Leveraging ICT for Social and Economic Development

Session: 5 June 2013
 ICT...as an Ecosystem: Darrell Owen
 CERN: Dr. Sergio Bertolucci
 ICT Ecosystem...for Development
 Setting the Stage: Darrell Owen
 Sudan: Mr. Ahmed Eisa
 Vietnam, Kenya and Peru
 Moving Forward
 Comments-Discussions
ICT... as an ECOSYSTEM
The Broader Digital Ecosystem: Essential Components

User Adoption:
Government, Business and Citizens

Broadband Build Out

Applications and Content

Facilitating Environment:
Strategy, Policy, Legal & Regulatory
The Broader Digital Ecosystem: Facilitating Environment

- Competitive Environment
- Independent Regulator
- Universal Service/Access
- National Broadband Plan
- Frequency Management
- E-Financial Transactions
- E-Education Certification
- E-Health Prescriptions
- Cyber Security
- Privacy

User Adoption:
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Facilitating Environment:
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The Broader Digital Ecosystem: Broadband Build Out

- Competition in the Marketplace
- Shared International and National Fiber Backbone
- Adoption of Newer Wireless Broadband Technologies
- Facility Sharing (Towers +)
- Low Cost Rural Build Out
- Off-Power Grid Clean Energy Solutions
The Broader Digital Ecosystem: Applications and Content

- Local Language Content
- Local Application Development
- Local Hosting (+Cloud)
- E-Government
- E-Education
- E-Agriculture
- E-Trade & Commerce
- E-Health
- E-Emergency Services

User Adoption:
Government, Business and Citizens

Broadband Build Out
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The Broader Digital Ecosystem: User Adoption

- Affordability
- Language Literacy
- Digital Literacy
- Access-Use in Schools
- Teacher Education
- Access-Use in Communities
- Gender Equality
- Those with Handicaps
- Smart Phones & Tablets
- Focus on Rural Users
1. Connect villages  
2. Connect universities, colleges, secondary schools and primary school  
3. Connect scientific and research centers  
4. Connect public libraries, cultural centers, museums, post offices and archives  
5. Connect health centers and hospitals  
6. Connect all local and central government and websites and e-mail addresses  
8. Access to television and radio services  
10. Half the world’s inhabitants have access to ICTs  

7. Primary and secondary school curricula  
9. Development of content in all world languages on the Internet
Broadband Commission: Targets for 2015

2. Making broadband affordable
   ...less than 5% average income

4. Getting people online
   ...60% worldwide;
   50% developing;
   15% LDCs

3. Connecting homes to broadband
   ...40% households in developing countries

1. Making broadband policy universal
   ...national BB plan or BB included in USAF

User Adoption:
   Government, Business and Citizens

Broadband Build Out

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Facilitating Environment:
   Strategy, Policy, Legal & Regulatory
Broadband Commission 2015 Goals: Universal Broadband Policy

1. Making broadband policy universal
   ...national BB plan or BB included in USAF
Broadband Commission 2015 Goals: Broadband at Households By Region

User Adoption: Government, Business and Citizens

Broadband Build Out

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Facilitating Environment: Strategy, Policy, Legal & Regulatory

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   …40% households in developing countries
Broadband Commission 2015 Goals: Broadband at Country Development Level

User Adoption:
Government, Business and Citizens

Broadband Build Out

Applications and Content

Facilitating Environment:
Strategy, Policy, Legal & Regulatory

Getting people online
...60% world wide;
50% developing;
15% LDCs
Broadband Commission 2015 Goals: Broadband by Geographic Region

User Adoption: Government, Business and Citizens

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Facilitating Environment: Strategy, Policy, Legal & Regulatory

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Broadband Commission 2015 Goals: Broadband at the User Level

4. Getting people online
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Broadband Commission 2015 Goal: Broadband Affordability

User Adoption: Government, Business and Citizens

Broadband Build Out

Applications and Content

Facilitating Environment: Strategy, Policy, Legal & Regulatory

2. Making broadband affordable …less than 5% average income
Out Takes from WSIS & Broadband Commission:

- Predominant Focus on Expanding Access
- Broadband Targets Still Remain a Challenge
- ICT is a Broader Digital Ecosystem
- Value is *Derived* from Applications and Content
- Value is *Realized* through User Adoption
CERN’s: Dr. Sergio Bertolucci
ICT Ecosystem for DEVELOPMENT
“Digitization” - the mass adoption of connected digital services by consumers, enterprises, and governments
Contribution for Socioeconomic Impact

Note the Multi-Stakeholder participation is at the core nature of this ecosystem.

