HOW TO CONNECT EVERYONE

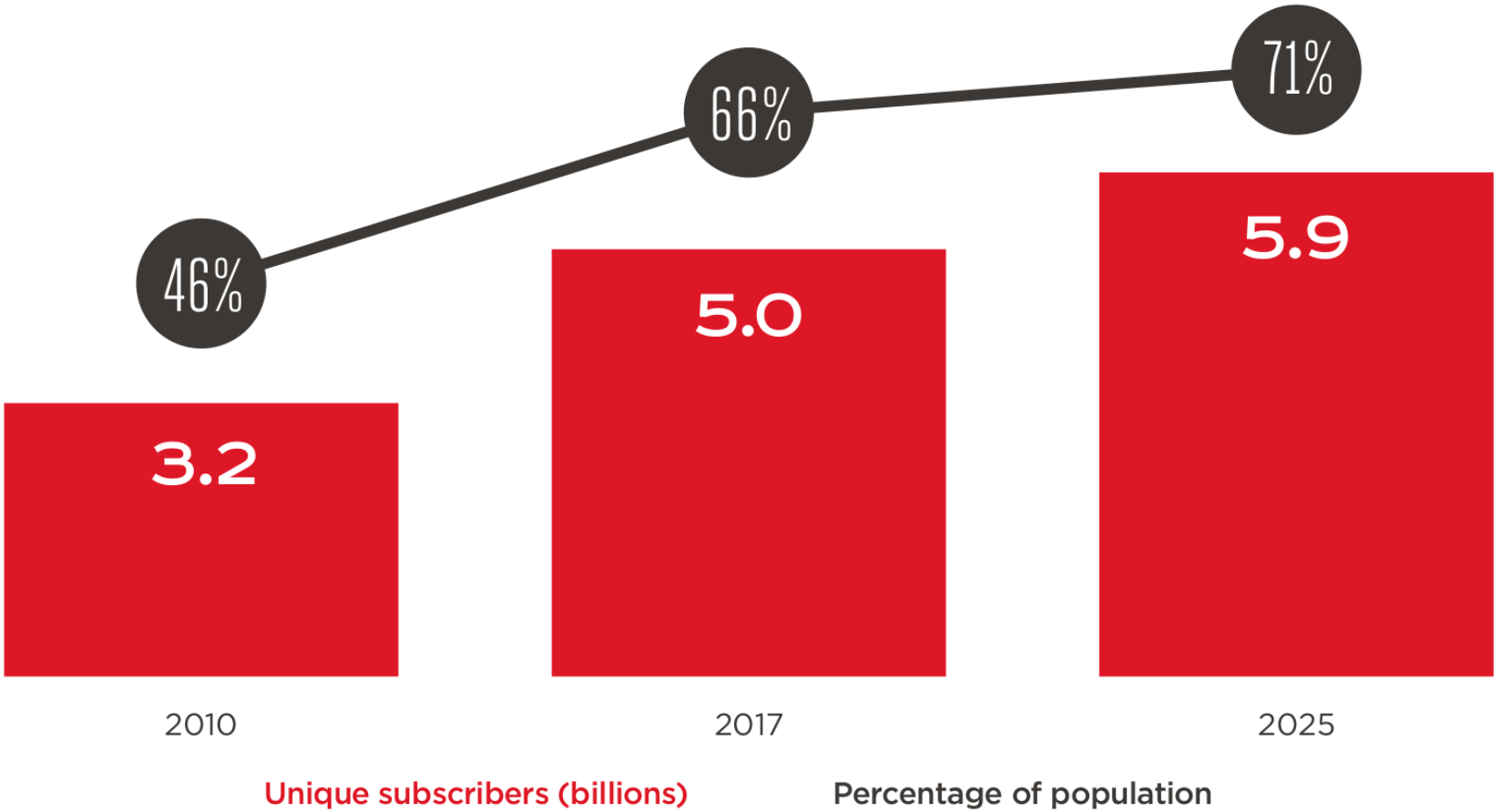
Steve Song
Network Startup Resource Center
IAB, 21 March 2018

