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FROM THE DESK OF THE CEO

The end of March marked the fiscal year end for TIA. In 2022/23 the operating environment in South Africa remained challenging. The climate challenges such as the floods in KwaZulu-Natal and the sustained increase in loadshedding have added pressure to an already fragile economy. Despite all these challenges it was gratifying to see TIA continue to play significant role in bridging the innovation chasm, as a connector, facilitator, active funder and enabler. We remain committed to helping the country address various challenges and support the business community as innovation is a key enabler for national progress.

uYilo 10TH ANNIVERSARY

uYilo e-Mobility Programme celebrates a decade of enabling and facilitating the ecosystem for electric mobility in South Africa. The programme was established in March 2013 as a TIA initiative with the focus of mobilising the transition to electric mobility in South Africa. uYilo was established as a multi-stakeholder, collaborative whose facilities are headquartered in Gqeberha.

TIA would like to congratulate the management, staff, and stakeholders who have been involved, in varying degrees, with uYilo over the past 10 years. Investing in uYilo was an ambitious forward-thinking undertaking which has paid off for all parties involved. E-mobility represents an important core pillar of the Just Energy Transition. Our Strategic Plan 2020-2025 articulates a long-term vision to elevate the role of TIA and increase its impact in the National System of Innovations (NSI) through strategic multi-stakeholder innovation programmes in various areas that will respond to national policy priorities. Through continued investments in uYilo, TIA is committed to supporting the growth of this industry, collaborating with all key partners in the NSI.

ANNUAL PERFORMANCE PLAN 2023

I am pleased to announce that the Board and Exco of TIA presented the Annual Performance Plan (APP) for 2023/24 to the Portfolio Committee on Higher Education, Science, and Innovation. The TIA APP 2023/24 represents the fourth year of implementation of the Strategic Plan 2020-2025 and thus the last of the two years in the strategic planning cycle. An analysis of TIA's mid-term performance shows that TIA is on track to achieve its outcome targets regarding technologies commercialised, bio-based technologies demonstrated and bio-based entrepreneurs and organisations accessing high-end science, engineering and technology (SET) services. The TIA Ministerial Review process has, thankfully been concluded. The report of the expert panel contains many insights that are important for positioning TIA strategically within the NSI into the future. This APP therefore has been developed with due consideration of some of the important issues identified in the Review report. It is acknowledged, however, that many of the recommendations will form an important task for the organisation and the Board in the year ahead. The APP has 19 outputs, I encourage and implore colleagues to take ownership of these and work hard at ensuring the agency delivers on these key areas of delivery.

STAKEHOLDER ENGAGEMENT

TIA recognises the importance of proactive engagement with our key stakeholders and is committed to robust, consistent and transparent engagement. When TIA is viewed as transparent and accountable to stakeholders, it builds trust and credibility and maximises its legitimacy. Improving our understanding of their

needs, interests and expectations provides input into how we approach our business activities, identifies risks and opportunities, and helps us to adapt to social, technological, and economic changes.

In the last financial year, TIA conducted a stakeholder survey aimed at assessing the level of satisfaction with the organisation's service offerings, the level of awareness of the TIA brand in the market, and overall strategic positioning in the NSI. The agency achieved a score of 7 /10 on the customer satisfaction survey. This is a good score for the agency, but still leaves room for improvement. From the results, a roadmap will be created to assist the agency to achieve its desired reputation level. I extend a word of appreciation to our stakeholders for their participation and honest feedback in the customer satisfaction survey.

As we conclude the 2022/23 financial year, I take this opportunity to extend a word of gratitude to all TIA employees for their commitment and to our stakeholders for their continued support in ensuring TIA delivers on its mandate.

I hope you enjoy this edition of the newsletter.

