

RISE TO THE CHALLENGE: The Council's performance reflections

**Presentation to Science
Technology and Innovation
Colloquium**

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08 September 2022



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“Scientific inventions, at all conceivable levels, should enrich human life

...” Chief Albert Luthuli (first African winner of the Nobel Peace Prize), Oslo, December 1961



- ❑ The reflection, not an evaluation;
- ❑ Within a broader context
 - ❑ The pre-and current COVID-19 context.
 - ❑ The establishment of the new Department of Higher Education, Science and Innovation.
 - ❑ Science technology and innovation policy mix.
- ❑ Creates an opportunity to share and learn.
 - ❑ Policy renewal, deepening and responsiveness
 - ❑ System and institutional building
 - ❑ Driving a STI-enabled inclusive and sustainable socioeconomic development.

Legislative Mandate



Section 3 of the NACI Act (Act 55 of 1997)

“...advise the Minister for Science and Technology, and through the Minister, the Minister’s Committee and Cabinet, on the role and contribution of science, mathematics, innovation and technology, including indigenous technologies, in promoting and achieving national objectives”



SITUATING THE ROLE AND FUNCTIONS OF NACI WITHIN A BROADER CONTEXT



South Africa's problematic



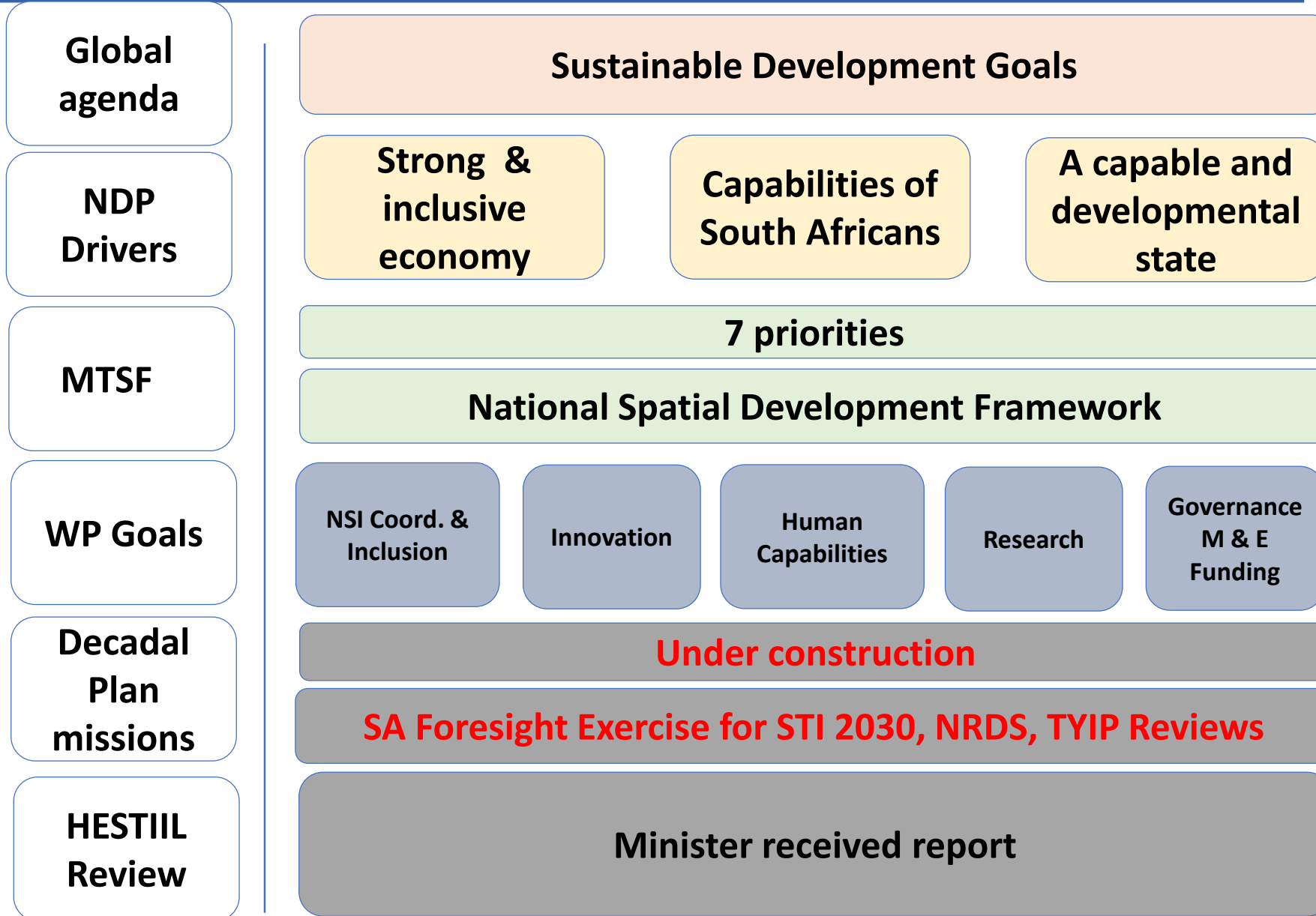
- ❑ Ongoing construction of South Africa (SA) as a constitutional democratic, non-racial, non-sexist, ethical, developmental and capable state.
- ❑ The character of the South African economy has not changed fundamentally and is stubbornly refusing to grow fast enough to create jobs.
- ❑ Social deficit-expressed in Gini coefficient, the yawning gap between the rich and poor, and highly racial and gendered poverty.
- ❑ As such, SA is characterised by uneven and unequal development on one hand and increasing demand for a better life and well-being on the other-***what should be the role of science technology and innovation?***