WHAT IF I TOLD YOU
WE CARE MORE ABOUT CONNECTING REFRIGERATORS THAN POOR PEOPLE

Internet as a Mutant Super Power

The Economist
America and its immigrants
PAGES 27-29
Dealing with Iran
PAGE 17
In praise of the (old) SAT
LEXINGTON, PAGE 38
Can the new boss revive Sony?
PAGES 12 AND 65-67
MARCH 12TH-18TH 2005
www.economist.com
The real digital divide

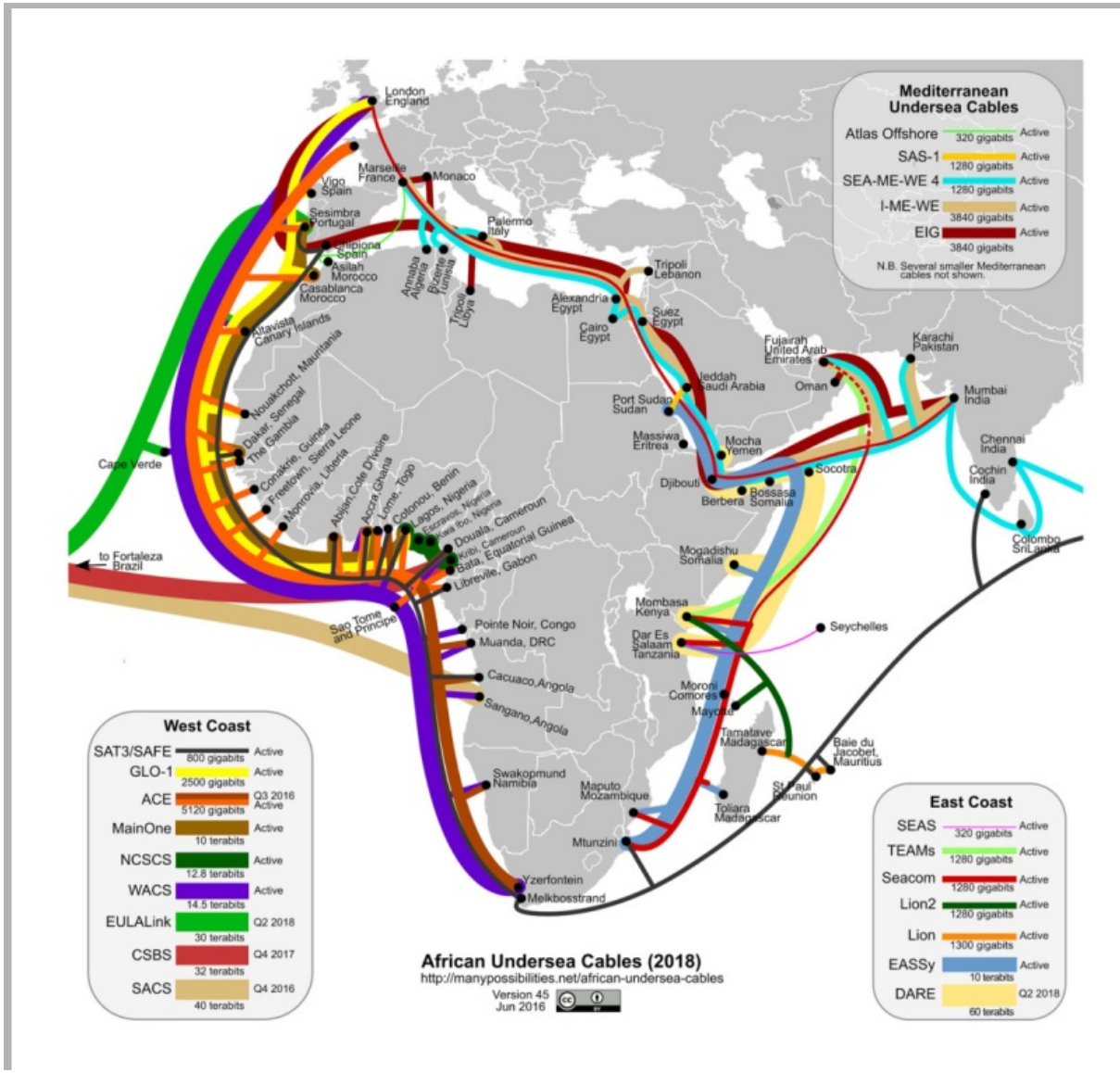
