Establishing a regulatory framework to encourage investment & innovation

Ikenna Ikeme
Head, Regulatory Affairs
Etisalat Nigeria
etisalat group

<table>
<thead>
<tr>
<th>19 countries</th>
<th>173 million subscribers</th>
<th>$19bn aggregate revenue</th>
<th>Over 40,000 employees</th>
<th>Founded 1976, in the UAE</th>
</tr>
</thead>
</table>

Map showing the countries where Etisalat operates: Morocco, Mauritania, Mali, Burkina Faso, Cote d’Ivoire, Benin, Togo, Gabon, Nigeria, Central African Republic, Sudan, Egypt, Saudi Arabia, Afghanistan, Pakistan, Sri Lanka, UAE.
Network launched October 2008

Over 70% Population coverage

Youthful innovative brand

Rated best QoS in voice & data

22.5m subscribers

Over 2000km of fiber deployed

etisalat nigeria
state of broadband in nigeria today

*Nigeria has recorded appreciable gains in broadband deployment*

44% Internet penetration

82 million Internet users

10.1% Broadband penetration

50,000 km Terrestrial & aerial fibre deployed

12-15% Smartphone penetration

Source: NCC, Ministry of Comtech, GSMA
application of broadband in nigeria

Even at a relatively underdeveloped state, broadband is already transforming life in Nigeria

- Online retail
  - Konga
  - Jumia
  - OLX

- Mobile applications
  - Budgi
  - Asa
  - Efika

- Mobile healthApps
  - Sproxil

- Mobile payments
  - Paga
  - ReadyCash

- Banking
  - Online Banking

- Elections
## Factors Driving Broadband Growth

Broadband development has been driven by clear policy directions, proactive regulatory regime and operator investments.

### Ministry of Commtech Policies

- **Nigerian National Broadband Plan 2013-2018**
  - Penetration targets, Policy & regulation, CNI, local content, adoption & utilization etc.
- **Smart States initiative (RoW reductions, standardization on levies and reduction of charges on telco infrastructure)**
  - (Lagos, Bayelsa & Anambra States have signed up).

### NCC Initiatives

- **Introduction of technology neutral licenses**
- **Wholesale Wireless Access Service Licence (2.3GHz)**
- **InfraCo licensing under Open Access Model**
- **Wholesale Leased Line price controls and account separation (being developed)**
- **USPF subsidies**

### Investments by Operators

- **Over 50,000 km of terrestrial & aerial fiber constructed. Submarine fiber cables landed (over 100Gbps lit).**
- **Over 30,000 base stations**
- **3G & 4G deployment across Nigeria.**
- **Discounted smartphones**
- **Investments in data capacity and speed (Backhaul spectrum purchases)**
Benchmarks

*When benchmarked against peers, Nigeria's broadband performance appears to be below par...*

<table>
<thead>
<tr>
<th>Metric</th>
<th>Nigeria</th>
<th>Peer average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mobile broadband penetration</td>
<td>10.1</td>
<td>30%*</td>
</tr>
<tr>
<td>Mobile broadband affordability (% of average GDP per capita required)</td>
<td>9.8%</td>
<td>4.3%****</td>
</tr>
<tr>
<td>Smartphone penetration (% of population)</td>
<td>12-15%</td>
<td>26%**</td>
</tr>
<tr>
<td>Investment level (ICT investment as % of GDP)</td>
<td>2.6%</td>
<td>&gt;5.5%***</td>
</tr>
</tbody>
</table>

*South Africa, Egypt, Morocco, Ghana
** average includes estimate for Ghana based on 2013 data
***source: McKinsey analysis
****lower value is better

Source: Internet Society, McKinsey & Co, inMobi
Addressing issues with Availability and Affordability will promote innovation and investment in broadband. Access and Affordability are effects of other challenges.

