

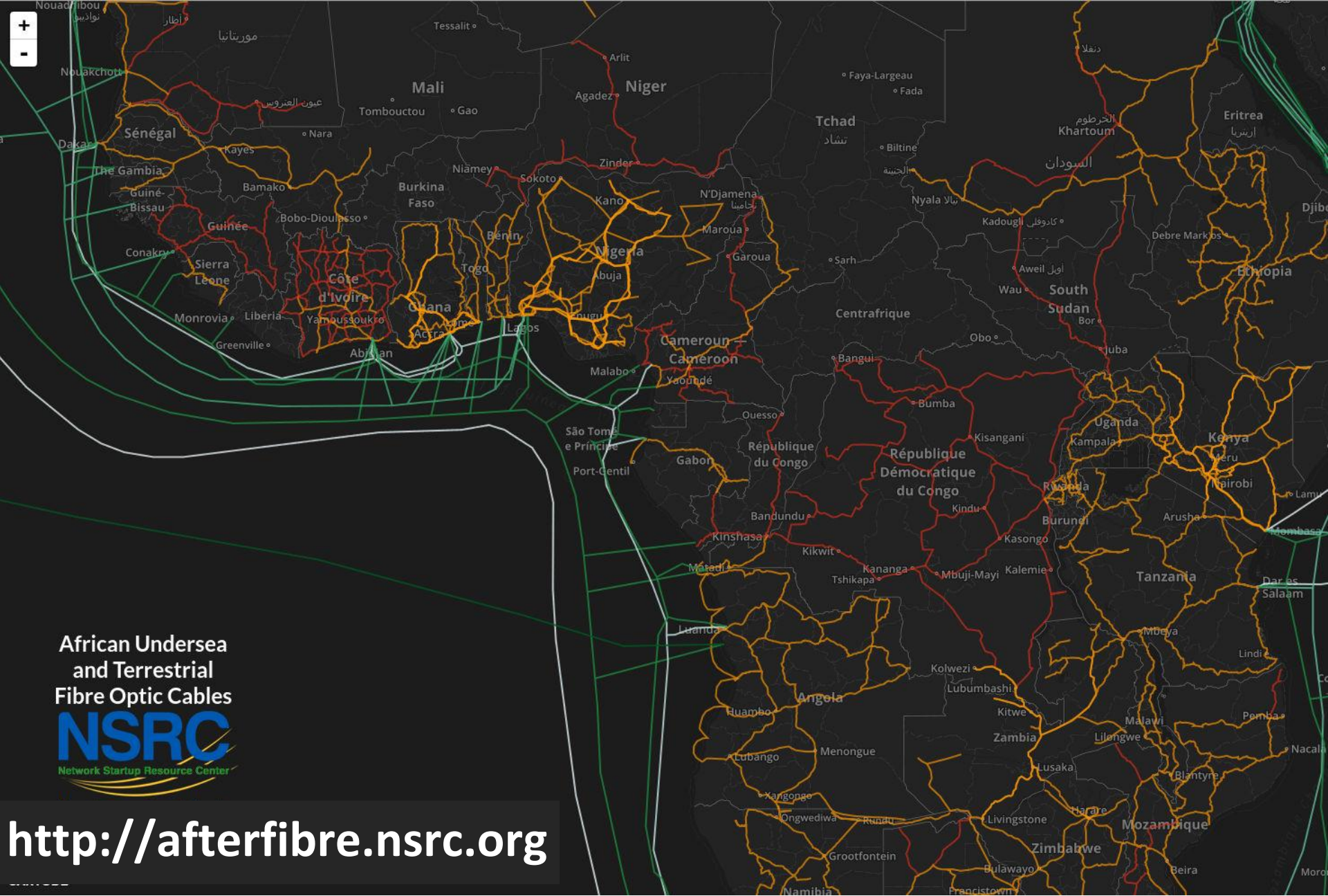
# Dynamic Spectrum Regulation in SSA

Steve Song  
18 March 2016  
WACREN 2016



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