## "COUNTERFEIT ICT DEVICES, CONFORMANCE AND INTEROPERABILITY TESTING CHALLENGES IN AFRICA"

# COUNTERFEIT ICT DEVICES: THE NIGERIAN PERSEPCTIVE

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# BACKGROUND OF THE NIGERIAN TELECOMMS INDUSTRY

- The evolution of the Nigerian Telecoms Sector to what it is today has been a long and challenging journey. Established during the colonial era in 1886, the sector had a mere 18,724 lines at independence in 1960 (More than 70 years) to serve a population of about 40million Nigerians. This translated to teledensity of about 0.5 lines per 1000 people.

- Between 1960 (Independence) to 2001, the government owned incumbent monopoly succeeded in growing the sector to only about half a million lines to serve an estimated population of over 100 million.

- Deregulation of the sector commenced in 1992 with the establishment of a regulator (Nigerian Communications Commission) by a military decree. This liberalized the sector and introduced competition.

- In 2001 Digital Mobile Licenses were issued to three operators which launched GSM services in the country.

- There are now five mobile operators operating in the country with combined total subscription of over 154 million as at December 2016.

- Wireless is the sole means of service delivery.

# Subscriber/Teledensity Data 2002-2016
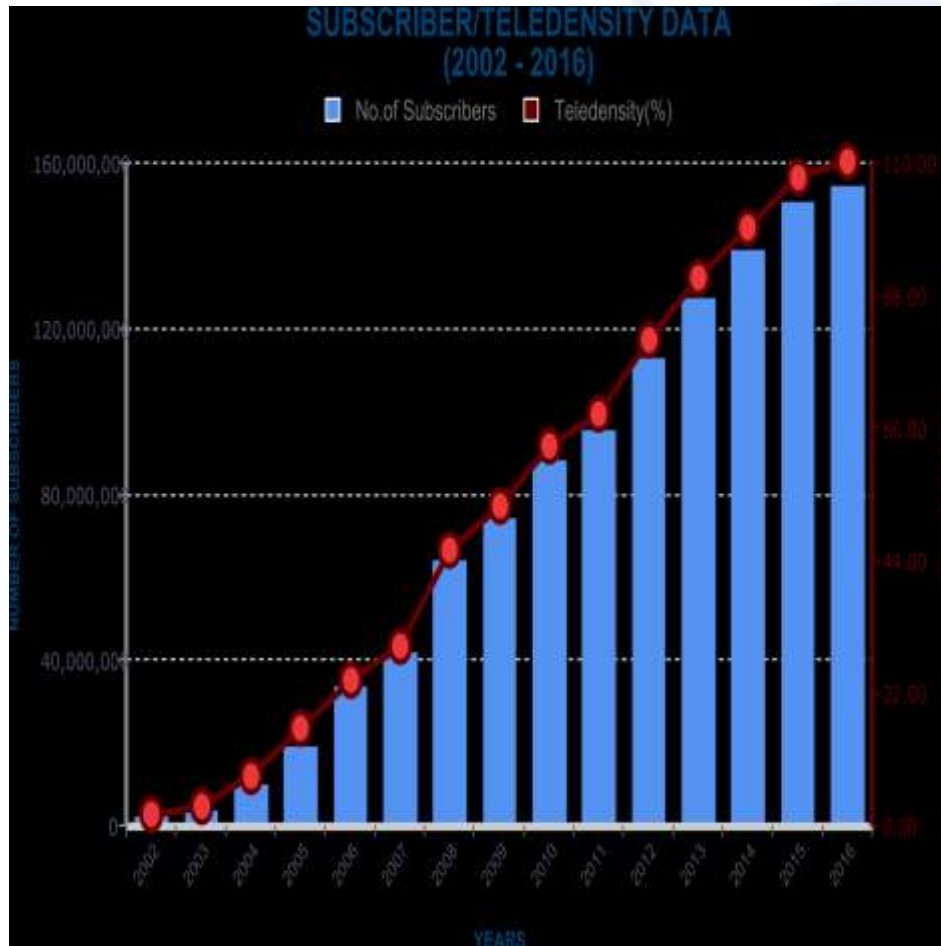


When in 2001, GSM services were launched in the country, wireless communications became the only mode of service deployment and unleashed a rapid uptake that saw the number of active subscriptions shoot to 154.5 million as at December 2016.