But Now Subscriber Growth is Slowing

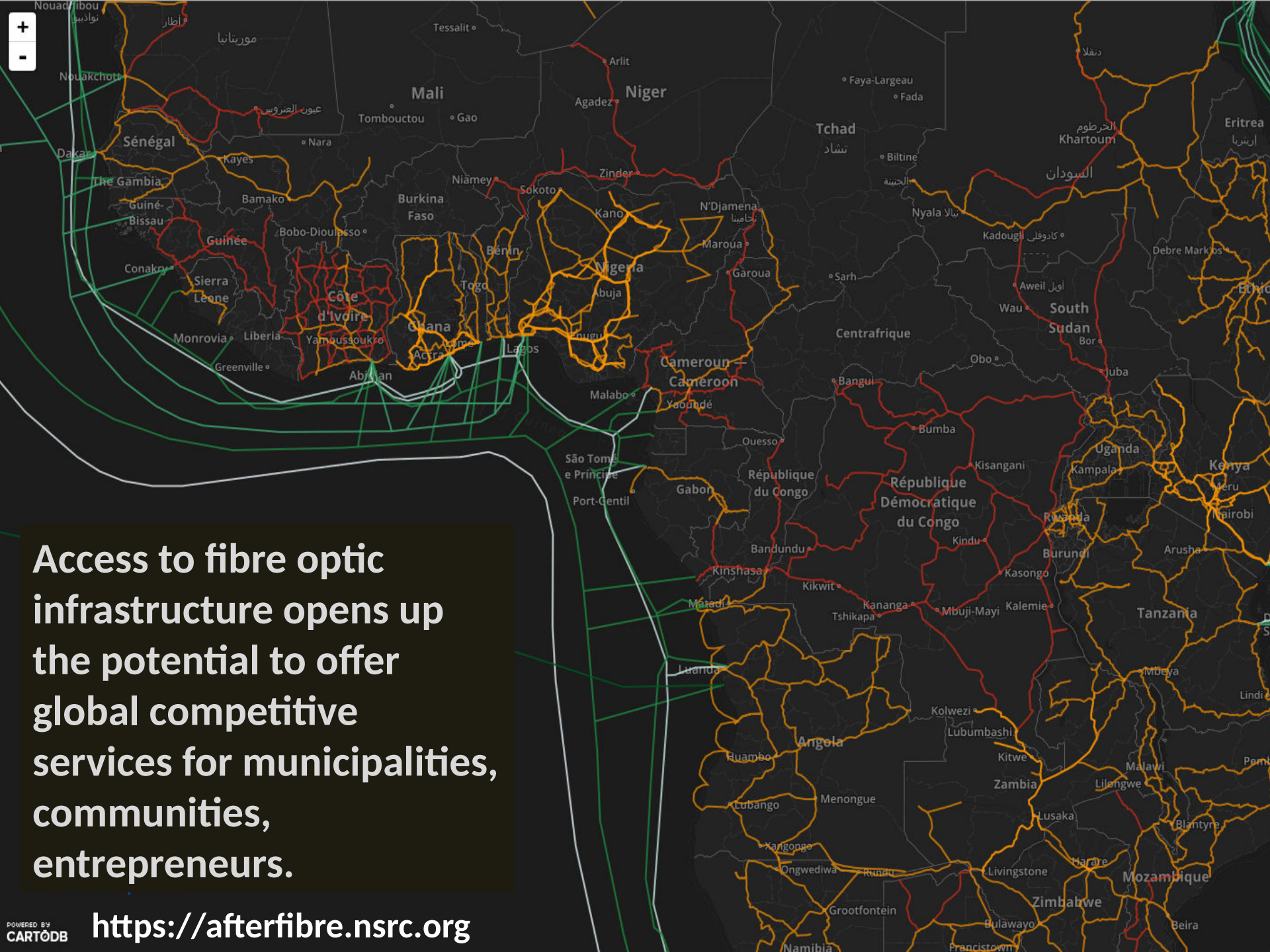


Source: GSMA Intelligence

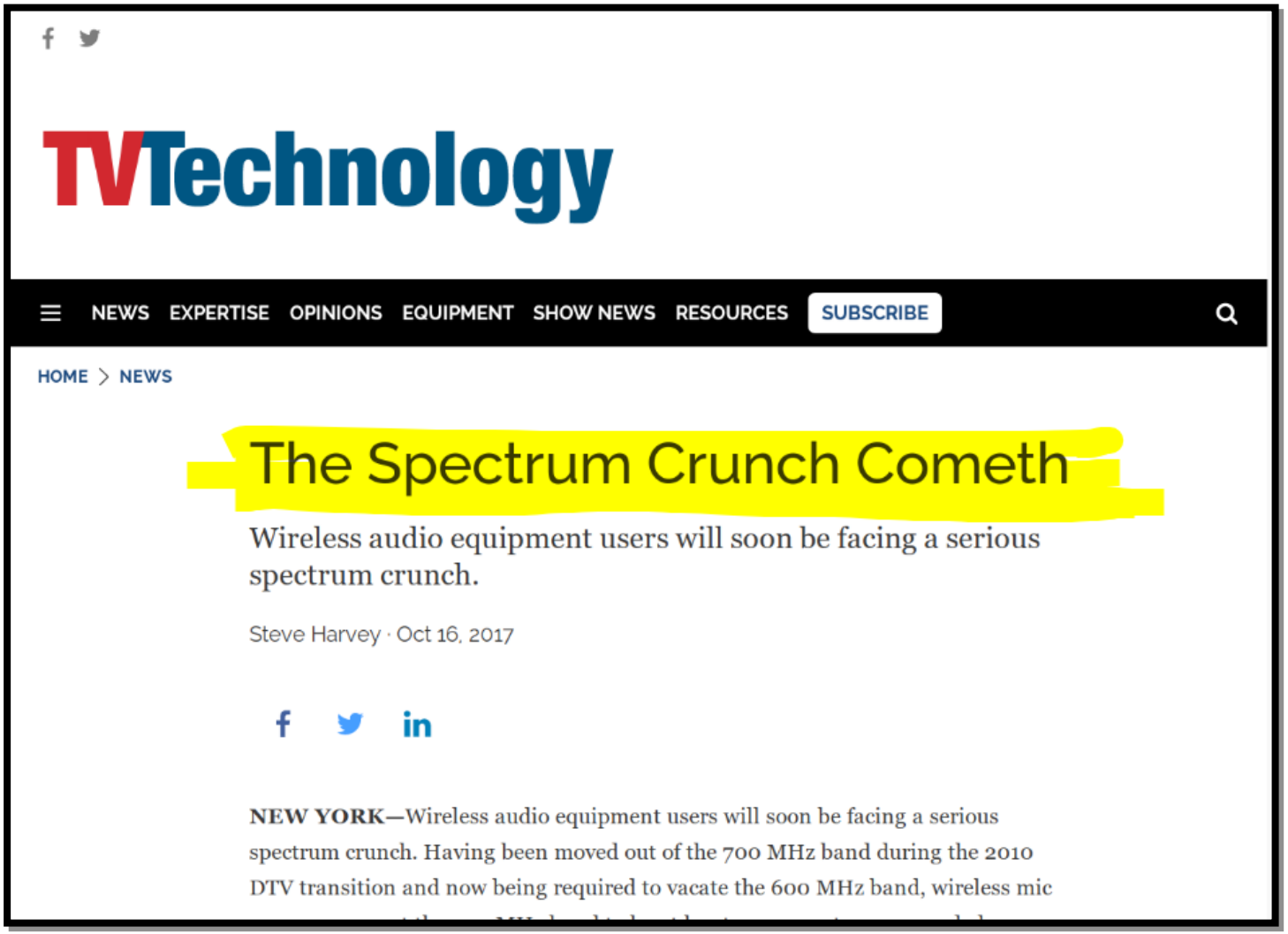
The Impact of Fibre Optic Infrastructure

