ANNUAL REPORT
2023/24

Innovating Tomorrow Together

science & innovation
Department:
Science and Innovation
REPUBLIC OF SOUTH AFRICA

technology innovation
AGENCY
Innovating Tomorrow Together

30 YEARS OF FREEDOM
South Africa 1994 - 2024

The Technology Innovation Agency, at the hub of it all, turning the wheels of industry.

Innovation, progress and forward thinking are the precursors of success in any industry. At the Technology and Innovation Agency, these crucial elements are what personifies the role we play within the South African context.

The inspiration behind the design of our 2023/24 Annual Report arises from the thought that TIA helps 'turn the wheels of industry', which is a poignant description of what the Technology Innovation Agency is achieving throughout the various industries it empowers. From revitalising the digital economy, Artificial Intelligence, advanced communication systems, cyber infrastructure to cybersecurity, these critical sectors are paving the way for South Africa to take its place as the technology and innovation hub of Africa.

For the 2023/24 Annual Report, the design aesthetic features circles, symbolic of movement and the functionality of a wheel - perpetually turning, and as it passes through each of the industry quadrants along its path, touching each with the power of innovation, enabling each sector to move forward through development and technological advancement.

As we usher in the Digital Age and embrace the Fourth Industrial Revolution, and take our place as Africa's economic powerhouse, the TIA is poised at the hub of it all, driving industry forward.

2023/24 PERFORMANCE HIGHLIGHTS

Achieved an output performance of **79%** (15 out of 19 targets met)

Met its efficiency ratio target of **15%**

Achieved a customer satisfaction score of **8.9** out of **10**

Unqualified audit for the **13th** consecutive year

67.7% of investment expenditure disbursed to public funded recipients against a target of **70%**

Disbursed more than **90%** of its MTEF allocation for the fifth consecutive year

80 technologies commercialised against a target of **45**

1 642 competitiveness improvements provided to SMMEs, with **76** enterprise solutions taken up in the market

78 innovators added to the Grassroots Innovation Programme, with a total of **224** since inception

9 more Living Labs established, with a total of **21** Living Labs now operating across the country

OUTPUT PERFORMANCE

Indicator	Target	Actual
Technologies licensed or assigned	20	10
Bio-based technologies developed	30	54
Technologies diffused for inclusive development	20	22
Products launched	40	58
IP and knowledge-based innovation products	200	217
Leveraged funds	R300m	R686.85m
Joint collaborations between academia and industry	50	75
SMMEs and cooperatives supported	3,000	3,537
Postgrad students and post-doctoral fellows supported	130	241
New technology and innovation support centres	8	9

OUTCOME PERFORMANCE

Indicator	Five-year target	2020/21 performance (target)	2021/22 performance (target)	2022/23 performance (target)	2023/24 performance (target)	Cumulative achievement (target)
Technologies commercialised	175	26 (9)	49 (31)	61 (40)	80 (45)	216 (125)
Demonstrated bio-based technologies	75	37 (9)	36 (12)	37 (15)	50 (18)	160 (54)
Bio-based entrepreneurs supported	600	165 (105)	45 (110)	67 (120)	197 (130)	474 (465)
SMMEs supported	15,750	1,990 (2,390)	3,167 (3,150)	2,671 (3,250)	3,114 (3,400)	10,942 (12,190)

TABLE OF CONTENTS

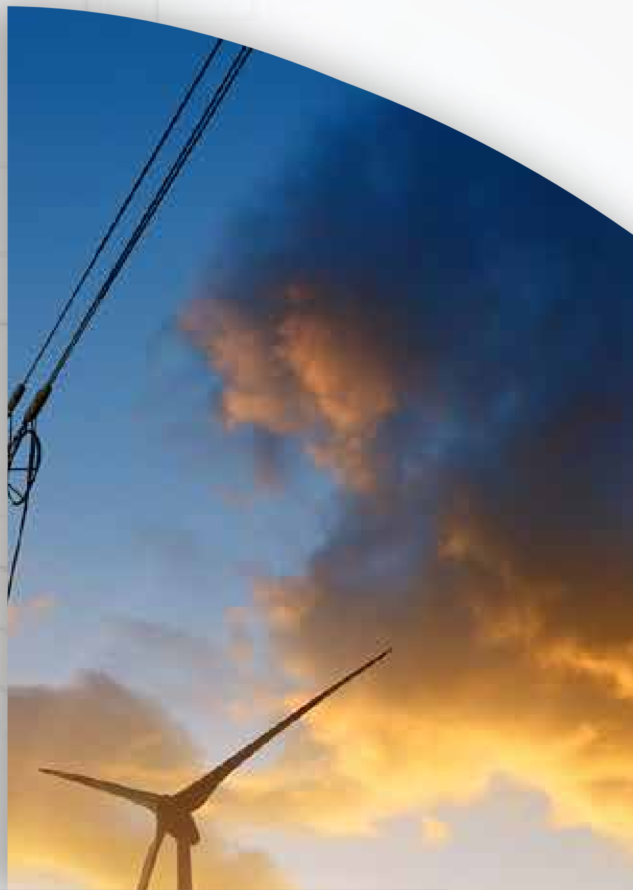
PART A: GENERAL INFORMATION

PART B: PERFORMANCE INFORMATION

PART C: GOVERNANCE

PART A

GENERAL INFORMATION



Registered name	Technology Innovation Agency
Registration/ constitutional information	Technology Innovation Agency Act (No. 26 of 2008), as amended by the Science and Technology Laws Amendment Act (No. 7 of 2014) and the Science and Technology Laws Amendment Act (No. 9 of 2020)
Registered office address	TIA House, 83 Lois Avenue, Menlyn, Pretoria
Postal address	P.O. Box 172, Menlyn, Pretoria 0181
Telephone	+27(0)12 427 2700
Email	info@tia.org.za
Website	www.tia.org.za
Social media	**LinkedIn:** www.linkedin.com/company/technology-innovation-agency **X:** @tiaorgza **Facebook:** www.facebook.com/TIAORGZA
External auditor	Nexia SAB&T 119 Witch-Hazel Avenue, Highveld Technopark, Centurion, 0157
Banker	Standard Bank 30 Baker Street, Rosebank 2196, Johannesburg
Company Secretary	Mr Kobus Louw (Board Secretariat)

Note
This report has been prepared based on National Treasury's Annual Report Guide for Schedule 3A and 3C Public Entities of March 2024.

1. LIST OF ABBREVIATIONS AND ACRONYMS

4IR	Fourth Industrial Revolution
ABIPP	Agriculture Bioeconomy Innovation Partnership Programme
AFS	Annual Financial Statements
AI	Artificial Intelligence
APP	Annual Performance Plan
ARC	Audit and Risk Committee
B-BBEE	Broad-Based Black Economic Empowerment
CEO	Chief Executive Officer
CFO	Chief Financial Officer
CleanTech	Clean technology
CSIR	Council for Scientific and Industrial Research
DSI	Department of Science and Innovation
EAP	Economic Active Population
FM	Frequency modulation
GCIP-SA	Global CleanTech Innovation Programme-South Africa
GDP	Gross domestic product
GRAP	Generally recognised accounting practice
H3D	Holistic Drug Discovery and Development Centre
HEI	Higher education institution
HIV/AIDS	Human immunodeficiency virus infection or acquired immune deficiency syndrome
HR&REMCO	Human Resources and Remuneration Committee
ICT	Information and Communication Technologies
IFC	Investment and Finance Committee
IID	Innovation for Inclusive Development
IKS	Indigenous Knowledge Systems
IP	Intellectual property
ISO	International Organization for Standardization
m	Million
MTEF	Medium-Term Expenditure Framework
NECSA	South African Nuclear Energy Corporation
NSI	National System of Innovation
OFSP	Orange Fleshed Sweet Potato
PFMA	Public Finance Management Act
R&D	Research and development

1. LIST OF ABBREVIATIONS AND ACRONYMS (CONTINUED)

SABDI	South African BioDesign Initiative
SBRI	Small Business Research and Innovation Programme
SET	Science, engineering, and technology
SFP	Seed Fund Programme
SIIP	Strategic Industrial Bio-innovation Partnership
SME	Small and medium enterprise
SMME	Small, medium, and micro enterprise
STI	Science, technology, and innovation
TADF	Technology Acquisition and Deployment Fund
TIA	Technology Innovation Agency
TICP	Technology Innovation Cluster Programme
TPP	Technology Platforms Programme
TSP	Technology Stations Programme
UCT	University of Cape Town
UFS	University of the Free State
UK	United Kingdom
UP	University of Pretoria
UTF	University Technology Fund

2. THE TIA BOARD

Ms Matsi Modise
Chairperson

Mr Patrick Krappie
(ex officio)

Ms Anati Canca

Dr Revel Iyer

Ms Lindiwe Matlali

Ms Sebenzile Matsebula

Mr Butana Mboniswa

Mr Thabiso Ramasike

3. FOREWORD BY THE CHAIRPERSON

On behalf of the TIA Board, I am pleased to present the Annual Report of the Technology Innovation Agency (TIA) for the 2023/24 financial year. This report represents the fourth year of TIA's performance against its Strategic Plan 2020–2025.

The Agency fulfils a key role in South Africa's National System of Innovation (NSI) by bridging the gap between promising local research and the market by de-risking technological innovations. Through its funding efforts and other non-financial interventions to nurturing the innovation ecosystem, entrepreneurs and businesses are better positioned to secure follow-on funding to bring their innovations to market.

OVERVIEW OF THE TIA'S STRATEGY AND ITS PERFORMANCE

In implementing its mandate, the TIA committed to pursuing three outcomes in its Strategic Plan 2020-2025. These are:

- Intensifying the translation and commercialisation of intellectual property (IP) from South Africa's publicly funded science councils and higher education institutions;
- Scaling up efforts to implement the 2013 Bio-economy Strategy; and
- Increasing access by South Africa's budding entrepreneurs and innovators to Technology Stations, which will provide them with much needed science, engineering and technology (SET) services.

For the year under review, the TIA achieved 79% performance against its targets, representing 15 out of 19 of its output indicators. The results for the year demonstrate the Agency's efforts to increase the rate of commercialisation of promising technologies in the country, whilst maintaining a sharp focus on building a pipeline of de-risked technologies for the benefit of the NSI. I am also pleased to report that TIA received an unqualified audit for the thirteenth year in a row. Whilst the audit for this current financial year proved to be the most challenging, it certainly served to highlight a number of areas for improvement that will be receiving priority attention by the Board in the coming year.

STRATEGIC RELATIONSHIPS

An organisation such as the TIA depends on strong partnerships to bolster its efforts in delivering against its mandate. In the year under review, the Agency has established an extensive network of local and international partnerships to source funding, co-funding and promote follow-on funding for its investees. This represents an important journey in the commercialisation process for many researchers and entrepreneurs. TIA has continued to onboard additional implementing partners to deliver some of its bespoke programmes, such as the Living Labs, in an effort to expand its geographical footprint to promote access to its services by marginalised communities.

In pursuing its ambitious plans to position itself as a leader in the innovation ecosystem as an industry builder, the Agency has established strategic partnerships with several entities. For example, the TIA has partnered with MilkSA to improve the competitiveness of the South African milk industry. Efforts are focused on improving productivity and boosting exports, but also on catalysing the sector's transformation strategy through helping smallholder farmers grow into large-sale commercial farmers. Furthermore, the Agency has responded to the South African Sugar Value Chain Master Plan 2030 by making a strategic investment in collaboration with the Sugar Milling Research Institute. The initiative seeks to develop a pipeline of potential sugar-based value-added products to diversify the current offerings from the sector, with the goal of creating new revenue streams and higher-skilled jobs in the sector.

CHALLENGES FACED BY BOARD

As South Africa's national innovation agency, the TIA has a significant responsibility to the betterment of its citizens and the growth of the economy through supporting technological innovation and enabling the innovation ecosystem. However, funding for the entity to fulfil its mandate has remained modest since its enactment in 2008. Consequentially, the Agency's ability to fund the many deserving opportunities that have arisen against the backdrop of an increasingly dynamic innovation ecosystem have been limited.

The Ministerial Review of TIA was finalised in March 2024, a process that had lasted well over two years, and brought with it a few challenges relating to stabilising the leadership bench of the Agency. This included delays in the appointment of a permanent CEO, high-staff turnover due in part to the uncertainty while the Ministerial Review was being undertaken and a Board that has functioned with a minimum number of members.

THE STRATEGIC FOCUS OVER THE MEDIUM TO LONG TERM PERIOD

As the Agency heads into the last year of implementing its five-year Strategy, a review of progress against its targets to date has shown that the TIA is well-positioned to achieve all its outcome targets. To date, the TIA has achieved a total of 216 technologies commercialised against a target of 125, successfully demonstrated bio-based technologies of 160 achieved against 54, and bio-based entrepreneurs accessing support of 474 against a target of 565. Greater emphasis in the forthcoming financial year will focus on increasing the number of small, medium and micro enterprises (SMMEs) accessing SET services, as this represents an area where the Agency underachieved albeit by a small margin.

The finalisation of the Ministerial Review of TIA represents an important milestone in the evolution of the organisation as this lays a solid basis to re-imagine TIA of the future. In this regard, the Board, with the support of management, has commenced the process of implementing a strategy towards a TIA 2.0, one that is intended to position the organisation as a thought-leader and curator in the innovation eco-system with a strong orientation towards accelerating commercialisation and financial sustainability.

The TIA's core mandate entails enabling the commercialisation of local technologies and fostering the early-stage financing of technological innovations. A recent report on technology transfer in South Africa revealed additional funding requirements of no less than R500 million for technology development and commercialisation. This notwithstanding the admirable contribution of TIA's Seed Fund over the years which has enabled university research output to be converted into prototypes, products and ultimately spinout companies.

In this regard, the Agency, as part of its strategy towards a TIA 2.0, considers it critical to expand its existing efforts in leveraging private-sector funding towards the translation to commercialisation of technologies. There remains a large funding gap pertaining to start-ups and SMMEs. Accordingly, the Agency has partnered with the SA SME Fund to bolster the provision of funds towards start-ups and SMMEs through a Fund of Funds approach, to be implemented jointly in 2024/25.

Following the national general elections in May 2024, a Government of National Unity has been established representing the seventh Administration in South Africa's democracy. This presents an immense opportunity for the Agency to position itself as an important player and contributor to South Africa's thriving democracy, capable state and economy driven by innovation. The advent of the seventh Administration, therefore, will require that TIA aligns its future strategic plan with the priorities as will be set out for the seventh Administration.

ACKNOWLEDGEMENTS

On behalf of the Board, I would like to thank the Honourable Minister of Higher Education, Science and Technology, Dr Bonginkosi Nzimande, the former Director-General at the DSI, Dr Phil Mjwara, and his executive leadership team for their continued support to the TIA. The Board also wishes to thank the Agency's leadership, management team and staff for their dedication and commitment to delivering on the TIA mandate and the performance in the year under review. I also want to thank my fellow Board members for their support and dedication to making TIA work. Lastly, it gives me great pleasure to extend a warm welcome to our new Board members Prof. Keolebogile Motaung and Mr Loyisa Tyira.

Ms Matsi Modise
Chairperson of the Board

4. THE EXECUTIVE MANAGEMENT TEAM

Mr Patrick Krappie
Acting Chief Executive Officer

Mr Ismail Abdoola
Chief Financial Officer

Ms Matshidiso Matlolane
Acting Executive:
Corporate Services

Mr Brian Mphahlele
Executive: Commercialisation

Dr Vuyisile Phehane
Executive: Bio-economy

Mr Vusi Skosana
Acting Executive: Innovation
Enabling

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5. CHIEF EXECUTIVE OFFICER'S OVERVIEW

I am pleased to present the Annual Report of the TIA for the 2023/24 financial year. This report presents the results of our efforts in advancing the Agency's mandate in the penultimate year of implementing its 2020–2025 Strategy.

During the period under review, TIA recorded an achievement of 79%, or 15 out of 19, of its annual output targets. Relating to its core mandate, the Agency met or exceeded 12 of its 13 performance targets for the year.

There was also a significant over-achievement against targets for joint collaborations between public-funded research organisations and industry, products launched, revenue from commercialised innovations, bio-based technologies developed, SET and enterprise development support provided to SMMEs, high-level human capital development, leveraged funds, transformation initiatives introduced in underserved provinces and the transformation of TIA's investment portfolio.

CAPACITY CONSTRAINTS AND CHALLENGES FACING THE PUBLIC ENTITY

During the year under review, the Agency experienced a high turnover rate due to competitive conditions in the market for similar skills, as the NSI becomes more dynamic with many other institutional players entering the market. This implied that with salaries remaining stagnant due to budget cuts, many employees looked for more lucrative opportunities. This situation was exasperated by the National Treasury cost containment measures that called for moderation of expenditure and provided strict guidelines on recruitment.

DISCONTINUED KEY ACTIVITIES OR ACTIVITIES TO BE DISCONTINUED

Despite the aforementioned constraints, the TIA did not discontinue any of its activities nor reduce any of its performance targets, but rather scaled down on the number of projects it was able to support given the prevailing fiscal constraints.

NEW OR PROPOSED KEY ACTIVITIES

The Agency has secured Board approval to establish three stand-alone programmes to advance transformation and inclusivity. These programmes intend increasing the participation of youth, women and persons with disabilities in innovation. In addition to this, TIA will launch the Small Business Research and Innovation Programme (SBRI) to stimulate and fund innovations that are aimed at addressing service delivery challenges in the country. Lastly, the organisation will also establish an Innovation Fund Office that will promote the effective management of the Innovation Fund and to support the establishment of successful Black fund managers in the country.

CHALLENGES EXPERIENCED AND RESOLVED

The growing portfolio of investments under management in the TIA coupled with capacity constraints have increased the risk of effectively maintaining oversight and undertaking rigorous project management activities. This poses a significant risk to the Agency in terms of a possible financial loss and loss of momentum in the successful commercialisation of the sizeable portfolio of early-stage technologies that the Agency currently manages. The growing demand for TIA's services has also significantly impacted the Agency's investment approval turnaround time.

OUTLOOK AND PLANS FOR THE FUTURE TO ADDRESS FINANCIAL CHALLENGES

The TIA will build on its proven track record of leveraging funding from local and international partners, strengthening its ability to support the larger number of opportunities and promising innovations throughout the NSI. Through initiatives such as the aforementioned transformation and inclusion-focused programmes and the SBRI, the Agency aims to raise funding from relevant government departments at provincial, national and local levels in support of innovations to solve service delivery challenges and increasing the participation of previously disadvantaged individuals in our society.

The maturing portfolio of investments within the TIA also offers opportunities for increasing income through royalty payments and income from exits and equity sales. In this regard, TIA raised income of R43.92 million which represented the highest income raised through revenue derived from commercialised innovations, and it plans to build on this good foundation into the next financial year.

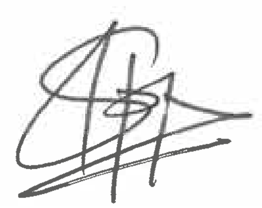
EVENTS AFTER THE REPORTING DATE

A key recommendation from the Ministerial Review Report is the development and reorganisation of the TIA in a manner that will position the Agency strategically in the NSI. To achieve this the TIA has embarked on a strategic process that will see the Agency evolving over a period of ten years into a curator and a thought leader with catalytic high-impact interventions underpinned by a capable organisation, repositioned in the NSI to achieve greater socio-economic impact into the future.

In implementing its mandate, TIA devotes a significant portion of its resources to commercialising the IP stemming from public-funded research and development (R&D) towards commercialisation of technological innovations, and to supporting the innovation ecosystem through providing SMMEs and entrepreneurs access to high-end SET infrastructure. Alongside this TIA intends expanding the number of Strategic Innovation Programmes and growing its Fund of Funds approach through the development and implementation of new business and operating models. Concerning the former, the Agriculture Bioeconomy Innovation Partnership Programme (ABIPP) is an example of the Agency successfully driving R&D and industry development in partnership and collaboration with stakeholders in both the public and private sectors, including small-scale farmers, large commercial companies, researchers and both government departments and agencies. Regarding the latter, the TIA implements the DSI's Innovation for Inclusive Development (IID) Programme, of which the Grassroots Innovation Programme has been growing from strength to strength. However, the Agency needs to pivot from directly managing hundreds of projects and will emulate the approach successfully adopted concerning implementing the Seed Fund in which intermediaries are appointed by the TIA to manage individual projects.

ACKNOWLEDGEMENTS

I would like to thank the TIA Board for their unwavering support to the management team and the TIA staff for making these results possible. I also want to express my appreciation to my colleagues at the DSI, the Director-General and his management team for the collaborative way in which we have worked together.



Mr Patrick Krappie

6. CHIEF FINANCIAL OFFICER'S OVERVIEW

The TIA's financial results for the period 1 April 2023 to 31 March 2024 (hereinafter '2023/24') indicate that the Agency has maintained sound financial performance despite the prevailing economic climate. Notwithstanding the tough economic climate, the TIA received an unqualified audit for the 13th consecutive year. This accords with the Agency's commitment to maintaining a healthy control environment that is governed by sound financial principles and policies.

The TIA commenced the financial year with a budget allocation of R460.1 million. Of this, R209 million (45%) represented the total commitment book, with just over R251 million (55%) available for new investments and operational expenditure. With an approximate budget requirement of R175.6 million for operational expenditure (personnel and administrative costs), R75.5 million remained available for disbursement to new projects.

AGENCY'S FINANCIAL PERFORMANCE

The TIA realised an actual deficit of R12.5 million for the year. This is attributed largely to disbursements to projects that were marginally higher than expected. Technology development is an inherently high-risk undertaking due to the unpredictable nature of the intended outcomes. In such an environment, there is a high probability that investee project-related milestones cannot be budgeted for with accuracy, making it difficult to forecast and deliver zero-surplus-deficit actuals at the end of each financial year.

Total income for the year amounts to R680.2 million and represents a 10.5% positive variance when compared to the budgeted amount for the year. The TIA received a Medium-Term Expenditure Framework (MTEF) allocation for the year totalling R459.4 million following a budget reduction of R0.7 million communicated during the course of the financial year.

Total income from specific contracts resulted in a 7% positive variance when compared to budget. Total expenditure for the year amounted to R692.4 million, which is R76.2 million (12%) higher than budgeted for. This was contributed largely by a higher than projected investment expenditure within a ringfenced programme.

By 31 March 2024, the Agency had funding commitments to projects totalling R220 million. Section 53(3) of the Public Finance Management Act (PFMA) stipulates that public entities must submit a request to National Treasury to retain any surplus funds, which TIA submitted in July 2024. No response had been received at the time writing.

INVESTMENT PIPELINE

For the fifth financial year in a row the TIA has disbursed more than 90% of its MTEF allocation. Total disbursements to project-related activities totalled R502 million, which was 14% in excess of the budget. This was attributable to a greater than budgeted-for disbursement to ringfenced programmes made possible through returns earned from the exit of an investment.

Of the TIA's total disbursements, 42% was spent within the Bio-economy Division, 21% towards the Commercialisation Division, 12% to the Innovation Enabling Division and 26% to Technology Stations. Disbursements were directed towards various programmes, including Technology Cluster initiatives aimed at leveraging off private-sector funding.

During the reporting period, efforts were dedicated not only to managing the existing portfolio but also to building a pipeline of investments. At year-end, several projects in the pipeline requiring funding of approximately R200 million were at advanced stages of due diligence, with some approvals expected during the first half of the 2024/25 financial year.

INNOVATION FUND

The TIA received an allocation of R80 million for a portfolio of 20 projects that were approved by the DSI under Phase 1 of the Innovation Fund. An amount of R102.2 million has been received under Phase 2, R100 million under Phase 3 and R100 million under Phase 4. All of the Phase 1 funds have been committed, including the use of R3.1 million in interest on Phase 1 funds received.

A total of R50.7 million has been disbursed under Phase 2 and R6.4 million under Phase 3, with all of the funds fully committed, except for R30 million. The Agency is at contracting stage for the investment of R100 million from Round 4 funding in the establishment of a High Impact Seed Fund of Funds partnership.

PROCUREMENT

The TIA's use of the National Treasury's Central Supplier Database allowed the Agency to spread its purchasing reach to smaller suppliers who generally struggle with high barriers to entry into supply chains and procurement expenditure. The TIA does not procure goods and/or services from suppliers who are not fully tax compliant, in this way contributing to the fiscus. The procurement strategy continues to focus on increasing expenditure with small businesses and those businesses owned by previously disadvantaged individuals, in line with government priorities and objectives.

The Agency continues to focus its efforts on identifying and procuring from businesses that have significant ownership by persons who are black, youths, women or who have a disability. The Agency's total procurement for the year was R77.5 million; 92.7% of this total procurement was from SMMEs, with approximately 43.5% from black-owned businesses. The total procurement from black women-owned businesses and youth-owned businesses amounted to 36.5% and 7.1% respectively. An overall procurement analysis, as noted above, reflects positive movements in comparison to previous years and this will continue to be a focus area in the future.

EFFICIENCY RATIO

More significantly, management remained committed to and continued the drive to allocate savings from operational expenditure to investments. As a result of strict budgeting and focused expenditure on investment-related activities, the efficiency ratio target of 15% was met. The Agency plans to improve this ratio further during the next MTEF period.

BUDGET 2024/25

Going into the new year, the TIA has an allocation R432 million and a commitment book of R220 million, with just over R237 million available for investments and operational expenditure. Given the MTEF allocation of R432 million and commitments to projects as noted above, in addition to commitments to supported programmes that include Technology Platforms and Technology Clusters plus operational expenditure requirements, the remaining balance available for new project disbursement is R63 million.

The modest quantum of available funding for new projects represents a material risk for the Agency and places more emphasis on the entity to source additional funding through strategic relationships with partners, both locally and overseas. In addition, as part of the Consolidate phase of the TIA 2.0 strategy, the entity will review its funding and revenue model, including the implementation of equity and related instruments to improve its access to capital in the future. Given the past performance, the organisation is therefore well poised to deploy funds effectively within the NSI and continue to bolster its funding capacity through effectively leveraging partnerships.

Mr Ismail Abdoola
Chief Financial Officer

7. STATEMENT OF RESPONSIBILITY AND CONFIRMATION OF THE ACCURACY OF THE ANNUAL REPORT

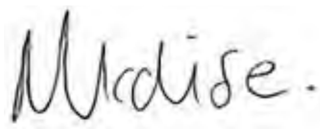
To the best of my knowledge and belief, I confirm the following:

- All information and amounts disclosed in the Annual Report are consistent with the Annual Financial Statements (AFS) audited by the external auditor.
- The Annual Report is complete, accurate and free of any omissions.
- The Annual Report has been prepared in accordance with the guidelines on the Annual Report as issued by National Treasury.
- The AFS (Part F) has been prepared in accordance with Generally Recognised Accounting Practice (GRAP) standards applicable to the public entity.
- The Accounting Authority is responsible for the preparation of the AFS and for the judgements made on this information.
- The Accounting Authority is responsible for establishing and implementing a system of internal control that has been designed to provide reasonable assurance of the integrity and reliability of the performance information, the human resources information and the AFS.
- The external auditors are engaged to express an independent opinion on the AFS.

In our opinion, the Annual Report fairly reflects the operations, the performance information, the human resources information, and the financial affairs of the entity for the financial year ended 31 March 2024.

Mr Patrick Krappie
Acting Chief Executive Officer

Date: 30 July 2024



Ms Matsi Modise
Board Chairperson

Date: 30 July 2024

8. STRATEGIC OVERVIEW

The TIA was established to promote the development and utilisation – in the public interest – of discoveries, inventions, innovations and improvements. The objective of the Agency is to support the state in stimulating and intensifying technological innovation in order to improve economic growth and the quality of life for all South Africans.

The TIA's 2020–2025 Strategic Plan seeks to position the Agency within the NSI by pursuing three outcomes:

OUTCOME 1

Commercialised Innovations
The TIA seeks to direct a greater proportion of its resources to the translation and commercialisation of publicly financed IP emanating from universities and science councils.

OUTCOME 2

Delivering on the Bio-economy Strategy
The TIA is the main implementer of the Bio-economy Strategy, through which South Africa's unique biological resources, historical biotechnology investments and bio-based capabilities are used to generate greater socio-economic value.

OUTCOME 3

SMMEs supported through Strategically Informed and Regionally Distributed Technology Stations
The TIA aims to foster an enabling environment for innovation, with a specific focus on driving transformation and ensuring inclusion by providing SET and enterprise development services.

The TIA's vision, mission and values are as follows:

Vision
Be a leading technology innovation agency that stimulates and supports technological innovation to improve the quality of life for all South Africans.

Mission
Facilitate the translation of South Africa's knowledge resources into sustainable socio-economic opportunities.

VALUES

TEAMWORK
Together we can do more. Fostering teamwork creates a TIA work culture that values collaboration and co-operation.

PROFESSIONALISM
At the TIA we apply the most appropriate skills, competencies, experience and knowledge of best practices cohesively in conducting our work.

EXCELLENCE
The TIA will be accountable to all stakeholders to deliver exceptionally high standards of work and performance.

TRANSPARENCY
We engage in inclusive open communication, holding one another accountable for our performance and conduct.

INNOVATION
At the TIA we foster a culture in which we continually nurture and implement new ideas from our staff and stakeholders that enhance the way we do things and deliver services.

INTEGRITY
At TIA, everyone strives to do what they said they would. 'We keep our word.'

9. LEGISLATIVE AND OTHER MANDATES

The TIA's mandate is derived from the provisions of the Technology Innovation Agency Act (No 26 of 2008) (the TIA Act), as amended by the Science and Technology Laws Amendment Act (No 7 of 2014) and the Science and Technology Laws Amendment Act (No 9 of 2020). The TIA Act establishes the TIA as an Agency to promote the development and exploitation, in the public interest, of discoveries, inventions, innovations and improvements. The TIA's objective is to support the state in stimulating and intensifying technological innovation that improves economic growth and the quality of life of all South Africans.

10. ORGANISATIONAL STRUCTURE

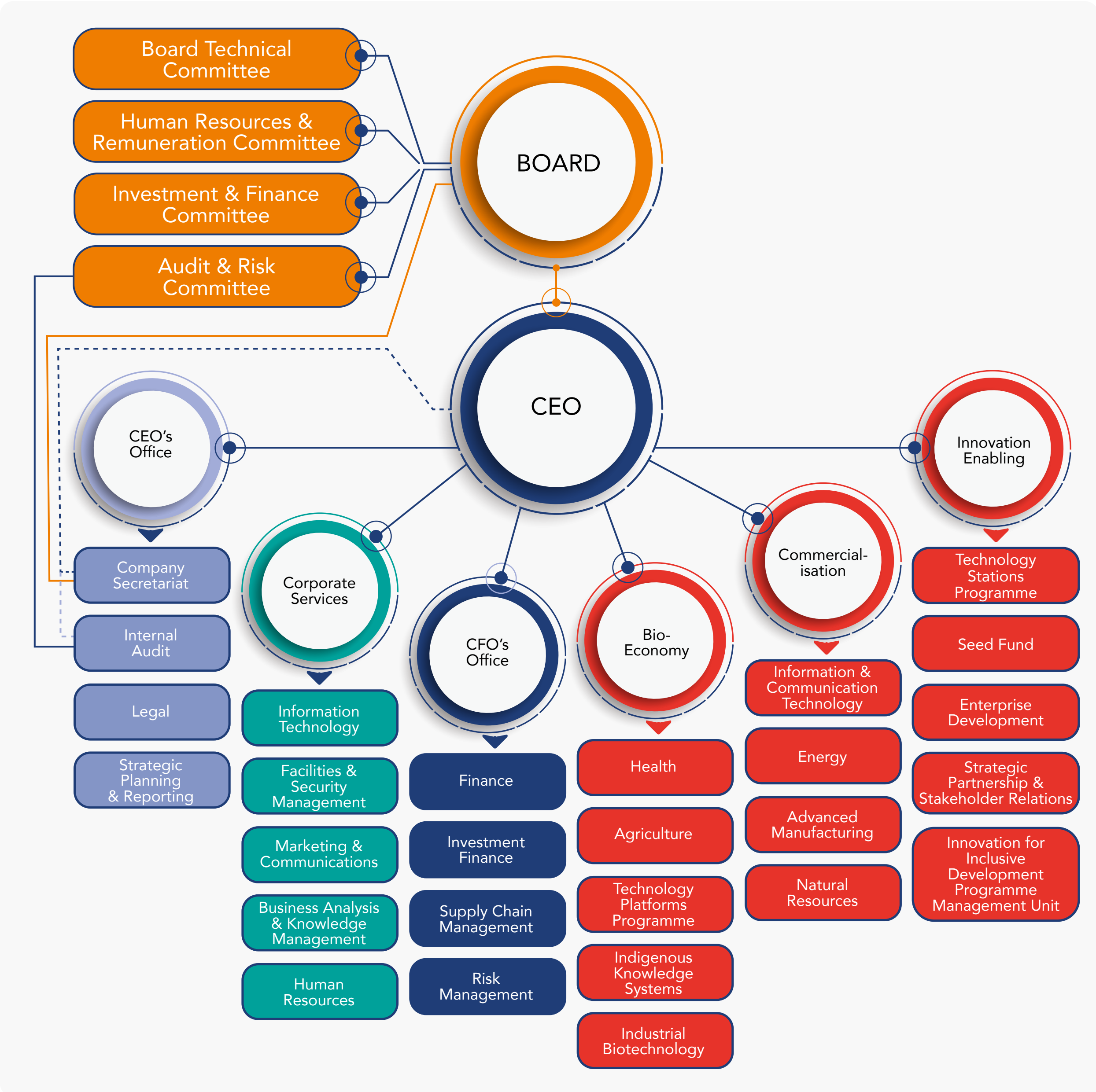


Figure 1: TIA's organisational structure

PART B

PERFORMANCE INFORMATION

11. EXTERNAL AUDITOR'S REPORT AGAINST PREDETERMINED OBJECTIVES

The external auditor currently performs the necessary audit procedures on the performance information to provide reasonable assurance in the form of an audit conclusion. The audit conclusion on the performance against predetermined objectives is included in the report to management, with no material findings being reported in the Report on the Audit of the Annual Performance Report contained in Section 37.

12. PERFORMANCE OVERVIEW

12.1 SERVICE DELIVERY ENVIRONMENT

The TIA recorded a year-end output performance achievement of 79%, representing a total of 15 targets achieved out of 19 output indicator targets for the year. This performance has been achieved in an environment with numerous challenges, including a period during which the energy crisis continued, albeit with some improvement in the last two quarters of 2023/24, and a logistics crisis which witnessed South African ports not functioning optimally, leading to supply chain disruptions for both imports and exports. South Africa's ports were ranked as the worst performing and least competitive globally, according to the World Bank. This situation has had a negative effect on South Africa's business environment and reputation. A poor business environment could further worsen business expenditure on R&D and other activities which stimulate innovation. Business sector expenditure on R&D has been declining over the past decade.

The President's 2023 State of the Nation Address identified many socio-economic challenges that the country is grappling with, including loadshedding, crime, corruption, poverty, the widening inequality gap, unemployment and the rising cost of living. The Budget Speech, delivered by the Minister of Finance, painted a picture of a tough economic environment with commensurate fiscal implications. There is growing government debt to gross domestic product (GDP) ratio that currently stands at over 70%; in addition, economic growth is sluggish, with real GDP growth projections of only 1.8% for 2023. The fiscal constraints noted above led to the National Treasury putting in place cost-containment measures which led to the TIA having its MTEF budget allocation revised downwards. This has contributed to the TIA's budget remaining flat in real inflation-adjusted terms for the past few years. The TIA has numerous commitments relating to its active project pipeline; a budget reduction has therefore led to limited funds being available for new project disbursements.

Indeed, gross expenditure on R&D as a percentage of GDP has been in decline over the past ten years, and in 2022 it reduced further to 0.61%. Business expenditure on R&D has also been in decline over the past decade. Of the three types of R&D – applied research, basic research and experimental development – the last is of most interest to the TIA. Technological innovation is strongly linked to experimental development and this type of R&D has also been in decline for a decade or more as against increasing basic and applied research. While a strong science system is important for knowledge production, utilising this new knowledge is critical to socio-economic development. The continuing under-funding of South Africa's innovation ecosystem will accordingly continue to have a negative impact on innovation outputs and resultant growth, job creation and improvements in the quality of life of our citizens.

Significant developments within the TIA involved setting in motion some of the Ministerial Review recommendations. This was done to ensure that the appropriate measures and processes are in place when the Agency moves into the next planning cycle in preparation for establishing a 'TIA 2.0'. This will entail an overhaul of the TIA's structure and operations towards a more effective and efficient system that improves the functioning of the Agency.

12.2 ORGANISATIONAL ENVIRONMENT

OPERATIONAL STRUCTURE

The dynamic ecosystem the TIA operates in requires the organisational structure to enable operations with the requisite capabilities to deliver the strategy while at the same time change is effectively managed. The structure remained at 193 positions as approved and aligned to the current TIA Strategy 2020–2025.

With the organisation being subjected to rapid changes both externally and internally, the current structure was confirmed to be unfit to enable the TIA to perform effectively in the future. Recruitment to fill vacancies was put on hold in response to the restrictions imposed by the National Treasury. However, critical skills gaps were assessed for capacitation in equipping the organisation with adequate competencies and expertise that would enable it to deliver on its annual targets. Various modalities for human resourcing were explored that leveraged the NSI skills, including the use of external experts to augment the Agency's internal capabilities.

The Human Resources unit noted the rising cost of talent while experiencing scarce and expensive market competition, which increased attrition for in-demand expertise. Owing to rampant shifts in employee expectations, the organisation had to focus on flexible work policies, shared purpose, employee wellbeing and 'person first' experiences in an effort to attract and retain skills. To position of the organisation accurately in the innovation space, there is a greater responsibility to customise employees' everyday experiences at work so as to enhance productivity levels, learning and career development continuously.

OPERATING ENVIRONMENT

The Ministerial Review of the TIA was undertaken during the financial year and the results of it compelled the organisation to refocus and reposition itself according to the recommendations.

As an evolving organisation, the TIA is constantly prompted to redefine its value proposition and positioning, which have a direct impact on the kind of talent the organisation attracts, develops and retains. This evolution determined the need to change and adapt to new opportunities while balancing between 'what needs to change' and 'who needs to change' in order to achieve operational excellence. This required a transformative mindset with a holistic view of what the necessary changes are and their impact on employees, organisational structures, systems and processes to fit the organisation for the future.

Several initiatives were embarked on in response to the Ministerial Review recommendations in order to keep the organisation afloat and able to deliver on its annual commitments while pursuing specific interventions according to the future strategic direction.

CUSTOMER SERVICE AND QUALITY MANAGEMENT

A customer-centric focus is a key value adopted by the Agency to ensure that customer first principles and a 'customer first' mentality prevail across the TIA. Pursuant to being responsive to all customer needs, the organisation uses a Customer Relationship Management system as its point of contact. In line with this, customer queries and escalations are attended to timeously to ensure continued support.

An annual stakeholder satisfaction survey was conducted across industries to solicit stakeholder sentiments on the business performance and to understand the satisfaction levels among the TIA's clients, partners and other stakeholders that provide complementary services. The survey assessed the drivers of and barriers to satisfaction and sought to identify any service-delivery problems.

The results show an overall increased satisfaction with the service received from the TIA of 8.9 out of 10 compared to previous year at 7.1 out of 10. Innovators, researchers, SMMEs, our partners and co-funders expressed positive and empathetic sentiments towards the Agency, including those applicants whose applications who were declined by the TIA.

Management continues to ramp up the implementation of its programmes, initiatives, the marketing and communications plans and the engagement activities with key stakeholders in the NSI through various channels.

To guarantee the quality of its service, the organisation maintained and achieved its ISO 9001:2015 recertification for the year under review. The certification is used to demonstrate the Agency's ability consistently to provide products and services that meet both customer and regulatory requirements by implementing quality management processes, policies and procedures for compliance.

SYSTEMS AND PROCESSES

For the TIA to achieve an identity and a competitive edge, the organisation had to be serious about enhancing its systems and processes in order to maintain sustained excellence. Owing to the rapid changes being made to the innovation ecosystem, the TIA Investment Value Chain and Lifecycle Management were revised and enhanced to attain greater operational efficiency. The Investment Standard Operating Procedures and Policies were improved to guide business operations, automation by means of systems and technologies, and the Agency's compliance obligations. These initiatives influenced the desired organisational behaviour through instilled TIA values, achieving the ideal culture while sustaining customer centricity.

The Enterprise Resource System was therefore configured and went live on 1 April 2023 as an integrated platform for TIA investment management and reporting. Currently, all TIA open calls are administered through the system, with applicants accessing the portal via the TIA website. The system provides for reporting on the status of applications and also for communication that is shared timeously with applicants.

While progress was made with the implementation of the system, the Agency remained cognisant of the frequent changes required while the system development took place in relation to certain programmes at the DSI's request to improve the efficiency of the programmes. This resulted in the development and configuration work being duplicated. The change management process attests to the flexibility and agility required for the system to be responsive in providing the required data for assessing and approving investments.

The second initiative was to re-establish and resource the business intelligence function. In this regard various intelligence reports were shared with business units based on existing subscriptions available across most sectors of interest to TIA. However, the business intelligence function remains sub-optimally capacitated and the Enterprise Resource System is not yet optimally configured to meet the business intelligence needs of the Agency.

BRAND VISIBILITY

The TIA 2020–2025 Strategic Plan expresses brand visibility as one of the key focus areas for the Agency. In the year under review, the TIA has made strides in enhancing its brand awareness in the market by embarking on a number of activities that continue to indicate good performance towards greater brand visibility. This was followed by the development and approval of a Marketing and Communications Strategy and a Stakeholder Strategic Framework to enhance the Agency's brand equity.

Marketing and communications

The drive to manage and increase brand equity through tactical and business support initiatives, marketing and communication activities to increase brand awareness was continued, as was the Agency's positioning and communicating the success stories stemming from TIA-supported initiatives. These activities included marketing campaigns, strengthening relations with the media and both strengthening existing and setting up its own new communication channels.

For the year under review, the TIA generated a total of 339 media clippings with an advertising value equivalence of R21.9 million. The coverage was led by print media, followed by online, broadcast and social media.

In an effort to enhance its external engagement, the TIA launched a quarterly external digital newsletter that is distributed to stakeholders. This newsletter aims to keep stakeholders informed of developments in the organisation and to communicate the Agency's brand story.

Evolving technology continues to present new opportunities for TIA-owned media. For instance, social media have revolutionised marketing and communication practices. A drive aimed at increasing the Agency's engagement with and presence in social media was launched and this has resulted in increased followership and more engagement on its social media platforms.

Strategic engagements and events

A vital element in the Agency's strategy to deliver on its mandate is continuous engagement with various stakeholders in the NSI, industry, the public sector and higher education institutions (HEIs). This is achieved by establishing mutually beneficial partnerships and collaborating with similar organisations both locally and internationally.

For the year under review, the Agency hosted and participated in 33 events as a strategic partner, headline sponsor or participant in several strategic local and international industry events, which also attracted innovators and government officials. These events included the BIO Africa Convention, the SA Innovation Summit, the AfricArena Grand Summit, the Kenya Innovation Week and the World Climate Summit – The Investment COP 2022.

OFFICE FACILITIES AND REMOTE WORKING

The Agency formalised hybrid work arrangements by implementing the remote-work policy which enabled employees to work from the offices and also from home where necessary. The need for employee collaboration, teamwork and knowledge sharing is a fundamental factor that requires the staff to be in the office on agreed days so as to foster the organisational culture while keeping the TIA values alive through business operations.

Health and safety regulations and compliance were adhered to in the workplace to mitigate the risk of illness or death of the employees. To this end, risk assessments in the form of monitoring were conducted for all the offices prior to the commencement of office work. In addition, office occupancy was kept at no more than 50% of capacity daily, which allowed for any hazardous impact to be managed proactively. Furthermore, preventive equipment was provided to employees and open-plan offices were managed to minimise any risks of infection.

INVESTMENT APPROVAL TURNAROUND TIMES

The Agency's assessment process for funding applications is thorough, which ensures that decisions taken about its limited discretionary funding are based on a sound and rigorous due diligence process. Measurement demonstrates the efficiency of the systems and capabilities used to assess applications for funding. Benchmarking the Agency's practices against those of similar innovation agencies globally in 2021 revealed that similar processes are followed by the TIA and that the turnaround times are approximately six months.

The data indicate that the criteria used to inform investment turnaround time for funding applications need to be reviewed in the lead-up to the 2025–2030 strategic cycle. This is especially the case with those applications which fall into the sub-R1 million category: the lower quantum of funds being applied for does not necessarily correspond to a shorter investment assessment period. This requires certain steps to be undertaken when assessing funding applications (such as the various types of due diligence), irrespective of the amount being applied for and also to take into account the inherent complexity of all aspects of an investment opportunity. Other factors include the time-intensive application-building process, including delays in applicants' submitting missing information.

During the year under review, the TIA made a concerted effort to resolve comprehensively the factors that have been hindering short turnaround times. This included tailoring the Agency's funding processes and funding application assessment toolkits according to the funding thresholds and the delegation of authority levels. This it did using tiered and staged milestone-based funding approvals for high-value applications, expanding the Agency's panel of external experts and applying funding instruments more flexibly under a new paradigm.

The objective of recruiting external experts is, first, to fill the technical and business capability and capacity gaps that exist in the Agency and, second, to provide expert assessment and analysis of applications aligned to the Agency's approved investment value chain – as a result, improving the investment turnaround time. The use of experts during the year under review yielded positive results in the case of the presented and approved projects where decision-making was supported by expert analysis and advice. During the new financial year, a concerted effort will be made to recruit and attract more experts across sectors and industries to enhance the turnaround time in the investment process.

