THE MINISTER OF HIGHER EDUCATION, SCIENCE AND INNOVATION, DR BLADE NZIMANDE ADDRESS ON THE OCCASION OF THE GOVTECH 2023 HELD AT DURBAN ICC

12 September 2023

Programme Director
All my Cabinet collegues present;
SITA Managing Director, Dr Bongani Mabaso;
My special Advisors, Mr Nqaba Nqandela;
All Chairpersons and CEO of government entities;
Government officials from all spheres;
ICT Industry Leaders;
Distinguished guests;
Members of the media;
Ladies and gentlemen

Greetings

I am pleased to have been invited to this important occasion, especially to speak about ***Innovation and Digital Skills***, with the 2023 overall GOVTech theme of: ***"Platform Economy for Digital Transformation and Inclusive Growth"***

In a world increasingly driven by technology and innovation, the role of skills development in propelling our nation forward cannot be overstated.

In a world where automation and artificial intelligence are becoming commonplace, we must massify the digital skills revolution to harness these technologies with the understanding that basic digital skills are not only essential for employability but also for everyday life in a globalised world.

However, we must adopt new technologies and digitisation in order to solve simple problems and challenges eg. Why need to go to a police station in this day and age to certify your certificates for applying for a government job, for information that we have as government? Demanding certified copies of not older than 3 months? What for?

Why would a government department advertise jobs and not provide an email address, but ask applicants to phone where those phone calls are not being answered?

Why do we still give fax numbers and keep fax machines? Why do we still in many cases not accept emails as means of communication and insist on papers that must be posted?

A challenge I wish to put to GovTech is that let us identify things we will change from one conference to the next.

It is also for the above reasons that as we massify the digital skills we have to ensure that we reduce the digital divide by empowering women, youth and people with disabilities, with special attention to underserved

rural communities to enable them to participate meaningfully in the digital economy.

But our commitment to skills development and innovation should not stop at basic digital literacy, it should equally go all the way to our investment in upskilling and reskilling programs to prepare our students and workforce for the jobs of the future.

We must also make sure that government, and public entities take the lead in the adoption of these modern technologies, for efficiency, and better delivery of services to the people.

This is the reason my commitment and that of both my Department of Higher Education (DHET) and Training and the Department of Science and Innovation (DSI) continue to create pathways, for all South Africans to access these skills and innovation platforms to better their employability and entrepreneurship prospects.

MINISTERIAL TASK TEAM ON 4IR

I recently finalised the Report of the Ministerial Task Team on the implications of the 4th Industrial Revolution (4IR) to our Post-School Education and Training System.

I must indicate that given the over usage of the word, I find it more appropriate to use the term “the implications of modern technologies,” which transcend beyond a particular epoch.

This PSET report aims to provide insights into how our policy-making mechanism can respond to the challenges posed by rapid shifts in the way we learn, live, and conduct our business.

THE NATIONAL OPEN LEARNING SYSTEM (NOLS) FOR THE PSET SECTOR

One of my flagship projects in our PSET sector, is the development of the National Open Learning System, also known as the NOLS that was developed in collaboration with the European Union.

I am glad to report that the NOLS is fully functional, and to date over 18 000 lecturers and students have registered on the system and have access to more than 9800 resources.

These users have access to free, high quality content to support teaching and learning that also includes videos, simulations and interactive multi-media.

We have, as the UNESCO Open Educational Resources (OER) Recommendation adopted in 2019, make quality learning and teaching resources available under open licences as OER.

The NOLS technical platform has been developed by our own State Information Technology Agency (SITA) - which is our host today - where the Content Repository (CR) is loaded with learning and teaching resources.

The embedded Learning Management system (LMS) contains 28 courses that includes 13 different priority trades, QCTO Accredited qualifications such as the National Occupational Qualification for Electricians and the National Certificate for Career Development Practitioners, and the Advance Diploma: TVT Dip to build the capacity of TVET lecturers at universities, to name a few.

I am very excited by the prospect to build Artificial Intelligence functionality into the NOLS soon in collaboration with Microsoft.

TECHNICAL VOCATIONAL EDUCATION AND TRAINING COLLEGES

During the 2022/23 financial year, in partnership with Microsoft, a total of 370 TVET lectures were trained (in the 9 provinces) ensuring that lecturers develop the necessary skills to navigate and use the NOLS optimally and effectively.

We have embarked on a comprehensive plan to review and update the offerings at TVET colleges in order to align our educational programs with the demands of the rapidly evolving economy and society.

