



**KEY NOTE ADDRESS BY ENG. JOHN TANUI THE CHIEF EXECUTIVE OFFICER, KONZA TECHNOPOLIS DEVELOPMENT AUTHORITY (KOTDA), DURING THE 3<sup>RD</sup> DeKUT INTERNATIONAL CONFERENCE ON SCIENCE TECHNOLOGY, INNOVATION & ENTREPRENEURSHIP AT DEDAN KIMATHI UNIVERSITY OF TECHNOLOGY, NYERI ON 1<sup>ST</sup> NOVEMBER 2017**

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#### **SALUTATION**

- Wahome Gakuru-Governor Nyeri County
- Prof. S.O. Keya - University Chancellor
- Prof.P.Ndirangu Kioni-Vice Chancellor



**Ladies and Gentlemen:**

- I wish to thank the leadership of Dedan Kimathi University, for hosting this important conference. I am delighted to see so much enthusiasm, at the highest level of academia, for a topic that is dear to my heart “Science Technology Innovation and Entrepreneurship
- I am pleased to be here, and I would like to thank my host – Prof.P.Ndirangu Kioni-- Vice Chancellor for giving me this opportunity to give a key note speech to this great audience
- Universities play an important role in driving economic growth. We live in a time where knowledge as an input to economic growth, has fundamentally changed, and indeed gained more prominence.
- A majority of developing countries are now moving towards a “Knowledge-based economy”; whose key component is greater reliance on intellectual capabilities, human capital, research and development.
- Indeed, knowledge is replacing other resources, as the key driver to development, and Science Technology, Innovation and Entrepreneurship has increasingly become the basis of individual prosperity and social mobility in the world today.
- It is recognized that effective leveraging of Science, technology innovation and entrepreneurship is essential for wealth creation in all nations. And also a key component of social integration, sustainable development and poverty eradication

**Ladies and Gentlemen:**

- At the global level, Science, Technology, Innovation and Entrepreneurship act as a tool of international co-operation. Trends globally indicate that countries that have leveraged the production management and application of knowledge have achieved sustained economic growth rates, with substantial improvements in quality of life. Examples of this include South Korea, Malaysia, Singapore and Brazil.
- Kenya has in many ways defied the odds in the adoption and application of technology. Whist the most outstanding innovation out of Kenya has been the adoption of mobile



money transfer that has today morphed into a savings, credit and payments platform, other sectors of our economy have equally kept abreast with technology. The emerging innovation culture in the country has led to the application of technology in the provision of government services, insurance, farming, transport and logistics, education and even health.

- The country's growing reputation for innovation has attracted billions in Foreign Direct Investment (FDI); According to a report by Venture Capital for Africa (VC4A) there were 113 Venture Capital backed Start Ups in Africa in 2014; 21% (24 Start-Ups) are based in Nigeria having raised \$1.4 million while Kenya is second with 17% (19 Start-Ups) having raised \$ 4.7 million. In essence that country is one of the fastest growing technology hubs in Africa.
- There is however a missing middle that needs to be addressed in order to enable the country's Innovators and Entrepreneurs reposition the country as a global investment hub. The missing middle is a sustainability model to help Kenyan innovators to develop and rollout their products, services and solutions without being acquired or selling off their products to larger multinationals.
- To fill the missing middle, Kenya needs to invest in Science Parks (SPs), Areas of Innovation (AOI) and Smart Cities. In essence SPs, AOIs and Smart cities would play host to incubators and accelerators who would be instrumental in supporting Innovators through the conceptualization, Start-Up and maturity phases of their businesses.
- Since the early 1960s the global economy has been undergoing a pendulum shift away from the traditional economic staple driven by agriculture and industry to a knowledge based economy. A more elaborate global telecommunications and information system, which is today leveraged on the Internet, continues to reshape all aspects of the global economy. Whilst Africa and the wider developing world was in the pasts segregated from participating in the global industrial economy which is heavily reliant on infrastructure, the knowledge economy can help Africa and the wider developing World leapfrog this investment.