12.3 KEY POLICY DEVELOPMENTS AND LEGISLATIVE CHANGES

The National Assembly approved the Climate Change Bill in October 2023. The Bill is South Africa's comprehensive legislative effort aimed at encouraging the development of an effective climate change response for South Africa and at catalysing South Africa's transition to a greener and more resilient economy. Accordingly, the Bill serves as the roadmap for South Africa's transition to a low-carbon and climate-resilient economy by reducing greenhouse gas emissions and helping the economy to adapt to the impacts of climate change.

South Africa is one of the few countries worldwide to have legislated for the imposition of sector-wide emission targets in addition to private-sector carbon budgets. These provisions enable the government to set emissions targets for various sectors, such as energy and transport, and prescribe emission thresholds at a company level. The Climate Change Bill is intrinsically linked to the Just Energy Transition Partnership and the commitments made during climate talks at COP26 in Glasgow, Scotland. South Africa is one of the top 20 emitters of greenhouse gases globally that are responsible for climate change.

The Agency recognises that achieving a Just Transition is a national imperative. Accordingly, the TIA and the Presidential Climate Commission Secretariat have agreed to collaborate on a programme which seeks to investigate South Africa's technological readiness and capability to support the national Just Transition Towards a Low-carbon Economy and Climate Resilient Society initiative. A key component of this programme is to undertake a technology readiness and capability stocktake in order to identify mature or near-market green technologies which are ready for deployment into local supply chains. This work gathered momentum during 2023/24.

The National Health Insurance Bill was endorsed by both houses of Parliament during 2023/24 and has recently been signed into law. National Health Insurance is a health financing system designed to pool funds together to provide access to quality and affordable personal health services to all South Africans based on their health needs, irrespective of their socio-economic status.

The rolling out of National Health Insurance will face many hurdles and some of the necessary interventions include ensuring that new health innovations are developed to improve access to services. For example, the Agency has recently supported a health innovation, Pelebox smart lockers, which enables patients to collect their repeat chronic medication in under two minutes instead of waiting for hours in queues at public clinics. Collaboration between the TIA and actors in the health innovation space, including government departments, will need to be maintained continuously.

12.4 PROGRESS TOWARDS ACHIEVING INSTITUTIONAL IMPACTS AND OUTCOMES

The 2020–2025 Strategic Plan seeks to improve the quality of life of all South Africans through innovation. To position the activities of the Agency within the framework of the Medium-Term Strategic Framework, the National Development Plan, and other DSI priorities, its 2020–2025 Strategic Plan and its 2023/24 Annual Performance Plan (APP) were structured around three outcomes which seek to direct the initiatives of the Agency during this period. Through these three outcomes, the TIA responds primarily to Priority 2 (economic transformation and job creation) of the government's 2019–2024 Medium-Term Strategic Framework, but also Priority 3 (education, skills and health).

Table 1: TIA's performance in 2023/24 against its three outcomes and associated outcome indicators

Outcome indicator and definition	Baseline	Planned 5-year target and dis-aggregation of beneficiaries	2020/21 perfo-rmance	2021/22 perfor-mance	2022/23 perfor-mance	2023/24 perfor-mance	Cumulative achievement and cumulative target	Comments on 2023/24 performance
Outcome 1. Commercialised innovations								
1.1 Number of technologies commercialised (Number of technological innovations that have been introduced into the market for social benefit or commercial gain, directly or indirectly (products, processes or services))	77	175	26 against a target of 9	49 against a target of 31	61 against a target of 40	80 against a target of 45	216 against a target of 125	Over-performed due to a concerted effort to support the commercialisation of technologies across all thematic areas
Outcome 2. Delivering on the Bio-economy Strategy								
2.1 Number of successfully demonstrated bio-based technologies (Bio-based technologies, products or services that have reached demonstration stage in agriculture, health, industrial biotechnology, IKS and other bio-based domains)	–	75	37 against a target of 9	36 against a target of 12	37 against a target of 15	50 against a target of 18	160 against a target of 54	Over-performed due to continued efforts towards improving post-investment monitoring and increased support offered to contracted investments
2.2 Number of bio-based entrepreneurs and organisations accessing high-end SET services (Bio-based entrepreneurs and organisations accessing high-end SET support for the purposes of developing innovative, bio-based products or services through the financial or non-financial support of the Technology Platforms network)	–	600	165 against a target of 105	45 against a target of 110	67 against a target of 120	197 against a target of 130	474 against a target of 465	TIA over-achieved in 2023/24 in order to make up for under-achievement in previous years
Outcome 3. SMMEs supported through strategically informed and regionally distributed Technology Stations								
3.1 Number of SMMEs accessing SET services (SMMEs that access SET support for the purposes of developing innovative products or services through the financial or non-financial support of the Technology Stations network)	10,530	15,750	1,990 against a target of 2,390	3,167 against a target of 3,150	2,671 against a target of 3,250	3,114 against a target of 3,400	10,942 against a target of 12,190	Under-performance due to a decline in the number of functional and operational Technology Stations.

Outcome 1: Commercialised Innovations contributes directly to the TIA's mandate, which emphasises supporting the development and exploitation of technological innovations by translating knowledge into market-ready innovations. The planned focus of the Agency's five-year strategic cycle is to support advancements that revitalise and transform key industry sectors of the economy and new-venture creation through commercialising the maturing Agency's investment portfolio.

The efforts in and rigour for full investment lifecycle management has unearthed possible redemption opportunities and increasing royalty income. This affirms the true potential of these technologies to contribute to meaningful economic transformation and to realise equitable acquisitions that will grow the financial position of the Agency.

For the period 2020/21–2023/24 the TIA has recorded 216 technologies commercialised as against a four-year target of 125. Accordingly, the Agency has already achieved its five-year target of 175 technologies commercialised. In 2023/24 alone the Agency achieved 50 technologies commercialised against a target of 18. The reasons why the TIA has over-performed against these targets is that there has been a concerted effort to support the commercialisation of technologies across all the thematic areas over the years. Deliberate enablement strategies and direct support to investees in market validation were some of the actions introduced.

Outcome 2: Delivering on the Bio-economy Strategy gives effect to the TIA's implementation of the Bio-economy Strategy. This strategy seeks to support the translation of South Africa's knowledge resources into sustainable bio-based solutions that respond to societal challenges while also contributing to sustainable economic growth. This outcome will also contribute to increased productivity across the four sectors identified in the strategy: agriculture, health, industry, environment and indigenous knowledge-based (IK-based) innovation.

During the period 2020/21–2023/24, the Agency supported 160 successfully demonstrated bio-based technologies compared to the four-year target of 54. In 2023/24 alone the Agency achieved 80 successfully demonstrated bio-based technologies against a target of 45. In fact, the TIA has exceeded its five-year target of 75 by a significant margin. The reasons why the Agency has over-performed against these targets is that it continued its efforts to improve post-investment monitoring and to increase the support offered to contracted investments. These efforts included the quick resolution of identified contract deviations that are allowed for in TIA processes and which are processed timeously to ensure smooth delivery by projects at the contracted milestones.

The TIA also over-achieved on its 2023/24 target of 130 bio-based entrepreneurs and organisations provided with access to high-end SET services, recording an achievement of 197. The Agency has supported a total of 474 bio-based entrepreneurs and organisations during the four-year period against a cumulative target of 465. The Agency had not performed adequately against this target in the past two years and therefore the planned catch-up efforts which have been driven through the Agency's Technology Platforms have borne fruit during 2023/24.

The TIA will intensify its efforts to achieve this target by the end of 2024/25, the final year of the five-year strategic cycle. This includes the Agency's focusing its efforts on implementing strategic calls for proposals through its portfolio of DSI-contracted programmes such as the Strategic Industrial Bio-innovation Partnership (SIIP) Programme and ABIPP; targeting SMMEs and small-scale farmers; and increasing the SET services offered to SMMEs through technology platforms, technology clusters and the Technology Stations programme. By means of this approach of technology diffusion and access through the TIA instruments, the Agency will enable access by small businesses and small-scale farmers to new or high-end technologies in the form of a subsidised arrangement.

Outcome 3: SMMEs supported through strategically informed and regionally distributed Technology Stations. With this outcome the TIA aims to increase access to SET knowledge, expertise and high-end equipment in technology innovation, process improvements and product development to innovators and SMMEs to enable them to grow and become more competitive. The Technology Stations Programme (TSP) entails partnering with other role-players in the NSI and investing in technological infrastructure. The TSP and similar initiatives driven by the TIA are closely aligned to the relevant industrial sectors so that together they promote innovation-led industrialisation, localisation and export promotion.

For the 2020/21–2023/24 period, the TIA unfortunately supported a total of only 10,942 SMMEs as against a target of 12,190; in 2023/24 alone, 3,114 SMMEs were supported against a target of 3,400. The primary reason for this is that the number of functional and operational Technology Stations has declined from 18 to 15 for various reasons, which affected the TIA's capacity to support SMMEs. For this reason, too, the Agency is at risk of not achieving its five-year target of 15,750 by the end of 2024/25; but it will strive to do everything possible to achieve at least 90% (14,715) of the target. Part of this will be a significant funding reallocation to the high-performing Technology Stations in 2024/25 to ensure that the Agency is able to support greater numbers of SMMEs.

13. INSTITUTIONAL OUTPUT PERFORMANCE

Based on its 2023/24 APP, the TIA has 19 output indicators for the year under review. It achieved 15 of these 19 targets, representing a performance of 79% compared to 94% in 2022/23. Of the 19 annual output indicators, 13 relate to delivering on the Agency's core mandate, four to support services and two to transformation and inclusion.

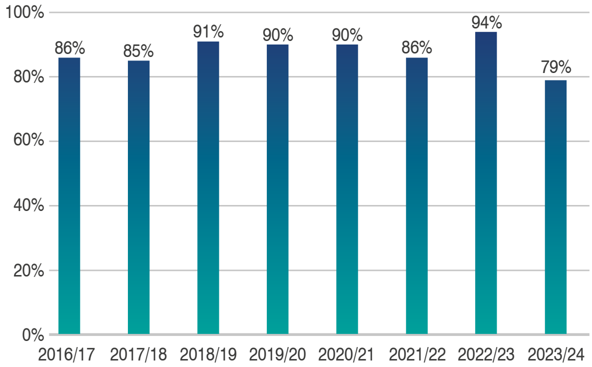


Figure 2: TIA's historical performance against its output indicator targets

Table 2, Table 3, and Table 4 present the Agency's performance against its three outcomes for the 2023/24 APP targets. Furthermore, Table 5 presents the Agency's performance against its administration-related targets. The reasons for any deviation are expanded on below these tables owing to space considerations.

Table 2: TIA's performance in 2023/24 against Outcome 1: Commercialised innovations

Output (Output Indicator)	Audited performance 2021/22	Audited performance 2022/23	Planned target 2023/24	Actual achievement 2023/24	Deviation for 2023/24	Reasons for deviation
1.1 Technologies licensed or assigned (Number of licensed or assigned technologies)	10	15	20	10	–10	Concerted efforts by TIA to meet its target have not yielded the desired results. The inherently uncertain nature of technological innovation and independent decision-making by investees to licence or assign have also contributed to this.
1.2 Joint collaborations between public-funded research organisations and industry (Number of projects involving industry being executed)	34	48	50	75	+25	Over-achieved significantly due to close partnering between industry and public-funded research organisations.
1.3 Technologies diffused for inclusive development (Number of successfully diffused technologies)	12	18	20	22	+2	Over-achieved due to a move to support more inclusive development projects that have a social focus.
1.4 Products launched (Number of products launched)	37	43	40	58	+18	Over-achieved due to multiple product launches taking place which are the subject of revenue-bearing agreements.
1.5 Revenue derived from commercialised innovations[1] (Total rand value of royalties, sales and exits)	–	–	R10m	R43.92m	+R33.92m	Over-achieved significantly due to DSI settling HyPlat's loan facility.

Performance met or exceeded | Performance not met

1 *This is a new output and output indicator as at 2023/24. The 'old' output 1.5 (Leveraged funds) has been moved in support of Outcome 3.*

Table 3: TIA's performance in 2023/24 against Outcome 2: Delivering on the Bio-economy Strategy

Output (Output Indicator)	Audited performance 2021/22	Audited performance 2022/23	Planned target 2023/24	Actual achievement 2023/24	Deviation for 2023/24	Reasons for deviation
2.1 Bio-based technologies developed (Number of successfully demonstrated bio-based technologies)	36	23	30	54	+24	Over-achieved significantly due to successfully implementing the DSI's Bio-economy Strategy.
2.2 Technology Platforms managed and supported (Number of Technology Platforms that are operational and functional)	8	8	9	9	–	–
2.3 Technology Innovation Clusters managed and supported (Number of Technology Innovation Clusters that are operational and functional)	7	7	9	9	–	–

Table 4: TIA's performance in 2023/24 against Outcome 3: SMMEs supported through strategically informed and regionally distributed Technology Stations

Output (Output Indicator)	Audited performance 2021/22	Audited performance 2022/23	Planned target 2023/24	Actual achievement 2023/24	Deviation for 2023/24	Reasons for deviation
3.1 New centres established and supported (Number of new technology transfer centres providing SET support in targeted regions)	3	8	8	9	+1	Reallocation of funds internally allowed for the establishment of an additional centre in an underserved community in Mpumalanga focused on the youth.
3.2 SET and enterprise development support provided to SMMEs[2] (Number of SMMEs and co-operatives receiving SET and enterprise development support)	3,167	2,903	3,000	3,537	+537	Over-achieved due to a concerted effort to account for SMMEs supported across all the TIA's business units and efforts to make up for previous under-performance.
3.3 High level human capital development for competitiveness and new industry development (Number of high-level students and post-doctoral fellows admitted)	96	195	130	241	+111	Over-achieved significantly partially due to including the provision of non-financial support to students and post-doctoral fellows in recorded performance and not just financial support.
3.4 Innovation products produced (Number of IP- and knowledge-based products produced)	179	197	200	217	+17	Over-achieved as a result of the growth of TIA investment portfolio and improvements in post-investment project monitoring, invention disclosures and reporting at the TIA's implementation partners.
3.5 Leveraged funds[3] (Total rand value leveraged)	R746.5m	R600.9m	R300m	R686.85m	+R386.85m	Over-achieved significantly due to programmes maturing faster than anticipated, rendering them attractive to stakeholders in the NSI.

2 SMMEs incorporate grassroots innovators.
3 This was Output 1.5 previously and has been moved to Outcome 3, given the expanded interpretation of this outcome.

Table 5: TIA's performance in 2023/24 against its Administration-related output targets

Output (Output Indicator)	Audited performance 2021/22	Audited performance 2022/23	Planned target 2023/24	Actual achievement 2023/24	Deviation for 2023/24	Reasons for deviation
A1.1 Good financial governance (Achieve an unqualified external audit opinion with no financial matters in the audit report)	Target met (unqualified clean audit)	Target met (unqualified audit opinion with no matters of emphasis)	Clean external audit opinion	Target not met	Achieved an unqualified audit opinion with matters of emphasis against a target of an unqualified audit opinion with no matters of emphasis (clean audit)	Target not met as a result of paragraph in the audit opinion in relation to non-compliances noted in related to changes to the AFS after submission for audit and irregular expenditure recorded within the AFS.
A1.2a Improved investment decision turnaround time for funding applications (Investment decision turnaround time for funding <R1m)	Target not met	Target not met (48 out of 93 applications assessed within four weeks, or 52%)	Achieve a 4-week turnaround time	Target not met	16 out of 37 applications assessed within 4 weeks (43%)	The inherent complexity of investment opportunities and the rigours of assessing funding applications irrespective of the amount being applied for often results in targets not being met. Other factors include the time-intensive application-building process, including delays in applicants submitting missing information.
A1.2b Improved investment decision turnaround time for funding applications (Investment decision turnaround time for funding >R1m & <R15m)	Target not met	Target not met (89 out of 107 applications assessed within 15 weeks or 83%)	Achieve a 15-week turnaround time	Target not met	19 out of 33 applications assessed within 15 weeks (58%)	The inherent complexity of investment opportunities and the rigours of assessing funding applications irrespective of the amount being applied for often results in targets not being met. Other factors include the time-intensive application-building process, including delays in applicants submitting missing information.
A1.2c Improved investment decision turnaround time for funding applications (Investment decision turnaround time for funding >R15m)	Target not met	Target achieved (2 out of 2 applications assessed within 26 weeks or 100%)	Achieve a 26-week turnaround time	Target met	1 out of 1 application assessed within 26 weeks (100%)	-
A1.3 Support transformation initiatives in underserved provinces (Allocation of funds to underserved provinces: At least 30% of available investment funds allocated)	–	Target met (66% against a target of 30%)	At least 30% of available investment funds allocated	50%	+20 percentage points	Over-achieved significantly due to efforts in KwaZulu-Natal in pursuit of transformation and inclusion.
A1.4 Support the transformation of the TIA's investment portfolio (Allocation of funds to transformed recipients: At least 40% of available investment funds allocated)	–	Target met (47% against target of 30%)	At least 40% of available investment funds allocated	79%	+39 percentage points	Over-achieved significantly through deliberate investment in existing and new platforms.

Performance met or exceeded | Performance not met

13.1 PERFORMANCE AGAINST CORE MANDATE TARGETS

With regard to achieving annual performance targets relating to the TIA's core mandate, the Agency met or exceeded 12 of its 13 performance targets, with the target for the number of technologies licensed or assigned not being met.

The Agency significantly over-achieved against the annual targets for the number of joint collaborations between public-funded research organisations and industry (75 against a target of 50), products launched (58 against a target of 40), revenue derived from commercialised innovations (R43.92 million against a target of R10 million), bio-based technologies developed (50 against a target of 30), SET and enterprise development support provided to SMMEs (3,537 against a target of 3,000), high-level human capital development (241 against a target of 130) and leveraged funds (R686.85 million against a target of R300 million).

OUTCOME 1: COMMERCIALISED INNOVATIONS

The TIA achieved four of the five commercialisation-related targets for the year, with some targets crucially being over-achieved by a significant margin. The major challenge remains TIA's performance against its target for technologies licensed or assigned.

Selected project examples that contributed to the Agency's output targets under Outcome 1 are described below.

Technologies licensed or assigned

Despite concerted efforts by the TIA to meet its target, only ten technologies stemming from TIA-funded projects were licensed or assigned against a target of 20 for the year. The Agency's business units have worked fervently to pursue agreements with the Agency's investees and other partners; however, achieving its target remained elusive. The inherently uncertain nature of technological innovation and independent decision-making by investees to license or assign the technologies developed have also contributed to this outcome. In future, the Commercialisation Division will work with the other divisions to develop a strategy to respond appropriately to this challenge. A new path needs to be re-engineered so that performance can be closely monitored and opportunities with strategic intent identified.

The **Rare Earth Beneficiation Demonstration Facility** makes use of patented proprietary technology licensed from the South African Nuclear Energy Corporation (NECSA). This technology entails processes and designs devised by the NECSA to produce neodymium trifluoride and/or other trivalent metallic fluorides from the fluorination of rare earth oxides, rare earth carbonates and other similar trivalent metallic salts. In late 2023 NECSA issued an exclusive licence to the facility to develop the technology further in a semi-commercial pilot plant for the production, marketing and sale of neodymium trifluoride.

The **Industrial Biocatalysis Hub** was established to strengthen the biocatalysis value chain and reduce the risk of biotechnology adoption in industry by providing human capital development, access to applied R&D, and technology transfer to enable participation with industry. The Hub helped Linuset to develop the technology used in the formulation of **racemic phenibut**. Linuset uses phenibut in the production of chemical products which are currently mainly imported into South Africa. The technology was licensed to Linuset for local production and commercialisation.

The Industrial Biocatalysis Hub also helped Puris Natural Aroma Chemicals to develop a technology that scales up the production of **Orris butter**. Puris was importing the natural Orris butter and was interested in producing the product itself. Assistance was provided to produce Orris butter which is similar or better than the Orris butter imported from a European company. A licensing agreement has been entered into with Puris to allow the company access to the Orris technology for production and commercialisation purposes.

The Council for Scientific and Industrial Research (CSIR) and Polymer Nano Composite collaborated with Sea Trading Global to test **plastic films on biltong.** As a requirement for testing other markets than what Polymer Nano Composite had already tested, the team approached Sea Trading Global, a global meat trader, about collaborating in the testing of dried meat or biltong. The CSIR provided the plastic films that have proved to help improve the shelf life and quality of biltong as it is shipped globally.

Joint collaborations between public-funded research organisations and industry

The Agency over-achieved significantly against its annual target to foster collaborations between public-funded research organisations and industry: it recorded 75 collaborative agreements in respect of TIA-funded projects or initiatives against a target of 50. The targets have been exceeded under this metric for the year in accordance with established 'triple helix' principles, according to which the likelihood of successful innovation increases when industry participates in R&D.

Nelson Mandela University plays host to the TIA-funded **uYilo eMobility Technology Innovation Programme** ('uYilo') which aims to fast-track the development, support and commercialisation of electric vehicles, charging infrastructure, electric power trains and battery systems in South Africa. uYilo provided funding to EWIZZ (Pty) Ltd for developing EWLive and EWDroid platforms for use in EWIZZ smart scooters. Funding was also provided to LLP Investments (trading as Microcare). These collaborations are part of uYilo's objective of facilitating an enabling environment for the commercial uptake of electric vehicle technology in South Africa. Engineering Advice and Services (Pty) Ltd entered into a collaboration with the university aimed at developing a multi-station network for ten electric vehicle chargers. The network is capable of balancing fixed power capacity among the chargers.

The **CSIR** signed a project collaboration agreement with **Midnite Aerospace Solutions** (Pty) Ltd. The CSIR together with its commercial partner will undertake the development of an Inundu Radar Threat Simulator, an airborne test and evaluation platform that provides electronic counter-measure, electronic attack and electronic support capabilities to second- and third-generation aircraft, in this way transforming such an aircraft into a fifth-generation fighter aircraft.

The Precision Tree Breeding Platform caters to industry and SMMEs in providing precision tree-breeding services. The **University of Pretoria (UP)** signed an agreement with the **Mondi Group** (Pty) Ltd through the Forest Molecular Genetics Precision Tree Breeding Platform. The platform will facilitate the advancement of tree-breeding efforts by applying precision breeding techniques and technologies. UP also collaborated with the **South African Forestry Company** SOC Limited through a service level agreement which will allow this organisation to use the Precision Tree Breeding Platform. UP has also signed two collaboration agreements with **Merensky** Limited and **TWK** (Pty) Ltd. The Precision Tree Breeding Platform will enable these two companies to collect, store, manage and analyse genetic and phenotypic data related to tree breeding effectively.

Technologies diffused for inclusive development

The TIA over-achieved against its target to diffuse 20 TIA-supported technologies for the purposes of inclusive development, delivering 22 technologies diffused during the year.

The **Lark Electric Cargo Trailer** project, funded previously through the uYilo Programme, has been introduced into the market (community structures, SMMEs, co-operatives and other business formations). An agreement was concluded between STROOM and Shovebike (Pty) Ltd. Shovebike is a delivery company based in Soweto and will be renting STROOM's e-cargo trailer.

Level 98 Innovations has collaborated with the City of Tshwane's Water and Sanitation unit to conduct trials of its **sensor technologies** at Daspoort wastewater treatment works. Integrating the sensor technologies into a real-time SCADA system has resulted in improved plant management and national access to data via mobile devices. The company will install sensor technologies in the plant, including temperature and pH sensors, which will be linked to a real-time control system. This setup will enable operators to monitor data in real time on their screens, helping them to improve the management of the plant. The data collected will also be stored in the cloud for future analysis, and the plant manager will have access to it via a mobile device nationally.

RIOT Networks is a 5G technology-based connectivity solution that aims to service township residents through offering a platform technology that will enable households and small businesses to crowdsource network infrastructure and deploy network devices to serve their need for private internet access. In the year under review RIOT connected the core nodes in Olievenhoutbosch which will provide access to 'leaf' nodes in the same community in addition to sharing the revenue generated with the community. The company has also entered into reseller agreements with Comsol and Wirulink. This brings the entity further towards achieving its commercialisation objectives and improving the socio-economic status of indigent communities.

Products launched

Through the TIA's investments in technological innovation, 58 products were launched in 2023/24 against a target of 40. The Agency significantly over-achieved against its target for the year on the back of multiple product launches which are the subject of revenue-bearing agreements. Once more, the role of publicly funded R&D organisations featured in multiple launches and also in small and transformed small businesses.

Respo is a multi-tenant platform for emergency service providers who wish to take advantage of a GPS-enabled and data-driven communication software to improve their service to their clients. Respo makes it easier for emergency service providers to respond faster to emergencies by maintaining a database of their clients and consistently communicating with their clients monthly. Respo Technologies has launched a new product called **Respo Admin System** and signed a service level agreement with First Ocean Funerals.

Under the uYilo Programme, a **green mobility pilot project** has been launched in Alicedale to help residents of the remote town to get around while promoting eco-business and protecting the environment. The pilot project included two micro-electric vehicles – one for transporting goods and another for transporting or ferrying passengers.

Setsong Tea Crafters launched an iced-tea product range comprising **four indigenous tea-based products** at the DStv Delicious International Food and Music Festival in Midrand in late 2023. The additional wide exposure of these products has been well received and will help to market the technology further. The products are Tepane Black Bush Tea with Lemon, Ginger and Cinnamon; Tepane Black Bush Tea infused with Chai spices; Diya Red Root Tea with a blend of Lemon, Ginger and Berry, and Diya Red Root Tea harmoniously combined with Orange, Ginger and Turmeric.

Figure 3: New iced tea product range launched by Setsong Crafters have been well received by the market.

Canzi and Chemin, a chemical technologies incubator, signed an agreement that resulted in the launch of a moisturising detangler, a hairline serum, a body butter, a leave-in conditioner, a hair growth product and a glycerine soap at the Hope Factory in late 2023. These personal-care products are being sold at the Lwanda Pharmacy and the Vincent Medicenter, based in East London. **Canzi skin and hair products** are produced using popularly used medicinal plants.

Figure 4: Canzi Hair & Skin products are produced using popularly used medicinal plants. Sikhona Jobela, CEO of Canzi Hair & Skin worked with Chemin to launch six hair care products.

The Agricultural Research Council Infruitec-Nietvoorbij in collaboration with the TIA launched **Thornham Honeybush Tea** into the market through four SMMEs that are supported as part of the project's 'Development of communities' sub-project. The aim is to conserve natural populations and increase the cultivated area of honeybush. This is being done by establishing commercial seed-orchards in two communities, supporting two community nurseries in producing honeybush seedlings and helping to establish plantations in communities. The Honeybush tea product is now sold through farm stalls as an offset point and also at flea markets. During the reporting quarter, Thornham Honeybush Tea sold 5,000 *Cyclopia subternata* seedlings and 2,000 Cyclopia longifolia seedlings.

Figure 5: TIA-funded Honeybush products reach the market

Revenue from commercialised innovations

The TIA's year-end target was significantly over-achieved, with crucial contributions from the DSI's approval to settle the TIA facility of R38.1 million on behalf of HyPlat, a specialist fuel-cell technology company that focuses on delivering state-of-the-art fuel-cell components. This was in exchange for a 7.3% equity stake in the company. The funds to settle the facility were transferred to Agency from the Public Investment Corporation on behalf of the DSI in October 2023. This exit presents a material milestone for the Agency in realising an investment that was made at an early stage.

OUTCOME 2: DELIVERING ON THE BIO-ECONOMY STRATEGY

The TIA's progress towards Outcome 2 was exemplary, with the number of bio-based technologies that were developed being surpassed. Opportunities have arisen for these bio-based technologies to be commercialised, as seen in the TRL movement to TRL 5 or 6. The organisation demonstrated appropriate support of Technology Platforms and Clusters in rendering them operational and functional.

Selected project examples contributing to the developed output target of the Agency's bio-based technologies under Outcome 2 are provided below.

Bio-based technologies developed

Overall, the TIA has over-performed significantly in the reporting period, with delivery primarily emanating from the Agency's Indigenous Knowledge Systems (IKS) portfolio. The Agency supported the development of 54 bio-based technologies against a target of 30. This was an expected result, considering that the strategy has always been to support opportunities with multiple products. This performance is due to a concerted effort to implement the DSI's Bio-economy Strategy successfully and it is testament to the quality of the proposals sourced, evaluated and managed by the Bio-economy Division to drive the output, which is a feeder for the future focus of the Agency in commercialising developed technologies.

In 2013 the TIA, through the Animal Health Technology Innovation Cluster, funded Onderstepoort Biological Products' development of a **plant-based vaccine for the bluetongue virus disease in sheep**. Bluetongue disease is a non-contagious insect-transmitted disease in wild and domestic ruminants. It is significant globally due to its economic impact and effect on animal welfare.

Figure 6: Bluetongue virus disease in sheep

The project has demonstrated the safety and efficacy of the multivalent bluetongue virus vaccine. The production process of the bluetongue virus-like particle candidate vaccine for monovalent serotypes was developed and optimised. Adjuvants were evaluated for vaccine safety, delivery and potency in target species in sheep. The suitable vaccine formulations identified and selected were based on data generated with the monovalent candidate vaccine. The research project was finalised by evaluating the **trivalent vaccine** in a challenge with virulent virus in a clinical trial study conducted in sheep. The vaccine was safe in sheep as a monovalent of each individual serotype and trivalent formulations. The efficacy of the vaccine was demonstrated through a challenge with virulent virus which protected against the serotypes 3, 4 and 8.

The **Continuous Seed Preparation System** for sugar processing project entails developing a system for the continuous preparation of a sucrose seed magma that could feed secondary pans directly, therefore eliminating the initial step in pan boiling. Continuous seed production has various benefits and will ultimately reduce operating costs and improve efficiency. This should enhance the industry's competitiveness, which is an objective of the Sugar Masterplan. The Sugar Milling Research Institute has successfully demonstrated that **crystal seed** can consistently and repeatably be produced by insonation in a continuous pilot plant system.

Igagasi Biotech, in collaboration with the CSIR, has successfully developed three antigens with technical support from the Bioprocessing Platform. These antigens (biological products) are Influenza A and B as well as **Respiratory Synctial Virus antigens.** The Igagasi team has confirmed the biological activity of these antigens with commercial antibodies. The team intends subsequently to use the same purified antigens that they have produced to immunise chickens, so that the chickens can produce antibodies. The team intends to develop antibodies for application in lateral flow assay tests that are suitable for use in remote or resource-limited settings.

OUTCOME 3: SMMES SUPPORTED THROUGH STRATEGICALLY INFORMED AND REGIONALLY DISTRIBUTED TECHNOLOGY STATIONS

The TIA achieved all five of the Outcome 3-related targets for the year, with some targets being over-achieved significantly.

SET and enterprise development support provided to SMMEs

The TIA continues to support SMMEs and co-operatives predominantly through funded interventions that provide access to SET expertise and infrastructure. The Agency is pleased to report that it exceeded its target for the year. Management has made a considerable co-ordinated effort to ensure that this indicator is reported on by all the units across the Agency.

In 2023/24 the TIA surpassed expectations in supporting 537 more beneficiaries (SMMEs and co-operatives) than the target of 3,000. The majority (3,114 beneficiaries or 88% of the total) of this contribution originates from the Agency's Technology Stations Programmes, with significant contributions being made the from Living Labs and the Grassroots Innovation Programme under the IID Programme (309 beneficiaries or 9% of the total).

High-level human capital development for competitiveness and new industry development

The TIA's significant over-performance against its target for high-level human capital development was partially due to appropriate changes in the way this indicator is measured to encompass support provided beyond the provision of funding to include non-financial support, too. The Agency has invested in future talent in the sphere of science by funding or co-funding industry-relevant experiences for 241 high-level students and post-doctoral fellows. This investment exceeded the target of 130. The Agency's support of this cohort represents a strategic investment aimed at cultivating and nurturing a skilled workforce for the future.

Innovation products produced

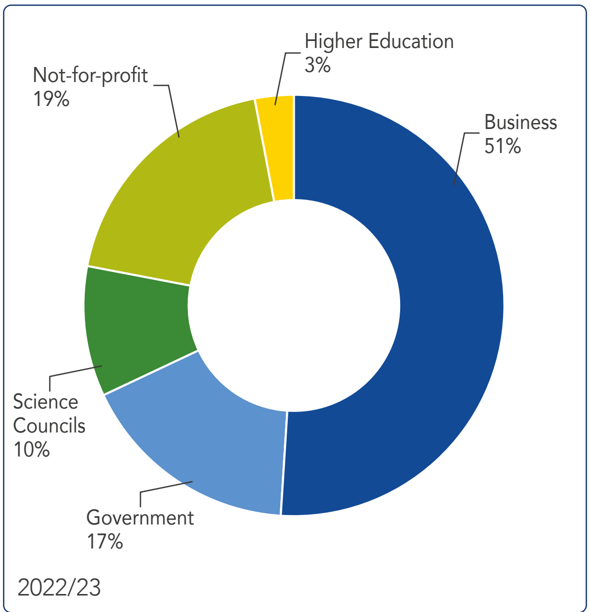
The TIA over-achieved against the projected number of innovation products produced, facilitating the production of 217 IP and knowledge-based innovation products. In doing so, it exceeded the target of 200 products. These innovations ranged from invention disclosures, patents and prototypes to technology transfer packages, technology demonstrators and plant-breeders' rights.

At the start of the year under review the Agency had a modest plan to support the production of knowledge-based innovation products in an effort to translate the outputs of scientific research into innovations. The growth of active-disbursing projects in the programme exceeded expectations, with more than the anticipated number of projects on the Agency's books at the end of 2023/24. This is especially true for the Grassroot Innovation Programme, which increased the number of funded projects from 114 to 234 – with a significant concentration of funded projects at TRL 3 (122), TRL 5 (40) and TRL 6 (26). The Seed Fund Programme (SFP) also has 208 active-disbursing projects, which are monitored by the SFP Committee. The over-achievement is therefore the result of a larger project portfolio together with improvements in post-investment project monitoring and reporting and improved competencies at the Agency's implementation partners.

Leveraged funds

An important proxy indicator for the successful commercialisation of TIA-funded technologies is the amount of funding leveraged by TIA's investees. In 2023/24 the TIA recorded R686.85 million in leveraged funds, far exceeding the target of R300 million. The Agency's achievement compares favourably with the achievement of R600.9 million in 2022/23. This year's demonstrates the Agency's ability to attract significant investment from industry, development institutions and the public sector, solidifying its role as a curator and 'linchpin' in the NSI. This is testament to the programmes with implementation partners maturing faster than anticipated beyond the pilot phases, with the collective project portfolio being attractive to other stakeholders in the NSI.

In line with South Africa's annual National R&D Survey, the funds leveraged by the Agency's investees in 2022/23 and 2023/24 have been categorised according to five different types of organisation: Business, Government, Science Councils, Not-for-Profit and Higher Education, as shown in Figure 7.



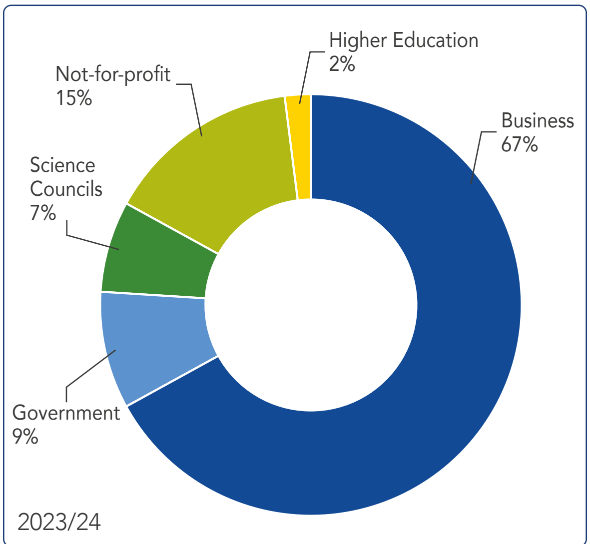


Figure 7: Funding leveraged by the TIA in 2022/23 and 2023/24 according to organisation type

As in 2022/23, the largest portion of funding leveraged in 2023/24 was from Business, amounting to R457.9 million (67%), followed by Not-for-Profits at R102.8 million (15%) and Government at R62.2 million (9%). These are followed by the Science Councils at R47.6 million (7%) and Higher Education at R16.4 million (2%).

There was a significant increase in funds leveraged from the private sector by TIA investees year on year, with R457.9 million recorded in 2023/24 compared to R306.5 million in 2022/23. The approximately two-thirds of the funds leveraged from Business or the private sector demonstrates the derisking role that the Agency plays in helping to commercialise high-risk technologies by progressing them towards the market.

13.2 PERFORMANCE AGAINST TRANSFORMATION AND INCLUSION TARGETS

SUPPORT TRANSFORMATION INITIATIVES IN UNDERSERVED PROVINCES

During 2023/24, the TIA has accelerated its allocation of funding to underserved provinces, significantly over-achieving against its target to support transformation by funding recipients in these provinces. The target was at least 30% of the R56.2 million in available investment funds allocated, equivalent to R16.86 million, with an achievement of R28.32 million being recorded. The significant investments made in KwaZulu-Natal by the Health and IKS business units is testament to this commitment in pursuit of capacity development, skills transfer, the harnessing of local biodiversity for economic development and the precipitation of community involvement. The Commercialisation Division devoted significant efforts to identify projects in underserved provinces, but these efforts did not lead to any subsequent funding applications.

SUPPORT THE TRANSFORMATION OF THE TIA'S INVESTMENT PORTFOLIO

Significant funding was made available to transformed recipients through deliberate investment into existing and new platforms that were conceptualised and managed by transformed recipients. As a result, the Agency also significantly over-achieved against its target in allocating uncommitted funds to investees in designated demographic groupings. The Agency's target was to allocate at least 40% of the R56.2 million in the available/unencumbered investment funds, equivalent to R22.48 million, to such recipients. Instead, the Agency recorded funds allocated in the amount of R44.45 million in 2023/24.

In the case of the Agency's investment in Manguzi, KwaZulu-Natal, the promise of local economic development is achievable because of the first significant investment by the Agency aimed at realising the development of technology in traditional knowledge and its commercialisation. To solicit projects in support of transformation in the Commercialisation Division two calls (Energy and Natural Resources) plus the Innovate UK call were put out nationally. However, few submissions were received in response that were aligned with the imperatives of transformation. Primarily, the Agency's performance against its targets in this area was contributed by its Innovation Enabling Division.

13.3 PERFORMANCE AGAINST ADMINISTRATION-RELATED TARGETS

The TIA met one of its four annual support service-related targets, but it did not meet two of its three turnaround time targets for investment approvals, nor did it meet its target for good financial governance.

GOOD FINANCIAL GOVERNANCE

The external audit outcome reflected an unqualified audit opinion with matters of emphasis in relation to non-compliances noted against a target of an unqualified audit opinion with no matters of emphasis (clean audit), pertaining to the good financial governance output target. The target was not met as a result of non-compliance noted by TIA's external auditors in relation to changes to the AFS after submission on 31 May as well as irregular expenditure identified through the audit process, which represents areas for improvement for the Agency in 2024/25. Management remains committed in maintaining good financial governance and driving an effective and efficient enabling environment to allow the Agency to deliver on its strategy.

IMPROVED TURNAROUND TIMES FOR INVESTMENT DECISIONS

The TIA has in place three measurement categories for evaluating the turnaround times for making investment decisions, that is, according to the quantum of a funding application: less than R1 million, between R1 million and R15 million, and greater than R15 million. During the reporting year, the Agency considered only those full funding applications received after 1 April 2023 and assessed with an investment decision made by 31 March 2024, whether the decision was to reject or to fund the applicant. Furthermore, in relation to funding applications made in response to calls for funding, the Agency bundled all project funding applications and regarded this call as one transaction equivalent to a project funding application, with the collective quantum of the total funding applied for determining which funding category it related to. In such an instance, the funding call was regarded as the date of receipt of funding applications.

For A1.2a (investment decision turnaround time for funding applications <R1 million) and A1.2b (investment decision turnaround time for funding applications >R1 million and <R15 million) applications, the Agency did not meet its targets for the year. It met its target of four weeks' turnaround time in 16 out of 37 funding applications (43%) in category A1.2a and it met its target of 15 weeks in 19 out of 33 applications (58%) in category A1.2b.

For A1.2c (investment decision turnaround time for funding applications >R15 million) the Agency met its target for the year: the target of assessing applications in 26 weeks was met by timeously assessing one bundle of applications received in response to a call for funding proposals under the Grassroots Innovation Programme. It should be noted that whereas the TIA Board approved several projects with funding requirements >R15 million in 2023/24, due to the fact that all these applications were received prior to the start of the year, the approvals have been excluded from the A1.2c actual performance for 2023/24, as has been the case in previous years. Such projects included applications for funding by Msizi Pharmaceuticals, the University of the Western Cape (the Hydrogen Fuel Cell Forklift project) and the Industrial Biocatalysis Hub.

13.4 PROMOTING TRANSFORMATION

The TIA supports transformation broadly and inclusive innovation specifically. In line with national imperatives to resolve the triple challenges of poverty, inequality and unemployment, the Agency tracks the number of women, youths and persons with disabilities (or businesses owned by these groupings) it supports. And in line with the Agency's mandate to support publicly funded IP and underserved provinces, it also tracks the value of the support it provides to publicly funded research organisations and beneficiaries in underserved provinces.

SUPPORT TO WOMEN, YOUTHS AND PERSONS WITH DISABILITIES

At the output performance level, sub-targets are set for women, youths and persons with disabilities. The TIA's performance against its targets for 2021/22, 2022/23 and 2023/24 are shown in Figure 8, Figure 9 and Figure 10.

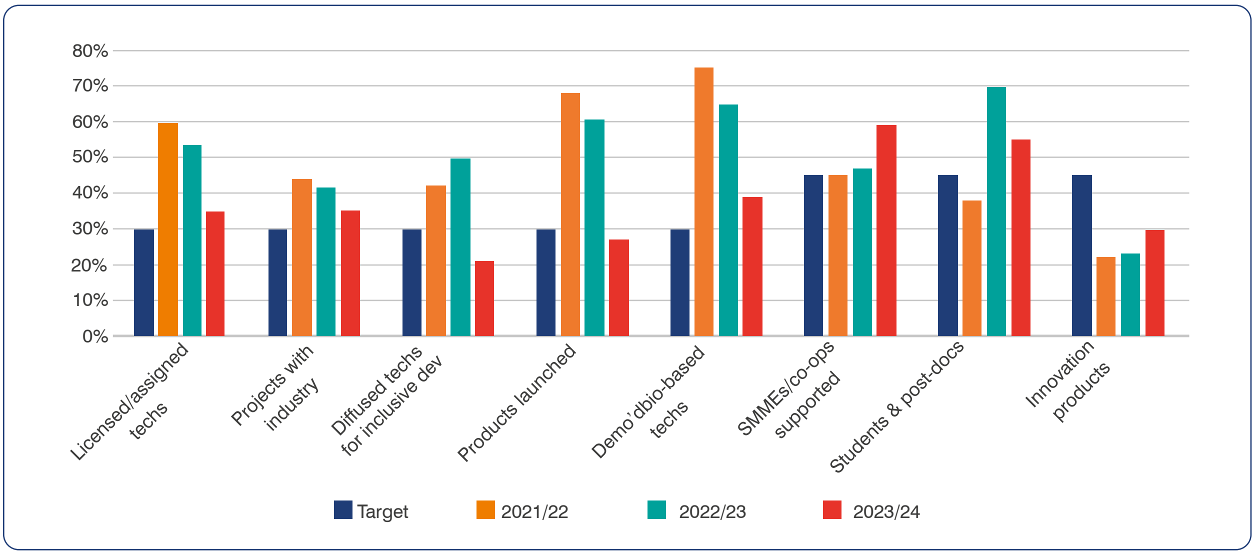


Figure 8: TIA's performance against output targets in 2021/22–2023/24 for women

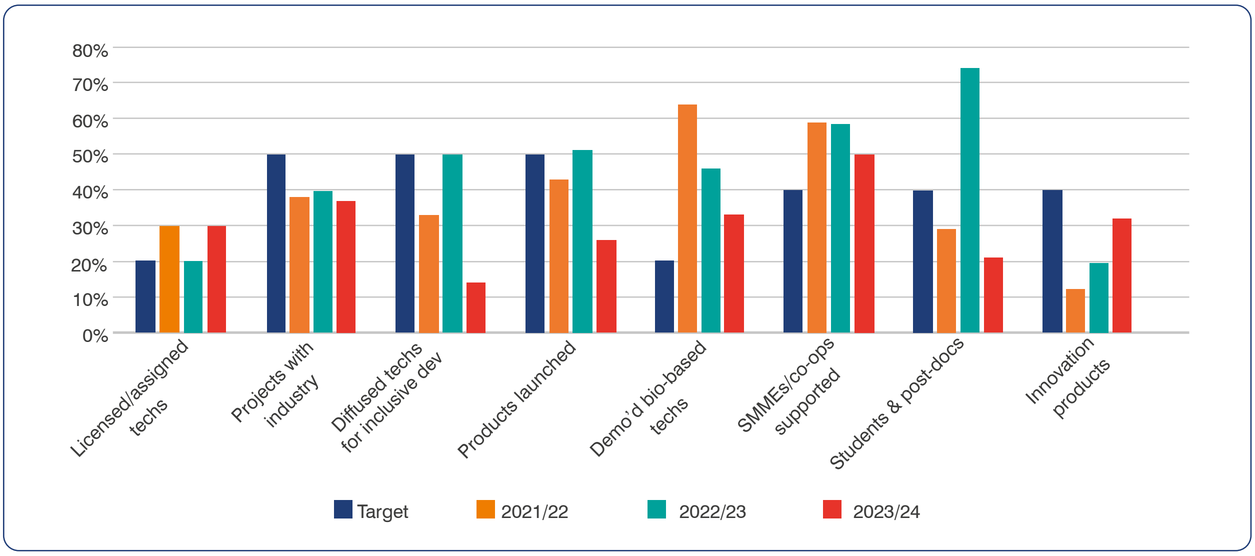


Figure 9: TIA's performance against output targets in 2021/22–2023/24 for youths

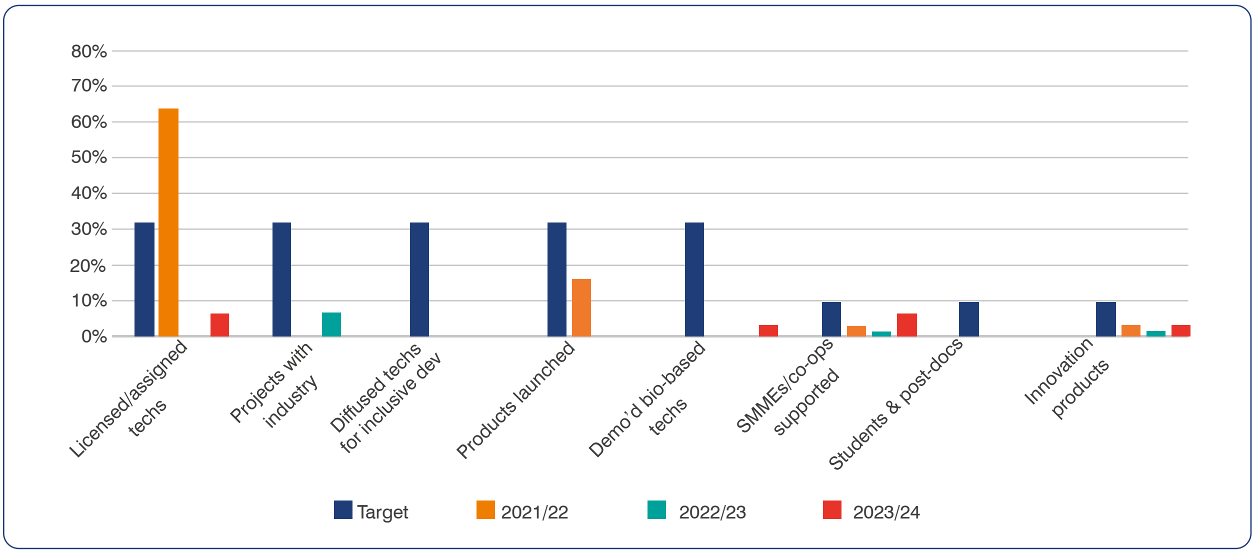


Figure 10: TIA's performance against output targets in 2021/22–2023/24 for persons with disabilities

With respect to women beneficiaries, the TIA met five of its eight sub-targets (63%) in 2023/24 compared to seven out of eight (88%) in 2022/23. For the youths, the Agency met three out of eight sub-targets (38%) in 2023/24 compared to six out of eight (75%) in 2022/23. It did not meet any of its targets for support of beneficiaries who are persons with disabilities in 2023/24; the same result was recorded in 2022/23.