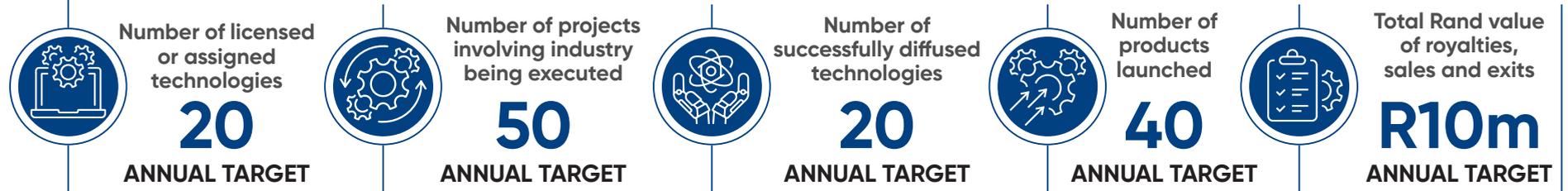


Patrick Krappie, ACEO

ANNUAL PERFORMANCE PLAN 2023/24

OUTPUTS

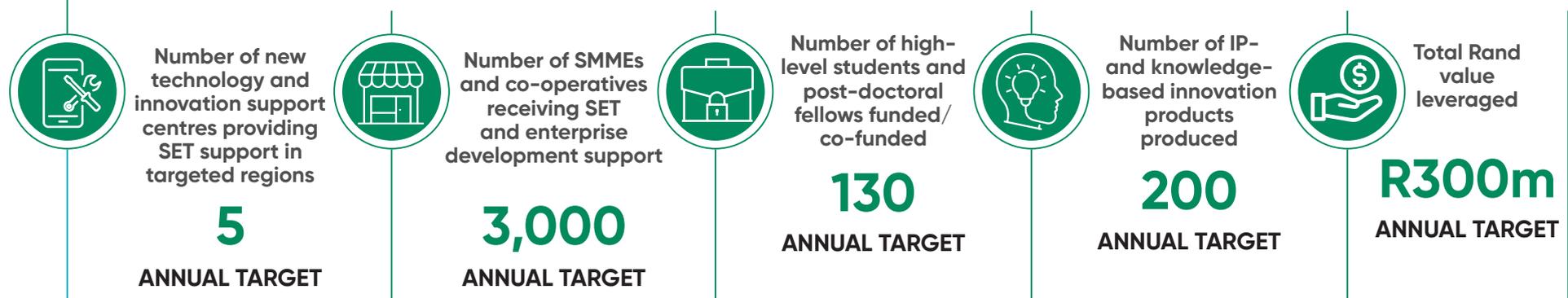
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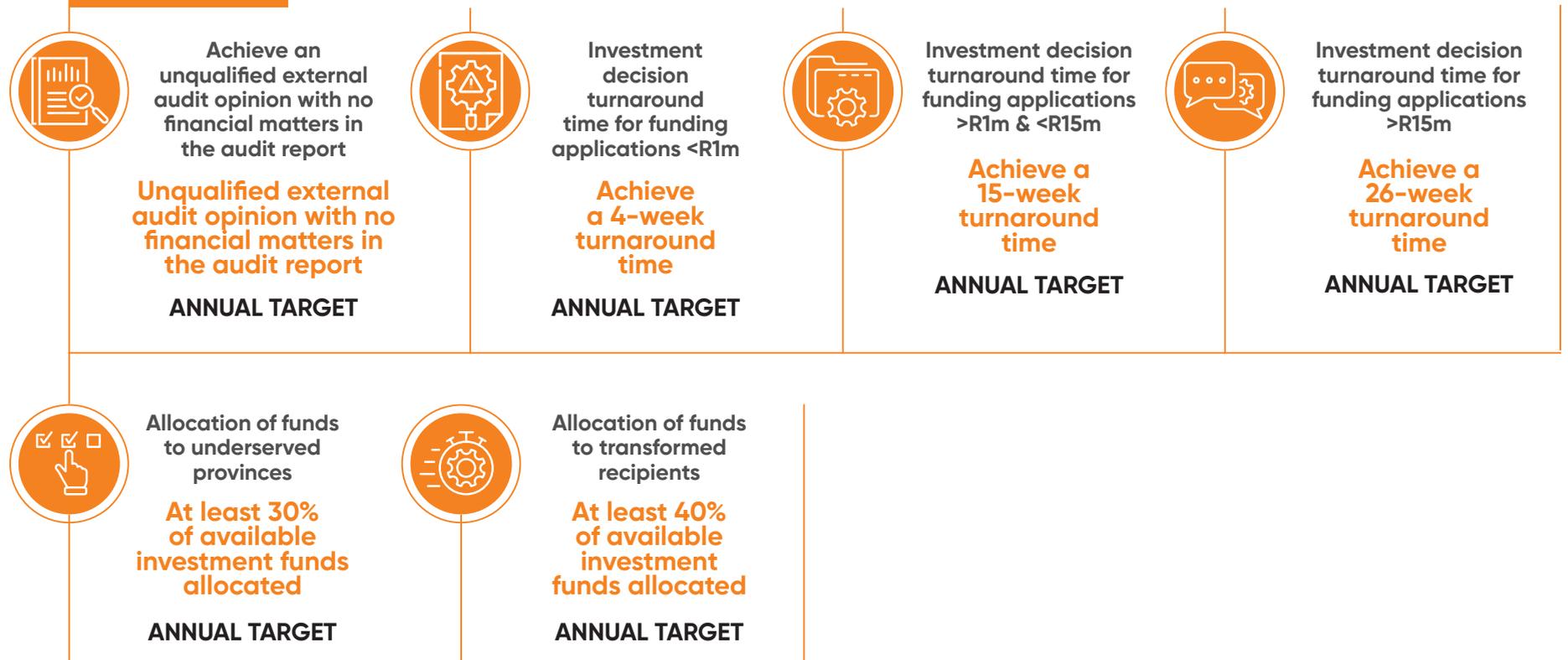
OUTCOME 2