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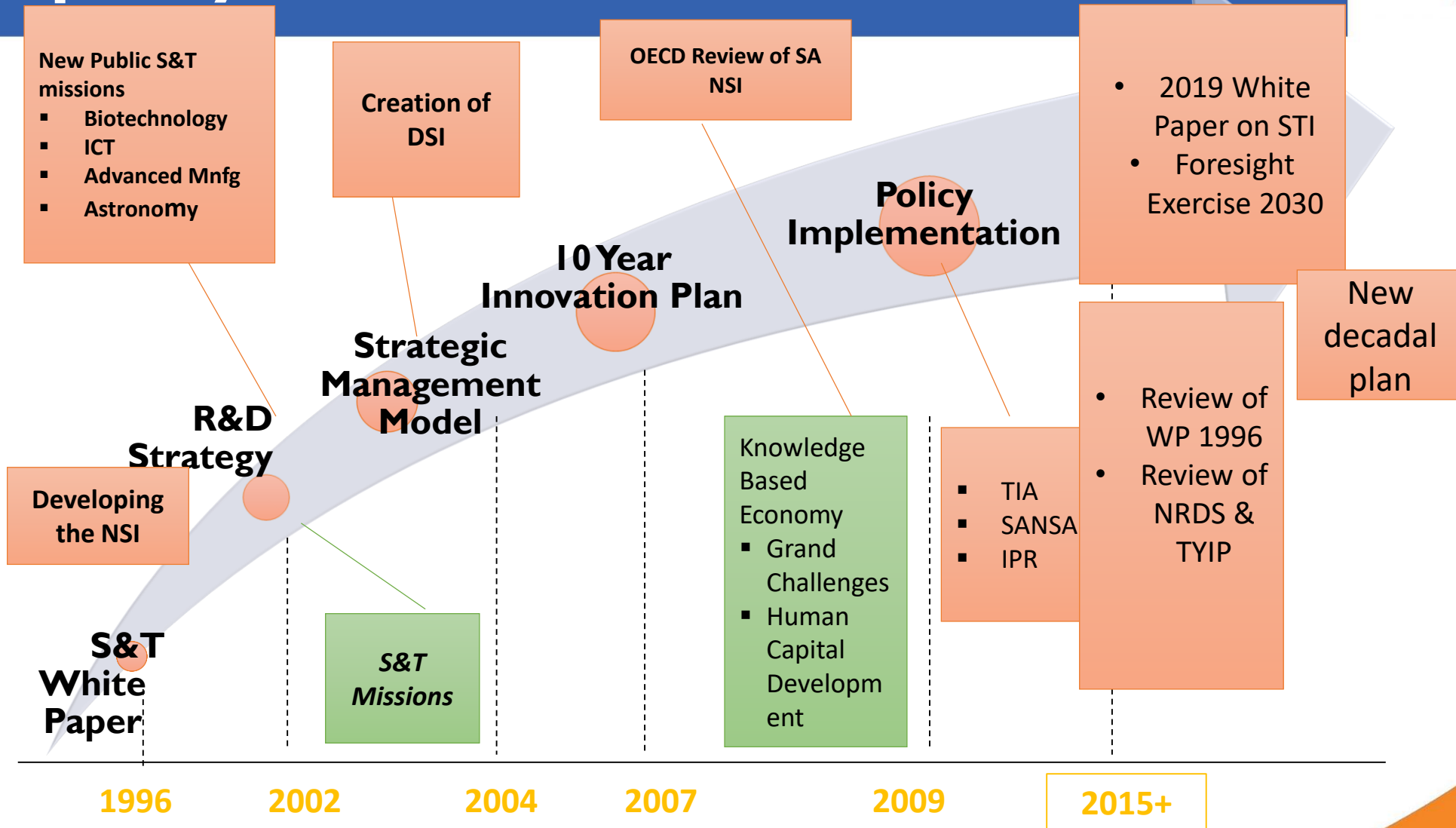
Evolving Policy context



Mega Trends



STI policy mix



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**...OPPORTUNITY TO SHARE AND
LEARN...**

....

Contributions (1)



❑ What we have done...

- ❑ Establishment of the Sovereign Innovation Fund;
- ❑ Review of the National Research and Development Strategy and Ten-Year Innovation Plan.
- ❑ The development of the National System of Innovation M&E Framework;
- ❑ South African Foresight Exercises for STI;
- ❑ Framework for the Development of the Decadal Plan for STI;
- ❑ NSI's support to National Health Insurance;
- ❑ STI Indicators and state of innovation in TVET College Reports.