The TIA's innovation programmes in support of women, youths and persons with disabilities were launched in late 2023. Accordingly, the Agency expects to see an improvement in its performance from 2024/25 onwards. Owing to a lack of MTEF funding and with the TIA not being able to secure commitments from any government departments approached to dedicate funds to the transformation programme, the Agency was not able to implement its transformation programmes as intended. However, the Allan and Gill Gray Foundation committed R1.5 million to co-funding the implementation of the Youth Technology Innovation Programme it supports in Limpopo. This will form part of the Higher Education Innovation Fund launched by the Minister in March 2024.

DISBURSEMENTS TO PUBLIC-FUNDED RESEARCH ORGANISATIONS

The TIA is charged with derisking promising IP that emanates from publicly funded research. The Agency's shareholder, the DSI, has accordingly requested the TIA to direct the bulk of its investment expenditure (approximately 70%) at publicly funded recipients.

In the year under review the TIA's disbursements to publicly funded research organisations (universities and science councils) amounted to 67.7% (R415.4 million) compared to 32.3% (R197.8 million) to non-public (private) beneficiaries. In 2022/23 the proportions were 73.7% and 26.3% respectively. Over the past few years the Agency has consistency ensured that the bulk of the disbursements are directed at publicly funded research organisations for the purpose of commercialising the outputs of publicly funded research.

14. DIVISIONAL PERFORMANCE

14.1 COMMERCIALISATION DIVISION

OVERVIEW

The purpose of the Commercialisation Division is to support the process of technological development across key economic sectors by providing funding and other support. This will serve to create commercialisation opportunities for entrepreneurs and will contribute to economic growth in South Africa. Through this strategic thrust, the TIA aims to intensify its efforts to

- Increase the rate of translation of locally developed technologies;
- Exploit IP from publicly funded institutions;
- Ensure that these are commercialised in a manner that promotes economic growth and the competitiveness of industry; and
- Respond to the imperatives of transformation and service delivery imperatives.

TIA has focused on leveraging local and global partnerships to support the translation of knowledge from universities, science councils, and the private sector into commercialised innovations that will have a positive impact on the lives of all South Africans. It has responded to climate change and low-carbon economy imperatives by implementing strategic interventions.

The Commercialisation Division consists of the Advanced Manufacturing, Energy, ICT, and Natural Resources business units and is in the final stage of developing a strategy to enhance and accelerate the commercialisation of promising technologies across all segments of the innovation ecosystem. The strategy will place greater emphasis on the commercialisation of IP from publicly-funded research.

PROGRESS TOWARDS PLANNED STRATEGIC INITIATIVES

The 2023/24 APP committed the Commercialisation Division to several strategic initiatives for the year. The division's progress towards these strategic initiatives is indicated in Table 6.

Table 6: Progress against strategic initiatives planned by the Commercialisation Division for 2023/24

Challenge or Opportunity	Strategic Initiatives	Status
Commercialising public-funded R&D for socio-economic benefit		
Ad-hoc and sub-optimal technology commercialisation practices across the organisation	Implement an organisation-wide Commercialisation Strategy and Structure, including the use of appropriate instruments, e.g. convertible instruments	The draft Commercialisation Enablement Strategy which encompasses Commercial strategy and Post Investment strategy was presented at IFC and will be presented at Board.
IP leakage leading to loss of the opportunity to harvest the gains of public investment in RDI, including the lost opportunities of contributing to the fiscus and to society broadly	Implement the findings and remedial actions stemming from an independent study commissioned to investigate publicly-funded IP leakage, both at a national and a TIA level	An IP Leakage Study was completed by the appointed service provider and presented to the Board Technical Committee, with this committee recommending further consultation to solicit broader inputs. An IP Leakage workshop is to be held in early 2024/25.
Opportunity to leverage off pockets of IP strength and technological capabilities within public-funded research institutions	Strategic alignment partnerships with key public research organisations that collectively possess the bulk of SA's national technological capabilities in radar science and engineering, and nuclear medicine	Whilst Nuclear medicine was an important focus area, low-carbon economy technologies have taken precedence, climate mitigation technologies, space innovation and waste- water would be the new focus areas. Modernisation of mining, agriculture and advance manufacturing would take the platform of focus.
Internal capacity and capability constraints for successful commercialisation of research	Address capacity and capability constraints within TIA, particularly in IP due diligence and deal-making	TIA made efforts to resuscitate the CHUMA program in collaboration with National Intellectual Property Management Office. IP training took place internally.
Leadership within the 4IR		
Sub-optimal co-ordination and non-participation in RSA 4IR Institute	Formulate a TIA-wide 4IR Strategy in the context of the RSA 4IR Strategy	Following the publishing of the Presidential Commission on 4th Industrial Revolution report, TIA has been an active participant in the Strategy Implementation Plan of the Department of Communications and Digital Technologies primarily through consultative workshops. Work on the 4IR Strategy plan is ongoing.

Table 6: Progress against strategic initiatives planned by the Commercialisation Division for 2023/24 (continued)

Challenge or Opportunity	Strategic Initiatives	Status
Energy Security		
Ensuring a Just Energy Transition for SA	Collaboration with Eskom in repurposing and re-powering its old coal fleet	Various collaboration programs have been initiated with the DSI, the South African National Energy Development Institute and the Presidential Climate Commission Secretariat. The R3 billion Carbon Capture and Utilisation project is one of projects being jointly worked on.
	Collaboration with the Presidential Climate Commission Secretariat in addressing SA's climate issues	Procurement of a service provider to undertake a green technology stocktake were at an advanced stage, with contracting expected in early 2024/25.
Decarbonisation of South African industry	Support the implementation of the Cabinet-endorsed Hydrogen Society Roadmap (policy)	TIA's Hydrogen program gained impetus with the Agency funding a hydrogen forklift project at the University of the Western Cape.

BUSINESS UNIT OVERVIEWS

Advanced Manufacturing

The purpose of Advanced Manufacturing is to support the TIA vision by building a quality portfolio of projects that contributes to modernising and transforming South Africa's manufacturing industry into a competitive, high-tech and high value creation industry.

For the year under review, the business unit continued with the steady transition of its portfolio into commercialisation, with most of the portfolio graduating passed TRL7 and higher. Therefore, the unit was busy with commercialisation-related activities such as securing second round funding, facilitating international technology demonstrations and presenting equity proposal for various projects.

The unit also successfully onboarded new projects in the advanced electronics radar domain, such as the Inundu training pod that is used to enhance pilot training. Projects such as this, and the Passive Radar project, demonstrate the Agency's support for the niche hi-tech sectors where South Africa punches above its weight.

Two project examples are provided to illustrate the work of the unit.

Novelquip Mechanised Seedling Planter fosters sustainable forestry industry

The purpose of this project is to develop a mechanised seedling planter for commercial forestry that enhances planting efficiency and reduces manual labour through a patented technologically advanced design. This innovation aims to revolutionise forestry practices by integrating advanced technology and sensor systems for optimised planting and data-driven analytics, while providing comprehensive operational guidelines and training programmes for effective adoption.

Figure 11: The Novelquip mechanised seedling planter undergoing field trials

The technology put South Africa on the map as an innovation leader by yielding significant results and impact. The concept machine version successfully underwent customer evaluations in Brazil, demonstrating its practical viability and effectiveness.

The advanced design and functionality of the seedling planter have impressed industry stakeholders, leading to the successful securing of the first order. This milestone not only validates the innovative approach of the project, but also signifies a transformative shift in commercial forestry practices. By reducing manual labour and enhancing planting quality and efficiency, the mechanised planter is poised to maximise reforestation impact, promote sustainability and set new standards in forestry operations globally.

The mechanised seedling planter project offers multifaceted benefits to various stakeholders, particularly in South Africa. Socially, Novelquip and the TIA are committed to generating long-term economic impact by establishing a niched job-rich industry, solidifying the Agency's role as an industry-builder. Their shared objective extends beyond profitability to fostering economic growth, development and prosperity within local communities. The project also stands out for its job creation potential: a state-of-the-art assembly line and supplier park will deliver products globally, creating 130 direct, permanent job opportunities for local residents, predominantly from previously disadvantaged backgrounds. Most of these positions will be skilled or highly skilled, with an additional 780 indirect jobs arising from economic linkages. Equity is also a priority, with direct employment planned for 78 youths, 52 women, 91 employment equity candidates and five black-owned businesses.

The technology significantly affects the national reforestation goals and aligns with environmental and sustainability policies. It enhances economic competitiveness, infrastructure development and job creation and supports rural development, showcasing South Africa's commitment to innovation and responsible forest management in line with international trends.

Environmentally, Novelquip's products facilitate large-scale tree-planting to combat climate change efficiently, enhance sustainability in commercial forestry while reducing seedling mortality through improved planting quality. The integration of advanced operations and digitisation ensures precision and cost optimisation, promoting minimal tillage and optimal input use, which benefits soil health, plant growth and the broader environment.

TIA-funded Passive Radar Technology for Air Traffic Control

The TIA is playing a pivotal role in advancing passive radar technology to enhance air traffic control capabilities across the African continent. The Agency funded and supported the development of this innovative radar system. The versatile and cost-effective technology is set to revolutionise airspace management in regions where traditional radar coverage is limited or absent.

Figure 12: Passive Radar Antenna set up and testing at a potential receiver site

The project is a collaboration between the Agency, the CSIR and Air Traffic and Navigation Services and exemplifies the Agency's commitment to driving technological innovation. The Agency's support for this project underscores its mission to develop solutions that not only respond to local challenges but also contribute to global advancements in aviation safety and efficiency.

The passive radar system operates by utilising existing radio signals, including frequency modulation (FM) broadcasts such as Phalaphala FM, Metro FM and Power 98.7, without the need for a dedicated transmitter. This unique approach significantly reduces the acquisition and maintenance costs associated with conventional radar systems that require a dedicated transmitter, while also enhancing the detection capabilities through strategically placed non-collocated receiver networks.

The five-year project, initiated in May 2023, focuses on integrating and piloting passive radar technology at Kruger Mpumalanga International Airport. Engineers and researchers from the project team conducted extensive surveys to assess FM signal strengths at potential receiver placement sites around the airport. This is a step towards the development of a bespoke network of receivers tailored to the specific transmitter infrastructure available at Kruger Mpumalanga International Airport.

The deployment of passive radar at the airport will not only improve airspace safety, but will also serve as a testing ground to refine software and hardware solutions. This comprehensive approach includes rigorous system engineering, customisation updates, and the verification and validation processes to ensure compliance with international aviation standards, including those set by the International Civil Aviation Organization.

Energy

The Energy unit contributes to the TIA's mandate and objectives by funding and supporting technological innovations in the energy sector that will have a high impact in the South African economy while improving the quality of lives. The current focus areas for the unit are energy storage, hydrogen and fuel cells, renewable energy and distributed generation. In order to have a high impact on the technology innovation value chain, the unit forms relationships with centres of knowledge generation, technology developers, original equipment manufacturers and IP owners to forge opportunities for localised IP enhancements. Strategic partnerships with industry are formed in order to stimulate the market to absorb the new technologies and services and to leverage funding. The unit supports existing and new technology improvements (to pursue high efficiencies and/or lower product costs) and also pursues different technologies of similar function and target market to promote competitiveness.

HySA Systems, based at the University of the Western Cape within the South African Institute for Advanced Materials Chemistry (SAIAMC), is supported by the TIA through funding of R19.84 million to develop and pilot a **hydrogen-fuelled power module in a forklift**. The low-pressure hydrogen storage technology with accompanying refuelling infrastructure is an environment-friendly option for use in specialised transportation, that is, forklifts. The university identified on-board hydrogen storage as a bottleneck surrounding the wider use and commercialisation of fuel-cell-powered forklifts. Forklifts form part of materials handling units. Materials handling units offer an opportunity for exhibiting early market penetration for counterbalancing hydrogen and fuel cell technologies.

Balancell

Balancell is a future-focused innovative technology business that develops 'smart' batteries designed to manage and protect themselves and report their use and condition remotely. Backed by more than two decades of development and operational excellence, Balancell is poised to unleash the power of renewable stored energy within the global marketplace by making it a more practical, more economical, and a more accessible energy solution for all enterprise.

Intrinsically safe and exceptionally robust, the zero-maintenance batteries deliver instant returns in the workplace and have proven themselves again and again in the toughest working environments. Balancell has become the battery of choice for some of the world's leading automotive brands and logistics-based businesses, yielding higher productivity, lower operating costs and a cleaner, more reliable energy source day after day.

Balancell was formed in 2007 to provide battery management systems for industrial use mainly targeted at the forklift and telecommunications battery market. It recently bought a 5,600 square metre factory with the intention of producing lithium-ion batteries. With the support of the TIA's disbursing a total of R22 million to Balancell, the funding enabled the company to scale and gain market traction. Balancell has successfully derisked its technology and product offerings. This has enabled the company to sell an 18.2% equity stake to a black-owned venture capital company. The investment will enable the company to grow in the battery storage and battery management space in South Africa. The company has become one of the most valued in the Agency's portfolio.

The company is focused on designing a battery that can adapt to a wide variety of applications, maximising the transformative power of renewable energy resources. Their modular, interchangeable component design system gives them the capability to rapidly produce new designs to custom specifications at a super-scalable rate. This has enabled accelerated expansion into exciting new markets. Refrigeration trucking, speciality electric machines, the marine and yachting industry, and industrialised solar power are among the first new adopters of our leading technology, transforming the way energy is used with Balancell's LFP battery range.

BALANCELL®
INTELLIGENT ENERGY STORAGE

Information and Communication Technologies

The objective of Information and Communication Technologies (ICT) is to support the development of innovative energy technologies that will result in a competitive and sustainable energy industry that supports the transition to a low-carbon economy in order to improve the lives of South Africans. The unit operates across the following technology areas:

- **Fourth Industrial Revolution (4IR)**-related technology areas (eg, Artificial Intelligence (AI), Big Data and Blockchain) within the Agriculture, Energy, Green Economy, Health, Manufacturing, Mining, Space and Water, Waste and Circular Economy sectors.
- **Wireless Connectivity:** A key focus is wireless technologies that will enable 5G networks or increase universal broadband connectivity.

- **Cyberinfrastructure and Cybersecurity technologies:** These are ICT systems that provide particularly powerful and advanced capabilities, for instance, cloud computing, high-performance computing, quantum security.
- **Scalable ICT-inclusive innovations:** Technologies that respond to social injustices in a scalable and sustainable manner.
- **Digital economy:** Digital innovations that seek to advance public service delivery, efficiency in business and consumer services.

Triage, a medical technology TIA-funded initiative, seeks to digitise the real-time emergency correspondence between an in-bound ambulance and the hospital emergency room. It has successfully completed a pilot with the Louis Pasteur Hospital in Pretoria. The solution is ready for full commercialisation pending the securing of a commercial contract with a private hospital group and/or offtake opportunity with the Department of Health.

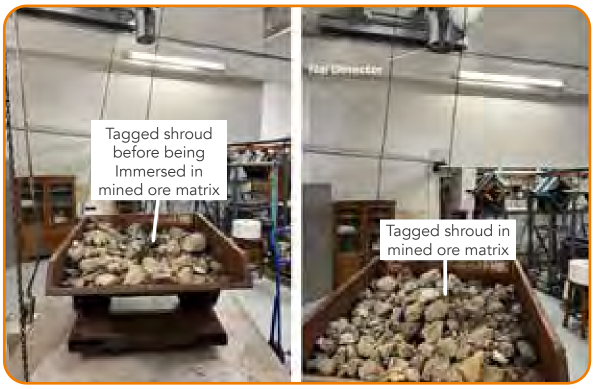
A Cape Peninsula University of Technology **Nanosatellite** team is working with the TIA and the DSI to deliver a capability to execute machine-to-machine communications through uplink and downlink capability of data packets over the maritime VHF-band and receive Automatic Identification system messages from ships. The university secured the services of Astrofica Technologies to render the support services in preparation for their space mission. This brings the project closer to the key milestone of launching the nanosatellites into orbit and helping the country to participate actively in the space economy.

Natural Resources

Natural Resources' strategic focus areas are water resources management, waste management, the circular economy, climate resilience and the mining value chain. The business unit focuses on ensuring water security by using advanced technologies to improve efficiencies. It supports technologies that respond to the water crisis and water security, including technologies that minimise the impact on the environment. It supports technologies in the circular economy and the net-zero initiatives. It also focuses on technologies to improve process efficiencies in the extraction and exploitation of natural resources (mining).

For the year under review, the Natural Resources unit focused on smelter technologies with energy efficiencies such as the A to Z Smelters (Pty) Ltd with a project to modify and optimise their furnace and process chemistry to produce high carbon ferromanganese, leveraging less energy and low-cost waste fines, offering a cost-effective alternative to traditional high-intensity smelting processes while still producing a high-quality product.

Regarding water security, the jointly funded UK–SA water lead customer programme approved five projects, backing innovative water technologies utilising 4IR. Innovate UK funded £500,000 for UK participants, while the TIA committed R5 million for South African entities. The beneficiaries – Hydrowallet, PCS Global, GeoTerra, Khanyisa Projects and M&D Construction – aim to enhance operational efficiencies and expedite decision-making in water utilities.



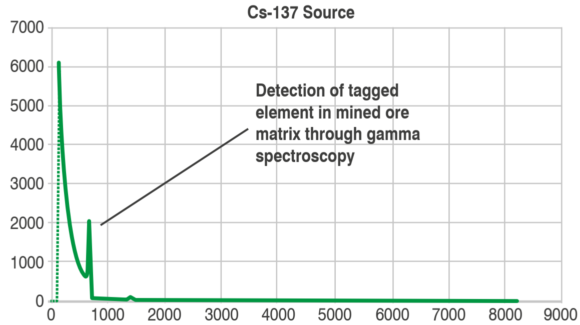


Figure 13: Picture depicting the Proof of Concept set up at NECSA showing a truck with rock mass and a tagged shroud before being incorporated, the same truck after the tagged shroud has been within the ore matrix, the detector mounted on the roof and the signal detection being processed and read off a computer screen.

One of the exciting projects relates to an initiative by NECSA, that in conjunction with NTP (Pty) Ltd, have developed a **Mining Shroud Detection Technology**. This technology entails tagging shrouds with radionuclide capsules that emit specific signals. In a mining operation as the mined ore is hauled into trucks enroute to the crushers, should a shroud be broken off and is hauled into the truck, the source will emit a signal that when the truck passes through/ under the gantry, will be detected by a detector (Sodium Iodide/NaI). The radio nuclide that will be used in this technology is Scandium 86 (Sc-86). On detection, this will trigger a warning to divert the truck to a lay yard for the retrieval of the shroud.

While there are solutions currently employed in operations such optical imaging and RFID, shrouds that have been broken off continue to cause damage to crushers. These crushers need to be repaired if not replaced. This results in increased operational costs and reduced efficiencies. This technology therefore seeks to address the residual risk left or not addressed by the current solutions in place.

The concept of the technology proven at NECSA via large scale lab set up. NECSA acquired rocks /rock mass and a small mine truck from a mine and tagged an old shroud with a radionuclide containing capsule (Caesium 137 in this case). The detector was mounted on the roof. The NaI was able to detect the signal from the shroud. The signal was transmitted for reading on a computer.

Municipal operations app to manage water loss

Figure 14: Municipal field workers gather data for the Municipal Operations dashboard

South Africa is considered to be a water-stressed country, losing a substantial amount of treated water through leaking pipes and inadequate infrastructure. In response to this challenge, City Park Trading (trading as Khanyisa Projects), a KwaZulu-Natal-based company, developed the WaterLeaks App system to help municipalities monitor and manage water and sanitation faults. This innovative solution aims to reduce water loss significantly and improve responses to various water and sanitation challenges.

Khanyisa Projects designs and implements water and sanitation solutions for municipalities and other government departments. The WaterLeaks App utilises mobile devices to collect field data such as GPS location, photos and live data uploads. The web-based data manager includes live data updates, automated reports, a data repository, project planning and monitoring, and team coordination.

The technology was successfully demonstrated in four municipalities around the country, with more municipalities expressing interest in customised versions of the app. eThekwini Municipality was the pilot site for live testing of the app. The eThekwini app was developed, approved and adopted and the relevant staff trained to use it effectively for improved service delivery.

Using the WaterLeaks App, the Zululand District Municipality has completed household data collection and commenced 'flat rate' fee collections. In addition, this municipality is collecting consumer data for businesses without municipal accounts and for residents of municipal rental accommodation, with the intention of starting revenue collections for these users.

Johannesburg Water entered into an agreement with the Agency to integrate the Municipal Operations App into its services. Johannesburg Water is using the app to collect service provision data for selected target areas. Updates were done on Johannesburg Water's app after the data collection team provide feedback following initial data collection. In addition, Khanyisa Projects is working with Johannesbur Water on the procurement of their services in future, while actively engaging with the South African Local Government Association.

Figure 15: Taking meter readings in the Zululand district using the Municipal Operations App

The Newcastle Municipality also entered into an agreement with the TIA, marking the completion of the municipality partnerships for the project. Despite challenges such as a slower-than-expected data-collection process, progress has been made against other milestones. Training sessions for Newcastle Municipality have been concluded and additional field demonstrations have been conducted to promote the adoption of the app.

Following the completion of the TIA project in June 2024, the Agency intends providing further commercialisation funding to support additional expansion to four more municipalities and two private-sector companies. The team currently employs five people, with two direct jobs and nine indirect jobs to be secured once the commercial expansion project is underway.

BUDGET AND EXPENDITURE

A comparison of the budget and actual expenditure of the Commercialisation Division is presented in Table 7.

Table 7: Budget and expenditure of the Commercialisation Division for 2022/23 and 2023/24

	2022/23			2023/24		
Sub-programme	Budget (R'000)	Actual expenditure (R'000)	(Over)/under expenditure (R'000)	Budget (R'000)	Actual expenditure (R'000)	(Over)/under expenditure (R'000)
Advanced Manufacturing	45,469	23,360	22,109	15,369	30,406	(15,037)
Energy	8,909	20,983	(12,074)	9,442	16,864	(7,422)
ICT	35,693	47,828	(12,135)	33,114	33,964	(850)
Natural Resources	12,099	11,974	125	11,694	25,009	(13,315)
Stakeholder events	–	–	–	1,000	–	1,000
Journey to TIA 2.0	–	–	–	5,000	–	5,000
Total	**102,170**	**104,145**	**(1,975)**	**75,620**	**106,242**	**(30,623)**

14.2 BIO-ECONOMY DIVISION

OVERVIEW

The purpose of the Bio-economy Division is to support the translation of South Africa's knowledge resources into sustainable bio-based solutions that can be commercialised. This is in line with the objectives of South Africa's Bio-economy Strategy, which compares favourably with the bio-economy strategies in other countries on the globe. The promise of bio-based innovations to alter the economy of knowledge-intensive economies has been reported in the literature, and the progress made by South Africa in pursuit of the objectives of its Bio-economy Strategy aligns South Africa with other economies.

The remarkable increase in industry participation (financial and non-financial) has paved the way for the organisation to begin to think about how the TIA will engage with industry in the light of various other initiatives by several players in the NSI. The role of the Agency will therefore be one in which it plays the curator and leads thinking in innovation.

PROGRESS TOWARDS PLANNED STRATEGIC INITIATIVES

The 2023/24 APP committed the Bio-economy Division to several strategic initiatives for the year. The division's progress against these strategic initiatives is provided in Table 8.

Table 8: Progress against strategic initiatives planned by the Bio-economy Division for 2023/24.

Challenge or Opportunity	Strategic Initiatives	Status
Bio-entrepreneurship		
Low level support provided to bio-entrepreneurship	Review TIA's current bio-entrepreneurship-related interventions so that the Agency's support meets the needs of the ecosystem, through several partnerships in the NSI	The GAP review report was shared with partners to strengthen the programme. Several amendments will be made for greater impact, nationally. Recent travel to the BIO-Convention has produced leads in entrepreneurship programme development, which will be followed-up, and TIA has begun consulting experts in the development of curricula for entrepreneurship. The Swiss–African Science and Business Innovators Program, in which TIA participated, has aspects of a bio-entrepreneurship programme that will be explored.
Bio-manufacturing		
Lack of bio-manufacturing pilot facilities for entrepreneur support	Develop a model and expansion plan for bioprocessing platforms infrastructure to augment existing TIA offering in partnership with industry	TIA concluded an agreement with the OneBio Innovation Centre NPC to establish a technology platform that will provide state-of-the-art laboratories to support technology development for biotechnology start-ups. Funding to the OneBio Innovation Centre was disbursed in the latter part of 2023/24. The envisaged collaboration joint programme between UVU Bio and the TIA Bioprocessing Platform is still in the feasibility assessment stage due to the limited capacity to advance the programme towards approval, with final approval anticipated in late 2024/25. Efforts by UVU Biotech to broaden access to bioprocessing facilities to users is nearing finalisation.
Transformation		
Low response to underserved provinces and PDIs	Deliver appropriate services to underserved provinces through appropriate mechanisms which may include satellite interventions, or a wider-reaching initiative such as new cluster focused on cannabis (in response to the Cannabis Masterplan)	Interest has been received from local and international players in the cannabis space, to collaborate with TIA in its pursuit of a co-ordinated response to the Cannabis Masterplan. A Cannabis Cluster will now be investigated, together with various other initiatives such as cannabis venture builder programme, which are additional models for the implementation of a cannabis focus area, in the context of and in alignment with other national initiatives. The Indigenous Knowledge-Based Phytochemicals Platform was established in Manguzi to create products from indigenous knowledge and indigenous plants originating in the Manguzi and surrounding communities through the cultivation of medicinal plants, agro-processing, plant extraction and bio-based product development and formulation.

BUSINESS UNIT OVERVIEWS

The division consists of the Agriculture, Health, Industrial Biotechnology, IKS and Technology Platforms Programme (TPP) business units. The division also hosts several contracted programmes, namely the South African BioDesign Initiative (SABDI), the Agriculture Bioeconomy Innovation Partnership Programme (ABIPP) and the SIIP Programme.

Agriculture

Agriculture aims to contribute to the development of high-growth and high-impact technologies, products and services that will result in a competitive, broad-based, inclusive and sustainably growing agriculture sector in South Africa, Africa and globally. Its focus areas are breeding and productive technologies in livestock and field crops, animal and plant health and nutrition in addition to agro-processing and post-harvest technologies.

The business unit also focuses on smart agriculture technologies to deal with climate change and to support the aspirations of farmers to becoming more competitive. This is in line with the Decadal Plan, which prioritises the modernisation of key strategic sectors such as manufacturing, agriculture and mining. The ultimate goal is to contribute to the promotion of food safety and food security, rural and township development, a reduction in unemployment and creating more resilience to climate change across the agriculture value chain.

During the year under review, Agriculture's portfolio of investments has made significant progress, with the following noteworthy achievements:

As part of the climate-change response initiative, the TIA collaborated with agritech firms to launch the rollout of **Eureka Climate Smart Agriculture** localised weather stations across South Africa's agricultural sector, starting with the farm in the Western Cape province. The IoT-based weather stations provide localised climate data to help farmers improve the water-use efficiency, reduce the impact of plant disease and adapt to climate change. The weather stations, for both small- and large-scale farms, come with sensors to provide important information about soil, crop and field conditions, including air and soil temperature, relative humidity, soil temperature, evapotranspiration, rainfall and wind speed and direction. The project is funded by the Eureka programme through international partnerships that include the TIA, the DSI and a global consortium comprising TerraClim, Pessl Instruments GmbH, Metos SA and the geospatial technologies firm, Geosmart Space. R6.9 million in industry cofounding has been secured for this project.

Figure 16: Climate Smart localised weather station developed under the Eureka Climate Smart Agriculture project

As part of the pilot project, more than 200 weather stations and 14 CropView cameras have been installed successfully across the Western Cape. They are in use at the Kloovenberg Wine Estate in the Swartland area. The weather stations will also aid in the selection of crop varieties and cultivars that are optimal for a specific location and they have been positively received by the farmers using them to obtain data specific to each farm. Expansion and further roll-out initiatives are expected in the next financial year to include underserved areas such as the Eastern Cape, Limpopo and Mpumalanga.

Figure 17: TIA Acting CEO Mr Patrick Krappie and Milk SA CEO Mr Nico Fouche sign a strategic collaboration agreement

The Agency entered into a strategic collaboration with MilkSA to improve the competitiveness of the South African milk industry within the **Dairy Genomics Cluster.** It is envisaged that productivity and exports with be enhanced by the interventions that the Agency will support. The Agency's role will be to respond to systemic weaknesses and unlock commercialisation and innovation by the industry, supporting the R&D initiatives of MilkSA such as the introduction of superior genetics into milk breeds. The Agency will also catalyse the transformation strategy of MilkSA to help smallholder farmers to evolve into large-sale commercial farmers. This project is in direct support of the goals of the Decadal Plan, which seeks to make industry competitive, especially those industries which are in decline.

The TIA and the Sorghum Trust have entered into a collaboration to establish a **Sorghum Cluster** to create a sustainable pipeline of high-performing sorghum hybrids bred under local conditions for all producers. These high-performing hybrids will mainly be bred for higher yields, better disease resistance and improved quality for the processing sector. The Sorghum Trust has furthermore concluded two key strategic research partnership agreements: the first is with Sorgho (Pty) Ltd, a leading developer of new-generation sorghum crops and a manufacturer in the sorghum industry, and the second is with Crop Watch Africa (Pty) Ltd, which focuses on the early detection of invasive and native pests or diseases before significant damage is caused to crops. The Sorghum Trust has also entered into research agreements with the University of the Free State and the University of KwaZulu-Natal.

Agriculture Bioeconomy Innovation Partnership Programme

Established in 2017/18, the ABIPP is a DSI programme implemented by the TIA with the objective of advancing the Bio-economy Strategy. Within the Bio-economy Strategy, the agricultural focus is on boosting bioscience innovation to assure food security, improve nutrition and health and to allow job development through the growth and intensification of sustainable agricultural production and processing. ABIPP is geared towards funding the pipeline of technological innovations, the establishment of new value chains and skills needed to drive productiveness and also towards promoting competitiveness in the agricultural sector and transformation through skills development.

For the year under review, the ABIPP recorded the completion of ten technology prototypes or demonstrations. The project on the expansion of **Orange Fleshed Sweet Potato (OFSP) enterprise development** through the commercialisation of OFSP-processed products developed six prototypes derived from the OFSP. Three of these products were developed at the CSIR's Advanced Agriculture and Food Cluster Formulation and Product Development: a snack bar, flapjack ready-mix and a health shake pre-mix. The other three were developed at the Agricultural Research Council's Food Agro-processing division: juice, pasta and OFSP flakes as an alternative breakfast cereal.

Regarding **agro-processing in rural communities** and farmer development support, a total of 1,480 black emerging farmers were supported with technology or innovation support during the year. The honeybush R&D project trained 18 farmers in honeybush propagation and nursery management; nine of the trained farmers were male and nine were female. A total of 1,210 farmers (565 males and 636 females) were trained for the Grain SA Grains and Oilseed partnership programme (Nixtimalisation training, farmer days, surveys). Finally, for the Cassava feasibility study, 252 farmers were trained through stakeholder engagement workshops and farmer information days.

Of the R138 million in co-funding leveraged from the ABIPP project portfolio, R91.3 million was leveraged through the ABIPP multi-stakeholder programmes or platforms in 2023/24. The significant increase in new co-funding of R13.5 million was for the Oil and Protein Seeds Development Trust project focused on creating job opportunities in soy planting and micro or macro soy agro-processing business to warrant food sustainability.

Eastern Cape community-based abalone ranching

The farming of abalone in South Africa takes place in land-based systems along the coast, mainly in the southern Cape, although some farms are also situated in the Eastern Cape and Northern Cape provinces. Abalone Ranching (Pty) Ltd was supported by the TIA through the ABIPP Aquaculture Cluster Programme. This project is based in Haga Haga, East London, and focuses on providing abalone ranching and stock enhancement in areas that where abalone has been depleted by poaching.

The concept is to reduce seeding costs and increase the scale of operations by researching the viability of seeding abalone larvae as opposed to one- to two-year-old juveniles. Having piloted the commercial technology before, there exists an opportunity to extend the work to other coastal communities that hold abalone fishing rights in the Eastern Cape province.

The innovation lies in the development of aquaculture-based abalone stock and ranching using cultured abalone seed. The output will be the provision of abalone ranching and stock enhancement in areas depleted by poaching. This will overcome the shortcomings of the fishery rights structure and open a space for innovation and the restoration of depleted abalone stocks.

In the previous project, a pilot study was led by Wild Coast Abalone (Pty) Ltd that successfully reduced poaching and restored the abalone resource to sustainable levels along the Gqeberha coastline.

Abalone Ranching (Pty) Ltd has signed implementation agreements with 17 small-scale fisheries co-operatives. They will provide the coastal community co-operatives with access to technology, capital, business management expertise and markets through an equal business partnership and the abalone ranching technology will be diffused to these small-scale co-operatives.

The target market for abalone is the Asian abalone market based in Hong Kong. Customers include abalone importers and wholesalers who distribute the product further to seafood chains, outlets and restaurants.

The success of the technology diffusion will translate to social and economic impacts for small-scale fisheries and co-operatives. The project will shift the abalone community co-operatives from being 'price takers' for illegal poached abalone to playing a meaningful role as traders in the abalone value chain.

Certification of Mobile Laboratory for Testing of Foot and Mouth Disease

The TIA supported the CSIR in developing a point-of-care diagnostic test kit and device for the early detection of foot and mouth disease in livestock that can be used in remote and rural areas. The use of this technology in the field is expected to enable the rapid detection of foot and mouth disease, empowering farmers to isolate diseased animals so as to prevent the spread of the disease. The innovation was developed by the CSIR and is licensed to a start-up, TokaBio (Pty) Ltd.

The point-of-care device is 4IR enabled, facilitating a quick turnaround time for test results. The results are made available within only an hour on a mobile device, which enables the farmer to minimise the spread of the disease. Currently, it takes a week or two to receive results from laboratories.

The device is also connected to the government regulators' database which provides live information of the disease status of livestock, thus adding value to the government's livestock disease surveillance programme.

In April 2024 the Department Agriculture, Land Reform and Rural Development conducted an audit aimed at certifying a mobile laboratory for TokaBio. With this certification, deployment of the technology will become a reality, given the recently reported foot and mouth disease cases in Gauteng, Limpopo, Free State and KwaZulu-Natal. Outside South Africa, the device has been tested in Rwanda, Lesotho and Zambia.

Health

Health aims to support the translation of South Africa's RDI outputs into products and services that will improve the diagnosis, treatment and management of diseases relevant to the country, ultimately improving the quality of life of and healthcare for all South Africans. The objectives of the unit are to develop an investment portfolio in strategic high-impact products and to provide thought leadership in health innovation.

During the year under review, the unit's portfolio of investments has made significant progress, with the following noteworthy achievements:

The TIA contracted the University of KwaZulu-Natal to establish a comprehensive **Clinical Trials Unit.** This facility includes a central unit and four satellite research sites staffed by highly skilled personnel to conduct high-quality trials for new medicinal products and medical devices, targeting non-communicable diseases specifically. An amount of R7.9 million was approved for its operationalisation.

In collaboration with Professor Bernard Fourie at the University of Pretoria, **MARTI TB Diagnostics** successfully obtained a grant of USD52,000 from the US Civilian Research & Development Foundation, a non-profit organisation based in the United States. This funding was designated for the use of the MARTI test to analyse a cohort of plasma samples from individuals diagnosed with tuberculosis. The study operated under an approved clinical research protocol by the university's Health Research Ethics Committee; its objective is to monitor tuberculosis patients throughout their treatment regimen. This study is crucial to advancing the efficacy of understanding and monitoring tuberculosis treatment, potentially leading to improved patient outcomes and more effective disease management strategies.

The co-inventor and project lead engineer of the TIA-funded **FlexiGyn** project, Edmund Wessels, was selected as a joint winner of the Africa Prize for Engineering Innovation 2023 at the Royal Academy of Engineering Awards in the category 'technologies in affordable security and women's health'. This prestigious prize is dedicated to supporting and upscaling engineering innovation and, after nine years, has a proven track record of identifying successful engineering entrepreneurs. The project was awarded £25,000 in prize money to develop the technology further. The FlexiGyn project aims to develop a mobile hysteroscopy device or system to provide a solution and an improved intervention in women's health. The device would allow gynaecologists to diagnose and treat uterine-related conditions without the need for general anaesthesia, as a result ensuring the comfort and safety of patients.

LGC, a UK-based life science tool company, was partnered with the **Open Genome Project** (funded by the TIA and the South African Medical Research Council) through the South Africa–United Kingdom Newton Collaborative Research Development Program in Precision Medicine. The Open Genome Project (based at the University of Stellenbosch and Gknowmix, a local cancer treatment SMME) developed a breast cancer diagnostic. LGC phased out their ParaDNA technology and transferred this license to the Open Genome Project. A student then adapted the lab-based breast cancer diagnostic to be run on the ParaDNA instrument so that a patient tissue sample can be analysed for specific breast cancer mutations within 60 min. This diagnostic alleviates long waiting times for diagnosis and eventual treatment for patients in rural communities. The test is in the final stages of refinement for eventual deployment at National Health Laboratory Services testing sites.

Medical Device and Diagnostic Innovation Cluster

The Medical Device and Diagnostic Innovation Cluster (MeDDIC) is a national initiative created to exploit a high concentration of skills, expertise, infrastructure and companies across South Africa within the medical devices field. The MeDDIC brand has been successfully trademarked. Some projects within this cluster have reached successful completion and are now beginning to make sales in the market.

Figure 18: Sinapi Biomedical's NPWT revolutionises wound care and secures major tender with Free State Department of Health

Sinapi Biomedical has successfully developed its Negative Pressure Wound Therapy device that promotes faster and more sterile wound healing based on a cost-effective flexible negative-pressure wound therapy system with improved suction. In South Africa, negative-pressure wound therapy is not applied to patients in need due to the high costs associated with the treatment modality. The proposed solution is projected to reduce cost of treatment significantly. The device, approved by the South African Health Products Regulatory Authority, has been trialled in different surgical areas, including hospital burn units, and the company has won a three-year tender to supply the Department of Health in the Free State with different products.

Coba Manufacturing successfully produced NeroBurs (used to cut bone in surgery) and single-use bulldog clamps to clamp arteries or veins during cardiothoracic and cardiovascular surgery. The SMME has made sales to private surgeons and hospitals, with good prospects of selling the products globally.

Prosthetic Engineering Technologies won the South African Breweries Disability Empowerment Award for their silicone prosthetic liner for amputees. Moreover, the SME has received follow-on funding from the Industrial Development Corporation's Khoebo Innovation Promotion Programme to commercialise its first product, the silicone prosthetic liner.

Industrial Biotechnology

The Industrial Biotechnology unit contributes to the promotion of the green economy by focusing its efforts on responding to national priorities and gaps in the value chain, thus contributing to the development and commercialisation of environmentally sustainable and cleaner technologies. The key focal areas are bioprocessing and bio-manufacturing, integrated biorefineries and bioremediation. Bioprocessing technologies are used to convert various types of feedstock or biomass into useful products that ranging from bulk products to fine high-value products. The integrated biorefinery approach provides an opportunity to use renewable biomass to generate high-value products such as proteins, fine chemicals, carbohydrates and oils, which in turn create potential economic opportunities.

During 2023/24, the unit made significant progress, registering the following notable achievements:

The TIA concluded a funding agreement with the CSIR to support the development of technologies to produce polyhydroxybutyrate, a biodegradable polyester or bioplastic that is synthesised through a fermentation process. This promising natural bioplastic has potential industrial and commercial applications due to its biodegradability, biocompatibility and thermoplastic properties.

The Production of Lactic Acid from Food Waste and Cow Dung project involves the development of an economically viable approach to the production of lactic acid using the indigenous microorganisms present in cow dung alongside food waste as a sustainable feedstock. This lactic acid is a high-value-added chemical, produced via a novel biorefinery-based strategy known as the 'closed-loop' biorefinery process as this scientific approach enables a circular bio-economy that leads to zero waste. Lactic acid has numerous applications in the food, cosmetics, textile, chemical, clothing and agriculture industries. Industrial uses of lactic acid include applications such as fermentation in winemaking and the neutralisation of various acidic components in dyes for textiles. In the cosmetics industry, lactic acid is used for its disinfectant and keratolytic properties.

Upscaling of production of biosurfactant IMBM-BS

The TIA-funded project with the University of the Western Cape Institute for Microbial Biotechnology and Metagenomics (IMBM) aims to upscale the production of the biosurfactant IMBM-BS1, which is a natural high-value speciality chemical. IMBM-BS1 is a novel lyso-ornithine lipid (LOL) heterologously produced in Escherichia coli. The gene encoding the lipid synthase which is directly responsible for the biosynthesis of LOL was successfully isolated by the IMBM from a South African aquatic environment.

The purification and preliminary characterisation of the compound was achieved with TIA-allocated funding in 2019. Through the IMBM's collaboration with their German partner, Professor Rudolf Hausmann of the University of Hohenheim in Stuttgart, Germany, and co-funding from the South African National Research Foundation (NRF), the structure of the LOL was elucidated. The use of the isolated gene for the production of the biosurfactant in Escherichia coli was patented in 2020. A PCT application, 'Lyso-Ornithine Lipid Biosurfactant Overproduction System', is currently under review.

By partnering with the CSIR, the upstream component of the LOL production process was successfully scaled from laboratory-scale (1 L-scale) to a 10 L fed-batch process. This was also the first time in South Africa that the foam produced by the fermentation was captured by an adjustment to the bioreactor. From work conducted at the IMBM's German partner laboratory it is known that the foam contains as much as ten times more of the biosurfactant per volume. This is an important consideration in the downstream processing and cost of production. The freeze-dried foam was provided to the IMBM, where the LOL was further purified and provided to a selection of industry partners for performance and market testing of the LOL.

Figure 19: Foam production in a fed-batch process

TIA partners with the Sugar Milling Research Institute to implement the Sugarcane-based Value Chain Diversification Strategy

The South African sugar industry plays a vital role in the country's economy, particularly in rural areas, by providing employment opportunities and contributing to sustainable development. However, the industry is currently facing a decline due to several factors, primarily its lack of competitiveness at the global level. To respond to these challenges the TIA is supporting an initiative whose aim is to develop a pipeline of potential sugar-based value-added products that will diversify the sector's offerings.

The Agency has responded to the South African Sugar Value Chain Master Plan 2030 by making a strategic investment in collaboration with the Sugar Milling Research Institute with regard the sugarcane-based value-chain diversification strategy, alongside several players in the sugar industry and national departments. The initiative seeks to develop a pipeline of potential sugar-based value-added products to diversify the current offerings from the sector. The long-term viability of the sector is dependent upon investing in new technologies, entering into new partnerships and exploring new revenue streams.

