



“OPENING OF THE UNISA SUSTAINABLE PROCESS ENGINEERING LABORATORY”

Principal and Vice Chancellor, Prof Mandla Makhanya

Welcome and Opening Address

6 March 2015

- Programme Director
- Vice Principal: Research and Innovation, Prof Mamokgethi

Phakeng

- Our guests and partners in the person of Chief Director Hydrogen and Energy in the Department of Science and Technology, Dr Cordellia Sita
- Sasol's Vice President: Research and Technology, Mr. Rudi Heydenrich
- Members of Unisa's executive and extended management
- Executive Dena of the College of Science, Engineering and Technology, Prof Gugu Moche
- Director of MaPS, Prof Diane Hilderbrandt
- MaPS academics and staff members
- Colleagues from all of our sister institutions and partners
- Unisa academic and non-academic staff
- Students
- Members of the media
- Distinguished guests, ladies and gentlemen

It was on Monday this week when I opened Unisa's Research and Innovation Week and now I stand here to welcome you to an industrial site to mark a milestone on this momentous occasion as we open UNISA's Sustainable Process Engineering Laboratory. Indeed I welcome you to the field of operation which symbolically signals our intention to unshackle our institution from the conventional stereotype of universities being ivory towers isolated from the society. What a wonderful and demonstrative manner of marking the end of a Research and Innovation Week by coming to this industrial site to open one of our flagship science, engineering and innovation hubs focusing on some of the most important areas facing humanity and our society today. During this week scholars from Unisa, from South Africa and abroad deliberated on various topics of research and innovation but today we have come to the field to give practical expression and demonstration of research and innovation. I welcome you all to this research and

innovation site which is meant to showcase Unisa's strategic intent of being "The African University Shaping Futures in the Service of Humanity." In essence, this initiative and many others taking place at UNISA, is an indication that every week of our academic year is a research and innovation week hence we see the results we witness today. The cumulative effect of these numerous initiatives is clearly indicated in Unisa's progressive improvement of research output, registration and graduation of Masters and Doctoral students as well as ratings of our academics by the NRF.

Words are inadequate to express my deep sense of joy and fulfillment for being at the helm of a knowledge institution that is making great strides to make its mark on the landscape of research and innovation with the aim of solving some of the most vexing problems of our times. Let me take this time to acknowledge the contribution of Unisa Council is their input and guidance on strategy issues. I am equally blessed that

I have a wonderful team of scholars, researchers and professionals under the leadership of Prof Phakeng that will ensure that Unisa will progressively grow to become a leading teaching and learning, research and innovation as well as community engaged university in South Africa and in the continent. I also commend Prof Moche, the Dean of the College of Science, Engineering and Technology, for your leadership in overseeing some of these cutting-edge laboratories to make sure that they are put to use and will never be white elephants. I have been following with keen interest the research output and impact the researchers of MaPS project have been able to achieve in such a short space of time as well as the waves your research is beginning to make in the broader and international research community. This has a positive impact for Unisa whose commitment to be a Trend-Setting Comprehensive University and Mission to be *“Lifelong higher education for all and knowledge creation that is nationally responsive and globally relevant.”*

I also welcome with a great sense of appreciation our partners from government who have come to witness returns for their investment, as Unisa is a public university that also benefits from government funding.

In these difficult financial and economic times this launch of Sustainable Process Engineering Laboratory bear testimony to our relentless effort to play our part in the search for solutions for challenges facing our society. Our partners from the private sector are a critical component in the puzzle as most of the intellectual property and products generated from these initiatives will be of great benefit to our industries. Sasol, in particular, is known worldwide for its cutting-edge science and technology in the area of chemical engineering and energy solutions. With partners like you in government and in the private sector, failure is simply not an option.

An academic and a sociologist in me often gets stimulated by occasions like these to raise a few salient issues in the sphere of our science, engineering and technology research and innovation at Unisa. I raise some of these issues and themes with the hope that they are debated and clinically dissected in our public academic forums.

