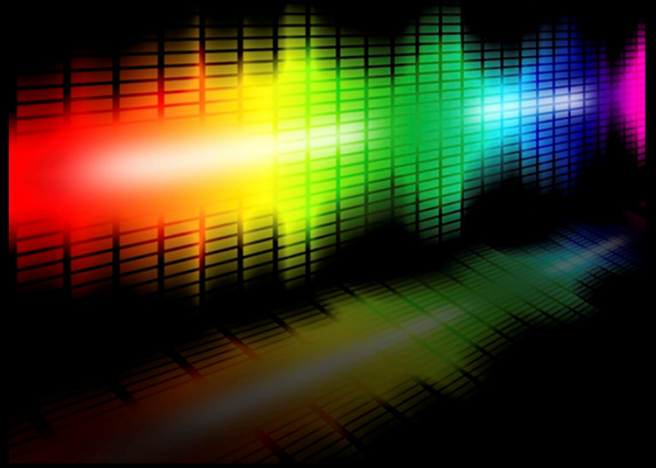
Agenda Item 8.2 for WRC-12 and IMT Adopting an AFCP



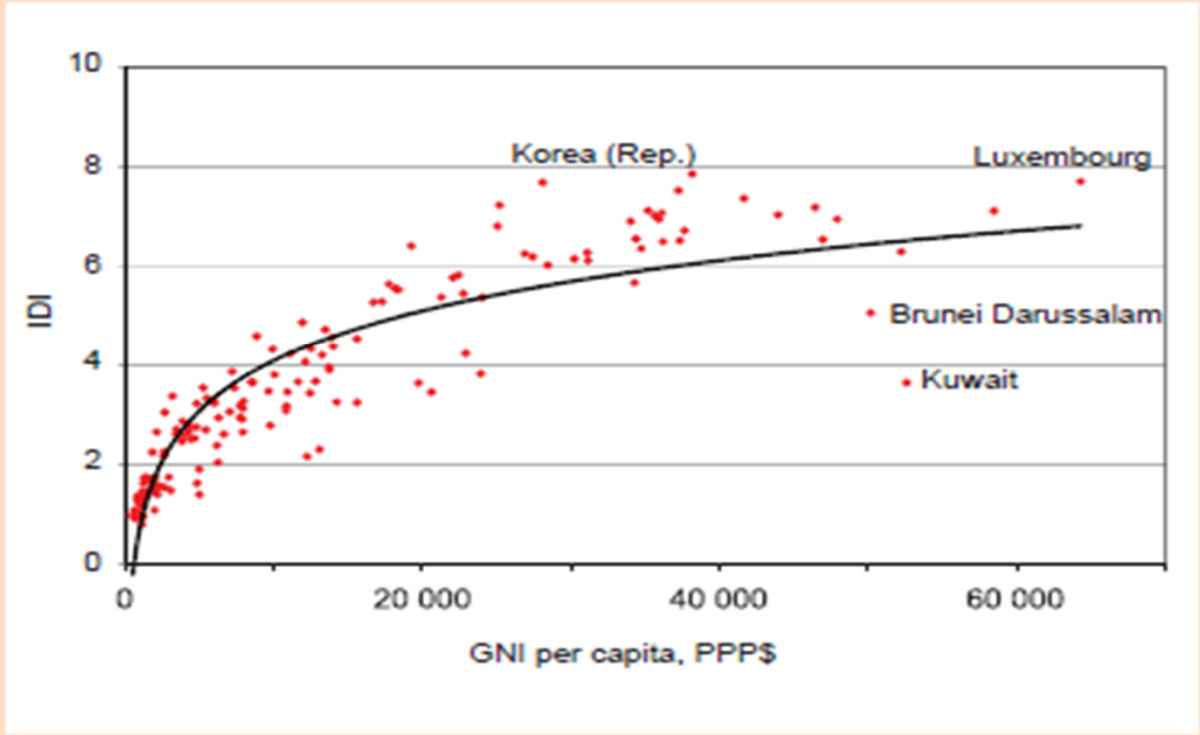
How to deal with the future growth of demand for mobile broadband in Africa

Roberto Ercole, Senior Director of Spectrum Regulation GSMA
ATU WRC preparatory meeting, Algiers, July 11
www.gsmworld.com/WRC12

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Broadband is good for economies and jobs

Chart 2.4: IDI and GNI per capita, 2008



Source: ITU and World Bank.

