MONITORING SOUTH AFRICA CONNECT: CREATING OPPORTUNITIES, ENSURING INCLUSION

South Africa’s National Broadband Policy

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To present a vision, strategy and a long-term plan that is immediately insttitutable and that will catalyse broadband connectivity in South Africa.

- **robust and cost effective broadband** solution to **universal, affordable broadband access** (access, reach/coverage, price)
- **market structure** and **associated regulatory regime** required to induce sufficient **public and private investment** (public/private investment)
- mechanisms for greater **co-ordination at all tiers of government**, to enable more equitable access to broadband and to manage the **removal of impediments to broadband network extension**
- **co-ordination between state owned entities** through clear role definition, integration of planning, monitoring and evaluation
- Facilitate **infrastructure planning** through the mapping of existing **broadband networks**, **co-ordination of deployment plans of operators** and **infrastructure sharing** in order to limit the duplication of civil works (backbone/backhaul, access network: Geographic/population coverage)
- **vision, model and plan towards a world class open-access national broadband network** and harnessing **public and private** sector contributions, capabilities and resources (implementation roadmap/monitoring).
Draft broadband policy – 2010 Broadband policy revised and published for comment in April 2013. Revision on basis of public submissions & early evidence emerging from international broadband plans & international expert meeting.

- Need to understand broadband as ecosystem
- Lack of reference to role of regulator
- Narrowness/outmoded definition/targets
- Absence of demand stimulation measures
- Identification of strategies, mechanisms to achieve objectives
- Specificity on who does what – co-ordination, operations, enforcement
- National, provincial and municipal co-ordination
South African ICT Ecosystem

- **Global/regional Governance**
  - ITU, ICANN, WTO, SADC, CRASA

- **Institutional Arrangements**
  - ICASA, Comp Comm, USASA

- **National/industry formations**
  - unions, associations

- **Multilateral Agencies**
  - WB, AfDB, SADD

- **Services**
- **Users**
- **Accessibility**
- **Innovation**

- **Innovators**
- **Human Development**
  - e-skills

- **Content**

- **Applications**
- **Citizens**

- **Policy & Legal Framework**

- **Market Structure**
  - competitiveness

- **Employment**

- **Investment**

- **Networks**

- **State Constitution**

- **ResearchICTAfrica.net**

- **South African ICT System**
## Policy Options

<table>
<thead>
<tr>
<th>Supply side policies</th>
<th>Demand side policies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment/competition</td>
<td>Affordability of services/devices</td>
</tr>
<tr>
<td>Core/access network expansion – public/private</td>
<td>Government leadership/role model - demand stimulation</td>
</tr>
<tr>
<td>Reduction of infrastructure costs</td>
<td>Regulation/ICT skills development/</td>
</tr>
<tr>
<td>Spectrum allocation and assignment</td>
<td>Online local content, applications, e-gov services</td>
</tr>
<tr>
<td>Universal access/service</td>
<td>Consumer welfare/ user empowerment</td>
</tr>
</tbody>
</table>
The needs of countries are quite different, and standard minimum speeds rapidly become out of date with technological advances. In line with the growing trends towards defining broadband rather in terms of functionality, in South Africa broadband refers to:

An ecosystem of high capacity, high speed and high quality electronic networks, services, applications and content that enhances the variety, uses and value of information and communication for different types of users.

To be read together with targets (targets to follow).
Four pronged approach: Identifying the Gaps

SA Connect is made up of a four pronged strategy:

• Both supply and demand side interventions will close the identified gaps between the current relatively poor status of broadband in the country and the vision of a seamless information infrastructure by 2030.

• The strategy will provide:
  • Universal accessibility across the country at a cost and quality that meets the needs of citizens, business and the public sector.
  • Access to the creation and consumption of a wide range of converged applications and services required for effective economic and social participation.
Four pronged approach: Closing the Gap

(1) Digital Development
Laying the foundations for South Africa’s broadband future.

(2) Digital Readiness
Addressing needs and ensuring sustainable rollout.

(3) Digital Future
Roadmap for public and private investment in the next generation broadband networks.

(4) Digital Opportunity
Ensuring that South Africa harnesses the benefit of broadband based on skills, R&D and innovation, entrepreneurship, and relevant content and applications.
Four pronged approach: Closing the Gap

(1) Digital Development

The market and sectoral institutions will be restructured to create an environment conducive to public and private investment in the levels of broadband network extension (role of regulation).

