



EUROPEAN  
COMMISSION

Community Research



**Seventh Framework Programme**  
FP7

**Cooperation Specific Programme - Information & Communication Technologies - Call 7**  
FP7 ICT Call 7 (FP7-ICT-2011-7)

**Strategic Objective 10.3(a)**  
International Partnership building and support to dialogues

**Support Action**  
SA



Project Acronym : **EuroAfrica-P8**  
Project Full Title : **Supporting policy dialogues and cooperation with Africa to enhance ICT cooperative research links between Europe and Africa in the framework of the "Africa-EU Strategic Partnership 8"**  
Grant Agreement : **288309**  
Project Duration : **24 months (Jan. 2012 - Dec. 2013)**

## **D4.2.1 - Euro-African FP7/ICT thematic working group meetings – First Event**

Deliverable Status : **Final**  
File Name : **EuroAfrica-P8\_D4.2.1.pdf**  
Due Date : **August, 2012 (M8)**  
Submission Date : **December, 2012 (M12) – See note at page 6**  
Dissemination Level : **Public**  
Author : **Fraunhofer-Gesellschaft (karl.jonas@fokus.fraunhofer.de)**  
Coordinator : **Sigma Orionis (karine.valin@sigma-orionis.com)**

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## **EuroAfrica-P8 Project Abstract**

Africa and Europe have recognised that the development of Science, Technology and Innovation (STI) and the spreading of Information and Communication Technologies (ICT) to all components of a society are key. The '8th Africa-EU Strategic Partnership' ('Partnership 8' or 'P8') interlinks three priorities which can leverage a faster socio-economic development in Africa: Science, Information Society and Space. Partnership 8 Action Plan II lists as a priority the development of an inclusive information society in Africa. From this perspective a multi-stakeholder implementation group was formed, co-chaired by the African Union Commission (AUC) and the European Commission (EC) and aimed at enhancing cooperation between the two regions.

EuroAfrica-P8 is an FP7 project funded by the European Commission (DG CONNECT) and spanning 24 months (2012-2013) with the aim of strengthening ICT research and policy links between Africa and Europe under the '8th Strategic Partnership'. The project is defined in full continuity with and builds upon the substantial results obtained and the significant momentum created by several previous projects (2006+), designated - over the years - as 'the EuroAfrica-ICT Initiative'.

The project is gathering partners able to significantly impact the expansion of Euro-African cooperation on ICT research in close liaison with the EC and the AUC and in partnership with key stakeholders in the field.

The Consortium consists of eleven partners with significant experience of ICT policies in both regions, as well as Africa-EU S&T/ICT cooperation. They enjoy access to important networks and they have previously participated in EU/FP projects. Collectively they complement each other in such a manner that the consortium is well balanced and qualified to reach the project objectives.

### **EuroAfrica-P8 main objectives**

- Strengthen EU-African policy and ICT research links with the aim of reinforcing the '8th Africa-EU Strategic Partnership' (P8);
- Identify, analyse and map EU-African joint ICT research priorities;
- Provide evidence-based recommendations to the European and African Union Commissions for future cooperation initiatives;
- Provide support and guidance to European and African organisations in their efforts to connect and develop joint research projects in the ICT field;
- Support and sustain the activities of the P8 Africa-EU Implementation Group on ICT and the Joint Expert Group (JEG8);
- Enhance the participation of African organisations in FP7/Horizon2020 collaborative projects; and
- Achieve strategic coordination with other initiatives/projects/programmes sharing similar or related objectives.

### **EuroAfrica-P8 main activities**

- Provide support and guidance to European and African organisations in their efforts to connect and develop joint research projects in the ICT field through:
  - An interactive, consistent and dynamic portal website;
  - A repository of key information related to EU-African cooperation on ICT research;
  - A virtual community of researchers;
  - An online database of African research institutes addressing ICT;
  - An e-Booklet entitled 'Spotlight on African ICT research institutes';
  - Helpdesk services; and
  - Communication material (quarterly e-Newsletters, video trailer, brochures and posters, etc.).
  