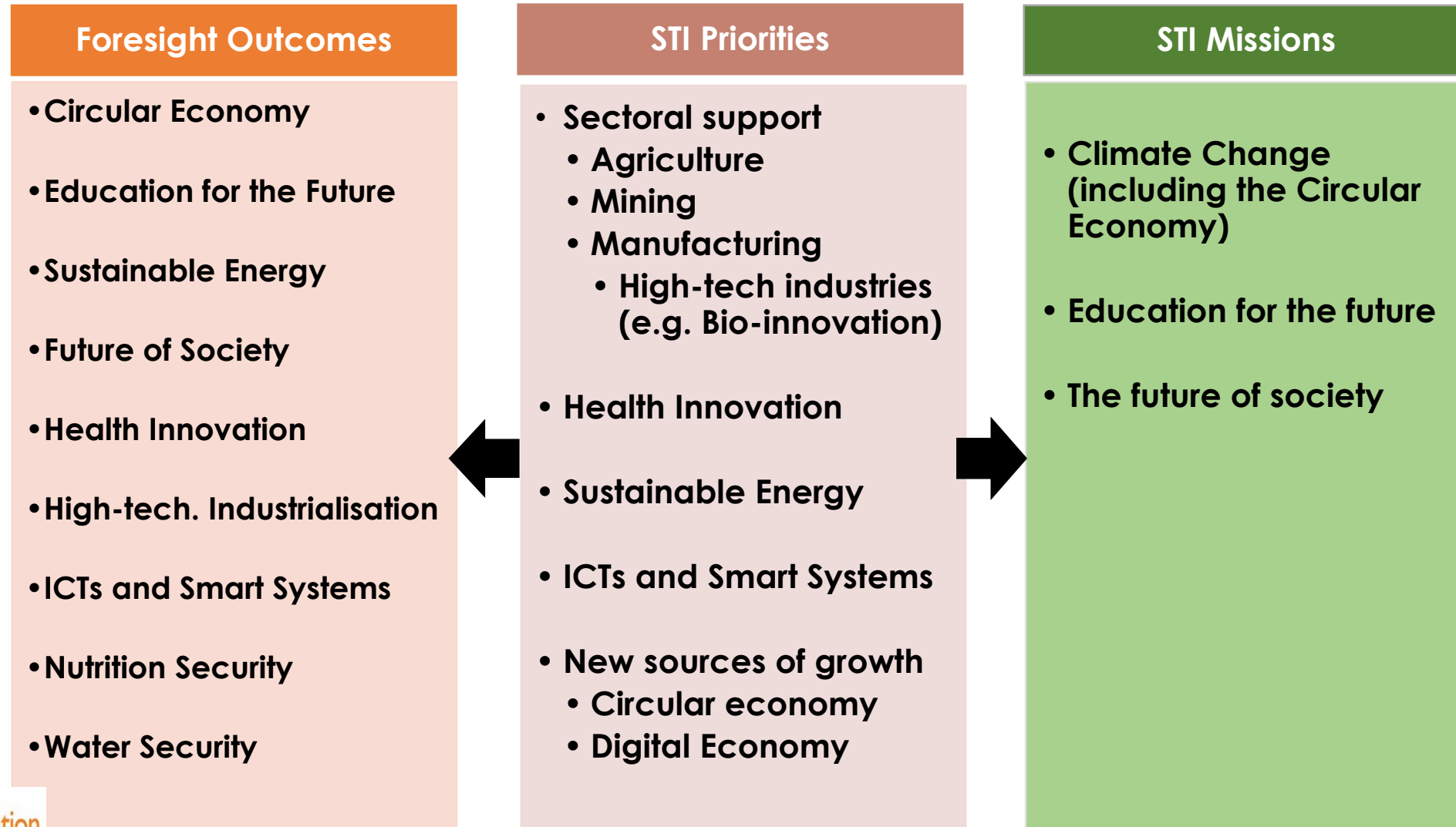
Vision of the White Paper: Science, technology and innovation enabling sustainable and inclusive development in a changing world

Approach in the White Paper: STI that builds on previous successes; embraces technological change for socio-economic and environmental impact

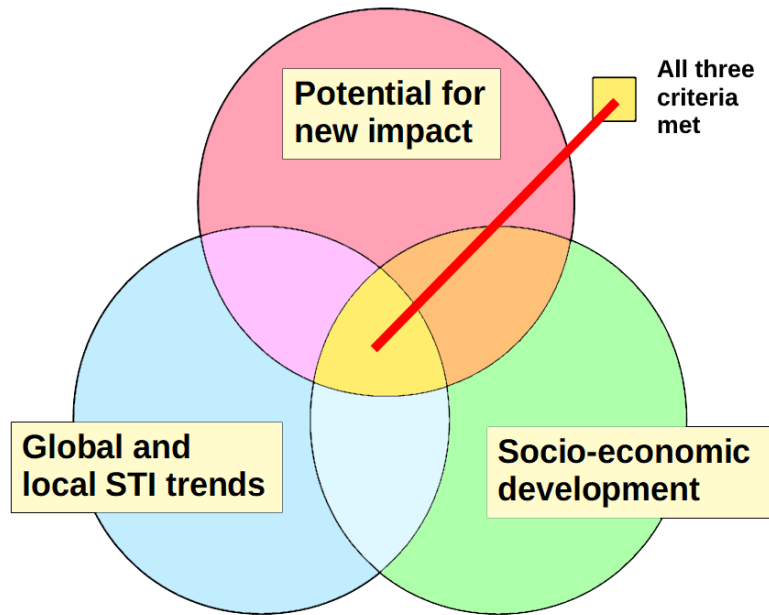
Decadal Plan has two mutually reinforcing aims:

- Pivoting the NSI towards making an increased positive impact on SA's socio-economic & environmental priorities
- Maintaining equilibrium between a focus on impact (e.g. inclusive innovation) and continued investment to develop the system (e.g. in systemic enablers such as knowledge creation and institutions)