### Barriers to Availability & Affordability

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<tr>
<th>Barriers to Availability &amp; Affordability</th>
<th>Threats to broadband investment &amp; innovation</th>
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<tbody>
<tr>
<td>Spectrum availability &amp; Industry structure</td>
<td>An inadequate spectrum to support broadband deployment. Many sub scale operators lacking resources to deploy broadband.</td>
</tr>
<tr>
<td>Multiple Regulation and Taxation &amp; RoW</td>
<td>A myriad of taxes at all tiers of government. Overlapping regulations. Exorbitant RoW fees in some states.</td>
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<tr>
<td>Security of infrastructure</td>
<td>Vandalisation of infrastructure</td>
</tr>
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<td>Smartphone penetration</td>
<td>Relatively high cost of smartphones resulting in low adoption and increased cost of access</td>
</tr>
<tr>
<td>Naira Devaluation</td>
<td>Increased payments on US dollar denominated contracts for network infrastructure purchases.</td>
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Regulatory and policy interventions are required to create a favorable environment for further investment and protection of broadband assets.

Harmonise taxes - Implement NEC resolution on multiple taxation/- encourage adoption of smart state initiative by more states of the Federation.

Pass CNI Bill - pass CNI Bill currently in Natl. Assembly to afford it protection from vandalisation, unauthorised site closures and fiber cuts.

Policy Actions

Identification of additional IMT bands - push for consideration of spectrum allocations within 470 - 694 MHz, L Band (1350 - 1518 MHz) and C Band (3.4 - 4.2GHz) and 2.7 - 2.9 GHz bands for IMT.

Downward review of taxes and levies- Reduce taxes for broadband equipment. (Over 70% of ICT investment paid out as RoW fees and levies)* Reduce duty on imported SIMs.

*Commtech Minister-SME summit, WEF Abuja, 2014
Further policy & regulatory intervention is required to drive broadband in Nigeria and achieve the goals set out under the National Broadband Plan

Spectrum - Refarming of 700Mhz and 800Mhz spectrum/ensuring efficient use of spectrum by assignments to viable players with sufficient scale and expertise to utilize.

Multiple Taxation/RoW - continue to provide support through the IWG on multiple taxation/continue to assert authority as primary regulatory authority for the sector.

Industry structure - Review of industry structure to ensure optimal number of licensees that can operate viably given limited industry value available/drive optimal use of industry resources through consolidation, passive & active infrastructure sharing, national roaming.

Subsidies - subsidies to provide last mile fiber, subsidies to drive local content development/apps/smartphone adoption.
### Expectations when challenges are addressed

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<td><strong>Network Infrastructure</strong></td>
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<td>- Increased deployment and upgrades/enhancements to network infrastructure.</td>
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<td>- Improved network resilience and quality of service due to protection given telecommunications infrastructure with CNI legislation.</td>
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<tr>
<td><strong>Access &amp; Affordability</strong></td>
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<tr>
<td>- Better access and affordability to telecommunications services driven by access to more efficient spectrum, reduction/elimination of illegal taxes and USPF subsidies.</td>
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<tr>
<td><strong>Local Content/App Development</strong></td>
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<td>- Affordability and resulting consumer demand for broadband services will drive development of local content services/apps relevant to the needs of the local broadband user.</td>
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<tr>
<td><strong>Triple Play Services</strong></td>
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<tr>
<td>- Enhanced broadband speed will enable video, data and voice to be provided over the same network infrastructure.</td>
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<tr>
<td>- Broadcasters can now focus on content development enhancing competition.</td>
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<tr>
<td><strong>Enterprises</strong></td>
</tr>
<tr>
<td>- LTE will provide the speed and resilience the large enterprises require to desist from building communication networks to support their services e.g banks.</td>
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Conclusion

Some progress with broadband development in Nigeria

Major challenges impacting broadband investment and innovation in Nigeria include multiple regulation and taxation, inadequate infrastructure and spectrum availability

Passage of the CNI bill, provision of adequate spectrum and efficient use of industry resources are key interventions required to facilitate broadband growth in Nigeria
Thank you