IDI : ICT development index – based on access, use, and skills

for every **10%** increase in broadband penetration, = **+1.38** percentage points to GDP growth – World Bank

"Measuring the Information Society – 2010" : ITU-D

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Leading Wide-Ranging Initiatives



Mobile Money for the Unbanked
Giving 20m people access to financial services for the first time by 2012



Mobile Agriculture
Providing agricultural support services to over 5m farmers in India and Kenya



mWomen
Aiming to give ownership of mobile phones to 150m women globally for the first time



Green Power for Mobile
Delivering 180k green-powered mobile base stations and providing power to those off-grid

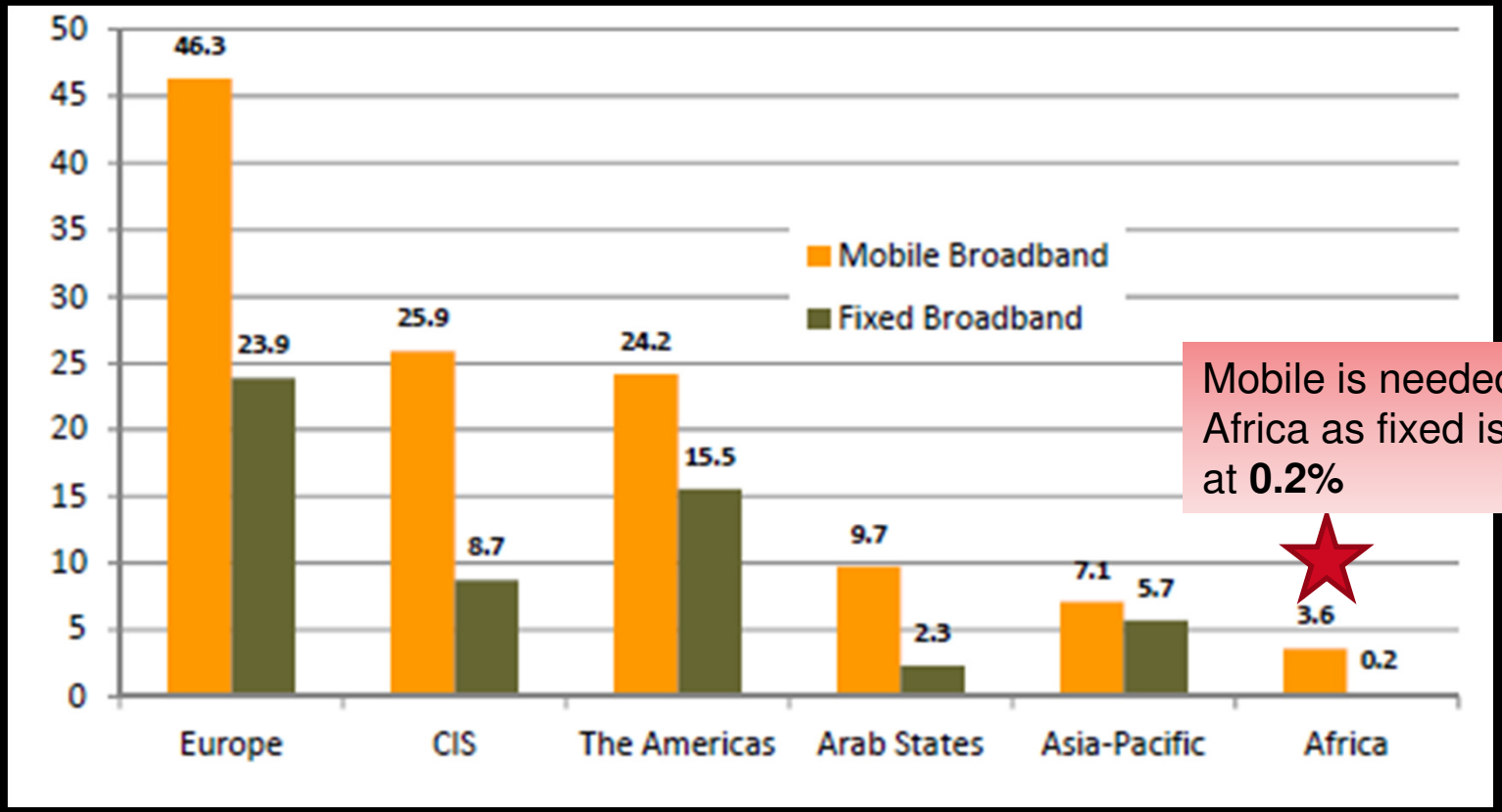


Mobile Health
Using mobile technology to reduce child mortality and helping to manage infectious diseases