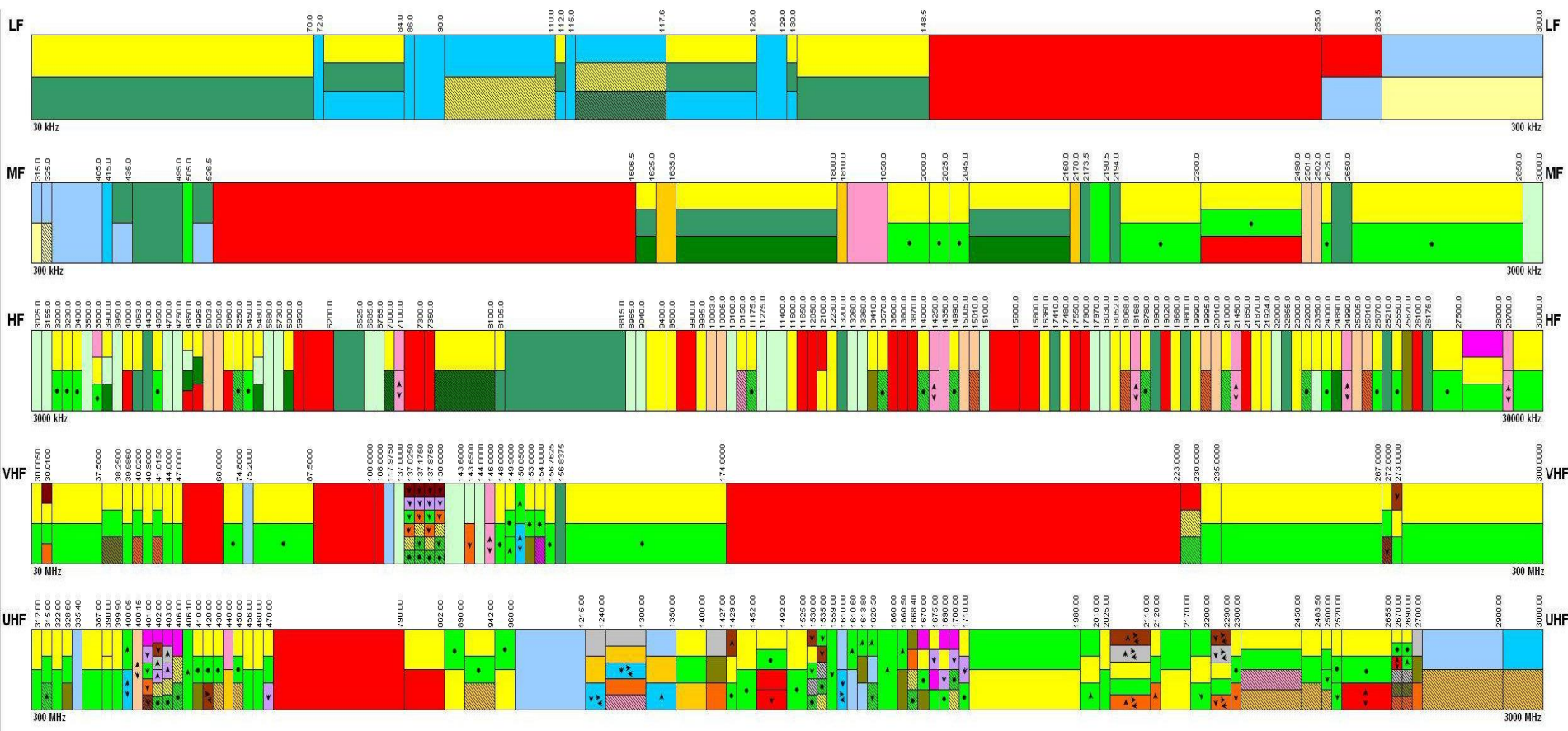
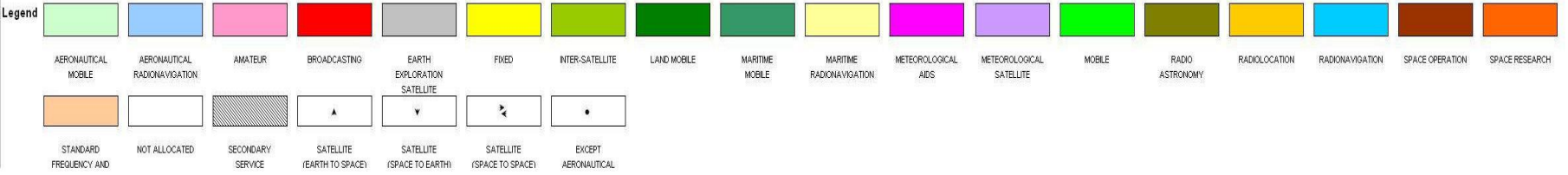
African Undersea  
and Terrestrial  
Fibre Optic Cables  
**NSRC**  
Network Startup Resource Center