- Organise cooperation/thematic events synchronised, when possible, with policy dialogue meetings:
  - 4 'Euro-African FP7/ICT awareness/training workshops' aimed at raising awareness on FP7/Horizon2020 ICT cooperation opportunities and at training on best practices: #1 (2012) Lesotho, Southern Africa / #2 (2012) Tunisia, Northern Africa / #3 (2013) West Africa (in French) / #4 (2013) East or Central Africa
  - 2 new editions of the 'Euro-African cooperation forums on ICT research' aimed at providing forums for discussions and debates on recent developments & perspectives: #1 (Nov. 2012) Portugal, Europe / #2 (2013) Africa
  - 2 'Euro-African FP7/ICT thematic working group meetings' to be hosted in Europe in 2012 and 2013;
  
- Identify, analyse and map joint ICT research priorities between the two regions, in support of strengthening Euro-African collaboration;
  
- Produce recommendations for future cooperation initiatives;
  
- Form 5 consortia working on joint EU-Africa EU FP7/Horizon2020 proposals demonstrating the return on investments in e-infrastructures and their supply chains;
  
- Produce 4 to 6 zoom/case studies (success stories, innovative ICT research/technological developments or results in specific African countries or regions);
  
- Publish 2 iterations of an e-Consultation aimed at achieving strategic coordination with other initiatives or programmes sharing similar or related objectives;
  
- Assist the day-to-day operation of the 'Africa-EU Strategic Partnership on Science, Information Society and Space' (P8) multi-stakeholder implementation group on ICT and the JEG8 - Improving as much as possible the operation of Partnership 8;
  
- Ensure the participation of key stakeholders in the P8 group meetings.

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## Introduction

The present document is a deliverable of the EuroAfrica-P8 project, funded by the European Commission's Directorate-General for Communication Networks, Content and Technology (DG CONNECT), under its 7th EU Framework Programme for Research and Technological Development (FP7).

The EuroAfrica-P8 project is divided into Work Packages (WP), each of them being sub-divided into Tasks (T). One of the project tasks (Task 4.2: Euro-African FP7/ICT thematic working group meetings) consists in organising two 1-day thematic working group meetings aiming at bridging the gap in ICT research and at working on specific identified joint ICT research priorities.

The present deliverable (D4.2.1. Euro-African FP7/ICT thematic working group meetings – First Event), prepared by Fraunhofer-Gesellschaft (Prof. Dr. Karl Jonas), is the first report related to this activity<sup>1</sup>.

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<sup>1</sup> According to the DoW, the first thematic working group meeting should have been organised by IICD in Europe in July 2102 (M7), the second by Fraunhofer in Europe in February 2013 (M14). These dates have been swapped in agreement with the PO: it was agreed that the first workshop could be organised by Fraunhofer in Africa in November 2012 (in order to co-locate it with the AfriComm2012 conference in Cameroon), and to organise the second workshop in Europe by IICD, to take place in February 2013 in the Netherlands.

## 1 - The Euro-African FP7/ICT thematic working group meeting on e-Infrastructures

### 1.1 - Location

This first working group meeting took place on Nov. 13, 2012 at the University of Yaoundé I in Yaoundé, Cameroon. The event was organised by the EuroAfrica-P8 Partnership (primarily Fraunhofer, KTH and Sigma Orionis) in close cooperation with the AfriComm2012 conference organizers and the Global Research Alliance (GRA) to:

1. Ensure a balanced participation of representatives from several countries,
2. Share costs for organising such a meeting, and
3. Make the most of each participant's stay in Yaoundé.

### 1.2 - Meeting Objectives

It has been observed that intra-Africa connectivity suffers from the fact that major Internet links use the sea cables and interconnect in Europe, even when neighbouring African countries communicate with each other. Several African landlocked countries still suffer from insufficient broadband connectivity<sup>2,3</sup>. While a lot of fibre cable is available already, crossing national borders seems to be a major obstacle towards better connectivity.

