



**SIEMENS**  
*Ingenuity for life*

# Siemens Training Centre at Dedan Kimathi Centre of Technology Strategic Plan 2021–2026

## **Summary:**

The Siemens Training Centre at Dedan Kimathi University of Technology (DeKUT-Siemens) Strategic Plan sets out a framework of priorities for the Centre and its programmes. The Centre team and stakeholders (Higher-educational institutions and Industries) have been consulted during the drafting of the plan and Industries will be vital partners in its implementation. The strategic plan will be underpinned by a much-detailed implementation plan which will be approved by the University management.



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## Motto

Change Africa for the Better.

## Mission

To advance on-class and on-job training and dissemination of the 4th industrial revolution Concepts.

## Vision

To bridge the gap between higher-educational institutions and industries by providing world-class professional training and research.

## Philosophy

DeKUT-Siemens is founded on independent scholarship and learning freedom while fostering a culture of innovation and collaboration. The Centre is committed to equality of opportunity, engendering inclusivity, and supporting staff and trainee wellbeing; ensuring that the very best trainees and staff benefit society on a local, regional, national and global scale. Likewise, DeKUT-Siemens's collegiate structure and interdisciplinary nature of programmes provides the Centre with key aspects of its training strength and its highly attractive trainee experience.



# 1.0 Themes and commitments

## 1.1 Professional Training

Through a commitment to the personal education of each trainee, the Centre will provide quality training and experience which imparts trainees with the values, skills and intellectual discipline that will enable them to make a positive contribution to society.

### 1.1.1 Commitment 1

*To attract and admit trainees from all engineering disciplines possessing a commitment to learn.*

To maintain and enhance its intellectual strength, the Centre must recruit and support trainees of outstanding potential at all levels, whatever their engineering disciplines. To achieve this, we will strengthen and expand outreach activities, based on rigorous evaluation of their effectiveness.

We will work closely with higher-educational institutions and industries to ensure effective coordination of outreach activity. We will enhance our trainees and graduate admissions processes to ensure equal opportunity for all applicants, and to improve efficiency and quality of service.

### 1.1.2 Commitment 2

*To offer an excellent combination of in-class and on-job training experience for all our trainees and ensure that DeKUT-Siemens fully equips graduates to excel in all their endeavour.*

We will maintain the combination of in-class and on-job training systems at the heart of DeKUT-Siemens's distinctive approach to trainees, and will ensure that ongoing support from stakeholders also continues to underpin our approach to a smooth transition of the industrial revolution. We will ensure that training at DeKUT-Siemens provides an equal opportunity for all trainees to achieve and demonstrate their full potential. We will work to reduce continuing gaps between higher-educational institutions and industries and encourage greater diversity in the workplace.

Supporting trainee wellbeing is at the heart of our approach to providing the greatest opportunity for all our trainees to excel. We will work to strengthen the partnership between higher-educational institutions and industries and the Centre will provide the welfare support that our trainees need to flourish. We will provide opportunities, through and outside the curriculum, for



our trainees to develop the personal and transferable skills to succeed in a global workplace. We will also provide opportunities for skills enhancement and career preparation for all our trainees.

### 1.1.3 COMMITMENT 3

#### *To retain and refresh the DeKUT-Siemens's rich learning environment*

We will retain the best that DeKUT-Siemens has to offer in its training, including close personal supervision and support, access to world leading training and unparalleled learning resources including our industrial technologies. We will also ensure that we respond to today's opportunities and tomorrow's challenges. We are committed to innovation and excellence in training, and will seek improved ways of demonstrating this in our training staff recognition and reward processes. We will ensure that training is informed by best practice, an inclusive approach to learning and the opportunities for innovation offered by 4<sup>th</sup> Industrial revolution technologies.

We will accommodate growth in trainee numbers that is strategically important to deliver the Centre's core mission and learning priorities, whilst recognizing our responsibility to maintain learning quality. We will continue to encourage the development of new collaboration and innovative projects to ensure that our portfolio reflects advances in knowledge and meets the needs of today's trainees.