<http://afterfibre.nsrc.org>

MAURITIAN RADIOFREQUENCY

# SPECTRUM

ALLOCATION CHART



# Today's spectrum policy was developed in the early 20<sup>th</sup> century

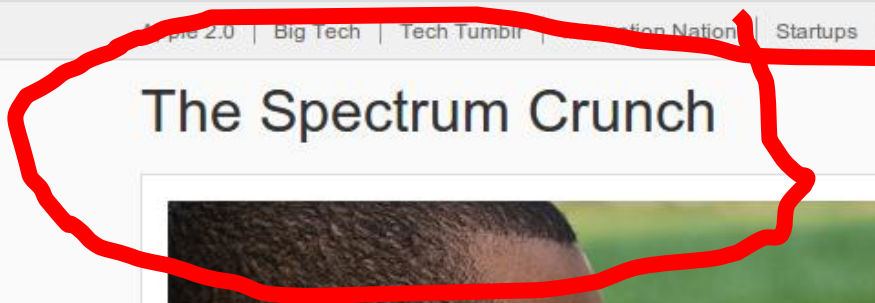


King Farouk at the inauguration of the international telecommunications congress 1938



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# The Spectrum Crunch



PHOTO: THINKSTOCK

## America's wireless airwaves are full

The mobile phone industry is running out of capacity - and there's no quick or cheap fix. [More](#)

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# The Totally Made Up Spectrum Crisis

