
- Specific inter-agency agreements
- NFs research and agreements
- OR Tambo Africa Research Chairs

NRF Africa Engagement

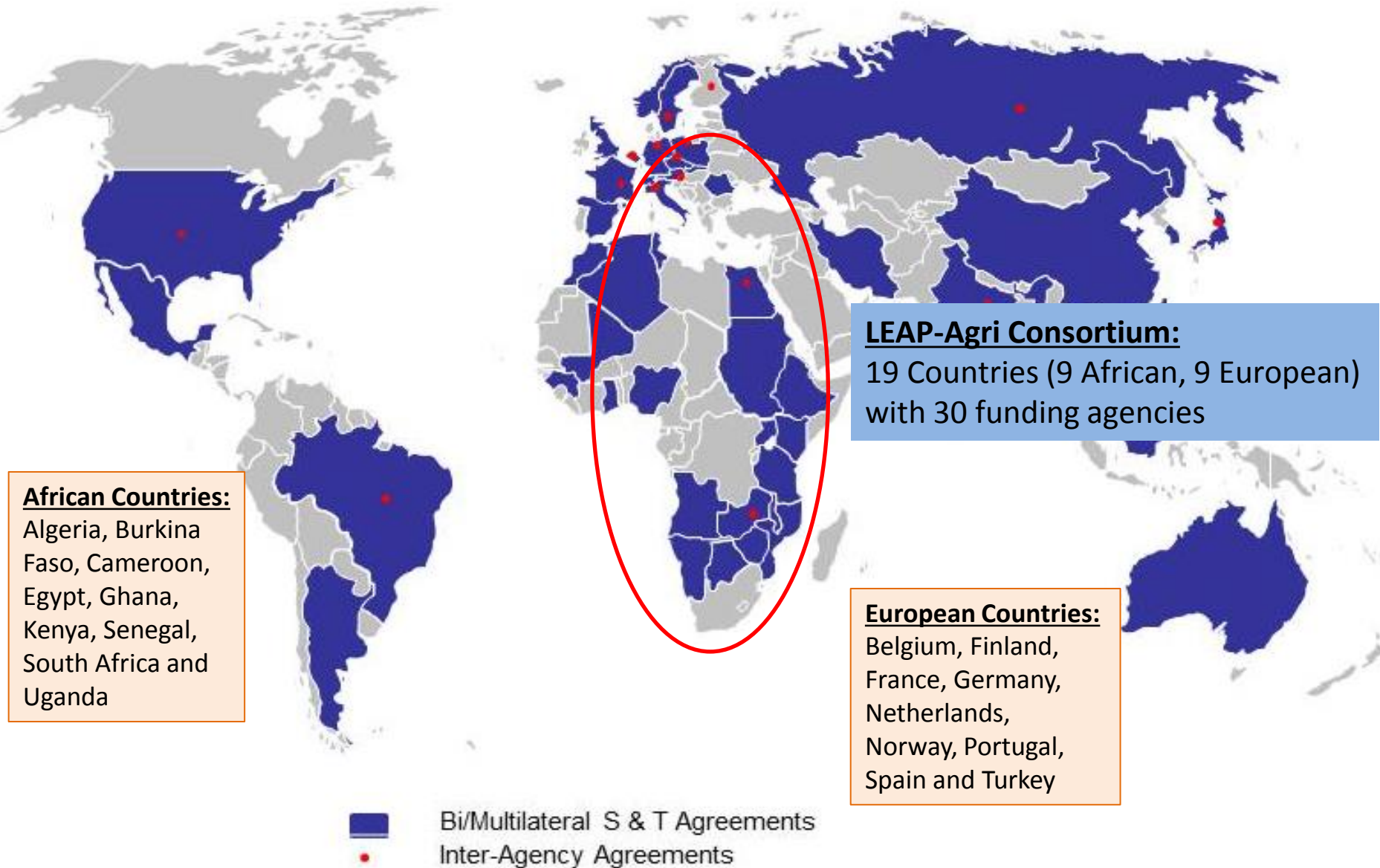
1. AVN

The Africa VLBI Network (AVN) includes 9 African partner countries. SKA SA has:

