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**South Africa's Investment into ICT in Higher Education and
Opportunities for External Investment.**

By

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During the African Education Summit

Organised by: **African Brains**

Theme: **Agenda for Investment in Technology & Infrastructure**

Venue: King Mohammed VI Centre, Rabat

Date: 12 -13 July 2011

Ministers

Senior Government Officials

Non-profit organizations

Donors

Honourable guests

Ladies and Gentlemen,

Introduction

Your Excellencies, firstly, I would like to thank the Moroccan Government, for hosting this high level and strategic **African Education Summit**, in support of a non-governmental organizations initiative. Allow me to congratulate **African Brains**, for creating this space for African policy makers and practitioners, to deliberate on possible ways of investing in **technology** and **infrastructure**. It is in our interest, to **monitor** emerging

technologies, with an aim of **mastering** them, and, to **incorporate** their use in **promoting access** to quality education especially for our youth.

Most of our countries are divided and fragmented following years of **deadly conflicts**, such as, civil wars in Cote d'Ivoire, Angola, Genocides in Rwanda, Apartheid in South Africa and the Western Sahara – Morocco conflict. Education is at the centre of the post conflict reconstruction programmes. Due to legacy related challenges, our societies remain unequal.

Your Excellencies, the South African Government, has developed a new Economic Growth Path Policy with six priorities. These are: **Infrastructure Development**, the **Agricultural value chain**, **Mining and Metal fabrication**, **Manufacturing expansion**, the **Green Economy** and key

services such as tourism, creative industries and business services.

The identified areas present us with strategic opportunities to expand and grow our economy, and that of the region.

We believe for instance, that infrastructure development is key to unlocking economic opportunities in Africa.

We strongly support NEPAD projects based on our recognition of the need to mobilize investors to invest in Africa's infrastructural development, specifically that which will enable economic development and the integration of the region. Currently the region's infrastructure needs are estimated at **13.3 billion US dollars** a year.

An example of such projects, is the **Maputo Development Corridor** (MDC), the region's first major public private partnership (ppp) initiative. As we know, the revival of this

corridor by the South African and Mozambique Governments was a move to stimulate sustainable growth and development in the region.

The new growth path points to new opportunities on the African continent, with its market of 1 billion consumers and some of the fastest growing economies in the world. It sees a key role for knowledge based sectors that rely on information, innovation and new technologies.

The Continent's Commitments to Education

Your Excellencies, as a continent, we cannot afford to lose sight of education related commitments we made with the rest of the world, in support of the **Millennium Development Goals**, specifically a commitment to,

“Achieve Universal Primary Education” for all boys and girls by 2015.

In 2000, the former Secretary-General of the United Nations Kofi Annan, in his report titled, **“We the people: The role of the United Nations in the 21st Century,”** said,

"We must put people at the centre of everything we do. No calling is more noble, and no responsibility greater, than that of enabling men, women and children, in cities and villages around the world, to make their lives better. Only when that begins to happen will we know that globalization is indeed becoming inclusive, allowing everyone to share its opportunities."

It is disappointing that according to the Millennium Development Goals, 2011 Report, no significant improvement has been made thus far. The Monitoring and Evaluation Report, says:

“In the Developing World as a whole, increase in enrolment in primary education has been slow. The net enrolment ratio has gone up just 7 percentage

points since 1999 reaching 89 percent in 2009. In more recent years, progress has actually slowed, with an increase of just 2 percentage points between 2004 and 2009, dimming prospects of reaching the MDG target of Universal Primary Education by 2015.”

The most notable increase has been in sub-Saharan Africa, which has seen an increase of **18 percent** between 1999 and 2009 followed by Southern Asia and Northern Africa with **12** and **8 percent** increases respectively.

Commenting on the Report the honourable, Secretary-General, of the UN, Ban Ki-moon, said:

“Between now and 2015, we must make sure that promises made become promises kept. The people of the world are watching.

Too many of them are anxious, angry and hurting. They fear for their jobs, their families, their futures. World leaders must show not only that they care, but that they have the courage and conviction to act.”

