ADDRESS BY THE MINISTER OF HIGHER EDUCATION, SCIENCE AND INNOVATION, DR BLADE NZIMANDE ON THE OCCASION OF THE DSI NATIONAL COVID-19 CONFERENCE

31 July 2020

Having observed and recognised all the participants in this conference when I was presenting the President's message, programme director allow me to draw this conference directly to the contribution of the Department of Science and Innovation to the COVID-19 response.

As a department we have been mobilising across the National System of Innovation, especially among its entities and the entities of sister departments, specific initiatives that are currently being fast-tracked to support the government's response to the COVID-19 crisis.

These initiatives included the following:

The first initiative is deploying DSI-funded infrastructure to expand testing for COVID-19.

A critical part of supporting South Africa's COVID-19 response is to make technological capabilities available to broaden the country's capacity to conduct testing.

We funded technology platforms and laboratories possess capabilities and have conducted the preparatory work necessary to become part of the national testing network. This includes the following:

(a) The Centre for Proteomic and Genomic Research has validated various testing protocols and undertaken risk assessments according to the World Health Organization (WHO) guidelines. It will install a laboratory information management system as required by the National Health Laboratory Services (NHLS). Testing started in April 2020.

(b) The KwaZulu-Natal Research Innovation and Sequencing Platform (KRISP), in partnership with Centre of AIDS Programme for Research in South Africa (CAPRISA) and the Africa Health Research Institute, have validated the quantitative polymerase chain reaction (qPCR) and sequencing protocols from two manufacturers for COVID-19 testing.

(c) Council for Scientific and Industrial Research (CSIR) labs were repurposed to do testing in support of government's drive for a massive roll-out of testing.

Our second initiative is in biomanufacturing, which involves molecular biology enzymes, reagents and testing kits.

A local supply of reagents and kits for COVID-19 testing are being developed through DSI-funded spin-out companies, centres of excellence, and various other programmes and initiatives.
This is to ensure security of supply, local manufacturing, and the creation and preservation of jobs. South Africa currently imports testing kits, and local manufacturing will also boost supplies for the continent.

This work is at the South African Health Products Regulatory Authority (SAHPRA) accreditation stage and, in some cases, approval has already been granted. Some of the products were ready for use in May 2020.

Our third initiative is in the development of personal protective equipment.

The Product Development Technology Station at the Central University of Technology has been developing personal protective equipment (PPE), specifically an airway protection device for healthcare workers.

The technology station has applied to SAHPRA for an amended licence to accommodate these new products under its existing ISO 13485 certification supported through the Technology Innovation Agency. This work will continue post-COVID-19.

The eNtsa innovation hub at Nelson Mandela University is using additive manufacturing (3D printing) for face shield frame design and printing modifications to enable clinicians to easily replace standard A4 transparent sheets without the need for holes and adhesives.

The designs are now available through open source networks. ENtsa also positioned itself to provide engineering support in the Eastern Cape and around the country during the lockdown, so as to enable critical projects pertaining to maintenance for the power generation industry to continue.

The fourth initiative is our support to good hygiene practice.

The Technology Station in Chemicals immediately started with the production of the first batch of 5,000 containers of hand sanitiser to be distributed to staff and placed at strategic points on campuses for students and on-campus communities to stay safe.

The production of hand sanitisers will be an ongoing project until the crisis is over, with the technology station also investigating ways to assist vulnerable communities like old age homes.

Our fifth initiative is our coordinating efforts for a local COVID-19 vaccine manufacturing plant.

We have put together a COVID-19 Vaccine Production Task Team which includes the Technology Innovation Agency (TIA), the Department of Trade, Industry and Competition (DTIC), the South African Medical Research Council, academia as well local vaccine and adjuvant manufacturers Biovac (which is 47.5% government-owned) and Afrigen (which has Industrial Development Corporation investment).
The aim is to get South Africa into a state of readiness to manufacture an approved COVID-19 vaccine locally.

In anticipation of the huge demand should a candidate vaccine be identified, manufacturing facilities will need to be established in different regions, and the SADC and Africa will also need to be ready.

Our sixth initiative is our technical support for the National Ventilator Project.

The National Ventilator Project (NVP) was conceptualised by the DTIC in conjunction with the Manufacturing Circle in order to coordinate and secure a supply of locally manufactured ventilators.

The systems engineering skills and experience in specifying and acquiring complex systems at the South African Radio Astronomy Observatory (SARAO) was critical in ensuring that a national user requirement and technical specification was developed for publication in the request for proposals for the NVP.

The NVP team received approximately 100 proposals. Four potential suppliers were selected, and production orders were placed with them for an initial batch of 20 000 ventilators. One of the selected suppliers was the CSIR, which was contracted to manufacture 2 000 non-invasive ventilators.

In conclusion, I would be glad if deliberations in this conference today could help us to learn lessons on how best to manage the health and social impact of similar pandemics in future and brings science back to the top of agenda to inform policy and decision making (#backedbyscience).

We therefore the value of science diplomacy, solidary and open science will help us in fighting the war against an unseen enemy.

There is a need to keep the momentum, inclusivity and equity in the application of the science gains, to improve lives, systems and reconstruction of the economy and the related value chains.

Thank you.