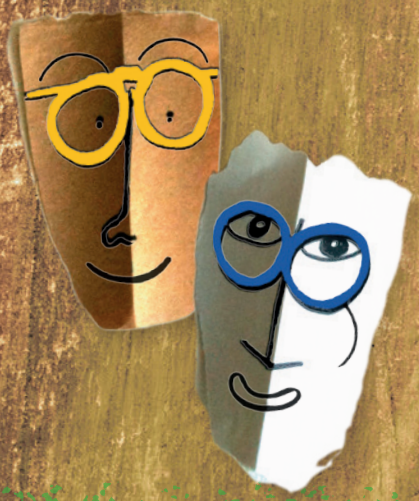

INFORMATION SOCIETY

# Developing advanced research and education networks in Africa

## AfricaConnect project

> "ICT is not about technology: it is about people. We must articulate the relationship say between advanced networks and a six month old baby with a hole in the heart, who can receive open-heart surgery in Uganda, because an expert surgeon in South Africa or India can be virtually present."

*Dr F. F. Tusubira (Tusu), CEO of the UbuntuNet Alliance since 2007*

### Partners

**Europe:** DANTE (UK - coordinating partner), DFN (Germany), HEANET (Ireland), FCCN (Portugal), GARR (Italy), SURFnet (the Netherlands)

**Africa:** UbuntuNet Alliance, 15 national research and education networks (NRENs), West and Central African Research and Education Network (WACREN), Association of African Universities (AAU)

### Facts and figures

**EC contribution:** € 11.8 million (total budget: €14.75million)

**Duration:** 4 years (2011-2015)

**Location:** 15 countries in southern and eastern Africa

**Target groups:** Research and education institutes; researchers, teachers and students

### Context

Research and Education (R&E) networks are high-speed data-communications networks, independent of the commercial Internet, that are dedicated to meeting the needs of the academic and research communities. They allow researchers, teachers and students to share information electronically in a reliable and timely fashion, enabling them to collaborate more efficiently and improving their access to the best possible resources.

In Africa, R&E networks face restrictive policy and regulatory environments, inadequate infrastructure and a lack of human technical capacity. Investing in this sector is expected to expand human networks around ICT and IT-enabled services, boosting demand for and investment in ICT and IT-enabled services. For policy-makers, integrated networks mean more cost-effective research and the opportunity to have a greater voice within the global research community.

As a result, the Africa-EU Partnership on Science, Information Society and Space aims, among others, to help develop an integrated pan-African research network and to promote global cooperation, particularly with Europe.



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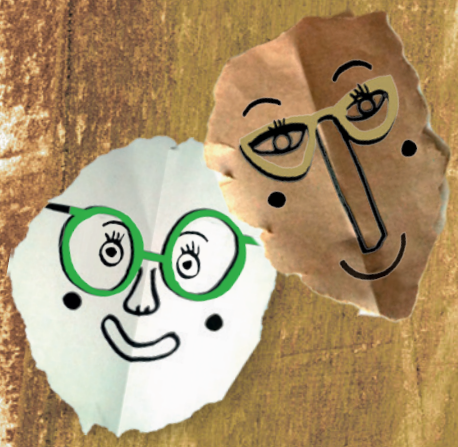

**"We have remote access to powerful computers and software at the Sanger Institute which enables us to perform the genomic sequence data analysis. But this access can sometimes be hampered by slow internet connectivity. A high-speed internet connection is key to a quick understanding of the genetic diversity of non-Typhoidal Salmonella strains, which contributes to efforts to develop a vaccine. Our ability to react to and understand new disease dynamics can be transformed by the AfricaConnect initiative."**

***Dr. Chisomo Msefula**, Lecturer, Research Scientist - Pathology Department and Malawi-Liverpool-Wellcome Trust, College of Medicine.*

Funded by the European Commission (within the ACP Connect Programme) and coordinated by DANTE, AfricaConnect is a partnership between Africa (represented by the UbuntuNet Alliance and its 15 member National Research and Education Networks, as well as the Association of African Universities and the West and Central African Research and Education Network) and Europe.

## Objectives

AfricaConnect establishes a high-capacity Internet network for research and education in Eastern and Southern Africa that will provide the region with a gateway to global research collaboration, ultimately contributing to the modernisation and development of education and research in sub-Saharan Africa.

Specifically, AfricaConnect:

- Provides research networking infrastructure within eastern and southern Africa and connects the resulting regional network to GÉANT, the pan-European R&E network;
- Develops cooperative research programmes between Europe and Africa, and Africa and other regions;
- Develops staff capacity in existing African NRENs;
- Builds capacity of other sub-Saharan countries outside the project, to enable them to join the network later;
- Contributes to the Millennium Development Goals.

## Impact

While the UbuntuNet Alliance data network, UbuntuNet, has been operational since 2008 (with some connections to GÉANT, and through this, to the global R&E community), it was limited by the absence of an intra-African regional network. Through AfricaConnect, UbuntuNet is establishing a strong regional component – the first of its kind in Africa. Building on existing national R&E networks, this extended, more resilient and secure high-speed network offers greater connectivity between African countries, meaning traffic can be exchanged within Africa rather than via Europe.

Five African NRENs and European partners are in the process of establishing Authentication and Authorisation systems that permit Africa-based researchers to work together with full security, using advanced e-infrastructures.

High-speed links to the pan-European GÉANT network also connect the 600+ research institutions and universities in eastern and southern Africa to some 50 million users at 10,000 European institutions.

The AfricaConnect procurement process itself has been a game changer for the industry, leading to new and more competitive offers from commercial providers of connectivity services.

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