Last year, during the Fifa Soccer World Cup, held in South Africa, the Global community launched the **“1 Goal: Education for All campaign”**, as a legacy of the world

cup in Africa and poor regions around the world. This was a commitment to work towards a breakthrough on **Global Education Funding**.

Africa's Status on ICT

Information and communication technologies (ICTs) have the potential to fast track social inclusion, as well as the capacity to enhance global solidarity and cooperation.

It is common knowledge that a high percentage of our people study in education centers which are located in rural settings. UN Secretary-General, Ban Ki-moon, recently noted that **“70 percent of the developing world's 1.4 billion extremely poor people live in rural areas.**

The majority of the said vulnerable people are in Africa.

As a result of the continent's history of **socio-political** conflicts, we have the highest number of refugees in the world, and, the survivors face immense health, education deficits and poverty challenges. They also experience high levels of trauma and post-traumatic stress reactions.

Your Excellencies, we all know that a large number of people in our continent have limited or basic ICT knowledge, for example, the cellphone I have, has an abundance of applications such as skype, tweeter, facebook, you tube, Microsoft programmes, email and research programmes.

Yet, I mainly use it to receive phone calls and send messages. How many of us here can say we use all the gadgets we own to their full potential?

The CEO of the Commonwealth Telecommunications Organisation (CTO) Dr. Ekwow Spio-Garbrah, during the UN workshop on e-Leadership in Dar es Salaam, Tanzania, in June 2011, urged African Leaders to take social media, more seriously or potentially lose power and moral authority amongst the youth.

He, said:

“One of the major factors that accounts for Africa’s relatively lower levels of economic progress is our relatively weak uptake of e-transformation, e-development, e-society, e-progress and e-prosperity.”

And continued,

“If Africa is to make a quantum leap in the levels of its e-adoption and e-readiness, then there must be a new African e-leader capable of transformative change in his or her country, taking the fullest advantage of all the e-infrastructure and e-tools available today.”

A further challenge we are all possibly, aware of, is the shortage of bandwidth in the continent. A survey conducted by the **Southern African Regional Universities Association** in 2007, identified the top ICT challenges facing higher education institutions, in the region as:

- Lack of funding for ICT
- Lack of skilled ICT staff
- Inadequate ICT infrastructure and facilities
- Expensive Bandwidth
- inadequate bandwidth
- Security
- ICT leadership and management
- Improving IT process/ IT Business alignment

The survey found that, the bandwidth available to universities in the SADC region, was dismal in comparison to their peers in Europe and North America. The solution to tackling the challenge of inadequate bandwidth must involve increasing the available capacity of bandwidth, as well as that of managing existing capacities. Bandwidth is a valuable institutional resource or asset that needs to be managed, conserved, and shared as effectively as possible. It is thus necessary for education institutions in the continent to make bandwidth management a priority.

South Africa and ICT Policies

1. Bandwidth

South Africa is no exception, inadequate and expensive bandwidth is one of the major challenges facing the post-school system.

The slow adoption of broadband is in large measures due to massive challenges around “**last mile**” connectivity.

The 2011 Budget Review states that,

“An affordable, efficient and widely distributed telecommunications network is important for raising productivity and accelerating economic growth”.

In this regard, the National Treasury allocated **14 million US dollars** to “Broadband ICT” in 2011/2012, increasing the amount to **21 US dollars** in 2012/2013 and **28 million US dollars** in 2013/2014. **64 million US dollars** has been set aside to develop the broadband strategy, the broadband policy of government, and the broadband infrastructure and services in underserved and rural areas.

However, the investment required to build terrestrial and “**last mile**” access networks is still not covered.

Education Related ICT Initiatives

Your Excellencies, I would like to mention a few ICT related policies and initiatives which are currently funded by the Government:

I. e-Education Policy

The South African Government prioritized the transformation of education, for the 21st century, by launching a White Paper on e-Education in 2004. This policy encourages the use of information and communication technology (ICTs) to promote learning.