(2) Digital Readiness

Supply measures will be used with demand measures in a bid to provide connectivity and enable network extension in areas that are unconnected. Human development needs will be met, via connected schools and hospitals.

(3) Digital Future

An open access national wholesale broadband network will be created through public and private investment in a manner that will initiate long term collaboration of existing infrastructure provider.

(4) Digital Opportunity

Fostering programmes that will realise the benefits of a world-class broadband infrastructure requires complementary policy action related to demand stimulation, skills, research and development (R&D), innovation and entrepreneurship; to local content and applications as well as to ensuring demand.
**Broadband Value Chain**

<table>
<thead>
<tr>
<th>South Africa Connect Strategies</th>
<th>Networks</th>
<th>Services</th>
<th>Devices</th>
<th>Applications</th>
<th>Content</th>
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</thead>
</table>

**Digital Readiness**
- Policy, legal & regulatory framework
- Coordinated & integrated action
  (Spans across value chain)

**Digital Development**
- Public sector use aggregation
- Infrastructure extensions
- Connected government
- Localisation across devices, applications and content
- Incubators & application laboratories
- Local content production

**Digital Future**
- National Broadband Network
  - Affordable high speed broadband
  - Sufficient capacity
  - Universal coverage

**Digital Opportunity**
- R&D and innovation
  - Quality of life for all
  - National competitiveness
- Skills, e-literacy
  - Equity
  - Economic and political inclusion

_Economic Growth, Development, Job Creation_
## Broadband Targets

<table>
<thead>
<tr>
<th>Target</th>
<th>Penetration measure</th>
<th>Baseline (2013)</th>
<th>By 2016</th>
<th>By 2020</th>
<th>By 2030</th>
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<tbody>
<tr>
<td>Broadband access in Mbps user experience</td>
<td>% of population</td>
<td>33.7% Internet access</td>
<td>50% at 5Mbps</td>
<td>90% at 5Mbps</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>50% at 100Mbps</td>
<td>80% at 100Mbps</td>
</tr>
<tr>
<td>Schools/Education</td>
<td>% of schools</td>
<td>25% connected</td>
<td>50% at 10 Mbps</td>
<td>100% at 10Mbps</td>
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<td>Health facilities</td>
<td>% of health facilities</td>
<td>13% connected</td>
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<tr>
<td>Public sector facilities</td>
<td>% of government offices</td>
<td></td>
<td>50% at 5Mbps</td>
<td>100% at 10Mbps</td>
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Reviewed periodically and supplemented by pricing and quality of service targets as well as speed of installation and fault repair.
Gap Analysis

- Market structure
- Institutional – capacity and competencies
- Infrastructure
  - Reach
  - Availability and cost
  - Spectrum
- Funding
- Demand stimulation
- R&D, innovation and skills
- Content and applications
- Trust, security and privacy
- Regional integration
- Open access
Gap Analysis - Infrastructure

**International connectivity**
- Before 2009: 0.34 Tbps
- Today: 11.5 Tbps

**Domestic backbone or National Long Distance Network**
- > 50,000km

**Metropolitan area networks**
- Considerable core network infrastructure

**Access networks**
- Biggest gap

**On-site (LAN) connectivity and devices**
- Mobile revolution has decreased cost significantly
86% of the South African population resides within 10km of a fibre node
Strategy to bridging the gap (four prongs)

Government investment in high capacity user networks for key areas of need education, health, rural access

Open access high capacity national broadband network:
- Wireless
- Fibre rich access network

Current state

Digital readiness:
Policy, regulation & institutional capacity
Monitoring and Evaluation

Road mapping

Digital Development:
Public sector demand aggregation to address critical gaps

Digital Opportunity: Skills & institutional capability, R&D, Innovation & entrepreneurship
Content and Applications

Digital Future:
National Broadband Network

Targets

10 year plan
Closing the Gap – Digital Readiness

Digital readiness - laying the foundations for South Africa’s broadband future

Establishment of Broadband Council

Institutional capacity – adjust institutional arrangements - ICASA, USASA, USF

Enabling investment in infrastructure build
  - Efficient permit granting
  - Access to and use of existing physical networking infrastructure:
    - Co-ordination and exploiting synergies with other civil works
    - Coordination of civil works
    - Spectrum