WEF: GITR 2013 – Network Readiness Index (NRI) Framework
...FOR DEVELOPMENT:
Significant Global Imbalance

WEF: GICT 2013 – NRI Map
...FOR DEVELOPMENT: Gaps Are Identified

WEF: GITR 2013 – Digital Divide
...FOR DEVELOPMENT:
Strong Link between Readiness & Impact

WEF: GITR 2013 – NRI - Readiness and Impact
### Evidence of Direct Impact

#### Regional Impact: 2010-2011

<table>
<thead>
<tr>
<th>Region</th>
<th>GDP Impact (US$ billions)</th>
<th>Number of Jobs created</th>
</tr>
</thead>
<tbody>
<tr>
<td>Africa</td>
<td>8.3</td>
<td>618,699</td>
</tr>
<tr>
<td>Commonwealth of Independent States</td>
<td>11.8</td>
<td>340,820</td>
</tr>
<tr>
<td>East Asia and the Pacific</td>
<td>55.8</td>
<td>2,370,241</td>
</tr>
<tr>
<td>Eastern Europe</td>
<td>7.0</td>
<td>159,015</td>
</tr>
<tr>
<td>Latin America and the Caribbean</td>
<td>27.0</td>
<td>636,737</td>
</tr>
<tr>
<td>Middle East and North Africa</td>
<td>16.5</td>
<td>377,772</td>
</tr>
<tr>
<td>North America</td>
<td>25.3</td>
<td>167,650</td>
</tr>
<tr>
<td>South Asia</td>
<td>9.4</td>
<td>1,117,753</td>
</tr>
<tr>
<td>Western Europe</td>
<td>31.5</td>
<td>213,578</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>192.6</strong></td>
<td><strong>6,002,266</strong></td>
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#### WEF: GITR 2013

- Advanced Economies: 29% (6%)
- Emerging Economies: 71% (94%)

...FOR DEVELOPMENT:
**...FOR DEVELOPMENT:**

...We Can Take Action for GREATER Impact

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<th>Digital Divide</th>
<th>Digitization Challenge</th>
<th>Digitization Benefits</th>
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| Bottom of the Pyramid (BOP)  
  = 3.9 Billion People in Emerging Markets |           |                       |

**Booz&Co: Digitization in Emerging Economies**
...FOR DEVELOPMENT: 
...We Can Take Action for GREATER Impact

Digital Divide

- Bottom of the Pyramid (BOP) = 3.9 Billion People in Emerging Markets

Digitization Challenge

- Digitization Costs for BOP is placed at: US$ 1.4T over 10 years
- Funding Gap for Digitizing BOP is placed at: US$ 1.2T

Digitization Benefits

Booz&Co: Digitization in Emerging Economies
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<tr>
<td></td>
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<td>US$ 4.4T =&gt; 300% Return</td>
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<td>64M Jobs</td>
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Booz&Co: Digitization in Emerging Economies
The bottom of the pyramid represents the greatest opportunity for capturing the gains in job creation and GDP growth associated with digitization…
Some Rural Examples

- Sudan
- Vietnam
- Kenya
- Peru
Sudan’s Mr. Ahmed Eisa
Ta Van, Vietnam

- New Technology
- Multi-Stakeholder Engagement
- Across the Community
- All Sectors Benefit
- Voice and Broadband
- All Wireless
- Supported by USAF
Ta Van, Vietnam
Nanyuki, Kenya

- New Technology
- Multi-Stakeholder Engagement
- Across the Community
- All Sectors Benefit
- All Wireless
- All Solar Powered
Ucayali, Peru

- Multi-Stakeholder Engagement
- Across the Community
- All Sectors Benefit
- All Wireless
- Partial Solar Powered
- USAF Support
Ucayali, Peru
Moving Forward

- Approach ICT as a Broader Digital Ecosystem
- Country Government Leadership is Essential
- Multi-Stakeholder Partnership also Essential
- Leverage Existing Diagnostic Data
- Focus on Removing Local Weaknesses
- Accelerating Local Implementation
- Achieving Social and Economic Benefits
- Potential to Add ICT into STIP Policy Reviews
- Potential Use of CSTD for Capturing-Sharing Lessons Learned
Questions
Answers
Comments
Slides Not Used
Broadband Commission 2015 Goals

Broadband in Households

User Adoption:
Government, Business and Citizens

Broadband Build Out
Applications and Content

Facilitating Environment:
Strategy, Policy, Legal & Regulatory

3. Connecting homes to broadband
...40% households in developing countries
Broadband Commission 2015 Goals: Household by Country

User Adoption:
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Source: ITU World Telecommunication/ICT Indicators database
Note: * Estimate

Households without Internet
960 million

Households with Internet
108 million

376 million

373 million

Developing countries

Developed countries
Broadband Commission 2015 Goal: Broadband Affordability

2. Making broadband affordable
... less than 5% average income
Digital technologies and applications contribute to the economic strength, societal well-being, and effective governance of a nation.
Drilling Deeper: …We Can Take Action for GREATER Impact

**Digital Divide**
- Bottom of the Pyramid (BOP) = 3.9 Billion People in Emerging Markets
- BOP Development Index (DI) Average is 17.5
  - Half of the Emerging Market
  - Quarter of the Developed Market

**Digitization Challenge**
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- Per Person Per Year Calculation
  - Current: US$ 5.50/year
  - Needed: US$ 47/year

**Digitization Benefits**
- For the BOP
  - US$ 4.4T => 300% Return
  - 64M Jobs
  - Move 580M People Above Poverty Line
- For Emerging Economies
  - US$ 6.3T => 300% Return
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