



2022 REPORT

# Commercialisation and Entrepreneurial Institutions Leaders (CEIL) Summit

**THEME** Institutions of Higher Learning and Research Centres as Catalysts for Entrepreneurship and a stronger National Innovation System



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	British Council
	UK Government
	The Lemelson Foundation
	National Research Fund
	Universities Fund



# FOREWORD

The Commercialisation and Entrepreneurial Institutions Leaders Summit is an initiative of Kenya National Innovation Agency (KeNIA) that targets various institutional leaders from key sectors with an intention of advancing the national commercialisation infrastructure. The aim of the summit, projected to run annually, is to strengthen the commercialisation processes at national, institutional, and individual levels, by articulating the business case for commercialisation, providing evidence and empowering the leadership to influence efforts, initiatives and outcomes of commercialisation in Kenya.

The 2<sup>nd</sup> Commercialisation and Entrepreneurial Institutions Leaders Summit took place on the 1<sup>st</sup> and 2<sup>nd</sup> December 2022 at the PridelInn Paradise, Mombasa. During the summit, the institutions were able to share the success and challenges of commercialisation as well as the business models working in their institutions. The summit brought together delegates from academia, research, Government, private sector, and international partners who were able to form strong linkages to enhance commercialisation in their institutions.

It was also an opportunity for KeNIA to articulate its various initiatives geared towards institutional commercialisation, particularly the Kenya Innovation Bridge, Research to Commercialisation (R2C) Accelerator and Kenya Innovation Week Commercialisation Summit. CEIL summit provided a great platform to the 1<sup>st</sup> cohort R2C graduates who pitched their innovations to potential funders, investors and the research community.

During CEIL 2021 one of the resolutions was for KeNIA to launch and disseminate the commercialisation guidelines. KeNIA is delighted to report that during the CEIL summit 2022 the commercialisation guidelines, which are designed to help academic and research institutions successfully commercialise their innovations, were launched.

At the end of the CEIL Summit several resolutions were made and KeNIA is committed to actualise the resolutions for enhanced institutional linkages between universities, research institutions, the private sector, the Government, and other actors in the system as per our mandate. In addition, the resolutions will form a strong basis as the Agency embarks on planning CEIL Summit 2023.



**DR. TONNY OMWANSA**

Chief Executive Officer, Kenya National Innovation Agency





## ABOUT

# KENYA NATIONAL INNOVATION AGENCY

The Kenya National Innovation Agency (KeNIA) is a State Corporation established under the Science, Technology and Innovation (STI) Act, No. 28 of 2013. The core mandate of the Agency is to develop and manage the National Innovation System. The Agency is therefore responsible for co-ordination, promotion and regulation of the National Innovation System.

Working with partners, KeNIA strengthens interrelationships between actors in order to promote innovation and enterprise development out of research and ideas. From supporting the identification, recording and protection of innovative ideas to coordinating the establishment and implementation of appropriate policies, standards, processes, infrastructure, and partnerships to nurture the innovative ideas. The agency also works with partners to ensure appropriate prioritisation, relevant capacity development, innovation recognition and publication of the same.

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# EXECUTIVE SUMMARY

The Commercialisation and Entrepreneurial Institutions Leaders (CEIL) Summit is a KeNIA initiative that brings together various institutional leaders from key sectors with an intention of advancing the national commercialisation infrastructure. The CEIL Summit was held on the 1<sup>st</sup> and 2<sup>nd</sup> of December 2022. 151 delegates attended from local and international institutions of academia and research, private sector, international organisations, and government. The delegates had constructive interactive dialogues on how to enhance research for commercialisation in the country.

To build a strong national innovation system through the commercialisation of research outputs, KeNIA needs to strategically shape the policy and regulatory environment. KeNIA needs to utilise the existing youth centres as Innovations hubs to create job opportunities for the youth. On the other hand, academia needs to enhance curricula, develop impactful partnerships, disseminating national guidelines, funding for ST&I, and establish a national network for HEIs.

The country needs to review the national education system and research priorities for economic transformation, through teaching and conducting research that is geared to solving national challenges. Government needs to set aside funding for research at the legislated 2% of the GDP so that research is conducted for local national needs other than donor funders priorities.

The commercialisation guidelines should aid institutions in successful commercialisation as well as the establishment of Technology Transfer Offices (TTO). In addition, there is need for motivating of innovators through publishing of success stories, developing, and implementing industry engagement, and allocating resources for commercialisation. An entrepreneurial attitude and mindset for researchers and students in HEIs and research centres needs to be encouraged.

HEIs and Research Centres should act as catalysts for entrepreneurship. They should recognise and support potential innovators and entrepreneurs within the communities. They may serve as conveners and collaborators for entrepreneurs and support communities to promote the economic development of the region, encouraging learning and discoveries.

TTOs should be set up in HEIs and Research Centres to generate more value from commercialisation and have a more significant impact on the economy. There is the need for entrepreneurial leadership in the context of commercialisation for HEIs and research institutions.

Currently there exists weak linkages between government, industry, Research Institutions, HEIs and the community as well success stories. Thus, the need of a framework that strengthens these linkages especially with the industry.