In the White Paper, it is stated that:

“every South African manager, teacher and learner in the Basic and Further Education and Training bands will be ICT capable, that is, use ICT’s confidently and creatively to help develop the skills and knowledge they need as lifelong learners, to achieve personal

goals, and to be full participants in the global community by 2013”

1.2 Status of Universities

Universities are entering into private sector agreements to maintain their networks and internet access. The middle mile cost from the institution to the telco remain high. Students often have to bear the brunt of this cost if they are to collaborate in virtual environment with the institution. While the national budget for Universities in the country amounts to 3.1 billion US dollars for a student population of approximately 840 000 for the 2011/12 financial year, only an amount of the 4 million US dollars was provided towards a project for access networks, for rural campuses in 2010. This amount proved insufficient to cover the cost of access networks or circuits for 40 university campuses.

Therefore, the campuses in remote locations remain excluded from the university network.

1.3 Status of FET Colleges

Our Further Education and Training Colleges face numerous challenges as well, as they are forced to use low speed, high cost connectivity options as there is no interconnecting network. Therefore, FET institutions are unable to reduce operational costs, develop skills and access central information.

In 2006, the then Department of Education requested support from the Government of Netherlands, in order to develop and pilot a business management system for FET colleges in association with an FET college sector Management Information System for the Department.

A grant of **2 million Euro's** was received and the project commenced late in the same year. Through a research based assessment, it was agreed to procure and fine tune an off-the-shelf integrated education management software system for the FET College sector.

The system has been developed and piloted in three colleges and is in use, in six colleges around the country. A further four FET colleges will be supported under the same Netherlands Government grant to start the implementation of the system this year.

The importance of the system is that, a total of 203 business processes have been integrated into the system for the improved management and governance of FET Colleges.

Again, the major constraints in rolling out the system to all FET colleges are the connectivity costs and the

maintenance and support costs. Currently the Department of Higher Education and Training hosts the databases in a central environment for the colleges, but colleges have to cover all the licensing fees and connectivity costs.

1.4 Open and Distance Learning

As the Department of Higher Education and Training we are currently working on a framework document for the provision of Open and Distance Learning services in the country. We have identified distance learning as the only option to bridge the education divide due to geographical location. The issues to be addressed, in open and distance learning, are financial resources, intellectual capital and sustainability, as well as the standard and quality of the delivery.

The implementation of a fully inclusive open and distance learning system, in South Africa, and the continent at large will require further investment into the educational ICT infrastructure. Again, the need for high bandwidth connectivity for educational institutions, is imminent.

II. Teacher, Laptop Initiative

The Teacher Laptop Initiative's objective is to ensure that, every teacher owns and uses a laptop by providing them with a monthly allowance, which will cover the purchase costs as well as the costs of connectivity. The ICT package would consist of appropriate hardware and software, as well as Internet connectivity, all with prescribed minimum specifications.

III. The e-Skills Council

The World Summit on the Information Society (WSIS), declared that acquiring skills and knowledge, is essential in order to understand, participate actively and benefit fully from the Information Society and the knowledge economy.

The Presidential International Advisory Council on the Information Society and Development (PIAC on ISD) in 2007, decided that South Africa should prioritise the establishment and functioning of the **e-Skills Council**, as well as the operationalisation of the **Meraka e-Skills Institute. This recommendation was** in realization of the perpetual challenge of the skills shortage in South Africa.

The e-Skills Council, provides advisory services, on ICT trends and programmes, that will have a measurable impact on ICT-related skills and encourage economic

development in South Africa. It was launched in 2008, by the Ministry of Communications.

IV. The Meraka e-Skills Institute,

is expected to be fully operational by 2013. It will:

- provide diversified, unique e-skills education and training programmes;
- Achieve change by acting as a catalyst to achieve information society goals;
- Play a leading role in orchestrating existing and new initiatives around e-skills, and undertaking an advocacy role;
- Be a stimulus for research and innovation;
- Enable innovation that responds to the development needs of the South African society:

- And finally collaboratively leverage existing capacity and resources.

