



MONITORING SOUTH AFRICA CONNECT: CREATING OPPORTUNITIES, ENSURING INCLUSION

South Africa's National Broadband Policy

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Safia Khan

To present a vision, strategy and a long-term plan that is immediately institutable 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.

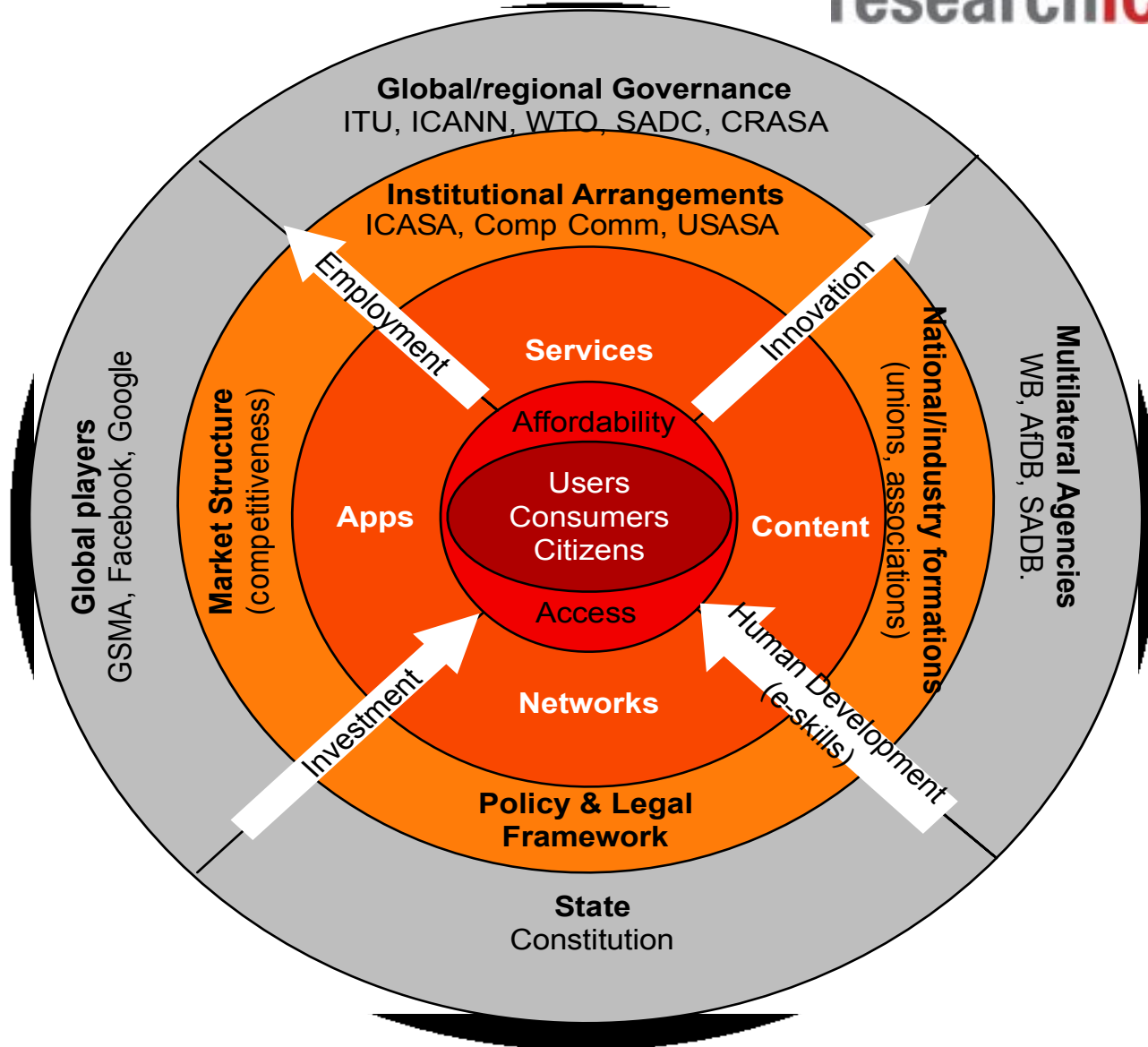
Revision on basis of public submissions & early evidence emerging from international broadband plans & international expert meeting.

- 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



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Supply side policies	Demand side policies
Investment/competition	Affordability of services/devices
Core/access network expansion – public/private	Government leadership/role model - demand stimulation
Reduction of infrastructure costs	Regulation/ ICT skills development/
Spectrum allocation and assignment	Online local content , applications, e-gov services
Universal access/service	Consumer welfare/ user empowerment

Functional Definition of Broadband

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 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

South Africa Connect Strategies



Digital Readiness

Policy, legal & regulatory framework
Coordinated & integrated action
(Spans across value chain)