Thus, as a recommendation for networking the delegates formed:

1. A Kenya Network of Entrepreneurial Institutions Leaders (KNEIL) is formed with the aim of establishing best practices, knowledge sharing, sourcing for funding opportunities, and carrying out self-evaluations to create a strong national innovation system.
2. The Kenya Innovation Bridge which will be a digital marketplace for innovations & commercialisable projects with an Integrated real time national innovation & commercialisation information system.
3. The State Department of Youth Affairs will champion the development of a policy to set up Technology Transfer and Commercialisation Offices (TTCOs) all around Kenya.
4. An Entrepreneurial Institutions' Maturity Framework (EIMF) will be established as a mechanism for self-evaluation and piloting of the same will be done in 2023.

# ACRONYMS

ANDE	ASPEN Network of Development Entrepreneurs
ASSEK	Association of Startups and SMEs Enablers of Kenya
ATIP	Africa Technology and Innovation Partnerships
CEIL	Commercialisation and Entrepreneurial Institutions Leaders
CUE	Commission of University Education
DeKUT	Dedan Kimathi University of Technology
EDHE	Entrepreneurship Development in Higher Education
EU	European Union
FCDO	Foreign, Commonwealth and Development Office
GDP	Gross Domestic Product
HEIs	Higher Education Institutions
IAU	Innovation for African Universities
IF	Innovation Fellowship
IP	Intellectual Property
IS	Institutional Support
KeNIA	Kenya National Innovation Agency
KNEIL	Kenya Network of Entrepreneurial Institutions Leaders
KIB	Kenya Innovation Bridge
KIO	Kenya Innovation Outlook
KIW	Kenya Innovation Week
M&E	Monitoring and Evaluation
NACOSTI	National Commission for Science Technology and Innovation
NASA	National Aeronautics and Space Administration
NRF	National Research Fund
OACPS	Organisation of African, Caribbean and Pacific Group of States
PS	Principal Secretary
R&D	Research and Development
R2C	Research to Commercialisation
RISA	Research and Development Systems for Africa
SDG	Sustainable Development Goal
SDYA	State Department for Youth Affairs
ST&I	Science Technology and Innovation
TTO	Technology Transfer Office
TVET	Technical and Vocational Education and Training
UF	Universities Fund
UK	United Kingdom





## CEIL SUMMIT 2022 INTRODUCTION

The Commercialisation and Entrepreneurial Institutions Leaders (CEIL) Summit was an outcome of a high level full-day interactive and strategic workshop targeting Heads of Research Centres and HEIs that took place in 2021. It was from this workshop, co-sponsored by Lemelson Foundation and Villgro Africa, that the need for an annual meeting to discuss matters commercialisation was expressed and from then, the plans were initiated.

The first Commercialisation and Entrepreneurial Institutions Leaders Summit took place on the 01<sup>st</sup> and 02<sup>nd</sup> December 2022 at the Pridelnn Paradise Beach Resort, Mombasa, with the aim of convening various institutional leaders from key sectors to advance the national commercialisation infrastructure. The purpose of the summit expected to be held annually is to strengthen the commercialisation processes at national, institutional, and individual levels, by articulating the business case for commercialisation, providing evidence, and empowering the leadership to influence efforts, initiatives, and outcomes of commercialisation in Kenya. The Agency employs a three-pronged approach to its interventions which are national, institutional, and individual in nature.

## OBJECTIVES

The objectives of the CEIL Summit were;

- To share commercialisation successes and challenges, and the different business models that could be used to enhance commercialisation in Universities and Research centres.
- To bring together and strengthen linkages between leaders of key sectors that influence commercialisation of Innovations and research.
- To disseminate national commercialisation guidelines, report on contribution of universities to national innovation system, national innovation outlook being firmed up by KeNIA.
- To articulate various KeNIA initiatives relevant for commercialisation particularly the innovation bridge, R2C and KIW commercialisation summit.
- To link the R2C graduates and similar projects to potential funders and investors.
- To engage on the progress of institution support mechanisms championed by KeNIA.
- To discuss how best to influence policy and regulation to fast-track commercialisation.