The e-skills institute has established a memorandum of understanding with some of our Higher Education institutions so as to develop a broad curriculum, research, policy development and demonstration base for innovative work. These institutions have e-skills knowledge production hubs which assist the e-skills institute to address the massive e-skills deficit.

V. The Launch of a Bid for the Square Kilometre Array (SKA) Project.

The Government of South Africa, has taken a bold step by putting forward, a bid for hosting the Square Kilometre Array (SKA) project on the African Continent.

The Fifteenth Ordinary Session of the Assembly of the African Union on the 27 July 2010 in Kampala, Uganda, expressed unreserved support for the bid and **acknowledged** the importance of Science, Technology and Innovation emanating from the SKA Project in the development of our knowledge based economies and its ability to drive human capital development programmes. Further, the Union called on member states, the Commission and Regional Economic Communities to fully co-operate with the Republic of South Africa on this project by providing the necessary support to this bid.

Therefore, It is opportune for me to take advantage of this distinguished audience and appeal for support for our bid. I think it is the highest commitment any Government can make in the advancement of Technology in the continent.

The South African, Minister of Science and Technology, Ms Naledi Pandor, attended the Square Kilometre Array meeting in Banff, Canada on the 7th July 2011, where she provided an update on South Africa's state of readiness to host the SKA project.

VI. SEACOM and EASSy undersea cable networks

South Africa's telecommunications infrastructure has improved significantly over the past few years.

Two undersea cable networks (SEACOM and EASSy) have increased available bandwidth that has contributed to faster internet speeds and lower prices. In April 2011 the WACS (West Africa Cable System) undersea cable reached South Africa. This means that by 2012 more than 15 Tera bytes per second of capacity will be available when the combined capabilities of SEACOM, EASSy,

WACS and ACE go live. It is a 128-fold increase compared to the available capacity in 2009.

Conclusion

Your Excellencies, the cost, sustainability and efficient utilization of ICT's are key elements that will determine ICT's future as an effective tool for promoting access to quality education. Furthermore, capacity building and effective support mechanisms must be a part of the package. If we are to realize the full potential of ICT on the continent, the following, needs to be in place:

- Policy and careful planning
- Infrastructure
- Equipment and ICT tools
- Professional development of educators
- Enthusiastic educators

- Appropriate curricula
- Institutional flexibility and monitoring and assessment systems
- Technical support
- Collaboration

South Africa is making strides into the information society, and we are determined to take full advantage of the digital age. The overarching strategy is to ensure that, out of school South Africans are exposed to centres of learning, acquire skills in line with our industrial strategy. The ultimate output is to create a critical skills workforce. My Department will be exploring creative and innovative funding mechanisms to ensure the effective and efficient utilization of ICTs for education, training and skills development. In this regard, we will be looking very closely

at the Public-Private Partnership model developed by our National Treasury to leverage private sector skills and financing of our strategy.

We have called for a good will on the part of business, industry, State owned enterprises, and municipalities, to provide and *create* a learning culture that keeps pace with technological changes. We are fully aware that in order to maximize the benefits of ICT's for the continent, we need to work together as African countries. An example of possible cooperation we could explore as policy makers, is how ICT can enable twinning agreements between our education institutions. This initiative has the potential to unlock transfer of technology through innovations and research.

The President of the Republic of South Africa, Mr. Jacob Zuma, during the 14th Ordinary Session of the African Union heads of State and Government Assembly, 2010, clearly recognized ICT as a weapon which should be utilised to consolidate cooperation efforts within the Continent. He made a call thus:

“We have seen how ICT has changed the world. We have seen how it has contributed to global economic expansion. We have seen how it has served to make the world smaller, closer and increasingly interdependent. We need to harness that power to unite Africa, to defy the borders that constrain our growth. We need to harness that power to shrink the distances that separate us from each other and from the rest of the world. We need to harness that power to advance African independence and self-sufficiency.

The use of ICT in education is the **Hope** for future generations, specifically for the African child.

I Thank You.