



FEAST

Feasibility Study for the joint Africa-EU

AfricaConnect Initiative

and

ERINA4Africa

e-Infrastructure mapping

e-Infrastructures

e-infrastructures are environments supporting distributed research collaboration, including supporting resources, such as:

- Computing resources
- Communication networks
- Data repositories

Axioms

1. Research and higher education institutions are key actors in the creation of the knowledge society
2. They need a common dedicated network infrastructure, just like banks, airline industry, weather institutions, etc. Not connected institutions cannot fulfill their missions
3. Sub-Sahara African universities need to be connected to the global resources, just as their peers on all other continents
4. The connection is done via National Research and Education networks (NRENs) and Regional (RRENs) built on top of leased links in terms of dark fibre, wavelengths or data capacity.

- GEANT2 Coverage
- ALICE2-RedCLARA Network
- EUMEDCONNECT2 Network
- TEIN3 Network

GEANT2
www.geant2.net

ORIENT

EUMED
connect
2

TEIN3

The last region to connect to the Global REN

- 10 Gbps
- 5 Gbps
- 2.5 Gbps
- 1000 Mbps
- 622 Mbps
- 155 Mbps
- 100 Mbps
- 34-45 Mbps

www.geant2.net

alice2

February 2009



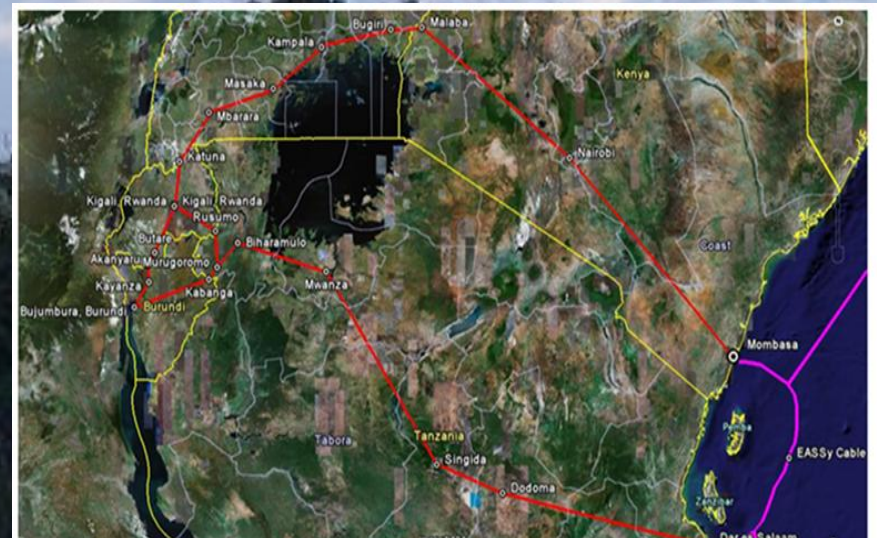
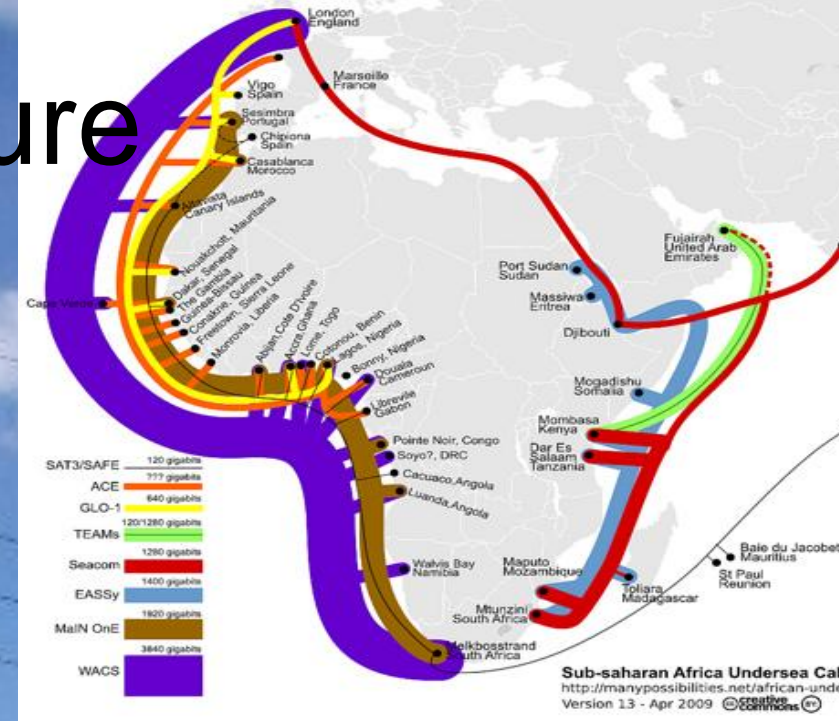
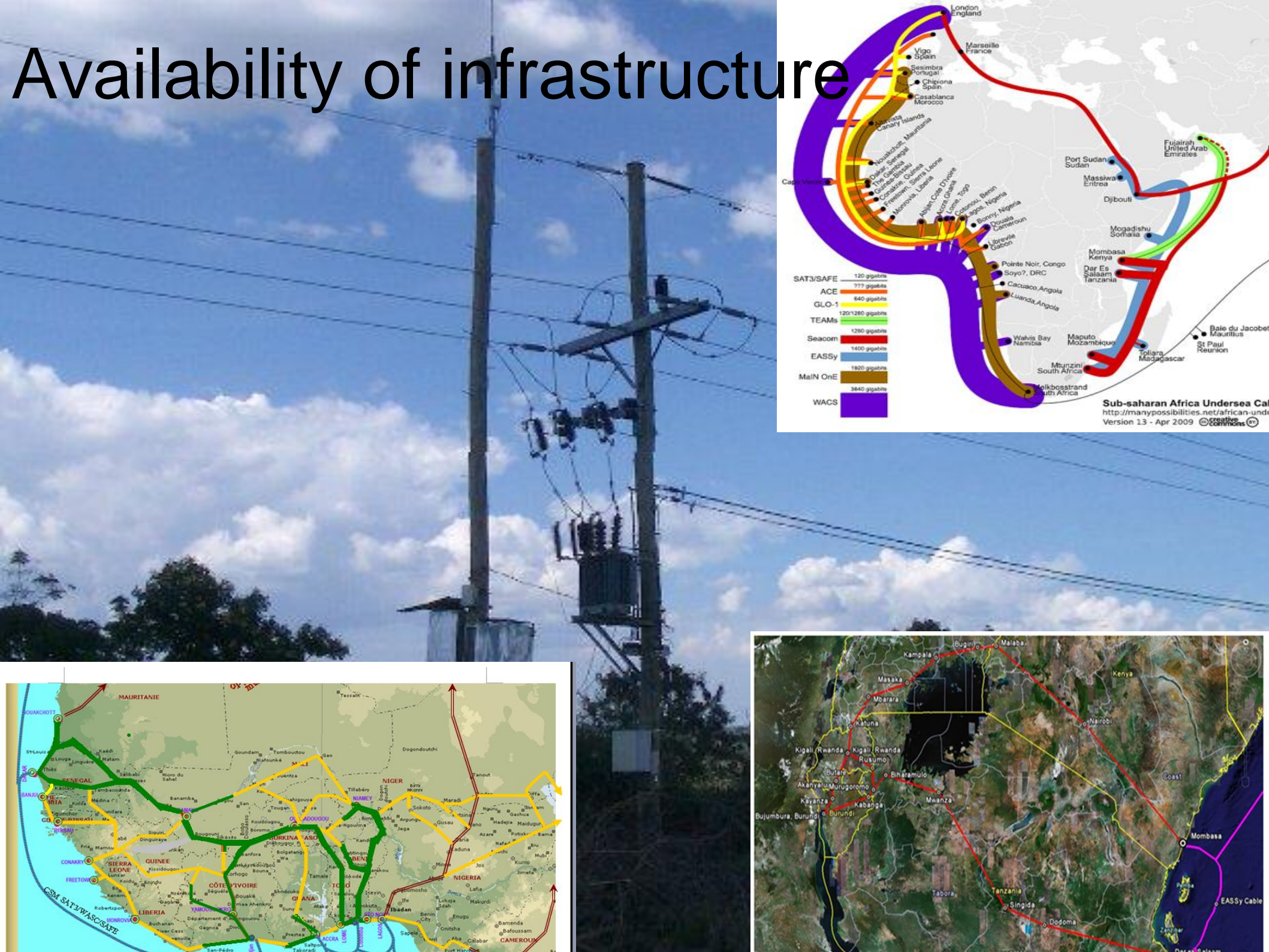
FEAST Findings

