

**Telkom's presentation on the EC
Amendment Bill**

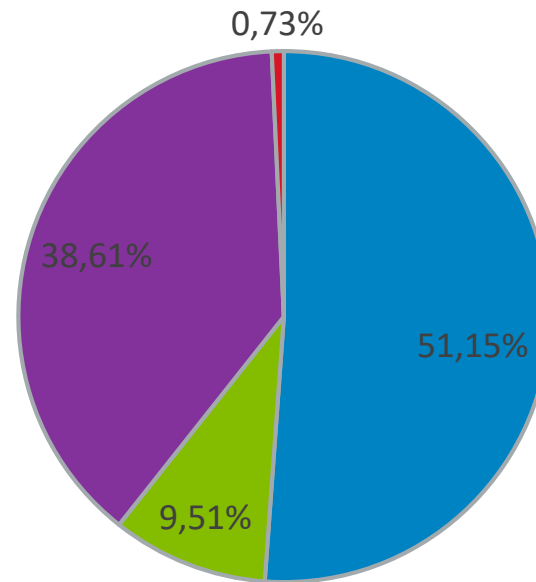
6-7 March 2018

Telkom

Background & Policy objectives

- The majority of South Africans do not have internet access. Of those who do have access, the majority relies on mobile broadband

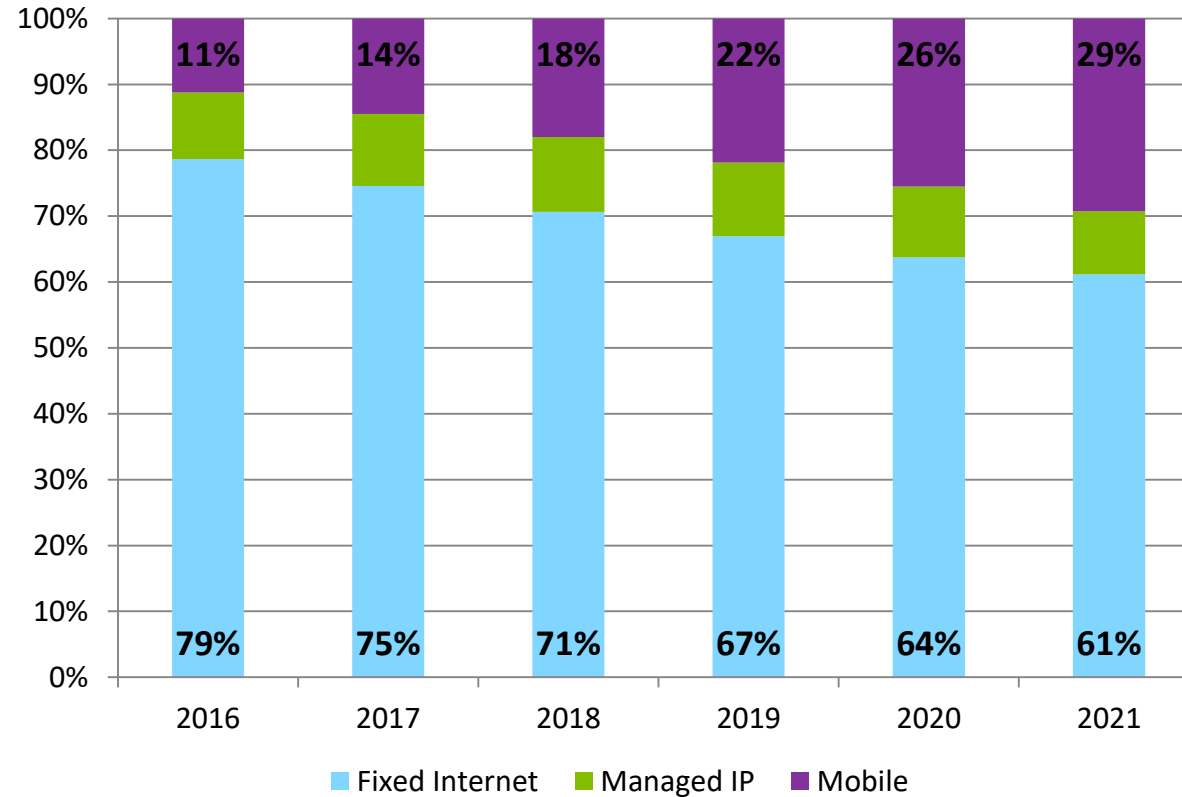
Household internet access (2015)