http://www.ncc.gov.ng/stakeholder/statistics-reports/industry-overview#annual-2002-2016

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# SUBSCRIBER/TELEDENSITY DATA



### SUBSCRIBER/TELEDENSITY DATA
### (March 2016 - February 2017)

■ No.of Subscribers  ■ Teledensity(%)

http://www.ncc.gov.ng/stakeholder/statistics-reports/industry-overview#view-graphs-tables

- Active Mobile Lines as at December, 2016 is over 154.5Million

- About 4 million mobile phones are imported into the country monthly (New Telegraph (September 30, 2015).

- The Nigerian market spent an average of 181 billion naira ($1.2 billion) to purchase 21.5 million mobile phones in 2012 (Gfk retail and Technology Nigeria published in Ventures Africa, March 29, 2013).

- Other reports by eMarketer, a digital market analytical platform shows that an estimated 24 million smartphones were sold in Nigeria in 2014, a figure projected to increase to 34 million by 2018.

- According to Executive Director, Mobile Business Group, Middle East and Africa (MEA), Shashank Sharma, Lenovo, smartphones constitute 30% of the mobile penetration in Nigeria.

- From the above statistics, it can be deduced that an average of 48 million mobile phones legally enter the country annually.

- Therefore we have an estimated 80 million mobile phones imported into the country annually both legally and illegally, including sub-standard/counterfeit, smuggled and genuine phones.

- The revenue losses to the Nigerian economy due to the influx of illegally imported phones is conservatively put at N20billion annually.

- Teledensity was calculated based on population estimate of 126 million up till December 2005; from December 2006, teledensity was based on a population estimate of 140 million.
- Teledensity from December 2007 is based on active subscribers.
- Teledensity from December 2001 to 2006 was based on connected subscribers

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# INDUSTRY CHALLENGES

- Nigeria's population, which was estimated at 130 million in 2001, is now put at about 170 million. The ICT infrastructure in 2001 was virtually non-existent. Although the licensed mobile operators had really done extremely well in terms of service deployment, the demand had always greatly outstripped the supply of ICT Services.

- Nigeria has been fastest growing ICT national for many years.

- The ICT infrastructure is still inadequate, giving rise to capacity challenges that have persisted from 2001 to date.

- This translated to Quality of Service (QoS) challenges which have also naturally persisted; similarly, mobile services have facilitated not only genuine, legal economic activities but unlawful, criminal ones as well.

- National Security challenges also arose along the way (with Boko Haram terrorist commanding national attention)

- Nigeria is the largest market in Africa given its population. This made it very attractive for counterfeit devices – which flooded the country through illegal means.

# INDUSTRY CHALLENGES…

- National Security challenges also arose along the way (with Boko Haram terrorist commanding national attention)

- Nigeria is the largest market in Africa given its population.  This made it very attractive for counterfeit devices – which flooded the country through illegal means.

- The huge demand for service and the relatively cheap price of counterfeits ensued a thriving fake device industry.

- Consumers typically would acquire two or more devices to guarantee access to services wherever they are.

- With the advert of smartphones and their increasing use, consumers and industry face issues of security and privacy issues. Malware in counterfeits devices can collect data  about users without their consent or knowledge.

# CONSEQUENCES

- There are obviously many consequences of this proliferation of counterfeit devices apart from deteriorating quality of service. One is the obvious loss of revenue to government since a lot of these counterfeits are usually smuggled into the country. But more worrisome are the health and safety implications associated to devices that do not have to conform to radiation standards as well as other parameters that standard devices normally conform to.

