

# FEAST

**a feasibility study on the  
interconnection of African  
research and education  
networks to each other and to  
global research and education  
resources via GÉANT**

# PROJECT

## Results and Outlook



[www.feast-project.org](http://www.feast-project.org)

FEAST  
Project 

Feasibility Study for the AfricaConnect Initiative



European Commission  
Information Society and Media

**The FEAST project was a one-year feasibility study to prepare a roadmap for the AfricaConnect Initiative, one of the nineteen projects of the EU-Africa Partnership for Science, Information Society & Space (8). FEAST explored the options of deploying sustainable and extensible regional backbone networks in Africa, exclusively dedicated to research and education, to connect National Research and Education Networks (NRENs) to each other, and to global research and education resources via the GÉANT backbone network.**

### **HIGHLIGHTS OF THE STUDY**

- There has been significant development of underlying infrastructure in the region recently. This has brought with it real opportunities for the connection of African researchers to their global peers.
- Five to ten African NRENs and communities are ready to connect operational terrestrial networks in the initial phase of AfricaConnect.
- Most of the current connectivity for Research and Higher Education in Africa is provided by low-bandwidth, high-cost VSAT links without direct peering to the global community. FEAST found examples of per Megabyte prices of more than 10,000 times those in Europe.
- High-bandwidth undersea cables are both deployed and being constructed on the east coast of Africa, bringing the potential of high-bandwidth/low-costs closer to the African market. Terrestrial optical back-hauls to serve land-locked countries are already being designed and commissioned.
- Transition will require extensive cooperation between government and institutions, capacity-building of human resources and, in particular, investment in facilities at the campus level and in local access networks.
- There are mutual benefits for both the African and non-African research and education in setting up collaborative relationships that can form the basis for the development of future collaborations.
- Academic and vocational courses are needed to provide a sustained stream of skilled and qualified people to develop and maintain their own advanced communications infrastructures to support research and education. The approach is to extend existing BSc and MSc curricula with a problem-oriented, project-driven course on communication networks in a joint development framework involving industry.

**Peering with international colleagues in exposing counterfeit drugs will be of mutual benefit for the worldwide community and researchers at the High Performance Liquid Chromatograph (HPLC) laboratories at Makerere University, Kampala and at MUHAS, Dar es Salaam.**



## FINDINGS

FEAST found that the primary bottleneck in the process is related to the awareness, will and capacity of the key stakeholders, including the 'readiness' of the research and education networking communities. NRENs to be connected in the first phase of AfricaConnect must be ready to actively participate and take advantage of the connectivity, meeting a number of criteria, including:

- being a formal organisation with adequate human resources, membership in an organised regional research and education community, with published acceptable use and connection policies and in possession of provider-independent assigned numbers;
- having a permissive political and regulatory environment;
- having available a terrestrial local infrastructure on affordable commercial terms;
- being an NREN organisation recognised by the research and higher education institutions. The strategic importance of the networks also needs to be recognised and championed by policy-making ministries, regulators and influential users.

FEAST estimates that less than one third of the countries in Africa are approaching these conditions. Five to ten countries in southern and eastern Africa have NRENs that could be connected in the first phase and the recommendation is to connect these in the AfricaConnect Initiative during 2010.

AfricaConnect will also invest in building 'readiness' in countries that are not quite ready for the first phase and will showcase research applications that demonstrate the benefits of high-bandwidth connectivity. These will feature supporting activities for e-learning, e-health and e-government.

**FEAST expects AfricaConnect to contribute substantially to efforts facilitating full participation of the African research and higher education institutions in global research and education activities. This will allow them to contribute their expertise to the benefit of the whole world. Promotion of the applications and the benefits they bring will motivate further investments in networks and human resources.**

**Scientists at the Malawi-Liverpool Trust Genome Project at the University of Malawi College of Medicine would benefit immediately and substantially from advanced networks to send data about DNA samples from people with malaria to their research partners in Liverpool, UK.**



# FEAST

Project



## ENGAGING THE EUROPEAN NRENs

A key to the success of the implementation will be the support and commitment of EU NREN partners. The FEAST team is planning further and deeper involvement of these partners, specifically in training and capacity-building, through the means of “twinning” between African and European NRENs.

## ENGAGING PHILANTHROPIC ORGANISATIONS AND DONATING AGENCIES

One of the most important and immediate priorities of the FEAST team and its supporters is to gain the close collaboration of relevant philanthropic organisations, NGOs and other donating agencies in order to assist the participating NRENs with paying their contributions to the costs of deploying and sustaining the AfricaConnect Project.

## ASSOCIATED PROJECTS

Projects such as eAfrica and Erina4Africa are expected to contribute to the identification of applications and collaborative projects.

## FEAST PROJECT PARTNERS

The FEAST study was carried out by a partnership of DANTE, TERENA and the Swedish Royal Institute of Technology, KTH, which is the main contractor. Several European NRENs and the Ubuntunet Alliance supported the project.

## FURTHER INFORMATION

The findings are synthesised into a final report, including conclusions and recommendations. More information about the project, including detailed papers describing the project, findings and the roadmap itself are on the website, along with information about the FEAST project partners.

[www.feast-project.org](http://www.feast-project.org)

**Regional development needs have been supported by successful EU projects that have built up regional networks and connected them to the European GÉANT network: EUMEDCONNECT in the Mediterranean regions of North Africa and the Middle East, the RedCLARA network in Latin America, the TEIN regional network initiative in Asia, and SEEREN in southeast Europe.**



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