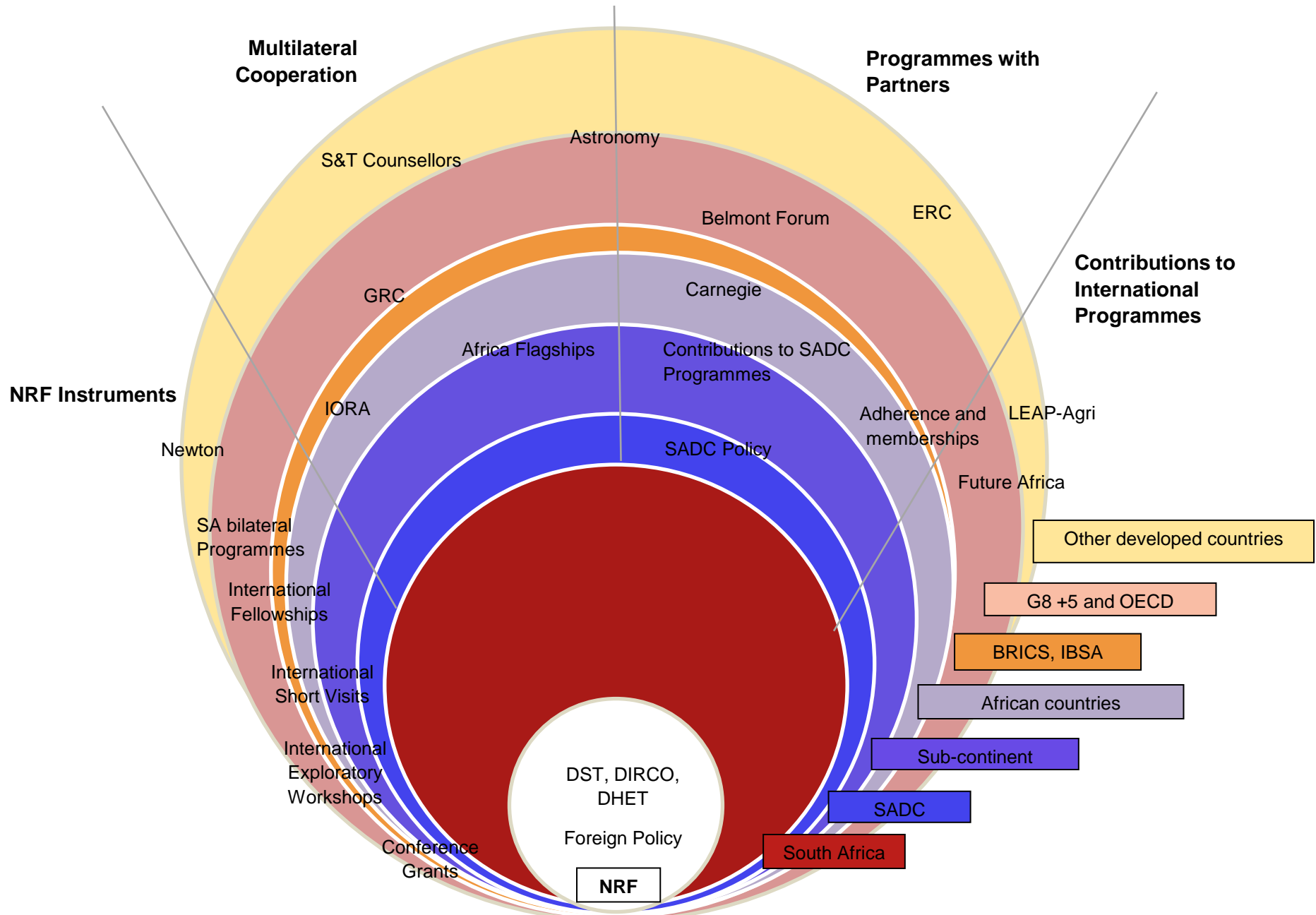
- Awarded 86 bursaries and scholarships to students from the continent (excl SA) of which:
- Trained 18 engineers, 5 of whom were from African partner countries;
- Trained observatory staff:
 - 8 from Ghana
 - 16 from Kenya
 - 13 from Mauritius
 - 1 from Namibia
 - 5 Interns from Partner Countries



