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The Institute welcomes the new Minister of Communications, Mr Yunus Carrim



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innovative
responsive
developmental
enabler
collaborative

e-Social astuteness at the core of SA's growth

Active citizenry, inclusive economy, building capabilities and a capable developmental state

It was agreed at the second national e-Skills Summit, held in October 2012, that to build a capable developmental state where e-skilling has a positive impact in addressing inequality, poverty and joblessness, a new approach to e-skilling was needed.

It is essential that the focus is not only on 'core' e-skills such as skilling people to use ICT (hardware, software and networks). 'Soft' skills are also needed for people to successfully apply e-skills for individual and societal benefit. These 'soft' skills were identified as e-astuteness and e-social astuteness.

e-Astuteness

e-Astuteness is defined as a knowledgeable capacity, based on personal and interpersonal skills, that involves:

- Understanding people and situations
- Building alignment and alliances
- An acute understanding of strategic direction
- Applying strategic behaviour

e-Astuteness allows individuals to take personal advantage of ICT through the appropriate e-skills in social or economic situations. (Building social connections is an example of a social situation and obtaining a job or starting a business is an example of an economic situation.)

e-Astuteness does not necessarily depend on formal education or high levels of literacy.

e-Social astuteness

e-Social Astuteness is defined as the use of ICT and e-skills for more astute ways of people interacting with others, which include:

- Social interactions
- A level of awareness and understanding of diverse social situations
- The various alternatives open to them for response

e-Astuteness focuses on individual benefit whereas e-social astuteness focuses on interacting with others for group benefit.

ICT for social change

South Africans, as a society, need to become more adroit at using ICT for job opportunities, financial processes, service delivery, flexibility, innovation and creativity. ICT alone cannot offer these opportunities to an entire population. ICT is merely infrastructure and tools.

The realisation of the opportunities that ICT affords needs a population that is e-skilled, e-astute and e-socially astute. It is about astutely and 'smartly' using e-skills and the opportunities afforded by ICT to benefit the individual, the community and thus society at large.

ICT technologies are rapidly increasing in capacity, mobility, accessibility and affordability. Add to this the extensive adoption of cell phones, particularly across the developing world, and it changes the way in which poverty and inequity can be dealt with.

However, a technology-supported society that is self-reliant and equitable requires the building of new capacities (particularly those related to ICT) across the entire population.

These e-skills and e-competencies are also necessary for positioning South Africa to compete globally. These skills are foundational to building a capable developmental state within an inclusive economy that is increasingly being dominated by new forms of ICT.

People need to be skilled to understand the pervasive impact of ICT on their individual and collective lives across all aspects. People also need to be self-driven, perceptive and have an increasingly intuitive understanding of how to make best use of the rapidly-developing technologies in ways that enhance their personal lives, their employment, their business capabilities, their continuous learning, their use of new service delivery options and their social interactions.



Making the puzzle pieces fit together.

Being 'smart' with e-skills

e-Skills can benefit communities, individuals and society in various ways. Following are some examples:

- The ability to connect with others on individual, social and business levels
- Access to information such as health, community resources and government communication
- It increases employability
- The ability to learn further
- Start and build businesses

e-Skills are also pervasive. They are needed at all levels to sustain competitiveness. However, ICT competence is not sufficient.

If one considers just the work environment, for ICT skills to be effective an individual also needs communication skills, an ability to work in teams, cross-cultural competency, adaptive thinking, collaboration, critical thinking, decision making, social networking and general social skills.

Use of e-astuteness and e-social astuteness is a path of discovery to appropriate modern ICT into a social construct that can unite people in a common purpose to address inequity. In order to achieve a society that offers a more equitable prosperity and an inclusive economy, there needs to be committed people who understand how to best appropriate ICT into personal benefit and how to use it to develop collectives of self-organising systems focused on building capabilities to grow a capable developmental state.

The Institute for e-skilling South Africa thus believes that access to technology combined with e-astuteness will foster leadership, inclusive growth and equity.

The new minister of communications

Leadership through society to work together to solve problems



Mr Yunus Carrim,
Minister of
Communications

The Institute welcomes Mr Yunus Carrim who was appointed as the Minister of Communications on 10 July 2013. He has extensive political experience and has been a Member of Parliament since 1994.