■ No access ■ Fixed broadband ■ Mobile broadband ■ Narrow band

General Household Survey (2015)

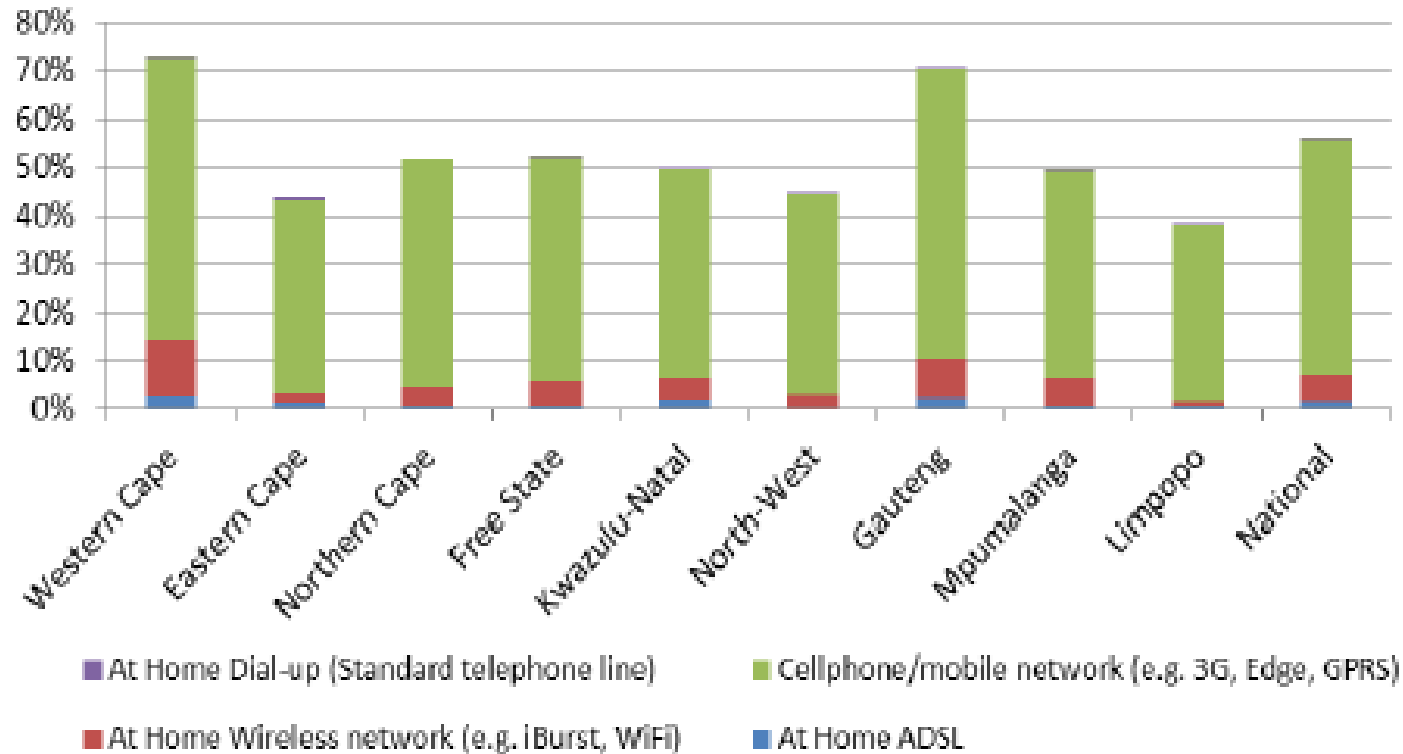
Mobile data access growing faster than fixed access



