

# The DSTI-led Bioeconomy Strategy

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# SA Bioeconomy Strategy

## Bio-economy Strategy (2013-14) (Science-based Innovation focus)

To be a **significant contributor** to the country's economy by 2030, in terms of the **gross domestic product (GDP)**, through the creation and growth of **novel industries** that generate and develop **bio-based services, products and innovations**, with a corresponding growth increase in new and existing companies.

Approach: (1) **Coordination**; (2) **NSI development**;  
(3) **Strategic programmes**

4 thematic programmes: ➔ **Agriculture** (modernize, digitize)

➔ **Industry & Environment** (industrial base)

➔ **Health** (Nat health priorities)

➔ **Indigenous Knowledge-based Technology Innovation** (mainstream)



### DFFE: National Biodiversity Economy Strategy

- Wildlife Economy
- Bioprospecting and Biotrade
- Ecotourism
- Marine & freshwater Resources
- Ecological infrastructure

### ABIPP

Driving Ag for small scale farmers; resilience; 1<sup>o</sup> production efficiencies, food security,

### SIIP

Biomass/biomanufacturing start ups: growing the bioeconomy.

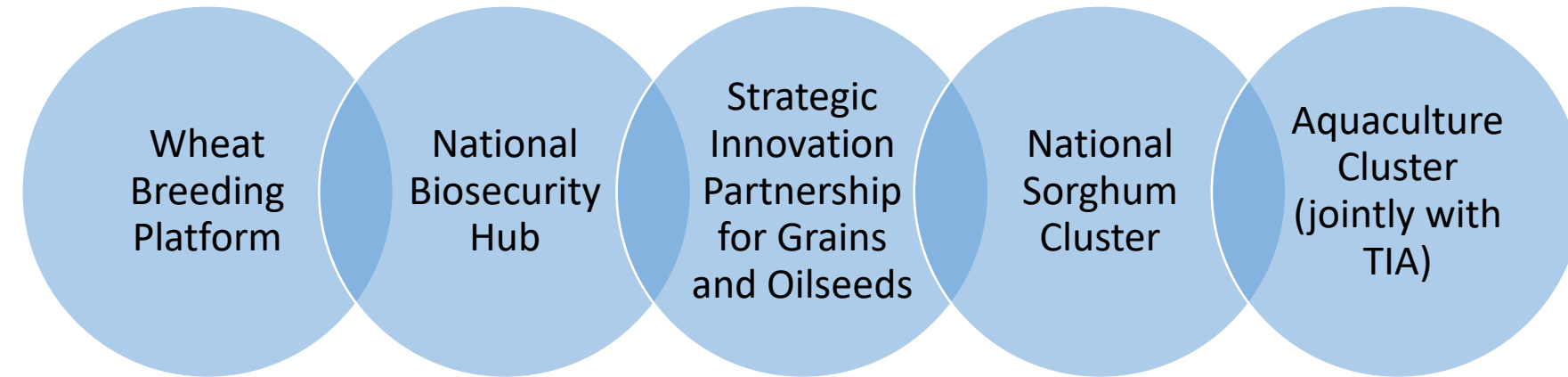
### SHIP

Health outcomes for SA burden of disease.

### IKS Institute

Scaling successes in IKbTI, rural development.

# Key Strategic Flagship Programmes of the Agricultural Bio-economy Innovation Partnership Programme (ABIPP)



Pre-Breeding  
New varieties:

- High yields,
- Drought tolerant
- Disease resistance

1200 Lines released  
30 cultivars registered

Plant Health,  
Animal Health,  
Food Safety,  
Early Warning  
Systems

Digital pilot -  
Information Hub  
funded – yr 3;  
Co-funding from  
DALRRD;  
5 M - contract in  
place.

Consortium  
(Grains&oilseeds);  
Climate Resilience;  
HCD;  
Agroprocessing and  
farmer development

Total funding to  
date:67.5 M over 5  
yrs - 2017/18-  
2022/23.  
Co- funding of  
R50 M per annum.

Pre-breeding,;  
Agro-processing;  
Awareness;  
Zero VAT rating;