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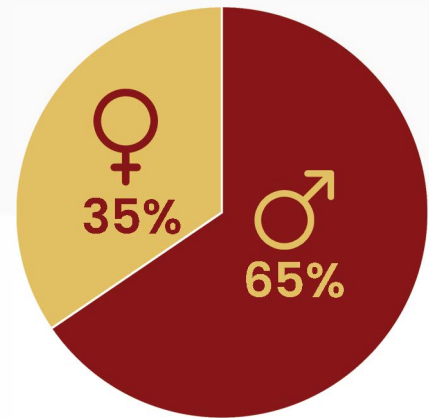
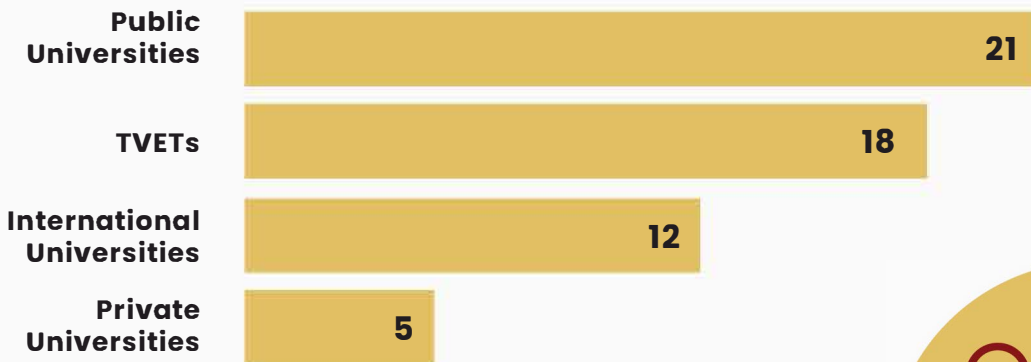
Innovation is unstructured. It happens in playful ways and involves breaking structures and moving different frontiers. One way we have done this is by creating unique playful situations and seeing how our students work their way around them.

**Dr. Vincent Ogutu**  
**VC, Strathmore University**

# CEIL SUMMIT 2022 THE AUDIENCE

# 168 ATTENDEES

## HIGHER EDUCATION INSTITUTIONS REPRESENTATION



The numbers speak at CEIL Summit!  
In 2022, delegates came in all forms.

From young innovators, career researchers, serial entrepreneurs, leaders, and even failed startups.

Look at the distribution.

**In 2023, it can only get better!**

Research  
Institutions  
**02**

Venture  
Funds  
**02**

# HIGHLIGHTS

## R2C ACCELERATOR PITCH

Kenya National Innovation Agency (KeNIA), in partnership with ViKtoria Solutions, is implementing this Research to Commercialisation (R2C) Accelerator which strengthens 20 research innovator's ability to raise funding for or commercialise their innovations. The program involves experiential training, mentorship and coaching towards pitching their ideas to potential investors and or commercialising their ideas.

During the CEIL Summit, the first cohort of 8 innovators got an opportunity to pitch their research innovations as highlighted below.



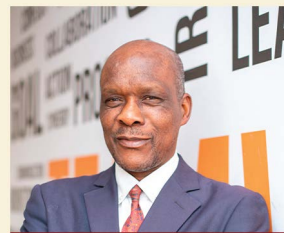
**Dr. Anncarol Karanja**  
Promoting Efficiency in Conversion of Waste to Value



**Prof. Duncan Onyango Mbuge**  
Hybrid Desiccant - Solar Grain Drier and Store



**Dr. Mbugua Wachira Gerald**  
Water Treatment using Fabricated Containers



**Prof. Paul Nthakanio**  
Seedlings Immuno-boost Medium



**Prof. Paul Kimurto**  
Nutrient-dense Groundnut for Diverse Nutri-foods



**Mr. Peter Kibet Kirui**  
Scaling Up of Aflasafe for Management of Aflatoxins



**Prof. Romano Mwirichia**  
Bio Pesticides: The Untapped Kenya's Bioeconomic Resource



**Dr. Rose Ramkat**  
Enriching Farmers Using Edible Bio-Preservatives on Fruits

A successful Research to Commercialisation project should meticulously evaluate both the financial rate of return and the social rate of return, ensuring a balanced approach that maximises profitability while delivering positive societal impact.

For more information about the R2C accelerator and the first cohort, go to [r2c.innovationagency.go.ke](http://r2c.innovationagency.go.ke)



# ORGANISATION OF THE REPORT

The CEIL Summit report is organised into four sections. The first three sections present the deliberations of the summit. The fourth section presents the actionable recommendations and way forward.

## **Section 1** **Building a Stronger National Innovation System**

This section focuses on KeNIA's objective of strengthening the National Innovation System through the commercialisation of research outputs and increasing the contribution of research and academic institutions to the national pool of innovations. At the CEIL Summit, discussions centred around the national approach aligned with KeNIA's strategic priority of shaping the policy and regulatory environment. Additionally, other key topics discussed at the summit included enhancing curricula, forming impactful partnerships, disseminating national guidelines, securing funding for Science, Technology, and Innovation (ST&I), and establishing a national network for Higher Education Institutions.

## **Section 2** **Higher Education Institutions and Research Centres as Catalysts for Entrepreneurship**

This section highlights the importance of HEIs and RCs in fostering entrepreneurship. It emphasises the need for collaboration among various stakeholders to create a supportive ecosystem that enables the emergence of entrepreneurial ventures. Further, it underscores the role of these institutions as key drivers of entrepreneurial growth and their significance in nurturing an environment conducive to economic advancement. Case studies of successful HEIs and RCs championing entrepreneurship are also presented.

### **Section 3**

#### **Interlinking National, Institutional and Individual Perspectives on Entrepreneurship**

This section presents an exploration of the intricate relationship between different levels of influence in the entrepreneurial ecosystem. It emphasises the significance of understanding and examining the connections between national policies, institutional frameworks, and individual aspirations to foster a thriving entrepreneurial environment. Drawing upon insights and examples from various sessions of the CEIL Summit, the report highlights how these three perspectives intertwine and mutually impact each other. The section provides actionable recommendations for policymakers, institutions, and aspiring entrepreneurs based on the dynamics observed during the summit and the initiatives presented by the Kenya National Innovation Agency.

