THENSA

Technological Higher Education Network South Africa

COLLOQUIUM REPORT

DHIK

German University Consortium
for International Cooperations

COLLOQUIUM ON SOUTH AFRICAN-GERMAN UNIVERSITIES COLLABORATION

Held on 7 March 2024

Marriott Hotel, Century City, Cape Town

1. WELCOME BY PROGRAMME DIRECTOR

Dr Laverne Samuels welcomed all the delegates to the Colloquium: Heads and Deputy Heads of Universities (THENSA member universities), Representatives from the German University Consortium (DHIK), and Guests. A special welcome was extended to the German delegation. (*Refer to the Register).*

Dr Samuels highlighted the purpose of the Colloquium, which was to bring together the two networks, i.e. DHIK and THENSA, to work collaboratively in areas of mutual interest and to produce an agreed Joint Statement at the end of the Colloquium.

2. WELCOME AND INTRODUCTION OF THE DEPUTY MINISTER OF HIGHER EDUCATION, SCIENCE AND INNOVATION, HON. MR BUTI KGWARIDI MANAMELA

Prof Chris Nhlapo, Chairperson of the Board, thanked the Programme Director and welcomed all colleagues and guests from South Africa and Namibia, THENSA CEO and staff, and the esteemed international guests from DHIK to the beautiful Western Cape. In particular, he signified the colloquium's importance in pursuing discussions on cross-border collaborations and partnerships.

Prof Nhlopo briefly described the role of THENSA, a consortium of technology-focused universities in South Africa, including Namibia University of Science and Technology. He emphasised that universities of technology have a key and critical role in the national higher education system, including collaboration and internationalisation.

Prof Nhlapo welcomed the Guest Speaker, the Deputy Minister of Higher Education, Science and Innovation, Honourable Mr Buti Kgwaridi Manamela.

3. KEYNOTE ADDRESS BY THE HON. MR BUTI KGWARIDI MANAMELA, DEPUTY MINISTER OF HIGHER EDUCATION, SCIENCE AND INNOVATION

The Hon. Deputy Minister welcomed Prof. Dr.-Ing. Dieter Leonhard, Chairman of DHIK; Prof. Chris Nhlapo, Chairperson of the Board of THENSA; Prof. Henk de Jager, Interim CEO of THENSA; Presidents, Rectors, and Deans of the DHIK member institutions; Vice-Chancellors and Deputy Vice-Chancellors of the THENSA member institutions, The Vice-Chancellor of Namibia University of Science and Technology (NUST) and all distinguished guests. He thanked the Chair of THENSA, Prof Nhlapo, for the invitation to deliver the address at the Colloquium, which focused on the following areas of importance for South Africa and Germany (*Refer to the address for more details*).

South Africa and Germany have a long history of scientific and technological cooperation. The first recorded post-apartheid South Africa - Germany scientific and technological cooperation was signed in 1996 and administered under the German-South African Binational Commission. The Science and Technology Cooperation (STC) agreement provided for the establishment of a Joint Science and Technology Cooperation (JSTC) committee, which addressed joint research projects in agriculture, life, earth, mathematical, engineering, physical and health sciences; the joint use of scientific and technological facilities, information exchange, joint events as well as the exchange and posting of experts. The two countries celebrated a Joint Year of Science (SA-German Year of Science) in 2013, with over 400 R&D projects of over R80 million funded bilaterally at research institutions, universities, and industrial partners.

Under this broad SA-German STC, several institutions entered into cooperation agreements and memoranda of understanding. The Hon. Deputy Minister encouraged THENSA and the DHIK to build cooperation with TVETs in enhancing the technologically intensive PSET sector in South Africa through Qualifying teaching staff, providing advice on the development of the South African Institute for Vocational and Continuing Education and Training, increasing the involvement of business and social partners, and building TVET research capacities.

The National Research Foundation (NRF) and the German Academic Exchange Service (DAAD) renewed their Science and Technology Cooperation Agreement in 2021. The partnership with DAAD promotes academic, scientific, and technological cooperation through, among other things, the 'NRF-DAAD Joint Scholarship Programme' for South African Master's and Doctoral students registered at South African public universities.

The Hon. Deputy Minister re-iterated that Universities of Technology are critical role players in accelerating the country's 4IR ambitions and need to be supported and positioned differently from traditional universities. Universities of Technology and TVET colleges should become places where young people with ingenuity drive to invent technologies and launch industries, leading to job creation and economic growth.