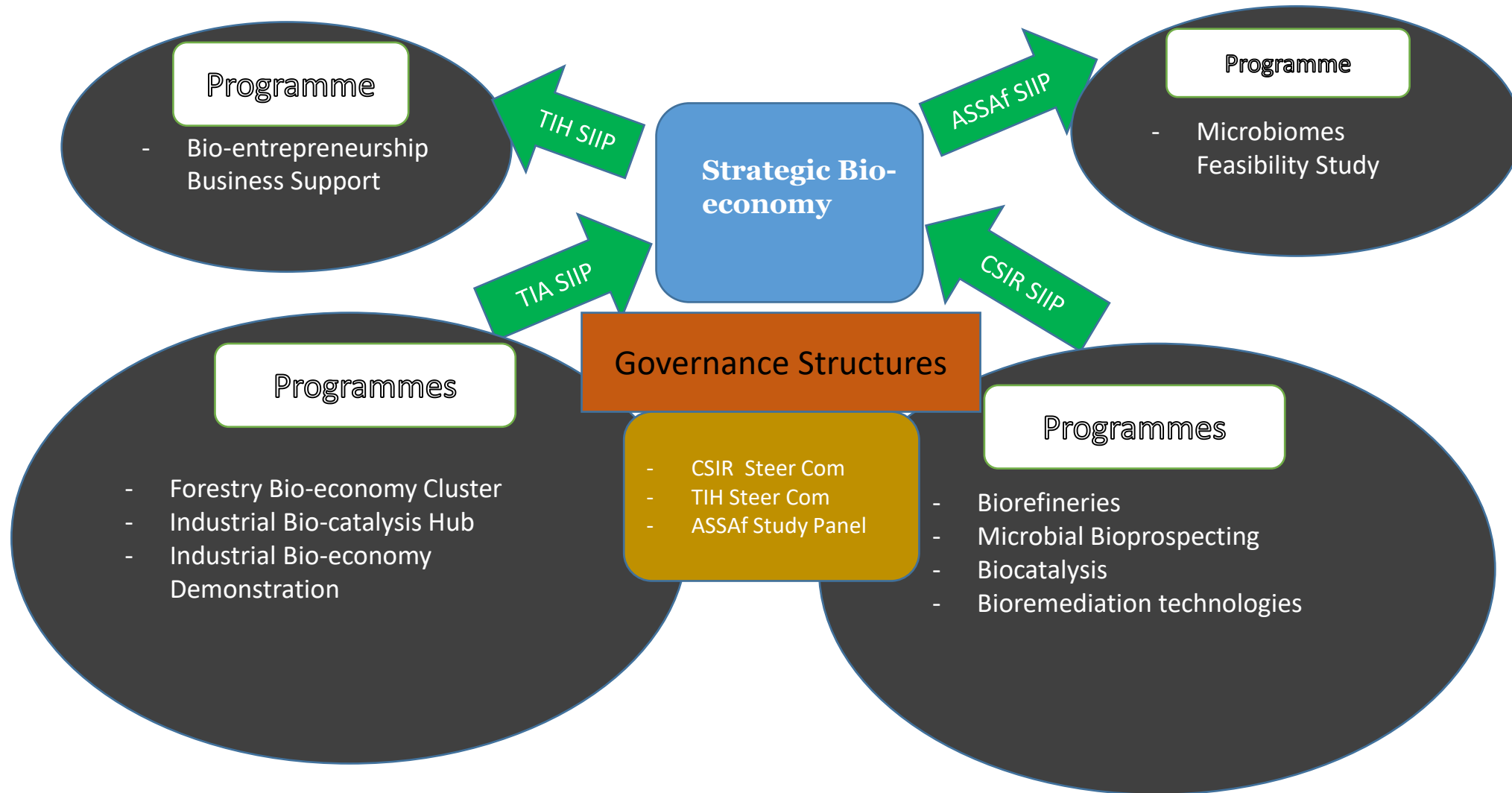
R6.7m invested  
by ABIPP. R1  
274 691 co-  
funding  
New.

Support  
smallgrowers  
New species  
Feed formulation  
Biosecurity

10 prototypes:  
two low-tech spirulina  
prototypes; one  
diagnostic kit (TRL  
6); demonstration  
and launch of seven  
canned products by  
Karoo Catch (TRL 7).



# Key Strategic programmes of the Industry & Environment - SIIP Programme



# Indigenous Knowledge-based Tech Innovation – key programmes

## African Bio-Innovation Institute Virtual Centres

African Natural (Herbal) Medicines

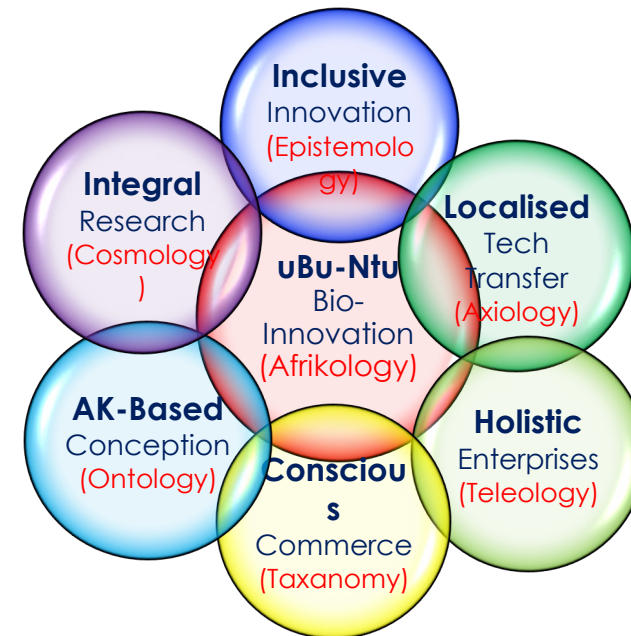
Cosmeceuticals (Health and Beauty)

Nutraceuticals (Food and Nutrition)

Health Infusions (Health - Well-Being)

Manufacturing-Commercialisation

Curriculum Development - Training



# Some SA Bioeconomy outputs



- Capacity development
- Technology platforms
- Financial instruments for STI
- Coordinating NSI

SA Bioeconomy  
~8.3% GDP, 1.5M jobs  
>240 SMEs in Bioportal  
Plus 150 Biotrade SMEs  
- Improving metrics for SA Bioeconomy

- **Enzymes & Reagents**
- **Proteins** (Yeast & lysine for feeds)
- **Biomaterials** (vehicle dashboards, etc)
- **Neutraceuticals** (nutritional security; flavourants; etc)
- **Cosmeceuticals**
- **Therapeutics**
- **Crop improvement** (eg. Heat /drought/salt tolerance/ biomass characteristics)
- **Oligo's & short sequencing**
- **Bio services** (laboratory services, test organelles)
- **Vaccines** (mRNA, animals)
- **Alge biomass**
- **Biopharming** (proteins & enzymes)
- **Water treatment & detergents**
- **Bioplastics** (fishing nets, etc)

# Some conclusions: SA Bioeconomy

- Need to improve innovation delivery into private (& public) sector & leverage co-funding.
- Need to continually engage with stakeholders to improve functionings of the NSI (regulatory burden).
- Need to harness global bioeconomy interests into local opportunities (funding, skills, infrastructure, metrics, market development, etc).
- Regional Bioeconomy Strategy.

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

**M** Making **sure** it's **possible**