Mr Carrim has previously served as the the Chairperson of Justice and Constitutional Development Portfolio Committee. He has also served as the Chairperson of the Public Enterprises Portfolio Committee.

His previous post was that of Deputy Minister of Cooperative Governance and Traditional Affairs. He has a Masters in Sociology from the University of Warwick, England, and an International Diploma in Journalism from Darlington College of Technology, England. He was formerly a freelance journalist and academic.

Policy development from the bottom up

Active citizenry and a capable developmental state

Policy is critical when creating a sustainable and coherent ecosystem for any initiative. The Institute defines policy creation and impact as one of the strategic components of the e-skills agenda. As a national catalytic organisation with a multi-stakeholder collaborative network, aligning stakeholders with relevant government policy is necessary to ensure that e-skills initiatives look to South Africa's national goals (such as the National Development Plan).

Citizen engagement is an essential building block of a sustainable democracy. In a democracy, government policy and citizen engagement work together to create a society that meets the needs of all stakeholders. As such policy development need not always originate in a top-down framework. Active citizens can take part in creating an ecosystem driven by policies that have been developed from the ground up.

The KwaZulu-Natal Parents' Association, in collaboration with the e-Enablement of Effective Service Delivery CoLab,

KwaZulu-Natal (based at Durban University of Technology – DUT), will be working towards the development of an Internet and Cell Phone Policy. This includes running workshops on Safe Internet for Schools with principals and school counsellors. Ahmed Bawa, Vice-Chancellor and Principal of DUT, sees this as an important project in an area where South Africa is nationally weak.

The KZN e-skills CoLab is not only engaging with the parents' association but giving talks across the province on Safe Internet. A recent event was held on 10 July 2013 for the Pietermaritzburg municipality.



Ahmed Bawa,
Vice-Chancellor and
Principal of DUT

NDP Priority Areas supported by NeSPA 2013

Pillar 1: Unite around a common pillar to fight poverty and inequality

Pillar 2: Active citizenry

Pillar 3: Inclusive economy

Pillar 4: Build capabilities

Pillar 5: A capable developmental state

Pillar 6: Leadership throughout society to work together to solve problems

Transforming health care delivery through connected health

An inclusive economy and building capabilities

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Technology is changing the way we live in our world, on every level. As it has impacted on areas such as personal communications, business and banking (to name a few), ICT has the potential to transform health care delivery.

South Africa has a burdened health care system, increasing chronic diseases, epidemics (such as Aids) and limited resources. There are a significantly large number of people that don't have access to health care, particularly in remote areas.

These are just some of the health concerns that face developing countries and new thinking is needed to address challenges. Connected health, which is more than e-health, has the potential to offer solutions.

What is connected health?

Connected health refers to the use of technology to connect patients to health care providers. It has the potential to provide health care access to more people, including those in remote areas. Its intention is to improve the efficiency of delivery, catch warning signs earlier, monitor progress and motivate patients to actively participate in their treatments and conditions.

It is a method of maximising resources, potentially reducing costs and allowing for people to better self-manage their care. A strong element is that of preventative health looking to reduce morbidity and mortality. Preventative health is core to primary health care.

Connected health also focuses on citizen engagement and self management.

e-Astuteness and e-social astuteness are fundamental to connected health. It is not enough to have the technology or the digital skills to use the technology but these need to be used in an e-astute way where individuals can gain personal advantage and where there is social benefit.

Examples of connected health initiatives

Globally, there are a variety of tools to facilitate connected health. Some of the common types of connected health

Global News

- In October 2012 at the ITU Telecom World 2012, the International Telecommunication Union (ITU) and the World Health Organisation launched the 'm-Health' Initiative. The focus is on using mobile technology, in particular text messaging and apps, to help prevent and treat non-communicable diseases such as diabetes, cancer, cardiovascular diseases and chronic respiratory diseases. (These diseases are some of the leading causes of death and disease in both developed countries and emerging economies.)
- An ITU Workshop on 'E-health services in low-resource settings: Requirements and ITU role' was held in February 2013.