Cisco – data demand forecasts (SA households - petabytes)

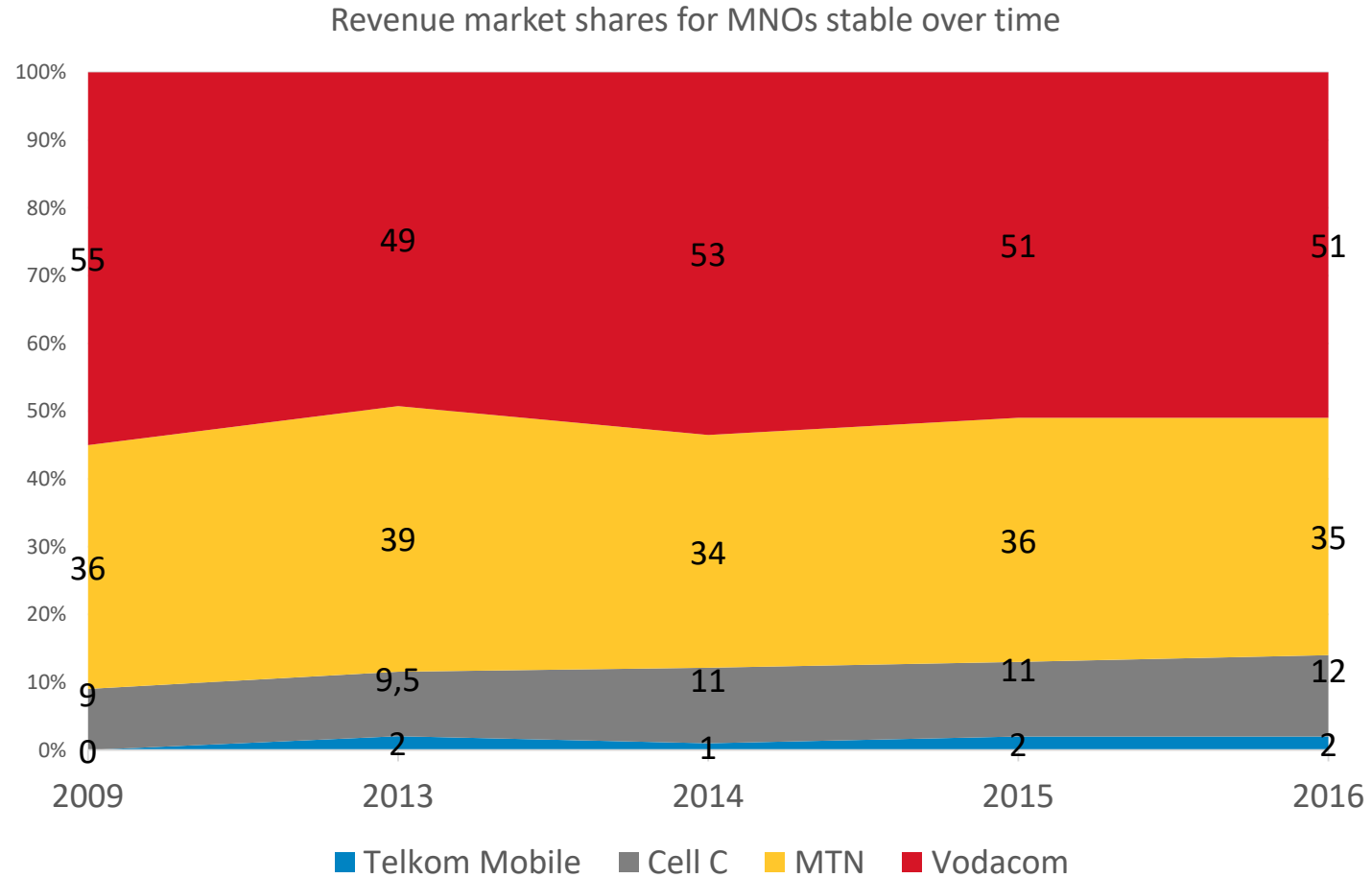
Mobile is the technology of choice

Internet access per Province per technology, 2014



BMI-TechKnowledge, "The Future of Broadband in SA, 2016". Brian Neilson.