Mobile Learning
Enabling accessible life-long learning to support economic and social development goals

Percentage penetration globally (end 2010)

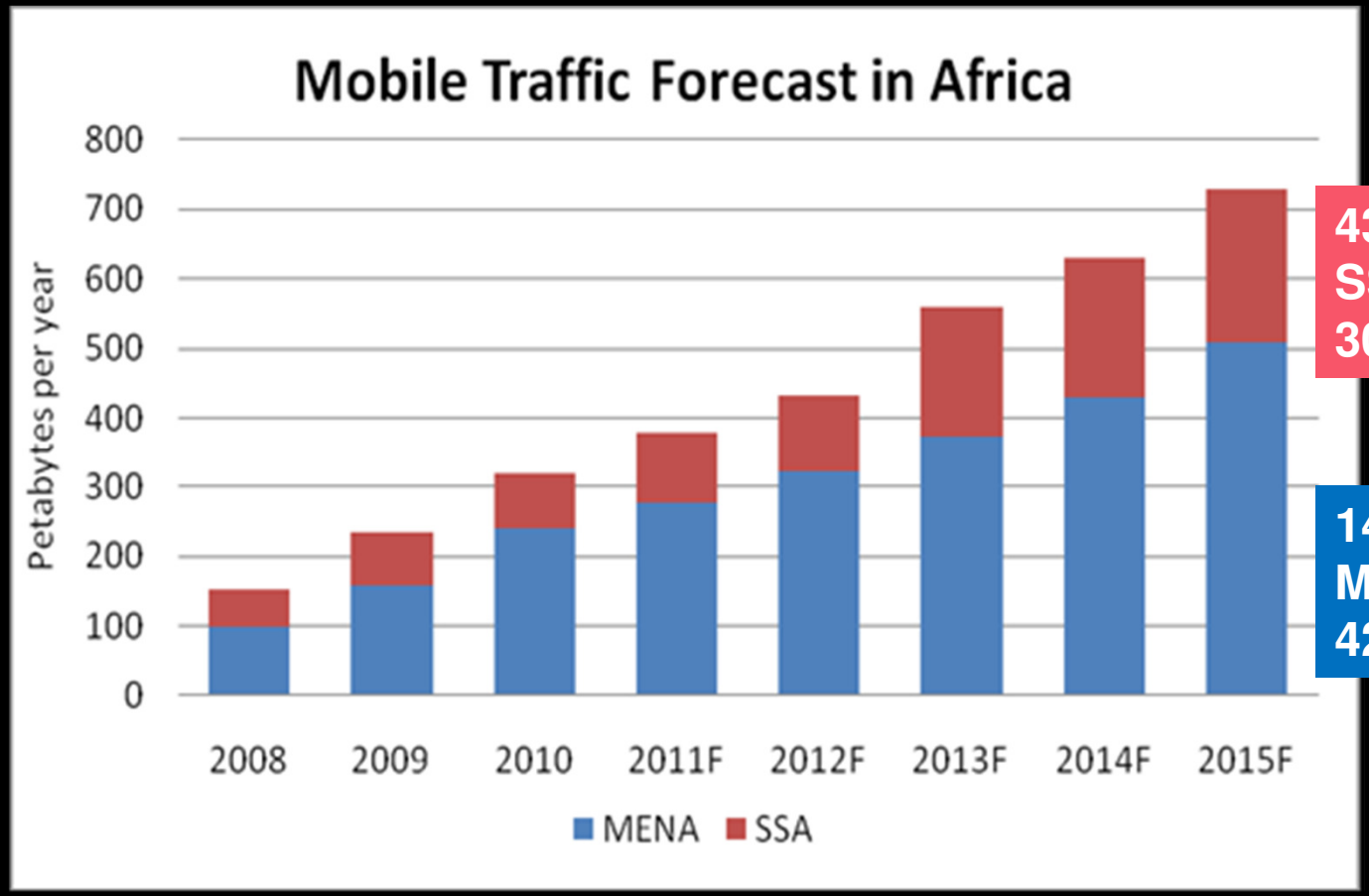


Mobile is needed in Africa as fixed is low at **0.2%**

www.broadbandcommission.org

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Sub-Saharan Africa and ME & North Africa