The growth of undersea fibre optic capacity has been a catalyst for change.




Access to fibre optic infrastructure opens up the potential to offer global competitive services for municipalities, communities, entrepreneurs.
https://afterfibre.nsrc.org
POWERED BY CARTODB

Spectrum Has Become a Barrier



TVTechnology

NEWS EXPERTISE OPINIONS EQUIPMENT SHOW NEWS RESOURCES SUBSCRIBE

HOME > NEWS

The Spectrum Crunch Cometh

Wireless audio equipment users will soon be facing a serious spectrum crunch.

Steve Harvey · Oct 16, 2017

NEW YORK—Wireless audio equipment users will soon be facing a serious spectrum crunch. Having been moved out of the 700 MHz band during the 2010 DTV transition and now being required to vacate the 600 MHz band, wireless mic

Pace of Regulatory Change Too Slow

International Telecommunication Union

Français | Español

Print Version

Home : Newsroom : Press Releases : Newsroom

Search

Press Releases

ITU News Magazine

Events Calendar

Press and PR Contacts

Media Archives

Press Release

International Telecommunication Union

For immediate release

Telephone: +41 22 730 6039

Telefax: +41 22 730 5933

E-mail: pressinfo

Digital broadcasting set to transform communication landscape by 2015

Accord is major step in implementing World Summit on the Information Society objectives

Geneva, 16 June 2006 – A treaty agreement was signed today at the conclusion of ITU's Regional Radiocommunication Conference (RRC-06) in Geneva, heralding the development of 'all-digital' terrestrial broadcast services for sound and television. The digitalization of broadcasting in Europe, Africa, Middle East and the Islamic Republic of Iran by 2015 represents a major landmark towards establishing a more equitable, just and people-centred Information Society. The digital switchover will leapfrog existing technologies to connect the unconnected in underserved and remote communities and close the digital divide.

"The most important achievement of the Conference," remarked Mr Yoshio Utsumi, Secretary-General of ITU, "is that the new digital Plan provides not only new possibilities for structured development of digital terrestrial broadcasting but also sufficient flexibilities for adaptation to the changing telecommunication environment."

The agreement reached at RRC-06 paves the way for utilizing the full potential of information and communication technologies to achieve the internationally recognized development goals. The date of transition to digital terrestrial broadcasting in the year 2015 is intended to coincide with the targets set by the Millennium Development Goals.

The regional agreement for digital services has been reached in the frequency bands 174 - 230 MHz and 470 - 862 MHz. It marks the beginning of the end of analogue broadcasting.

The Conference agreed that the transition period from analogue to digital broadcasting, which begins at 0001 UTC 17 June 2006, should end on 17 June 2015, but some countries preferred an additional five-year extension for the VHF band (174-230 MHz).

The Regional Radiocommunication Conference was chaired and brought to a successful conclusion by Mr Kavouss Arasteh of the Islamic Republic of Iran.

The digital dividend

The switchover from analogue to digital broadcasting will create new distribution networks and expand the potential for wireless innovation and services. The digital dividend accruing from efficiencies in spectrum usage will allow more channels to be carried across fewer airwaves and lead to greater convergence of services.