Decadal Plan: Thematic focus areas

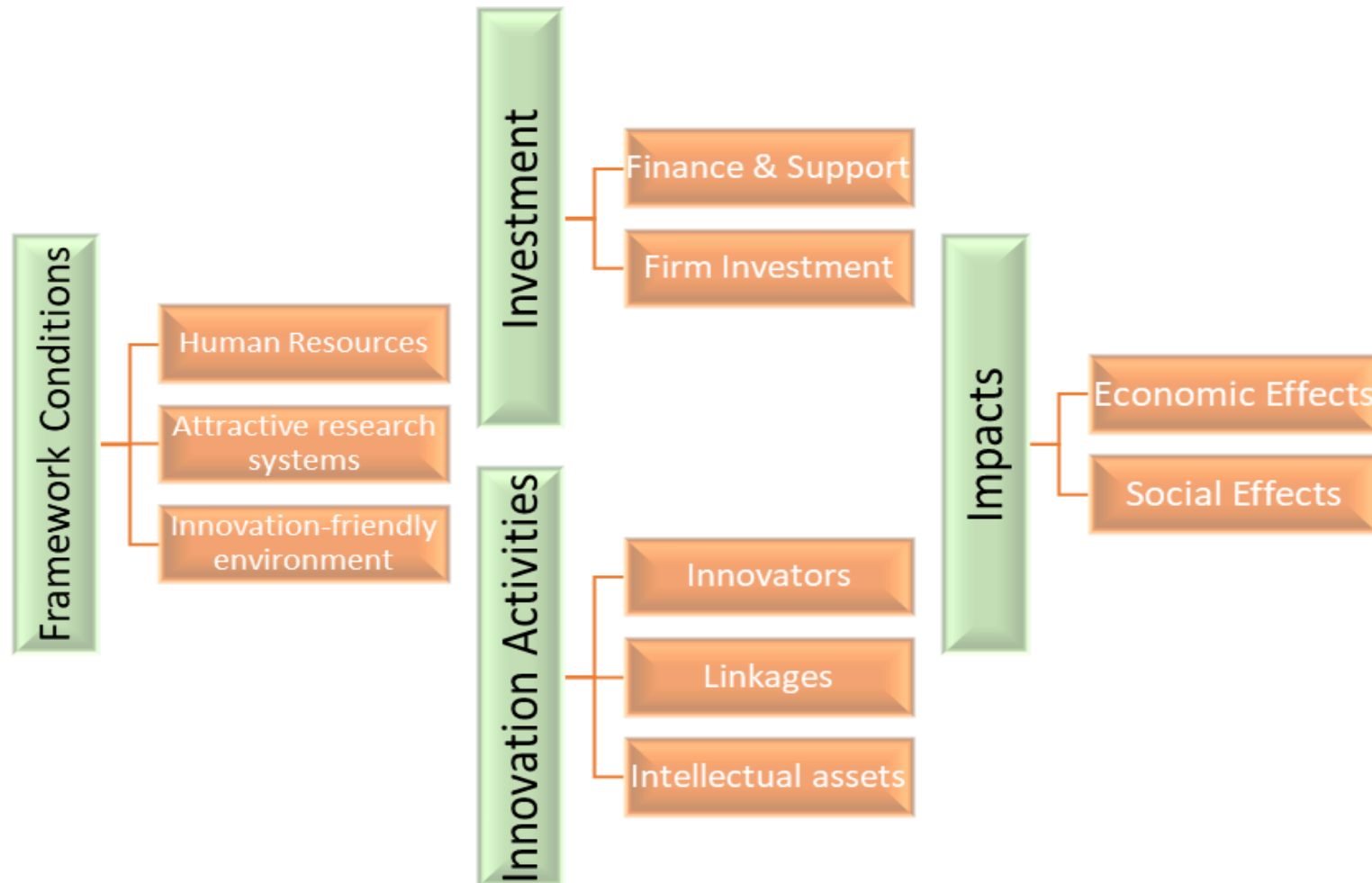


STI Domain Selection Process



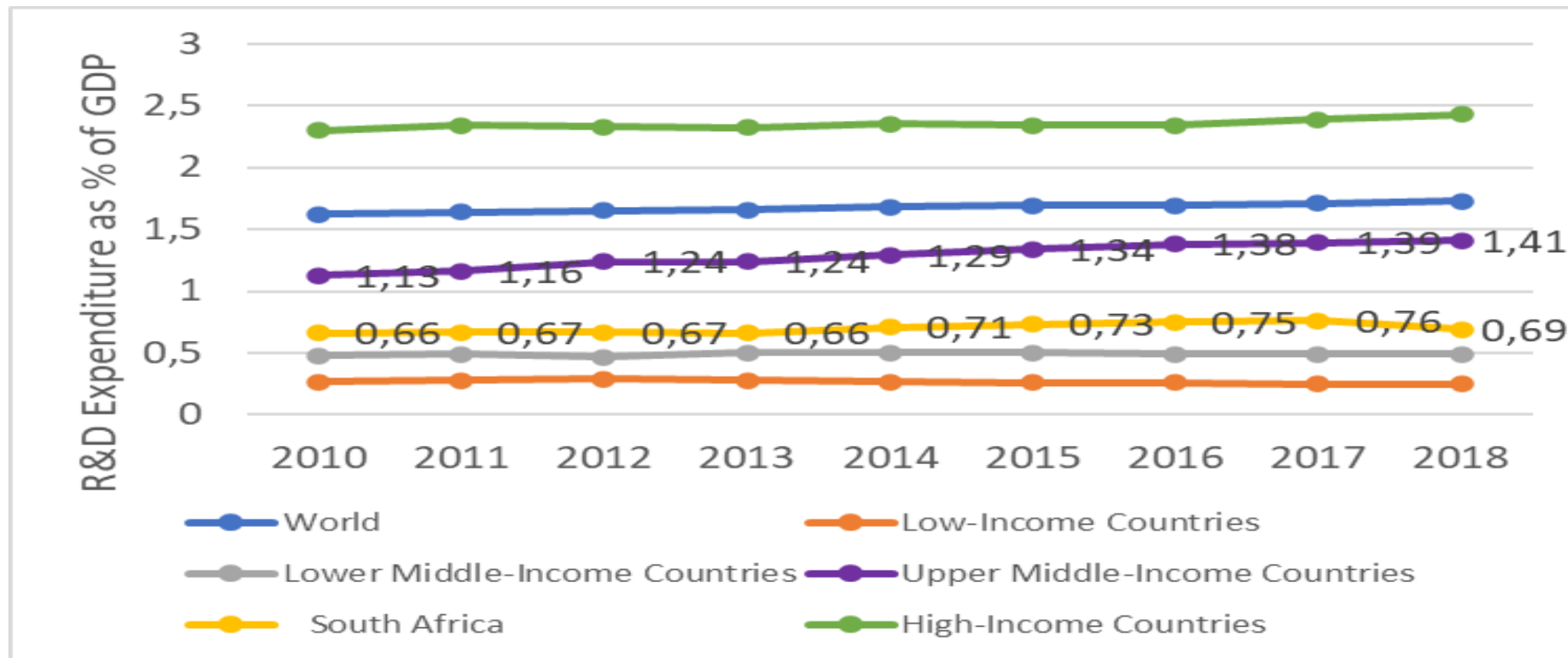
Top-level criterion	Impact category	Rating scale			
		1	2	3	4
Inclusive and sustainable socio-economic development which is in line with the vision of the NDP: <ul style="list-style-type: none"> Eliminate poverty Reduce inequality Reduce unemployment 	Relevance	Completely irrelevant to the NDP vision			Fully relevant to the NDP vision
	Scope of impact on citizens	Addresses only a niche or small need or pain point			Addresses a large or deeply experienced need or pain point
	Risk associated with achieving the anticipated impact	High			Low
Global and local science, technology and innovation trends	Degree of alignment with the identified STIs	Barely aligned			Highly aligned
	Risk associated with investing in the identified STIs	High			Low
Potential for new impact	Novelty	Currently generally available in SA			New to SA