OUTCOME 3



OUTCOME 3



10 YEAR MILESTONE FOR UYILO E-MOBILITY PROGRAMME



UYilo e-Mobility Programme celebrates a decade of enabling and facilitating the ecosystem for electric mobility in South Africa. The programme was established in March 2013 as a TIA initiative with the focus of mobilising the transition to electric mobility in South Africa. uYilo was established as a multi-stakeholder, collaborative whose facilities are headquartered in Gqeberha, with a corporate office in Johannesburg

"TIA would like to congratulate the management, staff, and stakeholders who have been involved, in varying degrees, with uYilo over the past 10 years. Investing in uYilo was an ambitious forward-thinking undertaking which has paid off for all parties involved," says Mr Patrick Krappie, Acting-CEO of TIA.

"As a national programme, uYilo has made significant contributions, from enterprise and skills development, to wider market-enabling initiatives on policies, regulations, and standards in reducing market barriers for technology uptake. This aligns with the strategic approach of leveraging partnerships and collaborations that has seen TIA invest in more than just specific projects but make an impact in economic value chains and ecosystems."

"The energy and e-Mobility landscape has changed significantly in the past ten

years, and we are proud to have made an investment into the ecosystem, infrastructure and skills development that will see South Africa compete on an equal footing with similar economies. E-mobility represents an important core pillar of the Just Energy Transition. Through continued investments in uYilo, TIA is committed to supporting the growth of this industry, working with all key partners in the NSI" says Krappie.

The uYilo e-Mobility Programme has created wide networks and built relationships within the e-Mobility and related industries in South Africa and internationally, to encourage robust growth focused on utilising local resources, and creating critical skills within this dynamic new industry.

"There have been many developments and great strides that have taken place in the past decade," says uYilo Director, Hiten Parmar. "Much of the advancement and development of this fast-evolving industry has taken place behind the scenes. The groundwork in both the private and public sector has required consultation and knowledge development on every level, in order to lay the foundation for this diverse industry that will affect and inform our lives for generations."

"uYilo has achieved significant milestones in this past decade, establishing an accredited battery testing laboratory, providing

materials testing and characterisation services, and a live testing environment for electric vehicles within the smart grid ecosystem. We have also provided opportunities for more than 45 interns over this period, providing them in-service industry training," says Parmar.

"Another highlight is the annual uYilo Kick Start Fund which focuses on growing local products and services in the e-Mobility space towards their commercialisation, with the aim of growing the local e-Mobility industry." The Kick Start Fund has played a key role in the development of new e-Mobility ventures currently serving the active electric vehicle market.

"A vital aspect of the transition to e-Mobility is establishing local competence, expertise and industry so that we are not solely reliant on imports - and that locally manufactured products and services find acceptance in international markets. South Africa cannot be an exporter of raw materials and an importer of finished product. In order to boost local employment and investment, we need to encourage and enable local industry, creating our own e-Mobility ecosystem," says Parmar.

The development and success of uYilo over the past decade is testament to the critical role TIA plays as an Industry Builder. Industry Builders focus on transforming an economy by supporting the development of new sectors or technologies and e-mobility is one such sector.



ENVIRONMENTALLY FRIENDLY INNOVATIONS WIN BIG AT GCIP AWARDS



E-Waste Africa, a small KwaZulu-Natal business specialising in electronic waste, scooped the coveted Global Cleantech Innovation Programme-South Africa (GCIP-SA) award on Friday, 17 March. The company is headed by CEO Pravashen Naidoo.

Zandile Magwaza (iSolar company), Robert Bosch (Rubber Nano Products) and Nkanyiso Madlala (Hello Gugu) were the first, second and third runners-up.

The GCIP-SA is part of a global initiative aimed at promoting clean technology innovation and supporting entrepreneurs to grow their SMMEs and start-ups into viable, investment-ready businesses. It is implemented and managed by TIA.

The programme offers training, mentoring, showcasing opportunities, access to capital and cash awards to innovators with clean technology innovations.

The award ceremony celebrated 12 finalists who made it through the rigorous selection process, all entrepreneurs who have excelled in the development of sustainable technologies.

Delivering the keynote address, the Deputy Minister of Higher Education, Science and Innovation, Buti Manamela, said the Department identified three societal grand challenges in its Decadal Plan, namely, climate change and environmental sustainability; the future of education, skills and work; and the future of society.

