



## ADDENDUM

### REVISIONS TO THE STRATEGIC PLAN 2020 - 2025



**science & innovation**

Department:  
Science and Innovation  
REPUBLIC OF SOUTH AFRICA



**technology innovation**  
**A G E N C Y**  
Innovating Tomorrow Together

## Summary of amendments

This document serves to provide the revised changes applied to the Annual Performance Plan 2020/2021 tabled to the Parliamentary Portfolio Committee on Higher Education, Science and Technology on the 19 May 2020 for consideration. The amendments effected reflect the review undertaken by the Board and Executive Management.

## Situational Analysis

On page 17 additional narrative is added at the end of the “Situational Analysis” to read as follows:

The year 2020 saw South Africa experiencing the onslaught of the COVID 19 pandemic, accompanied by a mandatory national lockdown that saw many company closures, retrenchments and general loss of income by both rich and poor. Briefly put, this placed South Africa in an economic and health crisis that continues to this day. This also came on the back of the country's credit rating by Moody's being downgraded from Ba1 to Baa3 on account of low economic growth rate and rapid increase in government debt, expected to reach an estimated 91% of GDP by 2023.

The Department of Science and Innovation has, in response to these challenges, identified a three-pronged approach around which to mobilise the Science, Technology and Innovation sector. These include, a focus on health directly connected to urgent responses to the pandemic; prioritising interventions to promote economic recovery and a special attention to addressing challenges of societal distress. TIA's Strategy has thus been revised to ensure that in executing the strategic pillars, special emphasis is placed on these perspectives. TIA will support the three-pronged approach of the DSI in the following manner.

### i) Health

- Provide financial and non-financial support to technological innovations that will contribute to South Africa's response to COVID-19.
- Support the development of innovative technologies and take advantage of the fourth industrial revolution (4IR) and the green economy.

### ii) Economic recovery

- Translation of publicly-funded research into commercial technology products and services to revitalise existing industries and establish new ones.
- Implement sector master plans by investing in emerging and advanced technologies to enhance the competitiveness of TIA-funded innovations.

### iii) Societal distress

- Expand the use of scientific knowledge in support of innovation for societal benefit.
- Promote and encourage participation in the technology innovation value chain by historically disadvantaged institutions.

## Revisions to Section 8 – Budget Allocation for the 2020-2025 strategic period (page 48)

Figure 18: Budget for the 2020-2025 strategic period – this has been replaced as below.

### Technology Innovation Agency: 5 Year Strategic Budget plan

	Budget 2020/21 R' 000	Budget 2021/22 R' 000	Budget 2022/23 R' 000	Budget 2023/24 R' 000	Budget 2024/25 R' 000	Total over 5 years R' 000
<b>Administration</b>	<b>165 558</b>	<b>163 369</b>	<b>171 538</b>	<b>180 115</b>	<b>189 120</b>	<b>869 700</b>
Support and infrastructure cost	56 220	54 031	56 732	59 569	62 547	289 099
Human Resources	109 338	109 338	114 805	120 546	126 573	580 601
<b>Investments</b>	<b>396 614</b>	<b>419 917</b>	<b>433 288</b>	<b>447 577</b>	<b>462 568</b>	<b>2 159 964</b>
Bio-economy	180 054	201 225	208 542	216 270	225 439	1 031 530
Technology stations	92 442	94 364	96 382	98 501	100 726	482 415
Commercialisation	76 368	74 978	79 014	83 456	87 053	400 869
Innovation Enabling	47 750	49 350	49 350	49 350	49 350	245 150
<b>Total Expenditure</b>	<b>562 172</b>	<b>583 286</b>	<b>604 825</b>	<b>627 692</b>	<b>651 689</b>	<b>3 029 664</b>
<b>Total funding received</b>	<b>562 172</b>	<b>583 286</b>	<b>604 825</b>	<b>627 691</b>	<b>651 688</b>	<b>3 029 663</b>
Allocation from DSI	410 272	430 786	452 325	474 941	498 688	2 267 013
Baseline (Other than Bio-economy and Technology stations)	195 683	205 468	215 741	226 528	237 854	1 081 274
Bio-economy	176 147	184 954	194 202	203 912	214 108	973 324
Technology stations	38 442	40 364	42 382	44 501	46 726	212 415
Additional income target	142 000	142 000	142 000	142 000	142 000	710 000
Interest	9 900	10 500	10 500	10 750	11 000	52 650
Surplus/Deficit	-	-	-	-	-	-

