

Promoting Regional Connectivity in Africa

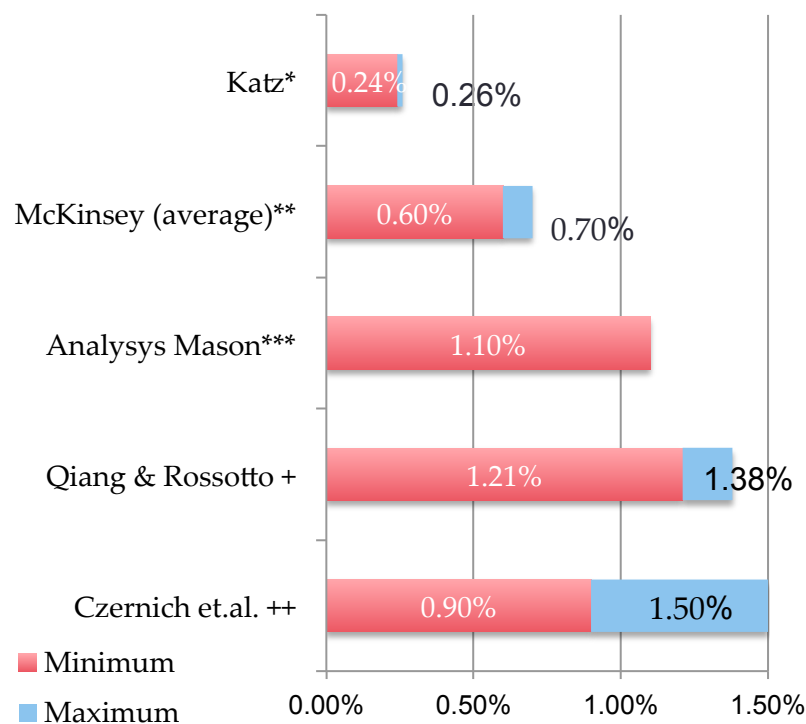
The Role of the World Bank

The Transport and ICT
Global Practice
Smart Connections for All

Mavis Ampah
Africa ICT Regional
Coordinator
November 6, 2015

Connectivity and Twin Goals of the World Bank

Impact on GDP of an increase of 10% in broadband penetration



Estimated broadband employment creation multipliers

Study	Year	Scope	Type I	Type II	Network Effect
Crandall et.al.	2003	US	...	2.17	...
Katz et.al.	2008	CH	1.4
Atkinson et.al.	2009	US	...	3.60	1.7
Katz et.al.	2009a	US	1.83	3.43	...
Libenau et.al.	2009	UK	...	2.76	...
Katz et.al.	2009b	DE	1.45	1.93	...

10% annual broadband penetration increases annual GDP growth by 0.24-1.5 p. p., and creates 1.5 to 4.5 indirect jobs for each job created.

Source: Katz (2010); Analysys Mason (2010); Qiang & Rossotto (2009); and Czernich et.al. (2009)

* Only includes Germany. ** Average of 5 country studies, including the UK, Australia, New Zealand, Malaysia, and a Middle Eastern country, from various sources (2003 and 2004) and Qiang and Rossotto 2009 study; *** Limited to mobile broadband impact in India; + various countries, upper range applies to developing countries and lower range to developed countries; ++ sample of 20 OECD countries.

Source: Katz (2009), citing Crandall et.al. (2003); Katz et.al. (2008); Atkinson et.al. (2009); Katz et.al. (2009a); Libenau et.al. (2009); and Katz et.al. (2009b)

Note: Type I (Direct+Indirect)/Direct; Type II (Direct+Indirect+Induced)/Direct

Digital technologies promote development – WDR 2016

From digital technologies ...