"Our Decadal Plan also recognises that the circular economy will bring new economic growth to South Africa. Cleantech will assist in the transition to a low-carbon economy and the sustainable use of natural resources in economic sectors," said the Deputy Minister.

He added that the Global Cleantech Innovation Programme resonated with South Africa's strategic priorities and this is why the Department of Science and Innovation was fully supportive of TIA's participation in this programme.

"As you may be aware, South Africa is one of 15 countries that are part of the global GCIP programme," he said.

The Deputy Minister also stressed that the Department saw the SMME sector as a strategic sector and had developed a number of instruments to support SMEs.

The winning company, eWaste Africa, is a waste management company that focuses on the storage, collection, transportation, recycling and beneficiation of electrical, electronic and lighting equipment waste (electronic waste). The company operates two licensed waste management facilities in KwaZulu-Natal and Gauteng, managing recycling and refurbishment, among other services.



The acting CEO of TIA, Mr Patrick Krappie congratulated the finalists for their innovations. "We have here, twelve creative innovators and entrepreneurs who are creating solutions for challenges such as climate change, greenhouse gas emissions among others. It is important for stakeholders in the National System of Innovation under the visionary leadership of the DSI to support initiatives such as the GCIP.

TIA was established with the objective of supporting the state in stimulating and intensifying technological innovation to improve economic growth and quality of life for all South Africans. In making the right investments at the right time, we can ensure that our industries, including the whole industrial value chain remain sustainable otherwise we run the risk of being obsolete and exacerbating challenges such as unemployment. SMEs are critical to the development of new sectors as they play an important role in the socio-economic stability of the country," he said.

The first runner-up, iSolar, is a start-up dedicated to increasing the provision of clean energy in low-income communities. The company designs, develops and provides turnaround strategies for informal settlements, an important sector of society that remains marginalised.

Focusing on old rubber, among other things, Rubber Nano Products, the second runner-up, is a chemical technology company, specialising in ionic liquid technology. The company's intellectual property allows them to vulcanise rubber with energy savings and eliminate toxic components. They are now able to re-vulcanise old rubber, so that it has similar properties to new material.

The lack of lighting in poor communities, which makes them vulnerable to crime, was the inspiration for Hello Gugu, the third runner-up. The company addresses the public lighting challenge with solar power, at the same time allowing homes to generate clean energy for internet connectivity.

E-Waste Africa won R300 000, while the runners-up each received R100 000. The remaining finalists received special awards to the value of R50 000 each. The winner and selected start-ups from the finalists will attend the global GCIP forum in Vienna, where they will compete with other participating GCIP countries.

Since inception in 2014 GCIP-SA has supported 170 start-ups. In the last GCIP Global Forum in Vienna, Austria, South African GCIP start-ups won three of the five categories and the global winner was Simon Hazell of Inseco.

TIA WELL REPRESENTED AT MINING INDABA



In 2022, the total revenue of South Africa's mining industry was R747 billion rand. The mining industry in South Africa has seen a doubling of its industry revenue in the past five years. South Africa is a major producer of several key mineral commodities, particularly platinum group metals. Innovation was a key enabler for achieving sustainable growth and meaningful transformation in the SA mining industry.

TIA participated in the 2023 edition of the African Mining Indaba in February. The Mining Indaba was opened by President Cyril Ramaphosa to an audience of representatives from 104 countries including mining companies, investors and 91 Ministers and Ambassadors from 45 Countries. The TIA delegation was made up of Mr Brian Mphahlele, Executive Commercialisation, Mr Daya Naidoo, Head: Natural Resources and Ms Nqangi Mjimba, Portfolio Manager, Natural Resources.

The Mining Indaba is an annual event held at the Cape Town International Convention Centre. The conference has established a unique and widening perspective of the African mining industry, bringing together visionaries and innovators across the entire value chain.

In his opening address, President Ramaphosa said, "Mining has been the bedrock of African economies for millennia, and it continues to play a pivotal role in development and industrialisation across the continent. In the global drive towards sustainability, the mining sector has a particularly important role to play, requiring it to be responsible, agile, and innovative. The mining sector is an important

contributor to job creation and retention, accounting for close to half a million direct jobs and close to a million indirect jobs."

One of the key areas where South Africa can maximise its potential for economic growth is the beneficiation of its extracted minerals. TIA has numerous mining innovations in its portfolio that would benefit from market exposure among industry players in the mining sector. The participation of TIA at the Mining Indaba was based on the agency playing its role as connector and enabler to assist these innovations to gain market exposure at the Mining Indaba.