Priority areas are to drive inclusive socioeconomic and sustainable development in South Africa. The STI Decadal Plan has identified several priority areas that can drive inclusive socioeconomic and sustainable development in South Africa. These areas include the revitalisation of our once competitive industries in manufacturing, agriculture, and mining, as well as areas impacted by rapid technological and scientific advances associated with the

fourth industrial revolution and other global challenges such as climate change, energy, health, the future of work, education, and skills. To realise the benefits of innovation and commercialisation from research and innovation institutions, the National Intellectual Property Management Office (NIPMO), the Offices of Technology Transfer (OTTs) and the Technology Innovation Agency (TIA) were established to ensure that, where appropriate, publicly funded R&D outputs result in products, processes or services for commercialisation or other positive impact on the lives of South Africans.

The Hon. Deputy Minister invited the DHIK delegation to consider cooperation with Technology Stations, some of which are listed below:

- The Technology Station in Electronics (TSE) at Tshwane University of Technology. It operates in the Electronic, Electrical and Information and Communication Technology;
- The Metal Casting Technology Station (MCTS) is at the University of Johannesburg. This technology station is a technology transfer partner for the metal casting industry;
- The Product Development Technology Station (PDTS) at the Central University of Technology. It develops new ideas into products. It assists explicitly SMMEs by providing them with technological support to design and manufacture innovative new products;
- The Technology Station in Clothing and Textiles (TSCT) at the Cape Peninsula University of Technology. It was established to provide innovation support to SMEs in the clothing and textile industry to become more competitive and
- The Reinforced & Moulded Plastics Technology Station (RMPTS) at the Durban University of Technology is the Centre for Advanced Material, Design & Manufacture technology transfer mechanism. Its mission is to advance the reinforced and moulded plastics sector through technological innovation, forward-thinking, and research and development. It specialises in composite materials and plastic tooling technology.

In conclusion, the Hon. Deputy Minister looked forward to the outcome of the THENSA-DHIK deliberations. On behalf of THENSA, Prof T Mayekiso, Vice-Chancellor, University of Mpumalanga, thanked the Hon. Deputy Minister.

4. REFLECTIONS ON KEYNOTE ADDRESS

The Hon. Deputy Minister and delegates highlighted some of the discussions:

- Internationalisation - The long history of Germany – South Africa collaboration and partnerships must continue with benefits for both countries.
- Given the focus on socioeconomic challenges, the role of universities in the 4IR (research development, technology, Innovation, and job creation) must be addressed.
- Equal roles and relationships between the different types of institutions and their standings and importance. There is no need for competition between institutions.
- The strengthening of the TVET system for post-school education - all TVET students should be allowed to articulate the NQF systems, particularly in technology and innovation transfer programmes. There are QCTO-accredited qualifications which support articulation between TVET colleges and technology-focused universities. Universities of Technology are better placed to support TVET colleges in articulation and play a role in research, technology, innovation and collaboration.
- Partnership with THENSA and DHIK will help strengthen the TVET sector.

- University and industry relationships are critical to strengthening work-integrated learning challenges. Industries provide students with practical training and create job opportunities.
- The role of WILSA, driven by THENSA, was acknowledged.
- It was noted that the backbone of the German economy is reliant on smaller and medium industries.
- THENSA's partnership with DSI on the various capacity-building programmes, including collaborations with some German universities, was noted.

5. OVERVIEW OF DHIK, INCLUDING PROPOSED AREAS OF COLLABORATION

Prof.Dr.ing Dieter Leonard, Chairman of DHIK gave an overview of the German University Consortium. (*Refer to the presentation for more details*).

In his presentation, he emphasised that collaborations and agreements based on the following:

Political context—The higher education system, including research and innovation, shares many similarities. Germany, the European Union, and South Africa cooperate, agree, and support each other through the various structures in their respective countries.
Common objectives – drive collaboration even though differences shape global citizens.
Structures are necessary to ensure success in cooperation and partnerships and maintain efficiency and stability.

DHIK has been operating for 20 years, fostering internationalisation by bundling and sharing resources and experiences (e.g., programs, accreditation, etc.). It has 38 member universities in Germany and one in Switzerland, with approximately 300,000 students and 6400 professors. Professors are only eligible for appointment with a minimum of 5 years of industrial experience. DHIK offers application-oriented bachelor's programs in engineering, business sciences, and computer sciences at renowned foreign universities. This is complemented by master programs and research partnerships, focusing on non-European regions.

DHIK cooperates internationally with China—STEM, Mexico—Engineering and Business, India—STEM, and South Africa—THENSA. Teaching and research significantly contribute to the internationalisation of the consortium universities. There is active collaboration with business networks in all partner countries.