Examples of m-health projects in Africa

- Remote areas of Ghana face a range of health challenges, from inadequately-qualified human resources and limited health facilities to a high disease burden with high levels of child and maternal mortality. Under-developed infrastructure also reduces the access to health care. The Millennium Villages Project in Ghana uses ICT to provide quality primary health services.
- A mobile app aims to improve access to effective malaria treatment and care in four rural districts in Tanzania, in particular for pregnant women and children under five. Another mobile app is being used to diagnose and treat childhood illnesses in Tanzania. The software guides health workers step-by-step through assessment, classification and treatment.

programmes in operation today include:

- Home care via remote monitoring
- Connecting remote areas with health care teams
- Remote monitoring programs
- Web-based second opinion services
- Lifestyle and fitness coaching

“e-Astuteness and e-social astuteness are fundamental to connected health.”

Examples include a home blood pressure kit with a device that records readings and transmits these to a health care team via SMS. The team can then interpret the results within the context of the patient's medical history. Software is used to send a customised plan back to the patient or to modify an existing programme. The feedback can include advice and various motivations.

Already, mobile phones are being used to store medical records and to give patients better access to emergency services.

On a larger scale, programmes exist that provide improved global and local public health surveillance, with a resultant reduction in epidemics and increased control over infectious disease.

Potential for SA

Connected health cannot be implemented uniformly across the world. Countries have different priorities, particularly within the developing and developed divide. Technologies also need to be developed based on community needs and available resources.

Connected health holds great potential for South Africa. However, it is dependent on all participants along the health care chain acquiring a variety of e-skills. A clear connected health policy and strategic framework is needed to guide the

[continued] Transforming health care delivery through connected health

development of an enabling and sustainable environment.

The Connected Health CoLab, Limpopo, focuses on developing e-astuteness and e-skills around connected health. This is in line with the National Development Plan's objective of providing quality health care. The CoLab's thematic focus area is on designing and providing connected health skills necessary for:

- Improved health management and accountability
- Better trained health professionals
- Better patient information systems that support a more decentralised and home-based care model
- Support to maternal and infant care
- Developing a social e-astuteness at the societal level to increase the efficacy of connected health delivery at the community level

Within connected health, mobile application development is of particular importance as cell phone penetration continues to grow. There are also opportunities for interactive TV as a medium for tele-care with the migration to digital broadband TV.

CoLab thematic areas

Western Cape CoLab: e-Inclusion and social innovation

KZN CoLab: e-Enablement of Effective Service Delivery

Eastern Cape CoLab: ICT for rural development

Gauteng CoLab: Creative New Media Industries

Limpopo CoLab: Connected Health

Southern Gauteng/Northern Cape CoLab: Knowledge-based Economies and e-Social Astuteness (e-Literacy)

Strengthening the educational landscape to promote e-astuteness

Building capabilities and an inclusive economy

The e-skills agenda must impact on all South Africans for the country to have wealth equity and to be globally competitive. Consequently, the Institute aims to e-skill 10 million people within the next five years. The education sector plays a vital role in this roll out and further education and training (FET) colleges are key stakeholders. But how exactly do they fit into the education ecosystem?

FET colleges and the education landscape

The South African education system broadly comprises three bands: general education (the first nine years of school education), FET (vocational and occupational education and training offered as part of the last three years of general education and at colleges), and higher education (universities and universities of technology). There is also ABET – adult basic education and training.

With the aim of addressing SA's skills need, FET colleges offer vocational courses with training towards a specific range of jobs or employment opportunities. The colleges provide intermediate to higher-level skills required to support economic growth and development.

FET programmes fall within the National Qualifications Framework (NQF) level 2 to 4. Universities and universities of technology offer programmes on NQF level 5 and above.

The South African Qualifications Authority (SAQA) oversees the NQF. The framework offers a qualifications system for education and training, a national effort at integrating education and training into a unified structure of recognised qualifications following registered standards.

FET colleges fall under the Department of Higher Education and Training. The colleges are subsidised by the

state with approximately R4 billion per year. There are also a variety of bursaries available to prospective and current students.

