

ICT Institute launched on World Telecommunications Day

The date 17 May not only marks World Telecommunications Day this year, it also sees the launch of the Meraka Institute at the CSIR in Pretoria. This African advanced institute for information and communications technology is being introduced to stakeholders with a keynote address by Dr Ivy Matsepe-Casaburri, Minister of Communications, and a presentation by Mr Derek Hanekom, Deputy Minister of Science and Technology.

“Meraka” is a Sesotho word meaning “common grazing”, denoting sharing, mutual benefit and the potential for prosperity. The Meraka Institute will focus on developing people (human capital) and on the development and application of knowledge in information and communications technology (ICT). This concept has been used over the past two years within the context of the CSIR’s Open Source Centre as well as the 2004 Idlelo conference. It is now being allowed to take its rightful meaning within the broader context of the digital commons.

The institute is regarded as a significant intervention in the South African ICT research and development space. It derives its mandate as a national strategic initiative from President Thabo Mbeki’s 2002 State of the Nation Address, in which he announced the concept of a university for ICT.

The institute will thus play a key role in equipping people with world-class ICT skills, while focusing on needs-based research programmes in conjunction with South African higher education institutions (HEIs). The Meraka Institute will also contribute towards stimulating the development of the local ICT industry through its provision of intellectual and human capital.

The concept developed by an Inter-Ministerial Committee was approved by the Cabinet in July 2002. In 2004, the CSIR became responsible for implementing the initiative, culminating in the launch of the Meraka Institute on 17 May 2005.

The institute will contribute to government’s drive to enhance both the scale and scope of research and development (R&D) in the sector and the impact of the R&D interventions through focused, needs-driven research in a number of key areas, such as Human Language Technologies and the High Performance Computing.

These efforts will be closely aligned with current initiatives and strategies such as the ICT Roadmap, the Advanced Manufacturing Technology Strategy and the Department of Science and Technology’s Frontier Science Programme. Working in close partnerships with HEIs, the institute aims to create critical mass and concentrated national research and development efforts. In addition, the institute envisages close partnering with international research and development players.

The institute already has a strong core of existing activities aligned to national imperatives, as well as recognised partnerships locally and abroad with peer organisations.

Current initiatives include:

- Wireless Africa - research into sustainable ICT for developing countries in order to close the digital divide that exists within and between developing countries. It has two components:
 - Social research that looks at projects in communities in South Africa, Angola and Mozambique in order to create sustainable, community-owned wireless infrastructure for applications in health, education and related service delivery.
 - The removal of technology barriers to enable bottom-up creation of wireless access infrastructure. This includes mesh networking, low cost voice/messaging devices, low cost access points and antennas, and network security.
- Human Language Technologies (HLT) enables people to get information and services, and to interact with technology, through language. The aim is to overcome barriers related to language, illiteracy or disability. There is strong research collaboration with local and international partners. A major long-term goal of the group’s advanced research is the creation of automatic translation services. Forms of HLT include:
 - Text-based language processing that extracts meaningful information from text documents, potentially in multiple languages.
 - Speech processing includes technologies such as speech recognition, speech synthesis and spoken dialogue systems; a current research project is OpenPhone, a fully open source telephony platform that will provide multilingual voice services in all South Africa’s local languages.
- The National Accessibility Portal (NAP) uses ICT to help empower persons with disabilities to live independently. Of the four million South Africans who have severe or moderate disabilities, less than 1% are employed gainfully and independent financially. The NAP enables people with different disabilities to access information and services, to interact and communicate irrespective of age, gender, language and level of literacy. The prototype demonstrator is based on Internet technologies and uses open source software to provide affordable alternatives. Aligned with the slogan of people with disabilities, “Nothing about us without us”, the project is a collaboration between the Meraka Institute, stakeholders, partners and users.
- The Digital Doorway, an initiative between the DST and the Meraka Institute, uses minimally invasive education for large-scale computer literacy. Communities can teach themselves to obtain functional computer skills, through having free, 24-hour access to a robust, freestanding computer terminal with motivating content. During 2005, more than 100 terminals will be installed in a mix of rural, peri-urban and urban areas. The Digital Doorway is cost-effective,

requires low maintenance and makes remote management and administration possible through the use of open source software. This mechanism complements existing efforts to bring ICT into the service of development with the context of NEPAD.

- Open Source - this centre promotes understanding and the use of Free/Libre and Open Source Software (FLOSS) in the public, private and civil sectors. There are three focus areas within the unit's flagship research project, FLOSSWorld, which is a European Union 6th Framework project with collaborators from Europe, Brazil and Asia. The three areas are:
 - OpenSpeak, which deals with awareness raising in collaboration with the Shuttleworth Foundation and industry partners through the Go Open Source public campaign.
 - OpenProject is concerned with enabling access to FLOSS applications; a current priority is the migration of the CSIR to FLOSS.
 - OpenMentor empowers users and producers of FLOSS with the knowledge required to ensure success; the "Free Knowledge Communities for African Innovation" project allows communities to gain knowledge via ICT.
- A Centre for High Performance Computing is currently being formed in collaboration with HEIs. The aim is to provide high end computing and expertise for research, including the sciences, medicine, engineering and social sciences. Among other things, the centre will foster research to address challenges such as HIV/Aids and climate change, and will grow computational research to support, for example, urban and regional planning.

Ultimately, these undertakings are all aimed at quality of life and global competitiveness.

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