Legal and regulatory framework
  - Cybersecurity framework, POPI
  - Align existing laws, ECA, ECTA, ICASA, Broadband Infraco Act

Data, information and indicators (Important from the get-go!)
  - National ICT indicator portal, transparency, M&E
Digital development - addressing needs and ensuring sustainable rollout

- Pooling of public sector demand
  - smart government procurement
  - anchor tenancy
- Closing infrastructure gaps
- Addressing public sector needs
  - Public sector
  - Schools
  - Health
  - Public WiFi
- Incentivising investment in network infrastructure to ‘uneconomic’ areas
- Meeting public sector needs
Digital Future – a roadmap towards South Africa’s National Broadband network

- South Africa’s **National Broadband Network** will be built as a long term collaborative initiative
  - Consolidation of SOCs
  - Private Sector
- Establishes a high capacity, open access wholesale network that leverages existing infrastructure and private capital to reach underserved areas.
Realising Digital Opportunity

**Supply side skills**
- Engineering and technical, software development, design, creative, vocational (call centre operations & management)

**Demand side skills**
- E-literacy
- Institutional capability and capacity
  (e.g. – schools’ ability to leverage broadband for enhanced educational outcomes)

**R&D and innovation and entrepreneurship**
- Promoting R&D in ICT  South Africa’s ICT RDI Roadmap

**Content and Applications**
- E-government services
- Local content, diversity of content supply and use.
- E-skills in primary, secondary and tertiary education
- Promoting development of applications, content and services locally
Measuring performance – Starting point

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By 2016:
- Broadband access in population: 50% at 5Mbps
- Schools/Education: 50% at 10 Mbps
- Health facilities: 50% at 10Mbps
- Public sector facilities: 50% at 5Mbps
South Africa Connect Strategies

**Digital Readiness**
- Policy, legal & regulatory framework
  - Coordinated & integrated action
    - (Spans across value chain)
  - - TRE Survey
  - - Infrastructure and Access Indicators

**Digital Development**
- Public sector use aggregation
- Infrastructure extensions
  - - ICT in govt indicators
- Connected government
- Localisation across devices, applications and content
- Incubators & application laboratories
- Local content production

**Digital Future**
- National Broadband Network
  - - Affordable high speed broadband
  - - Sufficient capacity
  - - Universal coverage
  - - Infrastructure and Access Indicators

**Digital Opportunity**
- - ICT use by households
  - - TRE
  - - R&D and innovation
  - - Quality of life for all
  - - National competitiveness
  - - Skills, e-literacy
  - - Equity
  - - Economic and political inclusion
  - - ICT in govt & education

Economic Growth, Development, Job Creation
Funding

Monitoring and Evaluation –
The role of ICT Indicators

- For policy purposes and continuous adaptation – we ultimately want granularity (adapted ITU indicators).
- Suggestions of indicators that can be used to measure progress:

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<td>Wireless-broadband subscriptions</td>
<td>Access</td>
<td>Supply side</td>
</tr>
<tr>
<td>Internet bandwidth (bit/s) per Internet user</td>
<td>Quality of service</td>
<td>Supply side or demand side</td>
</tr>
<tr>
<td>Average education level of internet users</td>
<td>Social</td>
<td>Demand Side</td>
</tr>
<tr>
<td>Average income of internet users</td>
<td>Economic</td>
<td>Demand Side</td>
</tr>
<tr>
<td>Proportion of females who own cellular phones</td>
<td>Gender / Access</td>
<td>Demand Side</td>
</tr>
<tr>
<td>Fibre-to-the-home/building Internet subscriptions</td>
<td>Access</td>
<td>Supply side or demand side</td>
</tr>
<tr>
<td>Annual investment in telecommunication services, in USD</td>
<td>Infrastructure</td>
<td>Supply side</td>
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<tr>
<td>Percentage of households with Internet Access</td>
<td>Access</td>
<td>Demand side</td>
</tr>
<tr>
<td>Dedicated mobile-broadband subscriptions per 100 inhabitants</td>
<td>Access</td>
<td>Supply side or demand side</td>
</tr>
<tr>
<td>Installation fee for residential Internet access</td>
<td>Affordability</td>
<td>Supply side</td>
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**Importance of supply side and demand side indicators**

- NB: National ICT Indicator Portal updated quarterly
- Nationally representative demand side surveys to fill the gaps that are created by supply side
Thank you