South African Innovation Scorecard



STI Global Trends: R&D Expenditure Benchmarking

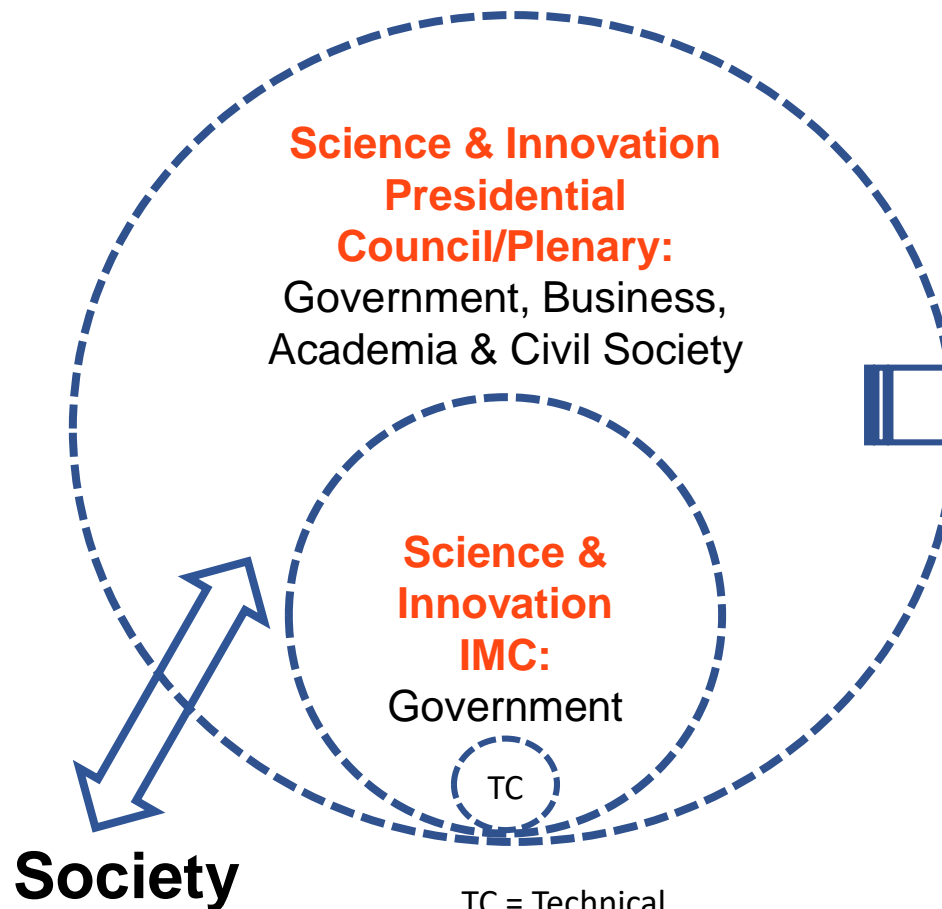
GDP rebasing resulted with adjustment of R&D intensity values; 2019 value is 0.62% for South Africa