Digital Develop- ment

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 Oppor- tunity

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



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Target	Penetration measure	Baseline (2013)	By 2016	By 2020	By 2030
Broadband access in Mbps user experience	% of population	33.7% Internet access	50% at 5Mbps	90% at 5Mbps 50% at 100Mbps	100% at 10Mbps 80% at 100Mbps
Schools/ Education	% of schools	25% connected	50% at 10 Mbps	100% at 10Mbps 80% at 100Mbps	100% at 1Gbps
Health facilities	% of health facilities	13% connected	50% at 10Mbps	100% at 10Mbps 80% at 100Mbps	100% at 1Gbps
Public sector facilities	% of government offices		50% at 5Mbps	100% at 10Mbps	100% at 100Mbps

Reviewed periodically and supplemented by pricing and quality of service targets as well as speed of installation and fault repair

- **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**

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**

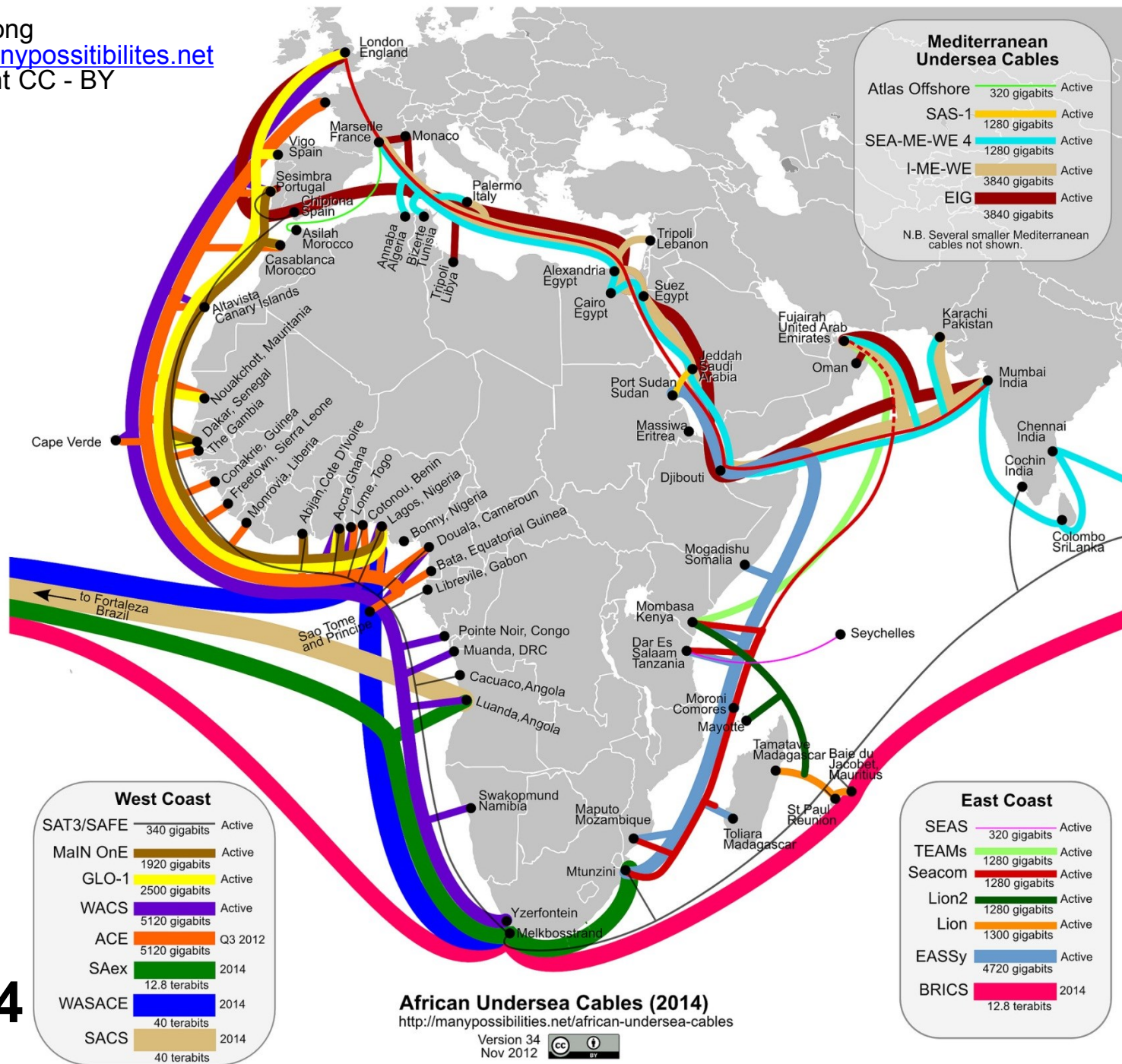
On-site (LAN) connectivity and devices

- Mobile revolution has decreased cost significantly



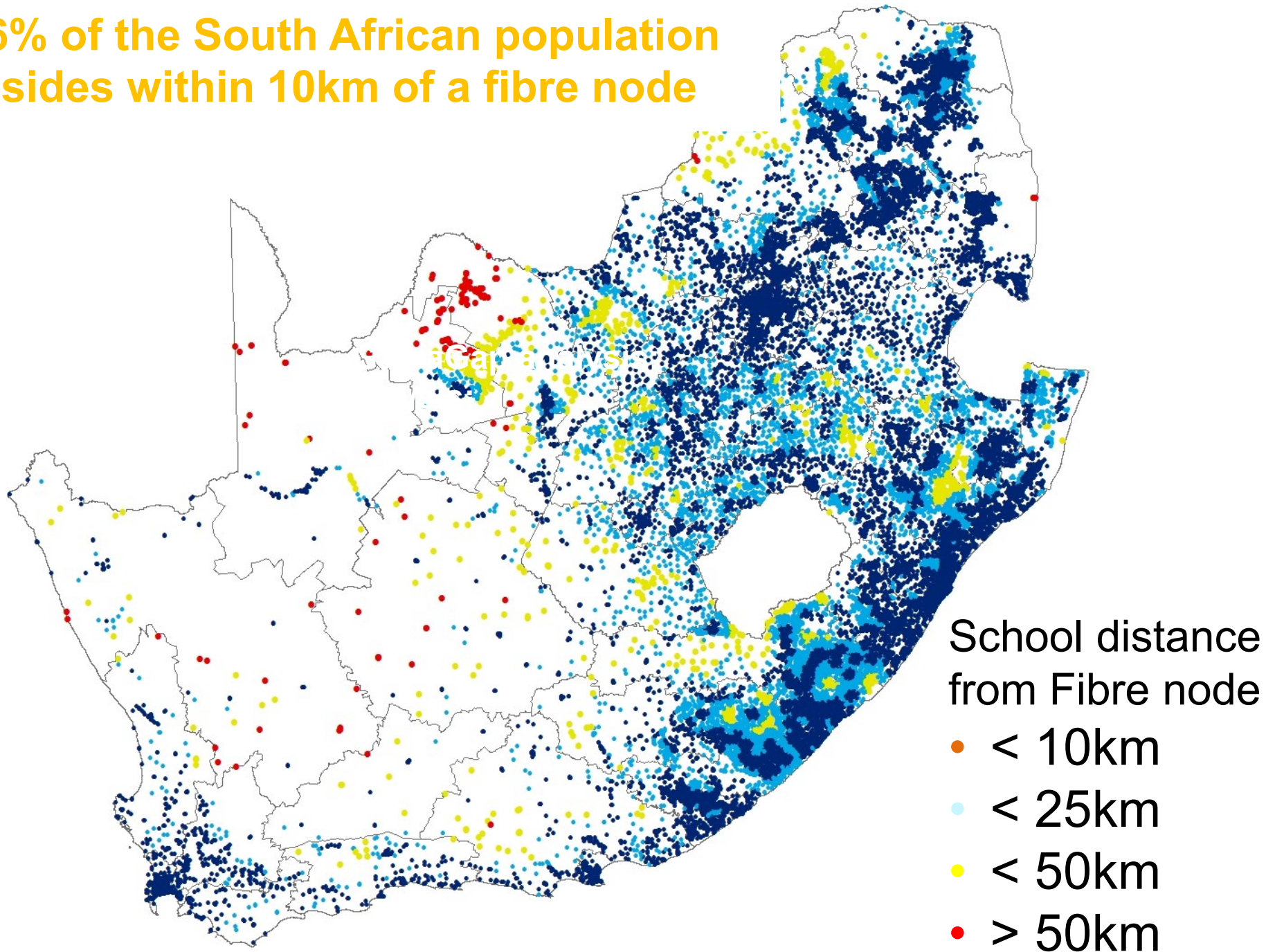
2001-2009

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2014

**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

Broadband vision



Current state

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

Digital Development:
Public sector demand aggregation to address critical gaps

Road mapping

Digital Future:
National Broadband Network

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

Targets

10 year plan



Closing the Gap – Digital Readiness



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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

Closing the Gap – Digital Development

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**

Closing the Gap – Building the Digital Future

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.

Closing the Gap – Realising Digital Opportunity

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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Measuring Progress – Potential Indicators

South Africa Connect Strategies



Digital Readiness

Policy, legal & regulatory framework
Coordinated & integrated action
(Spans across value chain)

- TRE Survey
-Infrastructure and Access Indicators

Digital Develop- ment

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 Oppor- tunity

**- 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



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:

Indicator	Measure of	Data source
Wireless-broadband subscriptions	Access	Supply side
Internet bandwidth (bit/s) per Internet user	Quality of service	Supply side or demand side
<i>Average education level of internet users</i>	Social	Demand Side
<i>Average income of internet users</i>	Economic	Demand Side
<i>Proportion of females who own cellular phones</i>	Gender / Access	Demand Side
Fibre-to-the-home/building Internet subscriptions	Access	Supply side or demand side
Annual investment in telecommunication services, in USD	Infrastructure	Supply side
Percentage of households with Internet Access	Access	Demand side
Dedicated mobile-broadband subscriptions per 100 inhabitants	Access	Supply side or demand side
Installation of fixed-line telephony	Infrastructure	Supply side

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



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Thank you