## 1.2 Training Priorities

- Set ambitious targets by July 2021 to substantially increase by 2026 the number of SMSCP trainees from groups who are currently under-represented at DeKUT-Siemens.
- Set ambitious targets by July 2021 to substantially increase by 2026 the number of SMSCP trainees by up to 200 a year.
- Set ambitious targets by July 2021 to reduce by 2026 gaps in SMSCP attainment by gender and less-privileged trainees while maintaining quality.
- Aim to increase by 2026 Virtual Reality (VR) trainees 'intake by up to 100 a year, with a focus on strategically important subjects' areas including Virtual Reality, Augmented Reality, Mixed Reality, Data Analytics, and Artificial Intelligent.
- Aim to increase by 2026 continuous professional development (CPD) trainee's intake by up to 100 a year, with a focus on strategically important subjects' areas including Virtual Reality, Augmented Reality, Mixed Reality, Data Analytics, and Artificial Intelligent.
- Aim to increase by 2026 industrial projects and consultancies by up to 10 a year.
- Aim to offer by 2026 funded internships by up to 10 a year for trainees at all levels.
- By 2026, in partnership with the industries, to have additional training sites at DeKUT-Nairobi-Campus.



## 2.1 Research

DeKUT-Siemens is world-famous for its research excellence and home to some of the most talented Engineers and scholars from across Africa. Our work enhances the lives of millions, solving real-world problems through an extensive network of partnerships and collaborations. The breadth of our research and the connections between disciplines drive advancement in knowledge, understanding, innovation and creativity.

### 2.1.1 Commitment 1

*To promote and enable ambitious research of exceptional quality*

Ambitious discovery-led research undertaken to the highest standards of rigour and integrity has the potential to create the greatest impact. We will provide our researchers with the freedom to investigate problems of significance, whether their work be curiosity-driven or challenge-led. The breadth and depth of DeKUT-Siemens's disciplinary expertise enables us to lead international research agenda across Engineering and to convene multidisciplinary and international teams to address the most significant problems facing the world today.

### 2.1.2 Commitment 2

*To invest in Human resources, to support them and their research environment, thereby enabling the research endeavour to grow sustainably*

We will provide a conducive environment for conducting research, with state-of-the-art facilities and infrastructure, appropriate support for staff and trainees, and investment in the training, support and wellbeing of our staff. We will ensure that appropriate measures are in place to attract the most able minds from across Africa to engage in our research.

### 2.1.3 Commitment 3

*To change Africa for the better*

Our research will impact Africa through new understanding that leads to cultural, societal, political and economic change. We are a global Centre with global ambition but have deep roots in the African continent. We will invest further in the infrastructure to facilitate regional, national and international collaboration, in the skills and Human resources to provide capacity for such collaboration, and engage with the Siemens AG. We aim to maximize the economic benefit derived from our research regionally, nationally and across Africa.

## 2.2 Research Priorities

- Enhance the opportunities and support for early-career researchers.



- Aim to increase by 2026 research projects and peer-reviewed publications by up to 10 a year.
- Invest substantially in the research environment, both human and physical (hardware and software) by 2026.
- Increase the scale and scope of our central research fund to grow our capacity to pump-prime, and match-fund major research initiatives
- Engage with higher-educational institutions and industries to grow the volume and value of non-public-sector-funded research on a sustainable basis.
- Continue to broaden and invest in our innovation activities and foster the entrepreneurial environment for staff and trainees.

### 3.1 Human resources

Human resources are the foundation of the Centre's success and the quality of our training, research, and support staff is critical to our future. In order for DeKUT-Siemens to remain an Africa-leading Centre for training and research we must continue to attract, recruit and support talented, self-driven individuals and provide a diverse, inclusive, fair and open environment that allows staff to grow and flourish.

#### 3.1.1 Commitment 1

*To attract, recruit and retain the highest calibre staff*

In order to ensure that the Centre remains Africa-leading we must continue to recruit and retain the very best staff. We will ensure that our reward arrangements are robust, transparent and competitive. We will actively promote health and wellbeing so that our staff are able to give their best to their work and feel valued.