### **Section 4**

#### **Way Forward**

This section articulates practical interventions for enhancing commercialisation of innovation from HEIs and research centres. While the Kenya National Innovation Agency has mounted some commercialisation support programmes, we recognise the practical medium-term interventions are necessary to optimise the current systems.



The British Council is a strong supporter of the Kenya Network of Entrepreneurial Institutions' Leaders. Institutions of higher learning have a critical role to play in innovation and entrepreneurship eco-systems and in contributing solutions to national, regional, and global challenges.

**Monica Blagescu,**  
**Head of Programmes - Higher Education, British Council**



# Section 1

## BUILDING A STRONGER NATIONAL INNOVATION SYSTEM

KeNIA seeks to strengthen the National Innovation System through the commercialisation of research outputs. This is informed by the need to increase the contribution of research and academic institutions to the national pool of innovations available to consumers. Several conversations and discussions at the CEIL Summit were focused on the national approach aligned to KeNIA's strategic priority of shaping the policy and regulatory environment.

During the summit the PS, State Department for Youth Affairs and the Arts in the Ministry of Youth Affairs, the Arts and Sports noted that innovations should indeed be discussed at the national level. KeNIA has the prospects of supporting the Government priority areas and Vision 2030 through utilising the existing youth centres as Innovations Hubs to create job opportunities for the youth. Therefore, his office committed to support KeNIA to implement its mandate to grow the national innovation ecosystem and catalyse innovations by the youth in Kenya.

Other key discussions at the summit revolved around enhancing curricula, developing impactful partnerships, disseminating national guidelines, funding for ST&I, and establishing a national network for Higher Education Institutions.

### Positioning National Education and Research for Economic Transformation

Education curricula tailored towards economic transformation is one of the ways that HEIs can contribute to the national innovation ecosystem. However, this is not the case in most Kenyan Institutions. Researchers and students of HEIs carry out extensive research, with the sole aim of publishing instead of considering commercialisation. Further, there is a disconnect between the research conducted and the consumers need.

To address this, the education system should be geared towards nurturing and supporting students and researchers to convert their research and innovations into commercialisable products and services. Additionally, universities should invest in research centres, teams, hubs, and translation of research into market outputs. These interventions can be achieved by realigning the curricula to suit the demands of the industry and Government to ensure research is translated into entrepreneurial outputs that positively contribute to the innovation ecosystem and the economy at large.

## **The Aspirations of allocating 2% GDP to ST&I**

The allocation of funds for research has been a key challenge in the ST&I sector. The sector is yet to receive the 2% legislated in the Science Technology and Innovation Act of 2013. This gap has been identified by the current Government who have committed to increase funding for research and development from the to the 2% of GDP as per the bottom-up economic agenda. They also intend to incentivise the private sector to contribute towards research.

Various leaders in the CEIL summit called for institutions to perceive commercialisation of research as an alternative source of funds. There is also the need to look at innovations as a source of job creation and a means to achieve positive social change.

## **Launching Commercialisation Guidelines**

Kenyan HEIs, research centres and businesses are missing out on opportunities to commercialise their research outputs. One of the reasons they do not commercialise is that there are no laws or policies that guide research commercialisation. More so, there is a weak linkage between industry and research Institutions when it comes to commercialisation of innovations.

To counter these challenges, KeNIA with the support of the OACPS Secretariat in the developed a framework to effectively guide and enable universities, research institutes and other higher learning institutions in Kenya on innovation commercialisation models. The commercialisation guidelines were established to provide various alternatives of commercialising innovations. The objectives of the guidelines are to enable these institutions get good return for their investment, provide avenues that will facilitate access to the industry to be able to commercialise their innovations and to assign specific responsibility to various stakeholders to strengthen commercialisation in Kenya.

At a national level, the guidelines propose the development of a national innovation policy, the establishment of a national innovation fund, finalisation of the draft IP policy, encouragement of universities to develop commercialisation strategies, and that 30% of funding that goes to the National Research Fund (NRF) should be allocated for commercialisation activities. These endeavours are geared towards supporting commercialisation of R&D outputs.

Within the institutional level, the guidelines propose the establishing and building capacity of TTOs, development of IP policies, and prioritisation of commercialisation and technology transfer. The guidelines also recommend raising intellectual property awareness and encouraging creation of spin offs to address the challenges faced at the individual level. These proposals are not mandatory but act as a guiding tool designed to help academic and research institutions successfully commercialise their innovations.

In addition to the guidelines, successful commercialisation can be achieved by motivating innovators through publishing of success stories, developing, and implementing industry engagement, and allocating resources to commercialisation to grow the national innovation ecosystem. Further, researchers and learners from HEIs are encouraged to have an entrepreneurial mind geared towards creating R&D outputs that can be sold in the market.

