

ADDRESS BY THE MINISTER OF HIGHER EDUCATION, SCIENCE AND INNOVATION, DR
BLADE NZIMANDE MP ON THE OCCASION OF THE 2023 DEPARTMENT OF SCIENCE
AND INNOVATION BUDGET VOTE

23 May 2023

Honourable Chairperson;
Deputy Minister of Higher Education, Science and Innovation, Honourable Buti
Manamela;
Members of the Portfolio Committee on Higher Education, Science and Technology, led
by Honourable Chairperson, Ms Nompandolo Mkhathshwa;
Director-General of the Department, Dr Phil Mjwara;
The entire National System of Innovation;
Honourable Members

This is the 5th installation of the Department of Science and Innovation (DSI) budget
vote presentation in the 6th Administration.

The theme for our Budget Vote today is "Using science, technology and innovation to
grow our country and together resolve its challenges". In the current financial year, we
will continue to implement the STI Decadal Plan through the STI budget coordination
mechanism to build a capable State and contribute to South Africa's economic
recovery.

We will upscale the implementation of the Innovation Fund, in order to support the early
development and expansion stages of technology-based South African firms. We also
remain resolute to increase gross domestic investment in research and development as a
percentage of gross domestic product, with the aim of achieving the National
Development Plan's target of 1,5%.

Through the Hydrogen Society Roadmap, we have unlocked the potential of new sources
of clean energy to facilitate a just transition from a carbon-intensive to a carbon-neutral
economy. We have also registered the Hydrogen Valley Programme with Infrastructure
South Africa under Strategic Integrated Projects in December 2022.

Through the CoalCO₂-X project, we have supported a carbon capture and utilisation
technology, which captures carbon dioxide from flue gas and then converts it into a
fertiliser salt using ammonia. This technology was successfully demonstrated at a cement
plant in Limpopo this year January 2023.

To date, we have invested R50 million in this project, which has allowed local small,
medium and micro-enterprises (SMMEs) to put in place partnerships to demonstrate the
potential of flue gas conversion technology at the plant.

We will be finalising our Masterplan in the establishment of a National Solar Research facility that will support the development, commercialisation and deployment of solar-based technologies for application in both the solar power and fuel sectors in order to facilitate the movement of technologies from laboratory to market.

We are also reviewing our Water RDI Roadmap with a view of improving our investments for greater impact in the water sector. STI roadmap towards a circular economy, One of our major preoccupations is to develop an STI roadmap towards a circular economy, given the pressure of finite natural resources and sensitivity to global warming risks.

In support of our Indigenous Knowledge systems, we are leading the research, development and innovation pillar of the Cannabis Industrialisation Master Plan. A total of twenty (20) SMMEs received support for product development through the CSIR and its partners.

We are also piloting the recognition of prior learning (RPL) assessments through the University of KwaZulu-Natal, North-West University and the University of Venda in order to redress and levelling the imbalances of the past where indigenous knowledge was not regulated nor recognised by our laws.

We are supporting several national demonstration and upscaling incubation facilities hosted by the CSIR Through the Strategic Industrial Bioinnovation Partnership Programme. Our Research, Development and Innovation (RDI) partnership with the Minerals Councils South Africa continues to receive R65 million from our Department and R32,5 million from the Minerals Council South Africa per annum.

I am delighted to report that through the Agriculture Bioeconomy Innovation Partnership Programme (ABIPP), we have supported agroprocessing in rural communities and farmer development programmes benefited a total of 845 black emerging farmers in 2021/22.

We are also supporting the honeybush project and the marula value chain project in partnership with the Industrial Development Corporation and Technology Innovation Agency. We have also carried out innovative strategies to promote agroprocessing, such as nixtamalization targeting women, youth and people with living with disabilities in Limpopo, the Free State, North-West and Mpumalanga for them to start their own business.

We have also established a seed processing facility and are also piloting a seed development project in the Ncera area in the Eastern Cape to promote the local production and consumption of pulses and ensure food and nutrition security. Together with the Department of Agriculture, Land Reform and Rural Development (DALRRD), we supported the launch of a National Biosecurity Hub to deal with national

phytosanitary measures and assist South Africa to meet the requirements of international trade.