Mining is a priority thematic area in the DSI Decadal plan, TIA as an implementing agent, needs to prioritise innovations that will enhance the economic competitiveness of the SA mining sector. Through supporting innovation and the development of local intellectual property, South Africa can transform from a resource-based economy to a knowledge economy. TIA has a critical role to fulfil as an Industry Builder. Industry Builders focus on transforming an economy by supporting the development of new sectors or technologies.

The current Medium-Term Strategic Framework (MTSF) is the prevailing overarching government framework for the socioeconomic transformation of South Africa (SA). It identifies technological innovation as one of the critical policy areas required to accelerate growth and transform the economy to create decent work and sustainable livelihoods. TIA initiatives are aligned to this framework on outcomes such as the protection and enhancement of

the country's environmental assets and natural resources.

The Natural Resources sub-programme of TIA supports national efforts in ensuring water security and environmental sustainability, it also plays a role in maintaining a competitive natural resource sector for the country with specific focus on the mineral resource extraction and exploitation value chain. This entails supporting the development of innovative technologies that minimise impact on the environment. The programme supports technologies to improve process efficiencies in the extraction and exploitation of natural resources (mining). These would also reduce worker exposure to hazards while maintaining a competitive natural resources sector.

Energy was one of the key topics at this year's Mining Indaba. This was linked closely to the overarching theme of "Unlocking African Mining Investment: Stability, Security, and Supply". In addition to the loadshedding crisis currently challenging the South African economy, which is impacting the mining sector – dialogue centred around the security of critical minerals needed to fuel green transition of energy.

Digitalisation has become a feature of most South African mining operations. Although the degree of digitisation and automation varies from mine to mine, there have been positive reports on the benefits of digitisation. Modern, underground digitised mining equipment promises improved safety and productivity in both established digitised coal operations and hard-rock operations where innovative technology is being introduced. Mining digitisation has shown positive results on health and safety in the working environment, increased productivity, and improved profitability.

TIA aims to increase the rate of translation of locally developed technologies; exploit intellectual property to ensure that these are commercialised in a manner that promotes economic growth and the competitiveness of industry. This entails leveraging local and global partnerships to support the translation of knowledge into commercialised innovations. Some examples of these are investments by TIA into innovations such as Stone Three Digital, Blue Cube and Trailblazer.

Through various funding and support instruments, TIA fulfils its mandate by bridging the gap between research and development and the ultimate commercialisation of South African Innovations and in turn contribute to economic growth. Innovation in the mining industry is key to sustained growth and global competitiveness and TIA is well positioned to play a role in commercialising innovations in mining.

PENPLAY WHARTELS EDTECH INNOVATION CHANGES HOW MATHS IS TAUGHT

Various studies and statistics show that South African learners struggle with maths and have poor maths results. This has led to experts believing that maths is in crisis as it is a gateway subject for higher education and career options which are vital for any country's economic development and growth.

TIA launched PENPLAY's Whartels Let's Really Play Maths franchise in March. The Whartels EdTech was funded and supported by TIA. The launch included a demonstration of the Whartels™ learning technology.

The technology was developed by Dr Petro Erasmus with support from the TIA SEED Fund through the North West University – Innovation and Technology office. Based on her research, Dr Petro Erasmus created Maths Whartels to improve students' maths achievement. It includes techniques used in play therapy, such as board games, as well as an app, to optimise learning and understanding.

The WHARTELS™ content, board games, and puppets engage children to improve cognitive learning skills in creativity, literacy, numeracy, and emotional intelligence. By using the newest technology, the programme aims to facilitate self-directed learning by changing the learner's mathematical mindset by including principles used in play therapy to optimise learning and understanding.

"In maths we believe everybody has a maths story and not all maths stories have a happy ending. My research started with Grade 3-5 children in peri-urban and rural schools to see what could be done differently to change maths stories. We found that language was not the problem, while it was a factor, there was more to it. In my PhD, we then started looking at the predictors of maths achievement and we found that study orientation, maths anxiety, emotional intelligence, resilience and coping strategies were crucial factors," said Dr Petro Erasmus, creator of the PENPlay Whartels Programme.

To develop the programme, we relied on the power of play. We are adding on virtual and augmented reality and apps that people can download. The dream is to be able to expand the program so that we can train and empower communities who have no access to therapists, skilled teachers, or facilities to run their own Whartels centres. While doing this, they can keep the kids off the streets and help develop the innovation skills so that South Africa can create the solutions the world needs," she concludes.



The EdTech element of the Whartels programme will have a vital data generation back-end that will track the progress of each child who uses the program. This data can then be tracked and collected by parents, principals, the Department of Education and any role player with an interest in the progression of maths development.