Automatic,
assured and
widely shared



...to digital dividends

Rapid
Growth

More and
Better Jobs

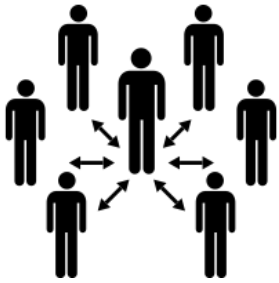
Improved
Services

SDG GOALS

The international community should strive to provide universal and affordable access to internet in LDCs by 2020 (SDG target 9.c)

WBG ICT Strategy

Connect



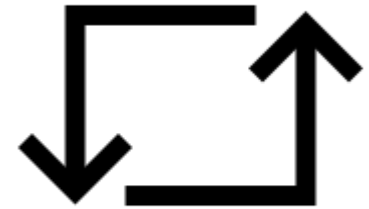
Scale up affordable
access to broadband

Innovate



Support ICT Innovation for
jobs and competitiveness
across economy

Transform



Improve Service Delivery
and Promote Open Data
and Accountability

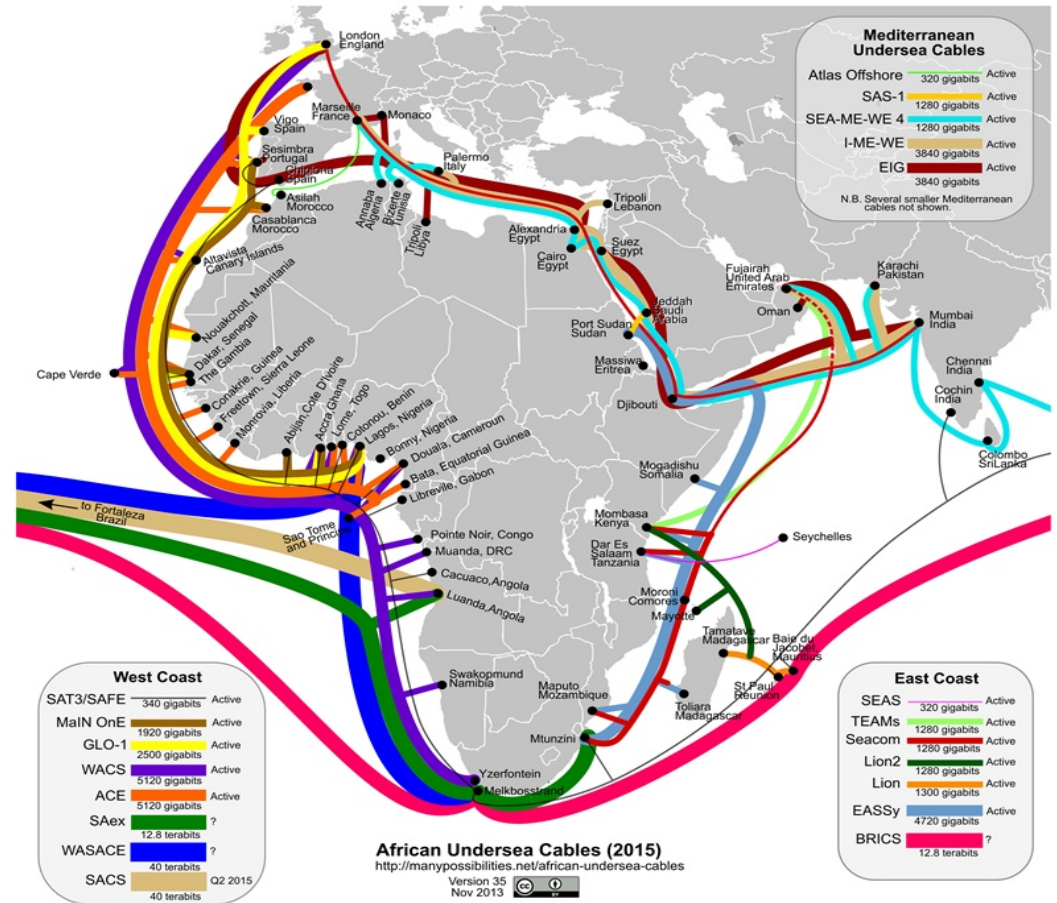
Connect Agenda

Some 22 AFR Countries being connected to Global Comm. Infra

Bank support catalytic, focused on countries/activities where private sector does not have incentive to invest

IFC support includes \$32.7m direct finance & additional \$70m debt financing mobilized for EASSy project

Obj to provide affordable broadband services, create opp. to capitalize on transformative power of ICT.