The purpose of the workshop was to stimulate a dialogue between key stakeholders in the field and to reach an agreement about a feasibility study using strictly non-commercial research and education networks to conduct a demonstration illustrating the key benefits of a

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<sup>2</sup> "It is critical for landlocked countries to coordinate and establish partnerships in order to ensure end-to-end connectivity to undersea land stations. In Uganda the ISP Infocom leased fiber capacity from the country's electrical utility, allowing it to create a fiber backbone to the Kenyan border. From there, Infocom arranged with Kenya Data Networks (KDN) to transport Ugandan Internet traffic to a new undersea fiber optic cable landing in Mombasa using KDN's national backbone" (Muwanga, David. 2009. "Telecom Costs to Drop as Fibre Optic Cable Lands in Kampala." *New Vision*, July 5. <http://www.newvision.co.ug/D/8/220/686891> and *infoDev* <http://broadbandtoolkit.org/en/home>)

<sup>3</sup> "Regional business models are emerging as cross-border backbone infrastructure expands and as network traffic transitions from simply voice communications services to Internet-based communications that involved data transmissions. Even further off the network are the landlocked countries in Africa that are still lacking appropriate connections to high-capacity submarine cables or to redundant connections that would help reduce prices. If operators are to leverage the backbone networks to extend affordable broadband Internet outside of major urban areas as well as in landlocked countries, some form of public support or incentive may be required. Despite emerging international experience in using PPP vehicles to facilitate the practice of open access to telecommunications backbone infrastructure, fostering trust and cooperation between the various stakeholders in such frontier markets, trusting and cooperative relationships is sometimes difficult to initiate and maintain. (M. Rogy: *Broadband Internet coming to Africa*; <http://blogs.worldbank.org/ic4d/node/561>)

transcontinental broadband connection between West, Central and East Africa. This initiative, which was named the *CrossLink Initiative* during the workshop, would illustrate a significant step forward towards the inclusion of - in particular - land-locked African countries in the Information Society.

### **1.3 - Participants and Contributors**

- Africa: T. Diotjo (Cameroon), G. van Stam (Zambia), B. Taute (South Africa), O. Oaiya (Nigeria), M. Tchuenta (Cameroon), I. Rai (Tanzania), Y Emvudu
- Europe: B. Pehrson (Sweden), S. Ruponen (Finland), J. Zidbeck (Finland), K. Valin (France), K. Jonas (Germany), D. Elias (Portugal), C. Mannweiler (Germany)
- Australia: B. Folink, E. Opie

### **1.4 - Meeting Minutes**

The meeting started with a self-introduction short session, where each participant shared his/her background and motivation to participate in such a working group meeting. Then, Prof. Björn Pehrson (KTH, Sweden) gave a presentation (referred to in the Annexes, Section 1.7) addressing a possible cross-continental East-Central-West Africa broadband connection (context, background, objectives, impact, opportunities and challenges, etc.). He made it clear that setting up such a link will require clearly addressing both regulatory and political issues. Financial feasibility will also heavily rely on access to existing fibre links, rather than new installations and investments (in fact on the next day, Prof. Pehrson had the opportunity to talk to one of the AfriComm2012 conference speakers - a representative from CamTel - who was quite open to support the initiative on the Cameroon side, possibly providing access to the existing national fibre backbone in Cameroon).

Several other stakeholders were mentioned (and informed at a later stage), including the World Bank and its RCIP - Regional Communication Infrastructure Program.

About 20 participants from Africa, Europe and Australia contributed to the discussions.

The subjects of discussions were as follows:

- The neutrality of the national research networks – the initiative will be strictly non-commercial (and time-limited) and open to all stakeholders;
- The competitive situation of the various sea-cables - their business model leads to the observation that even neighbouring African countries exchange traffic in Europe;
- The role of African organisations such as the African Union Commission (AUC), the Regional Economic Communities (RECs: ECOWAS, CEMAC, EAC, SADC), and regulatory associations (WATRA and others). The latter should get involved whenever possible, besides the national telecom regulators;



- Application scenarios such as e-Health should be considered and outlined from the very beginning of the initiative;
- The societal challenges: how can we make sure that rural areas and communities also benefit from the initiative?