#### 3.1.2 Commitment 2

*To work towards an increasingly diverse staffing profile*

We believe that the broad range of cultural and other experiences that a diverse workforce brings will help the Centre maintain and develop its international outlook, strengthening its research and training. We will foster an inclusive culture that promotes equality of opportunity, values diversity and maintains a working, learning and social environment in which the rights and dignity of all our staff and trainees are respected. We will amplify the voices of under-represented groups in leadership and decision-making and work to eliminate any barriers to their success.



### 3.1.3 Commitment 3

#### *To support staff in personal and professional development*

Personal and professional development is key to enabling individuals to reach their full potential and maximize their contribution to the Centre. We will encourage staff at all levels to participate in planning their personal development and we will strengthen and promote our development programmes for all staff, regardless of their employment status. In particular, we will provide dedicated personal development support for early-career research staff and will ensure that those with management and leadership responsibilities are supported to be effective in those roles.

### 3.1.4 Commitment 4

#### *To enhance and promote good working environment and interpersonal relations*

DeKUT-Siemens Centre is committed to promote good working relations among its working staff and promote the spirit of oneness as a way of improving and increasing productivity. We will encourage our staff to participate in team building activities that will not be limited to bike riding competition and others that will be deemed fit.

## 3.2 Human Resources Priorities

- Embed a supportive, inclusive culture and increase the diversity of Centre staff at all levels through the implementation of our action plans.
- Ensure that DeKUT-Siemens remains an attractive place to work, taking into consideration the work environment.
- Create a policy and practice environment that is supportive of wellbeing, where responsibility for wellbeing is shared and owned by all.
- Put in place creative and consistent measures to help our staff to balance competing demands on their time including flexible working strategies and enabling training staff to vary their duties over the course of their career.
- Review and improve our current arrangements to support the personal and career development of all staff.

## 4.1 Engagement and partnership

By enhancing the public engagement, knowledge exchange and innovation culture, we aim to ensure that our research and training benefits the wider public in the African region and globally. To this end we will work in partnership with public/private sectors and our University alumni.





#### **4.1.1 Commitment 1**

*To work with partners to create a regional innovation ecosystem*

Enterprise and innovation are fundamental to DeKUT-Siemens's continuing research success and to its positive impact on society. They position the Centre as a place of opportunity which will attract the best researchers and trainees from around Africa. Working with higher-educational institutions and industries will foster an environment which nurtures our researcher trainees. We will invest in our capacity to increase collaborative research activity with local and international institutions/industries and provide enhanced support for spinouts and start-ups derived from our research through the work of the Centre innovations.

#### **4.1.2 Commitment 2**

*To build a stronger and more constructive relationship with our local and regional community*

We believe that it is vitally important that the Centre benefits local citizens. We will aim to increase the scale of innovation and translation in Biomedical Engineering. We will continue to provide gateways for public engagement with the research and training via exhibitions, public education, schools and outreach programmes, including through the yearly Agricultural Society of Kenya (ASK) Show. We are committed to working in partnership to increase our economic impact at both local and regional levels.

#### **4.1.3 Commitment 3**

*To engage with the public and policy makers to shape our research and training and to encourage the widest possible use of our research findings and expertise*

Working in partnership with higher-educational institutions and industries, we will look to inform the public and public policy through our research findings. We will also shape our research agenda, in part, through focusing attention on the issues of greatest economic importance. We believe that public engagement enriches research and society and, to that end, are committed to enabling our researchers to aspire, consult and collaborate with the public. We seek to embed high-quality and innovative public engagement as an integral part of our research culture and practice.

We will be an active partner in the development of open scholarship, providing the tools necessary for researchers to publish and share outputs from their research and to support national and international collaboration. Through continuing digital investment, the Centre will reach global audiences and communities. Our website will further the Centre 's objectives of excellence in research, scholarship and training by publishing worldwide.