Within this strategy the DSI has funded a project to develop market intelligence, technology options and potential investments for sugarcane diversification; this will aim to identify potential diverse new products that could be produced by the sugar industry. Bio-ethanol and bio-ethylene production facilities were identified as economically feasible key investments required to spur a new sugarcane-derived bio-polyethylene value chain.

Alongside this, the Agency has funded a project to expand the pipeline of potential diversification products to enhance the sustainability of the South African sugarcane industry. The project, valued at R7.8 million, seeks, first, to identify new product investment opportunities with reasonable prospects of commercial feasibility through high-level techno-economic and market screening from an existing list of approximately 40 diversification products. Second, it will develop desktop demonstration business cases for up to nine new product investment opportunities. This strategic project investment paves the way for significant industry participation both locally and globally.

In addition, the Agency is supporting an initiative at the Sugar Milling Research Institute to develop a cost-effective and energy-efficient system for continuous the continuous production of sucrose seed magma which is expected to improve efficiency in the production of sugar to enhance the industry's competitiveness. This technology has been demonstrated successfully and it is expected that it will be adopted by the industry to ensure that the benefits of improved efficiency and competitiveness are shared across the sector.

Strategic Industrial Bio-innovation Partnership Programme

The SIIP Programme was established by the TIA and the DSI to fund and co-ordinate multidisciplinary programmes that would enable partnerships across institutions. This programme is managed by the Industrial Biotechnology business unit. Phase 2 of the programme is expected to be completed by the end of 2025/26. Notable highlights of the SIIP programme include the following:

The Algal Biorefinery Support programme based at the Nelson Mandela University has developed a technology for processing of algae (Spirulina platensis) biomass to produce spirulina lysate bio-stimulant. Plant bio-stimulants are applied in the agricultural sector and are used to improve crop quality and yield by enhancing nutrient availability and uptake.

Figure 20: Spirulina platensis sample used in the biostimulant formulation

Following the successful development of this technology, Nelson Mandela University signed a collaboration agreement with Omnia Holdings Ltd to undertake the market testing to determine the product dosing and efficacy of the lysate bio-stimulant developed by the programme. Omnia Holdings Ltd is a diversified group listed on the JSE.

The Centre of Competency in Environmental Biotechnology based at the University of South Africa has officially been recognised as a centre within the institution. It received R3.5 million from the university in leveraged funding to support the implementation of a programme that focuses on the beneficiation of abattoir waste to produce biogas. The funds will contribute towards human capital development, running costs and the purchase of essential equipment required for the programme's activities.

The Industrial Biocatalysis Hub programme implemented at the CSIR received R7.3 million in leveraged funding from its various stakeholders that include the University of Johannesburg, which contributed R2.5 million towards the purchase of a Waters Synapt G2 XS Mass Spectrometer, and the CSIR, which contributed a total of R4.8 million, including bursaries to students to support the implementation of the programme. The Industrial Biocatalysis Hub programme seeks to develop green technologies to support the local bio-manufacturing sector and promote environmental sustainability.

Under this programme, the CSIR has established partnerships with several SMMEs to develop and demonstrate technologies that focus on localisation and import substitution. One such partnership was with the company Puris Natural Aroma Chemicals. The CSIR developed the technology to scale up the production of Orris butter, an important intermediate chemical ingredient in the flavour and fragrance industry.

Figure 21: The Waters Synapt G2 XS Mass Spectrometer

Indigenous Knowledge Systems

The TIA has harnessed indigenous ideas using the Ubuntu-based bio-innovation model which seeks to mainstream and interface holistic IKS-based R&D, and inclusive innovation that supports community-based technology demonstration and Ubuntu-inspired commercialisation models for improved quality of life and sustainable livelihoods.

In this model, holistic applied research is conducted according to indigenous knowledge, with the owners of the knowledge providing inputs on product development (inclusive innovation) processes. Technology transfer, incubation and acceleration activities are implemented at the community or local level together with custodians of the knowledge. Local manufacturing is the preferred model supported by a humane business model and conscious commercialisation that promote sustainable, fair and equitable benefit-sharing.

The business unit's objectives include establishing high-level community-based technology transfer, incubation and acceleration facilities for bio-processing purposes from indigenous knowledge holders in African traditional medicines and indigenous knowledge-based cosmeceuticals, nutraceuticals and health infusions.

During the reporting period, the investment portfolio of the business unit grew from seven to 35 projects.

The TIA contracted with **Chemin** as a Seed Fund implementing partner to facilitate financial and non-financial support of indigenous knowledge-focused SMMEs. A total of 15 enterprises were, and continue to be, supported during the initial two-year term of the programme. The beneficiaries in this programme are women-owned, black-owned and youth-owned enterprises, the majority of which are located in underserved provinces. Most of the investees in the TIA–Chemin IKS SFP are in the cosmeceuticals sector, whereas the balance are spread through the thematic areas of African traditional medicines and herbal infusions.

Marice Rooibos Skincare (Pty) Ltd, one of the beneficiaries in this programme, concluded commercialisation transactions with three hotel groups for the bulk supply of its rooibos extract-derived cosmetic range.

The TIA established the **South Africa–Ethiopia Indigenous Knowledge-Based Innovation Programme** with the assistance of the DSI. The Ethiopian Ministry of Innovation and Technology co-invested with the TIA to implement two indigenous knowledge-based projects in the thematic area of African traditional medicine. One project is aimed at developing an indigenous knowledge-based treatment for diabetes. This project is being implemented through the University of the Free State and the Bio and Emerging Technologies Institute, BETin, Ethiopia. The second project resorts in the area of nutraceuticals and is led by the CSIR locally.

The TIA concluded two major investment deals in the area of African traditional medicines during the reporting period. The first was in the form of the support provided to the Africa Health Research Institute to conduct Phase 1 clinical trials for HIV/AIDS using Product Nkabinde, a herbal remedy developed by a traditional herbalist, Mr Nkabinde. This investment attracted co-funding from the South African Medical Research Council and was backed by compelling preclinical data which show high levels of anti-HIV activity and the safety of the product, to the extent that a provisional patent initially filed to protect this invention was followed by the filing of a patent co-operation treaty application in March 2024. The second investment deal entailed the funding support provided to the University of Johannesburg towards the establishment of an Indigenous Knowledge-based Phytochemicals Platform in Manguzi, KwaZulu-Natal. This platform is aimed at exploiting the rich biodiversity and associated traditional knowledge of the people of uMhlabuyalingana Local Municipality.

The TIA established the **Cannabis and Hemp-focused Industry Innovation Programme**, starting out with funding a total of nine SMMEs with product lines that range from cannabidiol-based cosmeceuticals and herbal infusions to nutraceuticals. Funding by the Agency has enabled these enterprises to collaborate with academia to develop product prototypes and launch products into the market.

Figure 22: Shanti care products developed through the Cannabis and Hemp-focused Industry Innovation Programme

Shanti Natural Care (Pty) Ltd, one of the beneficiaries in this programme, completed its product development and proceeded to commercialise the cannabidiol-based cosmeceuticals that were developed in partnership with the CSIR. Shanti has become a major supplier of the Canna Africa (Pty) Ltd franchise, a subsidiary of the JSE-listed Labat Health.

Technology Platforms Programme

The eight TIA-funded Technology Platforms provide access to key technical infrastructure and expertise that enables technological innovation in strategic technology areas. The TPP adds value by facilitating access to cutting-edge technological capabilities that in turn lower the barriers for others to innovate. The programme is part of the Agency's focus on enabling and stimulating innovation in the NSI. The unit identifies and co-develops opportunities and also funds and supports technology platforms to build the long-term technological capabilities required to grow the South African bio-economy.

Through the TPP, the Agency has entered into a limited partnership agreement with **OneBio** (Pty) Ltd to offer SMME support to young start-up bio entrepreneurs through the OneBio Seed Investment Fund I Partnership. The OneBio Innovation Centre aims to provide laboratory space, state-of the-art equipment and advisory support that caters to the early stage of biotech start-ups to further develop their technologies and obtain advisory support as they wish to gain traction in the market and raise funding from investors. OneBio has leveraged R15 million from the Tekano Foundation NPC into the OneBio Seed Investment Fund I Partnership.

The Agency provided financial support to the various technology platforms to provide primary funding for operational costs that provide access to these facilities to other users. Where the opportunity arises, the Agency provides further funding to acquire equipment that improves their capabilities. During 2024/25, the Agency approved and disbursed funding to the Centre for Proteomic and Genomic Research (R1.8 million) and the UCT H3D (R5.5 million) for the acquisition of a laboratory information management system and a mass spectrometer, respectively. The acquisitions will help the respective technology platforms to increase productivity and reduce service backlogs.

H3D Centre leverages partnerships and collaborations to advance drug discovery innovation

Figure 23: H3D researchers with a newly acquired triple quadrupole LC-MS/MS Mass Spectrometer co-funded by TIA

The TIA-funded Holistic Drug Discovery and Development (H3D) Centre is a technology platform based at the University of Cape Town (UCT). H3D, Africa's only integrated drug discovery and development centre, aims to translate scientific discoveries into potentially life-saving medicines in areas such as tuberculosis, malaria and anti-microbial resistance. The centre aims to fast-track the discovery and development of new antibiotics to limit anti-microbial resistance.

The H3D Technology Platform focuses on three disease areas: tuberculosis, malaria and anti-microbial resistance. H3D showed strong performance in 2023/24 in establishing partnerships and raising funds in pursuit of its objective of discovering novel medicines for the diseases that predominantly affect African populations.

H3D forms national and international partnerships to enhance sustainability and support the South African Bio-economy Strategy. The platform actively partners with organisations on the African continent and beyond to build drug discovery capacity across the continent. This includes offering access to the H3D platform assays, providing training workshops and collaborating on projects such as the Grand Challenges Africa Drug Discovery Flagship projects. During 2023/24, the host institution, UCT, signed significant contracts to form strategic partnerships on behalf of H3D with various organisations.

UCT also entered into another agreement on behalf of H3D with the Neville Isdell Foundation to establish the Neville Isdell Chair in African-Centric Drug Discovery and Development. The Chair is responsible for driving and leading innovative R&D of new malaria medicines, new tuberculosis and antimicrobial resistance treatments and training a new generation of African scientists. The project is valued at USD1,500,000 (approximately R29.6 million) over the period January 2024 to December 2028.

H3D entered into a contractual agreement with the Bill and Melinda Gates Foundation to establish the tuberculosis mouse model at UCT. This is in collaboration with the UCT Research Animal Facility. The value of this funding is USD1,325,599, which is equivalent to approximately R23.6 million.

In December 2023, H3D concluded a financial agreement with the RIGHT Foundation, a research funding agency based in Korea, to support the UCT594 compound development. The project seeks to establish the UCT594 compound as a first in class, single-dose cure for blood stage malaria.

A five-year collaboration agreement with the African Institute of Biomedical Science and Technology will see H3D conducting an African Drug Metabolism project. The institute is a private company based in Zimbabwe. Through this collaboration, H3D will undertake physiological-based pharmacokinetic modelling and simulation and investigate drug metabolisms used by African patients, whereas the African Institute of Biomedical Science and Technology will grow the African liver tissue biobank and will conduct phenotypic evaluation.

Meanwhle, H3D is collaborating with the Korean Institute of Toxicology to advance studies into the UCT594 compound. The institute is a non-profit organisation based in Korea and through this collaboration the Korean Institute of Toxicology will undertake toxicology studies on the UCT594 compound in the hope of advancing the compound into GLP preclinical development.

Furthermore, in January 2024, H3D entered into a collaboration with Schmidt Futures on a project that seeks to link AI to pharmacometrics models, and specifically to develop open-source AI models for optimal drug discovery in Africa. Schmidt Futures is a charity organisation based in New York City. The intention is to validate the hypothesis that mycobacterium tuberculosis metabolises co-administered drugs in patients with tuberculosis and other disease comorbidities, which might require an adjusted dosage of the co-administered drugs. Schmidt Futures provided USD1 million (equivalent to R18.3 million) towards this research project.

Locally, H3D has partnered with institutions such as the South African Medical Research Council to support capacity-building at the University of Limpopo and the University of Venda. This included hosting students from these universities and providing the institutions with access to infrastructure and drug discovery platforms.

H3D has achieved significant scientific outputs in both support and validation as well as in publications through strategic partnerships. It has supported 24 projects and validated 11 assays, contributing to the progression of various drug discovery initiatives. In addition, H3D has published 18 journal articles which showcase its research findings and advancements.

Figure 24: Team of researchers at the H3D Technology Platform at the University of Cape Town

BUDGET AND EXPENDITURE

A comparison of the budget and actual expenditure for the Bio-economy Division is presented in Table 9.

Table 9: Budget and expenditure for the Bio-economy Division for 2022/23 and 2023/24

	2022/23			2023/24		
Sub-programme	Budget (R'000)	Actual expenditure (R'000)	(Over)/under expenditure (R'000)	Budget (R'000)	Actual expenditure (R'000)	(Over)/under expenditure (R'000)
Health	9,984	17,656	(7,672)	11,745	24,558	(12,813)
Agriculture	27,743	22,795	4,948	25,731	42,846	(17,115)
Industrial Biotech	15,504	10,345	5,159	11,330	7,301	4,029
IKS	33,413	12,864	20,549	24,829	28,348	(3,519)
TPP	66,218	75,352	(9,134)	52,500	80,756	(28,256)
TICP	15,789	13,463	2,326	15,679	5,745	9,934
Thought Leadership	5,500	10,973	(5,473)	5,250	14,284	(9,034)
Specific contracts (SIIP, ABIPP & SABDI)	65,000	79,089	(14,089)	35,000	5,520	29,480
Stakeholder Events	–	–	–	3,000	–	3,000
Journey to TIA 2.0	–	–	–	23,251	–	23,251
GCIP-SA	–	–	–	2,500	–	2,500
Total	**239,151**	**242,537**	**(3,386)**	**210,814**	**209,357**	**1,457**

14.3 INNOVATION ENABLING DIVISION

OVERVIEW

The Innovation Enabling Division aims to stimulate a culture of innovation and provide enabling support through a range of interventions which make possible the development of innovative solutions that respond to societal challenges. The division provides support to broader society, from universities and science councils to co-operatives and communities. Beyond funding, it provides access to SET support and others, inclusive of business development and basic knowledge to enable the establishment of viable enterprises that are capable of accessing and competing in markets.

PROGRESS TOWARDS PLANNED STRATEGIC INITIATIVES

The 2023/24 APP committed the Innovation Enabling division to several strategic initiatives for the year. The division's progress against these strategic initiatives is reflected in Table 10.

Table 10: Progress against strategic initiatives planned by the Innovation Enabling division for 2023/24

Challenge or opportunity	Strategic initiatives	Status
Commercialising public-funded R&D for socio-economic benefit		
Limited capacity to commercialise promising technologies at historically disadvantaged HEIs	Implement a commercialisation capability-building programme at public-funded research organisations (CHUMA)	The TIA implemented its internship programme by placing graduates at technology transfer institutions and intermediaries, including innovation hubs, incubators, accelerators and implementation partners. This has provided momentum to enabling capacity for commercialisations. Internal approval was obtained to establish a commercialisation capability-building programme from next year. As regards reviving the CHUMA programme, alumnus workshops provided valuable feedback on ways of improving it.
Transformation and inclusive innovation		
The needs of women, youths and persons with disabilities are not being given sufficient attention	Launch dedicated women-, youth- and PWD-focused innovation support programmes in support of inclusive innovation	Three transformation programmes in technology Innovation support for women, youths and persons with disabilities were approved for implementation. Collaboration agreements and funding proposals are being prepared for various women-focused programmes outside the public sector. To drive the leveraging and co-funding, the TIA is acting as the implementing agent for the DSI/UNDP Higher Education Student Innovation Fund, having attracted substantial co-funding with DSI for the Higher Education Student Innovation Fund and from the Allan Gray Foundation to implement a youth programme at Technocal and Vocational Educational and Training colleges.
Broad public expenditure on and support of RDI		
Low or no funding allocated to innovation in the public sector	Lobby for enabling legislation to set aside a portion of all public funds to be ringfenced for a South African equivalent of the US Small Business Research and Innovation programme	There are 14 active TADF projects, with demonstrations planned for four pilot sites. A proposal for a South African SBRI programme is being developed for implementation in 2024/25 as a strategic initiative.
Coordination and leadership within national and regional innovation ecosystems		
Regional innovation ecosystems in underserved provinces remain nascent and sub-optimal	Develop a Regional Innovation Strategy and Plan for the TIA, with an emphasis on underserved provinces	Additional Living Labs programmes have been approved in excess of the TIA's targets, incorporating the Limpopo and Mpumalanga provinces. The Innovation Champions for Local Economic Development programme is being implemented in underserved provinces together with historically disadvantaged universities. A new site in the Namakwa District Municipality of the Northern Cape province has been approved for the Innovation Champions programme.
The TIA's position as an industry-builder in the NSI is sub-optimal	Establish strategic innovation programmes through thematic innovation networks	Participating in and actively contributing to the design of an adapted Venture Builder programme to support universities struggling with commercialisation.
	Develop and implement an Enterprise Development Fund partnership strategy	The TIA developed an Enterprise Development and Mentorship programme fund which continues to onboard mentors and coaches.

BUSINESS UNIT OVERVIEWS

The division consists of the following sub-programmes and business units.

Enabling, Facilitation and De-risking Funding and Fund Management

Seed Fund

The SFP assists innovators (university-based researchers and SMMEs) with risk-adjusted funding to translate their research outputs into fundable ideas for further development and commercialisation. There are 36 implementing partners in the programme, which comprises a portfolio totalling 208 active projects.

In an effort to derisk technology development, a total of 32 early-stage projects were approved for funding through the SFP to the value of R15.1 million. The programme also leveraged additional co-funding from the Savant Incubator and the TuksNovation Incubator in the amount of R2.1 million. Of the projects funded, 53% are publicly funded research at universities and science councils, while 47% are SMME-based projects. Regarding the transformation agenda, about 69% of funding recipients to date are previously disadvantaged individuals, while the participation of women and youths stood at 34% and 37% respectively.

The SFP portfolio lost some momentum during the period under review as projects struggled with the negative effects of loadshedding. Despite the challenges, the projects have progressed towards commercialisation, with 70 new knowledge innovation products developed, including prototypes, registered new IP and demonstrations. A total of 31 projects completed their activities, with three technologies launching in the market.

Smartroots booster fertiliser breaks into commercial agriculture

The start-up company, Smartroots, was funded and supported by the TIA through the Savant Incubator under the SFP. The funding was for the development of an environmentally friendly booster organic fertiliser product that will cost-effectively improve crop yields, enrich the soil, provide resistance to hazardous diseases and improve water-retention capacity. The product contributes to alleviating the lack of access to affordable, effective and environmentally sustainable fertiliser options for smallholder and subsistence farmers, and it recently added a specific fertiliser for commercial farmers to its range.

Initially aimed at subsistence and small-scale farmers, the development of the product reached pilot trials for their pelleted bio-fertiliser targeting commercial farmers and received approval from the Department of Agriculture, Forestry and Fisheries. Smartroots have set up production facilities in Makhanda, Eastern Cape province, and launched the product in the market with an initial order from a commercial farmer. The success of the innovation has seen Smartroots create employment for seasonal workers and leverage commercial funding from the Savant Venture Fund.

Innovation for Inclusive Development

The TIA manages the IID Programme as a contracted programme of the DSI. The programme aims to promote transformation and inclusivity, increasing the participation of previously disadvantaged individuals and communities in innovation. To this end, it implements a number of instruments and interventions that encourage the participation of youths, women and persons with disabilities, while placing greater emphasis on expanding the spatial footprint of its services and offerings to increase access to support for underprivileged communities.

Grassroots Innovation Programme

The Grassroots Innovation Programme is underpinned by the policy intent of the White Paper on Science, Technology and Innovation to support innovators that operate outside of formal systems of innovation who have solutions that respond to the challenges faced by communities. The TIA has been implementing this programme since 2019 as a contracted programme of the DSI. Through this, the Agency has supported a total of 224 innovators who have developed 80 innovation products, 50 of which have been commercialised, creating a total of 148 new jobs. During the period under review, three calls for proposals were issued, from which 78 new projects were onboarded to the programme.

A key highlight of the programme was the launch of the Inaugural Grassroots Innovation Awards at the Science Forum in December 2023. The objective of these awards is to recognise, celebrate and award excellence in various categories, that is, youths, women and persons with disabilities.

Figure 25: Dr Phil Mjwara presenting the Disability Award and, together with the INSETA CEO (Ms Gugu Mkhize), presenting the award for the INSETA International Learning Trip

A few project highlights from the programme include:

ShazaCin is a mobile app that is both an access tool and an art form which uses the spoken word to make the visual world accessible to blind persons. The founder is visually impaired and has created the ShazaCin app to serve as a personal narrator, creating an imaginative visual experience of tourist attractions for blind persons. The ShazaCin app was the winner of the Agence Française de Développement Group's Digital Challenge. The award included a 14-day trip to Paris and Montpellier which was structured so as to introduce ShazaCin to relevant experts. ShazaCin has also been assigned a coach and mentor with experience that is specific to accessibility. ShazaCin secured a contract with the Gauteng Film Commission and has received a grant to audio describe ten new films.

The company has also procured work for a Canadian Audio Description company known as Descriptive Video Works, audio describing an international travel show known as LOL produced by Trevor Noah for Amazon Prime. ShazaCin has completed the audio description for Season 1 of the show, and is currently engaged in discussions about the audio description of Season 2. The company has also commenced work on the Durban Marine Promenade tour and has several other destinations planned for Durban and KwaZulu-Natal as part of a contract valued at R1.8 million with the KwaZulu-Natal Film Commission to audio describe ten tourist sites.

Smartvein has received R2m from the Support Programme for Industrial Innovation, R300,000 from Tuks Innovation and R225,000 from The Innovation Hub. Its solution, termed Street Governor, is an intelligent transport system designed to stabilise the minibus taxi system by providing a set of decision support tools to stakeholders in the taxi industry. The system narrows the trust deficit by improving transparency, accountability and profitability. Smartvein has partnered with SANTACO in developing Street Governor. All public transport formations affiliated to SANTACO will be utilising the technology.

The **Bag Drop** project under the Tourism Grassroots Innovation Programme is a luggage storage and logistics company which specialises in pre-check-in/post check-out luggage storage in addition to luggage transportation solutions for the traveller, digital nomad, and the hospitality and events industry. Based in Cape Town, Bag Drop provides a solution for the lost hours experienced by travellers who want to explore more but are limited by their luggage or for those who just wish to move between accommodation. They also offer a safe and secure multi-day storage solution for travellers who plan to travel across South Africa without the encumbrance of excess luggage. Bag Drop has 2,000 clients on its platform, has delivered 9,000 bags and has surpassed a million rand in turnover during 2023/24.

Living Labs and Centres for Innovation and Entrepreneurship

Figure 26: Young people use the facilities at the MAFIHUB

The TIA has empowered communities by establishing several strategically informed technology and innovation support centres in marginalised areas to provide vital SET support to grassroot innovators and individuals. To date, the TIA has invested in and established 21 Living Labs and Centres for Innovation and Entrepreneurship in various parts of the country with a specific emphasis on expanding its geographical footprint, especially in marginalised communities.

The Agency released a call in January 2024 for investees in the TIA portfolio who are interested in setting up centres for innovation and entrepreneurship. Seven grassroots innovators were funded for a total of R2.1 million to create a total of nine new centres that were established during the year under review.

Figure 27: MIYAlab is one of the Living Labs established to provide SET support to grassroots innovators and individuals

- **Imali Crypto** is a beneficiary of the TIA/INSETA grassroots programme which develops blockchain solutions that focus on primary and tertiary industries such as agriculture, environmental management, finance, insurance and supply chain management. Imali Crypto will be established as an Agri SETA-accredited centre delivering innovation support programmes to selected townships and rural communities in the eThekwini area.
- **Abiri Innovations** was established in 2018 in Lesodi Motlana village, Mokopane, Limpopo province. The science and technology centre is intended to play a pivotal role in transforming the economic landscape of the surrounding communities by empowering individuals with technological skills and supporting local SMMEs. The centre is at the due diligence stage of obtaining accreditation with the MICT SETA.
- **Ideation To Startup NPO** is a non-profit organisation that is dedicated to empowering women and youths through entrepreneurship development. The establishment of a SET-based start-up business centre in Limpopo province's Lepelle-Nkumpi region aims to empower women and youths, stimulate creativity and drive community economic growth which will contribute to meeting the region's pressing needs for entrepreneurial development, technological access and economic empowerment.
- **Saturated Holdings SET Centre** is a 100% black- and youth-owned sector-agnostic digital agency, digital transformation and digital skills training provider. The technology startup develops and provides B2C, B2G, B2B and B2B2C digital products and solutions. The centre will be seeking accreditation with the MICT SETA for the training options it provides.
- **Red Village Trading** is a private company and an SET centre for 3D printing training and technology development. It intends to draw SMMEs for training from 12 townships in the Western Cape province. The company is a recipient of Y combinator and will launch in Silicon Valley in May 2024. It is currently negotiating a R9 million equity deal with Y combinator and will also be seeking accreditation with the MICT SETA and MERSETA.

- **Embo Digital & Green Technologies** SET centre will be established at the Centre for Rapid Incubation at the Walter Sisulu University. The centre will be an IT solutions service provider with a focus on innovative applications, web development and computer facilitation aimed at reducing exclusion and bridging the digital divide. The main focus is to provide digital and technology skills with a strong focus on the 4IR to support grassroots SMMEs in rural communities and townships of the Eastern Cape and to support economic, educational and social development.
- **Shudu Connections** is a software development, ICT and business skills development SET centre. The centre will focus on cybersecurity training sessions, cybersecurity awareness campaigns, technology and skills development training, mentorship and networking. Shudu Connections will be established as a MICT SETA-accredited centre.

During this reporting period, 200 beneficiaries have been supported through a structured innovation support programme across the labs, and a total of 1,452 beneficiaries were supported through the activation programmes and events. In addition, two new Living Labs were funded during 2023/24.

Innovation for Service Delivery

The unit supported the Spatial Monitoring of Informal Settlements and Land Invasion/Flood Relief project under the auspices of the KwaZulu-Natal Department of Human Settlements together with Zamisa Holdings. The project monitored the encroachment of housing delivery beyond project boundaries, illegal land invasion and the expansion of informal settlements; it also conducted an assessment of areas affected by the flooding disaster in selected areas of KwaZulu-Natal for the Department of Human Settlements using remotely piloted aircraft systems or drones.

Through the Validation and Verification of Innovations for Service Delivery programme the unit funded three implementing partners for deploying technology solutions in 34 municipalities in the areas of water and sanitation, energy and decision support tools.

SMME Support Programme: SET Support Infrastructure

The TSP enables academia and industry to participate in technology transfer and development by facilitating interaction and reducing barriers to market access through subsidised services. In partnership between hosting universities, the TSP continues to commit to this vital role in achieving the DSI's and national objectives relating to enabling STI. A network of 16 operational and functional Technology Stations was put in place to contribute to the indicators of the DSI and to act as a critical enabler in the TIA's Strategic Pillars Outcome 3 and a key to supporter of the regional innovation systems.

The TSP provides SET and enterprise development support to technology innovators in targeted industries and communities. It does so by providing access to state-of-the-art equipment, infrastructure and expertise in specialised fields that would not otherwise be available or where they would not be able to afford to commercialise their innovations themselves.

Support services provided by Technology Stations range from prototyping to pre-commercialisation. They include testing and analytical services, rapid prototyping and manufacturing, consultation, technology audits and feasibility studies, process or product improvements, applied development, engineering and design, R&D, and technology demonstration and training. The initiative supports mainly SMMEs, individual innovators and researchers.

Regarding human capital development and training, two interventions contribute to the improved capacity of students: work-integrated learning and support to graduate interns in priority sectors. This is done alongside creating a better enabling environment for the exploitation of R&D outputs of universities in partnership with other government departments and entities.

Interns and postgraduates are placed either with a Technology Station or with an industry partner to work on an industry project. Interns and postgraduates at Technology Stations have subsidised access to state-of-the-art equipment and platforms, which enables them to participate in projects using the latest standard of technology, which then gives them a competitive edge in the industry.

The overall performance reported for the period under review is as follows:

- Provided support to 3,181 SMMEs and individuals operating in agro-processing, chemicals and cosmetics, manufacturing and metal fabrication, and green industries, plastics and composite and textiles (including cut, make and trim) sectors to accelerate the exploitation of technologies.
- Included four NGOs and 29 co-operatives in the provision of services, enabling these beneficiaries to earn an income through by providing services to local communities.
- A total of 20,540 hours were spent conducting short learning programmes and tailored training for skills transfer to companies, including 89 accredited training courses, and proving work-based learning for university graduates, in these ways providing a high-end skilled labour force to industry. This intervention also contributes to curriculum improvements and student involvement in industry-related projects.
- Post-graduate and student support: 127 high-level postgraduates were supported and 58 students were afforded an opportunity to work on industry projects at different Technology Stations.
- Knowledge-based innovation products: 42 disclosures were made, 38 prototypes developed, 23 technology assistance packages delivered and three technology demonstrations undertaken in pilot productions for pre-commercial products, processes or services.

Technology Stations contributed to improving the competitiveness of industry by applying SET interventions and facilitating interaction between industry and academia. The following were achieved in 2023/24:

- Facilitated 1,642 competitive improvements, where 76 enterprises solutions were taken up in the market, which resulted in retaining jobs and/or creating new jobs.
- Persons with disabilities: 48 people supported.
- Youths: a total of 1,916 individuals classified as youths received support from Technology Stations.
- Leveraged income: R39 million was leveraged as other income into the Technology Stations.
- Applied research: 24,704 man-hours of time were spent on applied research and technology development with host universities to enable the beneficiation of new knowledge.

Quest to clean up the Jukskei River

Figure 28: The Nanima Foundation and Alex Water Warriors combat the litter and pollution in the Jukskei River

The University of Johannesburg's Process, Energy and Environmental Technology Station has partnered with the Nanima Foundation and Alex Water Warriors to combat the litter and pollution in the Jukskei River, cofounded by the Gauteng Department of Agriculture, Rural Development and the Environment. Using the knowledge and resources of each organisation, the partners collaborated to install and maintain a litter trap in the polluted river.

The Jukskei River is one of the largest rivers in Johannesburg, South Africa. It is a source of drinking water and a natural space where the children of the district bathe and play. However, the Jukskei has widely been reported as being highly polluted. The irresponsible dumping of sewage and household and industrial waste has negatively affected the quality of the water and the surrounding environment.

The project entailed placing a litter trap in the Jukskei River. By directing floating debris to a central collection location, this project seeks to reduce pollution while improving the condition of the water and streamlining clean-up operations. In this way, the team ensures effective waste removal and raises environmental awareness by including the community through workshops and monthly clean-up activities. Leveraging the Extended Producer Responsibility regulations, local communities are capacitated to conduct waste audits. The data are used to engage the producers of plastic waste removed from the litter trap with a view to persuading them to develop integrated waste management solutions.

The initiative aims to assess its impact and encourage sustainability in the neighbourhood by monitoring the amount of waste collected, testing the water quality and developing integrated waste management solutions through community and industry engagement. Ultimately, the partners hope to exert an influence on regional environmental regulations pertaining to pollution control and river cleanliness. This is an example of a successful community-based strategy for reducing water pollution that could be used as a template for similar programmes in other areas.

Innovation Skills and Enterprise Development

The business unit aims to stimulate a culture of innovative thinking in the NSI, therefore increasing the rate of translation of innovative ideas into novel technologies, products and services. It provides focused and targeted training interventions to strengthen the entrepreneurial capacity of researchers and innovators in the commercialisation of their research outputs.

The **Innovation Skills programmes** provide entrepreneurs, students and graduates with SET skills through placement in industry and other technical environments and with investees for enhancing capital development in partnership with the Human Sciences Research Council Internship programme and the Energy and Water Sector Education and Training Internship Programme. The TIA leveraged and received an allocation of R6 million from partners to place and support 100 graduates on a 12-month internship work-exposure programme. The demographics of the interns successfully placed for work exposure within Agency sectors and supporting business unit is 99 black youth interns placed, of which 73 are women and 26 have been placed within the Bio-Economy sectors and/or projects implemented through the Agency.

The **TIA's Internship Programme** had 71 interns placed for work exposure by the end of 2023, with 39 of them placed in TIA business units and platforms, 16 placed at Offices of Technology Transfer at HEIs or science councils and 16 placed with SMMEs, including Agency investees.

The TIA **CHUMA Commercialisation Programme** is a specialised internship programme aimed at bridging the gap of critical and scarce skills in technology transfer, commercialisation, IP and project management. A recommended four-pillar approach will be used and will promote a focus on own TIA capacity-building for Pillar 1, Offices of Technology Transfer and National Intellectual Property Management Office for Pillar 2 and

Figure 29: Chuma Specialised Commercialisation Internship Programme

The approach will allow partners to collaborate with and fund their own selected candidates to join the CHUMA cohort to bridge skills gaps and build targeted skills. The Proposal for the CHUMA Commercialisation Programme has been presented and approved by IAC and is due to be presented to EXCO for approval of the funding. The programme is planned to start in the new financial year 2024/25 according to the planned rollout.

The **Gauteng Accelerator Programme** Bioscience programme is an annual initiative implemented in partnership with The Innovation Hub. The competition seeks to identify and recruit innovators, researchers, SMMEs and aspiring entrepreneurs with relevant bio-based technologies. The progrmme intends to equip 37 participants with the business knowledge and skills necessary to produce bankable business plans and polished pitches, with executive training delivered by successful entrepreneurs and local expects.

Under the **Leaders in Innovation Fellowship** programme, seven finalist entrepreneurs completed their first in-country training conducted by the Royal Academy of Engineering and Oxentia, a technology transfer company from the University of Oxford. This also coincided with the programme's ten-year anniversary hosted by the TIA and the Royal Academy of Engineering. It leveraged up to £140,000 in support for innovators from South Africa to benefit from the Academy's prestigious network, which brings together the fellows, investors, like-minded entrepreneurs and policymakers and offers tailored mentorship that builds sound entrepreneurial skills which accelerated commercial growth and investment.

Global Cleantech Innovation Programme in South Africa

The Global Cleantech Innovation Programme in South Africa (GCIP-SA) is part of a global initiative by the United Nations Industrial Development Organization that aims to respond to the most pressing energy, environmental and economic challenges of our time through promoting clean technology innovation and supporting SMMEs and start-ups. Specific areas of focus are energy efficiency, renewable energy, waste beneficiation (including e-waste), water efficiency and green buildings, advanced materials and chemicals, green transportation, agritech and environmental protection (air, sea and land). The aim of GCIP-SA is to promote clean technology innovation and support entrepreneurs in growing their SMMEs and start-ups into viable investment-ready businesses. The organisation's Global Environment Facility designated the TIA as the national implementer and country host for GCIP-SA in 2018.

Figure 30: GCIP-SA Awards winners

GCIP-SA is a combined business accelerator programme that culminates in an annual competition where SMEs and start-ups are continuously trained, mentored and assessed on their business models, investor pitches and their communication and financial skills. The National Academy for 2023 was a joint event hosted by GCIP South Africa and GCIP Lesotho, with 33 semi-finalists participating in the Accelerator Programme that was concluded in December of 2023. At this event, 12 finalists were announced during the National Gala Dinner and Awards ceremony. The overall winner of the GCIP-SA Awards 2023/24 was Charnte Marthinus from

Smart-View Utility Management solutions, who was awarded a cash prize and an opportunity join winners from partner countries at the GCIP Cleantech Days Forum in Vienna, in June 2024, where the global winner will be selected.

The Smart-View Utility Management tool is geared towards industrial and commercial utilities as it provides accurate real-time data on water usage. Smart-view Technology's solutions aim to reduce carbon emissions and utility waste significantly and to drive economic benefits by reducing the operational costs for businesses. The innovation leads to enhanced environmental stewardship, social responsibility and economic savings, aligning it with global sustainability goals.

The United Nations Industrial Development Organization has funded the TIA to provide services as a national execution agency for the second component of **strengthened adaptation capacity for a green and resilient economy in South Africa,** project funded by the government of Flanders in Belgium. The Agency is leading this component, which has an outcome of nurturing the enabling conditions for a continuous innovation dynamic for climate adaptation services for industry. Its objective is to accelerate industrial innovation and technology uptake for climate adaptation. The total value leveraged and contracted is EUR37,500.

Partnerships and Strategic Engagements

The TIA is committed to engaging with stakeholders by implementing a diverse range of strategic engagement platforms in repositioning the Agency in the NSI and increasing its brand visibility and equity in the market. Accordingly, the Agency implemented several initiatives that focus on the start-up ecosystem and sector-specific and product launches from its successful investments.

As part of the review and evaluation of the **SFP**, the TIA hosted a two-day stakeholder consultative workshop in Pretoria in February 2024 with all the Agency's Seed Fund Implementing partners and other players. The purpose of the consultative workshop was to review the effectiveness of the programme's governance and the implementation model (areas of optimisation or improvement for better implementation). The workshop was well attended by more than 50 people from implementing partners, the DSI and other NSI participants.

The key take-home message for the TIA included the appreciation and relevance of this early-stage instrument and it was noted that the delivery model of the Seed Fund is effective. However inefficiencies such as limited funding allocation to the programme, allowable indirect costs, repayment considerations, models differentiating matured partners and support for struggling partners were noted, as were inefficiencies in the process itself. Implementing Partners also shared their lessons from their institutions' perspective, thus providing guidance to other partners. The key take-home message for the Innovation and Enabling Executive to consider for immediate actioning was the remodelling of the programme in future in a manner that takes into consideration the deliberations of the stakeholders and their feedback.

The TIA engaged with the Technology Platform Managers and Directors over the course of two days with the purpose of exploring mechanisms to strengthen the **TPP**, identify additional sources of funding and increase visibility of these technology infrastructures. It was agreed that Technology should lobby for increased support from the government, collaborate with each other more, and lobby for quick access to genomics, proteomics and other data generated through their work for the benefit of other users of the specialised data both locally in Africa and globally. Another key output from the discussions was that success stories from the platforms will be used to help position and promote these entities to help them to gain visibility, credibility and access to international funding bodies or opportunities.

The **Scale Out for Impact Programme** is a collaboration between the TIA and Innovate UK through its implementing partner, Knowledge Transfer Network, to fulfil the government's vision of a transformed economy. The collaboration brings together pioneering innovators from the two countries to create a positive impact in low-income communities in South Africa. In the year under review, the Agency approved R6 million to support ten South African SMMEs in the programme. The United Kingdom has provided R7 million to support UK SMMEs. The partnership hinges on the development of locally scalable and affordable innovations that respond to the challenges faced by underserved communities. Twenty SMMES from SA and 20 SMMEs from the UK have been selected to participate in an immersive workshop in April 2024 with a view to developing collaborative projects in the food–energy–water nexus focus area.

In response to the critical need for water security in both South Africa and the United Kingdom, the TIA and Innovate UK collaborated on the development of the **UK–SA Water Lead Customer Programme**. The programme seeks to accelerate innovations in water-access technologies. With funding commitments from both parties totalling £500,000 for UK participants and R5 million for South African participants, the programme aims to drive partnerships and innovation aligned with UN Sustainable Development Goal 6.

After a call and assessment process, five projects were selected and approved for support, totalling R4.8 million. The South African participants include PCS Global, M&D Construction, Geoterra Image, HydroWallet and Khanyisa Projects – which, impressively, all have endorsement letters for piloting at prominent water utilities and private-sector companies such as Coca-Cola and PepsiCo. The programme has significant potential for making an impact in resolving water-security challenges.

In preparation for South Africa's 2025 G20 Presidency, the TIA participated in the **G20 Startup Forum** hosted by Brazil in the northern state of Amapá in February 2024. This gave an opportunity to three South African SMEs to engage with various Brazilian institutions and explore areas of possible collaboration using the G20 Startup Forum. This opportunity was used mainly to explore ways in which South Africa should organise these series of events to ensure maximum benefit to SA SMEs. The SMEs that participated also used the opportunity to visit a number of their prospective partners' facilities in order to gain a better understanding of their capabilities and processes.

The **Blockchain Innovation Challenge** partnership between The Innovation Summit, the Swiss Embassy, TIA International Strategic Partnerships and Commercialisation: ICT saw the Agency and The Innovation Summit accompany selected innovators in the blockchain domain on an exploratory expedition around Zurich, Switzerland. Key benefits from the expedition were the exposure the local innovators derived from engaging with blockchain researchers and techpreneurs at the University of Basel and the town of Zuch – the Swiss-acclaimed cryptovalley. The key benefit from the visit for the TIA team was obtaining know-how on the building blocks of a blockchain ecosystem.

The TIA organised, supported and led the 6th BRICS Young Innovator Prize Competition as part of the 7th BRICS Young Scientist Forum, held during late July to early August in Gqeberha, Eastern Cape. This was a platform for BRICS young scientists and entrepreneurs to share best practices in innovation and venturing. The Young Innovator Prize Competition recognises young talented entrepreneurs and researchers with outstanding innovations (inventions, products, applications and services) that will make an impact on the socio-economic, environmental and living conditions in BRICS societies. Twenty young entrepreneurs from the BRICS countries participated in the competition. The event is aligned with the Agency's objectives of collaborating with international stakeholders to leverage resources.

BUDGET AND EXPENDITURE

A comparison of the budget and actual expenditure for the Innovation Enabling Division is presented in Table 11.

Table 11: Budget and expenditure for the Innovation Enabling Division for 2022/23 and 2023/24

	2022/23			2023/24		
Sub-programme	Budget (R'000)	Actual expenditure (R'000)	(Over)/under expenditure (R'000)	Budget (R'000)	Actual expenditure (R'000)	(Over)/under expenditure (R'000)
Youth Technology Innovation Programme	115	128	(13)	–	46	(46)
ISED	1,600	3,605	(2,005)	1,000	1,400	(400)
TSP	72,685	144,724	(72,039)	92,013	123,531	(31,518)
IID	22,519	43,349	(20,830)	22,000	37,814	(15,814)
GCIP-SA	14,083	4,466	9,617	11,583	3,334	8,249
SFP	14,032	26,953	(12,921)	14,033	14,179	(146)
Africa Programme	11,849	3,811	8,038	9,600	2,051	7,549
Strategic engagements and partnerships	450	5,014	(4,564)	700	2,749	(2,049)
Stakeholder events	–	–	–	2,000	–	2,000
Journey to TIA 2.0	–	–	–	1,249	–	1,249
Total	**137,333**	**232,050**	**(94,717)**	**154,178**	**185,104**	**(30,926)**

15. SPECIAL FOCUS: IMPLEMENTATION OF THE INNOVATION FUND

The DSI established the Innovation Fund to enhance South Africa's capacity to commercialise technological innovations. This public–private funding instrument's objectives are to de-risk investments through technology development and demonstration and catalyse commercial co-investment and follow-on investment by industry and private-sector sources. The TIA is one of the implementing partners alongside the SA SME Fund, the Public Investment Corporation, the Industrial Development Corporation and others.

The Agency received an allocation of R80 million for a portfolio of 20 projects approved by the DSI under Phase 1 of the Innovation Fund; R102.2 million was received under Phase 2 and R100 million under Phase 3. A further R100 million was received under Phase 4; R27 million has been generated in interest income, with a further R0.52 million generated from a Stone Three repayment. A project payment of R125.6 million has also been made. The Agency has received a total of R382.2 million in capital through Phases 1–4 of the Innovation Fund.

For the period under review, a total of R44.4 million has been disbursed against project milestones (R2.7 million against Phase 1, R35.1 million against Phase 2 and R6.4 million against Phase 4). To date (ie since the commencement of the Innovation Fund until 31 March 2024), a total of R125.6 million has been disbursed against project milestones (R68.4 million against Phase 1, R50.7 against Phase 2 and R6,4 million against Phase 3).

UNIVERSITY/HEI CALL

The TIA issued an Innovation Fund call to publicly funded IP at late-stage development that requires further funding towards commercialisation in mid-2023/24. The call was extended to SMMEs that have previously been funded by the Agency that require assistance with their commercialisation.

A total of 85 applications were received to the value of R777.5 million. After assessments and evaluations, 31 were considered to have met the criteria for due diligence, of which 16 were prioritised by the evaluation team for due diligence. Five applications requesting less than R1 million did not require a full due diligence screening, but rather evaluation and analysis of project-fundable activities, milestones, deliverables and budgets. Two applications were not recommended for funding after assessment, two were approved and one was deferred for resubmission.

The due diligence, approval and contracting process will be finalised in early 2024/25.

HIGH-IMPACT SEED FUND OF FUNDS

The TIA has demonstrated its ability to implement the Innovation Fund by investing in various projects that take on systemic issues while applying recognised investment practices. These projects are performing well and in other instances demonstrating significant traction. A recent South African survey report on technology transfer revealed that TIA's Seed Fund has contributed significantly over the years, enabling university research output to be converted into prototypes, products and ultimately spinout companies. The report, however, points to additional funding requirements of no less than R500 million for technology development and commercialisation.

In this regard, the Agency, as part of its strategy towards a TIA 2.0, considers it critical to expand its Industry Matching Fund through a Fund of Funds model aimed at leveraging private-sector funding towards the translation to commercialisation of technologies. While it continues to fund a greater portion of funding to Publicly Funded IP, there remains a large gap in the funding that is required to be directed at start-ups and SMMEs. Accordingly, the Agency has partnered with the SA SME Fund to bolster the provision of funds towards start-ups and SMMEs through a Fund of Funds approach. This R200 million fund will be implemented jointly in 2024/25.

15.1 HIGHLIGHTS

CAPEBIO TECHNOLOGIES

CapeBio Technologies has developed an AI-based Bio-manufacturing Platform integrating metagenomics and AI to discover and produce novel biologics for health and industrial applications. During the review period, CapeBio successfully completed version 1.0 of the prototype, achieving the full integration of back-end and front-end components. This milestone enables real-time analysis of key processing modules to enhance efficiency. Preparations are underway for the platform's inaugural demonstration, followed by a trial for selected external users.