Dr Janine Chantson, Chief Director Technology Transfer and Innovation Support at North West University congratulated Dr Erasmus. "Dr Erasmus has been able to develop intellectual property in the form of copyright and trademark. As an innovator, Dr Erasmus has done very well in finding co-development partners, test cases in her practice and in the schools she works with. It has been a pleasure to watch the idea grow into an innovation that will grow into a sustainable business while making an impact to South Africa and the world.

"TIA is very proud of the work that Dr Erasmus has done. This is a solution that will help us deal with a number of challenges our country faces. One of the things our science, technology and innovation system requires is graduates in maths and science who, in future, can develop various solutions that will address our societal challenges. Today is not just about celebrating this innovation but to celebrate a solution to one of our country's deepest challenges, the performance of our students in maths and

science. This innovation is in the broader context of a challenge that everybody in government and society is worried about, says Mr Patrick Krappie, Acting CEO of TIA.

"Solutions that make a great impact do not always need vast amounts of money to develop but they require human ingenuity to take the little we have to produce impactful solutions. The funding that Dr Erasmus received from TIA was small, but what she has produced with that funding is amazing. We would like to also acknowledge the partners who have supported Dr Erasmus in the journey of developing this solution, including the North West University, MINDMUZIK, Loughborough University. This is a South African innovation that has found application in markets in the developed world," he concluded.

The programme is currently available in Setswana and English, with the aim for it to be available in all the South African official languages.



NEW ALOE FEROX BASED COSMETIC PRODUCTS TO BOOST AGROPROCESSING SMMES



Seymour in the Eastern Cape is no exception.

TIA partnered with the CSIR to handover six newly developed Aloe Ferox based cosmetic products to three agribusinesses and community enterprises of Seymour. The six cosmetic products, face wash, body lotion, hand cream, hand wash, hair food and hair spray together with the developed technologies for the ingredients were transferred to three local enterprises who had been trained in the development and formulation of the products. These were handed over in February 2023, as part of the Agriculture Bioeconomy Innovation Partnership Programme (ABIPP) implemented by TIA.

Agroprocessing is viewed as a possible poverty alleviation tool for rural development in South African communities. Agroprocessing industries have the potential to make a significant contribution to the economic and social transformation of the country as several agroprocessing industries are labour intensive, which is an important factor in terms of job creation. This can be a tool for income generation and local economic development for rural settings. In various rural communities, unemployment and economic depression are rampant,

ABIPP is an instrument of the DSI, established to support the agricultural bioeconomy. It facilitates, coordinates and funds multi-institutional, multi-stakeholder and co-funded agricultural bioeconomy initiatives contributing to increased productivity, food security and rural economic development. The programme is implemented by TIA in collaboration with partners and stakeholders in industry, research, and academia.

The Aloe Ferox product and process development' was managed by the CSIR and is part of the post-harvest small scale

farmers technology diffusion ambit of ABIPP. As implementing agent of the ABIPP, TIA funded the CSIR to the value of R2,4m for the processing and the validation of the aloe ferox material. The aloe ingredient quality was tested to ensure regulatory compliance. The result is the development of quality compliant products that can be produced at commercial scale for sale in the formal markets.

Aloe ferox, called Ikhala in Xhosa, grows wild throughout the Eastern Cape and in parts of the Western Cape. The plant, also referred to as Cape Aloe has anti-microbial properties and has provided indigenous people with medicinal and cosmetic necessities for hundreds of years. Over the past two decades, this aloe has fuelled an interest in agro-processing and commercialisation of various derivatives from this plant.

The CSIR provided training to the local enterprises which included Agro-processing technologies, Aloe ferox processing, and cosmetic formulation development. Trainees received hands-on experience in material receiving, storage, washing, peeling, cutting, processing and drying into a gel powder. The trainees had the experience of developing cosmetic products using the Aloe ferox gel powder they had processed.

The training provided will ensure that the enterprises are able to process the plant material that grows wildly in their locality. The harvesting and tapping is done in partnership with the Provincial Environmental officials to ensure sustainable harvesting of the plant.

A total of 22 beneficiaries, including women and youth, from Seymour were trained on Cape Aloe processing and product formulation. These were from Nozulu Aloe Farming Cooperative, Ziyanda Enterprise, Karibu Construction & General Trading.

The success and growth on this initiative could spark significant economic growth, and employment for the Seymour area. This is in line with the White Paper on Science, Technology and Innovation which focuses on using science and innovation to accelerate inclusive economic growth, make the economy more competitive, and improve people's daily lives.



FIRST SAVCA VCFMP GRADUATES: THIS IS ONLY THE BEGINNING FOR VENTURE CAPITAL IN SA

In February, TIA, the SA SME Fund, and the Southern African Venture Capital and Private Equity Association (SAVCA), celebrated the graduation of the first SAVCA Venture Capital Fund Manager Programme (VCFMP) Cohort.