Connect Agenda – West and Central Africa Focus on International Connectivity and open access infrastructure

Unique opportunity for international connectivity to least connected countries in W. and Cen. Africa

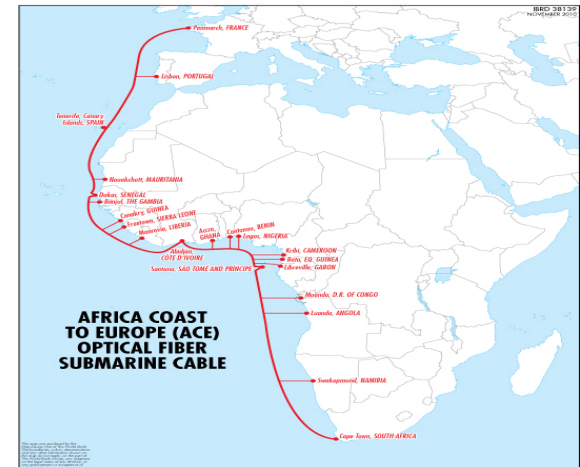
Project & Financing: 17,000 km from South Africa to France, connecting 23 countries for a total cost of US \$700 million.

WBG Role: Catalytic WB funding for small, FC and landlocked states along the coast of Africa

Coastal Countries Supported: Include Liberia, Guinea, Sierra Leone, Gambia, Benin

Landlocked/small countries being connected through Virtual Landing Points/carrier hotels include Burkina Faso, Mauritania, Togo

Countries in Central Af supported: STP, CAR, Chad, Cameroun



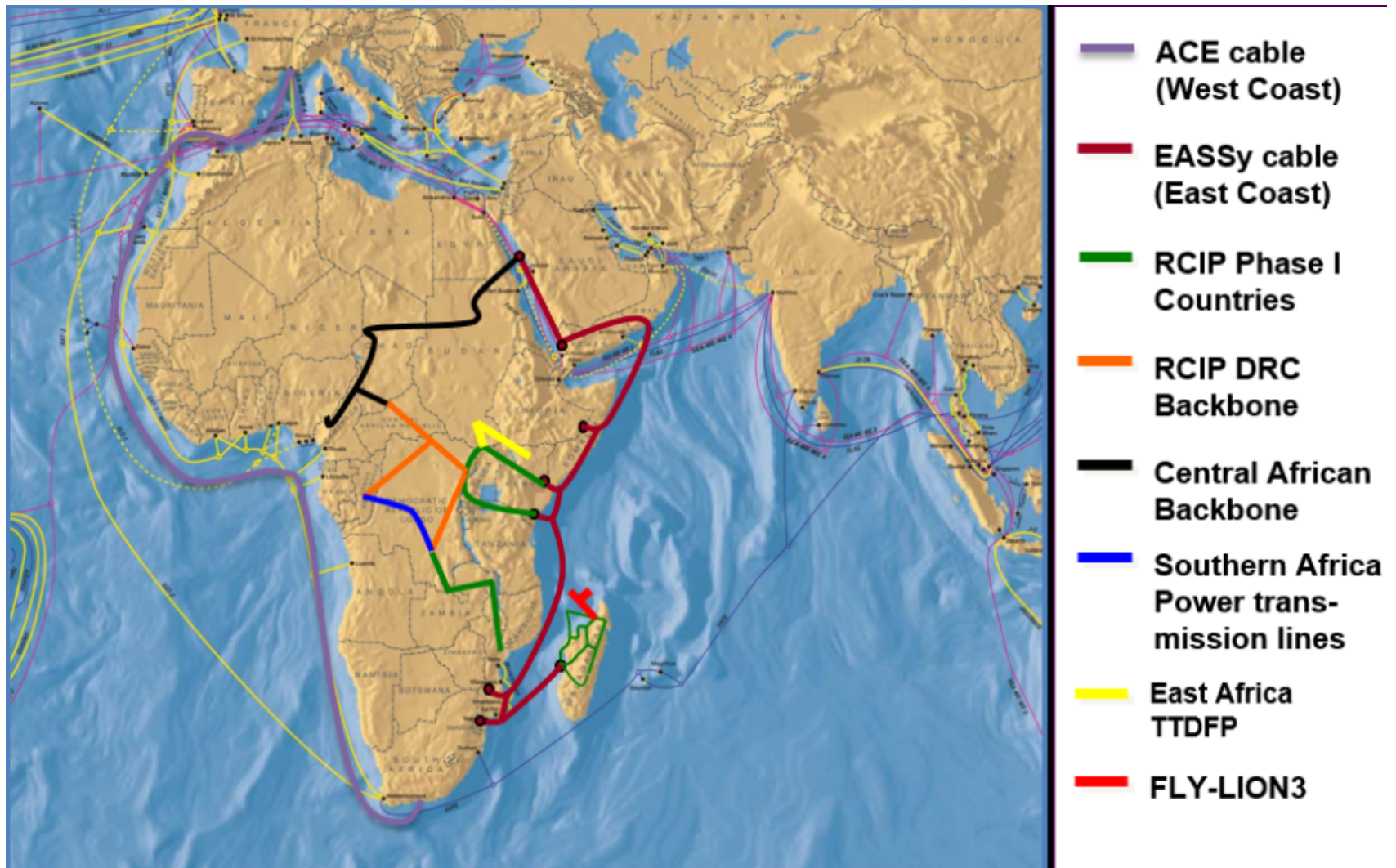
Connect Agenda – East and Southern Africa - Focus on Connectivity, Innovation and Transformation