- The prevalence of counterfeit and other substandard devices gave rise to numerous challenges.  The main ones are:
  - Increased demand for services leading to deterioration of QoS given existing capacity challenges.

  - Because of counterfeits generally have non-unique IMEIs, their presence on the networks poses some National Security risks (e.g. tracking terrorists, kidnappers etc.)

# CONSEQUENCES…

– Counterfeits normally may not pass type approval and conformance tests specified by the regulator. As a result their importers generally "smuggle" them into the country thereby robbing government of much needed revenues from duties.

– From a Health, Safety and Environmental perspectives, counterfeit are equally dangerous. They may not conform to emission levels specified by standards bodies e.g. SARs; EMR issues, components within them may equally be sub-standards e.g. batteries. Since these may be toxic, large quantities of such electronic waste may pose higher environmental risks than from standardized devices.

– Consumer protection issues also arise. Consumers who pay the price of a standard device for a counterfeit are short changed.

– Brand erosion and loss of reputation as genuine manufacturers suffer financial losses as well.

# ANTI-COUNTERFEIT INITIATIVE

- In view of the foregoing, the Commission began to shop for an anti-counterfeit solution which eventually led to expanding its collaboration with Mobile Manufacturers Forum (MMF) now Mobile & Wireless Forum (MWF) to include a search for a suitable solution provider to these growing problems of counterfeit ICT devices.

- In addressing QoS, the NCC has 3 major KPIs for assessing the Mobile Network operators' performances. This includes:
  - Accessibility
  - Mobility
  - Retainability

Based on the research conducted by the Institute of Nokia Technology and published on *page nine (9*) of the ITU-T Technical Report on Counterfeit and Sub Standard devices shows that Counterfeit phones failed in

  - 26% of call attempts
  - 24% of established calls were dropped
  - Counterfeit phones takes 41% longer during cell handover than the original phones
  - 34% of calls dropped during the handover

# STRATEGIES TO COMBAT COUNTERFEIT IN NIGERIA

- The Nigerian Communications Commission (NCC) adopted a number of strategies to combat the inflow and use of counterfeit devices in Nigeria. These strategies include:

  a) Effective Regulation and efficient enforcement of the Type Approval processes

  b) Strategic collaboration with all stakeholders within Nigeria; and other international/Regional bodies. African Telecoms Union (ATU), ECOWAS, WATRA, GSMA, Mobile & Wireless Forum, Vendors, OEMs etc.

  c) Protecting consumer rights and Enhancing cooperation with the industry.

  d) Deployment of a Mobile Device Management System (DMS).

# MOBILE DEVICE MANAGEMENT PLATFORM

Nigeria has been and still a very attractive market, being the largest in Africa. This also makes it a favourite destination for dealers of counterfeit devices. This trade runs into billions of dollars.

As a result the NCC convened an industry consultation and forum with key stakeholders, to discuss the problem and possible solutions;

- In conjunction with Mobile & Wireless Forum (MWF), invited a number of solution providers to outline their solutions.

- We studied what other countries had done and event visited some to learn from their experiences.

- Apart from weeding out counterfeits, the envisaged solution should also be cable of assisting in:
  - ✓ Ensuring that non-type approved devices are also weeded out.
  - ✓ Ensuring that device imports are through official and legal channels only i.e. smuggled devices are barred from the networks
  - ✓ Tracking/interception/verification capabilities to facilitate security agencies in times of need.

# IMPLEMENTATION PLAN

Sitting the process of the implementation of the Device Management Solution (DMS) will be a phased approach:

- *PHASE 1: Create awareness campaign and verification of mobile phones connected to the networks ongoing (*signing a global database agreement with GSMA is being proposed meant to address the possible shifting of the counterfeit problem across the border to other countries)

- *PHASE 2: denial of services to new counterfeit phones –*

- *PHASE 3: phasing out of  identified counterfeits noted but permitted (a grace period for them to go out of service naturally*

- *PHASE 4: consolidating the project: scaling up to cover other facets to assist the security agencies etc.*