### Page 49:

#### Staff and administrative costs

Staff Costs - Replace "R598 million" with "R581 million"

Support and infrastructure - Replace "R311 million" with "R289 million"

Savings - Replace "R361 million" with "R409 million"

#### Investment Funding

##### Bio – economy

Replace "R1.1 billion" with "R1.0 billion"

##### Technology Stations

Total Allocation – Replace "R505 million" with "R482 million"

##### Sector Funding (Commercialisation)

Replace – "R460 million" with "R401 million"

##### Innovation and Enabling

Replace – R306 million" with "R245 million"

##### Other Income

Replace "R770 million" with "R710 million"

Revisions have been effected on Part C” Measuring Performance” and these changes are indicated in the relevant sections below.

## Part C: Measuring Performance

### Institutional performance information

#### Impact statement

Impact statement	Improving the quality of life of all South Africans through innovation.
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#### Measuring outcomes

##### Outcome 1: Commercialised innovations

MTSF priority	Priority 2 (economic transformation and job creation) and priority 3 (education, skills and health)		
Outcome statement	Outcome indicator	Baseline	Five-year target
Commercialised innovations	1.1 Number of technologies commercialised	77	175

The numbering for MTSF Priorities 1 (Economic Transformation and Job Creation) and 2 (education, skills and health) have been changed to 2 and 3 respectively to reflect the numbering order as per approved MSTF

The Five-Year target for “Number of technologies commercialised” has been increased from 100 to 175. (page 51)

#### Explanation of planned performance over the five-year period

Under paragraph (a) reference had been added to TIA intention to contribute to economic recovery and addressing the COVID 16 pandemic and societal distress.

- a) Through this outcome, TIA will respond to priority 2 (economic transformation and job creation) and priority 3 (education, skills and health) of government’s 2019-2024 Medium-Term Strategic Framework. TIA aims to support the development of technologies linked to the implementation of the sectoral master plans, all of which are aimed at promoting industrialisation, localisation and exports. TIA also aims to support the commercialisation of technologies to improve competitiveness and stimulate economic recovery. This includes the adoption of information and communications technologies, contributing to an increase in GDP, and stimulating job creation. TIA will also

contribute to addressing the impact of COVID-19, societal distress, geographic disparities, rural development, transformation and inclusive development. TIA will contribute to transformation by adopting an approach that promotes the creation of technology-based enterprises owned by black youth, women, and people with disabilities.

b) Enablers

Under this section, bullet point 1, an addition is made to leveraging funding of R1 billion of the MTSF

The following will be critical for TIA to achieve its outcomes:

- Strategic sourcing of high-potential projects through partnerships and the ecosystem approach for collaborative funding. A total amount of R1 billion will be leveraged over the five-year period.
- Sectoral thematic networks to underpin industry alignment for project sourcing and the promotion of co-funding of projects.

c) Contribution of outcome to achieving impact

Commercialising innovations will enable TIA to de-risk the development of technological innovations by leveraging existing and new partnerships. This will, in turn, enable the agency to support and commercialise many innovations that will result in a greater social impact and improve the quality of life of many South Africans.

**Outcome 2: Delivering on the Bio-economy Strategy**

MTSF priority	Priority 2 (economic transformation and job creation) and priority 3 (education, skills and health)		
Outcome statement	Outcome indicator	Baseline	Five-year target
Stimulating a productive bio-economy through innovation	2.1 Number of successfully demonstrated bio-based technologies	New KPI	75
	2.2 Number of bio-based entrepreneurs and organisations accessing high-end science, engineering and technical services	New KPI	600

Revisions have been made to the Numbering for the MTSF Priorities in the table Outcome Indicator 2.1 has been changed to “Number of successfully demonstrated bio-based technologies” and the target has been changed to 75.

## Explanation of planned performance over the five-year period

a) In terms of this outcome, TIA will primarily contribute to the DSI's commitment to priority 2 (economic transformation and job creation) of government's 2019-2024 Medium-Term Strategic Framework. The agency expects that the metrics will assist in tracking its contribution to the mobilisation of government and business expenditure towards research and development, while creating commercial opportunities that will eventually lead to the transformation of South Africa's economy to a knowledge-based economy. TIA will also support priority 3 (education, skills and health) of government's 2019-2024 Medium-Term Strategic Framework in that it seeks to invest in and support technologies that will address the diagnosis, treatment and management of priority areas of communicable and non-communicable diseases.