Building e-astuteness in deep rural and rural communities

The ICT for Rural Development CoLab, Eastern Cape, has been working with provincial FET colleges in an engagement that supports the FET College Turnaround Strategy which includes building ICT capacity and increasing learner employability. The FET colleges are strategic partners for:

- Being e-skills smart community knowledge production centres
- Assisting with a provincial e-centre database
- Assisting with the e-literacy and other key courses such as those related to digital migration

The Institute, in collaboration with the Department of Higher Education, will be holding the 'e-Skilling South Africa for equitable prosperity and global competitiveness: FET College e-Skills Roadmap Workshop' on 14 August 2013.

The objective is to bring stakeholders from government, education, business and civil society together to review the current e-skills programme at FET colleges and to develop a roadmap for FET colleges as key stakeholders in the National e-Skills Plan of Action.

The Institute and its collaborative partners has been working on the development of a national curriculum and competency framework for e-skills. Work is underway with SAQA to address the gaps within the NQF.

Evidence-based intelligence for e-skilling South Africa

Building capabilities and a capable developmental state

As part of the national Research Network for e-Skills (ReSNeS), honours and masters students are currently doing research on e-skills. This work is essential and will help shape South Africa's future policy environment to support the ongoing growth and development.

The following research topics are from the Creative and New Media Industries CoLab, Gauteng (based at the University of Pretoria), and the e-inclusion and Social innovation CoLab, Western Cape (based at the University of the Western Cape).

Connected health

- A survey of mobile applications for patients living with chronic diseases

e-Enablement of government service delivery and active citizenry

- e-Service adoption by citizens in the City of Johannesburg
- How can mobile phones enhance e-participation?
- How can mobile phones enhance government service delivery?
- To what extent can mobile applications be used as a tool for service delivery in South Africa?

E-skills shortage and education

- ICT industry skill shortage: challenges facing South African educational institutions
- Developing a technology framework for e-education for basic education in South Africa
- How can mobile technologies be used in rural areas to improve educational levels of the population?
- What are the challenges facing tablet-based learning in schools?
- Mismatch of ICT skills: The qualification gained at university and the industry demand
- Matching the University of the Western Cape IS graduates' e-skills with the requirements of big businesses in Cape Town
- e-Competencies for successful use of social online simulation games for organisational leadership development
- A functional approach to security e-competencies in the higher education institution: A comparative case of South African and Democratic Republic of Congo institutions
- The application of a knowledge portal within the ICT Department of the College of Cape Town as a corrective measure to improve learner academic efficiency
- An investigation on the use of social media to improve the quantity and quality of pass rate in computer programming at FET colleges in Western Cape

Cyberpreneurship

- In which ways can information technology be adopted by rural South African SMMEs towards poverty alleviation?

- How can social media be used in SMMEs?
- How can SMME owners and/or entrepreneurs be encouraged to leverage ICT for business growth?
- Understanding the role of e-skills in relation to the utilisation of electronic small business development services
- ICT/e-skills for local social economic development in rural areas in Eastern Cape

e-Astuteness and e-social astuteness

- How does culture impact the adoption of technology in rural farming communities?
- What everyday events in rural settings can be used to synchronise people's actions with computers?
- What can be the potential relationship with my mobile phone as a layman or ordinary user in preventing crime or getting aid in an emergency?
- What can be the potential relationship with my mobile phone as a farmer in improving work conditions?
- How can ICT systems be adopted more efficiently in agriculture in rural communities?

e-Skills monitoring and evaluation

- What ICT4D impact assessment frameworks have proved to be valuable in South Africa?
- What frameworks are most commonly used to do ICT4D impact assessment in South Africa?
- What is the impact of app stores on the economy in South Africa?

e-Skills policy-advising research

- A framework for e-skills policy-making in South Africa
- Towards a framework for the development of e-skills for digital inclusion in the Western Cape

Creative new media industries

- What mobile applications are available to support creative industries?
- What ICT skills do we need to become internationally competitive in the film and animation industries?

About ReSNeS

The national Research Network for e-Skills (ReSNeS) follows a multi-stakeholder model allowing for collaboration on research to support the national e-skills agenda. It continues to build a network of researchers across the higher education sector, the private sector, government, business and civil society.



Creating an improved mobile app ecosystem

Building capabilities and uniting around a common pillar to fight poverty and inequality

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With the increasing penetration of mobile phones within South Africa and across Africa, mobile apps have become important - not only as potential entrepreneurial opportunities but to aid with solving social challenges.