The VCFMP is a joint initiative between these three organisations and aims to increase the number of transformed and investable Venture Capital (VC) fund managers in South Africa, by providing technical assistance and ensuring capacity building, with the goal of driving an increased capital flow to the venture asset class in a manner that reflects the vibrant diversity of their joint entrepreneurial endeavours.

Ketso Gordhan; CEO of the SA SME Fund, shares his sentiments, "The SA SME Fund is proud to be part of this transformative initiative and would like to congratulate the VCFMP Cohort as they embark on their VC journey."

Thiru Pather; Principal at the SA SME Fund, adds, "Institutional investors should become confident in the return potential of the asset class. Purpose-driven investments can be extremely profitable, and the associated risks can be closely managed through robust asset allocation and portfolio diversification. Businesses that receive VC funding are already producing strong financial returns and are contributing towards job creation, poverty alleviation, and inclusive growth. All these case studies,



analysis reports and practical application exercises form part of the impactful VCFMP programme."

The programme boasted eight fund management companies comprising 29 individual representatives. These companies, namely Anza Capital, CapaciTech, Equate Advisory, IsimoVest VC Partners, Midzi Growth Fund, Strat Tech Capital, Seed South Capital and WZ Capital have all, after an intense but rewarding six months of commitment and determination, completed the programme – drawing the inaugural edition of the SAVCA VCFMP to a successful close.

Tshepiso Kobile, CEO of SAVCA, remarks, "The need for a programme of this nature is unarguable, given firstly, the crucial role that entrepreneurship plays as a driver of growth and innovation in our economy; and secondly, the role that the VC industry plays as a conduit for channelling funds to these entrepreneurs in a scalable manner. We, therefore, see it as SAVCA's role to capacitate VC managers to be in a better position to attract capital, both commercial and developmental, with a fuller appreciation of considerations that influence decision-making by these capital providers."

This mentoring and incubation programme forms part of a deliberate, strategic, and forward-looking plan to help realise and sustain the venture capital potential within the South African landscape. Specifically, the programme is an opportunity to highlight the industry's ambitious transformation initiatives, which include empowering black-owned and managed fund managers – especially female managers – to thrive and help create inclusivity and gender equality within the sector.

Dr. Vuyisile Phehane, Bio-Economy Executive at TIA, shares his view, "Diversity, equity and inclusion in South Africa's Venture Capital industry is key to its promotion. The transformation of the VC industry, to include a diverse selection of candidates, with a particular focus on female representation in investment by Limited Partners, is an outcome that TIA hopes to help achieve. The potential for greater returns from diverse representation is one that needs to be

realised within the South African economy, so that we can close the gap in comparison to more progressive economies."



Sybil Kekana, VCFMP Cohort representative, says this about her experience in the programme, "The VCFMP offered us a wealth of industry knowledge and opportunities for growth. In particular, the assistance with strategy formulation was invaluable. We also appreciate the opportunity that we had to attend the SAVCA VC Conference 2022 as panellists, where we were able to contribute to knowledge building and insights that will help shape the industry going forward."

Although members of the inaugural VCFMP Cohort have their work cut out in the years ahead, the programme's provision of rigorous skills development, in the form of workshops, masterclasses, one-on-one mentoring, and access to accredited subject matter experts and service providers, have already launched these managers to impressive standards – strongly positioning them to make an impact from an economic-growth perspective.

By uplifting our entrepreneurs, we empower the South African economy. We are proud of how the VCFMP has taken these fund managers that much closer to doing just this.

PDTS TECHNOLOGY STATION DONATES SPECIALISED WHEELCHAIR

A viral video shared by radio personality Ayanda Msweli changed a young woman's life when she received a specialised wheelchair from the Centre for Rapid Prototyping and Manufacturing (CRPM) Technology Station at the Central University of Technology, in Bloemfontein.

Having seen the video and the challenges faced by the young woman, the Technology Station responded by offering to donate a specialised wheelchair to Thandeka Bukhosini who has lived with disabilities since birth. Her disability has had a negative impact on her day-to-day life as her mobility was confined to crawling, even to perform basic household chores. The Kwa-Mnqobokazi area in uMkhanyakude District in Northern KwaZulu where Thandeka lives is deeply rural and chores such as fetching water and cooking for herself were hard to do in her condition.

The specialised wheelchair donated to Thandeka is designed and built for rugged terrain, its wheels are sturdier than conventional wheelchairs. To propel the wheelchair, the user need not push from the back wheels as this wheelchair is propelled with a mechanism similar to a bicycle using one's hands.