### b) Enablers

The implementation of the Bio-economy Strategy recognises that in addition to identifying strategic focus areas, TIA must also deliver its offerings efficiently and effectively. To this end, several key interventions are planned and will be monitored and tracked within the annual bio-economy work plan:

- **Bio-entrepreneurship:** There is a need to provide post-investment support for TIA's beneficiaries beyond simple project and programme management. Business enterprises require interventions to continuously adjust and validate business models, build appropriate internal capacities, raise further rounds of funding, and access markets, among other activities. TIA will adopt an ecosystem model using its growing network of incubators and accelerators to support this initiative.
- **Adopting a value-chain approach to investments:** TIA will take a value-chain approach to conducting its investments. This will be a marked departure from the project-by-project approach it has adopted since its establishment. An 80/20 split between targeted calls and unsolicited applications will be adopted. This is also expected to have a positive impact on the long turnaround times for applications.
- **Strategic partnerships and fundraising:** There is a growing need for TIA to maximise its resources to support technology development and commercialisation. TIA will build on its recent partnership success with the creation of the Biotech Fund to attract funding from the private sector. Another opportunity is the roll-out of the Natural Products Fund to coordinate funding from the public sector to support technology-based enterprises. It is also envisaged that the value-chain, or programmatic, approach will enhance TIA's chances of attracting industry co-funding and technology-based solutions that address common industry challenges.
- **Historical portfolio alignment:** Significant funding has gone into bio-innovation projects since TIA's establishment. There is a need to align this portfolio with the selected focus areas and retain value and promote the progression of such investments. As such, TIA will create a matchmaking marketplace to promote other funders' uptake of these technologies. TIA will use

the initiatives such as the BIO Conventions, Bioportal and Innovation Bridge as mechanisms to achieve this.

- Communication: Over the next five years, TIA will adopt a dedicated strategy to communicate with stakeholders to improve its visibility and public engagement. The DSI has selected the agency to host the national bio-economy portal. This initiative is aimed at improving the exchange of information among individuals and organisations in the bio-economy sector; and facilitating communication, improving cohesion, and promoting functional integration and collaboration. The bio-economy portal is envisaged as a user-friendly, integrated and data-rich resource that will offer quality, valuable data and analytical capacity to all stakeholders. This communication initiative, including TIA's participation in the BIO Conventions, must be consolidated into a coherent strategy of active and consistent engagement with the public, and convey TIA's activities in the Bio-economy programme and other developments in the sector.

c) Contribution of outcome to achieving impact

In line with its mandate, TIA must support technology to advance projects towards commercialisation. Accordingly, the agency aims to ensure that its implementation of the Bio-economy Strategy addresses the strategy's ambition for science, technology and innovation to be key contributors to GDP.

**Outcome 3: Small, medium and micro enterprises supported through strategically informed and regionally distributed Technology Stations**

<b>MTSF priority</b>	<b>Priority 2 (economic transformation and job creation)</b>		
<b>Outcome statement</b>	<b>Outcome indicator</b>	<b>Baseline</b>	<b>Five-year target</b>
Small, medium and micro enterprises supported through strategically informed and regionally distributed Technology Stations	3.1 Number of small, medium and micro enterprises accessing science, engineering and technical services	10 530	15 750

**Explanation of planned performance over the five-year period**

- a) Through this outcome, TIA will contribute to priority 2 (economic transformation and job creation) by investing in new forms of technology development infrastructure in partnership with other role players in the National System of Innovation, and increasing access for innovators across the country to receive science, engineering and technical support. The Technology Stations programme will be closely aligned with relevant industrial sectors to promote innovation-led industrialisation, localisation and the promotion of exports. This will be in line with the sectoral master plans that are under development, led by the Department of Trade, Industry and Competition.
- b) Key enablers
- Partnership with relevant industry stakeholders.
  - Availability of funding through the Infrastructure Fund.
- c) Contribution of outcome to achieving impact
- Technology infrastructure will enable innovators and small, medium and micro enterprises to commercialise their technologies and improve the competitiveness of their products, leading to job creation and localised economic growth.



## Key risks

TIA employs a robust, systematic process at the operational and strategic levels, which is integrated and central to its strategic planning process. The applied methodology is derived from the prescripts of the Committee of Sponsoring Organisations' Enterprise Risk Management Framework, ISO 31000 on Risk Management, National Treasury's Public Sector Risk Management Framework, the Institute of Risk Management South Africa's risk principles, and TIA's Risk Management Policy.