Projects & Financing: Eassy Cable –led by IFC - \$32.7 m of direct financing and mobilization of some additional \$70 m debt financing

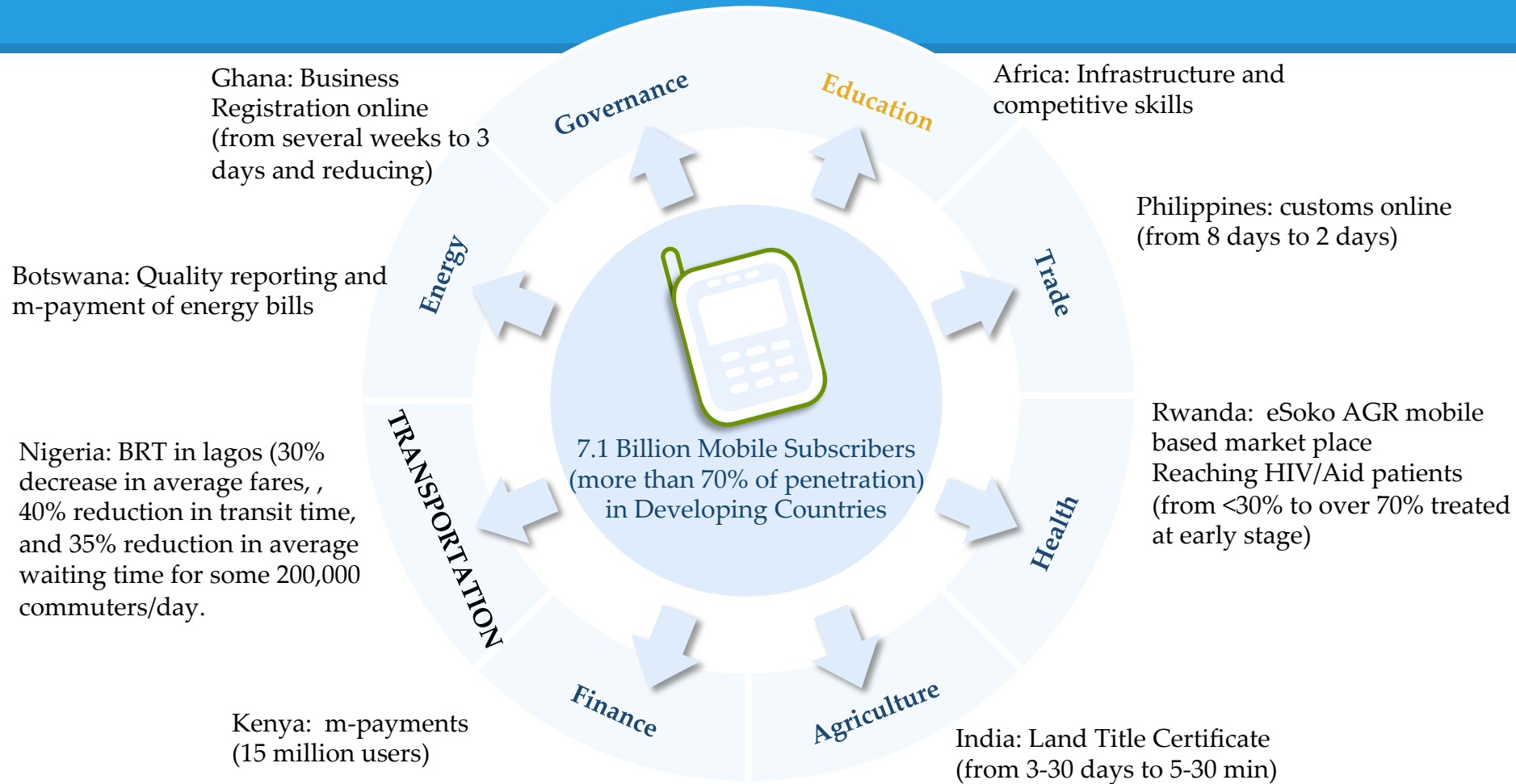
RCIP : About \$500m for regional and national connectivity, and leveraging infrastructure for innovation and government transformation



Map showing Fiber that WBG has invested in or financed



Transform - Agenda



Rapid spread of mobile phone networks



Largest Ever Delivery Platform with Multi-Sector Impacts

Innovation- Agenda



Develop a skilled workforce aligned with industry requirement



Policies to support ICT innovation in selective sectors, including Education



Promote business incubation and entrepreneurship

Promote bottom-up/user-centric approach for ICT innovation

Selected Examples of WB support for ICT in Education

- World Bank considers NRENs as key to development of Knowledge Societies
- Key to strategy of affordable broadband for all
- Important factor in Network Readiness Index
- Springboard for Innovation and Entrepreneurship

WB Support therefore broad and spans connectivity infrastructure, policy/Regulatory/Institutional Development, Centers of Excellence, Platform for IT Innovation, and content development



Kenya – RCIP support for Kenet

Kenya Education Network

- Funding Amount: US\$5.4m
- Objective: Address connectivity challenges to enable the KENET member Universities and institutions to share information with each other and also with other educational and research institutions the world.
- Key Activities:
 - ➡ Support purchase of bandwidth (2xSTM4s)
 - ➡ Network Operating Center,
 - ➡ Upgrading of KENET network and connecting to other National Research and Education Networks internationally
- Results: Some 55 KENET member institutions benefitted from support.