The inherent flexibility offered by digital terrestrial broadcasting will support mobile reception of video,

NETFLIX

2007

Spectrum Auctions: a Burden on Winners and a Barrier to Market Entry

Country	Year	Spectrum	Price	# successful bidders
Nigeria	2014	2.3GHz (30MHz)	$23,000,000	1
Ghana	2015	800MHz (20MHz)	$67,500,000	1
Nigeria	2016	2.6GHz (60MHz)	$96,000,000	1
Mozambique	2013	800MHz (10MHz)	$30,000.000	0

Evidence that high spectrum spends result in:

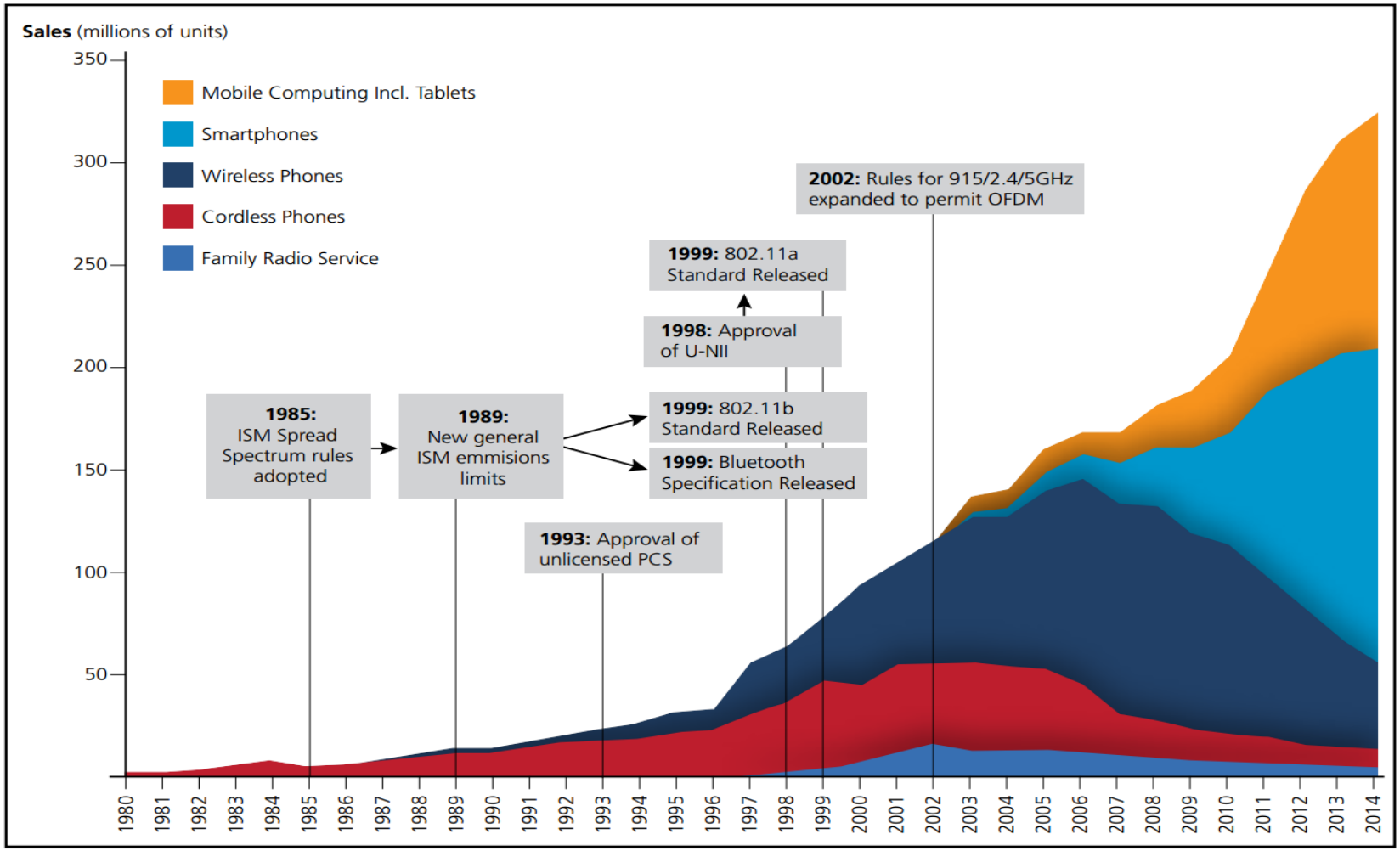
- Lower quality networks and reduced take-up of mobile data services owing to reduced incentives for investment;
- Higher consumer prices for mobile broadband data; and
- Lost consumer welfare with a purchasing power of US$250bn across a group of countries where spectrum was priced above the global median.