A review of the risk landscape will be undertaken once the priorities for the DSI's Decadal Plan and the five-year Technology Stations Programme work plan are approved. A review was undertaken to determine the emerging risk profile, the results of which were tabled and approved at the Enterprise Risk Management Committee, Executive Committee and the Audit and Risk Committee, which are outlined in Table 3:

Table 3: Strategic risk and mitigation plans (2020-2025)

Outcome	Key risk	Risk mitigation
1. A sound governance administration	The risk that TIA cybersecurity systems might fail due to enhanced cyber-attacks on current operating system vulnerabilities	Increased monitoring of IT system vulnerabilities through enhanced automated system assessment
	The risk that TIA's governance practices may not be adequate in detecting and preventing instances of fraud, bribery and corruption	Strengthen internal control policies and processes for regulating contracting with third parties
	The risk that the TIA management does not have the capability to deliver on the strategy	Managed implementation of the organisational realignment through phased adoption based on planned performance requirements over the strategic cycle
2. A sustainable Bio-economy Strategy	The risk that TIA's demand for technology development funding emanating from the investment pipeline may exceed available funding resources available	Mobilisation of funding through strategic partnerships with key public and private institutions, locally and internationally
	The risk that TIA's investment and administrative operations may not effectively be addressing environmental sustainability considerations in relation to the pursuance of its strategic objectives	Formulation of appropriate policies and controls to ensure that considerations into the impact on the environment are observed

<p>3. Sustainable Innovation infrastructure</p>	<p>The risk of the affordability and sustainability of infrastructure</p> <p>Cost of preventative maintenance and replacement of old and redundant equipment</p>	<p>Regular health checks done on all infrastructure</p>
<p>4. Successfully bridging the innovation chasm</p>	<p>Lack of adequate, knowledgeable and skilled resources to execute this planned outcome (lack of commercialisation skills)</p> <p>Unable to form strong partnerships due to TIA's reputation</p>	<p>Targeted recruitment and headhunting</p> <p>Drastically improve stakeholder relations</p>

## **Part D: Technical Indicator Descriptions**

### **Outcome 1: Commercialised innovations**

#### 1.1 Number of technologies commercialised

Titles of officials under “Indicator Responsibility” have been changed from General Manager to Executive

### **Outcome 2: Delivering on the Bio-economy Strategy**

#### 2.1 Number of successfully demonstrated bio-based technologies

Definition of the Indicator has also been changed to “Bio-based technologies, products or services that have reached demonstration stage in agriculture, health, industrial biotechnology, indigenous knowledge systems and other bio-based domains”.

Assumptions have been changed to read, “availability and approval of funding”

Titles of officials under “Indicator Responsibility” have been changed from General Manger to Executive

#### 2.2 Number of bio-based entrepreneurs and organisations accessing high-end science, engineering and technical services

Reference to historically disadvantaged individuals has been removed under Disaggregation of Beneficiaries

Titles of officials under “Indicator Responsibility” have been changed from General Manger to Executive

**Outcome 3 Small, medium and micro enterprises supported through strategically informed and regionally distributed Technology Stations**

Reference to historically disadvantaged individuals has been removed under Disaggregation of Beneficiaries

Titles of officials under “Indicator Responsibility” have been changed from General Manger to Executive

Indicator title	3.1 Number of small, medium and micro enterprises accessing science, engineering and technical services
Definition	Small, medium and micro enterprises that access science, engineering and technical support for the purposes of developing innovative products or services through the financial or non-financial support of the Technology Stations network
Source of data	Programme/Project database(s)
Method of calculation/ assessment	Simple count
Assumptions	An adequate number of small, medium and micro enterprises will be interested in the services offered. Technology Stations possess adequate expertise and have access to adequate funding to provide and maintain infrastructure required for science, engineering and technical support.
Disaggregation of beneficiaries	Women (45%) Youth (40%) People with disabilities (3%)
Spatial transformation (District Development Model)	To be informed by and aligned with the priorities of government’s 2019-2024 Medium-Term Strategic Framework, as guided by the DSI
Reporting cycle	Annual
Desired performance	Performance equal to or greater than planned target. Achievement of 90% of the target will be deemed acceptable.
Indicator responsibility	Executive: Innovation Enabling