STONE THREE SMART REMOTE OPERATIONS CENTRE

The Stone Three Smart ROC™ (Smart Remote Operations Centre) combines expert services with the power of machine learning to solve problems, resulting in increased productivity and a safer, happier and healthier working environment. Since its launch, the Smart ROC™ has demonstrated to clients how real-time measurement problems can be solved with industrial AI-augmented machine vision and remote AI-augmented process monitoring and diagnostics. The technology helps clients proactively to avoid adverse events and sub-optimal performance that affects productivity.

Since the launch of the Stone Three Smart ROC™, many mining houses locally and internationally have shown interest in the Stone Three technology. The company received additional funding from the TIA of R5.5 million, which was used to develop the technology further and to conduct trials in different countries under varying conditions, including North America, Chile and Peru.

The Agency has been instrumental in growing this South African global player from an annual turnover of R8 million to more than R70 million per annum. Royalties from Stone Three to TIA In addition, Stone Three increased its levy payment to the Agency from R717,198 in 2022 to R1,400,367 in 2023. The company continues to pay its Innovation Fund loan repayment instalments of R338,453.27 per quarter, which commenced in September 2022. The income from royalties is an important revenue stream from which the Agency can support and fund other local innovations and enterprises. The success of the Stone Three investment is evidence of the TIA's being an industry builder and market fixer in a sector that is a key contributor to the South African economy.

Stone Three achieved R72 million in sales revenue for the fiscal year ending 30 June 2023, with projected sales of R87 million for the fiscal year ending 30 June 2024. A significant commercial expansion exercise is planned for the 2024/2025 fiscal year, targeting the Latin American and Asia-Pacific regions, specifically Chile and Australia. Stone Three has approached the Agency for financial support for this expansion.

MSIZI PHARMACEUTICALS

Msizi Pharmaceuticals (Pty) Ltd ('Msizi Pharma') was approved for funding from the TIA's Innovation Fund Round 1 for a project titled 'The Local Manufacture of Fluorocytosine/Emtricitabine/Lamivudine Using Flow Chemistry' with an amount of R12.5 million. After successfully completing Phase I, Msizi Pharma requested follow-on funding to initiate Phase II. This phase involves establishing a pilot plant at the TIA Bioprocessing Platform in Umbogontwini to optimise the synthesis process and enhance the purity of 5-fluorocytosine (5FC). The application was thoroughly reviewed and recommended for approval by various committees, including the IFC and the TIA board. Consequently, the Board approved an additional R26.2 million in funding, raising the total project funding to R45 million.

Msizi Pharma aims to be the preferred supplier of antiretroviral and active pharmaceutical ingredients to drug formulators. In using flexible and cost-effective manufacturing technologies to produce active pharmaceutical intermediates, the company intends to minimise the inaccessibility risk of much-needed APIs and in this way strengthen the health sector. The desired impact is to establish local capability, competency and capacity in the manufacture of such drug precursors. The approved deal structure was designed to be attractive to large capital follow-on investors into the envisaged commercial plant.

UNIVERSITY TECHNOLOGY FUND

The University Technology Fund (UTF) is a R200 million fund which consists of private and public funders. The TIA has invested R15.5 million into the fund, of which R10.5 million comes from the Innovation Fund. In the reporting period, the UTF added three new investments to their portfolio.

UTF Seed funding allocations totalling R9.9 million were made into Scentia Products (Stellenbosch University) and Acinotech (UCT). A Series A investment was made into CubeSpace (Stellenbosch University). This company specialises in an attitude determination and control system for nano satellites and manufactures electromechanical components used in satellites globally. The UTF plans to invest R35 million into CubeSpace, the biggest investment UTF plans so far. Co-funding of R12 million is anticipated.

The UTF portfolio is progressing well, with projects reaching their milestones, including some notable achievements such as HYENA, a UTF spinout that signed a commercial contract with GreenQUEST.

MIDESK GLOBAL

The MiDesk project is a ground-breaking wheeled shoulder school bag which is lightweight, waterproof, strong and portable and which can be used as a desk and chair at home and at school. The TIA contracted with MiDesk Global (Pty) Ltd through the Innovation Fund, providing R6.8 million in support of the product's commercial roll-out. The year under review saw the company being extensively recognised.

MiDesk emerged as the victor of the African Impact Challenge, an esteemed event held in Phillippe Village, where the company presented its innovative ideas to a select group of potential investors.

In March 2024, Games Global donated £72,000 for 1,000 MiDesks to be distributed in underprivileged schools in Durban and Cape Town. MiDesk has received support commitments from Kelloggs, Glencore Alloys, Credit Guarantee, Old Mutual Insure, African Impact Initiative, Resultant Finance, Avanti Communications, ADS Insight and VISA.

MiDesk's Chief Marketing and Sales Officer has been recognised as a top 10 South African local hero by YOU magazine (together with Imtiaz Sooliman, Siya Kolisi and seven others) in 2023 for the MiDesk. The Founder and CEO, having been selected as one of the top 55 women globally by EY London, will be attending the EY Entrepreneurial Winning Women™ 2024 Conference to take place in Istanbul in April 2024.

PART C
GOVERNANCE

Corporate governance embodies the processes and systems by which public entities are directed, controlled and held to account. In addition to legislative requirements based on a public entity's enabling legislation, and the Companies Act, corporate governance with regard to public entities is applied through the precepts of the PFMA and run in tandem with the principles contained in the King Report on Corporate Governance.

The TIA was established by, and derives its mandate from, the TIA Act 26 of 2008, as amended (the TIA Act). The Agency is a Schedule 3A public entity under the provisions of the PFMA (Act 1 of 1999). Its objective in terms of the TIA Act is to support the state in stimulating and intensifying technological innovation to improve economic growth and the quality of life of all South Africans by developing and exploiting technological innovations.

16. PORTFOLIO COMMITTEE

The TIA is accountable to Parliament through the Parliamentary Portfolio Committee on Higher Education, Science and Innovation. The Portfolio Committee exercises oversight over the Agency with an emphasis on service delivery and enhancing economic growth.

During the year under review, the Agency appeared before the Portfolio Committee three times: on 21 April 2023 to present its APP for 2023/24, on 13 October 2023 to present its Annual Report for 2022/23, and on 16 February 2024 as part of the DSI entities' update on progress with implementation of the Audit Action plans as agreed with the Auditor-General of South Africa.

The Agency's APP presentation provided an overview of the strategic context at the macro, system and institutional levels, progress in achieving transformation targets and with maturing and near-market ready technologies, Decadal Plan alignment and planned performance. The Annual Report presentation looked back at the first three years of the implementation of the Strategic Plan 2020–2025 and included highlights of the Agency's 2022/23 financial performance with reference to the outcomes of Commercialised Innovations, delivering on the Bio-economy Strategy, SMME support and leveraged funds, and strategic initiatives into the ensuring year.

During its presentation to the Portfolio Committee on 16 February 2024, the fact that the TIA had achieved an unqualified audit for the 12th consecutive year was highlighted.

17. EXECUTIVE AUTHORITY

Oversight by the Executive Authority rests on the prescripts of the PFMA. The Executive Authority has the power to appoint and dismiss the Board of a public entity. The Executive Authority must ensure that Board members having an appropriate mix of skills are appointed to guide the public entity.

The Executive Authority is accountable to Parliament for achieving the goals and objectives of the TIA. The Executive Authority takes an interest in risk management to the extent necessary to derive comfort that properly established and functioning systems of risk management are in place to protect the Agency against significant risks. As risk management is an important tool to support the achievement of this goal, it is important that the Executive Authority provides leadership to governance and risk management.

The Agency's Executive Authority is the Honourable Minister of Higher Education, Science and Innovation, Dr Bonginkosi Emmanuel Nzimande.

The following statutory reports were submitted to the Executive Authority:

- 2023/24 Quarter 1 Performance Report (20 July 2023)
- 2023/24 Quarter 2 Performance Report (20 October 2023)
- 2023/24 Quarter 3 Performance Report (20 January 2024)
- 2023/24 Quarter 4 Performance Report (20 April 2024)
- 2022/23 Annual Report (27 August 2023)
- 2024/25 APP (11 February 2023)
- 2022/23 Key Performance Highlights (26 May 2023)

18. ACCOUNTING AUTHORITY

The TIA's Accounting Authority is its Board. The Minister of Higher Education, Science and Innovation, Dr Bonginkosi Emmanuel Nzimande, appointed the Board with effect from 1 November 2021 in terms of section 8(4) of the TIA Act.

In terms of section 5 of the TIA Act, the Board is responsible for managing and controlling the Agency. Board members are appointed by the Minister on the grounds of their knowledge of and experience in technological innovation, technology management, IP and its commercialisation, and business skills which, when considered collectively, should enable them to attain the objectives of the Agency. The Board considers the practice of good corporate governance to be a fundamental component contributing to the success of the Agency's business. In pursuit of and in its commitment to the highest standards of governance, the Board provides strategic oversight and effective direction by adhering to the relevant codes of best practice and principles of fairness, integrity, responsibility, accountability and transparency.

18.1 BOARD CHARTER

A Board Charter is in place which sets out the roles and responsibilities of the Board in relation to the Agency and governs the conduct of the Board. The Board Charter is central to determining the way in which the Board interacts with management, the shareholder and other stakeholders. In addition, Board members' responsibilities and limitations are primarily set out in the TIA Act, the PFMA, the King reports on corporate governance and the common law of South Africa.

The Board is responsible for:

- Acting as the focal point for, and the custodian of, corporate governance by managing its relationship with management, the shareholder and other stakeholders of the Agency along sound corporate governance principles;
- Providing effective leadership on an ethical foundation;
- Appreciating that stakeholders' perceptions affect the Agency's reputation;
- Adopting strategic plans;
- Appointing a suitably skilled and qualified person as the CEO of the Agency, which appointment must be made after following a transparent and competitive selection process;
- Retaining full and effective control over the Agency and monitoring management in implementing Board plans and strategies;
- Monitoring operational performance and management;
- Ensuring that the Agency complies with all relevant laws, regulations and codes of business practice;
- Ensuring that the Agency communicates with its internal and external stakeholders openly and promptly, and with substance prevailing over form;
- Developing a Code of Conduct that anticipates and deals with conflicts of interests, particularly those relating to Board members and management;
- Ensuring that there is an appropriate balance of power and authority on the Board, such that no individual or select individuals can dominate the Board's decision-making;
- Defining and monitoring the information needs of the Board;
- Identifying and monitoring the non-financial aspects relevant to the business of the Agency; and
- Through its sub-committees, prioritising and managing risks which seek to impede the business of TIA.

18.2 COMPOSITION OF THE BOARD

Table 12 provides a detailed list of the TIA Board members.

Table 12: The TIA Board members and their particulars

Full name and designation	Effective dates of appointment and resignation	Qualifications	Area of expertise	Board directorships	Other committees or task teams
Ms Matshidiso Modise (Chairperson)	1 November 2021 to date	BCom (Marketing and Advanced Management) Financial Insights for non-financial directors AltX Director Induction Programme (IODSA)	Venture capital (early- stage investment experience) Technology entrepreneurship Strategy Business development Governance Green skills and sustainability	Furaha Afrika Holdings (Pty) Ltd Furaha Solutions (Pty) Ltd Furaha Green Solutions (Pty) Ltd Finclusion (Pty) Ltd SiMODiSA Start-Up SAB Foundation (Trustee) Metropolitan Momentum Holdings ESD Trust (Trustee) City Power (Board member)	Agri-Vie Private Equity Fund (Advisor) SA Venture Capital & Private Equity Association Google Africa Launchpad Programme (Business Mentor) Endeavor SA Trust (Mentor) World Economic Forum (Global shaper) Young Presidents Organisation (Member) Wits University Deputy Vice-Chancellor's External Advisory Committee on Innovation (Advisor)
Ms Anati Canca (BTC Chairperson and member)	1 November 2021 to date	BSc (Microbiology) BSc (Hons) (Human Genetics) MSc (Technology Management) Coaching for Development	IP management Strategy formulation and execution of innovation strategies for revenue generation and social benefit Leadership development and coaching	Malangana Innovation Advisory (Pty) Ltd Mazangani Solutions (NPC) Ruliv (NPO)	Associate: Nurturing Growth Trading (Pty) Ltd Wits University – School of Governance Research Assistant

Table 12: The TIA Board members and their particulars (continued)

Full name and designation	Effective dates of appointment and resignation	Qualifications	Area of expertise	Board directorships	Other committees or task teams
Dr Revel Iyer (member)	1 November 2021 to date	BSc BSc (Hons) MSc PhD (Botany) LLB LLM (IP) MBA	Technology transfer IP management Technology innovation Technology commercialisation Biotechnology strategy	Aonyx Holdings Aequorea Aonyx Foods Promerops	DSI IP and Technical
Mr Patrick Krappie (Acting CEO and ex officio Board member)	13 June 2020 to date	BCom (Hons) Economics	Economic policy International diplomacy & negotiation Collaborative leadership Stakeholder management Partnership building Strategy and execution	None	Member: Innovation Challenge Pilot Project Steering Committee Co-Chair: IID Steering Committee Member: Afrique du Sud Steering Committee
Ms Lindiwe Matlali (member)	1 November 2021 to date	BCom (Economics and Statistics) Foundation Programme for Private Equity (GIBS) Graduate Certificate Innovation and Entrepreneurship Graduate Certificate Social Entrepreneurship Master's in Innovation	Techno-entrepreneurship Social entrepreneurship	Africa Teen Geeks Apodytes (Pty) Ltd	Presidency (Commissioner 4IR) Member: World Economic Forum Global Future Council on the Future of Cybersecurity (2023–2024 term)
Mr Butana Mboniswa (IFC Chairperson and member)	8 August 2019 to date	MSc Biochemistry BSc (Hons) Biochemistry LLB Certificate Financial Modelling and Analysis	Executive leadership Investment management Technology management Technology development Business development Global systems of innovation SME incubation	Inqaba Biotechnical Industries (Pty) Ltd The Innovation Hub Management Company (Pty) Ltd Sereko Technology & Innovation Advisors	–

Table 12: The TIA Board members and their particulars (continued)

Full name and designation	Effective dates of appointment and resignation	Qualifications	Area of expertise	Board directorships	Other committees or task teams
Ms Joy Sebenzile Matsebula (HR&REMCO Chairperson and member)	1 May 2017 to date	MSc Biometrics BSc Natural Sciences, Environmental Sciences & Biometrics	Business development, Social justice & human rights Disability inclusion & mainstreaming Governance & leadership Statistics & scientific research	Dempower Divuseni Trading and Investments ICT SMME Chamber Johannesburg International Airport Kuzuko Lodge Lanseria Airport 1993 Lanseria Airport Investments Lanseria Holdings Lanseria International Airport Lindandanda Consulting Investments & Trading Motswako Office Solutions Ngwedi Investment Managers Petatex Taquanta Securities Taquanta Asset Managers Taquanta Investment Holdings	Centre for Alternative & Augmentative Communication Disability Economic Empowerment Trust South African Development Trust for Disabled People Presidential Working Group on Disability, Short Statured Persons South Africa The Sebenzile Matsebula Foundation
Mr Thabiso Gerald Ramasike (ARC Chairperson and member)	1 May 2017 to date	BCom BANKSETA International Executive Development Senior Executive Leadership Development Programme Certified Associate (CAIB (SA))	Business Investing Strategy Governance Public speaking Executive coaching Community leadership Philanthropy	Transform Global (Pty) Ltd Transform Ministries Global Tuleka Group (Pty) Ltd Kwena Fund Managers (Pty) Ltd Kwena Franchise Fund (Pty) Ltd Eic Wealth Investors (Pty) Ltd Ramasike Investment Club (Pty) Ltd Thabiso Ramasike Investments (Pty) Ltd Villa De Rama (Pty) Ltd Thatir Group (Pty) Ltd Willrod Holdings (Pty) Ltd Tshepe Foundries International (Pty) Ltd Mes Mould Empower Serve NPC African Unity Life Ltd Leadership Circle (Pty) Ltd Ramasike Foundation NPC Ramasike Family Trust Khula Trust MaxwelL Mahole Morapeli Trust Mosotho Trust	Chairman: Audit and Risk Committee - MES Chairman: Social, Ethics, Transformation & Sustainability Committee; Chairman: Risk & Investment Committee – African Unity Life Ltd Member: Audit and Risk Committee - South African Revenue Service Member: Audit & Risk Committee - African Unity Life Ltd

The Board convened for a total of 13 meetings during the period under review. The dates of the meetings and Board member attendance are provided in Table 13.

Table 13: Board dates of meetings and attendance record

Member	No. of meetings attended	31 May '23	20 Jul '23	28 Jul '23	31 Aug '23	15 Sept '23	6 Oct '23	30 Nov '23	13 Dec '23	19 Jan '24	28 Feb '24	6 Mar '24	15 Mar '24	26 Mar '24
Ms Matsi Modise	13	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Ms Anati Canca	12	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✓
Dr Revel Iyer	13	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Ms Lindiwe Matlali	11	✓	✓	✓	✗	✓	✓	✓	✗	✓	✓	✓	✓	✓
Ms Sebenzile Matsebula	13	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Ms Butana Mboniswa	10	✓	✓	✓	✗	✓	✓	✓	✓	✗	✓	✓	✓	✗
Mr Thabiso Ramasike	12	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✓
Mr Patrick Krappie	12	✓	✓	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Legend

✓	*In attendance*
✗	*Not in attendance*

The Board has recognised the relevance and significance of the TIA's role in the NSI and has prioritised commercialisation, implementation of the Bio-economy Strategy and support to SMMEs and co-operatives for the successful implementation of the Agency's mandate.

18.3 COMMITTEES

The TIA's Audit and Risk Committee (ARC), Investment and Finance Committee (IFC) Human Resources and Remuneration Committee (HR&REMCO) and Board Technical Committee (BTC) have been tasked with specific responsibilities in order to attend to the matters of the Board effectively.

AUDIT AND RISK COMMITTEE

The ARC is constituted in terms of section 77 of the PFMA, read with Chapter 27 of the Treasury Regulations. The ARC assists the Board in discharging its duties relating to safeguarding assets, operating adequate systems and control processes, and preparing accurate financial reporting and statements in compliance with all the applicable legal requirements and accounting and auditing standards. The ethical function of a Social and Ethics Committee as envisaged in the Companies Act 71 of 2008 is incorporated in the Terms of Reference of the ARC.

During the reporting period, the committee monitored the effectiveness of the Agency's internal controls, governance and compliance with its risk management framework, and received reports on ongoing litigation matters. The combined assurance plan was implemented to ensure that the Agency adopts a co-ordinated approach to all assurance activities. While several material risks emerged, no internal or external audit findings have come to the attention of the committee to indicate that any material breakdown of internal controls occurred during the year under review.

The Committee convened a total of 11 times in 2023/24, as shown in Table 14.

Table 14: ARC dates of meetings and attendance record

Member	No. of meetings attended	20 Apr '23	23 May '23	30 May '23	18 Jul '23	21 Jul '23	24 Aug '23	19 Oct '23	14 Nov '23	19 Jan '24	1 Mar '24	13 Mar '24
Mr Thabiso Ramasike	11	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Ms Lindiwe Matlali	10	✓	✓	✓	✓	✓	✓	✗	✓	✓	✓	✓
Mr Butana Mboniswa	11	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Legend

✓	*In attendance*
✗	*Not in attendance*

INVESTMENT AND FINANCE COMMITTEE

The IFC provides oversight and advice to the Board on issues central to the Board's core mandate. The committee makes funding decisions in pursuit of the TIA's mandate and strategic objectives within the specific thresholds determined in and guided by the Investment Framework Policy, as prescribed by section 5(3) of the TIA Act.

The IFC considers investment proposals where Agency's exposure per project is above R15 million but below or equal to R30 million; and it oversees the management of financial resources within its delegated authority. The committee further considers ad hoc matters as delegated to the committee by the Board from time to time.

During the reporting period, the committee approved investments in the amount of R125,148,044. The Committee convened a total of six times during the period under review, as shown in Table 15.

Table 15: IFC dates of meetings and attendance record

Member	No. of meetings attended	16 May '23	23 Aug '23	16 Nov '23	5 Dec '23	15 Feb '24	12 Mar '24
Mr Butana Mboniswa	6	✓	✓	✓	✓	✓	✓
Ms Lindiwe Matlali	5	✓	✓	✗	✓	✓	✓
Ms Matshidiso Modise	5	✓	✗	✓	✓	✓	✓
Dr Revel Iyer	6	✓	✓	✓	✓	✓	✓

Legend

✓	*In attendance*
✗	*Not in attendance*

HUMAN RESOURCES AND REMUNERATION COMMITTEE

The Human Resources and Remuneration Committee (HR&REMCO, 'the committee') derives its authority from the Board and was established in order to oversee and provide advice to the Board on issues central to the TIA's HR capability, design and strategy in addition to remuneration and succession planning.

The committee is responsible for ensuring that the Agency develops a framework, policies, guidelines and an environment that allows the it to employ, reward and retain dedicated, motivated, efficient and loyal employees so as to achieve its long-term strategic goals. The social functions of a Social and Ethics Committee as envisaged in the Companies Act 71 of 2008 are incorporated into the Terms of Reference of the HR&REMCO, dealing with matters such as the environment, health and safety, consumer relationships, labour and employment.

During the period under review, the committee approved revised remuneration and rewards, recruitment and selection, acting, and leave policies. In addition, it recommended the organisation's rated Corporate Balanced Scorecard 2022/23 to the Board for approval, considered reports relating to performance bonuses and salary adjustments for staff, and dealt with various other HR-related matters.

The Committee convened a total of seven times in the period under review, as shown in Table 16.

Table 16: HR&REMCO dates of meetings and attendance record

Member	No. of meetings attended	25 May '23	10 Aug '23	17 Aug '23	22 Nov '23	24 Nov '23	13 Feb '23	8 Mar '23
Ms Sebenzile Matsebula	7	✓	✓	✓	✓	✓	✓	✓
Ms Anati Canca	7	✓	✓	✓	✓	✓	✓	✓
Mr Thabiso Ramasike	7	✓	✓	✓	✓	✓	✓	✓

Legend

✓	*In attendance*
✗	*Not in attendance*

BOARD TECHNICAL COMMITTEE

The purpose of the Board Technical Committee (BTC, 'the committee') is primarily to provide high-level strategic and strategy-related technical advice to the Board and management of the TIA. The committee is a convening platform for key opinion leaders in the NSI and globally to help the Agency to think about its strategic positioning, function and the way it contributes to the global and international discourse. The committee may also consider matters of a technical nature that relate to other aspects of the Agency's mandate and it advises the Board on the strategic priorities which should be adopted in the context of the NSI, the overall objectives of the South African government and the objectives of Agency as set out in the TIA Act.

The committee also considers matters which may be referred to it by the Board or presented to it by the management of the Agency. The committee operates within the specific thresholds determined by the Delegation of Authority Framework as approved by the Board.

During the period under review, the committee's Charter was amended to provide it with approval powers in the fulfilment of its mandate, aligned with the Delegation of Authority Framework. The committee provided input into programmes aimed at implementing transformation proposals for women, youths and persons with disabilities. In addition, the committee focused on respoding to IP leakage through ongoing work on the IP Leakage Study; it also formulated the Agency's response to the Ministerial Review Report and considered various other reports.

The committee convened a total of six times in the period under review, as shown in Table 17.

Table 17: BTC dates of meetings and attendance record

Member	No. of meetings attended	19 May '23	23 Jun '23	15 Aug '23	9 Nov '23	23 Nov '23	18 Mar '24
Ms Anati Canca	6	✓	✓	✓	✓	✓	✓
Ms Sebenzile Matsebula	6	✓	✓	✓	✓	✓	✓
Dr Revel Iyer	6	✓	✓	✓	✓	✓	✓
Mr Patrick Krappie	6	✓	✓	✓	✓	✓	✓

Legend

✓	*In attendance*
✗	*Not in attendance*

18.4 REMUNERATION OF BOARD MEMBERS

Board members receive fees for the services they render to the Board and the Executive Authority in accordance with the relevant tariffs as determined by the National Treasury. These fees are regulated and updated from time to time and approved by the Minister. All Board members' travel costs in relation to executing their duties as TIA Board members, such as airfares and car hire, are paid for by the Agency. Board members are also reimbursed for incidental expenses related to parking, tolls and transfers. For the use of their personal vehicles in conducting the Agency's business members are reimbursed per kilometre as permitted by its travel policy. The breakdown of each member's remuneration is presented in note 28 (members' emoluments) of the AFS, presented in Part F.

19. RISK MANAGEMENT

The TIA has an approved risk management policy and strategy in place. The policy is aimed at formalising and standardising the approach towards ERM practices across the Agency and to enable it to identify, analyse, evaluate, treat, communicate and consult, monitor and review risks consistent with the enterprise-wide risk management approach.

The Agency conducts annual risk assessments at both the operational and the strategic level. Quarterly reviews and monitoring of the risk register are also carried out to identify new risks and evaluate whether the mitigation strategies are managing risks to acceptable levels.

The Board has established an ARC which is responsible for overseeing the overall system of risk management and which regularly reports to the Board. In addition, the Agency has an internal Risk Management Steering Committee that plays a crucial role in enhancing the risk function within the combined assurance approach. This committee provides robust oversight and direction regarding risk-related matters, ensuring that identified risks are adequately dealt with and mitigated. Through the efforts of both committees, the Board is kept well informed about the effectiveness of the risk management strategies and any emerging risks that require attention.

The ARC advises the Agency about risk management and independently monitors the effectiveness of the risk management system. This committee provides independent assurance and oversight, ensuring that the Agency's risk management processes are robust and effective. It reviews the risk management practices, assesses the adequacy of risk mitigation strategies and advises the Board on improvements.

19.1 GOVERNANCE

The Board has overall responsibility for risk management, ensuring that it is embedded in all the processes and activities of TIA. Effective risk management is essential to the Agency's strategic planning and operational success. As we navigate a business environment that is becoming increasingly complex and dynamic, it is crucial that we identify, evaluate and mitigate the risks that could have an impact on the achievement of our strategic objectives.

The Agency remains committed to a robust enterprise-wide risk management system by proactively identifying and managing risks. It therefore strives to safeguard its interests, enhance stakeholder confidence and ensure sustainable growth in the long term. This ensures that the Agency takes a holistic view of the risks inherent in its strategy, operations and business and that the management of risks is embedded in the planning, business and decision-making processes in accordance with the approved Enterprise Risk Management Policy and Strategy and the Risk Appetite and Tolerance Framework.

The Agency's Executive Management acknowledges the dynamic nature of risks and the value of regular reviews. Furthermore, the Executive Management is accountable for designing, implementing and monitoring the process of risk management and for integrating it into the Agency's day-to-day activities.

As part of enhancing support for the risk management function, the Agency established an internal Risk Management Steering Committee that is a key role-player in maturing the risk function in the combined assurance approach. The committee provides robust oversight and direction regarding risk-related matters and ensures that the risks identified are adequately identified and mitigated. The ARC provides an oversight role regarding the effectiveness of the Agency's risk-management process, which is integrated into and central to its strategic planning process.

The Agency maintains a steadfast commitment to continuous improvement in risk management, because effective risk management is a continuous process that requires ongoing monitoring and adaptation.

19.2 RISK CATEGORIES

The TIA manages risks at three levels: strategic, operational and projects.

Strategic risks are those that are most consequential to the Agency's ability to execute its strategy and achieve its constitutional mandate. These risk exposures can ultimately affect the Agency's shareholder value and long-term sustainability.

Operational risk refers to those that are inherent in the Agency's operations and processes. They are introduced by either internal factors (such as HR, legal and compliance, fraud) or external factors (such as suppliers, politics and the economic climate).

Project risk refers to those that could hinder the progress, result or outcome of a specific project funded by the Agency. They would result in deviations in expected returns on a project or affect the planned outcomes of specific value-creating initiatives.

19.3 STRATEGIC RISKS

Strategic risks that could affect business operations are approved by the Board and monitored throughout the year, and adjustments made as problems or challenges emerge. The TIA Board and the Executive Committee continuously review the principal risks to ensure they have an appropriate understanding of the overall operating environment. In total, seven strategic risks and 14 root causes were identified and are listed in Table 18.

Table 18: Strategic risks and associated root causes

Strategic risk	Root causes
Inability to deliver on the strategy	Possible lack of continuity of the Board
	Strategic imperatives do not embrace inclusiveness
	Funding or product instruments do not respond to systemic challenges in NSI
	Ministerial Review response not finalised
Possible misalignment between the TIA and the DSI	TIA strategy not aligned to the Decadal Plan
	Key deliverables or measurements from a shareholder perspective not fully defined
Negative stakeholder sentiment	Poor stakeholder management as a result of poor communication
	Inadequate service to stakeholders due to long turnaround times
Possible budget cuts	Poor or prolonged economic conditions and fiscal pressures
Inadequate performance of investment portfolio	Inadequate post-investment monitoring
	Unethical conduct by investees
Lack of optimal organisational capability	Loss of critical skills required in the organisation or an inability to attract talent
	Inadequate or insufficient processes and systems
Cybersecurity threats	Virus infection and illegal network access

Figure 31 reflects the inherent risk and residual risk rating per risk after taking existing controls into account.

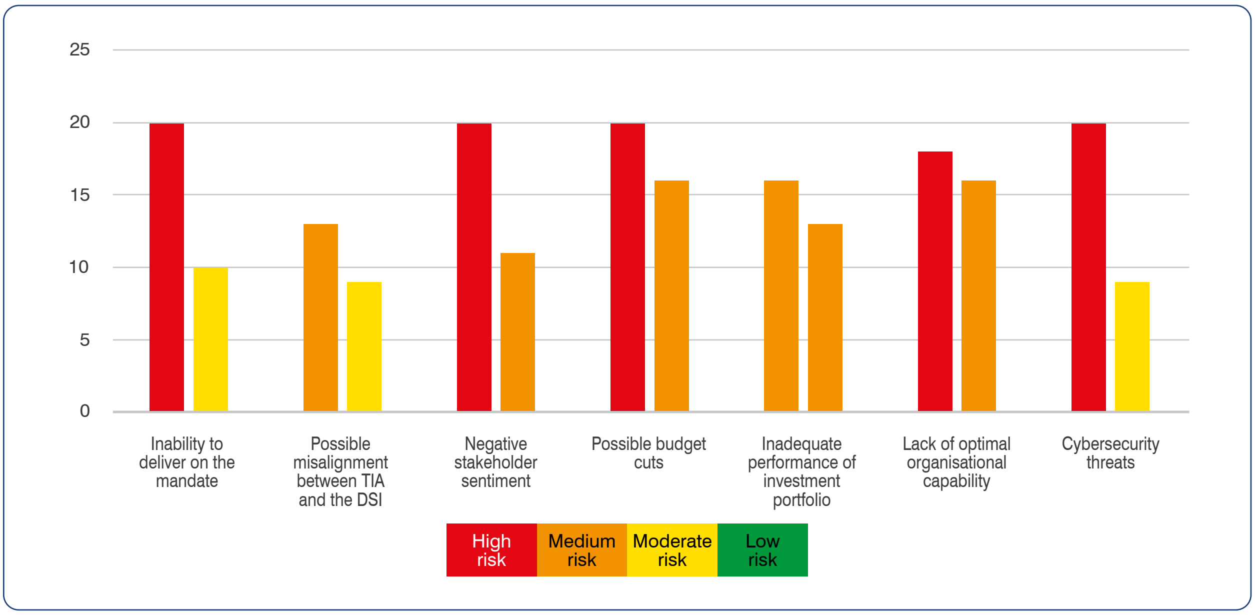


Figure 31: The TIA's strategic risks

19.4 RISK MANAGEMENT

At a strategic level, the risk management functions performed by the Board, Executives and management include the definition of risk; determining the risk appetite; formulating strategies and policies for managing risk; developing adequate strategies and policies for managing risk; and developing adequate systems and controls to ensure that, overall, risk remains within an acceptable level.

At an operational level, risk management is performed by the Risk Management function at an enterprise-wide level. Enterprise risk management activities are performed by the relevant business units and are entrenched through adherence to the operational procedures and guidelines set by management. Operational risk management strategies and policies are used in conjunction with delegated powers of authority which detail both the authority levels for various transactions and other approved organisational policies.

Project risk assessments are performed to identify key risks that could affect the progress, results or outcome of a specific project and any actions that are designed to mitigate adequately the risks identified and subsequently put in place. The implementation and effectiveness of planned actions are monitored throughout the duration of a project.

20. INTERNAL CONTROL UNIT

Whereas the TIA does not have a separate Internal Control unit, Agency's management has established and maintained an effective system of internal controls. The objectives of the system of internal control are to ensure that:

- Risks are properly managed;
- Assets are safeguarded;
- Financial and operational information is reliable;
- Operations are effective and efficient; and
- Laws, regulations and contracts are complied with.

Internal Audit assesses whether the internal controls upon which management relies to mitigate the risks to acceptable levels are appropriate and functioning as intended; and it develops recommendations for enhancing or improving the Agency's overarching control environment.

21. INTERNAL AUDIT

21.1 PURPOSE AND OBJECTIVES

It is a requirement of the PFMA that an Internal Audit function must exist for all public entities. The primary objective of the Internal Audit function is to provide management, the ARC and the Board with an independent and objective level of assurance. By partnering and collaborating with management, Internal Audit provides assurance that is designed to add value to and improve the TIA's operations, its internal control environment and its risk management and governance processes. In addition, Internal Audit helps the Agency to accomplish its objectives by bringing a risk-based, systematic and disciplined approach to evaluating and improving the effectiveness of the risk management, internal control and governance processes.

The Internal Audit function remains in-house and the unit has maintained its independence by reporting functionally to the ARC and administratively to the CEO. The unit has established processes and procedures that are supported by a sound Internal Audit methodology. The purpose, authority and responsibility of Internal Audit are encapsulated in the Internal Audit Charter, which is approved periodically by the ARC.

21.2 KEY INTERNAL AUDIT ACTIVITIES

The primary scope of the Internal Audit function is to provide the TIA with an independent capability to perform assurance audits that are consistent with the relevant legislation, respond to the Agency's priorities and are aligned to its objectives. The function provides value-added assurance, supports positive change in the Agency and also supports stewardship and accountability in the spending of public funds.

Internal Audit focuses on the following key activities (among others):

- Risk areas are adequately identified and dealt with.
- Breakdowns in key internal controls are identified and reported on and in response to these instances appropriate refinements can be recommended and agreed on with management for implementation.
- Instances of non-compliance with the TIA's corporate governance, policies and procedures, applicable regulations and statutory requirements are identified and implementation plans are put in place to redress and resolve these matters.

21.3 SUMMARY OF WORK DONE IN 2023/24

In accordance with the National Treasury requirements, an Annual Internal Audit Plan was prepared for 2023/24, which was approved by the TIA's ARC as required. The plan was developed to enhance organisational value by providing risk-based and objective assurance, advice and insight through professional practices to cope with emerging challenges.

During the period under review, an annual allocation of resources to audit activities was established on the basis of a systematic risk-based assessment, taking into account various financial, operational and strategic internal and external risks, policies and processes and also the requirements of the PFMA, Treasury Regulations, etc. In line with the approved Annual Internal Audit Plan, audits were conducted across various TIA functional areas. In addition, a certain amount of capacity was devoted to for ad hoc projects, special investigations and requests from management, ARC and the Board.

From an overarching perspective, during the period under review, Internal Audit completed all the planned audit activities. These include internal assurance audits, project and programme audits, advisory assignments and ad hoc requests. In this regard, no evidence was presented to suggest that there were material breakdowns in, or threats to, the internal control environment and that the most significant risks at TIA are at acceptable levels. A year-on-year comparison by Internal Audit showed that improvements are required in the control environment, particularly given that irregular expenditure was identified during the current financial year. In this regard, the Agency has developed and implemented more stringent controls to ensure that the key matters identified are appropriately resolved. All the recommendations provided by Internal Audit have been appreciated and adopted by the Agency's management, where applicable.

22. COMPLIANCE WITH LAWS AND REGULATIONS

The TIA has implemented adequate processes, procedures, policies and frameworks to ensure that it complies with those legislative or regulatory matters that affect the Agency. The Internal Audit planning process identifies audit areas in a manner that ensures compliance with legislative requirements and supports a value-added audit process. Instances of non-compliance with applicable regulations and statutory requirements are identified and guidance is provided for implementation plans to redress and resolve these matters. During the year being reported on, a specific review was completed relating to the Agency's PFMA compliance, with no instances of material non-compliance being identified by Internal Audit.

23. FRAUD AND CORRUPTION

The provisions of section 51(1)(a)(i) of the PFMA stipulate that the Accounting Authority is responsible for ensuring that an organisation has in place and maintains an effective, efficient and transparent system of financial, risk management and internal controls. For this purpose, the TIA has implemented a Fraud and Corruption Prevention Policy.

Fraud means making an unlawful and intentional misrepresentation which causes actual prejudice or which is potentially prejudicial to another. It includes offences in respect of corrupt activities as defined in the Prevention and Combating of Corrupt Activities Act 12 of 2004 and cybercrime as defined in the Electronic Communications and Transactions Act 25 of 2002.

Corruption is any conduct or behaviour where a person accepts, agrees to or offers any gratification for themself or for another person where the purpose is to act dishonestly or illegally. Such behaviour also includes the misuse of materials or information, the abuse of a position of authority, a breach of trust or a violation of duty.

PROCEDURE FOR DISCLOSURE

In terms of the amended Act, an employer is required to implement internal procedures for receiving and dealing with information about improprieties. They must do so as follows:

- Any disclosure must first be raised with the employee's line manager, either verbally or in writing.
- Should the employee feel uncomfortable or if the line manager is party to the disclosed facts, the disclosure may then be raised with:
  – the Executive: Corporate Services;
  – any other executive or manager;
  – the Company Secretary;
  – the CEO; or
  – the Head: Internal Audit.
- Should the above channels have been exhausted internally and the employee is of the opinion that the disclosure could not be trusted in the hands of the above employees for whatever reason, they may approach the Chairperson of the ARC or make use of the TIA's independent service provider for whistle-blowing, whose hotline number is communicated to all staff.
- Should an employee be uncomfortable with approaching Agency staff or the Independent Service Provider, they can call the National Anti-Corruption hotline.

Once a disclosure has been made, management must be obliged to:

- Acknowledge receipt of the disclosure in writing;
- Within a period of 21 days after receiving the protected disclosure, decide whether to investigate the matter or refer the disclosure to another person or body, if the disclosure could be investigated or dealt with more appropriately by that other person or body; and
- Inform the employee making a disclosure about what steps have been taken once the disclosure has been made.

The Agency must ensure that any employee who makes a disclosure will not be penalised or suffer any occupational detriment for doing so. Employees making a disclosure are not required to disclose their names.

24. MINIMISING CONFLICT OF INTEREST

Annually, and on an ad hoc basis, through active solicitation, members are required to disclose potential conflicts of interest. During the period under review, the disclosures received from members were closely scrutinised by the Company Secretary and the ARC chairperson. Where required, members were excused from matters which had given rise to conflicts of interests. Members are required to disclose any potential conflicts at every meeting and failures to disclose them should be reviewed by the Agency.

25. CODE OF CONDUCT

To support good governance, the TIA adopted a Code of Conduct as part of its policies and procedures. The code is adhered to in the Agency's dealings with all its stakeholders and organisations, internally, externally, nationally and globally. In addition, the Board incorporated a Code of Conduct into its Board Charter to deal with instances where Board members may have conflicts of interests. The Code of Conduct makes it clear that Board members may not have any dealings with the Agency involving personal financial interests.

As indicated above, the Board operates and conducts itself through four standing sub-committees (ARC, IFC, HR&REMCO and BTC). The Board's devolution of responsibilities, therefore, falls on these four sub-committees, which meet independently and report regularly to the full Board through their respective chairpersons.

26. HEALTH, SAFETY AND ENVIRONMENTAL ISSUES

The world of work is changing significantly and over the past four years we have been seeing rapid changes due to the introduction of remote work and technological advancements. More and more employees experienced demands that made it necessary for the organisation to be proactive with the adoption of flexible working arrangements. This resulted in less office space being used across the regions, with cost efficiency being realised for the year under review.

FACILITIES MANAGEMENT

The smart office approach was implemented, taking advantage of office automation technologies to leverage the seamless integration of facilities management services, including air conditioners, employee access management, physical security surveillance and building fire detection systems. The integrated solution provides centralised employee access management across the three regional offices for monitoring and reporting. The solution enhanced the planning, execution and monitoring of the servicing of facilities equipment to ensure business continuity. These technologies have become an integral part of business continuity planning (BCP), incorporating as they do both hardware and software to improve operational workflows, efficiency and business accessibility from onsite or offsite devices.

An alternative solar electricity solution is planned for installation at the head office to remedy the electricity outage impacts attributed to loadshedding. The installation of water tankers at the head office is also anticipated. It is envisaged that these initiatives will contribute positively to reduced operational costs in the future.

ENVIRONMENT ASSESSMENT

The organisation adhered to the Occupational Health and Safety requirements by applying control measures in all its offices. Hazard identification and risk assessments are conducted continuously to assess any potential environmental hazards, threats and risks. Scheduled disinfection of the offices and the provision of disinfectant consumables enable and serve to maintain a clean and conducive working environment. The Occupational Health and Safety Committee members are nominated across the business, are trained and are competent to deal with emergency incidents that might occur. Occupational Health and Safety Policy and Standard Operation Procedures are reviewed continuously to ensure the effectiveness of compliance with the requirements. It is important for new staff to undergo induction about the office site and to be familiarised with information about the office space, including participation in emergency evacuation simulations in preparation for an emergency incident.

27. COMPANY SECRETARY

The Company Secretary has the important role to play in ensuring effective governance in an organisation. The Company Secretary provides the Board with professional and independent guidance on corporate governance matters and its legal duties. In addition to co-ordinating the functioning of the Board and its committees, the Company Secretary acts as a central source of information for and advice to the Board on matters of ethics, adherence to good corporate governance principles and compliance with procedures and the applicable statutes and regulations.

In accordance with Principle 10 of the King IV Report on Corporate Governance for South Africa, 2016 (King IV™ 2016), the Company Secretary reports functionally to the Board and administratively to the CEO as the member of the Executive Management team designated for this purpose. The Company Secretary is not a Board member and has unfettered access to the Board but maintains an arm's-length relationship with the Board and its members. The Board must ensure that the Company Secretary is empowered and supported by it in carrying out the functions of their office. The appointment of the Company Secretary, Mr Kobus Louw, including his employment contract and remuneration, was approved by the Board.

The Company Secretary has certified that, to the best of his knowledge and belief, the TIA has lodged all such returns as are required in terms of the Companies Act 71 of 2008 and that such returns are true, correct and up to date. In addition, he has certified that the Agency has lodged with the Minister of Higher Education, Science and Innovation the financial statements in respect of the preceding financial year.

28. AUDIT AND RISK COMMITTEE REPORT

The Audit and Risk Committee (or ARC, 'the committee') is appointed in terms of section 51 of the PFMA, read with Principle 8 of King IV. The committee has performed its duties and carried out its responsibilities in accordance with its regularly reviewed ARC Charter and has executed specific duties delegated to it by the Board. Among other things, the Charter empowers the committee to perform the following responsibilities:

- Examine and review the AFS and the report on the financial results.
- Appoint and evaluate the qualification, appropriateness, eligibility and independence of the external auditor and recommend the audit fees for Board approval.
- Approve the internal audit plan and the Internal Audit Charter.
- Evaluate the scope and effectiveness of the Internal Audit function to ensure that effective internal controls have been identified and are in place.
- Ensure that the TIA complies with all legal and financial regulatory requirements.
- Evaluate the adequacy and efficiency of the internal control systems, accounting practices, information

systems and auditing processes applied in the management of the TIA.

- Discharge its duties relating to the safeguarding of assets, the implementation of adequate IT systems, effective control processes and the preparation of accurate financial reporting, and statements in compliance with all applicable legal requirements and accounting standards.
- Monitor the financial and all other risks, ensuring that mitigating action plans are in place.

28.1 AUDIT COMMITTEE RESPONSIBILITY

The committee reports that it has complied with its responsibilities arising from section 51(1)(a)(ii) of the PFMA and Treasury Regulation 27.1. The committee also reports that it has adopted appropriate formal terms of reference as its Charter, has regulated its affairs in compliance with this Charter and has discharged all its responsibilities as contained in the Charter.

28.2 EFFECTIVENESS OF INTERNAL CONTROLS

The committee's review of the findings of the Internal Audit work, which was based on the risk assessments conducted in the public entity, revealed certain weaknesses, which were then raised with the public entity.

Internal Audit is responsible for the evaluation of the effectiveness of the TIA's internal controls, including recommending their improvement. Therefore, Internal Audit must determine whether the internal controls designed and applied by management are adequate and function as intended.

Internal Audit work provided the following assurance to the Agency's management and the Board for the year under review:

- Assets are adequately and appropriately safeguarded.
- Funds disbursed by the Agency are managed economically, effectively and efficiently.
- The applicable laws, regulations and directives and contracts are complied with by the public entity.
- Resources are acquired economically, utilised efficiently and protected adequately.
- Significant financial, managerial and operating information is accurate and reliable.
- Internal controls and systems (including IT systems) are efficient and effective.
- Financial and operating information is effective.

Internal Audit provided recommendations for the improvement of the efficiency and effectiveness of the public entity's operations. Whereas several areas requiring improvement were identified, there is reasonable assurance that the most significant risks at the Agency are at acceptable levels. It is Internal Audit's overall view that the control environment remains effective; however, significant improvements are required in certain areas to improve the efficiency, effectiveness and adequacy of its governance, risk management, financial management and internal controls.