The wheelchair was designed and developed at the Technology Station which is part of the Product Development Technology Station (PDTS) within TIA's Technology Stations Programme. This donation is an example of the diffusion of available technologies from TIA and supported initiatives to transforming the lives of South Africans for the better.

The wheelchair has done more than just improve Thandeka's mobility but has also enhanced her quality of life. Her family and neighbours were overjoyed by the gesture and donation from the CRPM and TIA. This will enhance not just Thandeka's wellbeing but also boost her sense of independence.

The PDTS is one of 18 Technology Stations managed and funded by TIA. These are based at 11 Higher Education Institutions in South Africa. Technology stations enable Universities of Technology (UoT) to provide technology development services to small and medium enterprises (SMEs). The Technology Stations provide innovative Science, Engineering and Technology (SET) solutions for complex engineering challenges within the relevant industrial sectors aimed at supporting government's socio-economic priorities.

VULAMANZ NOVEL WATER FILTRATION TECHNOLOGY PROVIDES CLEAN WATER FOR COMMUNITIES



Water scarcity is increasing and water quality in natural water bodies is decreasing due to progressive contamination. Accordingly, the challenge to treat water to potable water standards, and to reuse water, is ever increasing.

The VulAmanz Water Purification Microfilter ("VM"), is a novel water treatment filtration technology aimed at a decentralised water treatment for drinking water provision and the treatment of wastewaters for recycling and reuse. The VM requires no water treatment chemicals, is gravity-driven, extremely robust, easy to operate and maintain, and is potentially inexpensive and economically attractive. The VM technology is expected to have significant impact in markets that face challenges with water service delivery. This would also include the areas of recycling and reuse of existing scarce water resources.

The 'Proof of Concept' of the first two applications was successfully demonstrated. With funding from the DSI and the Water Research Commission (WRC) a point-of-use household water treatment filter was developed and demonstrated at 1025 households in rural areas of Limpopo and the Eastern Cape. In this application, the VulAmanz Rural Water Filter (VA-RWF) proved extremely successful with a high and sustained rate of user uptake and acceptance.

The second application was recently developed and demonstrated in a 'Seed-funding' project supported by TIA. This involved developing a larger-flowrate pressurisable filter that could treat, completely recover and reuse the filter backwash water from swimming pools, the VulAmanz Backwash Recovery Filter (VA-BRF).

The VulAmanz technology is primarily aimed at low-income rural households without access to safe, potable drinking water in their homes "on tap". These communities currently use water from rivers, streams, dams and rainwater tanks. Boiling water to drink requires fuel in the form of charcoal, firewood, electricity or gas, all at a significant cost. These end users therefore require easy access to low-cost safe potable drinking water in their home or close to their home.

By November 2022, VulAmanz units were diffused to Harry Gwala District Municipality

in KwaZulu-Natal, and Bofolo in Raymond Mhlaba Local Municipality in the Eastern Cape. The targeted pilot sites for this technology are households that require clean drinking water from a source of unclean water. The pilot units diffused to the various communities have been positively received and their impact will continue to be monitored.

Innovations funded and supported by TIA have demonstrated the TIA promise of making a positive impact on the lives of South Africans. The Innovation for Inclusive Development (IID) programme of TIA has also been instrumental to the diffusion of this technology to rural communities. The key function of IID is to respond to national and local government technology innovation needs and challenges through an inclusive, empowering deployment model that involves previously disadvantaged individuals and institutions, and SMMEs among others.





CELEBRATING YOUTH

**Innovating sustainable solutions to
improve the lives of South Africans**

Accelerating collaborations and opportunities to improve the lives of the youth



science & innovation

Department:
Science and Innovation
REPUBLIC OF SOUTH AFRICA



UPCOMING EVENTS

Event	Date
Africa Youth in Tourism Innovation Summit & Challenge	31 May – 2 June 2023
BIO International	5 – 8 June 2023
Eureka CSA Project Launch	14-June-23
TIA Regional & Stakeholder Engagement Roadshows	June 2023
Youth Green Indaba	28 - 30 June 2023
ISAG Conference	2-7 July 2023

**SAVE
THE
DATE**





Our Vision

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



Our Mission

To facilitate the translation of South Africa's knowledge resource into sustainable socio-economic opportunities.

Our Values



Teamwork

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



Integrity

We strive to do what we said we would, when we said we would do it.



Professionalism

We apply the most appropriate skills, competencies, experience and knowledge of best practices cohesively in conducting our work.



Transparency

We engage in inclusive open communication, and hold each other accountable for our performance and conduct.



Excellence

We will be accountable to all stakeholders to deliver exceptionally high standards of work and performance.



Innovation

We foster a culture where we continually nurture and implement new ideas from our staff and stakeholders that enhance how we do things and deliver services.