The duopoly in the mobile market in SA



ICASA Review of pro-competitive MTRs -Government Gazette, 9 June 2017)

Levelling the playing field

Current dispensation	Future dispensation
VC & MTN duopoly has a combined market share of over 80% by revenue and more than 75 % in terms of subscribers	More accessible market which enables and supports meaningful competition by smaller players. This is especially beneficial at the retail level
Access to HDS determines the market structure and the level of competition	A WOAN as a pragmatic instrument to level the playing field in a way that enables smaller and emerging operators to access currently unassigned HDS
Infrastructure-based competition and high barriers to entry	Service-based competition allowing smaller players to compete
Exclusive RAN infrastructure, limited availability of access to radio high sites	Open access to mobile RAN infrastructure
Limited consumer choice	Increased consumer choice

Open access - Mobile

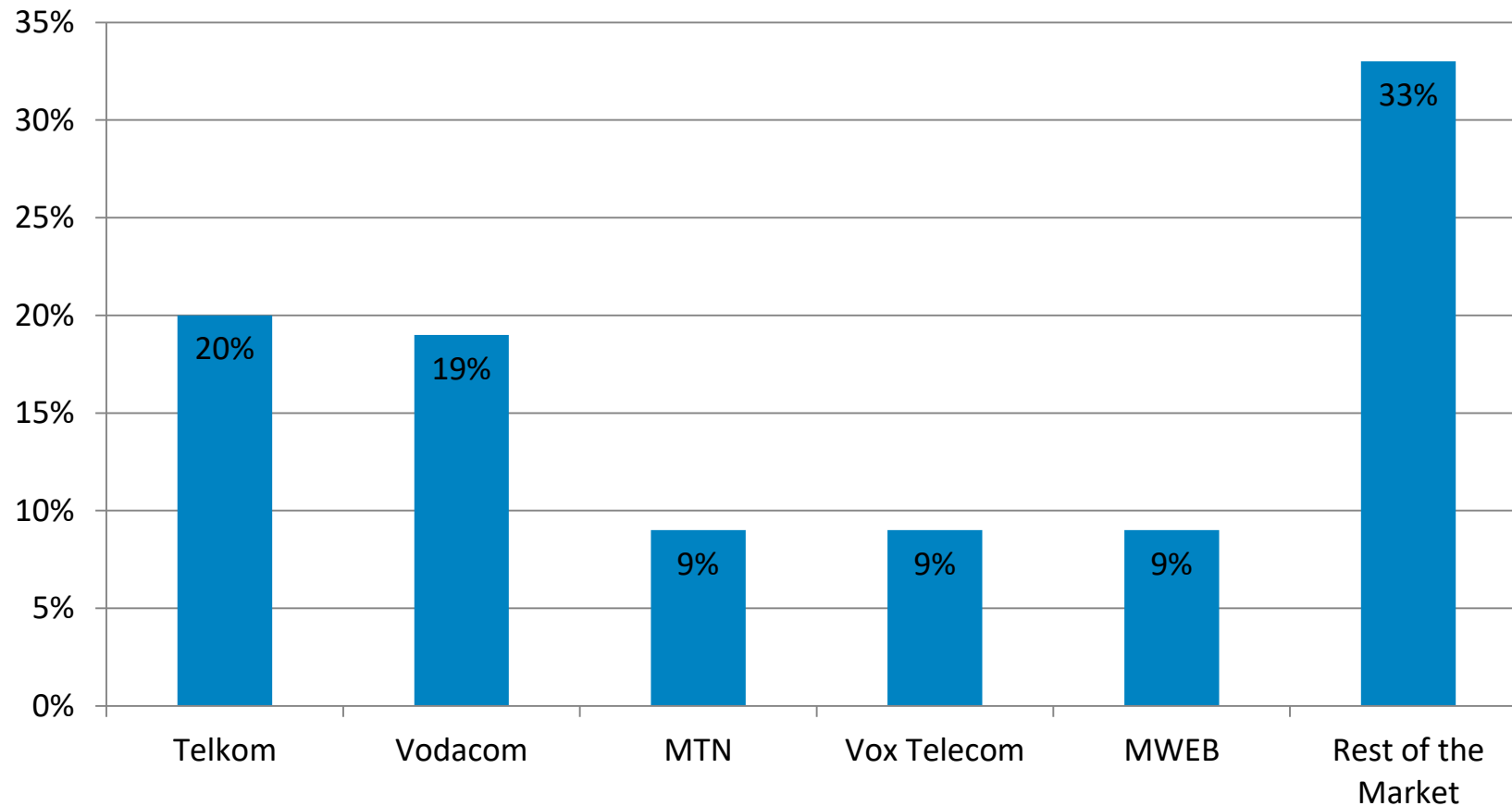
- **Open access principles in the mobile context** is supported
- Access to radio high sites is currently a challenge.
- Regulated Active RAN access to MNO networks with a national footprint will:
 - promote service based competition and
 - minimise smaller operators' expansion costs
 - Lower the costs of network rollout
- **Need robust mechanisms to ensure operators obtain speedy and meaningful access at the wholesale level**