There is no one perfect solution for successful commercialisation, therefore there is a need for strategic partnership to ensure that HEIs are entrepreneurial. Even with the challenges facing commercialisation of innovations-, short-, medium- and long-term goals should be developed to dispel the myth that successful commercialisation is unattainable.



Seek ye first solutions to problems & funding shall find you.

**Darius Mogaka**  
Director - University Education



## Section 2

# HIGHER EDUCATION INSTITUTIONS AND RESEARCH CENTRES AS CATALYSTS FOR ENTREPRENEURSHIP

Promoting entrepreneurship requires an ecosystem where higher education institutions and research centres hold a crucial position in collaboration with various stakeholders to create entrepreneurial ventures that are mutually beneficial and self-sustaining. This way, potential innovators and entrepreneurs within communities are identified, convened, and outcome-mapping processes are conducted to accord communities the necessary support required to innovate, eventually translating to economic development.

### **The Role of IP & Commercialisation Offices**

Higher education institutions and research centres with TTOs are slowly becoming more active and systematic in identifying opportunities for commercialising university-owned patents. These institutions have also gained valuable experience through training and sensitisation programmes by KeNIA. Additionally, commercialisation guidelines designed by KeNIA are set to help such institutions improve IP management and utilisation by providing a push in the right direction.

In theory, there are exciting opportunities for licensing deals with higher education institutions and research centres eager to show that they are commercialising inventions, possibly under relatively convenient terms. However, mining for high-quality IP assets and dealing with a relatively inexperienced TTO may be challenging.

Future changes may streamline the university IP commercialisation process, increase levels of university-industry cooperation, and enable Institutions of higher learning and research centres to generate more value from commercialisation and significantly impact the economy.

### **The Role of HEIs and Research Centres Leadership**

Higher education institutions and research centres play an active role in the country's economic development, besides their traditional role of teaching and conducting research. Research has shown that the increasing global trend of entrepreneurial activities emerging in major academic institutions has left these institutions with no choice but to re-invent their operational undertakings and engage in entrepreneurial activities to remain competitive globally.

However, this transformation requires entrepreneurial leadership that can lead universities to enhance the commercialisation of their research. Thus, in this regard, entrepreneurial leadership is inevitable for universities, specifically in the context of commercialising university research.

## Universities

Globally, universities are facing an increasingly dynamic environment with a strong emphasis on innovation and translating research outcomes into impactful solutions for vexing societal challenges. Many universities are introducing entrepreneurship to the traditional teaching and research mission to foster innovative behaviour and achieve the desired socio-economic impact. European and US universities have adopted new governance structures, diversified their funding, changed their organisational structures, and adopted an entrepreneurial culture to drive more innovative behaviour. Using multiple case studies, the barriers, and opportunities for entrepreneurialism in 18 Kenyan universities are identified.

The universities possess inherent qualities necessary for entrepreneurialism, including steerage and concern for social welfare plus their performance-driven environment allows quick response to the dynamic external environment; however, certain areas require further development, such as a culture of innovation, incentivising universities to take risks as well as gaining appropriate support from the government. Based on the results of this work, a change agenda has been chartered to support further and develop entrepreneurial universities in the Kenyan environment.

## Success Stories

Entrepreneurship is a powerful driver of economic growth and job creation, and it creates new companies and jobs, opens new markets, and nurtures new skills and capabilities. Entrepreneurship and innovation go hand in hand: entrepreneurs need access to innovative ideas, products, processes, and services, and, equally, innovative products, processes and services need entrepreneurs who are prepared to take risks and develop appropriate business strategies to bring them to market. The Commercialisation Toolkit sets out KeNIA's plan to deliver an ambitious but realistic increase in quality startups.

The collaboration of academia, industry, government, and society is crucial for translating and commercialising research outputs. Even with the high potential returns, metrics on the extent of collaboration indicate that universities need to improve their performance in cooperation if they want better commercial incomes in developing innovations that impact society.

## Research Centres

The commercialisation of academic research helps transform knowledge generated in academia into market-ready products and services that benefit society. Universities' performance in research commercialisation is only somewhat commensurate with their proven records in basic research.

## Success Stories

BiInnovate Africa is strong in applied research, thanks to its proactive measures in incentivising the supply of innovations from universities while boosting the demand for new technologies from the industry.

## The perspective of TVETs in Enabling Innovations by Students and Staff

Universities, engaged in teaching and research, are not the only institutions that create knowledge. There are TVETs with a technological profile that boasts a more practical approach, and the TVETs are more entrepreneurial in both educational and administrative aspects. More TVET students start entrepreneurial activities after graduation, unlike university graduates, although these institutions may need more uniformity as they face similar crises and obstacles that affect universities.

### Key Recommendations

It was recommended that Technology Transfer Offices (TTOs) be established.

It was recommended that HEIs and Research Centres strengthen industry linkages.

It was recommended that TVETs inspire a mindset change to make students creators of job opportunities.

It was recommended that government increases the funding of TVETs to facilitate commercialisation of innovation.

