

**Which organisations are involved in developing the AfricaConnect project?**

The AfricaConnect project is coordinated by DANTE (Delivery of Advanced Network Technology to Europe) and partnered by the UbuntuNet Alliance, representing the NRENs of East and Southern Africa (DRC, Ethiopia, Kenya, Madagascar, Malawi, Mozambique, Namibia, Rwanda, Somalia, Sudan, South Africa, Tanzania, Uganda and Zambia), European NRENs (Germany, Ireland, Italy, the Netherlands and Portugal) and WACREN, the West and Central Africa regional REN representing the emerging west and central African NRENs.

**DANTE**

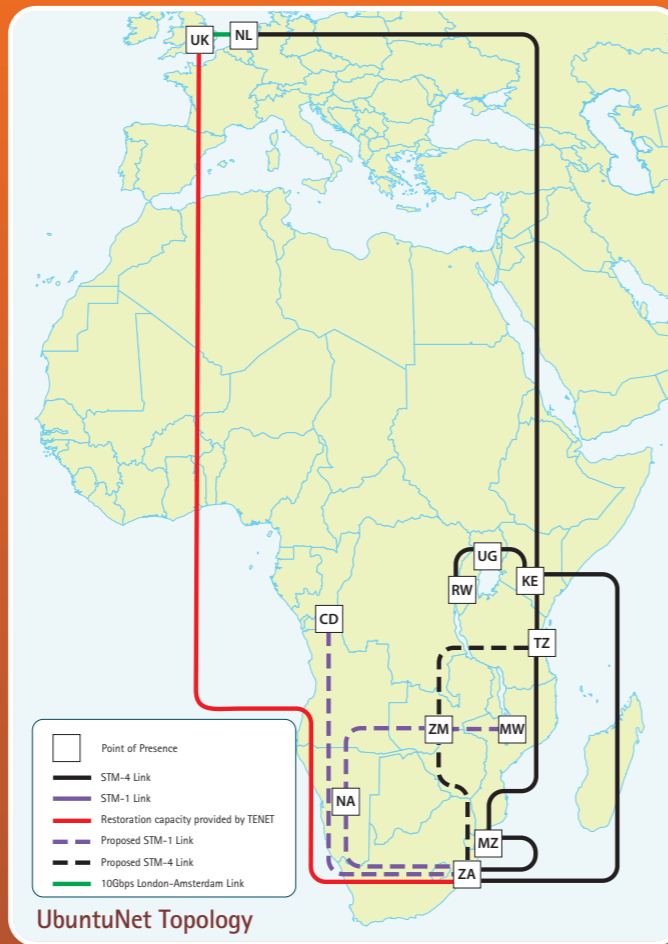
DANTE is a not-for-profit organisation that operates GÉANT, the pan-European research network which provides the data communications infrastructure essential to the success of many research projects in Europe. Established in 1993, DANTE has been fundamental to the success of pan-European research and education networking. DANTE is involved in worldwide initiatives to interconnect countries in the other regions to one another and to GÉANT. DANTE currently manages projects focussed on the Mediterranean and Central Asia regions through the EUMEDCONNECT and CAREN projects respectively, and now AfricaConnect.

**THE UBUNTUNET ALLIANCE**

The UbuntuNet Alliance is a not-for-profit regional association of NRENs in Africa, primarily in Eastern and Southern Africa. It was established in the latter half of 2005 by five established and emerging NRENs in the region and now has a total of fourteen NREN members. The Alliance aims to interconnect African NRENs to each other and connect them to other regional RENs and to the Internet at high speeds to enable researchers, educators and students to collaborate effectively and participate in global research and education networking activities.

**WACREN**

WACREN is the West and Central African Research and Education Network registered in Ghana in August 2010 as a "non-profit association". It is a regional network for sharing knowledge and promoting the establishment of interconnections between NRENs. WACREN currently has 8 established NREN members: Côte d'Ivoire: RITER, Ghana: GARNET, Gabon: GabonREN, Mali: MaliREN, Niger: NigerREN, Nigeria: ngREN, Senegal: snRER, Togo: TogoREN. An embryo NREN also exists in Cameroon as the Cameroon Inter-University Network (RIC). The SnRER is the Network Operations Center of WACREN.



**AfricaConnect**

Implementing UbuntuNet – the Internet Network for Research and Education for Sub-Saharan Africa



**Interconnecting sub-Saharan Africa**



'The resource demands for achieving our dreams will be high, but the returns in terms of the development of our people are even higher. We see AfricaConnect as the precursor, the primary explosion that triggers the bigger explosion of investment from both our governments and friends around the world. It is an initiative we welcome and an initiative we must build on.'

Eng Dr FF Tsubira, CEO UbuntuNet Alliance



'The European Commission is pleased to contribute to the development of this important regional higher education and research network. I am confident that African researchers now have an additional instrument to improve communication and exchange information among them and with their colleagues in Europe. Increased connectivity is our common goal. Together with the ACP Secretariat, we are doing our best to succeed!'

Denis Salord, Head of Unit, Regional Programmes Sub-Saharan Africa and ACP wide (Directorate-General for Development and Cooperation – EuropeAid) European Commission

**Visit the AfricaConnect Website**

Further information can be found on the AfricaConnect project, visit [www.africaconnect.eu](http://www.africaconnect.eu). Here you can find the latest news on the project as well as links to partner sites.