## **1.5 - The Way Forward...**

### ***1.5.1 - Collecting support letters***

Background information about the *CrossLink-Initiative* has been distributed to various stakeholders in order to get their feedback and endorsement (Refer to the CrossLink Background document and Letter (Paragraph 1.7) which were initiated during the workshop).

### ***1.5.2 - To be further discussed and clarified***

- The infrastructure itself
- The management of the overall network
- The services on top of the network

### ***1.5.3 - To be done, deadlines***

The following activities depend on each other and require support from the key stakeholders:

- Produce an outline of the infrastructure and services (Jan 2013)
- Get national regulators involved (Feb 2013)
- Get local operators and owners of the infrastructure involved (Feb 2013)
- Get users and service providers involved (April 2013)

## **1.6 - Notes**

The CrossLink Initiative was further discussed and advocated at the '2012 Africa-EU Cooperation Week on ICT' held in Lisbon, Portugal, on November 26-30, 2012. In particular the representative from the UbuntuNet Alliance strongly supported the initiative.

The EuroAfrica-P8 project, in Task 3.1, identified 6 Focus Areas for Euro-Africa ICT Research Priorities, namely:

1. Health,
2. Environment & Energy,
3. Learning,
4. Agriculture,
5. ICT Infrastructure, and
6. Government Services.

The Crosslink Initiative relates specifically to Focus Area 5 above which, since it is a cross-cutting Focus Area, will explore the demonstration of applications in the thematic areas – most likely Health and Learning.

## **1.7 – Related annexes**

- EuroAfrica-ICT/P8 CrossLink Presentation (presented at the Workshop in Cameroon)
- EuroAfrica-ICT/P8 CrossLink Letter (initiated at the Workshop)
- EuroAfrica-ICT/P8 CrossLink Background (Brief statement prepared subsequent to the Workshop)

**EuroAfrica-P8 FP7 Project ■ Grant Agreement #288309**

**D4.2.1 - Euro-African FP7/ICT Thematic Working Group Meetings - First Event ■ December 2012**

**Author: Fraunhofer-Gesellschaft**

7<sup>th</sup> Framework Programme ■ Cooperation Specific Programme ■ ICT Theme

FP7 ICT Call 7 (FP7-ICT-2011-7) ■ Strategic Objective 10.3a (ICT-7-10.3a) ■ SA

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## **Annex 1: EuroAfrica-ICT/P8 CrossLink Presentation**

# Alternative Routes West-Central-East Africa (ubuntunt-WACREN)

- Terrestrial
  - Niger – Chad – CAR/Sudan - Uganda
  - Nigeria - Cameroon – CAR – DRC/Sudan - Uganda
- Via submarine cable
  - ... - Gabon - Congo – DRC – Zambia
  - ... - DRC -Zambia
  - ... - Angola – Zambia

## First Mover advantages

- ....
- ....

# Cost-Effective Innovative Technologies

- Carrier Grade Open Source Systems
- Integrated power management based on renewable energy sources and new energy storage
- Network Management system integrating monitoring of the fibre infrastructure

## RENs are special

- Strict Acceptable Use Policies enforced
- Can be used by regulators for experiments without commercial commitments
- Fore-runners
- Global knowledge transfer
- Capacity building for all sectors of society
- Ubuntunet - WACREN

# Objective

- Demonstrate impact in selected areas
- Use of cost-effective innovative technologies

## Choice of demonstrators

### Basic Public services

- Health

- Remote consultation illustrated by HD video conference between experts
- Maternal and neonatal health (community health portals)
- Sentinel surveillance , drug management
- Continuing education of health workers

- Education

- Access to learning material
- Tele-teaching

- Local administration

- Transparency and participation of citizens
- Support to local entrepreneurs
- Environment monitoring

# User demands

- Private sector **users** (as opposed to providers)
  - Most businesses depend on communications and are willing to pay a reasonable price.
- Public sector **users**
  - ICT is widely accepted as a key enabler
  - Focus on applications supporting progress towards regional and national strategies, the Millennium Development Goals and beyond towards the knowledge society.