28.3 IN-YEAR MANAGEMENT AND MONTHLY/QUARTERLY REPORTING

The public entity has reported monthly and quarterly to the National Treasury, as is required by the PFMA.

28.4 EVALUATION OF FINANCIAL STATEMENTS

We have reviewed the AFS prepared by the public entity.

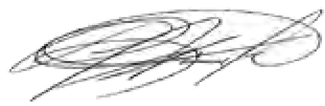
28.5 EXTERNAL AUDITOR

No reportable irregularities were identified by the external auditors.

28.6 AUDITOR'S REPORT

We have reviewed the entity's implementation plan for audit issues raised in the previous year and we are satisfied that the matters have been adequately resolved.

The committee concurs with and accepts the conclusions of the external auditor on the AFS and is of the opinion that the audited AFS should be accepted and read together with the report of the external auditor.



Mr Thabiso Ramasike
Audit and Risk Committee Chairperson

Date: 30 July 2024

29. B-BBEE COMPLIANCE PERFORMANCE INFORMATION

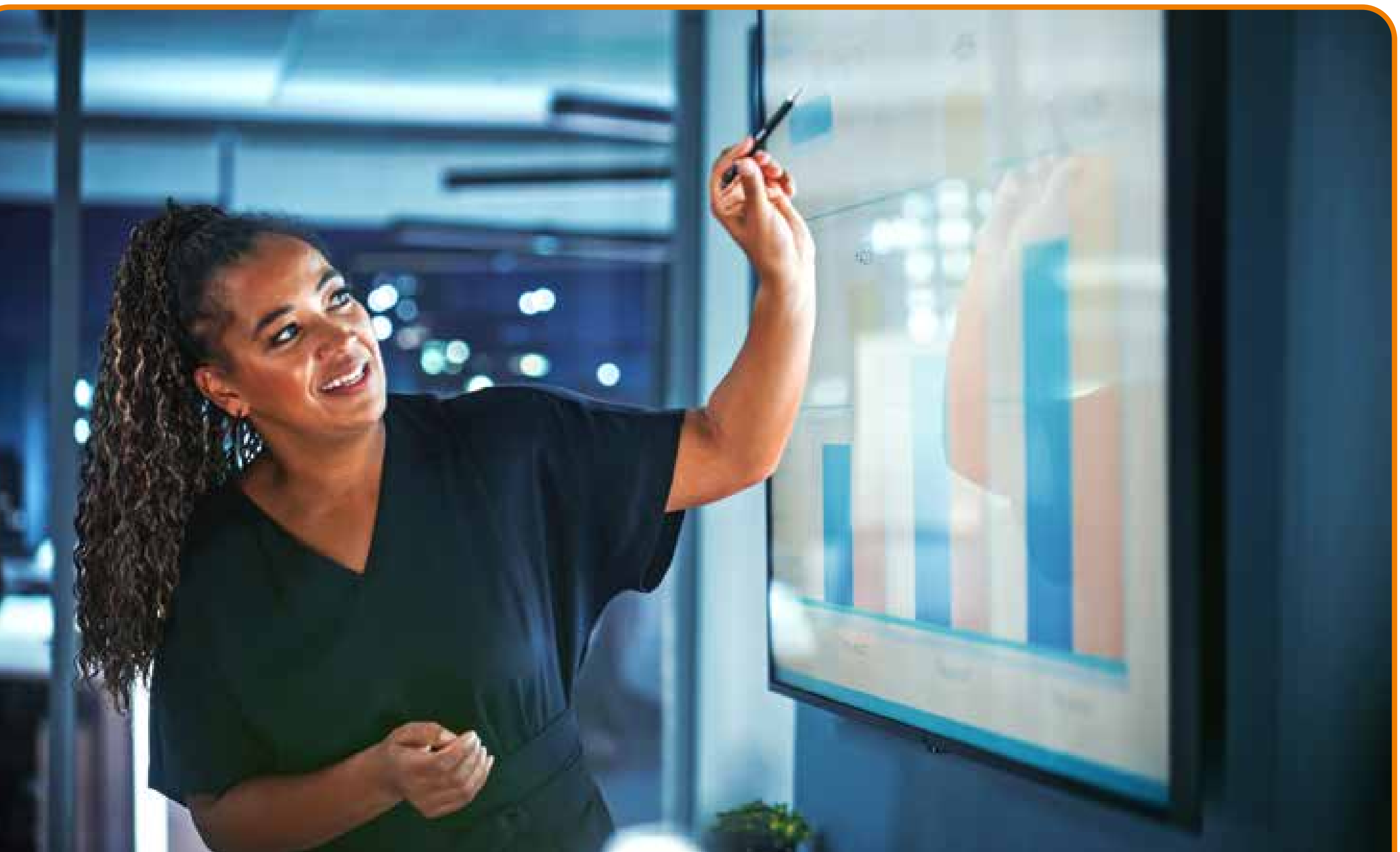
The TIA continues to commit itself to supporting the country's transformational agenda and the policy objectives of B-BBEE. This is entrenched through contributions in various areas, including skills, enterprise and supplier development and also preferential procurement. During the current year, the Agency's procurement strategy has focused on both black women-owned and black youth-owned businesses.

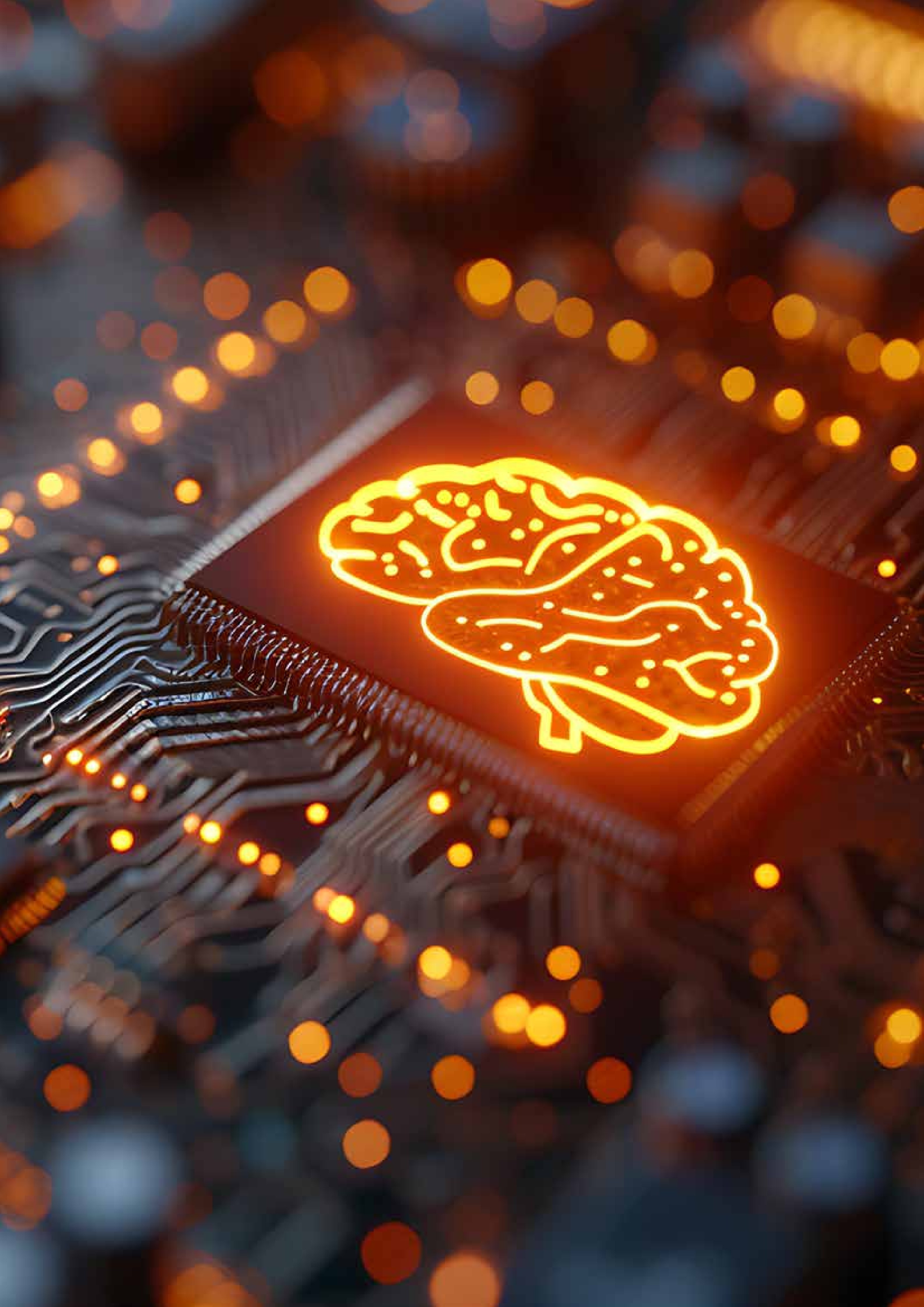
Procurement from black women-owned businesses amounted to 36.5%, exceeding the previous year's actual of 27% by nine percentage points. Furthermore, procurement from black youth-owned businesses increased from 7% in the previous year to 7.1% in the current year. The Agency continues to follow focused procurement processes in order to promote and improve procurement from previously disadvantaged individuals.

The Agency not only focuses on its own B-BBEE contribution, but also ensures that the principles of B-BBEE are entrenched in the businesses of its funded projects through continuous monitoring of the projects' transformational plans. Table 19 contains more information concerning the ways in which the Agency has applied any relevant Code of Good Practice (B-BBEE Certificate Levels 1–8).

Table 19: Application of B-BBEE Codes of Good Practice

Criteria	Response Yes/No	Discussion
Determining qualification criteria for the issuing of licences, concessions or other authorisations in respect of economic activity in terms of any law?	N/A	–
Developing and implementing a preferential procurement policy?	Yes	The TIA has a Supply Chain Management Policy that is aligned to the Preferential Procurement Policy Framework Act, 2000 and the Preferential Procurement Regulation 2022. The Agency sets annual targets such as supporting black women-owned businesses (20% of the procurement spend) and supporting black youth-owned businesses (7% of the procurement spend). The Agency reports quarterly on its procurement spend from black women-owned businesses, black youth-owned businesses, SMMEs and black-owned businesses.
Determining qualification criteria for the sale of state-owned enterprises?	N/A	–
Developing criteria for entering into partnerships with the private sector?	N/A	–
Determining criteria for the awarding of incentives, grants and investment schemes in support of Broad-Based Black Economic Empowerment?	N/A	–





PART D

HUMAN RESOURCE MANAGEMENT

30. INTRODUCTION

To succeed in achieving the set organisational goals the TIA requires a dynamic workforce with the requisite knowledge, skills and abilities complemented by an organisational environment that acknowledges and harness a high-performance culture.

The HR business unit partners closely with all the divisions to support the building of a culture of responsiveness and accountability through the following initiatives, amongst others.

- Continuously enhancing the Employee Value Proposition through frequent feedback from employees. The feedback is received through formal platforms such as the annual Employee Engagement Survey, engagements with business heads and day-to-day interactions with employees.
- Augmenting capability development initiatives to harness the current and future skills critical to the organisation in order to meet its objectives.
- Implementing talent management strategies that promote the development and retention of mission-critical technical skills.
- Driving talent-resourcing approaches that encourage diversity, equality and inclusivity.

31. HUMAN RESOURCES OVERSIGHT STATISTICS

31.1 PERSONNEL COST BY DIVISION

The TIA organogram comprises three core divisions, namely, Bio-economy, Commercialisation and Innovation Enabling. The support functions under the Office of the CEO, Finance and Corporate Services are reported under Administration.

Personnel costs by division are shown in Table 20.

Table 20: Personnel costs by division for 2023/24

Division	Total expenditure for the entity (R'000)	Personnel expenditure (R'000)	Personnel expenditure as a % of total expenditure (%)	Number of employees	Average personnel cost per employee (R'000)
Administration*	103,218	54,837	53.13	77	712
Bio-Economy	251,829	31,037	12.32	45	690
Innovation Enabling	216,490	16,258	7.51	22	739
Commercialisation	120,909	17,214	14.24	19	906
Other**	0	4,798	N/A	92	53
TOTAL	**692,446**	**124,139**	**17.93**	**255**	**487*** **

** Administration incorporates Corporate Services, the CEO's Office and the CFO's Office.*
*** Other costs include Board remuneration, interns, workman's compensation and other provisions.*
**** This is the average for TIA, not the sum of the above averages.*
The table includes only positions funded through the MTEF allocation.

31.2 PERSONNEL COST BY SALARY BAND

The core business of the TIA is made up of the professionally qualified specialists who are instrumental in interfacing between the organisation and the external applicants. The highest expenditure in this cohort is justified because this level is the Agency's talent hub.

Personnel costs by salary band are shown in Table 21.

Table 21: Personnel cost by salary band for 2023/24

Level	Personnel expenditure (R'000)	% of personnel expenditure to total personnel cost (%)	Number of employees	Average personnel cost per employee (R'000)
Top management	13,403	10.80	6	2,234
Senior management	23,677	19.07	17	1,393
Professional qualified	59,898	48.25	80	749
Skilled	20,719	16.69	51	406
Semi-skilled	972	0.78	4	243
Unskilled	677	0.55	5	135
Other*	4,793	3.86	92	52
Total	**124,139**	**100.00**	**255**	**487****

* *Other costs include Board remuneration, interns, workman's compensation and other provisions.*
** *This is the average for the TIA, not the sum of the above averages.*
The table includes only positions funded through the MTEF allocation.

31.3 PERFORMANCE REWARDS

Aligned to the Remuneration and Rewards Policy, performance-based incentives are paid only to those employees who meet certain performance criteria. An incentive is determined based on the performance of the employee and translates into a percentage of the employee's total cost to company.

The Agency applies a robust performance management system to employees' performance, which is continually monitored against the organisation's set targets. The process is overseen by the Moderation Committee, which ensures that there is alignment between business units, divisions and the organisation's goals. The performance rewards for the 2023/24 financial year were approved by the Board and were paid to qualifying employees in December 2023, as presented in Table 22.

Table 22: Performance rewards for 2023/24

Level	Performance rewards (R'000)	Personnel expenditure (R'000)	% of performance rewards to total personnel cost (%)
Top management	1,266	13,403	9.45
Senior management	1,241	23,677	5.24
Professional qualified	3,498	59,898	5.84
Skilled	701	20,719	3.38
Semi-skilled	34	972	3.50
Unskilled	47	677	6.94
Other*	0	4,793	0.00
Total	**6,787**	**124,139**	**5.47****

* *Other costs include Board remuneration, interns, workmen's compensation and other provisions.*
** *This is the average for the TIA, not the sum of the above averages.*
The table includes only positions funded through the MTEF allocation.

31.4 TRAINING COSTS

In an effort to enhance the Employee Value Proposition, the organisation has in place a learning organisational culture which is characterised by continuous improvement and adaptability, ongoing education, and innovation. The rapid evolution of technological change and the rising need to redefine job roles are intensifying the need to invest in continuous learning and development programmes to upskill and reskill our employees. The investment in training and development will ensure that our employees remain adaptable and competitive in the evolving job market.

The training and development initiatives are implemented with the guidance of the Skills and Development Committee (SDC), which monitors the training plan for internal fairness and equity in alignment to the organisation's requirements. All interventions are implemented in accordance with the Workplace Skills Plan as submitted to the MICT SETA annually.

The training costs as shown in Table 23 uphold the upskilling initiatives in the technical divisions of the organisation to support the agility required in our provision of technological solutions.

Table 23: Training costs for 2023/24

Programme	Personnel expenditure (R'000)	Training expenditure*** (R'000)	Training expenditure as a % of personnel cost (%)	Number of employees trained	Average training cost per employee (R)
Administration*	54,837	193.0	0.4	33	5,848
Bio-economy	31,037	165.9	0.5	12	13,825
Innovation Enabling	16,258	50.2	0.3	11	4,564
Commercialisation	17,214	160.8	0.9	22	7,309
Other**	4,793	–	0.0	0	0
Total	**124,139**	**569.9**	**0.5**	**78**	**7,306********

* *Administration incorporates Corporate Services, the CEO's Office and the CFO's Office.*
** *Other costs include Board remuneration, interns, workman's compensation and other provisions.*
*** *Training for positions funded through Investments (ringfenced) are also included.*
**** *This is the average for the TIA, not the sum of the above averages.*

31.5 EMPLOYMENT AND VACANCIES

The vacancy rate was constant during the current year as the efforts to fill the vacancies were diluted by the number of exits experienced. The competition for resources is fiercer than ever, which challenges the traditional recruitment approaches and encourages organisations to explore other modes of attracting and retaining the required skills. Moreover, the resourcing of divisions was halted by the National Treasury's directive placing a moratorium on recruitment, which affected the management of the vacancy rate.

Employment and vacancies by division and by salary band are shown in Table 24 and in Table 25 respectively.

Table 24: Employment and vacancies by division for 2023/24

Programme	2022/23 number of employees	2023/24 approved posts	2023/24 number of employees	2023/24 vacancies	% of vacancies
Administration*	68	93	72	21	22.6
Bio-economy	38	51	41	10	19.6
Innovation Enabling	23	25	14	11	44.0
Commercialisation	16	24	18	6	25.0
Total	**145**	**193**	**145**	**48**	**24.9****

* *Administration incorporates Corporate Services, the CEO's Office and the CFO's Office.*
** *This is the average for the TIA, not the sum of the above averages.*
Note: The table excludes interns but includes ringfenced positions.

Table 25: Employment and vacancies by salary band for 2022/23

Level	2022/23 number of employees	2023/24 approved posts	2023/24 number of employees	2023/24 vacancies	% of vacancies
Top management	4	7	4	3	42.9
Senior management	20	32	18	14	43.8
Professional qualified	67	89	69	19	22.3
Skilled	45	57	45	12	21.1
Semi-skilled	4	3	4	0	0
Unskilled	5	5	5	0	0
Total	**145**	**193**	**145**	**48**	**24.9***

** This is the average for the TIA, not the sum of the above averages.*
Note: The table excludes interns but includes ringfenced positions.

31.6 EMPLOYMENT CHANGES

The turnover rate is highest at the professionally qualified level, which is where the TIA's technical skills resort. The recruitment of technical positions takes longer and to manage the potential skills erosion in the future, retention strategies will be strengthened in these areas. The headcount otherwise remains stable as compared to the previous financial year.

The employment changes by salary band are shown in Table 26. This includes internal recruitment and promotions.

Table 26: Employment changes by salary band for 2023/24

Level	Employment as at 1 April 2023	Appointments	Terminations	Employment as at 31 March 2024
Top management	4	0	0	4
Senior management	17	1	1	17
Professional qualified	68	9	8	69
Skilled	47	5	6	46
Semi-skilled	4	0	0	4
Unskilled	5	0	0	5
Total	**145**	**15**	**15**	**145**

Note: The table excludes interns, changes in opening and closing balances due to internal promotions and movements.

31.7 REASONS FOR STAFF LEAVING

The majority of terminations were voluntary resignations, with some employees citing remuneration packages as a deciding factor. The Agency's mission is to ensure that it remains competitive by retaining and upskilling its staff in critical areas.

The reasons for staff leaving are shown in Table 27 and the reasons for staff resignations are indicated in Table 28.

Table 27: Reasons for staff leaving in 2023/24

Reason	Number	% of total number of staff leaving
Resignation	13	81.3
Dismissal	1	6.3
Retirement	1	6.3
Expiry of contract	1	6.3
Total	**16**	**100.2***

** Does not sum to 100.0% due to rounding.*
Note: The table excludes interns.

Table 28: Reasons for staff resignations in 2023/24

Reason	Number	% of total number of staff leaving
More attractive salary offers	6	46.2
Career growth opportunity	2	15.4
Reason not disclosed	4	30.8
Personal reasons	1	7.7
Total	**13**	**100.1***

** Does not sum to 100.0% due to rounding.*
Note: The table excludes interns.

31.8 LABOUR RELATIONS: MISCONDUCT AND DISCIPLINARY ACTION

The disciplinary policy as approved provides certainty and consistency in the application of consequence management processes. The aim is not punitive but to ensure corrective and progressive discipline is applied in accordance with the severity of the misconduct.

In the current year, we had only one case of severe misconduct where regulations were contravened and dismissal was an appropriate sanction for the contravention.

Table 29: Misconduct and disciplinary action in 2023/24

Nature of disciplinary action	Number
Verbal warning	0
Written warning	3
Final written warning	0
Dismissal	1

Note: The table excludes interns.

31.9 EQUITY TARGET, EMPLOYMENT EQUITY STATUS AND TRANSFORMATION

The TIA is committed to transformation and therefore the recruitment of women, youths and people with disabilities is fundamental to this national priority. To align itself with the EAP, recruitment practices focused on the recruitment of African males and Coloured males.

The Agency's employment equity profile as at 31 March 2024 is shown in Table 30. The graphic depicts the actual number of employees (according to demographic category) currently employed by the Agency compared to the ideal based on the EAP.

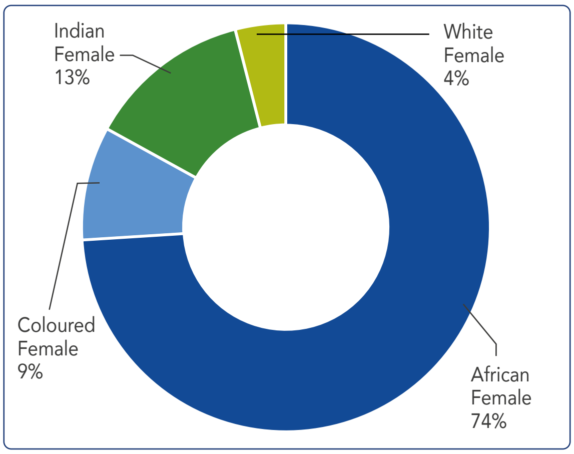
Table 30: TIA's employment equity profile (measured against the EAP) as at 31 March 2024

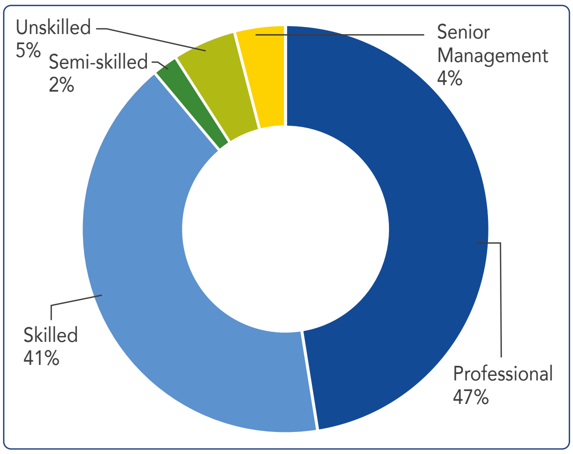
Employment Equity Level	Female				Female Total	Male				Male Total	Grand total
	African	Coloured	Indian	White		African	Coloured	Indian	White		
Top mngmt	0	0	0	0	0	3	0	1	0	4	4
Senior mngmt	2	0	0	1	3	8	1	2	3	14	17
Prof qualified	29	3	8	3	43	20	2	2	3	27	70
Skilled – tech	30	4	3	0	37	8	0	0	0	8	45
Semi-skilled	1	1	0	0	2	2	0	0	0	2	4
Unskilled	5	0	0	0	5	0	0	0	0	0	5
Grand total	**67**	**8**	**11**	**4**	**90**	**41**	**3**	**5**	**6**	**55**	**145**

A three-year Employment Equity Plan was approved in 2022 with the aim of targeting those employment levels where the lack of representation of particular races was a concern. The targets set were set for each year and each employment level taking into account vacant positions at the time.

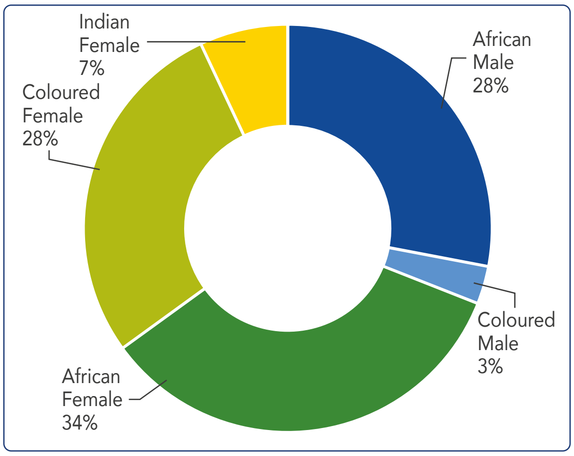
Reasonable progress is recorded in the appointment of professionally qualified African males. The delayed employment equity appointments in other areas are attributed to multiple factors, including employment equity groups not being among the applicants or not being suitable for appointment. In addition, to a certain extent the recent cost-containment measures which have delayed new appointments are also behind these targets not being met. The HR team, together with the oversight of the Employment Equity Committee, monitors the appointments in line with the plan to ensure that, within reason, the targets are met.

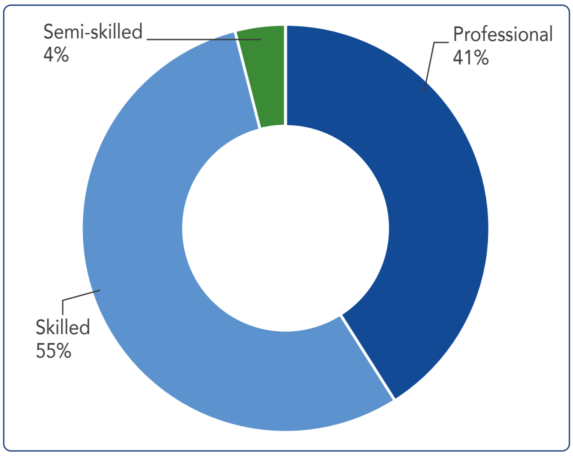
The employment equity demographics and the occupational levels in the three categories of women, youths and people with disabilities are presented in Figure 32, Table 31, Table 32, and Table 33.



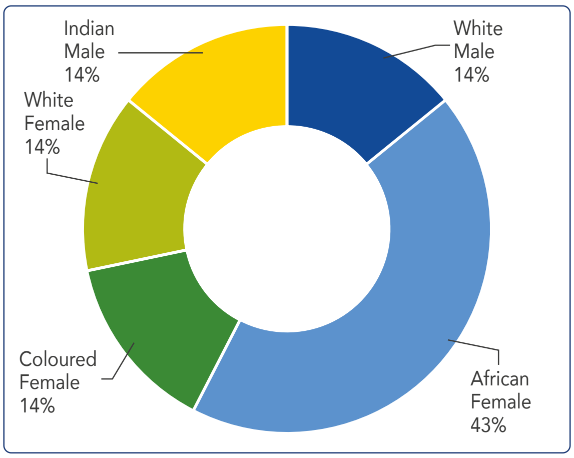


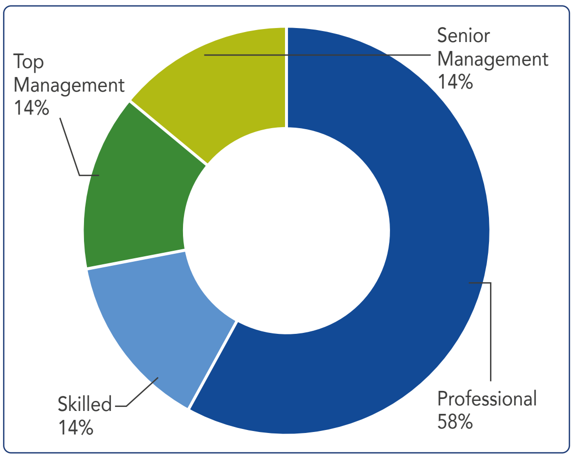
Demographics (left) and occupational levels (right) of the 60.0% women employment segment





Demographics (left) and occupational levels (right) of the 24.1% youth employment segment





Demographics (left) and occupational levels (right) of the 2.8% people with disabilities employment segment

Figure 32: Employment equity demographics and occupational levels of women, youths and people with disabilities in the respective employment segments for 2023/24

Table 31: Female employees at the TIA for 2023/24 as at 31 March 2024

Level	African		Coloured		Indian		White	
	Current	Target	Current	Target	Current	Target	Current	Target
Top management	0	1	0	0	0	0	0	0
Senior management	2	6	0	1	0	1	1	1
Professional qualified	29	34	3	6	8	9	3	3
Skilled	30	31	4	4	3	2	0	0
Semi-skilled	1	1	1	1	0	0	0	0
Unskilled	5	5	0	0	0	0	0	0
Total	**67**	**78**	**8**	**12**	**11**	**12**	**4**	**4**

Note: This table excludes interns.

Table 32: Male employees at the TIA for 2023/24 as at 31 March 2024

Level	African		Coloured		Indian		White	
	Current	Target	Current	Target	Current	Target	Current	Target
Top management	3	3	0	0	1	1	0	0
Senior management	8	7	1	1	2	2	3	3
Professional qualified	20	36	2	6	2	2	3	3
Skilled	8	17	0	1	0	0	0	0
Semi-skilled	2	3	0	0	0	0	0	0
Unskilled	0	0	0	0	0	0	0	0
Total	**41**	**66**	**3**	**8**	**5**	**5**	**6**	**6**

Note: This table excludes interns.

Table 33: People with disabilities employed at the TIA for 2023/24 as at 31 March 20

Level	Female		Male	
	Current	Target	Current	Target
Top management	0	0	1	0
Senior management	0	1	1	0
Professional qualified	4	1	0	1
Skilled	1	0	0	0
Semi-skilled	0	0	0	0
Unskilled	0	0	0	0
Total	**5**	**2**	**2**	**1**

Note: This table excludes interns.

PART E

PFMA COMPLIANCE REPORT

32. IRREGULAR, FRUITLESS AND WASTEFUL EXPENDITURE AND MATERIAL LOSSES

32.1 IRREGULAR EXPENDITURE

An opening balance, as previously reported in the 2022/23 financial year, of an amount of R11.9 million was recorded. Irregular expenditure confirmed in the 2023/24 year identified amounts relating to prior years (R7 million in relation to 2021/22 and R14.7 million in relation to 2022/23). This results in total irregular expenditure for the 2022/23 amounting to R19.2 million (consisting of R4.5 million previously disclosed together with new amount of R14.7 million). During the current year, the amount of irregular expenditure totalled R3.5 million.

Table 34: Reconciliation of irregular expenditure

Description	2023/24 (R'000)	2022/23 (R'000)
Opening balance	38,131	11,912
Adjustment to opening balance	-	7,000
Opening balance as restated	38,131	18,912
Add: Irregular expenditure confirmed	3,456	19,219
Less: Irregular expenditure condoned	-	-
Less: Irregular expenditure not condoned and removed	-	-
Less: Irregular expenditure recoverable (Transfer to receivables)	-	-
Less: Irregular expenditure not recoverable and written off	-	-
Closing balance	**41,587**	**38,131**

Table 35: Reconciliation of irregular expenditure (reconciling notes)

Description	2023/24 (R'000)	2022/23 (R'000)
Irregular expenditure that was under assessment	-	-
Irregular expenditure that relates to the prior year and identified in the current year	-	14,719
Irregular expenditure for the current year	3,456	4,500
Total	**3,456**	**19,219**

2022/23

The opening balance for 2022/23 relates to 13 controlled entities which were inherited when the trusts (Biopad, Lifelab, Plantbio, Tshumisano, Innovation Fund and Cape Biotech Trust) were combined to form the Agency. The entities were not set up to comply with the detailed requirements of Treasury Regulation 16A6.1. The controlling entity is continuing to exit these entities, and of the original 13, only five remain, with a total exposure of R11.6 million. This was submitted to the National Treasury for condonation and was not condoned, based on the lack of specific details given supporting the fact that this is historical in nature.

Included in 2022/23 is an amount of R292,004 relating to the manner in which the former interim CEO was appointed and the remuneration paid to her for services rendered in this capacity. The former interim CEO's contract came to an end on 12 June 2020. Additional irregular expenditure was incurred in the current financial year as a result of an arbitration award made in her favour. The expenditure incurred in previous periods will be submitted to the Accounting Authority for removal from the irregular expenditure register following engagement with and a response by the National Treasury regarding the condonation request.

During 2022/23, one contract was signed outside of the Delegation of Authority, which resulted in irregular expenditure of R143,750. The necessary controls have been reviewed to confirm that this was an isolated incident and the required consequences against management have been instituted. Following the conclusion of the required consequence management, this will be submitted to the National Treasury for condonation.

The Agency previously approved the establishment of an external platform in the Northern Cape. Following the initial establishment period, the Agency incurred additional costs on behalf of the platform in order to secure assets for the benefit of the NSI. No evidence of the approval for the incurrence of expenditure on behalf of the platform was documented, which led to irregular expenditure being incurred. This expenditure has been identified as including an amount of R961,021 in the current financial year and R3.4 million relating to previous financial years. A final determination and investigation report has since been received in the current year and it will accordingly be submitted for condonation through the due process.

2023/24

R23.7 million was paid out to various projects that resort in the SIIP Programme. The transactions relating to these payments were found to be non-compliant with the TIA's Delegation of Authority and were accordingly regarded as irregular. The non-compliant expenditure includes an amount of R1.9 million in the current year, R14.7 million in relation to the 2022/23 financial year and R7 million in relation to the 2021/22 financial year. The previous years' numbers have accordingly been restated in respect of the applicable amounts for each period. The determination results reflect that the Agency did not suffer any loss from these transactions and that value for money was derived from the expenditure. Following the finalisation of the determination test and investigation, this will be submitted for condonation through the relevant due process.

R1.6 million was paid to two suppliers during the current year. The entity followed the relevant procurement process by means of a deviation based on management's assessment of the underlying transaction and the requirements of the entity. Based on the review by the auditors, it was considered that competitive quotes should have been obtained. This will be subject to investigation prior to its submission for condonation through the relevant due process.

Table 36: Irregular expenditure under assessment, determination, and investigation (rands)

Description	2023/24 (R'000)	2022/23 (R'000)
Irregular expenditure under assessment	-	-
Irregular expenditure under determination	-	-
Irregular expenditure under investigation	3,456	38,129
Total	**3,456**	**38,129**

Details of irregular expenditure condoned

All irregular expenditure relating to prior to 2022/23 is awaiting feedback on condonation, no approval has been granted to date.

Details of irregular expenditure removed but not condoned

To date no irregular expenditure has been removed from the register.

Details of irregular expenditure recoverable

Based on all the determination tests concluded a 'Nil' value has been recorded as loss that requires recovery.

Details of current and previous year's irregular expenditure written off

To date a 'Nil' value has been recorded as a write off.

Details of additional disclosure relating to inter-institutional arrangements (where such institution is not responsible for the non-compliance)

No additional disclosure with regards to inter-institutional arrangements.

Details of irregular expenditure where an institution is involved in an inter-institutional arrangement (where such institution is responsible for the non-compliance)

No additional disclosure with regards to inter-institutional arrangements.

Details of disciplinary or criminal steps taken as a result of irregular expenditure

To date criminal action has been taken. One matter is currently ongoing in regard to consequence management with outcome of disciplinary unknown at the date of this report. This currently awaits the outcome of the investigation/determination.

32.2 FRUITLESS AND WASTEFUL EXPENDITURE

Details of reconciliation of fruitless and wasteful expenditure

The opening balance in 2022/23 relates to previous-year expenses that could have been avoided for interest and penalties on PAYE (R80) for two controlled entities which were subsequently deregistered. In addition, included in the opening balance is an amount (R5,486) that could have been avoided for interest and penalties in taxes for one controlled entity that has since been deregistered.

Table 37: Reconciliation of fruitless and wasteful expenditure

Description	2023/24 (R)	2022/23 (R)
Opening balance	85	85
Adjustment to opening balance	-	-
Opening balance as restated	-	-
Add: Fruitless and wasteful expenditure confirmed	-	-
Less: Fruitless and wasteful expenditure recoverable	-	-
Less: Fruitless and wasteful expenditure not recoverable and written off	-	-
Closing balance	**85**	**85**

No new fruitless expenditure has been recorded during the past two years.

Details of fruitless and wasteful expenditure under assessment, determination and investigation

None to report.

Details of fruitless and wasteful expenditure recoverable

None to be recovered.

Details of fruitless and wasteful expenditure not recoverable and written off

Nothing to report as recoverable or written off.

Details of disciplinary or criminal steps taken as a result of fruitless and wasteful expenditure

No disciplinary action or criminal steps taken.

32.3 ADDITIONAL DISCLOSURE RELATING TO MATERIAL LOSSES

Details of material losses through criminal conduct

Nothing to report on in the current and previous years.

Details of other material losses

No material losses recorded to date.

Details of other material losses recoverable

No material losses were recorded as recoverable in the current and previous year.

Details of other material losses not recoverable and written off

Nothing to report as recoverable or written off.

33. LATE AND/OR NON-PAYMENT OF SUPPLIERS

Table 38: Late and/or non-payment of invoices

Description	Number of invoices	Consolidated value (R'000)
Valid invoices received	7,914	647,712
Invoices paid within 30 days or agreed period	7,897	647,314
Invoices paid after 30 days or agreed period	17	399
Invoices older than 30 days or agreed period (unpaid and without dispute)	0	0
Invoices older than 30 days or agreed period (unpaid and in dispute)	0	0

34. SUPPLY CHAIN MANAGEMENT

34.1 PROCUREMENT BY OTHER MEANS

Section 16A6.4 of the Treasury Regulations for departments, trading entities, constitutional institutions and public entities issued in terms of the PFMA, 1999 states that if in a specific case it is impractical to invite competitive bids, the accounting officer or Accounting Authority may procure the required goods or services by other means, provided that the reasons for deviating from inviting competitive bids are recorded and approved by the accounting officer or the Accounting Authority. TIA acquired the goods and services tabled below by deviating from inviting competitive bids:

Table 39: Procurement by other means

Project description	Name of supplier	Type of procurement by other means	Contract number	Value of contract (R'000)
Renewal of accommodation lease for Durban Regional Office	One Fifty Capital/ Seritomart	Deviation	TIA20309	4,044
Renewal of accommodation lease for Gauteng Office	Presmooi	Deviation	TIA20491	21,730
Bio Africa Exhibition	Brand Sprout (Pty) Ltd	Deviation	TIA20282	1,053
Bio International Convention Centre – Exhibition	Alex Display	Deviation	TIA20051	1,683
Total				**28,500**

34.2 CONTRACT VARIATIONS AND EXPANSIONS

TIA had six contract expansions for 2023/24. They were for travel management services, security services, office rental, wellness services and the Bioportal development and maintenance. TIA had one contract variation for forensic investigation services.

Table 40: Contract variations and expansions

Project description	Name of supplier	Contract modification type	Contract number	Original contract value (R'000)	Value of previous contract expansions or variations	Value of current contract expansion or variation (R'000)
Travel management services	Travel With Flair	Expansion	TIA012/2017	1,768	N/A	306
Security services	Landile Security	Expansion	TIA20155	182	N/A	61
Security services	Prime Time	Expansion	TIA20365	723	N/A	482
Office rental	Redefine Properties	Expansion	TIA20540	8,143	N/A	3,950
Wellness services	Centre for Occupational Wellness	Expansion	TIA20205	180	N/A	194
Forensic Investigation	Gobodo Forensic and Investigation	Variation	TIA20631	806*	N/A	339**
Bioportal development and maintenance	Guy Baruch Stern trading as African Web Science	Expansion	TIA20318	60	N/A	161
Total						**4,959**

* *Of this, TIA expended only R442,625.*

** *A new investigation.*

PART F

FINANCIAL INFORMATION

35. GENERAL INFORMATION

Country of incorporation and domicile	South Africa
Nature of business and principal activities	The Agency is established in terms of the TIA Act as a Schedule 3A PFMA entity. Its principal activities are to support and enable technology innovation across all sectors of the economy in order to achieve socio-economic benefits for South Africa.
Directors	Ms BM Modise (Chairperson) Mr BA Mboniswa Mr TG Ramasike Ms JSP Matsebula Ms AJ Canca Dr R Iyer Ms EL Matlali Mr PL Krappie (ex-officio Board member)
Business address	83 Lois Avenue Menlyn Pretoria 0181
Postal address	PO Box 172 Pretoria 0063
Bankers	Standard Bank Ltd
Auditors	Nexia SAB&T (Appointed in terms of the Public Audit Act as approved by the Auditor General of South Africa)
Secretary	Mr JPJ Louw
South African Income Tax Number	9473012178
Public Benefit Organisation Number	930036084
Preparer	The consolidated annual financial statements were internally compiled by: Mr I Abdoola Chief Financial Officer

The reports and statements set out below comprise the consolidated annual financial statements presented to Parliament.

36. BOARD'S RESPONSIBILITIES AND APPROVAL

The Board is required by the Public Finance Management Act (Act 1 of 1999), to maintain adequate accounting records and is responsible for the content and integrity of the consolidated annual financial statements and related financial information included in this report. It is the responsibility of the Board to ensure that the consolidated annual financial statements fairly present the state of affairs of the entity as at the end of the financial year and the results of its operations and cash flows for the period then ended. The external auditors are engaged to express an independent opinion on the consolidated annual financial statements and were given unrestricted access to all financial records and related data.

The consolidated annual financial statements have been prepared in accordance with Standards of Generally Recognised Accounting Practice (GRAP) including any interpretations, guidelines and directives issued by the Accounting Standards Board.

The consolidated annual financial statements are based upon appropriate accounting policies consistently applied and supported by reasonable and prudent judgements and estimates.

The Board acknowledges that it is ultimately responsible for the system of internal financial control established by the economic entity and places considerable importance on maintaining a strong control environment. To enable the Board to meet these responsibilities, the Board sets standards for internal control aimed at reducing the risk of error in a cost effective manner. The standards include the proper delegation of responsibilities within a clearly defined framework, effective accounting procedures and adequate segregation of duties to ensure an acceptable level of risk. These controls are monitored throughout the economic entity and all employees are required to maintain the highest ethical standards in ensuring the economic entity's business is conducted in a manner that in all reasonable circumstances is above reproach.

The focus of risk management in the economic entity is on identifying, assessing, managing, and monitoring all known forms of risk across the economic entity. While operating risks cannot be fully eliminated, the economic entity endeavours to minimise them by ensuring that appropriate infrastructure, controls, systems, and ethical behaviour are applied and managed within predetermined procedures and constraints.

The Board is of the opinion, based on the information and explanations given by management, that the system of internal control provides reasonable assurance that the financial records may be relied on for the preparation of the consolidated annual financial statements. However, any system of internal financial control can provide only reasonable, and not absolute, assurance against material misstatement.

The Board has reviewed the economic entity's cash flow forecast for the year to 31 March 2025 and, in light of this review and the current financial position, and is satisfied that the economic entity has access to adequate resources to continue in operational existence for the foreseeable future.

The external auditors are responsible for auditing and reporting on the economic entity's consolidated annual financial statements. The consolidated annual financial statements have been examined by the economic entity's external auditors and their report is presented on pages 99 to 103.

The consolidated annual financial statements set out on pages 104 to 140, which have been prepared on the going concern basis, were approved by the Board on 30 July 2024 and were signed on its behalf by:

Ms Matsi Modise
Board Chairperson
Board of Directors

Mr Patrick Krappie
Acting Chief Executive Officer

37. INDEPENDENT AUDITOR'S REPORT TO PARLIAMENT ON TECHNOLOGY INNOVATION AGENCY (TIA)

Report on the audit of the consolidated and separate financial statements.

OPINION

1. We have audited the consolidated and separate financial statements of the Technology Innovation Agency and its subsidiaries (the economic entity and controlling entity) set out on pages 104 to 140, which comprise the consolidated and separate statement of financial position as at 31 March 2024, consolidated and separate statement of financial performance, statement of changes in net assets, statement of cash flows and the statement of comparison of budget and actual amounts for the year then ended, as well as notes to the consolidated and separate financial statements, including a summary of significant accounting policies.

2. In our opinion, the consolidated and separate financial statements present fairly, in all material respects, the financial position of the Technology Innovation Agency as at 31 March 2024 and their financial performance and cash flows for the year then ended in accordance with the South African Standards of Generally Recognised Accounting Practice (SA Standards of GRAP) and the requirements of the Public Finance Management Act 1 of 1999 (PFMA).

BASIS FOR OPINION

3. We conducted our audit in accordance with the International Standards on Auditing (ISA). Our responsibilities under those standards are further described in the auditor's responsibilities for the audit of the consolidated and separate financial statements section of our report.

4. We are independent of the public entity in accordance with the *Code of professional conduct for auditors* of the Independent Regulatory Board for Auditors (IRBA) and other independence requirements applicable to performing audits of financial statements in South Africa. We have fulfilled our other ethical responsibilities in accordance with the IRBA code and in accordance with other ethical requirements applicable to performing audits in South Africa. The IRBA code is consistent with the corresponding sections of the International Ethics Standards Board for Accountants' *International code of ethics for professional accountants (including International Independence Standards).*

5. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

EMPHASIS OF MATTERS

6. We draw attention to the matters below. Our opinion is not modified in respect of these matters.

RESTATEMENT OF CORRESPONDING FIGURES

7. As disclosed in note 36 to the consolidated and separate financial statements, the corresponding figures for 31 March 2023 were restated as a result of an error identified in the consolidated and separate financial statements of the public entity at, and for the year ended, 31 March 2024.

IRREGULAR EXPENDITURE

8. As disclosed in note 32 to the financial statements, irregular expenditure of R3 456 000 was incurred, as transactions were approved outside of the Agency's Delegation of Authority, and goods and services were procured through a limited bidding process when it was not impractical to follow a competitive bidding process.

RESPONSIBILITIES OF ACCOUNTING AUTHORITY FOR THE CONSOLIDATED AND SEPARATE FINANCIAL STATEMENTS

9. The Accounting Authority is responsible for the preparation and fair presentation of the consolidated and separate financial statements in accordance with SA Standards of GRAP and the requirements of the PFMA and for such internal control as the Accounting Authority determines is necessary to enable the preparation of consolidated and separate financial statements that are free from material misstatement, whether due to fraud or error.