During the course of South Africa's transformation of higher education mergers were introduced as one of many mechanisms of changing our university landscape in a manner that would rid our system of the apartheid and colonial geography which divided universities according to racial and ethnic groups. These mergers, in some instances, were meant to end the historic divide between the traditional universities and technikons thus **creating comprehensive universities** in which vocational and engineering programmes would articulate with more theoretical and academic stream of sciences. Critics of these mergers stated that it would lead to **mission-drift** in which traditional university

programmes would end up eroding and eventually wiping out vocational, science, engineering and technology oriented programmes of technikons. This intervention has produced many permutations with varying degrees of successes and failures but in the case of Unisa we have come to witness the success of a purposeful and deliberate strategic focus on making sure that UNISA strengthens both science, engineering and technology programmes and traditional academic programmes with the aim of ultimate cross-pollination of these for the greater good of the society. The Science Campus (based in Florida, Johannesburg) has one of the best cutting-edge state-of-the-art Nano Science laboratory which is beginning to attract some top research scientists. The College of Science, Engineering and Technology alongside the College of Agriculture and Environmental Sciences have contributed immensely to our research output and NRF ratings. Taking the contribution of all Colleges to our research output and innovations together with the massive investments UNISA has injected into the development and upgrade of science and engineering laboratories, one

can safely say that there is no basis, going forward, to worry about a mission-drift in which the hard core science and engineering programmes would be eclipsed by social sciences and humanities. It is a conscious balancing act and constant search for mutual symbiosis between these streams that is critical for our current and future successes.

As we crafted our long term strategy, Vision 2030, we were acutely aware of the policy environment in South Africa, in Africa and the world. One of the key enabling milestones of South Africa's National Development Plan 2030 is to "Produce sufficient energy to support industry at competitive prices, ensuring access to poor households, while reducing carbon emissions per unit of power by about third" (NDP 2030). MaPS Sustainable Process Engineering Laboratory at NECSA is one of many efforts to respond to the energy crisis we have while assisting in the cumulative research and innovation that works

towards meeting the goals of the NDP. MaPS quest for Energy Efficiency and environmentally sustainable energy solutions, including utilization of waste to generate energy, is one of the most important interventions that do not only speak to the NDP objectives but to the Global Agenda of Sustainable Development through Environmentally Friendly generation of energy. We are, in a sense, throwing our hat to the ring and putting our shoulder to the wagon in response to societal and global challenges facing humanity and environment. The era of burning environmentally unfriendly fossil fuels is over as we cannot behave as if we have planet B to which we can migrate once this is ravaged by our irresponsible consumption tendencies or practices. On the continental front, the African Union's Agenda 2063 Aspiration 1 proclaims "A prosperous Africa based on inclusive growth and sustainable development"(Agenda 2063: The Africa We Want, 1st Edition, July 2014). Again, the launch of this laboratory at NECSA is meant to make a contribution towards that growth and sustainable

development through the cutting-edge research that will bring about energy solutions to our beloved continent.

The last point I want to amplify is to refute, with all the intellectual power I can marshal, the notion that is often ritualistically repeated in some of our mainstream literature, that ***Africa was and is a dark continent that contributed nothing to the field of science, engineering and technology.*** The notion that Africa is alien to the world of inventions and need to be pitied or always assisted by external intervention. A plethora of unbiased books on the science of history demonstrate that Africa has always been an important player in the world of human civilization as shown by universities in Alexandria, Egypt and Timbuktu in Mali and many other centers of sophisticated civilizations such as the Great Zimbabwe of Monomotapa and Mapungubwe in Southern Africa. Walter Rodney in his seminal and influential work, “How Europe Underdeveloped Africa”, Chancellor

Williams in his ground-breaking work, “The Destruction of Black Civilization,” as well as Cheikh Anta Diop’s series of books on the pre-colonial African civilization, all these clearly demonstrate, in a compelling systematic and scientific manner, the role Africa played in global civilization. If we had all the time I would take you through a mental tour of great scientific achievements in Africa and in the diaspora by great African scholars and scientists, something that now lie buried in the layers of humanity’s consciousness and memory despite the incontrovertible and verifiable facts as well as relics of these great engineering and science projects.

If Africa is to claim the 21st century as the African century and if it is serious in its intention to realize the “Africa rising narrative” then it has to contend with the fact that the fiercely competitive global knowledge economy in the Information Age need Africa to be a serious role-player in the field of research and innovation, particularly targeted research

that directly address Africa's developmental and environmental challenges. It is only then that that we can claim that African Renaissance and the African Century are a realistic possibility.

The launch of this laboratory and the research focus of MaPS is a significant contribution, if taken together with many other initiatives of this nature happening in different institutions, toward the South African, African and global developmental goals. This project on its own may, to paraphrase Mother Teresa, be "a drop in an ocean, but without these drops there would be no ocean."

With those few observations I welcome you to this site and wish that the proceedings for the opening ceremony will be a success we all planned for, and even more important that the laboratory will be a trail-blazer in the field of energy solution.

I thank you.