Open access - Fixed

- Telkom functional separation resulted in the creation of Openserve as a wholesale service provider:
 - Openserve meets customer needs by providing **wholesale broadband access on non-discriminatory terms**
 - Downstream internet service providers, including Telkom, are able to **compete effectively on a level playing field**
- **With the emergence of fibre, competition in providing fixed broadband access has intensified:**
 - **Highly dynamic** market characterised by entry of **new players including traditional MNOs**
 - **Competition at wholesale level is increasing** with entry by a number of backhaul and access providers, for example: Frogfoot, Vumatel, TT Connect, MTN/Smartvillage, DFA, Vodacom and Metro Fibre, to name a few
- **Regulating** wholesale fixed services through cost-based pricing **will stifle infrastructure deployment, investment in a growing, dynamic market, jobs and economic development**

Fibre competition in downstream retail markets- Fibre to the Home (FTTH)

FTTH Retail connected Houses (% HH passed)



Africa Analysis, Sept 2016

MNOs must retain currently assigned spectrum:

- Returning currently assigned spectrum will:
 - Negatively affect investor confidence
 - Create more costs than benefits
 - Reduce innovation
 - Hinder future network expansion
 - Negatively impact competition
- Telkom supports hybrid model of facilities based competition between:
 - WOAN - using all unassigned spectrum
 - MNOs - using existing assigned spectrum

Spectrum auctions will not promote competition:

- Will entrench the current duopoly:
 - Rapid exploitation of new spectrum due to network scope and scale
 - Easier to achieve rollout obligations
 - First mover advantage compared to the WOAN
- New players will not be able to enter the market; spectrum remains with a few
- Spectrum assigned to the market will jeopardise WOAN viability; MNOs less dependent on WOAN
- Short term financial gains less than impact of a less competitive market with higher prices

Introducing the WOAN

- There is no disagreement **amongst operators on establishment of a WOAN**
- A **hybrid model** is supported although there are differing views on the model
- The main discord is the **amount of spectrum** to be assigned to the WOAN
- **Return of existing spectrum assignments is not supported**