#### 4.1.4 Commitment 4

*Through our international engagement the Centre will aim to maximize the Africa economic benefit derived from our research and scholarship*

Our international engagement will maintain and enhance strong institutional linkages across Africa, including those with the Africa Union, emerging economies and key partners, across the full spectrum of our research and scholarly activity. We will work to preserve and increase access to funding and networks to undertake our research and collaborate with suitable partners wherever they may be located, enabling both small and large-scale research collaborations. We will seek to improve mobility opportunities for trainees, support the role of our staff and trainees in Africa and raise the profile of our research and training internationally.

#### 4.2 Engagement and Partnership Priorities

- Continued investment in Cyber-Physical Systems (CPS) infrastructure to be a leader in VR, AR, MR etc and support online engineering training and research.
- Continue to improve the breadth and depth of public engagement through events and programmes delivered through multiple mechanisms, including VR, AR, MR etc
- Expand strategic international research collaborations.
- Support and expand international mobility opportunities for research trainees and senior researchers including undertaking research or gain work experience abroad.
- Inform, empower and mobilize alumni to become more knowledgeable and involved in support of the Centre.

#### 5.1 Resources

DeKUT-Siemens benefits from the careful stewardship of resources by previous generations – ensuring that the Centre remains both financially and environmentally sustainable into the future is critical. Enhancing the efficiency and effectiveness of our support services by simplifying systems and working together more collaboratively will be key to delivering a sustainable platform to underpin our training and research.

##### 5.1.1 Commitment 1

*To manage our financial resources to ensure the Centre's long-term sustainability*

We recognize that effective control of the Centre's resources underpins all our aspirations. The Centre will actively manage both its income and expenditure in an agile and responsive manner



which enables the Centre to react swiftly and effectively to any changes in the external funding environment. Key to this will be protecting and growing our income streams by diversifying our income sources and pursuing an ambitious development strategy which seeks to fund our core long-term academic activities. The Centre will also seek to better integrate its support structures, to ensure that its excellent training and research is complemented by similarly excellent professional services. This will deliver an improved working environment for all staff and deliver significant cost reductions by driving out inefficiencies.

### **5.1.2 Commitment 2**

*To ensure that our Centre provides an environment which promotes World-class research and training whilst minimizing our environmental impact and improving our space utilization*

A prioritized capital programme will be developed which will ensure that the outdated training kits are upgraded to the highest standards of accessibility and environmental sustainability, in accordance with *DeKUT ISO 9001:2015* and will meet the users' research and training needs.

### **5.1.3 Commitment 3**

*To continue to invest in our Enterprise Resource Planning (ERP) capability to enhance the quality of our research and training and to streamline our administrative processes*

We will invest in our ERP in order to increase research capability, enhance training and learning, and deliver efficiencies in support of administrative functions. We will deliver infrastructure which enables all staff and trainees to communicate effectively, share information securely and collaborate locally and globally. With a continuous focus on training and best-practice dissemination, we aim to empower instructors and researchers to use ERP systems effectively and trainees to improve their digital literacy for discovering, evaluating and creating information.

### **5.1.4 Commitment 4**

*To raise funds to support the very best trainees, invest in our staff and their work, and provide new resources and infrastructure*

We will ensure that fundraising and outreach efforts concentrate on those areas where we can be most effective and which address most strongly the strategic goals of the Centre.



## 5.2 Resources Priorities

- Diversify sources of income and investment including through partnership with the industries, commercial activities, philanthropy and the breadth of sources of research funding.
- Through the focus programme deliver service and process improvements to allow the continued growth in research and training without an equivalent growth in service costs.
- Deliver a capital investment in the CPS infrastructure of at least Kshs.5 Million by 2026 to reduce travelling and living expenses for international trainees.
- By 2026, in partnership with the local hostel owners, to have facilities for the international trainees and instructors of the Centre.
- Devise and implement a development strategy, appropriately resourced, which accords with the scale and ambition of the Centre's strategic objectives.

**By Centre Management**  
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