REBECCA GREENFIELD

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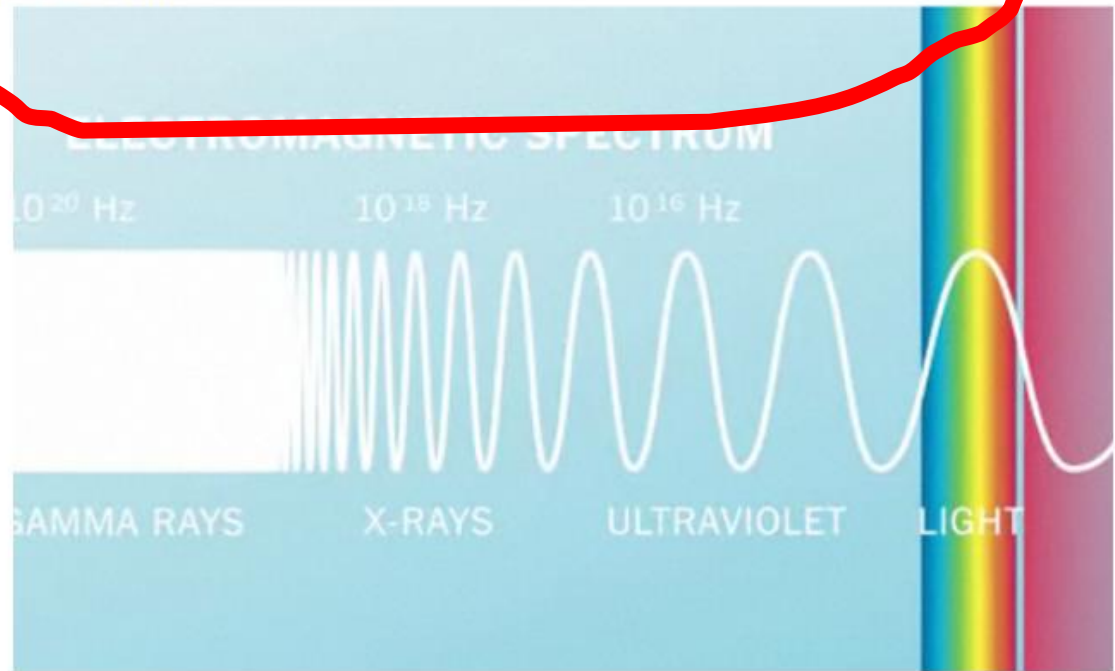
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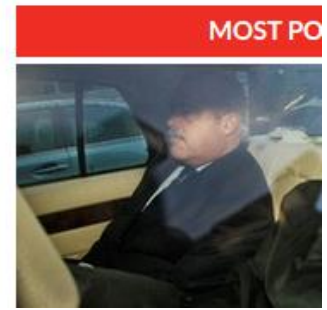
Wireless carriers are begging the government to give them more spectrum, claiming a coming shortage because of data-hungry cell-phone users. "The wireless carriers say that in the next few years they may not have enough of it to meet the exploding demands for mobile data," writes Brian X. Chen in *The New York Times*. "The result they ominously warn may be slower or spotty connections on

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# The Spectrum Hotel



# Spectrum Assignment

## Successful Spectrum Auctions In 2015



\$44.7 Billion  
1755-1780MHz



\$17.6 Billion  
900/1800 MHz

## Unsuccessful Spectrum Auction Attempts



South Africa

**2010 auction announced**  
800MHz / 2.6GHz  
MNOs threatened action  
Auction withdrawn within 2mo  
**2012 auction announced again**  
withdrawn again  
**2015 still no auction**

## Alternative Approaches



Kenya

Regulator awards  
800MHz spectrum to  
largest incumbent in  
exchange for police  
network + \$75M