DHIK looks forward to cooperating with THENSA and its member universities and setting up a South African German Centre for Higher Education.

6. GERMAN ACADEMIC EXCHANGE SERVICE (DAAD) A CASE STUDY AND BEYOND.

Ms Ruth Knoblich, DAAD Lecturer in Development Research, presented an overview of DAAD. *Refer to the presentation for more details*).

DAAD is the world's largest funding organisation for international academic exchange. It is an independent organisation of German higher education institutions and their student bodies devoted to internationalising the educational system. It was founded in 1925, with 3 Million scholars in Germany and abroad with DAAD funding. **DAAD Strategy 2025 defines three**

core goals: promoting excellence and broadening perspectives of education and science through international exchange; enhancing collaboration for the benefit of science, industry, and society; assuming global responsibility; and contributing to development and peace.

DAAD has three African offices (Kenya, Accra, soon to be the Head Office, and Johannesburg Information Centre, which is in a bridging period). There are 12 Centres of Excellence in Africa (3 in South Africa), 4 Global Centres in Africa (1 in South Africa), and 4 SDG Graduate Schools in Africa (1 in South Africa). These centres of excellence are built on existing collaborations between African and German universities with a broad range of thematic focus areas (e.g. development research, resource management, logistics, mining+ environmental engineering, micro-credits, etc.) and offer training and support for future decision-makers in research, economy and administration in Sub-Sahara Africa.

Some notable achievements: Improving the attractiveness of Master's and PhD programmes at UWC and increasing the number of graduates and output quality (88 CDR Master scholarships, 23 scholarship holders completed two Master degrees, eight transferred to PhD, 85% found a job, three months after graduation. Increasing the number of graduates and output quality (27 CDR PhD scholarships, 85% found a job three months after graduation, PhD graduates as partners in newly established university networks. 17% of DAAD scholarship holders are from South Africa.

7. OVERVIEW OF THENSA – PROPOSED AREAS OF COLLABORATION

Prof Henk de Jager, Interim CEO of THENSA, gave an overview of THENSA. (*Refer to the presentation for more details*).

Prof de Jager's presentation focused on the Post School Education and Training Systems in South Africa, the types of higher education institutions and the number of students in the different sectors (background information for international visitors), introduction to THENSA and its current projects and programmes, research focus areas/niche areas & research centres/centres of excellence/institutes of THENSA member universities, were institutions

The current areas of collaboration between THENSA & DHIK are on the DSI-funded Technology and Knowledge Transfer (Staff exchanges) with Wismar University of Applied Sciences, Technology and Design, Flensburg University of Applied Sciences, University of Applied Sciences in Saarbrücken, HTW Saar TH Köln – University of Applied Sciences, Technology, Arts and Sciences (Cologne) and Esslingen University of Applied Sciences.

An MoU was signed between THENSA & DHIK in April 2023. The following mutual activities were identified to contribute to achieving sustainable goals as defined by the UN (SDGs) and contribute to societal welfare and climate protection: Curriculum Development focuses on capacity building, joint modules and joint degrees, Student and Staff exchange, Research cooperation and exchange, Technology and Knowledge Transfer, Entrepreneurship development, and Joint Funding Applications.

These opportunities for collaboration for staff and student benefit in solving global problems together must be optimised by THENSA member universities.

Science and Technology Cooperation between South Africa and Germany (source: DSI) include S&T Agreement (South Africa and Germany signed a science and technology cooperation agreement in July 1996); The German Academic Exchange Service (DAAD); Staff development, institutional building, support for regional African networks, and the promotion of inter-university cooperation); The DAAD-NRF Joint Scholarship Programme for South Africa; Southern African Science Service Centre for Climate Change and Adaptive Land Management (SASSCAL); BMBF CLIENT II & DSI International Partnerships for Sustainable Innovations; Science Partnerships for the Assessment of Complex Earth System Processes (SPACES) programme; Research and development collaboration; Germany is a member of the SKA (Square Kilometre Array) Organisation. the largest radio telescope in the world and Cooperation among Universities**.**

- **It was recommended that the work of THENSA be communicated to its member universities through a roadshow.**
- **THENSA will pursue an international virtual campus for international learning whereby students have free access, thereby strengthening the transformation and transition of universities in SA.**

8. FOCUS AREAS OF COLLABORATION – FEEDBACK FROM THE GROUPS

The delegates were allocated to four groups to discuss focus areas of collaboration. The feedback from the groups is summarised as follows:

GROUP A

- Digital Transformation → Impact on Society
- AI technology as a common field of cooperation (Exchange of AI Hubs)
- Joint PhD Programmes
- Sustainability → Cross Sectional approach
- Curriculum development - A common structure development model for sustainability
- Governance guidelines
- Entrepreneurship models to overcome unemployment
- Community based learning approach
- Guest lectures (summer/winter schools), online courses, COIL
- Staff-student exchanges

GROUP B

High-level matters of relevance within the context of university collaboration

- SDGs, in particular Energy, Climate Change, Water, Public Health
- Leading practices in cooperative education, industry collaboration
- Students qualified for the global labour market
- Entrepreneurial education, innovation

Potential areas of collaboration and opportunities

- Students & staff exchanges
- Curriculum development
- Joint Research
- Virtual teaching with recognition of credits

Joint Funding Opportunities to support collaboration initiatives

- ERASMUS+; EU or UN funds and funds from governments

Role of DHIK and THENSA Leadership/Secretariat to enhance collaboration

- Joint Funding opportunities
- Representing, engaging and creating awareness for the network
- Sharing information
- Sharing best practices

GROUP C

Africa Agenda 2063 is a strategic framework for the socio-economic transformation of the African continent over the next 50 years. It emphasises inclusive growth, sustainable development, and regional integration to create a prosperous Africa based on shared values and a common destiny. Key pillars of Agenda 2063 include economic diversification, industrialisation, infrastructure development, and environmental sustainability, which therefore overlaps with the European Green Deal. The European Green Deal is an ambitious policy initiative by the European Union to make the EU's economy sustainable and achieve climate neutrality by 2050.

Areas of Collaboration

- Enabling level: AI, Automation and Digitalization
- Strategic level: Energy, Manufacturing, Sustainable Production, Food & Agriculture, Water & Waste, Circular Economy
- Specific Areas: Biotechnology, Health professions (nursing, radiography, dental technology, orthotics and prosthetics, clinical technology, etc.)
- Cross-cutting: Technological entrepreneurship & Digital Support Ecosystem Creation, SMME and job creation

Low hanging fruit

- Consortium to create DAAD-funded CoE, Global Centres & SDG Graduate Schools
- Sharing of undergraduate and postgraduate teaching and learning resources, staff exchanges, student exchanges, double qualifications
- Joint qualifications, e.g. Automotive Engineering (non-existent in South Africa)
- Joint supervision
- Curriculum development
- Funding instruments, DAAD, ERASMUS+, HORIZON, DSI, NRF, etc.

THENSA and DHIK

- Create an Enabling Digital Ecosystem
- Create Network-to-Network incentives and funding that support these networks
- Champions in each country for network and co-champions for dedicated priority areas
- External stakeholder and resource management (including matchmaking)

GROUP D

- ***Joint Development of Curriculum:*** Establish a smaller coordinating committee and focus on the two or three programmes that are common between two countries in specific disciplines, e.g., Engineering, Agriculture, AI, etc. This includes an environmental scan of what is common between countries/institutions, sharing curriculum, and establishing modalities for Joint Degrees.

- ***Faculty Staff Exchange:*** Bring academic and administration staff together through summer schools in Germany financed by DAAD, etc.; staff exchange in joint degrees; orientation of the International Offices from universities to support the exchange programmes and facilitate staff and student leave of absence.

- ***Student Exchange:*** Secure funding to facilitate the mobility of students (postgraduate) in the respective countries. Identify projects on which students should collaborate with common targets. Encourage PhD and Master's students to organise conferences on their areas of study.

- ***Research Exchange:*** Bring the researchers together in areas of collaboration; encourage the use of research equipment in the countries; Host a virtual conference on areas of research collaboration; secure funding to enhance research exchange; and establish Centres of Excellence.

- ***Joint Funding of Applications:*** Identify joint funding for areas of common interest and grant funding capacity building.

9. JOINT STATEMENT

Prof Chris Nhlapo and **Prof.Dr.ing Dieter Leonard** provided feedback on the details to be included in the Joint Statement between THENSA and DHIK. The Colloquium successfully discussed and identified areas for collaboration between THENSA member universities and DHIK. Whilst there are individual partnership agreements between universities, the opportunities for THENSA members to tap into the consortium/network are highly beneficial and supported. The areas of collaboration must be value-adding, resource-sharing, interculturally diverse, and sustainable.

THENSA and DHIK will enhance and strengthen collaboration between their respective partner universities which will be detailed in the agreed and signed Joint Statement.

10. CLOSURE

Dr Samuels thanked the members for a successful conclusion to the colloquium and the continued mutual collaboration of hope and possibilities for staff, students and the societies we serve. He invited members to attend the Networking Cocktail event scheduled for the evening.