Critical success factors of the WOAN

- Immediate establishment and licensing of the WOAN
- **Funding capacity and stability of investors** in the WOAN
- A clear and stable **regulatory framework & unwavering political and regulatory support**
- **All unassigned high demand spectrum assigned to the WOAN** at no cost to the WOAN
- **Open access** to existing MNO infrastructure at reasonable pricing
- **Access to state-owned assets** (eg. public buildings, ducts, etc.)
- **Mechanisms to swiftly resolve MNO political and legal challenges**, e.g. Oversight Group

Technical viability of the WOAN

- Construction of a WOAN to **leverage existing 3G 900 MHz sites** to match the current 3G coverage footprint
- Access to MNOs infrastructure to encourage operators to **share passive and active mobile infrastructure**
- Nationwide coverage through '**mandatory**' open access (Leveraging open-access assets for the WOAN)
 - **RAN sharing** and MVNOs
- A **three-phased** national coverage rollout with low cost on existing MNO sites:
 - **Phase 1** focuses on improving affordability, performance and capacity
 - ✓ overlay of 3G with LTE network
 - ✓ addition of new radios / antennas, and baseband equipment, and backhaul facilities
 - **Phase 2** addresses extension of coverage (USAF or DDF)
 - ✓ fill in coverage gaps and ensure coverage quality
 - **Phase 3** for capacity augmentation in urban areas
 - ✓ Network upgrade for capacity
- Technology neutral and technology evolution (flexible)
- All unassigned spectrum 700, 800, 2600 and 3500 MHz bands

Technical arguments why all spectrum must go to the WOAN

- **A sustainable WOAN must provide enough capacity with good quality of service to:**
 - All current MNOs and 400+ new operators and ISPs
 - Provide bandwidth nationally in accordance with SA Connect targets
 - Deliver 5G services with substantially increased bandwidth needs
 - Provide bandwidth requirements for Government services such as PPDR
- **WOAN requires sufficient low and high band frequencies to be viable:**
 - Sub 1 GHz to provide broadband coverage on a national basis, including rural areas
 - 2.6 GHz and 3.5 GHz to provide sufficient capacity in urban areas
- **The more spectrum is made available to WOAN:**
 - The greater the number of broadband subscribers that can be served per cell
 - Less base stations are required, which significantly lowers network deployment costs
- **Dividing spectrum between several users will:**
 - create inefficiency in spectrum use
 - increases cost through duplicate networks
 - lower overall data speeds; unable to achieve SA Connect targets

Economic arguments why all spectrum must go to the WOAN

- The WOAN provides an opportunity to **level playing field** in the assignment of HDS.
- **Lower infrastructure costs** (WOAN does not have to replicate all infrastructure)
- Competition will increase at the retail level (more players/ smaller MNOs grow)
 - Smaller players are often important disruptors/ innovators
- **If capacity from the WOAN is cheaper** than own infrastructure build this would incentivise the MNOs to buy capacity from the WOAN
- In the longer term the result will be **lower mobile prices** (due to competition) and higher economic growth (activity stimulated by lower prices)
- **A sustainable WOAN should have enough spectrum to reach coverage targets**

Summary of arguments

- The objectives of the EC Amendment Bill is to contribute to **an inclusive digital and knowledge society, providing broadband connectivity to all its citizens and lower the cost to communicate**
- **A technically and economically feasible WOAN** with open access to essential facilities and reasonable pricing **is the best way to reach the objectives of the Bill**
- While the return of existing spectrum assignments is not supported, **all unassigned spectrum must be assigned to the WOAN**
- **A spectrum auction will simply embed duopoly** of VC and MTN (with almost 80% combined market share) and negatively affect competition in the mobile market
- **Open access principles in the mobile context will promote service based competition and minimise smaller operators' expansion costs**
- **The fixed fibre market is already dynamic.** Regulating wholesale fixed services and cost-based pricing will stifle infrastructure deployment, investment in a growing, dynamic market, jobs and economic development