Mozambique – RCIP support for MoRENet

Mozambican National Research and Education Network

- Funding Amount: \$4.2million
- Objective: Support Govt with preparation of Business Plan; early stage development
- Key Activities:
 - ➡ Support to Procure consultancy services to develop business plan
 - ➡ Financed connectivity for 1st year of service for all 72 member institutions
 - ➡ Wireless campuses for first universities to join
 - ➡ Equipment to first universities to sign up
- Results: State of the Art Business Plan which articulates a.o. membership requirements, services to be provided, network architecture, governance and tariff models. Connected campuses for early membership

Ghana – Support for University Connectivity & Innovation (eTransform Project)

Campus Network Infrastructure

- Funding Amount: \$2.2million
- Objective: high speed connectivity, applications for research and innovation to enable selected tertiary institutions to share infrastructure and information with each other and also with other educational and research institutions the world.
- Key Activities:
 - Support for campus network, Last mile connectivity, High speed international bandwidth
 - Training and Applications
- Results: Contract about to be signed. Expected that connected campuses could provide required central connectivity to GARNET

Business Incubation & Skills Development

Collaboration with KNUST on the establishment of **KUMASI BUSINESS INCBATOR** which has incubated some 25 start ups; similar collaboration with **GHANA TELECOM UNIVERSITY** on BPO Skills development and Certification

Kumasi Business Incubator



- Young entrepreneur from Kumasi Business Incubator: Biometric Hostel Security System

Somalia – Support for SomaliREN

Somalia Research and Education Network

- Funding Amount: US\$3.5m (US\$1.5m from Africa Connect)
- **Objective:** Part of 2nd phase of Bank's ICT Sector Support in Somalia program. The objective is to link up to 15 Somali higher education institutions to the global network, using fiber connectivity in Mogadishu and Hargeisa, backed up by satellite, in collaboration with the Africa Connect.
- **Key Activities:** Advance purchase of bandwidth, Construction of a network operations center, Capacity-building (based around International Computer Drivers License, ICDL)
- Results: MoU between SomaliREN and AfricaConnect signed.

GAMBIA – LEARNET

Support under Results for Education Achievement and Development Project (READ)

- Funding Amount: US\$1,257,000
- **Objective:** Strengthen systems through ICT-enabled innovations for school management, (b) increase student achievement in core subjects through e-content, (c) improve quality of teaching interactivity, collaboration, and critical thinking tools.
- **Key Activities:**
 - ➡ Pilot schools equipped with Smartboard technologies.
 - ➡ WARCIP funds to provide rural ICT Centers and adjacent public schools with broadband Internet connectivity.
- Results: ICT Centers expected to be opened to Public School teachers and students. LEARNET leveraging the new Internet bandwidth capacity of Gambia ACE submarine cable.

Regional - Africa Higher Education Centers of Excellence (ACE)

Meeting demand
for specialized Skills and Knowledge
critical for Africa's development