## The Perspective of the Senior Leadership of IAU Partner Universities

The International Association of Universities (IAU) consists of 24 British and African partnerships with a focus on entrepreneurship development. It is crucial to the British Council's higher education support programme.

Three principles underpin the IAU programme:

01

Universities are best placed to provide students and graduates with the knowledge and skills for starting and growing businesses

02

Universities can support and foster the creation of new ideas, innovation, and commercialisation

03

Universities have an essential role in coordinating research efforts around entrepreneurship and the growth of SMEs

## Strengthening HEIs Entrepreneurial Programs Through the Establishment of Multidisciplinary Approaches

Turning innovative ideas into new businesses can deliver huge economic benefits for Kenya. The panellists proposed the following recommendations to encourage greater participation in and improve the quality of formal entrepreneurship education. They include:

- ▷ HEIs and RCs should consider how to incorporate entrepreneurship education into their core curriculum.
- ▷ Need for coordinated guidance to HEIs and RCs on entrepreneurship education.
- ▷ Universities, working with the government, should evaluate the impact of their entrepreneurship programs to understand better how to tailor their offer.

## The Perspective of Funders on Attracting Funding for HEIs and Research Centres

Venture capital plays a vital role in progressing innovation by providing essential finance and other support to turn ideas into innovative outputs. Venture capital is typically seen as filling a funding or equity gap between R&D and deploying an idea into the marketplace.

This gap is a consequence of the unwillingness of private investors to assume the high risks associated with early-stage investments, and therefore the need for government intervention arises. Other potential capital providers (for example, banks or family and friends) also tend to refrain from investing due to the high-risk nature of projects and the often-large quantum of funding required.



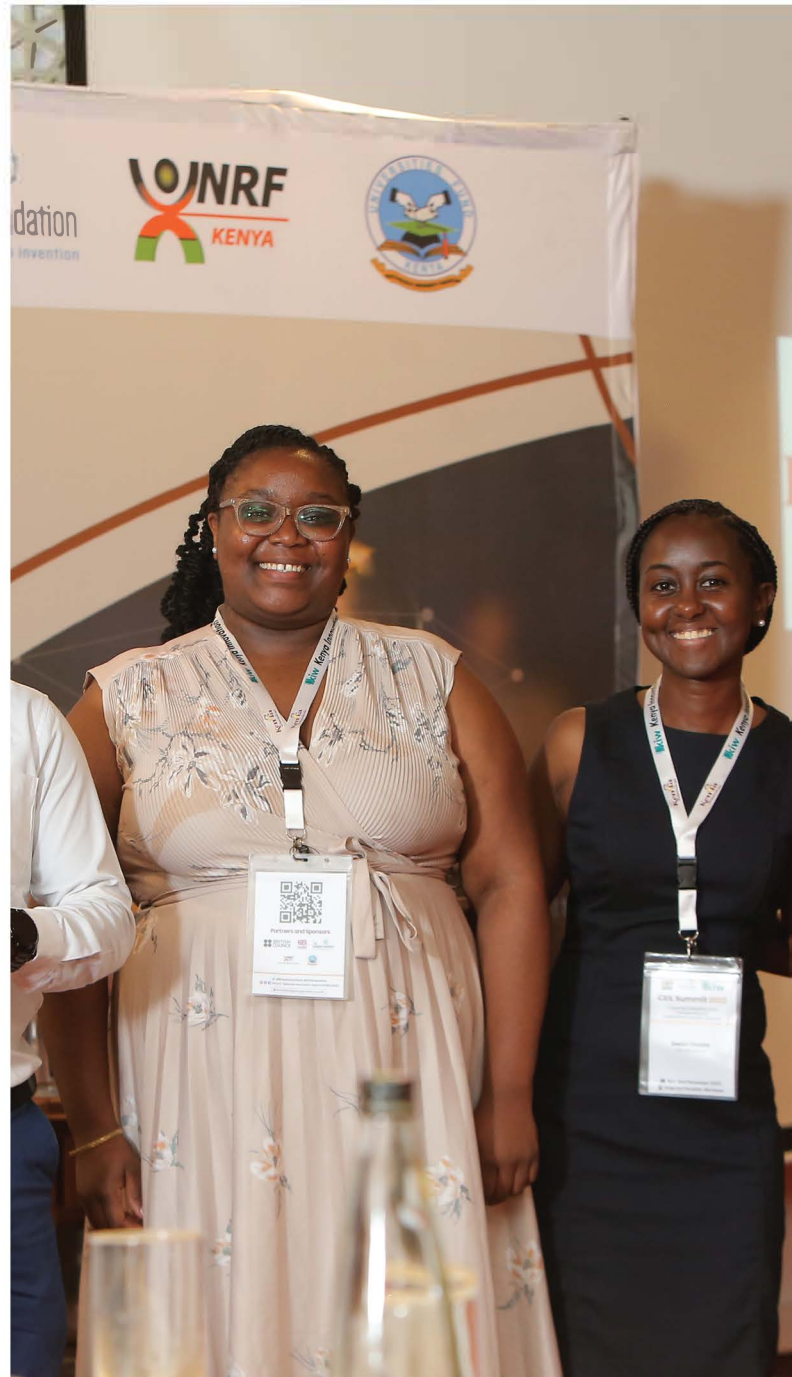
## **The Perspective of the UK Universities Council on Successful Commercialisation and Utilisation Pathways**

In academia, technological advancement is not made solely for pursuing knowledge, and many universities strive to further develop and commercialise their intellectual property through technology transfer. To this end, commercialisation strategy, spin-off policy and industry linkages play an essential role in commercialisation and entrepreneurship.