2. Theme-based/ multi-country funding (beyond bilaterals, e.g. LEAP-Agri)



Strategic Partnership Matrix



Funding Modalities for PhD Scholarship and Excellence



science
& technology

Department:
Science and Technology
REPUBLIC OF SOUTH AFRICA



National
Research
Foundation

NRF Broad Investment Areas

Broad Investment Areas	% of budget
Emerging Researchers	23%
Established Researchers	18%
Strategic Investment Programmes	23%
Strategic Platforms (Including research at the National Research Facilities)	11%
International Initiatives	11%
Applied & Industrial Research & Innovation	14%
TOTAL	100%

Types of Student Funding

Grantholder-linked

Nominated for an award linked to the grantholder's NRF-funded research project

Freestanding

Student individually apply and obtain funding

Block Grants

Funds given as a lump sum to the grantholder/ institution who distributes according to set NRF guidelines



Free-standing Grants

- Innovation Fund Scholarships
- Scarce Skills Scholarships
- NRF Free-standing Scholarships
- DAAD-NRF In-Country Master's and Doctoral Scholarships
- Renewable & Sustainable Energy Fellowships
- Desmond Tutu Doctoral Scholarships
- Green Economy Doctoral & Post-Doctoral
- The World Academy of Sciences (TWAS) Programme
- Early Career Researchers from the UK
- Research Career Awards (RCA)
- SANCOR
- Waste RDI
- Part-time Doctoral Scholarships
- Extension Scholarships for Master's and Doctoral
- Travel Grants

Block Grants

- Honours and Master's Block Grants
- Collaborative Postgraduate Training Programme

Staff Development Grants

- Thuthuka
- nGAP
- Sabbatical Grants

Funding Modalities for PhD Scholarship and Excellence



science
& technology

Department:
Science and Technology
REPUBLIC OF SOUTH AFRICA



National
Research
Foundation

PhD Scholarship – international engagement

- Discovery
 - New models
 - Learning
 - Exposure
 - Soft skills
 - Networking
 - Advancing excellence
-
- Affordability
 - Co-creation
 - Co-learning

New Frameworks/ Models

- Global Knowledge Partnerships
- Career Pathways
- Postgraduate Student Funding Framework
- NRF Transformation Framework
 - Slow rate of progress
 - Resources
- Excellence and inclusivity
- National coordination of other international bursaries (DHET)
- *Strategic alignment and coordination*
- *Strong focus on the emerging research cohort*

Selected examples

- NRF-FRF Sabbatical Grants
- DAAD-NRF In-Country Scholarships
- Fulbright-NRF
- SASAC
- SARChI and CoEs
- Large-scale country engagements
 - DAAD Africa CoEs
 - ARUA CoEs
 - OR Tambo Africa Research Chairs
 - Switzerland, Germany, USA

Conclusion

- High premium on PhD scholarship and production
- Strength is in the partnership
- Innovative models of support
 - Leverage funding
- University networks *with* national funding agencies
 - ecosystems of university-led development
- Commitment by government from a policy perspective is key and critical
- Return on investment in various forms
- Strong leadership
 - Shared leadership vision/ organisational culture

Thank you



science
& technology

Department:
Science and Technology
REPUBLIC OF SOUTH AFRICA



National
Research
Foundation