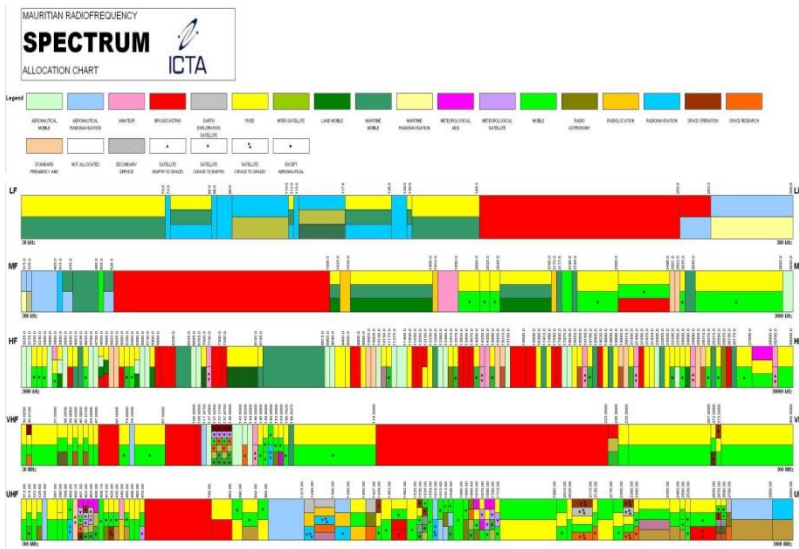


Rwanda

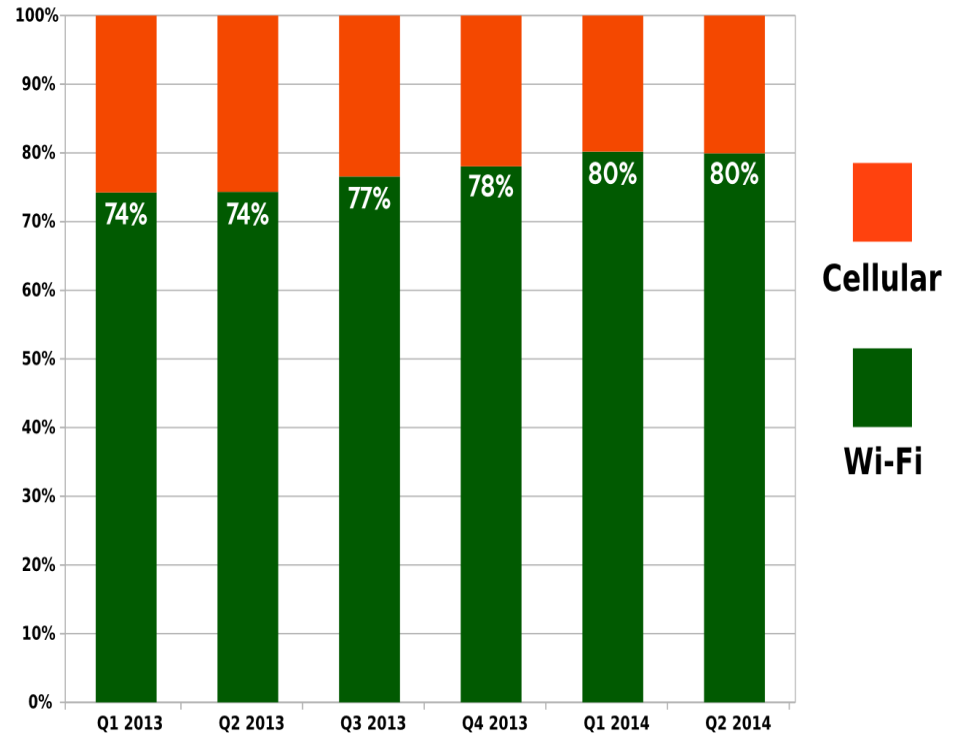
Government creates PPP  
for 700MHz wholesale  
network open to all  
operators.