We also funded the development of a digital platform at Innovation Africa to support the piloting of tools and technologies, such as early warning systems for biosecurity threats, to assist government and producers.

Honourable members

Our South African National Space Agency (SANSA) has been developing space capability in operational space weather over the past 10 years. Through SANSA, we have been appointed to host one of the designated International Civil Aviation Organization regional centres for the provision of space weather information to the entire aviation sector flying in African airspace.

As a Department we provided financial support to SANSA for the construction of a 24/7 operational space weather centre in Hermanus. To date, SANSA has trained eight young, black space weather forecasters who will provide services to various clients, including the aviation sector.

Funded jointly by the Technology Innovation Agency and the Cape Peninsula University of Technology (CPUT), funding the development of machine-to-machine learning for the cube satellite missions in the current financial year.

As a country, we have signed an agreement with the USA National Aeronautics and Space Administration (NASA) to build a deep-space vehicle tracking and communications ground station in the semi-desert Karoo region of Matjiesfontein, in the Western Cape.

This new ground station will be helping to track history-making NASA missions to the moon and beyond by 2025.

The partnership will also see continued skills development in space science and technology, which the DSI has been investing in for years.

Honourable members

As a Department, we have also contributed to the fight against Covid-19 by continuing with research, development and innovation in African natural medicines through the National Policy Data Observatory (NPDO).

Indigenous Knowledge-Based Bioinnovation Programme

We have made significant progress in institutionalising the Indigenous Knowledge-Based Bioinnovation Programme, including high-level funding to improve research facilities at the Universities of KwaZulu-Natal, the Free State and Pretoria.

As part of implementing the BioProducts Advancement Network South Africa, we are piloting an indigenous product programme fund in collaboration with the Technology Innovation Agency (TIA).

We are therefore funding seven projects to the value of R36 million for high-end product development, agri-businesses and manufacturing of natural products.

We have constructed and equipped the new world-class African natural medicines laboratory at the University of the Free State to do research into HIV/Aids, TB, long Covid and diabetes. We are planning a second laboratory for the University of KwaZulu-Natal.

Honourable Members

As a Department, we are highly involved in the area of Health Innovation, particularly in three critical areas of Medical Device and Diagnostic Innovation, Active Pharmaceutical Ingredient Technology Innovation and Supporting health needs through vaccine research, development and manufacturing strategy.

In this regard, we will continue to support the consortium led by the World Health Organization to develop and build the mRNA vaccine technology transfer hub locally.

The aim of the hub is to diversify vaccine manufacturing and specifically accelerate vaccine production in Africa, through a consortium made up of the Medicines Patent Pool, Biovac, Afrigen Biologics and Vaccines, the DSI, the SAMRC, a network of universities and the Africa Centres for Disease Control and Prevention.

The strategy is premised on the need to ensure a viable local vaccine manufacturing industry and to address concerns about security of supply on the continent by building sustainable human vaccine manufacturing capacity in Africa.

We are also in the process of finalising a vaccine development, innovation and manufacturing strategy for South Africa.

As a Department, we are committed to implement our commitment to support the procurement of locally developed technologies through the Technology Acquisition and Deployment Fund (TADF).

We are prioritising initiatives for inclusive development and intellectual property exploitation in ICT, renewable energy and the circular economy.

Equally, we have developed mechanisms to support entrepreneurs by facilitating the commercialisation of grassroots innovation and access to publicly available intellectual property.

In this current financial year, the Mobile Applications Laboratory or mLab, will be strengthening the Imbali precinct's 4IR innovation system together with Innobiz (Durban University of Technology's Midlands Centre for Entrepreneurship and Innovation).

The Imbali Education and Innovation Precinct pilot will enable the DSI and other players to align skills development and innovation strategies, which will facilitate innovation-led, skills based, local economic growth and development.

The MLab will also be establishing a community-centred coding laboratory and start an ecosystem development programme focused on school learners and selected community members.

In partnership with local actors, our Living Labs Programme has established 11 community-embedded labs in rural villages and townships.

