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Mangena: Centre for High Performance Computing launch (22/05/2007)

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Address by Minister of Science and Technology Honourable Mosibudi Mangena, at the launch of the Centre for High Performance Computing (CHPC), Council for Scientific and Industrial Research (CSIR) Rosebank Campus, Cape Town

Programme Director
Vice Chancellor, Professor Njabulo Ndebele
Chief Executive Officer of the CSIR, Dr Sibusiso Sibisi
Leadership from our universities and science councils
Members of the academic community
Investors, scientists and technologists
Students
Distinguished guests
Ladies and gentlemen

South Africa needs a growth rate of six percent of its Gross Domestic Product (GDP) to become globally competitive, and significantly improve the quality of life for her people. An increasingly accepted view, with numerous international supporting examples is that, in order to sustain these levels of growth, we need to invest significantly in the capacity to create and diffuse new knowledge.

This capacity is directly related to both public and private investment in science, technology and innovation. Our current target for investment in research and development activities is one percent of GDP by 2008, and current indications are that we are on track. We see investment in the modernisation of our research and development infrastructure, and in particular, new instruments and facilities such as this Centre for High Performance Computing, as key components in our drive to ensure that we do not only have the requisite capacity to generate the levels of new knowledge required to respond to the challenges highlighted earlier, but also to firmly cement South Africa's position as an attractive destination for science and technology endeavours. The Centre for High Performance Computing and the South African National Research Network (SANReN), form the backbone of an emerging cyber-infrastructure in South Africa. This infrastructure will support research initiated in other elements of our science and technology infrastructure, such as the Square Kilometre Array, the National Bioinformatics Network and the Global Earth Observation System of Systems.

In addition, it will support international initiatives such as the third component of the International Centre for Genetic Engineering and Biotechnology (ICGEB) soon to be established here in Cape Town. The CHPC will support a diverse base of researchers and scientists from all over South Africa, and facilitate the collaboration and multidisciplinary approach needed to solve today's complex computational problems. The Centre's objectives are to provide high-end computing, and computing expertise for all research in South Africa, ranging from natural science, medicine and engineering, through to the social sciences.

Thus the Centre represents the most powerful computational platform dedicated to science in Africa. It is one of our national innovation platforms. And we anticipate that it will deliver a significant return on investment for the country by harnessing the application of high-performance computing for positive social impact, particularly on research on major infectious diseases, such as HIV and AIDS, Tuberculosis (TB), and promoting advanced manufacturing technology. As a country, we cannot afford the indulgence of seeing science merely as a love for exploration and discovery. We believe that business, government and civil society share a vision for a successful future, and we need to share all the material and human resources that can turn that vision into reality. We are truly proud to note that the design, implementation and future utilisation of the Centre is embedded within a strong principle of partnership among local and international knowledge workers. The Centre is a major initiative that my department is implementing through the Meraka Institute of the CSIR, which has entered into partnership with the University of Cape Town to incubate its primary node.

The Centre finds its roots in the early 1990s as a collaborative approach from a number of universities. It was established through a strongly consultative process that encompassed researchers, who will be the main users of the facility, as well as the executive management of our science system. However, we have not limited ourselves to looking at partnerships locally. The Centre provides a strong platform for collaboration on a global scale. South-South partnerships, for example, in applications such as climate change and the Southern Oceans research between Brazil, India and South Africa will now become a reality.



In addition, it allows scientists in South Africa and the continent to engage in international initiatives that rely on this new way of doing science through "in-silico" experimentation, simulation and modelling. This opens doors into major programmes, such as the European Union's Seventh Framework Programme (FP7), and forms the basis of agreements such as the recently signed collaboration initiative with the Earth Simulator in Japan. Our investment in the SANReN, as part of the same cyber-infrastructure strategy, will ensure our full integration in these international partnerships.

I understand that an important component of the recent successes of the Shosholozu Yacht Team was due to the application of high performance computing, beginning with the design of the hull through to simulation of various tactical manoeuvres deployed during the race. These efforts were largely done in Europe. Not only does this Centre allow us to engage in these types of activities locally, it will also positively impact on our industry's competitiveness in this and other areas through making high performance computing part of our thinking and strategies. The Shosholozu example is also very relevant when we look at the Centre itself. Just as the yacht could not sail without the concerted efforts of a highly skilled and committed team, similarly, we cannot talk about the effectiveness of a computing research platform without the people who create the new knowledge and the success derived from these initiatives.

It is therefore encouraging that, besides providing a world-class computational platform and supporting cutting edge research, the Centre has a strong focus on building the requisite human capital to support industry and academia with a steady stream of highly qualified and representative young talent. By investing in the science and technology mission areas articulated in the National Research and Development (R&D) Strategy, establishing research chairs and centres of Excellence at universities, and establishing these types of infrastructure, my department is establishing a set human capital development platform that is capable of assisting South Africa to build a prosperous future for all her citizens.

Through investments into the cyber-infrastructure components of the Centre for High Performance Computing and SANReN, we are giving our people an opportunity to dream of what they can achieve through the infinite computing and communications power at their fingertips. And we are already starting today to implement these plans and create the capacity to innovate at an accelerated pace, so that we can favourably compete globally and add value to the lives of our people. Remember there are no prizes for those who choose not to compete.

You will all agree that the establishment of the Centre for High Performance Computing is indeed a bold step in this direction. Through it we are trying to ensure that science and technology is harnessed to meet the major developmental challenges of South Africa and the region. It is now my singular pleasure to officially launch the Centre for High Performance Computing. We look forward with anticipation to getting feedback on many success stories that this Centre certainly has the potential to create.

I thank you.

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