Effectively transforming research and ideas into marketable products and services is often a lengthy and complex process requiring substantial resources. HEIs are one of the most important sources of the nation's R&D output. The TTO aims to protect and promote the research its faculty and students developed through commercialisation and patents. Once the research is protected, the technology and information can be released, providing social and economic benefits.

At the CEIL Summit, we foster a collaborative ecosystem where ideas and research are strategically commercialised, empowering entrepreneurs to bring their innovations to the market and drive societal impact

**Agnes Tsuma**  
**Manager Innovation Commercialisation - KeNIA**



## Section 3

# INTERLINKING NATIONAL, INSTITUTIONAL AND INDIVIDUAL PERSPECTIVES ON ENTREPRENEURSHIP

The world of entrepreneurship is a complex ecosystem, influenced by various factors at different levels. From national policies and institutional frameworks to individual aspirations and capabilities, the interplay of these perspectives shapes the landscape of entrepreneurial endeavours. To foster a thriving entrepreneurial ecosystem, it is crucial to understand and explore the interlinkages between national, institutional, and individual perspectives on entrepreneurship.

In this section we delve into the intricate connections between these three levels of influence. We aim to shed light on how national policies, institutional support systems, and individual entrepreneurial initiatives intertwine and mutually impact each other. To provide a comprehensive analysis, this section draws upon insights and examples from various sessions of the CEIL Summit where experts, policymakers, and entrepreneurs from diverse backgrounds gathered to exchange knowledge and experiences.

By examining the interplay between national, institutional, and individual perspectives on entrepreneurship, valuable insights are uncovered and key factors that contribute to a conducive entrepreneurial environment identified. This exploration will not only enhance our understanding of the dynamics at play but also provide actionable recommendations for policymakers, institutions, and aspiring entrepreneurs.

Through an in-depth analysis of the CEIL Summit and the initiatives presented by the Kenya National Innovation Agency, the importance of aligning national policies, institutional support mechanisms, and individual entrepreneurial ambitions is illuminated.

## Partnerships to Strengthen Contribution of HEIs & Research Centres to the National Innovation System

The National Innovation System is the flow of technology and information among people, enterprises and institutions which is critical to the innovative process on the national level. According to the innovation system theory, innovation and technology development are the results of a complex set of relationships among system actors, including enterprises, HEIs, government and research institutions.

For innovations to solve emerging problems in a country, there is dire need for strengthened innovation systems. Just as NASA's mission was to put a man on the moon, the mission of KeNIA is to improve the innovation systems to solve the challenges that are affecting our country. The key area to strengthen is policy coherence, which will streamline the working relations between intergovernmental organisations, private sector, academia, and the government. A great mission can harmonise and catalyse public private partnership to scale up innovation.

The 9<sup>th</sup> SDG of building resilient infrastructure, promoting sustainable industrialisation, and fostering innovation should be fully embraced and utilised as a tool for resource mobilisation which will foster collaborations in the National innovation system. Reference was made to Prof Micere Mugo who stated that the knowledge we produce and any innovation that we might have, is useless unless they are in the service of the people and society.

## Strategic Positioning of National Education and Research for Economic Transformation: A 10-Year Outlook

Science, Technology and Innovation are key enablers for the attainment of Kenya Vision 2030. Therefore, education and research form the backbone to ST&I as enablers of solving a country's social and economic problems.

There is a great concern in the country about the tedious process it takes for substantial research outputs to be acknowledged. This includes the patenting process in which, compared to the top countries like Germany, Japan and the UK, Kenya performs very dismally. There is therefore need to support researchers in our HEIs to enhance research outputs that are geared towards economic transformation. Further, it was noted that the mantra in our HEIs is publish or perish, but there is need to publish something that will be tangible. Hence, we have not been able to marry research with the end product by positioning our research to a consumer mindset.

In addition, there is need to identify talented individuals by having a process of nurturing and supporting the student doing research. One way is by establishing an endowment innovation fund which will be utilised to support the young researchers. For the Government and private sector to be focused, they must have an open-door policy, especially HEIs that need to evaluate their curriculum to be in line with the industry and government.

## Strategic Partnerships to Enhance Commercialisation of Innovation and Technology

The power of strategic partnership is to enhance commercialisation as an urgent need to form synergistic relations to grow innovations and have a mind shift of our values. This will ensure that Kenyan HEIs are entrepreneurial to enhance commercialisation. Having an ambitious guideline requires a strong steering committee to ensure its successful implementation along with system change approach and leadership. Currently there exists a weak linkage between government, industry, Research Institutions, HEIs and community needs when it comes to commercialisation of innovations with limited success stories. Thus, the need of a framework that links institutions with the industry to commercialise innovations.