Given access to dark fiber,  
we would like to make a demonstration  
illustrating the axiom

- Strictly non-commercial
- Time-limited
- Open for participation of all stakeholders

# Stakeholders

## Policy-makers and regulators

- Regional: Harmonisation
- National: Taxation, mediation and public interests

## Consumers

- Public sector
- Private sector

## Producers

- Infrastructure owners
- Network Operators
- Service providers

## Research and Education Networks

- Non-commercial, global dedicated infrastructure for public good

# Challenges

- Policy and regulation of trans-border communication
- Availability of Infrastructure
- Pricing of access to infrastructure
- Capacity building of local human resources



# “Who would benefit from a transcontinental Broadband Connection between West, Central and East Africa?”

Discussion at the Euroafrica-P8 Thematic workshop in  
Yaounde, Cameroon, 2012-11-13  
About an Awareness-Raising Demonstration

Omo Oaiya, WACREN  
Björn Pehrson, KTH

## Axiom

- ICT infrastructure should be regarded as a basic society infrastructure, just like roads
- Its existence will make all the difference

# Next steps

- Access to passive infrastructure
- Organising a multi-stakeholder partnership for a project (1-3 years)
- Presentation of detailed plan



## **Annex 2: EuroAfrica-ICT/P8 CrossLink Letter**



Yaoundé, Cameroon  
November 21, 2012

**Object - Outputs of the EuroAfrica-ICT/P8 Thematic Working Group Meeting on e-Infrastructures and e-Services (Nov. 13, 2012 - University Yaoundé I, Yaoundé, Cameroon)**

Dear Partner,

The EuroAfrica-ICT/P8 Initiative (www.euroafrica-ict.org) recently facilitated a working group meeting on possible beneficiaries from a transcontinental Broadband Connection between West, Central and East Africa. The group of international ICT experts analysed the situation and identified that trans-border policy and regulation in these regions hamper the availability of broadband services.

Therefore a time-limited demonstration using currently existing dark fibre based upon strictly non-commercial research and education networks is necessary to demonstrate the key benefits of broadband services across national borders. Demonstrators would include applications in health, education, agriculture and environment. Such a demonstrator would highlight and attempt to solve some of the cross-border policy and regulatory issues and in the process open new opportunities for development.

A unique opportunity arises from trans-national connectivity based upon existing spare networking infrastructure. This will contribute to the socio-economic development of the African region given the close relationship between socio-economic development and broadband networks as confirmed by World Bank studies.

We are writing to seek your endorsement for this initiative, referred to as CrossLink, by returning the letter below. Some technical details are described in the attached documents.

Thank you very much in advance for considering this request. Looking forward to hearing from you at your earliest convenience.

Yours sincerely,  
On behalf of the EuroAfrica-ICT Initiative:

Omo Oaiya  
WACREN

Karine Valin  
Sigma-Orionis

Prof. Björn Pehrson  
KTH Royal Institute of Technology

**About EuroAfrica-P8 and the EuroAfrica-ICT Initiative:**

**Strengthening ICT Research and Policy Links under the 8th Strategic Partnership**

EuroAfrica-P8 is a FP7 project funded by the EC (DG CONNECT) under the 'Cooperation Programme' and spanning 24 months (2012-2013) with the aim of strengthening ICT research and policy links between Africa & Europe under the '8th Strategic Partnership on Science, Information Society and Space' (the so-called Partnership 8). The project builds upon the substantial results obtained and the significant momentum created by several previous projects (2006+), designated - over the years - as 'the EuroAfrica-ICT Initiative'. Main project specific objectives: Support the implementation of the '8th Strategic Partnership' and the JEG8 activities / Encourage African participation in EU-funded programmes (ICT theme) / Connect researchers & practitioners to strengthen collaborative projects / Underpin Euro-African joint ICT research priorities



*(Please, use your organisation's headed paper)*

<Place, Date>

***Object - Letter of Endorsement for the CrossLink Initiative***

Dear members of the EuroAfrica-ICT/P8 Thematic Working Group on e-Infrastructures and e-Services,

We hereby express our interest and support in the CrossLink initiative for a time-limited demonstration of a cross-African link using currently existing dark fibre, based upon strictly non-commercial research and education networks.