Even focusing only on health (and in particular connected health), it becomes clear that mobile technology is already playing an important role in providing solutions to issues within the health care system. (See article on connected health, p3.)

Mobile app development through remote access

Various mobile app development courses are being run across the country. An example is the BlackBerry 10 workshops being held at the Institute's Creative and New Media Industries CoLab associated innovation application factory. (This e-skills CoLab is based at the University of Pretoria.)

Aimed at non-IT professionals and beginners who want to learn how to programme and develop a mobile application for the BlackBerry 10 native platform, the weekly BB10 course uses ICT to promote the courses and to include remote participants.

Streaming technology allows participants who cannot be physically present to attend the sessions. There is a live recording of the session where the remote participant can actively participate with video and voice. The sessions are also recorded and shared for catch up and reference purposes.

Promotion is through Facebook and e-mail lists.

Currently there are on average 15 physical attendees and at least four virtual attendees each week at the Creative and New Media Industries CoLab's app factory.

The Institute is in the process of planning the roll out of smart community knowledge production centres (smart centres). The centres are not only for accessing ICT but will provide a space for community development and the building and supporting of entrepreneurs across all sectors, among other things.

It thus becomes essential to develop courses with technology that makes it possible for those in remote areas to participate in apps development as well.

The MAD Challenge 2013

As part of creating an improved app ecosystem with more apps developed for South Africans by South Africans, the MAD Challenge 2013 began in the Western Cape on 14 June 2013. Hosted by the Institute's e-Inclusion and Social Innovation CoLab, Western Cape, and the

Update on the Institute's e-skills courses

- There were 50 attendees at the code jam session held on 15 July 2013 at the e-Enablement of Effective Service Delivery CoLab based at the Durban University of Technology (DUT). Due to the positive response and the commitment shown by the CoLab, BlackBerry will be funding equipment for the creation of an associated innovation application factory.
- The iPad for Educators Workshop held on 17 July 2013 at the e-Enablement of Effective Service Delivery CoLab, KZN was conducted in association with CORE, one of the Institute's partners. (CORE represents Apple in South Africa.) Further to this initiative, CORE will be donating an Apple TV to assist graphic students at DUT.

Creative and New Media Industries CoLab, Gauteng, it is being sponsored by Blackberry. The programme runs until October 2013 at the WC CoLab (based at the University of the Western Cape) and the Blackberry Apps Lab (based at the Bandwidth Barn in Cape Town).

The initiative is aimed at introducing high school learners to the world of mobile application development and modern entrepreneurship. It is also part of an e-skills research project by Dr Johan Breytenbach.

As was done in the previous year, the MAD Challenge gives learners the opportunity to create and market their own mobile applications. While participants receive free training, the app remains their intellectual property.

Eighty-six Grade 10 and 11 learners were selected from a variety of schools in the Western Cape, including:

- Mondale High School
- Cosat (Centre of Science and Technology)
- Muizenberg High School
- Paul Roos Gymnasium
- Cedar House
- Cape Academy
- Hermanus High School

Apps will be judged on creativity and entrepreneurial content of the idea behind the application, as well as usability, functionality and business value. This year, there are three broad categories:

- People – an app that makes a difference in the health or function of the community
- Planet – an app that makes people more environmentally aware or encourages green thinking and behaviour
- Profit – an app that shows excellent business sense and can make some money

The e-Inclusion and Social Innovation CoLab, Western Cape, also ran a winter school in preparation for the MAD challenge where students are trained to assist pupils in the Challenge.



Students attending the winter school at the e-Inclusion and Social Innovation CoLab, Western Cape, in preparation for the MAD Challenge.



Partners in the Institute's multi-stakeholder collaboration

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UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA



education



government/South Africa



civil society



business



Kenya



Rwanda

global developmental
partners

Please note that this list will be extended as there are Memorandums of Understanding in progress across all sectors.

The Institute is a national catalyst, facilitator and responsive change agent in the development of SA, within the globally evolving information and knowledge-based environment, by leading the creation of key e-skills development strategy, solutions, practices and the implementation thereof, to benefit the total population. The Institute focuses primarily on four components: research, teaching and learning, innovation and a monitoring and evaluation framework.