The outcomes have included supporting 200 aspiring innovators through design thinking training, the development of 28 prototypes and 17 market-ready products, and the registration of 14 businesses.

To date our Grassroots Innovation Programme (GIP) has enlisted over 140 young entrepreneurs and an additional 60 enrolled through collaboration with the Development Bank of Southern Africa (DBSA) Innovation Competition, the Eskom Expo for Young Scientists, the Insurance SETA and the Department of Tourism. Over R10million has been leveraged to support innovators.

The GIP also launched 15 tourism technology products addressing various aspects of the tourism value-chain, illustrating how youth unemployment could be addressed through the commercialisation of products and entrepreneurship.

We are also implementing the Innovation Champions for LED Programme in Vhembe and OR Tambo District Municipalities in partnership with the University of Venda, Walter Sisulu University and other LED actors.

To date, eleven (11) innovation champions have been deployed to municipalities and universities in the two districts to support LED managers to foster the innovation agenda.

Our intention is to roll out this programme to all 44 districts in the country in support of the District Development Model (DDM) to ensure that innovation is entrenched at grassroots level.

Our Department, through the strategic support from the National Treasury, is implementing a third phase of the Sector Innovation Fund Programme. We have invested approximately R36 million in the 2023/24 in order to be matched by industry over four years.

Technology Stations

Through our seventeen (17) technology stations at thirteen (13) of our higher education institutions, we have provided technological support, including for small-batch production and the development of prototypes, to thousands of SMMEs and potential entrepreneurs.

Honourable members

I am delighted to report that we now have begun with the construction of the Square Kilometre Array (SKA) project in South Africa. Our construction together with that of Australia forms the biggest-ever radio telescope array, at a cost of \$2,2 billion.

It is estimated that these two sites will together create 710 petabytes of science data when fully operational in 2029. It is therefore expected that astronomers can get 50 years or more of transformational science through the SKA.

In South Africa, 133 dish antennas will be added to the existing 64-dish MeerKAT precursor telescope, totalling nearly 200 dishes, to form the SKA's mid-frequency telescope array.

A total of 1 400 students have been supported through the SKA bursary programme to date.

Let me also indicate that South African companies and the South African Radio Astronomy Observatory will benefit immensely from the rolling out of this infrastructure, which includes the building of the SKA Exploratorium in Carnarvon in the Northern Cape.

The initiative is expected to boost science awareness and outreach, stimulate science tourism in the region and create employment.

The MeerKAT telescope, built by South Africans, does world-class scientific work and will continue to do so until it is fully integrated into the SKA in the next five to seven years.

To date, more than 180 scientific articles based on MeerKAT observations have been published in leading scientific journals.

Among the groundbreaking results is the discovery of "Nkalakatha", a powerful radio laser, the most distant of its kind, with the faint radio waves now detected in the Karoo emitted in colliding galaxies before the Earth was even formed.

Honourable Chairperson

South Africa assumed the Chair of BRICS on 1 January 2023 under the theme "BRICS and Africa: Partnership for Mutually Accelerated Growth, Sustainable Development and Inclusive Multilateralism".

Under this theme, the DSI will be hosting the BRICS Ministerial Meeting and BRICS Young Scientist Forum on STI from 31 July to 4 August 2023.

Led by NACI, we will also host the first BRICS STI Policy and Foresight Symposium.

The DSI will also be hosting the BRICS events on photonics, research infrastructure and mega-science projects, marine and polar sciences, water research and innovation, technology foresight and STI policy, astronomy, biotechnology, human health and neuroscience.

Honourable Members

The DSI's total budget for 2023/24 is R10,8 billion, up from R9,1 billion in 2022/23. Most of the Department's budget goes to transfers to entities.

As I conclude, I would like to extend my gratitude to the Honourable President, Deputy President, Cabinet Colleagues and members of the Portfolio Committee for their robust engagement.

Gratitude also goes to my wife, my staff in the Ministry and to the Director General, Dr Phil Mjwara and the entire Executive Management Committee and staff of the Department, Boards, Executives and staff at all our entities and institutions, and everybody who contributed towards the achievement of our policy mandate.

Thank you