In addition, there should be a reward system where the most innovative HEIs gets more startup funds. Ranking of HEIs in the country should be done based on innovation outputs of an Institution which again requires a strong database of the innovations done countrywide. This will competitively create and instil a culture of attention to innovation, commercialisation, and research.

There is also a great need to give success stories of innovations done, such as the ECOBANA project by the students at St. Pauls University who created sanitary towels using pseudo stems of banana. The success stories can lead to industry involvement in the commercialisation of innovations from HEIs.

For lecturers to have a successful entrepreneurial mindset, there is need of peer-to-peer support, the need to embrace social entrepreneurship, co-creations and addressing ownership of IP as ways of achieving this mindset shift.

## Lessons from Entrepreneurial and Innovative Institutions

Universities have capacity to innovate, therefore they should identify their strengths and work with what they have to become innovative Institutions. They should hire staff with capacity to further innovation in their respective institutions. Creating solutions to address problems facing the society is a powerful tool for socio-economic development.

As long as Kenya remains a net importer, she cannot inculcate an innovative culture hence the government should come with policies on importing only what the domestic market cannot produce. As demonstrated by the COVID-19 crisis, HEIs came up with many innovations due to the scarcity on imports.

Great innovations happen during crisis therefore institutions should look at crisis as an opportunity that investors can invest in. In addition, teamwork is the best way to further our innovations. Failure is a part of life therefore we should allow ourselves to fail until we achieve the desired outputs from our innovations. Therefore, Kenyans should always inculcate an innovative culture.

For innovations to be sustainable, there is need to make innovative solutions that are continent focused and as Africans we should utilise our indigenous ways of doing things to create outputs that support people who need it. Additionally, the stakeholders should know their roles and how these roles feed into each other. Institutions should design a curriculum that ensures that students are absorbed into the market after they graduate. The curricula should be co-developed by industry and academia to ensure that it covers current industrial needs.

Successful commercialisation is achieved where the outputs are customer-oriented and partnerships are geared to value exchange. Partnerships should be approached with an open mind and due diligence should be done before engaging a potential partner. Institutions should say no to potential partners who add no value to their innovations and to stay true to their mission and their true north. Institutions should be challenged to adopt their innovations before they market them.



**COMMERCIALISATION  
IONS LEAD**

## CEIL SUMMIT 2022 WAY FORWARD

Based on the deliberations of the CEIL Summit 2022, the following resolutions were made and therefore form the outcomes of the summit.

**01**

Drawing lessons from the South African Entrepreneurship Development in Higher Education (EDHE) network, that a Kenya Network of Entrepreneurial Institutions' Leaders (KNEIL) is formed. The network will consist of Universities Fund, National Research Fund, Kenya National Innovation Agency, Commission for University Education, and Higher Education Institutions. The aim of the network will be establishing best practices, knowledge sharing, sourcing for funding opportunities, and carrying out self-evaluations to create a strong national innovation system.

**02**

Any feedback regarding the Commercialisation Guidelines should be received by 4<sup>th</sup> December 2022 to enable the guidelines to be released to the public on the 8<sup>th</sup> December 2022 and subsequently availed to institutions in February 2023.

**03**

That the Kenya Innovation Bridge will be a digital marketplace for innovations & commercialisable projects with an integrated real time national innovation & commercialisation information system.

**04**

That the Ministry will champion the development of a policy to set up Technology Transfer and Commercialisation Offices (TTCOs).

**05**

An Entrepreneurial Institutions' Maturity Framework (EIMF) be established as a mechanism for self-evaluation and piloting of the same be done in 2023.

# CEIL PARTNERS

Partners committed to commercialisation of innovations in HEIs and Research Centers



## British Council

The British Council supports peace and prosperity by building connections, understanding and trust between people in the UK and countries worldwide.

[britishcouncil.co.ke](https://britishcouncil.co.ke)



## UK Government

[gov.uk](https://gov.uk)



## The Lemelson Foundation

The Lemelson Foundation works to cultivate the next generation of impact inventors and strengthen the supporting systems that allow invention-based businesses to thrive.

[lemelson.org](https://lemelson.org)



## National Research Fund

The National Research Fund facilitates research for the advancement of science, technology and innovation.

[researchfund.go.ke](https://researchfund.go.ke)



## Universities Fund

The Universities Fund develops transparent and fair criteria for the allocation of funds to Kenyan universities.

[universitiesfund.go.ke](https://universitiesfund.go.ke)



# EURIAL



Innovation commercialisation starts and stops with culture, implementation and measurement of policies, challenge-based learning, integrating innovation into education curriculum, and industry-academia linkages.

**Dr. Emmy Chirchir**  
Deputy Head of the East Africa  
Research and Innovation Hub, ST&I  
Advisor & Cluster Lead - UK Foreign,  
Commonwealth and Development  
Office (FCDO)





SUMMIT 2022

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**Rosemary Aondi**  
Regional Director East Africa  
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Development Entrepreneurs  
(ANDE)