The main focus of this plan is to integrate digital skills training and incorporate technology into all of technical and vocational education and training.

With the support of CISCO Systems, we have developed digital skills training and integrated it into the National Certificates (Vocational) program. This includes training in areas such as Internet usage, email communication, cyber security, information management, and databases.

In addition to integrating digital skills into existing programs, we have also introduced new programs in response to the new or modern technologies.

A new stream focusing on Robotics has been developed within the NCV: Information Technology and Computer Science program. This stream covers subjects such as Electronic and Digital concepts for Robotics, Robotics Fundamentals, and Industrial Automation.

By introducing these new programs, TVET colleges are preparing students for the future job market, which is increasingly driven by technology.

To ensure that the curricula remain up-to-date with the latest technological advancements, we have prioritised the update of technology-based content in existing programs.

In order to address the need for expanding the TVET college system, we are exploring blended and online learning options. The goal is to meet the National Development Plan's target of 2.5 million headcount enrolments in the college system by 2030.

I must say that whilst we are making efforts to scale up blended and online learning, our transition to e-classrooms is still progressing slowly.

COMMUNITY COLLEGES

Through partnerships with the Wholesale and Retail SETA, Information and Communication Infrastructure has been established in the 54

Community Colleges pilot centres. This investment in ICT infrastructure has enabled CET Colleges to introduce digital skills for lecturers and students.

UNIVERSITIES INVOLVEMENT IN DIGITAL SKILLS

During the COVID-19 outbreak in South Africa, we made a shift from the old face-to-face education practised in the majority institutions of our institutions to the online teaching and learning or virtual learning environment (VLE).

Our universities used the online mode of teaching and learning by availing module content online using digital technologies, such as computers, laptops, tablets, and smartphones, as well as Learning Management Software (LMS), software applications, and social media sites.

My Department provided data for a period of the lockdown. We also ensured at all NSFAS beneficiaries restructure their study material allowances to include an option to be provided with a laptop.

We were however confronted with the reality that the majority of our historically disadvantaged universities, reflecting the bigger challenges of the communities that they are located and that they served, had to physically send study materials to their students who could not access network, particularly those in rural areas.

SETAs INVOLVEMENT IN DIGITAL SKILLS

In collaboration with the **Education, Training and Development Practices (ETDP)SETA**, we have established 4IR centres in seven colleges, with plans to onboard four more by the end of the financial year. These centres are aimed at teaching cutting-edge technologies and fostering technology innovation among TVET students.

By providing access to advanced technologies and promoting innovation, these 4IR centres are preparing students for the future job market.

Through our **Media, Information, and Communication Technologies Sector Education and Training Authority (MICT SETA)** we are pursuing key drivers of influencing skills demand and supply by, amongst others: Artificial Intelligence, Cloud Computing, Big Data Analytics, 5G, and the Internet of Things.

The MICT SETA sector priority occupations list makes up 14% of the national priority skills published by DHET in 2022. These are 14 occupations out of the 101 occupations in the national list.

Through the **Chemical Industries Education & Training Authority (CHIETA),** working in collaboration with the MICT SETA two weeks ago. I launched the Babanango SMART Skills Centre at the Bananango in the Zululand District of the province.

This SMART Skills Centre is the third such a centre to be launched and the biggest largest CHIETA SMART Skills Centre. It forms part of

CHIETA's efforts to bridge the digital skills divide and accelerate the development of basic digital skills in rural communities.

As we all know challenges that are brought by the digital skills divide, which affects predominantly rural areas and some of our townships.

Our aim for establishing these centres for our local community is for our learners, our students, job seekers and businesspeople to benefit from this centre by developing their skills for the unemployed youth by offering programmes based on various technologies, including virtual reality (VR), blockchain, artificial Intelligence (AI), software development, data science and mobile cellphone repairs.

What is also so profound about this centre is that it will provide our youth with digital skills that will help to meet the demands of industries which rely on technology to grow their enterprises.

I must say that I am so passionate about this mobile cellphone repairs skills development because it speaks to my commitments to ensure that we get our youth to be involved in cellphone repairs through the South African Mobile Devices Distributors and Repairers Association (SAMDDRA).

NATIONAL SYSTEM OF INNOVATION

Ladies and gentlemen

The year 2022 witnessed an historic milestone in science policy development in South Africa with the adoption by the South African

Cabinet under the leadership of His Excellency President Cyril Ramaphosa, of our new Decadal, or ten-year Plan for Science, Technology and Innovation.

Although prepared by my Department, it is not only a plan for the Department of Science and Innovation, or for Government alone, but for all of South Africa.