ACE Phase 1 – Launched 2013

Centers of Excellence – West and Central Africa

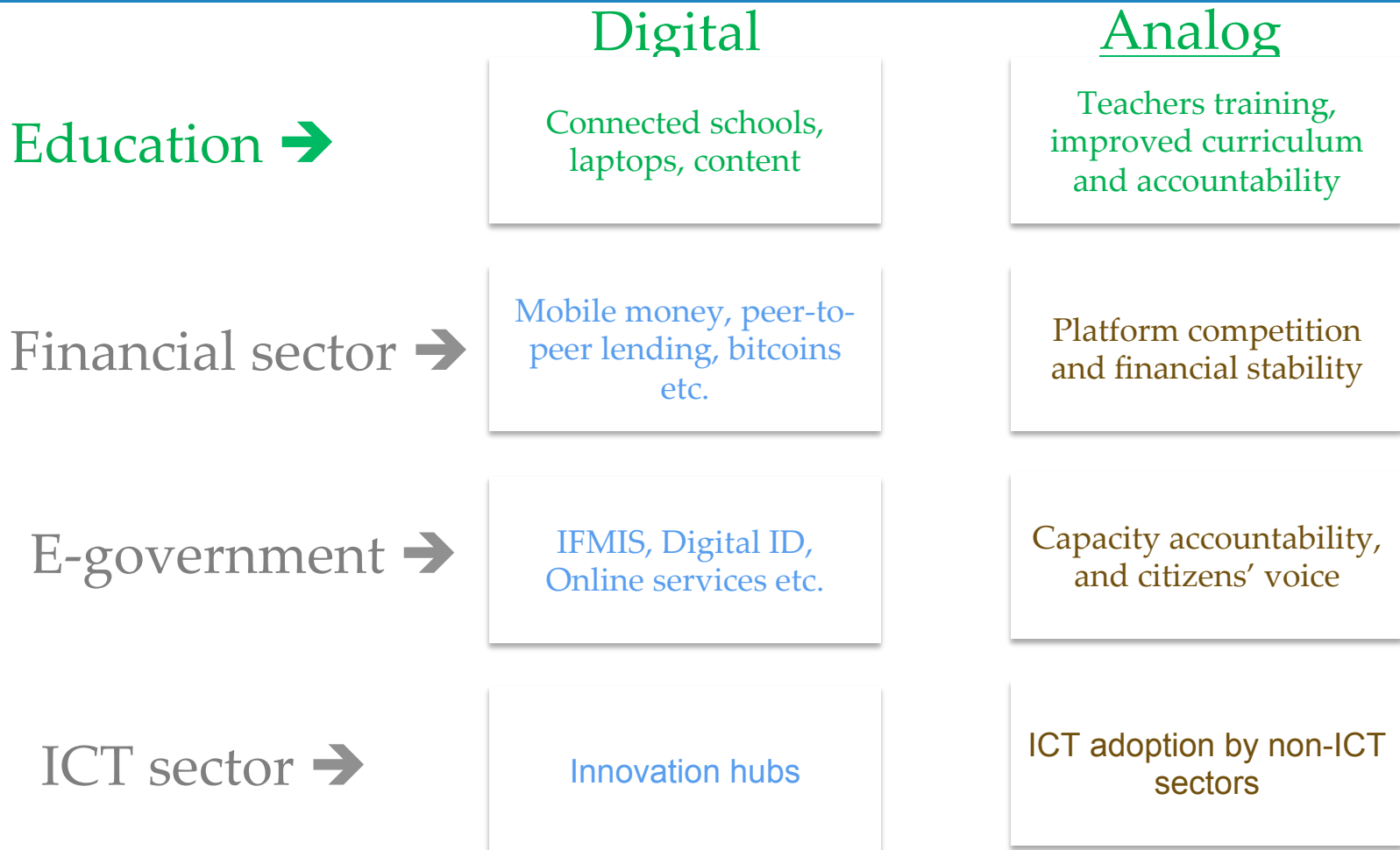
- Funding Amount: US\$165 Million
- Objective to Strengthen post-graduate programs through:
 - ➡ Offering specialized courses for industry professionals in the region
 - ➡ Attracting highly qualified faculty
 - ➡ Provide learning resources and labs; rehabilitate existing facilities
 - ➡ Establishing linkages with companies, government agencies, and research centers for workplace learning, input into curricula, consultancies, and joint research
- Key Activities: Funding of course content, labs, certifications, publications & research
- Results: 22 Centers of Excellence benefited from quality research-based education in high-demand areas.



ACE Phase 1 - MOOCs for Africa and emerging countries (Multipurpose Educational Content)

EPFL in partnership with univesité de Gaston Berger (**Senegal**); INP-HB (**Cote d'Ivoire**), and Yaounde I (**Cameroun**)

Making ICT IN EDUCATION Work - Digital development needs to stand on two pillars (WDR 2016)



Transport & ICT global practice

Mandate: ICT Global Practice for the Bank

Our *guiding principles* are:

- ✓ Support WBG and Country objectives
- ✓ Promote innovation and knowledge sharing in ICT
- ✓ Leverage expertise (both internal to WBG and external)
- ✓ Work in partnership with other WBG Global Practices, private sector, and other Development Partners

Options for Collaboration and Partnerships

- Direct Financing to Govts
- Multi-donor Trust Funds
- Externally Funded Outputs
- Reimbursable Advisory Services
- Flexible collaborations with private sector, development partners, public & private institutions

Thank You!