We agree with the need to demonstrate the key benefits of broadband services across national borders based on demonstrators that include applications in health, education, agriculture and environment.

<Signature>

<Full Name>

<Job title>, <Affiliation>

## **Annex 3: EuroAfrica-ICT/P8 CrossLink Background**

**EuroAfrica-ICT/P8 Thematic Working Group Meeting on e-Infrastructures and e-Services  
University Yaoundé I, Yaoundé, Cameroon - November 13, 2012**

By Omo Oaiya (WACREN) & Björn Pehrson (KTH)

**Who would benefit from a transcontinental Broadband Connection between West, Central and East Africa?**  
(inputs to a discussion about an Awareness-Raising Demonstration - See also enclosed slides)

We propose a demonstration with the objective of raising awareness about the importance of ICT infrastructure in general and of a communication link connecting West, Central and East Africa in particular. Our motivation stems from the axiom that ICT infrastructure should be regarded as a basic society infrastructure, just like roads. ICT infrastructure, especially when providing true broadband services, can make the difference.

The challenges to be addressed include: i) Policy and regulation related to of trans-border communication; ii) Availability of Infrastructure and pricing of access to it; and iii) Capacity building of local human resources.

We target all stakeholders in the communication market, including policy-makers and regulators, consumers and producers. The regulator group includes regional regulators working on harmonisation. It also includes national regulators maintaining the regulatory frameworks, mediating in disputes between and within the consumer and operators groups, considering public interests and taxation.

The consumer group includes private as well as public sector users. Both depend on communications and should be willing to pay a reasonable price. We believe that the current pricing is based on legacy high-price/low-traffic pricing policies and that it would be a win-win for all stakeholders if this is exchanged for low-price/high-volume policies.

In the private sector, more business would be created if this happens. Public sector ICT is widely accepted as a key enabler of key public services. There are large investments in applications supporting progress towards regional and national strategies, Millennium Development Goals and beyond towards the knowledge society.

Given access to dark fibre, we would like to illustrate the axiom by demonstrating the impact of selected services using innovative cost-effective technologies. These demonstrations would be i) Strictly non-commercial; ii) Time-limited (1-3 years); and iii) Open for participation of all stakeholders. The demonstrators will be focused on basic public services, such as health, education, local administration, etc. and stakeholders will be invited to provide and select applications or demonstration.

During the demonstration projects, the dark fibre link will be used to connect the regional research and education backbone networks, UbuntuNet and WACREN. The emerging African National Research and Education Networks will be invited to host applications. These networks are well suited since they are strictly non-commercial and enforce their acceptable use policies, making them suitable for regulators to allow experiments. The involvement of African research and higher education institutions also contributes to capacity building of human resources that will benefit all sectors of society. These institutions can easily get support from local peers, e.g. in the framework of the Technology Transfer Alliance.

Alternative routes to connect West, Central and East Africa (UbuntuNet-WACREN) that have been identified include two terrestrial and two mixed terrestrial and submarine cables:

- Niger - Chad - CAR/Sudan - Uganda
- Nigeria - Cameroon - CAR - DRC/Sudan - Uganda
- Gabon - Congo - DRC - Zambia
- DRC - Zambia
- Angola - Zambia

The next steps will be to contact regulators asking for permission to establish the crosslink, contact the infrastructure-owners to get access to passive infrastructure, organising a multi-stakeholder partnership for a project (1-3 years) and subsequent presentation of a detailed project plan.