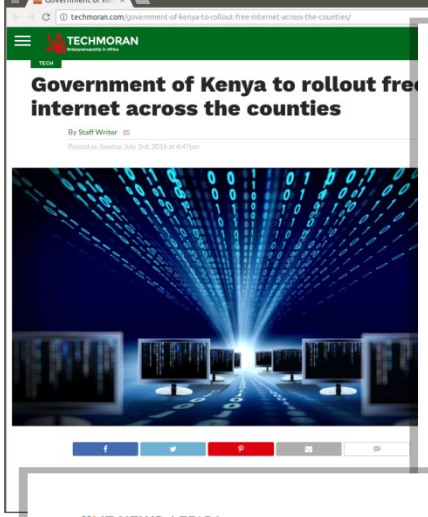
https://www.gsma.com/spectrum/wp-content/uploads/2017/02/Effective-Spectrum-Pricing-Full-Web.pdf

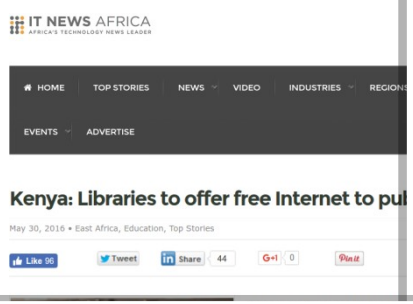
All Your Spectrum Are Belong To Us

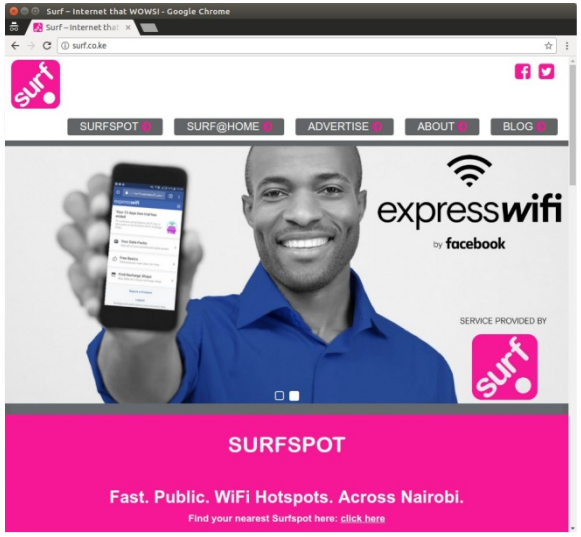
Unlicensed Spectrum Growth

Figure 1: Unlicensed Spectrum Milestones and Selected Device Categories – Growth Over Time