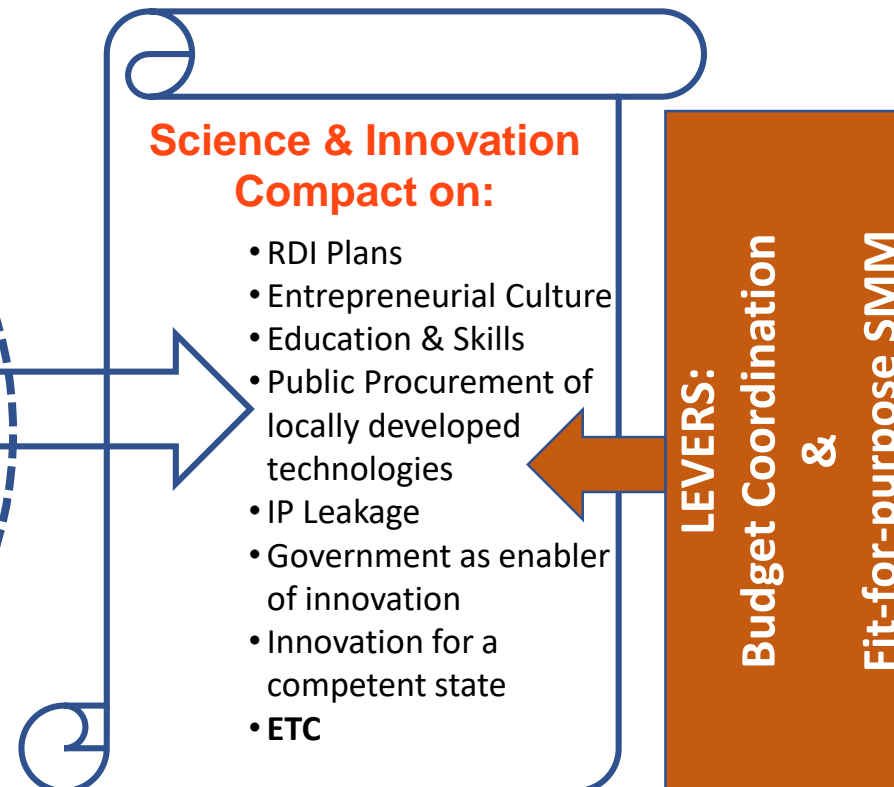
Source: UNESCO Institute for Statistics; OECD Main S&T Indicators; DSI/ HSRC 2019/20 R&D Survey Report

Science & Innovation coherence and coordination

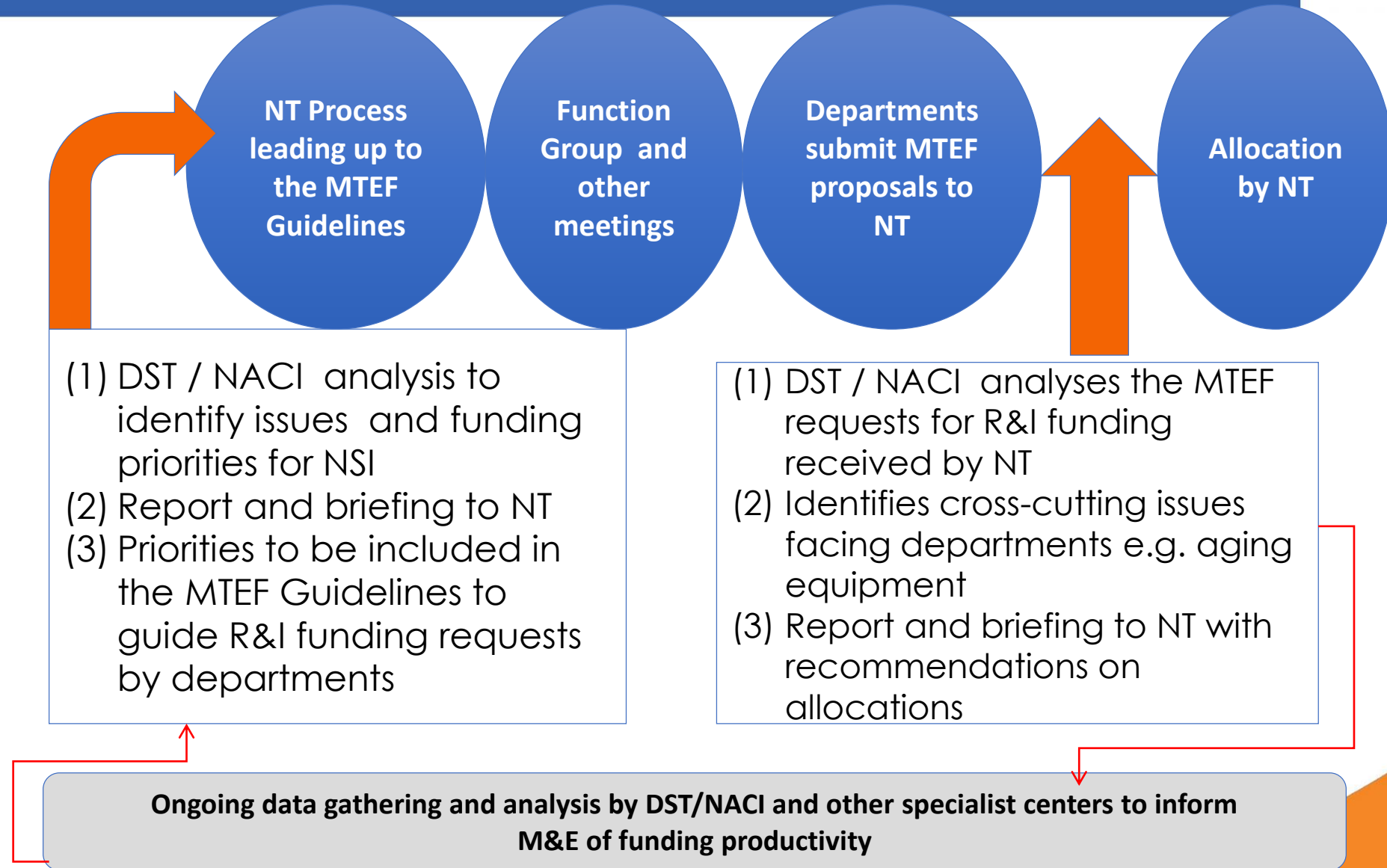
Structures for Consultation & Decision making



Topics/Contents of Consultations & Decisions



Budget Coordination Model



- ❑ Science, Technology and Innovation (STI) Integrated Regional Agenda on Renewable Energy;
- ❑ Assessing the utility-scale energy storage;
- ❑ Impact of imported technologies in South Africa;
- ❑ Water security;
- ❑ Industrialisation through innovation;
- ❑ Transformation of NSI agenda;
- ❑ National STI Information and Data portal.