# Licensed versus Unlicensed



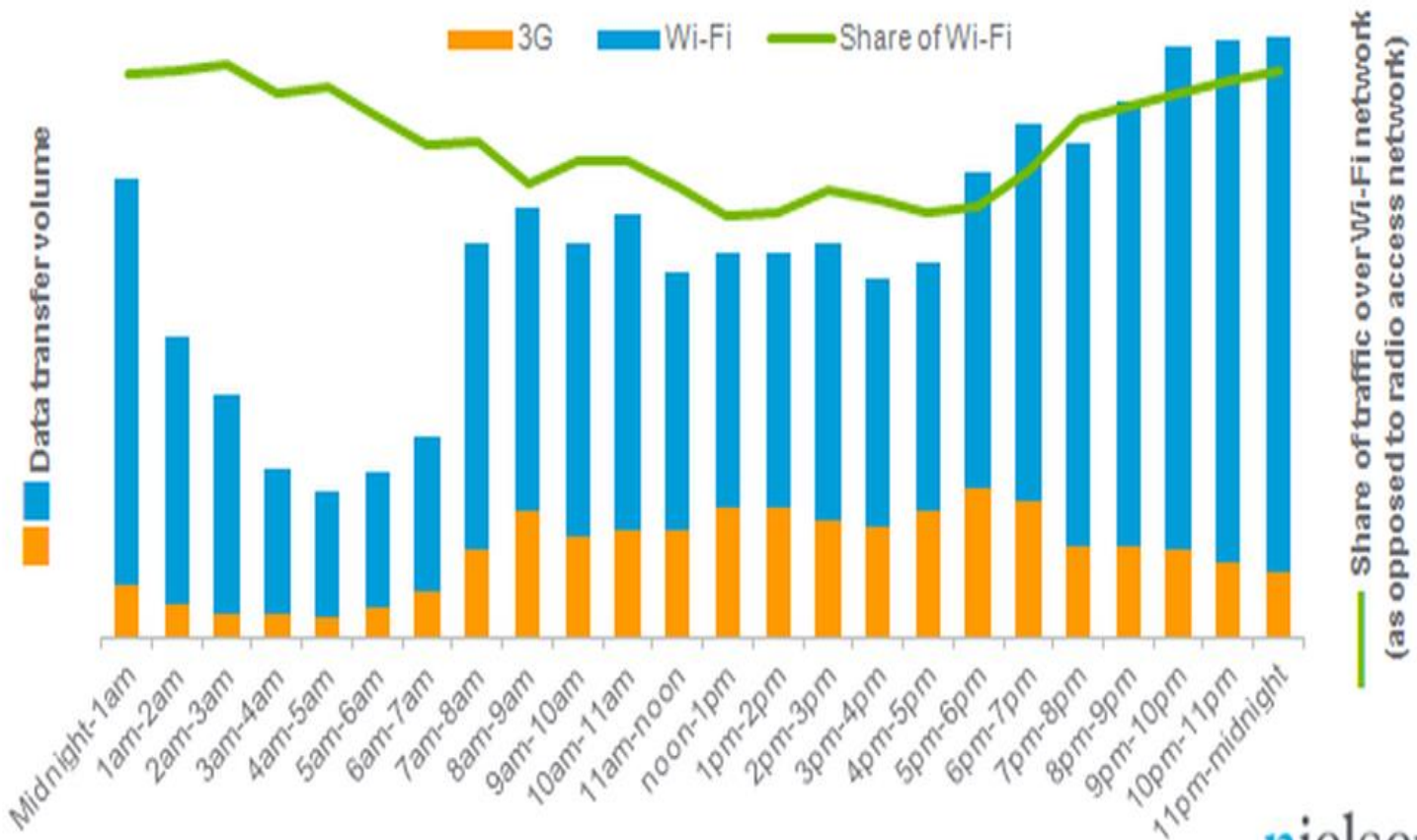
### Smartphone Data Traffic: WiFi vs Cellular



Source: Mobidia

# Wi-Fi delivers over three-quarters of all UK smartphone data

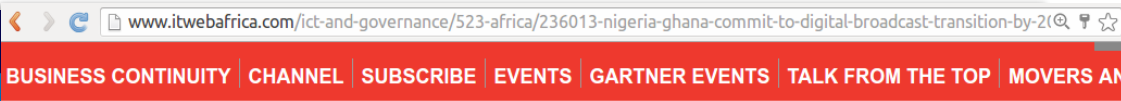
Mobile data transfer via Wi-Fi vs 3G by time of day (volume by hour)



Source: Nielsen; 1-30 September 2012



# 2006 Digital Switchover Decision



Governance > Africa > Nigeria, Ghana Commit To Digital Broadcast Transition By 2017

## Nigeria, Ghana commit to digital broadcast transition by 2017

Published on 17 March 2016  
By Olusegun Ogundeji



With only five of Africa's 54 countries having completed the migration to digital broadcasting to date, after a decade after the the initial agreement was tabled and signed, according to the International Telecommunication Union, some countries including Nigeria and Ghana have indicated their readiness to ensure a digital migration before 2017.

In June 2006, an agreement was reached at the ITU Regional Radio Communication Conference (RRC-06) for countries in Europe, Africa and the Middle East to migrate their broadcasting **services** from analogue to all-digital terrestrial broadcast services by June 2015.

The migration results in the release of frequency bands which can be redeployed to other users such as mobile communications and wireless broadband Internet services to achieve what is known as the digital dividend.