- There is enough infrastructure and ready research and education communities to start the first phase of AfricaConnect.
- Main challenges include raising the political awareness about
 - the nature and importance of dedicated research and education networks
 - The necessity and will to accelerate the transformation of the communication market making communication infrastructure an affordable utility.

Recommendations

- Immediately support to
 - the ready communities to acquire links to build their networks
 - strengthen the capacity in terms of educated and trained human resources both in the ready communities and in the emerging communities
 - High-light applications demonstrating the return on investment and motivating a second phase supporting the emerging communities.

Availability of infrastructure



NREN Readiness

- Member institution awareness
 - Campus networks, Lighthouse demonstrators
- NREN
 - Organisation and human resources
 - acceptable use and connection policies,
 - Interconnected campus networks of member institutions
 - Assigned numbers from Afrinic
- RREN
 - Ubutunet Alliance (2005)
 - WACREN (2010)

Policy and regulatory environment

Low awareness and will

- Ministries of Higher education research and communication
 - Political awareness of the importance of NRENs
 - Endorsement and support of NREN organisations
 - Stimulate transition from low-volume/high price to high-volume/low price
- Regulator
 - Licenses and permits if needed
 - Enforcement of regulations
 - Use the non-commercial NRENs as spearheads

Commercial conditions

- Still no or little competition on the link market
- Level playing field versus vested interests?
- Open access to key infrastructure resources allowing anyone to buy/lease resources on one level and provide services on any higher level ??
- Right of Way issues
- Formal regulations is one thing – strict enforcement and leadership to change behaviours is another.

Erina4Africa e-Infrastructure mapping

- Follow up on FEAST findings
- Survey of existing and potential e-Infrastructures in Africa
- Including Cost Benefit Analyses
- Lighthouse demonstrators motivating further investments
- Extension of Erina (www.erina-study.eu)
- The purpose of this presentation is to invite you to contribute.

Examples

- Connecting partners in the Malawi-Liverpool-Wellcome Trust Malaria Genome project in Blantyre and Liverpool
- Interconnection of High Performance Liquid Chromatography Laboratories in Dar es Salaam, Kampala and Stockholm
- Connection of Supercomputers in Dar es Salaam to the global grid
- Natural Products Research Network for Eastern and Central Africa www.napreca.net
- Digitization of research data in RUFORUM



WACREN



European Commission
Information Society and Media



ROYAL INSTITUTE
OF TECHNOLOGY



www.feast-project.org

www.erina4africa.eu

www.aau.org/renu

www.ubuntunet.net

www.wacren.org

<http://ei-africa.eu/>

Role of AUC

- Policy issues regarding the transformation of the communication market to facilitate
 - The execution of AfricaConnect phase 1
 - Pave the way for a second phase