10. In preparing the consolidated and separate financial statements, the Accounting Authority is responsible for assessing the public entity's ability to continue as a going concern; disclosing, as applicable, matters relating to going concern; and using the going concern basis of accounting unless the accounting authority either intends to liquidate the public entity or to cease operations, or has no realistic alternative but to do so.

RESPONSIBILITIES OF THE AUDITOR FOR THE AUDIT OF THE CONSOLIDATED AND SEPARATE FINANCIAL STATEMENTS

11. Our objectives are to obtain reasonable assurance about whether the consolidated and separate financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance but is not a guarantee that an audit conducted in accordance with the ISAs will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated and separate financial statements.

12. A further description of our responsibilities for the audit of the consolidated and separate financial statements is included in the annexure to this auditor's report. This description, which is located at pages 102 to 103, forms part of our auditor's report.

REPORT ON THE AUDIT OF THE ANNUAL PERFORMANCE REPORT

13. In accordance with the Public Audit Act 25 of 2004 (PAA) and the general notice issued in terms thereof, we must audit and report on the usefulness and reliability of the reported performance against predetermined objectives for the selected outcomes presented in the annual performance report. The Accounting Authority is responsible for the preparation of the annual performance report.

14. We selected the following outcomes presented in the annual performance report for the year ended 31 March 2024 for auditing. We selected outcomes that measures the public entity's performance on its primary mandated functions and that are of significant national, community or public interest.

Outcome	Page numbers	Purpose
Commercialised innovations	29	To increase the rate of translation of locally developed technologies, exploit intellectual property from publicly funded institutions, ensure that these are commercialised in a manner that promotes economic growth and the competitiveness of industry, and respond to the imperatives of transformation and inclusive development.
Delivering on the Bio-economy Strategy	30	To create new bio-based products and processes and will promote the creation of new enterprises and new markets that lead to job creation.

15. We evaluated the reported performance information for the selected outcomes against the criteria developed from the performance management and reporting framework, as defined in the general notice. When an annual performance report is prepared using these criteria, it provides useful and reliable information and insights to users on the public entity's planning and delivery on its mandate and objectives.

16. We performed procedures to test whether:
    - the indicators used for planning and reporting on performance can be linked directly to the public entity's mandate and the achievement of its planned objectives
    - all the indicators relevant for measuring the public entity's performance against its primary mandated and prioritised functions and planned objectives are included
    - the indicators are well defined to ensure that they are easy to understand and can be applied consistently, as well as verifiable so that we can confirm the methods and processes to be used for measuring achievements
    - the targets can be linked directly to the achievement of the indicators and are specific, time bound and measurable to ensure that it is easy to understand what should be delivered and by when, the required level of performance as well as how performance will be evaluated
    - the indicators and targets reported on in the annual performance report are the same as those committed to in the approved initial or revised planning documents
    - the reported performance information is presented in the annual performance report in the prescribed manner and is comparable and understandable
    - there is adequate supporting evidence for the achievements reported and for the reasons provided for any over or underachievement of targets

17. We performed the procedures for the purpose of reporting material findings only; and not to express an assurance opinion or conclusion.

18. We did not identify any material findings on the reported performance information for the selected outcomes.

OTHER MATTER

19. We draw attention to the matter below.

ACHIEVEMENT OF PLANNED TARGETS

20. The annual performance report includes information on reported achievements against planned targets and provides explanations for over-and under achievements.

REPORT ON COMPLIANCE WITH LEGISLATION

21. In accordance with the PAA and the general notice issued in terms thereof, we must audit and report on compliance with applicable legislation relating to financial matters, financial management and other related matters. The Accounting Authority is responsible for the public entity's compliance with legislation.

22. We performed procedures to test compliance with selected requirements in key legislation in accordance with the AGSA findings engagement methodology. This engagement is not an assurance engagement. Accordingly, we do not express an assurance opinion or conclusion.

23. Through an established AGSA process, we selected requirements in key legislation for compliance testing that are relevant to the financial and performance management of the public entity, clear to allow consistent measurement and evaluation, while also sufficiently detailed and readily available to report in an understandable manner. The selected legislative requirements are included in the annexure to this auditor's report.

24. The material findings on compliance with the selected legislative requirements, presented per compliance theme, are as follows:

ANNUAL FINANCIAL STATEMENTS

25. The consolidated and separate financial statements submitted for auditing were not fully prepared in accordance with the prescribed financial reporting framework, as required by section 55(1) (b) of the PFMA. Material misstatements of non-current assets, current liabilities, revenue and disclosure items identified by the auditors in the submitted consolidated and separate financial statement were corrected, resulting in the consolidated and separate financial statements receiving an unqualified audit opinion.

EXPENDITURE MANAGEMENT

26. Effective and appropriate steps were not taken to prevent irregular expenditure as disclosed in note 32 to the consolidated and separate annual financial statements, as required by section 51(1) (b)(ii) of the PFMA. The majority of the irregular expenditure was caused by transactions approved outside of the Agency's Delegation of Authority.

PROCUREMENT AND CONTRACT MANAGEMENT

27. In some instances, goods and services of a transaction value above R500 000 were procured without inviting competitive bids and deviations were approved by the accounting officer but it was practical to invite competitive bids, as required by Treasury Regulation 16A6.1, paragraph 3.3.1 of NTI 02 of 2021/22, paragraph 4.1 of NTI 03 of 2021/22 and TR 16A6.4.

OTHER INFORMATION IN THE ANNUAL REPORT

28. The Accounting Authority is responsible for the other information. The other information comprises the information included in the annual report. The other information does not include the consolidated and separate financial statements, the auditor's report and those selected outcomes presented in the annual performance report that have been specifically reported on in this auditor's report.

29. Our opinion on the consolidated and separate financial statements and our findings on the reported performance information and the report on compliance with legislation do not cover the other information and we do not express an audit opinion or any form of assurance conclusion on it.

30. In connection with our audit, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the consolidated and separate financial statements and the selected outcomes presented in the annual performance report, or our knowledge obtained in the audit, or otherwise appears to be materially misstated.

31. If based on the work we have performed, we conclude that there is a material misstatement in this other information, we are required to report that fact. We have nothing to report in this regard.

INTERNAL CONTROL DEFICIENCIES

32. We considered internal control relevant to our audit of the consolidated and separate financial statements, annual performance report and compliance with applicable legislation; however, our objective was not to express any form of assurance on it.

33. The matter reported below is limited to the significant internal control deficiencies that resulted in the material findings on compliance with legislation included in this report.

34. Management did not implement effective controls in certain areas to ensure accurate financial reporting nor did they exercise adequate oversight responsibility over compliance with applicable legislation, which resulted in irregular expenditure and material adjustments made to the consolidated and separate financial statements.

OTHER REPORTS

35. We draw attention to the following matters below. These did not form part of our opinion on the financial statements or our findings on the reported performance information or compliance with legislation.

36. An independent consultant was requested by Management to investigate and confirm managements findings in regard to the improper On-Boarding of Graduates and Hosting Companies into an Internship Programme by an employee, which covered the period 1 April 2023 to 31 March 2024. The investigation concluded on 8 November 2023 and resulted in disciplinary proceedings against the affected employees. These proceedings were completed at the date of this auditor's report.
37. An independent consultant was requested by Management to investigate and confirm managements findings in respect of the conduct of an employee pertaining to their role and involvement in the planning and preparation for an event, which covered the period 27 September 2023 to 29 September 2023. The investigation concluded on 14 November 2023 and resulted in disciplinary proceedings against the affected employees. These proceedings were in progress at the date of this auditor's report.

AUDITOR TENURE

38. In terms of the IRBA rule published in Government Gazette No. 39475 dated 4 December 2015, we report that Nexia SAB&T has been the auditor of Technology Innovation Agency for 1 year.

Nexia SAB&T

Nexia SAB&T

Per: Muhammed Fazel Sulaman
Director
Registered Auditor
31 July 2024

119 Witch Hazel Avenue
Highveld Technopark
Centurion
0146

ANNEXURE TO THE AUDITOR'S REPORT

The annexure includes the following:

- the auditor's responsibility for the audit
- the selected legislative requirements for compliance testing.

AUDITOR'S RESPONSIBILITY FOR THE AUDIT

PROFESSIONAL JUDGEMENT AND PROFESSIONAL SCEPTICISM

As part of an audit in accordance with the ISAs, we exercise professional judgement and maintain professional scepticism throughout our audit of the consolidated and separate financial statements and the procedures performed on reported performance information for selected outcomes and on the public entity's compliance with selected requirements in key legislation.

FINANCIAL STATEMENTS

In addition to our responsibility for the audit of the consolidated and separate financial statements as described in this auditor's report, we also:

- identify and assess the risks of material misstatement of the consolidated and separate financial statements, whether due to fraud or error; design and perform audit procedures responsive to those risks; and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control
- obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the public entity's internal control
- evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made.
- conclude on the appropriateness of the use of the going concern basis of accounting in the preparation of the consolidated and separate financial statements. We also conclude, based on the audit evidence obtained, whether a material uncertainty exists relating to events or conditions that may cast significant doubt on the ability of the public entity to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the consolidated and separate financial statements about the material uncertainty or, if such disclosures are inadequate, to modify our opinion on the consolidated and separate financial statements. Our conclusions are based on the information available to us at the date of this auditor's report. However, future events or conditions may cause a public entity to cease operating as a going concern

- evaluate the overall presentation, structure and content of the consolidated and separate financial statements, including the disclosures, and determine whether the consolidated and separate financial statements represent the underlying transactions and events in a manner that achieves fair presentation.
- obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the group to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinion.

COMMUNICATION WITH THOSE CHARGED WITH GOVERNANCE

We communicate with the Accounting Authority regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide the Accounting Authority with a statement that we have complied with relevant ethical requirements regarding independence, and to communicate with them all relationships and other matters that may reasonably be thought to have a bearing on our independence and, where applicable, actions taken to eliminate threats or safeguards applied.

COMPLIANCE WITH LEGISLATION – SELECTED LEGISLATIVE REQUIREMENTS

The selected legislative requirements are as follows:

Legislation	Sections or regulations
Public Finance Management Act 1 of 1999	Section 51(1)(b)(i); 51(1)(b)(ii); 51(1)(e)(iii); 53(4) Section 54(2)(c); 54(2)(d); 55(1)(a); 55(1)(b) Section 55(1)(c)(i); 56(1); 57(b); 66(3)(c)
Treasury Regulations, 2005	Regulation 8.2.1; 8.2.2; 16A3.2; 16A3.2(a) Regulation 16A6.1; 16A6.2(a); 16A6.2(b) Regulation 16A6.3(a); 16A6.3(a) Regulation 16A6.3(c); 16A6.3(e); 16A6.4; 16A6.5 Regulation 16A6.6; 16A.7.1; 16A.7.3; 16A.7.6 Regulation 16A.7.7; 16A8.3; 16A8.4; 16A9.1(b)(ii) Regulation 16A 9.1(d); 16A9.1(e); 16A9.1(f) Regulation 16A9.2(a)(ii); 30.1.1; 30.1.3(a) Regulation 30.1.3(b); 30.1.3(d); 30.2.1; 31.2.1 Regulation 31.2.5; 31.2.7(a); 32.1.1(a); 32.1.1(b) Regulation 32.1.1(c); 33.1.1; 33.1.3
Construction Industry Development Board Act 38 of 2000	Section 18(1)
Construction Industry Development Board Regulations, 2004	Regulation 17; 25(7A)
Second amendment National Treasury Instruction No. 5 of 202/21	Paragraph 1
Erratum National Treasury Instruction No. 5 of 202/21	Paragraph 2
National Treasury instruction No 5 of 2020/21	Paragraph 4.8; 4.9; 5.3
National Instruction No. 1 of 2021/22	Paragraph 4.1
National Treasury SCM Instruction No. 4A of 2016/17	Paragraph 6
National Treasury SCM Instruction No. 03 of 2021/22	Paragraph 4.1; 4.2(b); 4.4; 4.17; 7.2
National Treasury SCM Instruction No. 11 of 2020/21	Paragraph 3.4(a); 3.4(b); 3.9
National Treasury SCM Instruction No. 2 of 2021/22	Paragraph 3.2.1; 3.2.4; 3.3.1
Practice Note 11 of 2008/9	Paragraph 2.1; 3.1 (b)
Practice Note 5 of 2009/10	Paragraph 3.3
Practice Note 7 of 2009/10	Paragraph 4.1.2
Preferential Procurement Policy Framework Act 5 of 2000	Section 1; 2.1(a); 2.1(f)
Preferential Procurement Regulations, 2022	Regulation 4.4; 5.4
Preferential Procurement Regulations, 2017	Regulation 4.1; 4.2; 5.1; 5.3; 5.6; 5.7; 6.8; 7.8 Regulation 8.2; 8.5; 9.1; 9.2; 10.1; 10.2; 11.1
Prevention and Combating of Corrupt Activities Act 12 of 2004	Section 34(1)

38. CONSOLIDATED ANNUAL FINANCIAL STATEMENTS

STATEMENT OF FINANCIAL POSITION

as at 31 March 2024

		(R'000)			
		Economic entity		Controlling entity	
	Note(s)	2024	2023 Restated*	2024	2023 Restated*
ASSETS					
CURRENT ASSETS					
Loans and receivables	7	2,638	1,709	2,638	1,709
Receivables from exchange transactions	9	10,864	4,234	10,864	4,234
Prepayments	10	3,307	3,246	3,307	3,246
Cash and cash equivalents	11	588,029	433,852	588,029	433,852
		604,838	**443,041**	**604,838**	**443,041**
NON-CURRENT ASSETS					
Property, plant and equipment	3	6,019	4,800	6,019	4,800
Intangible assets	4	10,832	7,161	10,832	7,161
Investments in controlled entities	5	–	–	–	–
Investments in associates	6	50	222	–	–
Loans and receivables	7	24,463	25,347	24,463	25,347
Other financial assets	8	26,300	26,300	26,300	26,300
		67,664	**63,830**	**67,614**	**63,608**
TOTAL ASSETS		**672,502**	**506,871**	**672,452**	**506,649**
LIABILITIES					
CURRENT LIABILITIES					
Operating lease liability		595	17	595	17
Payables from exchange transactions	15	27,417	54,168	27,420	54,168
Unspent conditional grants	12	391,555	276,484	391,555	276,484
Provision for employee benefits	13	9,227	7,500	9,227	7,500
Provision for audit fees	14	227	–	227	–
		429,024	**338,169**	**429,024**	**338,169**
NON-CURRENT LIABILITIES					
Unspent conditional grants	12	115,900	28,675	115,900	28,675
TOTAL LIABILITIES		**544,924**	**366,844**	**544,924**	**366,844**
NET ASSETS		**127,578**	**140,027**	**127,528**	**139,805**

** See note 36*

STATEMENT OF FINANCIAL PERFORMANCE
for the year ended 31 March 2024

		(R'000)			
		Economic entity		Controlling entity	
	Note(s)	2024	2023 Restated*	2024	2023 Restated*
REVENUE					
Revenue	16	604,364	741,087	604,364	741,087
Other income	17	53,646	32,932	53,646	32,932
Interest revenue	18	22,159	15,098	22,159	15,098
TOTAL REVENUE		**680,169**	**789,117**	**680,169**	**789,117**
EXPENDITURE					
Employee related costs	19	(124,139)	(115,912)	(124,139)	(115,912)
Project funding expenditure	20	(502,256)	(578,642)	(502,256)	(578,643)
Depreciation and amortisation		(2,145)	(1,863)	(2,145)	(1,863)
Lease rentals on operating lease		(9,768)	(8,074)	(9,768)	(8,074)
Impairment	21	(3,766)	(3,363)	(3,766)	(3,363)
Deficit from equity accounted investments	6	(172)	(12)	–	–
Other operating expenses		(50,372)	(44,881)	(50,372)	(44,880)
Total expenditure		**(692,618)**	**(752,747)**	**(692,446)**	**(752,735)**
(Deficit)/Surplus for the year		**(12,449)**	**36,370**	**(12,277)**	**36,382**

** See note 36*

STATEMENT OF CHANGES IN NET ASSETS
for the year ended 31 March 2024

	(R'000)		
	Accumulated surplus	Non-controlling interest	Total net assets
ECONOMIC ENTITY			
Opening balance as previously reported	102,737	–	102,737
Adjustments			
Correction of errors	920	–	920
BALANCE AT 01 APRIL 2022 AS RESTATED*	**103,657**	**–**	**103,657**
Changes in net assets:			
Surplus for the year (restated)	36,370	–	36,370
Total changes	36,370	–	36,370
BALANCE AT 01 APRIL 2023	**140,027**	**–**	**140,027**
Changes in net assets:			
Surplus for the year	(12,449)	–	(12,449)
Total changes	(12,449)	–	(12,449)
BALANCE AT 31 MARCH 2024	**127,578**	**–**	**127,578**
CONTROLLING ENTITY			
Opening balance as previously reported	102,503	–	102,503
Adjustments			
Correction of errors	920	–	920
BALANCE AT 01 APRIL 2022 AS RESTATED*	**103,423**	**–**	**103,423**
Changes in net assets:			
Surplus for the year (restated)	36,382	–	36,382
Total changes	36,382	–	36,382
BALANCE AT 01 APRIL 2023	**139,805**	**–**	**139,805**
Changes in net assets: Surplus for the year	(12,277)	–	(12,277)
Total changes	(12,277)	–	(12,277)
BALANCE AT 31 MARCH 2024	**127,528**	**–**	**127,528**

** See note 36*

STATEMENT OF CASH FLOWS
for the year ended 31 March 2024

		(R'000)			
		Economic entity		Controlling entity	
	Note(s)	2024	2023 Restated*	2024	2023 Restated*
CASH FLOWS FROM OPERATING ACTIVITIES					
RECEIPTS					
Grants		781,739	689,853	781,739	689,853
Interest received		45,968	36,432	45,968	36,432
Other receipts		39,393	6,895	39,393	6,895
		867,100	733,180	867,100	733,180
PAYMENTS					
Employee related costs		(123,819)	(114,859)	(123,819)	(114,859)
Project funding expenditure		(506,278)	(575,988)	(506,278)	(575,988)
Supplier and other operational expense payments		(80,519)	(43,633)	(80,519)	(43,633)
		(710,616)	(734,480)	(710,616)	(734,480)
NET CASH FLOWS FROM OPERATING ACTIVITIES	24	**156,484**	**(1,300)**	**156,484**	**(1,300)**
CASH FLOWS FROM INVESTING ACTIVITIES					
Purchase of property, plant and equipment	3	(2,147)	(1,965)	(2,147)	(1,965)
Purchase of intangible assets	4	(5,085)	(6,753)	(5,085)	(6,753)
Repayment of loans from economic entities	7	5,925	13,140	5,925	13,140
Loans advanced	7	(1,000)	(5,500)	(1,000)	(5,500)
NET CASH FLOWS FROM INVESTING ACTIVITIES		**(2,307)**	**(1,078)**	**(2,307)**	**(1,078)**
NET INCREASE/(DECREASE) IN CASH AND CASH EQUIVALENTS		**154,177**	**(2,378)**	**154,177**	**(2,378)**
Cash and cash equivalents at the beginning of the year		433,852	436,230	433,852	436,230
CASH AND CASH EQUIVALENTS AT THE END OF THE YEAR	11	**588,029**	**433,852**	**588,029**	**433,852**

** See note 36*

STATEMENT OF COMPARISON OF BUDGET AND ACTUAL AMOUNTS
for the year ended 31 March 2024

BUDGET ON ACCRUAL BASIS

Controlling entity	Approved budget	Adjustments	Final Budget	Actual amounts on comparable	Difference between final budget and actual	Reference
	(R'000)					
STATEMENT OF FINANCIAL PERFORMANCE						
REVENUE						
REVENUE FROM EXCHANGE TRANSACTIONS						
Other income	10,000	–	**10,000**	53,646	**43,646**	Note 34-A
Interest received	10,500	–	**10,500**	22,159	**11,659**	Note 34-B
TOTAL REVENUE FROM EXCHANGE TRANSACTIONS	**20,500**	**–**	**20,500**	**75,805**	**55,305**	
REVENUE FROM NON-EXCHANGE TRANSACTIONS						
DSI allocation	595,715	(700)	**595,015**	604,364	**9,349**	Note 34-C
TOTAL REVENUE	**616,215**	**(700)**	**615,515**	**680,169**	**64,654**	
EXPENDITURE						
Employee related costs	(125,193)	–	**(125,193)**	(124,139)	**1,054**	Note 34-D
Project funding expenditure	(440,612)	–	**(440,612)**	(502,256)	**(61,644)**	Note 34-E
Depreciation and amortisation	(4,652)	–	**(4,652)**	(2,145)	**2,507**	Note 34-F
Lease rentals on operating lease	(11,602)	–	**(11,602)**	(9,768)	**1,834**	
Debt impairment				(3,766)	**(3,766)**	
Other operating expenditure	(34,156)	–	**(34,156)**	(50,372)	**(16,216)**	Note 34-G
TOTAL EXPENDITURE	**(616,215)**		**(616,215)**	**(692,446)**	**(76,231)**	
SURPLUS/(DEFICIT)	**–**	**(700)**	**(700)**	**(12,277)**	**(11,577)**	

1. PRESENTATION OF CONSOLIDATED ANNUAL FINANCIAL STATEMENTS

The consolidated annual financial statements have been prepared in accordance with the Standards of Generally Recognised Accounting Practice (GRAP), issued by the Accounting Standards Board in accordance with Section 91(1) of the Public Finance Management Act (Act 1 of 1999).

These consolidated annual financial statements have been prepared and are in compliance with an accrual basis of accounting and are in accordance with historical cost convention as the basis of measurement, unless specified otherwise. They are presented in South African Rand. Amounts are rounded off to the nearest thousand. Accounting policies applied in the Annual Financial Statements are consistent with those of the prior year.

1.1 GOING CONCERN ASSUMPTION

These consolidated annual financial statements have been prepared based on the expectation that the economic entity will continue to operate as a going concern for at least the next 12 months.

1.2 CONSOLIDATION

BASIS OF CONSOLIDATION

Consolidated annual financial statements are the consolidated annual financial statements of the economic entity presented as those of a single entity.

The Consolidated annual financial statements incorporate the annual financial statements of the controlling entity and all entities which are controlled by the controlling entity.

Consolidated annual financial statements are prepared using consistent accounting policies for like transactions and other events in similar circumstances.

The revenue and expenses of a controlled entity are included in the consolidated annual financial statements from the transfer date or acquisition date. The revenue and expenses of the controlled entity are based on the values of the assets and liabilities recognised in the controlling entity's consolidated annual financial statements at the acquisition date.

The Consolidated annual financial statements of the controlling entity and its controlled entities used in the preparation of the consolidated annual financial statements are prepared as of the same date.

When the end of the reporting date of the controlling entity is different from that of a controlled entity, the controlled entity prepares, for consolidation purposes, additional consolidated annual financial statements as of the same date as the consolidated annual financial statements of the controlling entity unless it is impracticable to do so. When the consolidated annual financial statements of a controlled entity used in the preparation of consolidated annual financial statements are prepared as of a date different from that of the controlling entity, adjustments are made for the effects of significant transactions or events that occur between that date and the date of the controlling entity's consolidated annual financial statements. In any case, the difference between the end of the reporting date of the controlled entity and that of the controlling entity is no more than three months. The length of the reporting periods and any difference between the ends of the reporting dates is the same from period to period.

Adjustments are made when necessary to the Consolidated annual financial statements of the controlled entities to bring their accounting policies in line with those of the controlling entity.

All intra-entity transactions, balances, revenues and expenses are eliminated in full on consolidation.

Non-controlling interest in the net assets of the economic entity is identified and recognised separately from the controlling entity's interest therein, and are recognised within net assets.

Changes in a controlling entity's ownership interest in a controlled entity that do not result in a loss of control are accounted for as transactions that affect net assets.

INVESTMENT IN ASSOCIATES

An investment in associate is accounted for using the equity method. Under the equity method, investments in associates are carried in the consolidated statement of financial position at cost adjusted for post-acquisition changes in the economic entity's share of net assets of the associate, less any impairment losses.

The economic entity's share of the surplus or deficit of the investee is recognised in surplus or deficit.

The most recent available consolidated annual financial statements of the associate are used by the economic entity in applying the equity method. When the reporting dates of the economic entity and the associate are different, the associate prepares, for the use of the economic entity, consolidated annual financial statements as of the same date as the consolidated annual financial statements of the economic entity unless it is impractical to do so.

1.2 CONSOLIDATION (CONTINUED)

When the consolidated annual financial statements of an associate used in applying the equity method are prepared as of a different date from that of the economic entity, adjustments are made for the effects of significant transactions or events that occur between that date and the date of the economic entity's consolidated annual financial statements. In any case, the difference between the end of the reporting dates of the associate and that of the economic entity is no more than three months. The length of the reporting dates and any difference between the ends of the reporting dates is the same from period to period.

The economic entity's consolidated annual financial statements are prepared using uniform accounting policies for like transactions and events in similar circumstances.

Deficits in an associate in excess of the economic entity's interest in that associate is recognised only to the extent that the economic entity has incurred a legal or constructive obligation to make payments on behalf of the associate. If the associate subsequently reports surpluses, the economic entity resumes recognising its share of those surpluses only after its share of the surpluses equals the share of deficits not recognised.

The controlling entity discontinues the use of the equity method from the date that it ceases to have significant influence over an associate and account for the investment in accordance with the Standards of GRAP on Financial instruments from that date, unless the associate becomes a controlled entity or a joint venture, in which case it is accounted for as such. The carrying amount of the investment at the date that it ceases to be an associate is regarded as the fair value on initial recognition as a financial asset in accordance with the Standards of GRAP on Financial instruments.

1.3 SIGNIFICANT JUDGEMENTS AND SOURCES OF ESTIMATION UNCERTAINTY

In preparing the consolidated annual financial statements, management is required to make estimates and assumptions that affect the amounts represented in the consolidated annual financial statements and related disclosures. Use of available information and the application of judgement is inherent in the formation of estimates. Actual results in the future could differ from these estimates which may be material to the consolidated annual financial statements. Significant judgements include:

TRADE RECEIVABLES AND LOANS AND RECEIVABLES

The economic entity assesses its loans and receivables for impairment at the end of each reporting period. In determining whether an impairment loss should be recorded in surplus or deficit, the entity makes judgements as to whether there is observable data indicating a measurable decrease in the estimated future cash flows from a financial asset.

The impairment for loans and receivables is calculated on an individual basis, based on historical losses, financial position of the entity, repayment terms and the commercial viability of the business.

The impairment for loans and receivables is calculated on a client by client basis and is based on client specific economic, operational and financial conditions that are present at the reporting date which correlate with defaults on the amounts owing by the client.

UNSPENT CONDITIONAL GRANTS

The economic entity assesses the split of amounts payable in the next twelve months at each reporting date. In determining the amount payable, consideration is taken of the expected disbursements for each programme. Such assessment requires judgement to be applied. Where such estimation cannot be reliably determined, such amounts are disclosed as non-current.

IMPAIRMENT TESTING

The economic entity reviews and tests the carrying value of assets when events or changes in circumstances suggest that the carrying amount may not be recoverable. If there are indications that impairment may have occurred, estimates are prepared of expected future cash flows for each asset. Expected future cash flows used to determine the value in use of other assets which are inherently uncertain and could materially change over time.

PROVISIONS FOR EMPLOYEE BENEFITS

Provisions were raised and management determined an estimate based on the information available. Additional disclosure of these estimates of provisions are included in note 13 – Provisions.

ALLOWANCE FOR DOUBTFUL DEBTS

An impairment loss is recognised in surplus and deficit when there is objective evidence that it is impaired. The impairment is measured as the difference between the debtors carrying amount and the present value of estimated future cash flows discounted at the effective interest rate, computed at initial recognition.

1.4 PROPERTY, PLANT AND EQUIPMENT

Property, plant and equipment is carried at cost less accumulated depreciation and any impairment losses. Property, plant and equipment is depreciated on the straight-line basis over their expected useful lives to their estimated residual value. The depreciable amount of an asset is allocated on a systematic basis over its useful life. Management expects to use the assets for their full useful lives and therefore the residual values are estimated to be negligible.

The useful lives of items of property, plant and equipment have been assessed as follows:

Item	Depreciation method	Average useful life
Leasehold property	Straight-line	Shorter of lease agreement or the useful life
Furniture and fixtures	Straight-line	3 – 20 years
Motor vehicles	Straight-line	16 years
Laboratory equipment	Straight-line	5 – 20 years

The economic entity assesses at each reporting date whether there is any indication that the economic entity expectations about the residual value and the useful life of an asset have changed since the preceding reporting date. If any such indication exists, the economic entity revises the expected useful life and/or residual value accordingly. The change is accounted for as a change in an accounting estimate.

The depreciation charge for each period is recognised in surplus or deficit.

Items of property, plant and equipment are derecognised when the asset is disposed of or when there are no further economic benefits or service potential expected from the use of the asset.

The gain or loss arising from the derecognition of an item of property, plant and equipment is included in surplus or deficit when the item is derecognised. The gain or loss arising from the derecognition of an item of property, plant and equipment is determined as the difference between the net disposal proceeds, if any, and the carrying amount of the item.

1.5 INTANGIBLE ASSETS

Intangible assets are carried at cost less any accumulated amortisation and any impairment losses. Intangible assets amortisation is provided on a straight-line basis over their useful life. The amortisation period and the amortisation method for intangible assets are reviewed at each reporting date.

Amortisation is provided to write down the intangible assets, on a straight-line basis, to their residual values as follows:

Item	Amortisation method	Average useful life
Computer software	Straight-line	2 – 7 years
Website	Straight-line	10 years

1.6 INVESTMENTS IN CONTROLLED ENTITIES

ECONOMIC ENTITY CONSOLIDATED ANNUAL FINANCIAL STATEMENTS

Investments in controlled entities are consolidated in the consolidated annual financial statements. Refer to the accounting policy on Consolidations (Note 1.2).

CONTROLLING ENTITY ANNUAL FINANCIAL STATEMENTS

In the entity's separate consolidated annual financial statements, investments in controlled entities are carried at cost. The entity applies the same accounting for each category of investment.

Investments in controlled entities that are accounted for in accordance with the accounting policy on Financial instruments in the consolidated annual financial statements, are accounted for in the same way in the controlling entity's separate consolidated annual financial statements.

When the entity loses control over a controlled entity it derecognises the assets and liabilities of the controlled entity, and any related non-controlling interest and other components of equity. Any resulting gain or loss is recognised in the statement of financial performance.

1.7 INVESTMENTS IN ASSOCIATES

An investment in an associate is accounted for using the equity method. Under the equity method, the investment is initially recognised at cost and the carrying amount is increased or decreased to recognise the economic entity's share of the surpluses or deficit of the investee after acquisition date. The use of the equity method is discontinued from the date the economic entity ceases to have significant influence over an associate.

Any impairment losses are deducted from the carrying amount of the investment in associate.

Surpluses and deficit resulting from transactions with associates are recognised only to the extent of unrelated investors' interests in the associate.

1.7 INVESTMENTS IN ASSOCIATES (CONTINUED)

The most recent available consolidated annual financial statements of the associate are used by the investor in applying the equity method. When the end of the reporting period of the investor is different from that of the associate, the associate prepares, for the use of the investor, consolidated annual financial statements as of the same date as the consolidated annual financial statements of the investor unless it is impracticable to do so.

The recognition of the economic entity's share of losses is discontinued once the economic entity's share of losses of an associate equals or exceeds its interest in the associate.

1.8 FINANCIAL INSTRUMENTS

The entity has the following types of financial assets (classes and category) as reflected on the face of the statement of financial position or in the notes thereto:

Class	Category
Investment in controlled entities	Financial asset measured at cost
Investment in associates	Financial asset measured at cost
Other financial assets	Financial asset measured at cost
Cash and cash equivalents	Financial asset measured at amortised cost
Loans and receivables	Financial asset measured at amortised cost

Financial instruments at cost are investments in residual interests that do not have a quoted market price in an active market, and whose fair value cannot be reliably measured.

The entity has the following types of financial liabilities (classes and category) as reflected on the face of the statement of financial position or in the notes thereto:

Class	Category
Payables from transactions	Financial liability measured at amortised cost

1.9 LEASES

OPERATING LEASES – LESSEE

Operating lease payments are recognised as an expense on a straight-line basis over the lease term. The difference between the amounts recognised as an expense and the contractual payments are recognised as an operating lease asset or liability.

1.10 EMPLOYEE BENEFITS

SHORT-TERM EMPLOYEE BENEFITS

The cost of short-term employee benefits, (those payable within 12 months after the service is rendered, such as paid vacation leave, bonuses, and non-monetary benefits such as medical care), are recognised in the period in which the service is rendered and are not discounted.

The expected cost of compensated absences is recognised as an expense as the employees render services that increase their entitlement or, in the case of non-accumulating absences, when the absence occurs.

The expected cost of surplus sharing and bonus payments is recognised as an expense when there is a legal or constructive obligation to make such payments as a result of past performance.

DEFINED CONTRIBUTION PLANS

Payments to defined contribution retirement benefit plans are charged as an expense as they fall due.

Payments made to industry-managed (or state plans) retirement benefit schemes are dealt with as defined contribution plans where the entity's obligation under the schemes is equivalent to those arising in a defined contribution retirement benefit plan.

1.11 CONTINGENCIES

Contingent assets and contingent liabilities are not recognised. Contingencies are disclosed in note 26.

1.12 REVENUE FROM EXCHANGE TRANSACTIONS

ROYALTIES

Royalties are recognised as they are earned in accordance with the substance of the transasction. Royalties are recognised following receipt of Annual Financial Statements from projects and verification of supporting documents.

1.12 REVENUE FROM EXCHANGE TRANSACTIONS (CONTINUED)

INTEREST INCOME

Interest is recognised using the effective interest rate method for financial instruments. Interest levied on transactions arising from exchange or non-exchange transactions is classified based on the nature of the underlying transaction.

RECEIPTS FROM EXIT OF INVESTMENTS

Income from the exit of investments is recognised as they are earned in accordance with the substance of the underlying transaction.

1.13 REVENUE FROM NON-EXCHANGE TRANSACTIONS

CONDITIONAL GRANTS AND RECEIPTS

Income received from conditional grants is recognised as revenue to the extent that the entity has complied with all the criteria, conditions or obligations embodied in the agreement. To the extent that the criteria, conditions or obligations have not been met, a liability is recognised.

UNCONDITIONAL GRANTS AND RECEIPTS

Government grants that are receivable in support of the Agency's mandate are recognised in surplus or deficit in the period in which they become receivable.

1.14 PROJECT EXPENDITURE AND OTHER OPERATIONAL EXPENDITURE

Project expenditure and other operational expenditure are recognised as expenditure in the Statement of Financial Performance in the period in which the expenditure is incurred. In the case of project expenditure, amounts are expensed based on the fulfilment of relevant contractual conditions.

1.15 ACCOUNTING BY PRINCIPALS AND AGENTS

The economic entity, as an agent, recognises only that portion of the revenue and expenses it receives or incurs in executing the transactions on behalf of the principal in accordance with the requirements of the relevant Standards of GRAP.

The economic entity recognises assets and liabilities arising from principal-agent arrangements in accordance with the requirements of the relevant Standards of GRAP.

1.16 COMPARATIVE FIGURES

Where necessary, comparative figures have been reclassified to conform to changes in presentation in the current year.

1.17 SEGMENT INFORMATION

The amount of each segment item reported is the measure reported to management for the purposes of making decisions about allocating resources to the segment and assessing its performance. Adjustments and eliminations made in preparing the entity's financial statements and allocations of revenues and expenses are included in determining reported segment surplus or deficit only if they are included in the measure of the segment's surplus or deficit that is used by management. Similarly, only those assets and liabilities that are included in the measures of the segment's assets and segment's liabilities that are used by management are reported for that segment. If amounts are allocated to reported segment surplus or deficit, assets or liabilities, those amounts are allocated on a reasonable basis.

1.18 BUDGET INFORMATION

The approved budget is prepared on an accrual basis and presented by economic classification linked to performance outcome objectives.

The approved budget covers the fiscal period from 01/04/2023 to 31/03/2024.

The consolidated annual financial statements and the budget are on the same basis of accounting therefore a comparison with the budgeted amounts for the reporting period have been included in the Statement of comparison of budget and actual amounts.

1.19 RELATED PARTIES

Management are those persons responsible for planning, directing and controlling the activities of the economic entity, including those charged with the governance of the economic entity in accordance with legislation, in instances where they are required to perform such functions.

Close members of the family of a person are those family members who may be expected to influence, or be influenced by that person in their dealings with the economic entity.

The entity discloses narrative information about the nature of the transactions and the related outstanding balances, to enable users of the entity's financial statements to understand the effect of related party transactions on its consolidated annual financial statements.

1.20 EVENTS AFTER REPORTING DATE

The economic entity will adjust the amount recognised in the financial statements to reflect adjusting events after the reporting date once the event occurred.

The economic entity will disclose the nature of the event and an estimate of its financial effect or a statement that such estimate cannot be made in respect of all material non-adjusting events, where non-disclosure could influence the economic decisions of users taken on the basis of the financial statements.

1.21 FRUITLESS AND WASTEFUL EXPENDITURE

Fruitless and wasteful expenditure is recorded in the notes to the Annual Financial Statements when confirmed. The amount is equal to the total value of the fruitless and wasteful expenditure incurred. Fruitless and wasteful expenditure is removed from the notes to the Annual Financial Statements when it is resolved or transferred to receivables for recovery.

Fruitless and wasteful expenditure receivables are measured at the amount that is expected to be recoverable and are de recognised when settled or subsequently written-off as irrecoverable.

The information is presented in accordance with Instruction Note 4 of 2022/23.

1.22 IRREGULAR EXPENDITURE

Irregular expenditure is recorded in the notes to the Annual Financial Statements when confirmed. The amount recorded is equal to the value of the irregular expenditure incurred, unless it is impractical to determine, in which case reasons are therefore provided in the notes. Irregular expenditure is removed from the notes to the Annual Financial Statements when it is resolved or transferred to receivables for recovery.

Irregular expenditure receivables are measured at the amount that is expected to be recoverable and are derecognised when settled or subsequently written-off as irrecoverable.

The information is presented in accordance with Instruction Note 4 of 2022/23.

2. NEW STANDARDS AND INTERPRETATIONS

2.1 STANDARDS AND INTERPRETATIONS EFFECTIVE AND ADOPTED IN THE CURRENT YEAR

No new standards were adopted in the year under review.

2.2 STANDARDS AND INTERPRETATIONS ISSUED, BUT NOT YET EFFECTIVE

The economic entity has not applied the following standards and interpretations, which have been published and are mandatory for the economic entity's accounting periods beginning on or after 01 April 2024 or later periods:

Standard/ Interpretation:	Effective date:	Expected impact:
GRAP 104 (amended): Financial Instruments	01 April 2025	Impact is currently being assessed
GRAP 1: Presentation of Financial Statements	To be determined by the Minister of Finance	Impact is currently being assessed
GRAP 105: Transfer of Functions between Entities Under Common Control	To be determined by the Minister of Finance	Impact is currently being assessed
GRAP 106: Transfer of Functions between Entities Not Under Common Control	To be determined by the Minister of Finance	Impact is currently being assessed
GRAP 107: Mergers	To be determined by the Minister of Finance	Unlikely there will be a material impact

3. PROPERTY, PLANT AND EQUIPMENT

	(R'000)					
	2024			2023		
	Cost	Accumulated depreciation and accumulated impairment	Carrying value	Cost	Accumulated depreciation and accumulated impairment	Carrying value
ECONOMIC ENTITY						
Furniture and office equipment	29,098	(25,034)	4,064	28,622	(25,405)	3,217
Motor vehicles	371	(364)	7	371	(360)	11
Leasehold improvements	1,937	(1,876)	61	1,864	(1,864)	–
Laboratory equipment	12,741	(10,854)	1,887	12,279	(10,707)	1,572
TOTAL	**44,147**	**(38,128)**	**6,019**	**43,136**	**(38,336)**	**4,800**
CONTROLLING ENTITY						
Furniture and office equipment	29,098	(25,034)	4,064	28,622	(25,405)	3,217
Motor vehicles	371	(364)	7	371	(360)	11
Leasehold improvements	1,937	(1,876)	61	1,864	(1,864)	–
Laboratory equipment	12,741	(10,854)	1,887	12,279	(10,707)	1,572
TOTAL	**44,147**	**(38,128)**	**6,019**	**43,136**	**(38,336)**	**4,800**

3. PROPERTY, PLANT AND EQUIPMENT (CONTINUED)

RECONCILIATION OF PROPERTY AND EQUIPMENT – ECONOMIC ENTITY – MARCH 2024

	(R'000)			
	Opening balance	Additions	Depreciation and impairment	Total
Furniture and office equipment	3,217	1,593	(746)	4,064
Motor vehicles	11	–	(4)	7
Leasehold improvements	–	73	(12)	61
Laboratory equipment	1,572	481	(166)	1,887
	4,800	**2,147**	**(928)**	**6,019**

RECONCILIATION OF PROPERTY, PLANT AND EQUIPMENT – ECONOMIC ENTITY – 2023

	(R'000)			
	Opening balance	Additions	Depreciation and impairment	Total
Furniture and office equipment	3,885	877	(1,545)	3,217
Motor vehicles	21	–	(10)	11
Leasehold improvements	53	–	(53)	–
Laboratory equipment	1,157	1,088	(673)	1,572
	5,116	**1,965**	**(2,281)**	**4,800**

RECONCILIATION OF PROPERTY AND EQUIPMENT – CONTROLLING ENTITY – MARCH 2024

	(R'000)			
	Opening balance	Additions	Depreciation and impairment	Total
Furniture and office equipment	3,217	1,593	(746)	4,064
Motor vehicles	11	–	(4)	7
Leasehold improvements	–	73	(12)	61
Laboratory equipment	1,572	481	(166)	1,887
	4,800	**2,147**	**(928)**	**6,019**

RECONCILIATION OF PROPERTY AND EQUIPMENT – CONTROLLING ENTITY – MARCH 2023

	(R'000)			
	Opening balance	Additions	Depreciation and impairment	Total
Furniture and office equipment	3,885	877	(1,545)	3,217
Motor vehicles	21	–	(10)	11
Leasehold improvements	53	–	(53)	–
Laboratory equipment	1,157	1,088	(673)	1,572
	5,116	**1,965**	**(2,281)**	**4,800**

PLEDGED AS SECURITY

None of the assets above have been pledged as security or have restrictions on title.

3. PROPERTY, PLANT AND EQUIPMENT (CONTINUED)

DEPRECIATION RATES

Depreciation related to technology platform programmes is included in project expenditure.

CHANGE IN ESTIMATE

In line with GRAP 17 (para 56), the Agency reassessed the remaining useful lives of the assets and amended depreciation on a prospective basis in line with GRAP 3. Such effect has had an impact of a reduction of depreciation of R1.5 million in the current year and is expected to reduce depreciation in the outer years based on respective useful lives. The following represents the impact per asset class.

	(R'000)		
Class	Original depreciation	Depreciation after change	Net Change
Furniture and office equipment	1,412	288	(1,124)
Labratory equipment	450	28	(422)
Motor vehicles	14	7	(7)
TOTAL	**1,956**	**323**	**(1,553)**

MAINTENANCE OF PROPERTY, PLANT AND EQUIPMENT

Repairs and maintenance relating to PPE amounted to R93,531 (2023: R244,798).

4. INTANGIBLE ASSETS

	(R'000)					
	2024			2023		
	Cost	Accumulated amortisation and accumulated impairment	Carrying value	Cost	Accumulated amortisation and accumulated impairment	Carrying value
ECONOMIC ENTITY						
Computer software	20,008	(10,991)	9,017	9,985	(9,577)	408
Work in progress	1,815	–	1,815	6,753	–	6,753
Website	873	(873)	–	873	(873)	–
TOTAL	**22,696**	**(11,864)**	**10,832**	**17,611**	**(10,450)**	**7,161**
CONTROLLING ENTITY						
Computer software	20,008	(10,991)	9,017	9,985	(9,577)	408
Work in progress	1,815	–	1,815	6,753	–	6,753
Website	873	(873)	–	873	(873)	–
TOTAL	**22,696**	**(11,864)**	**10,832**	**17,611**	**(10,450)**	**7,161**

4. INTANGIBLE ASSETS (CONTINUED)

RECONCILIATION OF INTANGIBLE ASSETS – ECONOMIC ENTITY – MARCH 2024

	(R'000)					
	Opening balance	Additions	Disposals	Transfers	Amortisation	Total
Computer software	408	3,270	–	6,753	(1,414)	9,017
Work in progress	6,753	1,815	–	(6,753)	–	1,815
	7,161	**5,085**	**–**	**–**	**(1,414)**	**10,832**

RECONCILIATION OF INTANGIBLE ASSETS – ECONOMIC ENTITY – MARCH 2023

	(R'000)			
	Opening balance	Additions	Amortisation	Total
Computer software	738	–	(330)	408
Intangible assets under development	–	6,753	–	6,753
	738	**6,753**	**(330)**	**7,161**

RECONCILIATION OF INTANGIBLE ASSETS – CONTROLLING ENTITY – MARCH 2024

	(R'000)					
	Opening balance	Additions	Disposals	Transfers	Amortisation	Total
Computer software	408	3,270	–	6,753	(1,414)	9,017
Work in progress	6,753	1,815	–	(6,753)		1,815
	7,161	**5,085**	**–**	**–**	**(1,414)**	**10,832**

RECONCILIATION OF INTANGIBLE ASSETS – CONTROLLING ENTITY – MARCH 2023

	(R'000)			
	Opening balance	Additions	Amortisation	Total
Computer software	738	–	(330)	408
Intangible assets under development	–	6,753	–	6,753
	738	**6,753**	**(330)**	**7,161**

During the 2023 year, the Agency commenced with the development of an Enterprise Resource System for the management of projects throughout the lifecycle. Phase 1 was available for use from 01 April 2024 with Phase 2 still in work in progress.