**Ladies and gentlemen,**

- Further, an important missing link is the active role of academia in pushing relevant research while leveraging Science and Technology



- Two key questions we must ask ourselves are: who is driving the innovation culture in our country? And, what is the contribution of the academia?
- This underscores the need for universities and the industry to partner to churn out innovative solutions from the theories and research work that we have developed.
- Talal Abu once said: “The foremost challenge is that of the knowledge revolution. Economic power will depend on creativity and innovation. Creation of wealth will move from traditional resources to the one asset: Knowledge.” I believe that building new ideas that can solve our day-to-day challenges is one of the most effective ways of wealth generation.
- We have a responsibility as the academic fraternity to ensure that our programmes incorporate practical experience that matches the needs of the industry to ensure that we supply the market with well-prepared graduates.
- We need to increase the university - industry interaction. This way we have an opportunity to broaden our professional expertise and stimulate innovation. Exposing students to more practical experiences will yield the desired results of an industrialized economy that spurs growth and development.
- The industry will see greater value in working with the academia to the extent that it advances market objectives. The focus on partnership between the academia and the industry must therefore have an impact on the market products and services, processes and people.

#### **Why do I say so?**

- A number of reports have ranked Kenya second after South Africa in terms of innovation. This is good progress, however, there is a growing concern about Kenya’s poor track record on the transfer of technology from the university to the industry and the commercialization of academic research.
- As a country, we rank poorly in the number of registered patents and very few universities have commercial spin-offs that they can identify with. This can be largely attributed to lack of strong Technology Transfer Offices that are to naturally focus on building strong collaboration between the industry and universities.
- We need to develop mechanisms that take us beyond research work and generate more patentable homegrown solutions that can be commercialized.
- We need to simplify innovation, and relate our day-to-day interactions with a potentially disruptive invention.
- For Instance: It is reported that one ordinary day a young man was going about his day-to-day duties as a Navy engineer when he felt a strange sensation in his pants he paused



and found that a chocolate bar in his pocket had started to melt. It occurred to Percy Spencer, an engineer at Raytheon to relate the melting chocolate with a microwave-emitting magnetron he was fiddling with...today we credit the microwave invention to this accidental act. Indeed, As Einstein state "If at first the idea is not absurd, then there will be no hope for it"

- As a county we need to begin to change our mindset and come up with disruptive innovations such as the microwave invention, the Urber app and many more, we need to implement strategies that have a ripple effect world over. This mindset needs to be imprinted in our students at the university level, so that they can work on innovations that are practical and scalable. This sort of approach to education will accelerate the pace of technical and scientific advances. The key component of a knowledge economy is a greater reliance on intellectual capabilities, human capital, research and development.

#### **Ladies and Gentlemen,**

- Other universities and countries have done it and we can do it too!
- We have made progress, as a country. We are unmatched in research expenditure compared to the rest of our Sub Saharan counterparts.
- However, we still have a long way to go compared to South Korea, whose Research and Development spending has continuously increased over the years.
- In 1999, South Korea investment in research and development (R&D) totaled 2.07% of its gross domestic product (GDP), just below the average for nations in the Organization for Economic Co-operation and Development (OECD). In the latest figures, the country has stretched out a clear lead at the top. The 4.29% (US\$60.5 billion) that South Korea invested in R&D in 2014 outstrips runner-up Israel (at 4.11%), as well as regional competitor Japan and the United States. The biggest chunk of the money goes towards applied research and development in industry, but the government has made major investments in basic science, too. This year South Korea committed to investing 5% of GDP in R & D the highest percentage in the world according Yonhap news agency report 2015.
- South Korea prides herself in the Korean Advanced Institute of Science and Technology, which has been the driving force behind her knowledge economy. Kenya needs to borrow from this example and walk in the same lane to push her research spending up with the view of increasing focus on scalable innovations.