Enabling technologies for promoting social inclusion

Harnessing **enabling technologies** for accelerated development and growth

- **Enabling technologies** for promoting social inclusion

Prerequisite for uptake :

Increase in connectivity, rapid roll-out of infrastructure This is a low-hanging fruit.

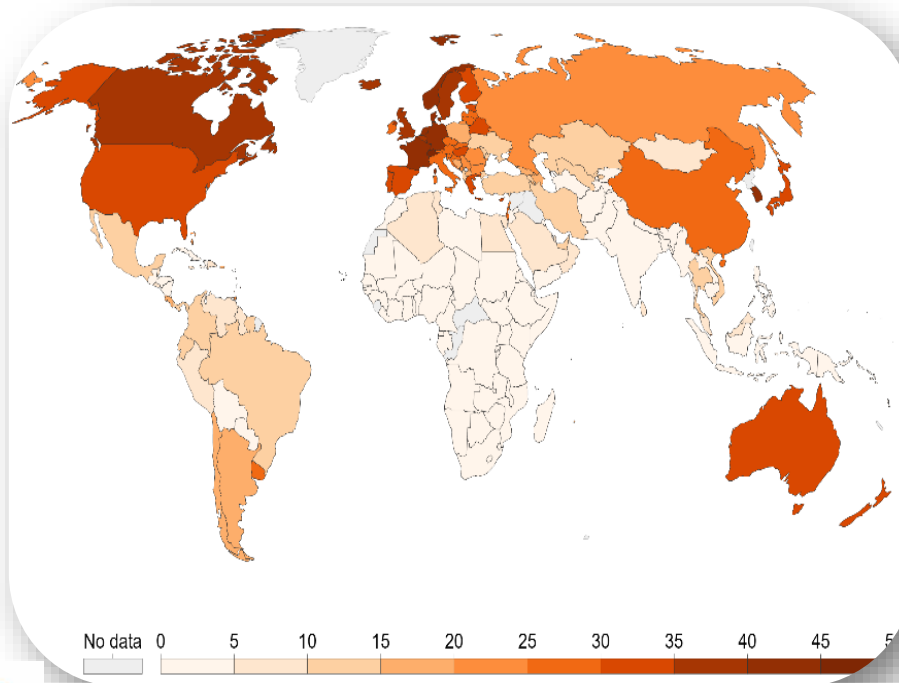


Figure 5 Broadband subscriptions per 100 people, 2017

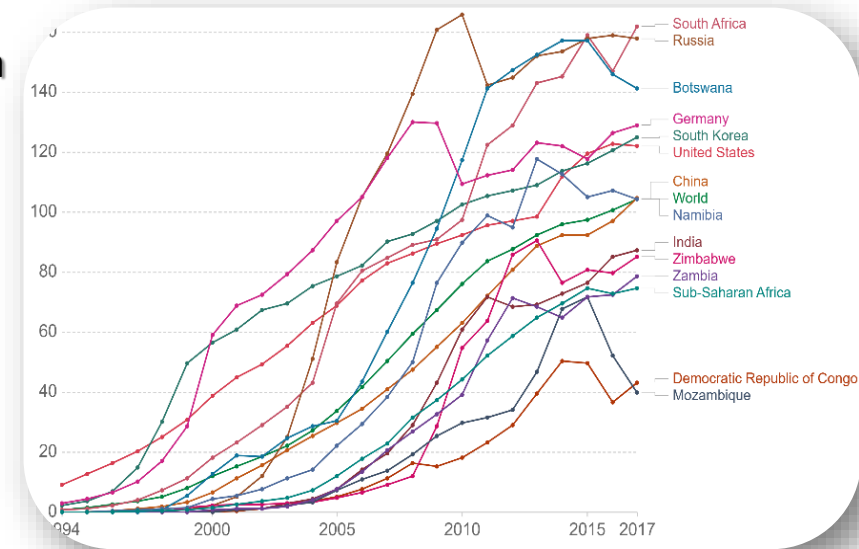


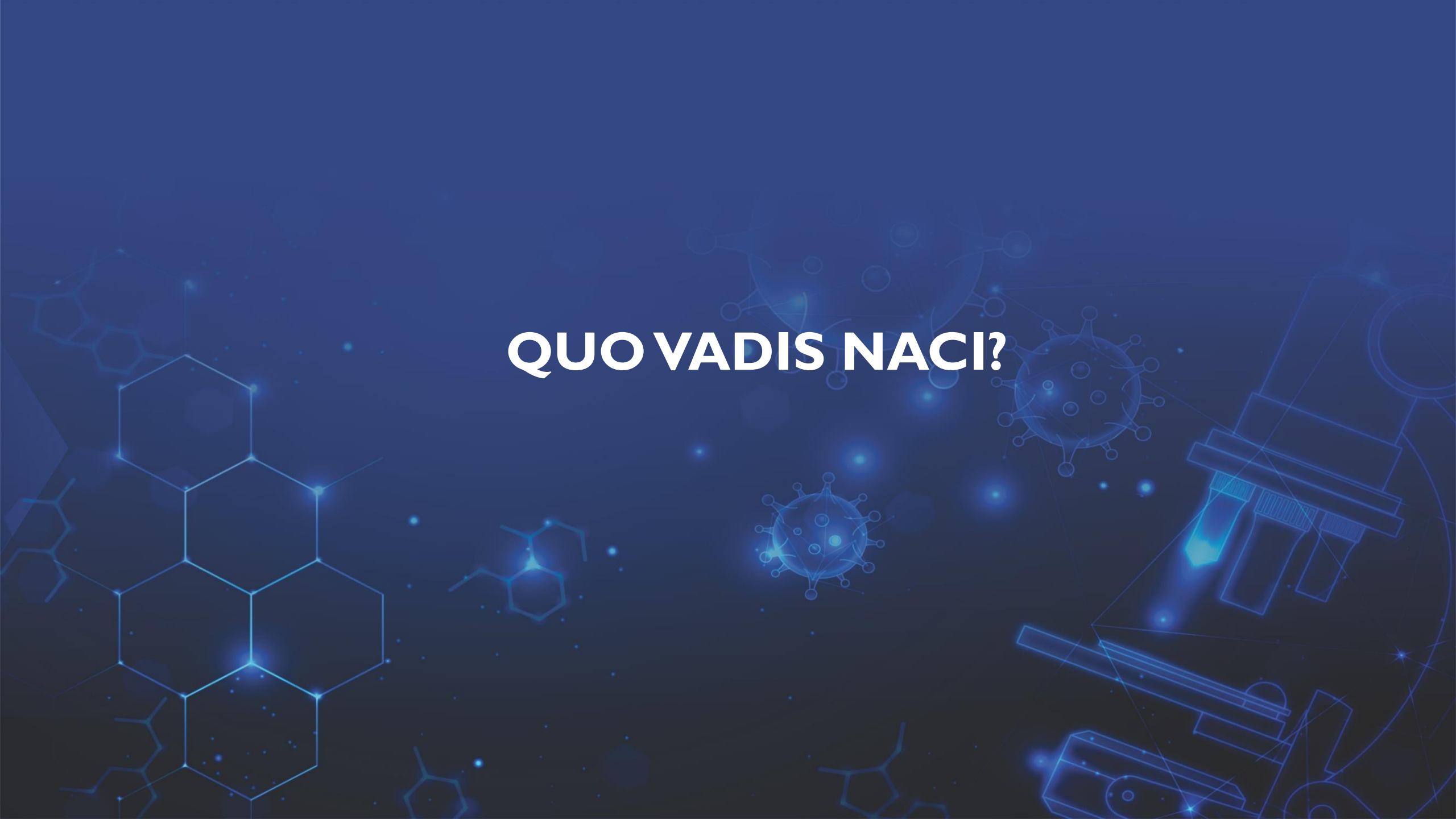
Figure 4 Mobile cellular subscriptions, 1994 to 2017

Enabling Technologies can compensate for lack of infra-structure by leapfrogging through enabling technology:

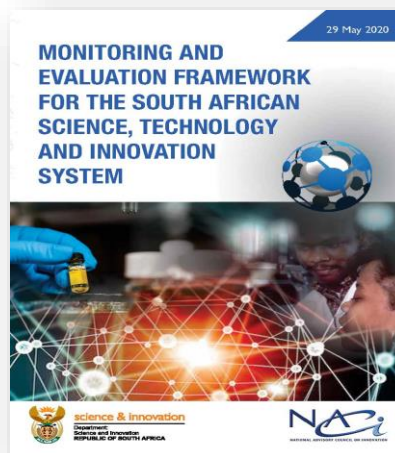
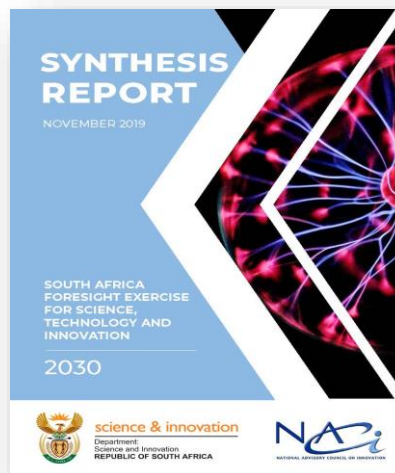
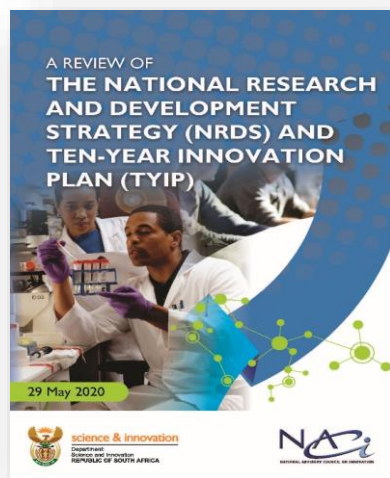
- Communication
- Renewable energy, etc.

- ❑ Women's participation in science engineering and technology;
- ❑ Assessment of maths and science education interventions;
- ❑ Audit of the bio-economy;
- ❑ Retaining Local Patents and Technologies;
- ❑ Development of AI and RDI Cybersecurity Strategies;
- ❑ International partnerships-e.g. AU-EU Innovation Policy and Agriculture and Food Nutrition, BRICS, HSE, OECD.

QUO VADIS NACI?



- ❑ The renewal and repositioning agenda;
- ❑ Enhance the quality, relevance and efficacy of advisory services;
- ❑ Participation in the STI Inter-Ministerial Committee and Presidential Plenary;
- ❑ Institutionalisation of M&E and Foresight Exercise for STI;
- ❑ Advance NSI transformation agenda;
- ❑ Deepen domestic, continental and international partnerships.



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INNOVATION POLICY AT THE INTERSECTION

GLOBAL DEBATES & LOCAL EXPERIENCES



EDITED BY

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

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