[www.africaconnect.eu](http://www.africaconnect.eu) | [www.ubuntunet.net](http://www.ubuntunet.net) | [www.dante.net](http://www.dante.net) | [www.geant.net](http://www.geant.net) | [www.wacren.net](http://www.wacren.net)



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## A high-speed research and education network for Sub-Saharan Africa

The AfricaConnect project is instrumental in establishing UbuntuNet, a high-capacity regional data network for research and education in Southern and Eastern Africa and in improving the volume and reliability of connectivity both within the region and to the global research and education community.

The project is interconnecting research and education institutions in the region through their National Research and Education Networks (NRENs). This upgrades and complements the existing interconnection between Southern and Eastern Africa and GÉANT, the pan-European research and education data network, enabling researchers and academics in Africa to collaborate seamlessly with each other and with research and education institutions in the rest of the world.

AfricaConnect also supports capacity building for the relevant personnel in NRENs in sub-Saharan Africa countries, enabling operational NRENs to improve performance, and those that are not yet operational to get to a level where they can join the network as soon as possible. The project has procured long term assets from WIOCC on the EASSy cable of the undersea capacity interconnecting Europe and the coastal cities of Southern and Eastern Africa. The Network, UbuntuNet, is also rolling out inland establishing a regional network interconnecting points of presence in major cities identified by beneficiary partner NRENs. The points of presence form gateways for collaboration between local researchers and peers globally.

The progress of this project is shaped by both DANTE's experience of setting up other research and education networks outside Europe such as EUMEDCONNECT in the Southern Mediterranean, TEIN in Asia, RedCLARA in South and Central America and by the UbuntuNet Alliance's knowledge of the regional telecommunications markets and experience in promoting research and education networking in Eastern and Southern Africa. Planning and implementation are grounded in the need to create a self-sustaining research network infrastructure, financed and managed by the regional and national research organisations.



"From early in the beginning, the Ministry of Higher Education and Scientific Research of the DRC is supporting the membership affiliation of Eb@le, the NREN of the DRC, to UbuntuNet Alliance and to the AfricaConnect project. We are deeply convinced that the delivery of a high-speed Internet connection to the institutions of higher education and research centers of the DRC will contribute to speed up innovation and entrepreneurship spirit among the young Congolese. The connection of our institutions of higher education and research centers to their peers in Africa and throughout the world will allow our researchers and students to communicate, to collaborate and to share resources with their colleagues everywhere throughout the world, without time constraint. We are committed to the online courses, open educational resources, e-health services and the use of distributed computers in research on the UbuntuNet backbone."

Prof. Dr. Bonaventure CHELO LOTSIMA, Minister of Higher Education and Scientific Research in DRC

### Societal Objectives

While AfricaConnect has helped to establish an operational and sustainable data network, the societal objective supports the fulfilment of the region's Millennium Development Goals. AfricaConnect fosters the development of collaborative research programmes between the African and the European research and education communities. It does this by providing the e-Infrastructure that supports the development and deployment of research applications exploiting work done in Europe relating to the Information Society.

The project's purpose is to open up the research activities within the region and build co-operation with researchers in the rest of the world. Specific research application areas cover fields including: Health, Bio-Medical Sciences, Climate, Agriculture, Education and Environment. Although Internet penetration in the region is increasing at a rapid rate due to the growing availability of fibre infrastructure, there is a major challenge in the shortage of skilled technical, operational and managerial staff available in this geographical area. Therefore, the project is developing staff capacity at all levels in existing and emerging African NRENs, duly taking into account their immediate needs.

### AFRICACONNECT IN A NUTSHELL

- AfricaConnect funds the development of UbuntuNet, a high-capacity Internet network for academic and scientific collaboration
- It connects Southern and Eastern African partner countries: DRC, Ethiopia, Kenya, Malawi, Madagascar, Mozambique, Namibia, Rwanda, Somalia, Sudan, South Africa, Tanzania, Uganda and Zambia
- It connects African and European partners via GÉANT, the pan-European network
- It is jointly funded by the European Commission and African partners to reduce the digital disparity between African and European regions

## Saving lives in Sub-Saharan Africa

## Case Study

Through an international collaboration with the Wellcome Trust Sanger Institute in Cambridge, UK, scientists at the Malawi College of Medicine are investigating a new strain of Salmonella which is having a life-threatening effect on the young and vulnerable in Sub-Saharan Africa. Salmonella is a common worldwide problem, but the disease in Sub-Saharan Africa has unique characteristics which require thorough investigation by scientists.

"Invasive non-typhoidal salmonella is associated with an extremely high mortality rate, with as many as 50% of people who get the disease dying within days of infection. To complicate matters further, ST313 is resistant to many of the front-line drugs used to treat infection."

Dr Robert Kingsley, Senior Scientist at the Wellcome Trust Sanger Institute, UK

The only way to study the strain in detail is through in-depth genome sequence analysis to challenge basic medical assumptions and distinguish closely related viruses. UbuntuNet, the high-speed network for research and education enables scientists to work collaboratively to analyse large DNA data files.



"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.

### Geographic Scope

While the primary focus of AfricaConnect is to develop the UbuntuNet network that covers Southern and Eastern Africa, the project also fosters the development of NRENs right across sub-Saharan Africa through capacity building. Thus AfricaConnect is stimulating the establishment and growth of new NRENs in West and Central Africa. A feasibility study is currently being conducted for interconnecting NRENs to WACREN, the regional research and education network for West and Central Africa. This will enable WACREN and its members to participate in future regional networking projects.

### Funding and Organisation

The total budget for AfricaConnect is €14.75m over a period of four years to 2015, with 80% of funding provided by the EDF (European Development Fund) following an agreement between the African Caribbean Pacific Islands (ACP) Secretariat and the European Commission (DEVCO). The remaining 20% of funds (€2.95m) is being provided by the African partners on the basis of a cost-sharing model.