This new national commitment of working together will be embodied in an Innovation and Skills Compact, to be adopted by government, business, civil society, science and academic leaders at our Science, Technology and Innovation Plenary Meeting, to be chaired by President Ramaphosa.

The Compact will notably include commitments to undertake, amongst others, regulatory reforms to create a more enabling policy environment for innovation in South Africa; and forge a closer collaboration between higher education and training bodies, and employers, to ensure that skills development better corresponds to the needs of our economy.

Funding including increased investment by business in Research & Development (R&D) and the better coordination between different ministries of our Government funding of R&D, will be another important part of the Compact – as will be a commitment to use public procurement to support innovation and entrepreneurship.

Our plan does not identify priorities scientific disciplines or technology platforms in their own right, but instead focus on the collective and

holistic response of South African science and innovation in a trans- and multi-disciplinary manner on key societal challenges and priorities confronting South Africa.

This approach notably foresees a central role by the social sciences and humanities, which remains a priority area for our attention.

From the ICT perspective, the Department of Science and Innovation had in the past supported programmes that focused on accelerated skills development under the ICT RDI Roadmap. One such example is the Data Science for Impact and Decision Enablement (DSIDE).

The aim of the programme was to support capacity building in the ever-growing field of data science by scheduling recruits to participate in mentor-guided and learn-by-doing problem solving of real world needs as presented by different stakeholders.

In the six years of its implementation there were more than 250 trainees who graduated from the programme.

But more recently the DSI has started the implementation of a programme that is looking at building foundational digital capabilities that are required to form the building blocks of application development and customisation.

This will contribute enormously in strengthening the Digital Economy Masterplan of the Department of Communication and Digital Technologies (DCDT).

In line with the co-funding approach, DSI investments (under the existing ICT budget line item) are to be directed towards the building of foundational capabilities (Readiness levels 1-4 at universities and levels 4-9 and the CSIR).

The foundational capabilities can then be marketed and made available to a wide range of stakeholders who require specific solutions to their particular economic ecosystem.

Through my Department of Science and Innovation, we have also established the Centre for Artificial Intelligence Research (CAIR) in 2011 consists of nine higher education institutions.

The Centre was established to conduct foundational, directed and applied research into various aspects of Artificial Intelligence (AI).

The model of network of nodes ensures that research is shared between all nodes; shared infrastructure, platforms, resources and data are used optimally and; most importantly, all nodes contribute to one research agenda.

Through this centre, we provide research and postgraduate training in different areas of Artificial Intelligence to ensure that South Africa has the right combination and level of expertise required across the spectrum of AI.

We therefore need to position CAIR, within the Foundational Digital Capabilities Research (FDCR), as the core driver of the national vision for AI research and innovation.

On this score, we need to clarify the roles of DSI, DCDT and DHET as the Artificial Intelligence Institute of South Africa (DCDT) because this institute involves our Post School and Training Institutions, research activities and technology development with respect to AI as well.

I must also indicate that the MICT SETA stands ready to work with Sentech in the establishment of its Academy Centre of Learning Programme.

Given the above, I therefore wish to implore all of us to work together in our complementary yet distinct roles, as we much forward. There is no reason to duplicate effort amongst or between government departments.

I must also indicate that I commissioned my Department of Higher Education and Training and my Department of Science and Innovation to look at the implications of the Chat Generative Pre-trained Transformer (ChatGPT) for both these sectors.

BRICS MINISTERIAL MEETING DECLARATION

Ladies and gentlemen

The digital revolution has ushered in, a wave of transformation that is reshaping economies across the globe.

In our 10th Meeting of BRICS Ministers of Education, we held on the 13th of July 2023 in the Mpumalanga province, at Skukuza in the Kruger

National Park, we also declared that all BRICS countries should explore opportunities within BRICS digital education cooperative mechanisms.

This must include holding dialogues on digital education policies, sharing digital educational resources, building smart education systems, and jointly promote digital transformation of education in BRICS Member States.

CONCLUSION

In conclusion, from my address today, it is more apparent that as South Africa, we are propelling both our PSET sector and our NSI sectors to respond to the needs of our digital economy.

Of course, the digital economy knows no boundaries, we therefore should encourage collaboration and cooperation with our international partners and leverage the expertise of global tech leaders to facilitate knowledge transfer and skill development.

By doing so, we will position South Africa as a hub for innovation and digital excellence.

Let me take this opportunity to thank the organisers of this conference, the sponsors and all of you participants who will make this conference a success.

Thank you.