- As Konza we are glad to host The Kenya Advanced Institute of Science and Technology as our anchor tenant, and we hope to leverage this in enhancing ST& 1 in the country

### **Ladies and Gentlemen**

- Kenya is uniquely positioned to take advantage of the Knowledge economy with the country having already invested in the core ICT infrastructure that will enable its foster innovation. While Kenya has both the market and ability to consume innovation, it lacks the supporting mechanisms under which these innovations can be developed.
- The importance of a ready market cannot be understated as it portends both consumption and scalability for both local and global firms. On the one hand the local population can consume the innovations developed locally and on the other it acts as a test market for innovation providing a proof of concept for both regional and global distribution.
- For this to happen however, the country needs to embrace the development of Science Parks and Smart Cities that would act as Areas of Innovation for both local and global innovation.
- Dedan Kimathi is uniquely positioned to take up this important role. Konza Technopolis and Dedan Kimathi has one thing in common, we have been given identified to pilot Science Parks and Areas of Innovation for Kenya.
- Science Parks and Smart Cities would attract both local and global innovators setting the stage for technology and skill transfer to our labour force.
- As a university you are uniquely placed to play this role and narrow the gap. By hosting a Science Park Dedan Kimathi University will be academic centers of excellence laying the foundation for the commercialization of knowledge and academic research through real world application of academic theories. The net effect of leveraging Science Parks is a more innovative knowledge based economy that fosters both skill and technology transfer to the Kenyan working class while providing a platform for Kenyan innovators to upscale and prepare their inventions for the regional and global market. Ultimately this will result in more opportunities for Kenya's growing youth populations.
- Just like the three universities in The Research Triangle in North Carolina namely Duke University, Campel Hill University and the North Carolina State University. The idea behind the establishment of Research Triangle was to basically support an ailing economy that had traditionally relied on manufacturing and textile for its growth, this



was no longer sustainable. The birth of Research Triangle completely changed the equation.

- Today, due to the presence of the three universities, Research Triangle is home to over 170 companies and employs over 39,000 full-time researchers
- It is my hope and prayer that this university will take up its role in building the local economy within Nyeri County and indeed Kenya and the Region. With a population of 693,558 people, according to the 2009 National Census Nyeri County you have an opportunity of turning around the fortunes and building an economy that can enhance the quality of life through wealth generation
- By leveraging on Science and Technology we are looking forward to this university for example coming up with innovative solution to locally produce products such as tea and coffee that will include value addition and direct access to international markets without having to go through the Mombasa auction.
- Why cant this county for instance feed the east African region from the produce such as maize, beans, assorted vegetables and sweet potatoes. We are looking forward to a time when professors will not only focus on the classroom but also look out side and work with the communities in providing innovation solutions to local challenges
- Professors should be adopting farms and or farmers and working with them to enhance production

### **Konza Technopolis**

- Konza Technopolis often referred to as Kenya's Silicon Savannah has three subject clusters of focus, namely ICT, Life Sciences and Engineering to catapult the country into greater success.
- Each of these clusters will have research, education and commercial partners all linked to the Government, forming the triple helix of innovation.
- Education is a key element of a Smart City. To have a well-educated citizenry and have Science & Technology contribute to the GDP of Kenya considerably, Konza requires a cluster of campuses focusing on Science, Technology, Research, Innovation and Entrepreneurship.



- We are in the process of establishing exceptional academic institutions in Konza; these include University Campuses, Centers of Excellence and Innovation Centers all will be established by local universities and the private sector.
- We are determined to build a platform for collaboration, capacity building and knowledge sharing between government and the industry at large. Developed economies have demonstrated the power of investing in own talent, supporting and nurturing them and being able to take risks with innovators.
- As a country we need to establish a specialized regional lab for testing and validating viable products for market launches and supporting them till such innovations endure the market forces.
- Konza will attract businesses, small and large, local and international, develop and sustain an ecosystem that can educate new and existing technology entrepreneurs.
- Further, the Technopolis with its reliable infrastructure and connectivity will foster a technology ecosystem that will bring together a diverse population to offer solutions to our local problems.
- I believe that the solutions from the Konza ecosystem will help address global challenges, creating a foundation for Kenya's startups and SMEs to grow into multinationals.
- Innovative technologies incubated in research labs and businesses in Konza will be invited to focus on key sectors of the economy, among them, agriculture, tourism, ICT and manufacturing.
- *Pause. Off your head give an update of Konza as below;*
- Infrastructure development
- KAIST
- Land disposition
- Investment opportunities
- In conclusion, universities are a critical catalyst in advancing Kenya's innovation efforts due to their wealth of mind capital and ability to generate as well as attract the best talent. Let us all embrace this very key partnership and help spur our country to greater economic power.

**Thank you.**