This ensures the advancing of existing technologies to connect the unconnected in underserved and remote communities and further increases opportunities for the provision of ICT applications and multimedia services including high quality video and interactivity.

Tanzania, Rwanda (Republic of), Mozambique, Morocco (including Western Sahara), and Malawi have completed their migration in Africa, while the process is ongoing in other countries except for Central African Rep., Comoros

### READ MORE

'Nigeria will make June 2017 digital switchover deadline'

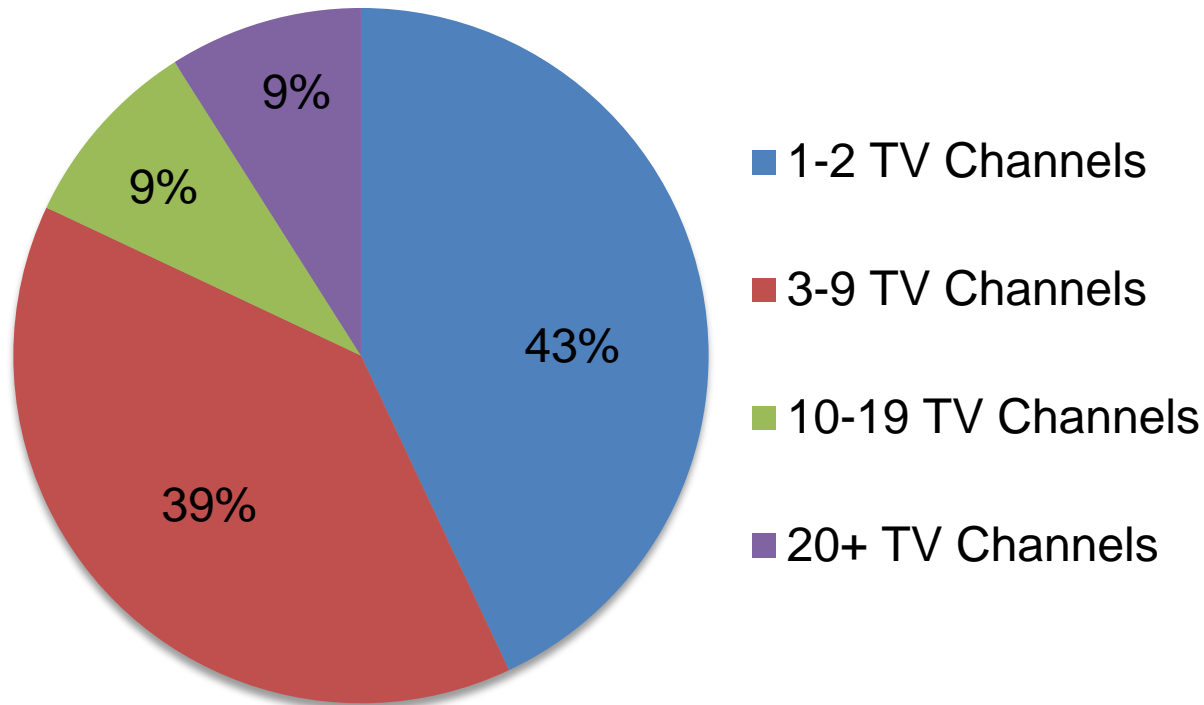


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# UHF Spectrum Occupancy in Africa

## Television Spectrum Occupancy in African Countries in 2012



**In most cases, hundreds of megahertz of unused spectrum**

Source: Balancing Act

Presentation to African Telecommunications Union (ATU) Digital Migration Summit (May 2014)

<http://www.atu-uat.org/index.php/download-categories/category/10-afriwog-events?download=299:session-3-ppt-1-balancing-act-presentation>



# Dynamic Spectrum Pilots in Africa



- 2012 – 2015
- Africa countries leading the world in deployments
- Opportunity for fallow UHF spectrum to address under-served communities