iFi

NSRC
Network Startup Resource Center

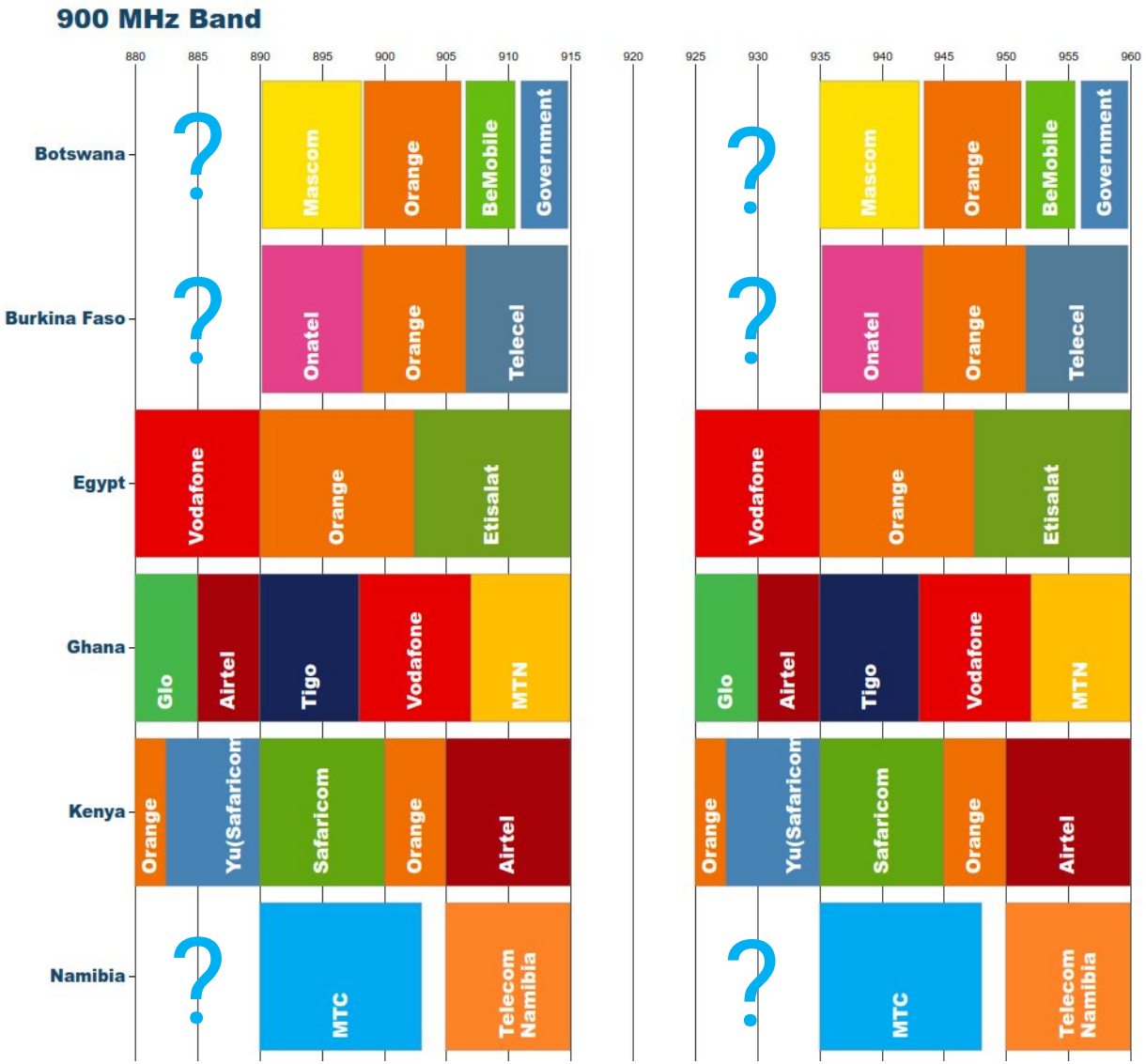
Unlicensed Spectrum Potential

New Generation Technologies

Current Regulatory Frameworks For Spectrum Are A Bit Like a 19th Century Hotel

Perhaps we need more of an Airbnb approach

Spectrum Availability



Filling the jar.

Regulation must enable small-scale operators to address niche markets, geographies, and to stimulate access innovation.

Technological Diversity Matters

Identical technologies lead to identical business models which lead to a "race to the bottom"

Access diversity breaks oligopolies.

Thank you!
@stevesong
manypossibilities.net