RESTRICTED TITLE

None of the above intangible assets have restrictions in title or have been pledged as security.

CHANGE IN ESTIMATE

In line with GRAP 31 (para 104), the Agency reassessed the remaining useful lives of the assets and amended amortisation on a prospective basis in line with GRAP 3. Such effect has had an impact of a reduction of amortisation of R39k in the current year and is expected to reduce amortisation in the outer years based on respective useful lives. The following represents the impact:

4. INTANGIBLE ASSETS (CONTINUED)

	(R'000)		
Class	Original depreciation	Depreciation after change	Net Change
Computer software	1,830	1,791	(39)

5. INVESTMENTS IN CONTROLLED ENTITIES

Name of company	% holding 2024	% holding 2023	Carrying amount 2024	Carrying amount 2023
Natural Carotenoids South Africa (Pty) Ltd*	98.80%	98.80%	–	–
			–	–

The carrying amounts of controlled entities are shown net of impairment losses.

** The investment in Natural Caretonoids is currently in progress of deregistration, and remains dormant with no assets and liabilities to be reported on. All net assets were previously transferred into an established technology platform called Microalgal Technology Development and Demonstration Centre.*

6. INVESTMENTS IN ASSOCIATES

Name of entity	Reporting period end	% holding 2024	% holding 2023	Carrying amount 2024	Carrying amount 2023
Active investments					
Lifeassay (Ply) Ltd	28 February	26.00%	26.00%	–	–
Ribotech (Ply) Ltd	31 August	35.00%	35.00%	–	–
Tenacent SA (Pty) Ltd	28 February	20.00%	20.00%	50	222
Investments in the process of deregistration/ liquidation Niocad (Pty) Ltd	28 February	22.00%	22.00%	–	–
Edgi Tech (Pty) Ltd	28 February	26.00%	26.00%	–	–
Silerkake Trading (Pty) Ltd	28 February	28.00%	28.00%	–	–
Eyeborn (Pty) Ltd	31 March	25.00%	25.00%	–	–
Femtech (Pty) Ltd*	28 February	69.00%	69.00%	–	–
				50	222

The carrying amounts of associates are shown net of impairment losses.

** Although the controlling entity holds more than 50%, the investment is not considered a controlled entity because the controlling entity does not have control over the entity due to voting rights/appointment powers of Directors. This investment is therefore classified as investments in associates.*

	(R'000)			
	Economic entity		Controlling entity	
	2024	2023	2024	2023
MOVEMENTS IN CARRYING VALUE				
Opening balance	222	234	–	–
Share of deficit	(172)	(12)	–	–
CLOSING BALANCE	**50**	**222**	**–**	**–**

6. INVESTMENTS IN ASSOCIATES (CONTINUED)

PRINCIPAL ACTIVITIES

LEGAL NAME	PRINCIPAL ACTIVITY
LifeAssay Diagnostics (Pty) Ltd	Manufacturer of vitro diagnostic test kits.
Ribotech (Pty) Ltd	Manufacturing of rHOG CSF. Product is used in cancer treatments.
Tenacent (Pty) Ltd	Development and sales of technical devices for the control of containers.

All the above entities are incorporated in South Africa.

	(R'000)	
	Controlling entity	
	2024	2023
SUMMARY OF CONTROLLED ENTITY'S INTEREST IN ASSOCIATE		
Total assets	1,544	2,069
Total liabilities	(62,087)	(61,243)
Revenue	1,965	3,872
Surplus (deficit)	(535)	(525)

ASSOCIATES WITH DIFFERENT REPORTING DATES

Some of the associates have reporting dates that differ from the controlling entity. If the reporting date is within a three month period of the reporting period of the controlling entity, the annual financial statements for that period were used in consolidating the results of the entity. The management accounts for the entities were reviewed in order to ensure that no significant changes took place between the reporting date and the year end. The entity has utilised latest financial available information for the purposes of disclosure. In certain instances such disclosure is greater than a year old.

UNRECOGNISED SHARE OF LOSSES OF ASSOCIATES

The economic entity has discontinued recognising its share of the deficit of associate companies, as the investment is held at R Nil and the economic entity has no obligation for any deficit of the associate. The total unrecognised deficit for the current period is R197,181 (2023: R489,974). The accumulated unrecognised deficit to date amount to R56,914,103 (2023: R56,719,650).

7. LOANS AND OTHER RECEIVABLE

	(R'000)			
	Economic entity		Controlling entity	
	2024	2023	2024	2023
OTHER ENTITIES				
Agriprotein (Pty) Ltd*	–	–	–	–
The loan had fixed monthly repayment terms and interest was accrued at prime.				
Synexa (Pty) Ltd	–	757	–	757
This loan had fixed quarterly repayment terms over a period of 6 years and accrued interest at prime. The loan was fully repaid and settled as 31 March 2024.				
Balancell Energy (Pty) Ltd	20,841	21,410	20,841	21,410
Following a restructuring process, the debt previously owed by Balancell (Pty) Ltd is repayable based on royalties on sales made. Royalties are repayable at 6% of revenue generated on the sales or leasing of BMS until the outstanding amount as been paid in full				
Stone Three Digital (Pty) Ltd	3,960	4,889	3,960	4,889
The Agency disbursed funding to the entity as part of funds of managed on behalf of the Innovation Fund. The loan has quarterly repayments over a 5 year period with interest accruing at the prime rate, subject to the recipient attaining profitability.				
Agrirevolution (Pty) Ltd	–	–	–	–
A loan amount of R1m was advanced during the current year to the project. The loan is interest bearing at the prime interest rate and is repayable over a twenty four (24) month period. The total loan owing (with interest) as at year end amounts to R1.05m and is fully provided for.				
TMI Consultancy CC	2,300	–	2,300	–
Following a legal process, this amount relates to settlement in terms of an arbitration award and is repaid on a monthly basis over a 4 and a half year period.				
	27,101	**27,056**	**27,101**	**27,056**

7. LOANS AND OTHER RECEIVABLE (CONTINUED)

	(R'000)			
	Economic entity		Controlling entity	
	2024	2023	2024	2023
RECONCILATION OF LOANS AND RECEIVABLES				
Opening balance (restated)	27,056	11,600	27,056	11,600
Repayment of loans	(5,925)	(13,140)	(5,925)	(13,140)
Interest earned	608	139	608	139
Adjustment to provision for impairment	3,858	22,957	3,858	22,957
Loans granted	1,504	5,500	1,504	5,500
	27,101	**27,056**	**27,101**	**27,056**
Non-current assets	24,463	25,347	24,463	25,347
Current assets	2,638	1,709	2,638	1,709
	27,101	**27,056**	**27,101**	**27,056**

LOANS TO ECONOMIC ENTITIES IMPAIRED

As of 31 March 2024, loans to economic entities of R103,279,000 (2023: R107,137,000) were impaired and provided for. The movement from the prior year to current year includes current year impairment and a reversal of prior year impairment.

RECONCILIATION OF PROVISION FOR IMPAIRMENT ON LOANS AND RECEIVABLES				
Opening balance	107,137	130,095	107,137	130,095
Reversal of provision	(3,858)	(22,958)	(3,858)	(22,958)
CLOSING BALANCE	**103,279**	**107,137**	**103,279**	**107,137**

The creation and release of provision for impaired receivables has been included in operating expenses in the statement of financial performance. Amounts charged to the allowance account are generally written off when the recovery of such amounts are improbable.

8. OTHER FINANCIAL ASSETS

	(R'000)			
	Economic entity		Controlling entity	
	2024	2023	2024	2023
SHARE CAPITAL				
The Biologicals and Vaccines Institute of Southern Africa (Pty) Ltd (Biovac)	3,000	3,000	3,000	3,000
SHAREHOLDER LOAN				
The Biologicals and Vaccines Institute of Southern Africa (Pty) Ltd (Biovac)	23,300	23,300	23,300	23,300
The shareholder loan has no fixed date of repayment and currently bears no interest payment.				
TOTAL OTHER FINANCIAL ASSETS	**26,300**	**26,300**	**26,300**	**26,300**
NON-CURRENT ASSETS				
Share capital	3,000	3,000	3,000	3,000
Shareholder loan	23,300	23,300	23,300	23,300
	26,300	**26,300**	**26,300**	**26,300**

The investment in Biovac is recorded at cost as the investment does not have a quoted investment does not have a quoted market price in an active market, and whose fair value cannot be reliably measured.

9. RECEIVABLES FROM EXCHANGE TRANSACTIONS

Trade debtors	11,687	5,292	11,687	5,292
Deposits	282	277	282	277
Other receivables	6,782	5,761	6,782	5,761
Provision for bad debt	(7,887)	(7,096)	(7,887)	(7,096)
	10,864	**4,234**	**10,864**	**4,234**

Included in other receivables is R3,367,200 (2023: R3,367,200) to be recovered from the DSI and an amount of R1,176,762 (2023: R2,292,721) in respect of receivables for royalty commitments.

FAIR VALUE OF RECEIVABLES FROM EXCHANGE TRANSACTIONS

The entity is of the opinion that the carrying value approximates the fair value of receivables from exchange transactions at period end, due to the short term nature of these balances.

RECEIVABLES FROM EXCHANGE TRANSACTIONS PAST DUE BUT NOT IMPAIRED

Receivables from exchange transactions which are less than 3 months past due are not considered to be impaired. At 31 March 2024, R3,101,318 (2023: R345,364) were past due but not impaired.

9. RECEIVABLES FROM EXCHANGE TRANSACTIONS (CONTINUED)

RECEIVABLES FROM EXCHANGE TRANSACTIONS IMPAIRED

As of 31 March 2024, other receivables of R7,887,082 (2023: R7,096,000) were impaired and provided for.

	(R'000)			
	Economic entity		Controlling entity	
	2024	2023	2024	2023
The ageing of these loans is as follows:				
3 to 6 months	1,581	3,183	1,581	3,183
Over 6 months	6,306	3,913	6,306	3,913

RECONCILIATION OF PROVISION FOR IMPAIRMENT OF RECEIVABLES FROM EXCHANGE TRANSACTIONS

Opening balance	7,096	6,445	7,096	6,445
Provision for impairment	791	3,370	791	3,370
Amounts written off as uncollectible	–	(2,719)	–	(2,719)
	7,887	**7,096**	**7,887**	**7,096**

The creation and release of provision for impaired receivables has been included in operating expenses in the Statement of Financial Performance. Amounts charged to the allowance account are generally written off when there is no expectation of recovering additional cash.

No collateral is held as security.

10. PREPAYMENTS

Rentals	1,035	1,157	1,035	1,157
Software licenses	2,272	1,652	2,272	1,652
Assets not delivered	–	436	–	436
Total Prepayments	**3,307**	**3,246**	**3,307**	**3,246**

Prepayments comprises a total amount of R1,034,973 (2023: R1,157,366) for rentals for the Western Cape, Durban and Pretoria offices as well as Bio-Processing Platform. In addition this amount also includes software licences totalling R2,272,313 (2023: R1,652,439) which are paid in advance, as well as R Nil (2023: R436,162) relating to assets not delivered as at 31 March 2024.

11. CASH AND CASH EQUIVALENTS

Cash and cash equivalents consist of:

Bank balances	588,029	433,852	588,029	433,852

The carrying value approximates the fair value of cash and cash equivalents at period end, due to the short term nature of these balances. All balances are available immediately on demand.

The entity moved to a paycard system during the 2021 financial year and therefore no physical cash is held on hand.

12. UNSPENT CONDITIONAL GRANTS

	(R'000)			
	Economic entity		Controlling entity	
	2024	2023	2024	2023
UNSPENT CONDITIONAL GRANTS AND RECEIPTS COMPRISES OF:				
Africa Programmes	6,675	10,090	6,675	10,090
Agriculture Bioeconomy Innovation Partnership Programme	24,746	5,887	24,746	5,887
Bio-manufacturing Enterprise Management	4,840	12,315	4,840	12,315
Clothing & Textile Hub	4,789	4,525	4,789	4,525
Fibrelux Technology Diffusion Initiative	46	40	46	40
Innovation Fund	284,088	204,435	284,088	204,435
Innovation for Inclusive Development	77,386	60,080	77,386	60,080
Joint Technology Innovation Programme	201	186	201	186
Limpopo Agri Food Technology Station	153	141	153	141
South African BioDesign Initiative	2,484	2,872	2,484	2,872
Seed Fund Programme	–	720	–	720
Space Innovation Initiative	88,780	–	88,780	–
Strategic Industrial Bio-innovation Partnership Programme	3,589	2,480	3,589	2,480
Strengthening the Europe-Africa Ecosystem (SEADE)	373	–	373	–
Technology Stations Programme	2,086	1,382	2,086	1,382
United Nations Industrial Development Organization	7,213	–	7,213	–
Vaccine Development & Management Strategy	6	6	6	6
	507,455	**305,159**	**507,455**	**305,159**
MOVEMENT DURING THE YEAR				
Balance at the beginning of the year	305,159	334,920	305,159	334,920
Additions during the year	347,229	246,856	347,229	246,856
Income recognition during the year	(144,933)	(276,617)	(144,933)	(276,617)
	507,455	**305,159**	**507,455**	**305,159**
Non-current liabilities	115,900	28,675	115,900	28,675
Current liabilities	391,555	276,484	391,555	276,484
	507,455	**305,159**	**507,455**	**305,159**

Unspent conditional grants represent specific contracts with primarily the DSI. Funds payable under the contract have been disclosed between amounts expected to outflow based on programme requirements.

Unspent conditional grants have been split between current and non-current portions based on expected outflows from programmes.

13. PROVISION FOR EMPLOYEE BENEFITS

RECONCILIATION OF PROVISION FOR EMPLOYEE BENEFITS – ECONOMIC ENTITY – 2024

	(R'000)				
	Opening balance	Additions	Utilised during the year	Reversed during the year	Total
Provision for bonus	7,500	9,000	(6,787)	(486)	9,227

RECONCILIATION OF PROVISION FOR EMPLOYEE BENEFITS – ECONOMIC ENTITY – 2023

	(R'000)				
	Opening balance	Additions	Utilised during the year	Reversed during the year	Total
Provision for bonus	7,000	9,445	(8,940)	(5)	7,500

RECONCILIATION OF PROVISIONS – CONTROLLING ENTITY – MARCH 2024

	(R'000)				
	Opening balance	Additions	Utilised during the year	Reversed during the year	Total
Provision for bonus	7,500	9,000	(6,787)	(486)	9,227

RECONCILIATION OF PROVISIONS – CONTROLLING ENTITY – MARCH 2023

	(R'000)				
	Opening balance	Additions	Utilised during the year	Reversed during the year	Total
Provision for bonus	7,000	9,445	(8,940)	(5)	7,500

BONUS PROVISION

In line with the entity remuneration philosophy, the entity awards performance bonuses to employees subject to performance of the entity and the availability of the budget. Such bonuses are at the discretion of the Board and are expected to be finalised following the completion of the performance assessment and moderation processes.

14. PROVISION FOR AUDIT FEES

The provision for audit fees relates to a potential claim for over-runs in respect of the 2022/23 financial year end audit. The final amount and timing of the settlement is currently uncertain.

15. PAYABLES FROM EXCHANGE TRANSACTIONS

	(R'000)			
	Economic entity		Controlling entity	
	2024	2023	2024	2023
Trade payables	9,016	13,229	9,016	13,229
Employee related accruals	6,215	5,895	6,215	5,895
Other payables	12,186	35,044	12,189	35,044
	27,417	**54,168**	**27,420**	**54,168**
PAYABLES FROM EXCHANGE TRANSACTIONS COMPRISES:				
Financial Liabilities	21,202	48,273	21,205	48,273
Non-financial liabilities	6,215	5,895	6,215	5,895
	27,417	**54,168**	**27,420**	**54,168**

16. REVENUE

REVENUE FROM NON-EXCHANGE TRANSACTIONS				
DSI allocation received during the year	459,431	458,370	459,431	458,370
REVENUE FROM EXCHANGE TRANSACTIONS				
Committed conditional grant funding recognised for: Africa Programme	4,052	2,244	4,052	2,244
Agriculture Bioeconomy Innovation Partnership Programme	5,749	38,419	5,749	38,419
Bio-Africa Programme	–	3,044	–	3,044
Bio-Manufacturing Enterprise Management	–	8,644	–	8,644
Centre for Proteomic and Genomic Research	–	1,855	–	1,855
Clothing & Textile Hub	112	428	112	428
Innovation Fund	38,059	40,963	38,059	40,963
Innovation for Inclusive Development	33,909	49,867	33,909	49,867
Joint Technology Innovation Programme	–	1,120	–	1,120
South African BioDesign Initiative	466	2,859	466	2,859
Seed Fund Programme	11,900	13,168	11,900	13,168
United Nations Industrial Development Organization	2,073	–	2,073	–
Strategic Industrial Bio-innovation Partnership Programme	7,238	22,469	7,238	22,469
Technology Stations Programme	41,375	97,637	41,375	97,637
	144,933	**282,717**	**144,933**	**282,717**
	604,364	**741,087**	**604,364**	**741,087**

17. OTHER INCOME

	(R'000)			
	Economic entity		Controlling entity	
	2024	2023	2024	2023
Royalties received	5,810	6,549	5,810	6,549
Sundry receipts	2,896	712	2,896	712
Income from exit of investment*	38,108	–	38,108	–
Reversal of provision for impairment	6,832	25,671	6,832	25,671
	53,646	**32,932**	**53,646**	**32,932**

** During the year. the Agency entered into an agreement for the transfer of its exposure in one of the previously funded projects resulting in a settlement of R38,1m.*

18. INTEREST REVENUE

INTEREST REVENUE

Interest earned – Loans and receivables	608	139	608	139
Interest earned – Bank	21,551	14,959	21,551	14,959
	22,159	**15,098**	**22,159**	**15,098**

19. EMPLOYEE RELATED COSTS

Basic remuneration and re-imbursive allowances	104,139	95,766	104,139	95,766
Defined contribution plans	7,635	7,303	7,635	7,303
Performance bonus	8,514	9,440	8,514	9,440
Medical aid	3,851	3,403	3,851	3,403
	124,139	**115,912**	**124,139**	**115,912**

20. PROJECT FUNDING EXPENDITURE

Project grants – third party	502,256	578,642	502,256	578,642

PROJECT FUNDING IS MADE UP OF THE FOLLOWING:

Africa Programmes	4,053	3,287	4,053	3,287
Global Cleantech Innovation Programme	3,858	1,080	3,858	1,080
Innovation for Inclusive Development	39,452	45,690	39,452	45,690
Innovation Skills Development Programme	1,400	3,605	1,400	3,605
Seed Fund Programme	14,075	26,953	14,075	26,953
Technology Development	209,870	284,423	209,870	284,423
Technology Innovation Cluster Programme	19,948	3,014	19,948	3,014
Technology Platforms Programme	80,756	60,525	80,756	60,525
Technology Stations Programme	124,482	144,251	124,482	144,251
Thought Leadership & BioConvention	4,316	5,686	4,316	5,686
Youth Technology Innovation Programme	46	128	46	128
	502,256	**578,642**	**502,256**	**578,642**

21. IMPAIRMENT

	(R'000)			
	Economic entity		Controlling entity	
	2024	2023	2024	2023
Provision for bad debts	3,766	3,363	3,766	3,363

22. OTHER OPERATING EXPENSES

Other operating expenses include expenditure such as:

Auditors remuneration	819	965	819	965
Cleaning	575	461	575	461
Consulting and professional fees	4,534	2,370	4,534	2,370
Electricity	1,859	2,062	1,859	2,062
IT expenses	5,798	6,337	5,798	6,337
Insurance	442	473	442	473
Legal fees	12,083	12,505	12,083	12,505
Marketing	1,601	2,963	1,601	2,963
Placement fees	173	260	173	260
Printing and stationery	77	108	77	108
Repairs and maintenance – PPE	94	245	94	245
Repairs and maintenance – other	31	40	31	40
Security	1,483	1,720	1,483	1,720
Sponsorships	530	660	530	660
Staff welfare	223	232	223	232
Subscription and certification costs	235	715	235	715
Telephone and fax	976	761	976	761
Training	935	1,106	935	1,106
Travel	9,859	7,819	9,859	7,819

23. TAXATION

The economic and controlling entity is exempt from income tax in terms of the provisions of section 10(1)(cA)(i) of the Income Tax Act.

24. CASH GENERATED FROM (USED IN) OPERATIONS

	(R'000)			
	Economic entity		Controlling entity	
	2024	2023	2024	2023
(Deficit)/surplus for the year	(12,449)	36,370	(12,277)	36,382
ADJUSTMENTS FOR:				
Depreciation and amortisation	2,342	2,611	2,342	2,611
Deficit/(surplus) from equity accounted investments	172	12	–	–
Debt impairment	3,766	3,363	3,766	3,363
Movements in provisions	1,954	500	1,954	500
Interest on loan accounts	(1,112)	(139)	(1,112)	(139)
Movement in operating leases	577	–	577	–
Reversal of provision for impairment	(6,832)	(25,671)	(6,832)	(25,671)
CHANGES IN WORKING CAPITAL:				
Receivables from exchange activities	(7,421)	(366)	(7,421)	(366)
Prepayments	(61)	85	(61)	85
Payables from exchange activities	(26,748)	11,696	(26,748)	11,696
Unspent conditional grants	202,296	(29,761)	202,296	(29,761)
	156,484	**(1,300)**	**156,484**	**(1,300)**

25. COMMITMENTS

OPERATING LEASES – AS LESSEE (EXPENSE)

MINIMUM LEASE PAYMENTS DUE				
- within one year	10,419	1,594	10,419	1,594
- in second to fifth year inclusive	7,883	2,087	7,883	2,087
	18,302	**3,681**	**18,302**	**3,681**

Operating lease payments represent rentals payable by the economic entity for certain of its offices. Leases are negotiated for an average term of five years and rentals are fixed for an average of three years. No contingent rent is payable.

26. CONTINGENCIES

CONTINGENT LIABILITIES

FUNDING AGREEMENTS:
These agreements will be funded using surplus cash and funds to be allocated in the financial periods in which these agreements become payable.

	(R'000)			
	Economic entity		Controlling entity	
	2024	2023	2024	2023
Funding agreements	220,185	209,533	220,185	209,533

DISPUTED EMPLOYMENT MATTER:

The entity is currently defending a legal matter in the Labour Court in respect of a disputed appointment. The outcome is currently uncertain. Should there be negative outcome against the entity, this will result in a possible claim approximating R11m. Refer to Note 30 for subsequent events disclosure.

DISPUTED EMPLOYEE BENEFITS:

The Agency is currently reviewing a matter referred to the CCMA with regards to disputed payment of performance bonuses. Should there be a negative outcome, this will result in possible payments of up to R3.8m. Refer to Note 30 for subsequent events disclosure.

LEGAL PROCEEDINGS:

There are several legal proceedings that are currently ongoing, these legal proceedings relate to prior or existing investments made by the Technology Innovation Agency, either for refunds of grants, repayment of loans or incorrect disclosure on the value of shares sold.

The estimated costs are as follows:

	(R'000)			
	Economic entity		Controlling entity	
	2024	2023	2024	2023
Legal costs	500	5,202	500	5,202

CONTINGENT ASSETS

This matter relates to a sale of shares transaction whereby the Controlling entity disposed of its 49% shareholding in Kapa Biosystems (Pty) Ltd to Kapa Biosystems Inc. It later transpired that the purchase price for the shares was significantly undervalued and that the Agency was in fact entitled to an additional amount. The arbitration in this matter has since concluded with final outcome awaited. The amount owing to the Controlling entity is uncertain at this time.

The Agency advanced R5 million to Technovera (Pty) Ltd under a loan instrument, which is repayable on the attainment of profitability. The project has displayed significant progress, reflecting a possibility of the return of funds.

RETENTION OF SURPLUS FUNDS:

As per Section 53(3) of the PFMA, the Agency as a Schedule 3A entity may not retain cash surpluses that were realised in the previous financial year without written approval of the National Treasury.

Therefore, in terms of this section and National Treasury Instruction note no.12 of 2020/21, the Agency will make a submission to National Treasury to retain surpluses for 2023/24 (amounting to R172m) in line with this instruction. This is based on the following calculation:

Cash reserves as at 31 March 2024:	588,029
Add: Receivables	13,502
Less: Current liabilities	(429,024)
SURPLUS AS AT YEAR END	**172,507**

27. RELATED PARTIES

Relationships	
Members Emoluments	Refer to members' emoluments note 28
Controlled entities	Refer to note 5
Associates	Refer to note 6
Executive Authority	DSI
National Government Business Enterprise	Council for Scientific and Industrial Research
National Public Entities	Agricultural Research Council South African Medical Reseach Council The South African Nuclear Energy Corporation Mintek Insurance Sector Education Training Authority South African National Accreditation System Companies and Intellectual Property Commission

By virtue of the fact that TIA is a National Public Entity, and controlled by National Government, any other controlled entities of the National Government are a related party. All transactions with such entities, including entities of the DSI, are at arm's length, and on normal commercial terms.

	(R'000)	
	Controlling entity	
	2024	2023
RELATED PARTY BALANCES		
AMOUNTS INCLUDED IN TRADE RECEIVABLES REGARDING RELATED PARTIES		
DSI	3,367	3,367
COMMITTED CONDITIONAL GRANTS		
DSI	(507,455)	(309,872)
RELATED PARTY TRANSACTIONS		
ALLOCATIONS RECEIVED		
DSI	(692,741)	(726,193)

28. MEMBERS EMOLUMENTS

EXECUTIVE MEMBERS

2024

	(R'000)			
	Emoluments	Allowances	Bonus	Total
Mr P Krappie – Acting Chief Executive Officer	2,381	543	405	3,329
Mr I Abdoola – Chief Financial Officer	2,645	23	361	3,029
Dr VN Phehane – Executive: Bio-Economy	2,227	3	263	2,493
Mr BM Mphahlele – Executive: Commercialisation	2,178	4	–	2,182
Ms MJ Matlolane – Acting Executive: Corporate Services (from 01 August 2022)	1,555	214	237	2,006
Mr V Skosana – Acting Executive: Innovation Enabling	1,343	175	–	1,518
Mr D Naidoo – Acting Executive: Commercialisation (from 26 February 2024)	138	17	–	155
	12,467	**979**	**1,266**	**14,712**

** Allowances including the following: Cell phone, car, acting, travel and subsistence.*

Performance Bonuses paid during the period relate to the 2022/23 financial year.

2023

Mr P Krappie – Acting Chief Executive Officer	2,273	543	338	3,154
Mr I Abdoola – Chief Financial Officer	2,526	94	284	2,904
Mr BM Mphahlele – Executive: Commercialisation	2,146	2	227	2,375
Dr VN Phehane – Executive: Bio-Economy	2,128	4	208	2,340
Mr V Skosana – Acting Executive: Innovation Enabling	1,283	169	159	1,611
Ms MJ Matlolane – Acting Executive: Corporate Services (from 01 August 2022)	1,022	139	206	1,367
Mrs PA Dekker – Executive: Corporate Services (resigned 31 July 2022)	710	–	–	710
	12,088	**951**	**1,422**	**14,461**

** Allowances including the following: Cell phone, car, acting and travel and subsistence.*

Performance Bonuses paid relate to the 2021/22 Financial year.

28. MEMBERS EMOLUMENTS (CONTINUED)

BOARD MEMBERS

2024

	(R'000)		
	Members' fees	Allowances	Total
Ms BM Modise (Chairperson)	284	42	326
Ms A Canca	240	17	257
Ms JSP Matsebula	234	11	245
Ms EL Matlali	181	–	181
Mr TG Ramasike	267	2	269
Mr BA Mboniswa	228	17	245
Dr R Iyer	197	1	198
	1,631	**90**	**1,721**

2023

	(R'000)		
	Members' fees	Committees fees	Total
Ms BM Modise (Chairperson)	257	–	257
Mr TG Ramasike	231	–	231
Mr BA Mboniswa	213	–	213
Ms JSP Matsebula	164	12	176
Ms A Canca	142	–	142
Dr R Iyer	136	–	136
Ms EL Matlali	135	–	135
	1,278	**12**	**1,290**

29. RISK MANAGEMENT

FINANCIAL RISK MANAGEMENT

The economic entity's activities expose it to a variety of financial risks: market risk (including currency risk, fair value interest rate risk, cash flow interest rate risk and price risk), credit risk and liquidity risk.

LIQUIDITY RISK

The economic entity's risk to liquidity is a result of the funds available to cover future commitments. The economic entity manages liquidity risk through an ongoing review of future commitments and credit facilities.

29. RISK MANAGEMENT (CONTINUED)

ECONOMIC ENTITY

	(R'000)			
	Less than 1 year	Between 1 and 2 years	Between 2 and 5 years	Over 5 years
AT 31 MARCH 2024				
Payables from Exchange Transactions (refer note 15)	27,417	–	–	–
AT 31 MARCH 2023				
Payables from Exchange Transactions (refer note 15)	54,168	–	–	–

CONTROLLING ENTITY

AT 31 MARCH 2024				
Payables from Exchange Transactions (refer note 15)	27,420	–	–	–
AT 31 MARCH 2023				
Payables from Exchange Transactions (refer note 15)	54,168	–	–	–

CREDIT RISK

Credit risk consists mainly of cash deposits, cash equivalents and trade debtors. The entity only deposits cash with major banks with high quality credit standing and limits exposure to any one counter-party.

Loans and receivables, investment in controlled entities, investment in associates and other investments consist mainly of funding granted to start up companies. The exposure to credit risk is managed through ongoing review of the operating results and financial position of the investee companies. Should the entity have doubt over the recoverability of the loan of the value of the investment, the loan/investment is impaired and further funding is carefully considered.

Financial assets exposed to credit risk at year end were as follows:

	(R'000)			
	Economic entity – 2024	Economic entity – 2023	Controlling entity – March 2024	Controlling entity – March 2023
FINANCIAL INSTRUMENT				
Cash and cash equivalents (refer note 11)	588,029	433,852	588,029	433,852
Receivables from Exchange Transactions (refer note 9)	18,751	11,330	18,751	11,330
Loans and receivables (refer note 7)	27,101	27,056	27,101	27,056

The entity has little doubt over the recoverability of receivables from exchange transactions not considered to be impaired at year end.

The entity has reviewed the financial position of each of the entities where they have not impaired the loan disbursed or investment made to the investee company based on the management is of the opinion that at the period end the amount is recoverable.

29. RISK MANAGEMENT (CONTINUED)

MARKET RISK

INTEREST RATE RISK

Changes in interest rates will affect the revenue from exchange transaction revenue stream as the return on investment of surplus funds is linked to the prime rate.

CASH FLOW INTEREST RATE RISK

	(R'000)					
	Current interest rate	Due in less than a year	Due in one to two years	Due in two to three years	Due in three to four years	Due after five years
FINANCIAL INSTRUMENT						
Cash reserves at Standard Bank	-%	–	–	–	–	–
Cash reserves at CPD (SARB)	8.25 %	–	–	–	–	–

FOREIGN EXCHANGE RISK

The economic entity does not hedge foreign exchange fluctuations.

The economic entity reviews its foreign currency exposure, including commitments on an ongoing basis.

30. EVENTS AFTER THE REPORTING DATE

Subsequent to year end the Agency received advice of a labour matter referred to the Labour Court. This related to a matter concluded prior to year end, and accordingly has been disclosed within the annual financial statements. Refer to note 26 for contingency disclosure.

31. FRUITLESS AND WASTEFUL EXPENDITURE

	(R'000)			
	Economic entity		Controlling entity	
	2024	2023	2024	2023
Current year	–	–	–	–

32. IRREGULAR EXPENDITURE

	(R'000)			
	Economic entity		Controlling entity	
	2024	2023	2024	2023
Irregular expenditure	3,456	19,217	3,456	19,217

NARRATIVE

Controlling entity: 2024: An agreement was signed between the Agency and the shareholder (DSI) on 29 September 2021, relating to the SIIP programme with a commitment of R43.5m over a 3 year period. It was subsequently noted that various projects totalling R23.7m were approved outside of the Agency's Delegation of Authority resulting in irregular expediture. The amount comprises R1,9m in relation to the 2023/24 finacial year, R14,7 m in relation to the 2022/23 financial year and R7m in relation to the 2021/22 finacial year. The comparative for 2022/23 financial year as discussed above has been restated to include the additional irregular expenditure of R14,7m. Necessary controls have been implemented to ensure that this is not repeated. The matter is currently under review by Internal Audit for further action in line with irregular expenditure guidelines.

32. IRREGULAR EXPENDITURE (CONTINUED)

During the current year, the Agency undertook the procurement of IT licenses and the services of a labour expert totaling R1.472m through a limited bidding procurement process. This was undertaken by management following due consideration of the procurement and requirements by the Agency. The auditors' consideration differed from management with a view that competitive quotes could be obtained. This matter is subject to investigation further internally in line with irregular expenditure guidelines.

33. SEGMENT INFORMATION

GENERAL INFORMATION

IDENTIFICATION OF SEGMENTS

The economic entity is organised and reports to management on the basis of four major functional areas and administration: Bio-economy, Commercialisation, Strategic Engagements and Corporate Relations and Administration. The segments were organised around the type of service delivered and the target market within the National System of Innovation. Management uses these same segments for determining strategic objectives. Segments were aggregated for reporting purposes. The segments have changed from the prior financial year as the current mechanism of reporting is more accurate and aligned to the new 5-year strategic plan.

Information reported about these segments is used by management as a basis for evaluating the segments' performances and for making decisions about the allocation of resources. The disclosure of information about these segments is also considered appropriate for external reporting purposes.

SEGMENT SURPLUS

CONTROLLING ENTITY – MARCH 2024

	(R'000)					
	Bio-Economy	Commer-cialisation	Innovation Enabling	Technology Stations Programmes	Administration and strategic engagements	Total
REVENUE						
Revenue from non-exchange transactions	232,187	82,909	80,264	126,652	82,352	604,364
Interest received	–	–	–	–	22,159	22,159
Other Income	87	38,108	3,194	–	12,257	53,646
TOTAL SEGMENT REVENUE	**232,274**	**121,017**	**83,458**	**126,652**	**116,768**	**680,169**
ENTITY'S REVENUE						**680,169**
EXPENDITURE						
Employee related costs	29,046	13,837	27,029	2,515	51,712	124,139
Project funding expenditure	210,910	106,242	61,573	123,531	–	502,256
Other operating expenditure	11,873	830	1,236	606	51,506	66,051
TOTAL SEGMENT EXPENDITURE	**251,829**	**120,909**	**89,838**	**126,652**	**103,218**	**692,446**
TOTAL SEGMENTAL SURPLUS						**(12,277)**

33. SEGMENT INFORMATION (CONTINUED)

CONTROLLING ENTITY – MARCH 2023 (RESTATED)

	(R'000)					
	Bio-Economy	Commer-cialisation	Innovation Enabling	Technology Stations Programmes	Administration and strategic engagements	Total
REVENUE						
Revenue	283,145	112,017	110,636	147,575	87,714	741,087
Interest received	139	–	–	–	14,959	15,098
Other income	712	32,220	–	–	–	32,932
TOTAL SEGMENT REVENUE	**283,996**	**144,237**	**110,636**	**147,575**	**102,673**	**789,117**
ENTITY'S REVENUE						**789,117**
EXPENDITURE						
Employee related costs	31,800	19,176	17,608	2,850	44,478	115,912
Project funding expenditure	242,537	104,055	87,326	144,724	–	578,642
Other operating expenditure	1,259	5,099	242	–	51,581	58,181
TOTAL SEGMENT EXPENDITURE	**275,596**	**128,330**	**105,176**	**147,574**	**96,059**	**752,735**
TOTAL SEGMENTAL SURPLUS						**36,382**

34. BUDGET DIFFERENCES

MATERIAL DIFFERENCES BETWEEN BUDGET AND ACTUAL AMOUNTS

The following outlines differences between budget and actual amounts which are greater than R1.5 million.

A. Other income
Following commercialisation of additional projects in the year, further royalty income was accrued based on contractually agreed terms. In addition, the Agency realised an amount of R38.1m on the exit of a previous investment.

B. Interest received
Additional interest was earned on surplus funding due to management of surplus funds in the SARB account.

C. Specific contracted income
Following fiscal pressure, the Agency received advice of a reduction in the MTEF allocation of R0.7m for the 2023/24 financial year.

During the period, additional funding was availed by the shareholder (DSI) through specific contracted programmes resulting in the increase in funds managed and disbursed.

D. Employee related costs
Employee costs were lower than budget. This is attributable to both a higher vacancy ratio and savings that were realised as vacancies were filled later than anticipated.

E. Project expenditure
Additional project expenditure was recorded during the year as a result of an increased number of specific contracted programmes managed during the period compared to budget.

F. Depreciation
A lower than budgeted depreciation and amortisation expense was recorded as a result of both lower amortisation due to software developments still in progress at year end as well as from overall revision of the useful lives aligned to GRAP Standard requirements.

34. BUDGET DIFFERENCES (CONTINUED)

G. Other operating expenditure
During the period, the Agency incurred legal costs towards the recovery of funds over a disputed settlement. Further increases were noted in regard to consulting and professional fees incurred as well as travel costs incurred during the year.

35. RECLASSIFICATION OF PRIOR PERIOD

During the current year, provision for employee benefits were separately disclosed on the Statement of Financial Position (refer Note 13). The prior period was restated to ensure comparability, and the Statement of Financial Position accordingly restated. The prior year provision for employee benefits is R7.5m which was previously included within Note 15 Paybles from exchange transactions. This restatement does not have any effect on the Statement of Financial Position outside of classifications within current liabilities. Furthermore, this restatement has no impact on the Statement of Financial Performance, Statement in Changes in Net Assets or Statement of Cash Flows.

36. PRIOR PERIOD ERROR

INCORRECT CLASSIFICATION OF SHAREHOLDER LOAN:

The Agency previously incorrectly classified a shareholder loan (other financial asset) as a loan and other receivable. This has been reclassified as an other financial asset in the current year financial statements in line with GRAP 104. Refer below for impact.

ECONOMIC AND CONTROLLING ENTITY

	(R'000)		
	Balance before restatement	Net Change in prior period balance	Balance after restatement
STATEMENT OF FINANCIAL POSITION			
Loans and other receivables	50,356	(23,300)	27,056
Other financial assets	3,000	23,300	26,300

INCORRECT DISCLOSURE OF CONDITIONAL GRANTS AS FINANCING ACTIVITIES:
The Agency previously incorrectly classified movements in regard to exchange transaction in respect of conditional grants as financing activities. These movements should ordinarily have been classified as movements within operating activities in line with the GRAP 2 standard relating to the Statement of Cash Flows. The Statement of Cash Flows has been accordingly been restated to reflect this change. This has an overall nil impact on the Statement of Financial Position, Statement of Comprehensive Income and Statement of Changes in Net Assets.

INCORRECT RECOGNITION OF INTEREST RECEIVED ON SPECIFIC CONTRACTS:
The Agency previously incorrectly classified interest received from investment of unspent conditional grants as Grants within the cash flows from operating activities instead of interest received in line with GRAP 2 standard relating to the Statement of Cash Flows. The Statement of Cash Flows has been accordingly been restated to reflect this change. This has an overall nil impact on the Cash flows from Operating Activities within the Statement of Cash flows and further has no impact on the Statement of Financial Position, Statement of Comprehensive Income and Statement of Changes in Net Assets.

36. PRIOR PERIOD ERROR (CONTINUED)

ECONOMIC AND CONTROLLING ENTITY

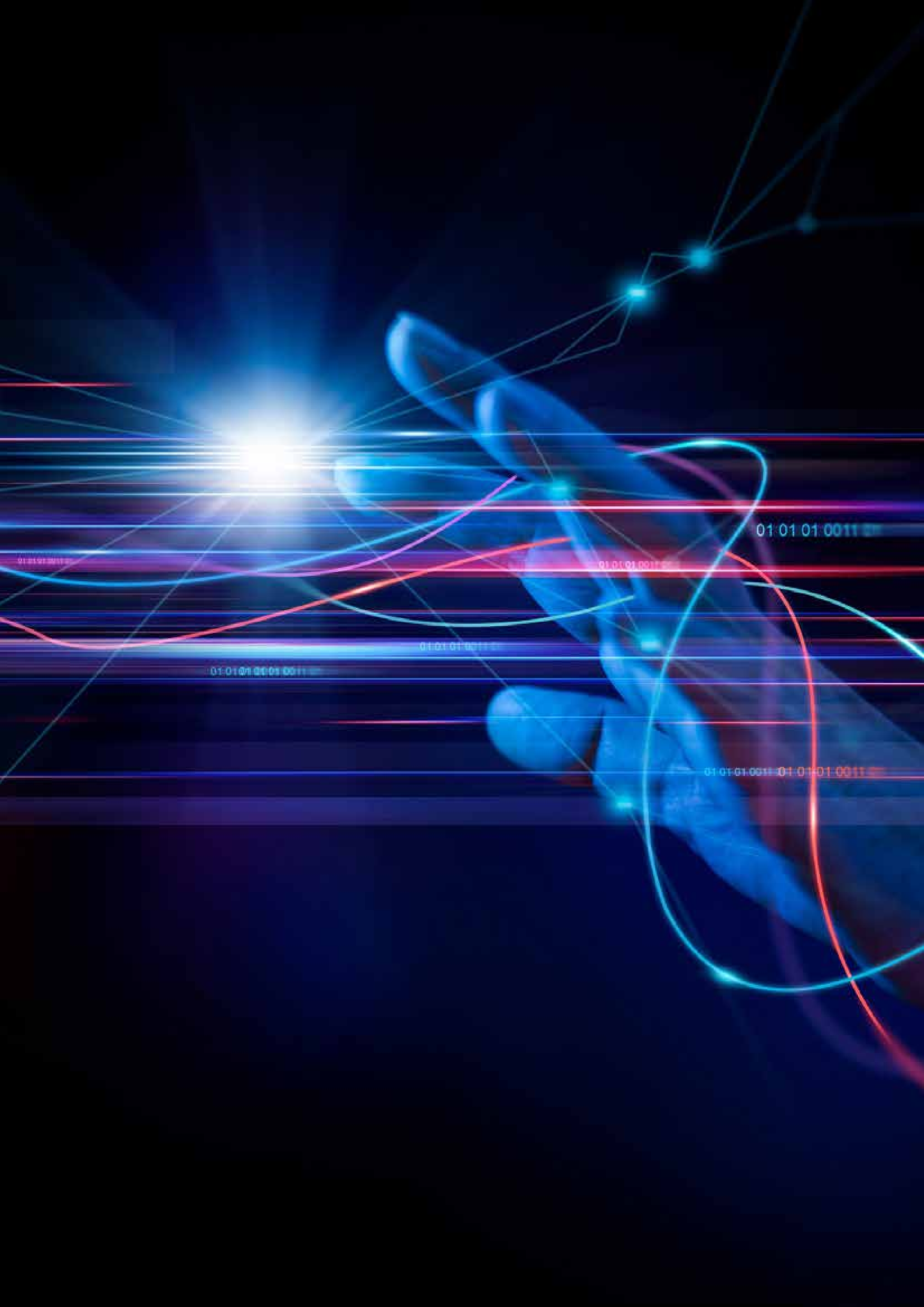
	(R'000)		
	Balance before restatement	Net Change in prior period balance	Balance after restatement
CASH FLOW STATEMENT			
Cash flow from operating activities			
Grants	727,226	(37,373)	689,853
Interest Received	14,959	21,473	36,432
	742,185	**(15,900)**	**726,285**
Cash flow from operating activities			
Reallocation of conditional grants	(15,900)	15,900	–

CORRECTION OF RECOGNITION OF SPECIFIC CONTRACT FUNDING

During the prior year, the Agency did not recognise income in respect of specific contract disbursements. This further resulted in an overstatement of the unspent conditional grants liability balance. The effect of the adjustments is as follows:

ECONOMIC AND CONTROLLING ENTITY

	(R'000)		
	Balance before restatement	Net change in prior period balance	Balance after restatement
STATEMENT OF FINANCIAL POSITION			
Current liabilities – unspent conditional grants	291,265	(14,781)	276,484
Net assets	125,021	14,781	139,802
STATEMENT OF FINANCIAL PERFORMANCE			
Revenue	727,226	13,861	741,087
STATEMENT OF CHANGES IN EQUITY			
Balance as at 01 April 2022	102,503	920	103,423
Balance as at 01 April 2023	125,024	14,781	139,805
CASH FLOW STATEMENT			
Net cashflows in operating activities	12,561	(13,861)	1,300


01 01 01 0011

GAUTENG HEAD OFFICE

+27 (0) 12 427 2700

Postal Address
P.O. Box 172
Menlyn
Pretoria
0181

Physical Address
TIA House
83 Lois Avenue
Menlyn
Pretoria

KWAZULU-NATAL OFFICE

+27 (0) 31 220 3101

Postal Address
P.O. Box 30603
Mayville
Durban
4058

Physical Address
4th Floor
102 Stephen Dlamini Road
Musgrave
Durban

WESTERN CAPE OFFICE

+27 (0) 21 442 3780

Postal Address
P.O. Box 13372
Mowbray
Cape Town
7705

Physical Address
Unit 10, Ground Floor
Old Warehouse
Black River Business Park
1 Fir Road, Observatory
Cape Town

tiaorgza

@tiaorgza

www.linkedin.com/company/
technology-innovation-agency

science & innovation
Department:
Science and Innovation
REPUBLIC OF SOUTH AFRICA

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