43% growth SSA 08 -10
300% 08-15

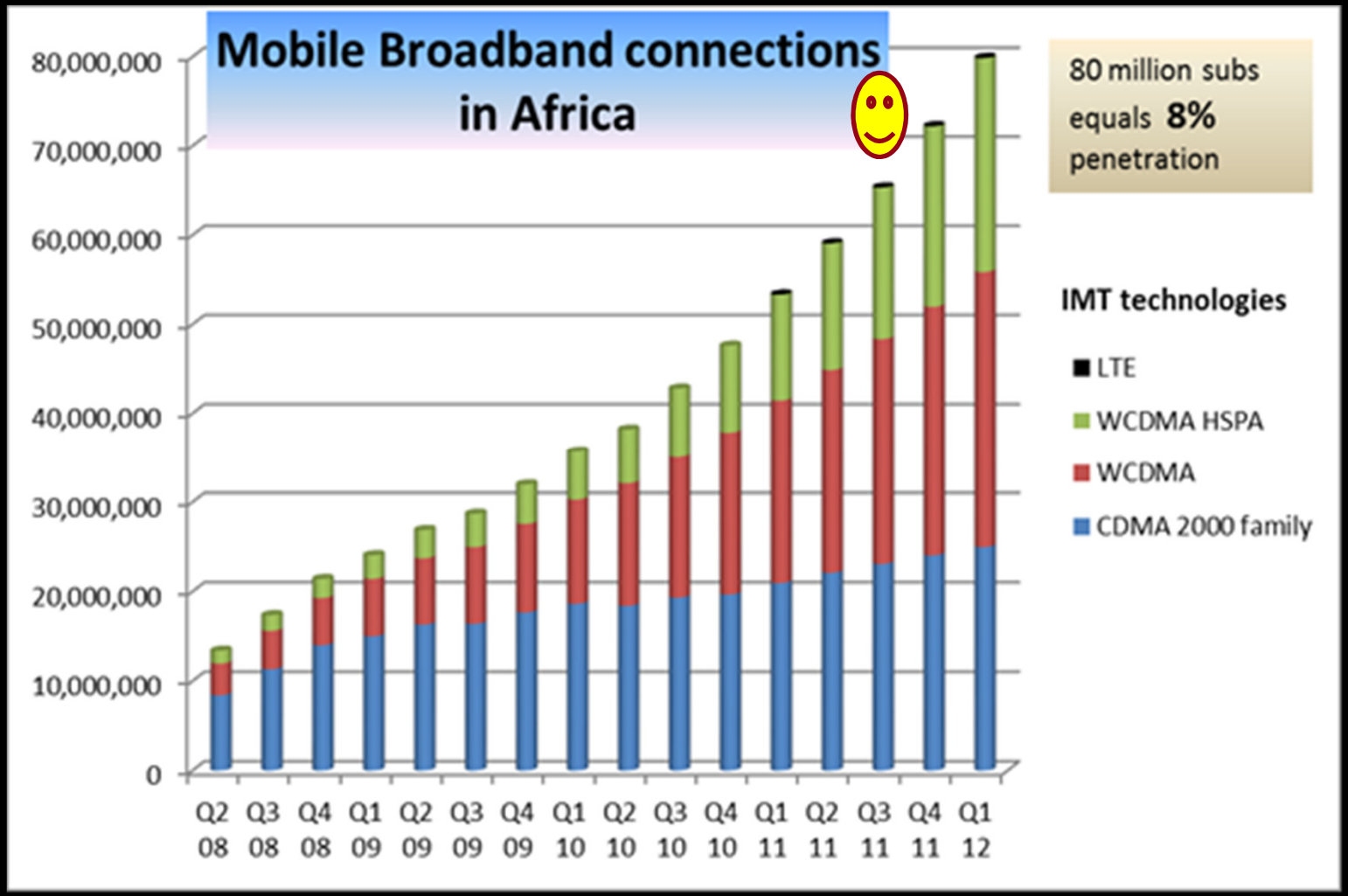
143% growth MENA 08 -10
420% 08-15

SSA	56	77	80	99	109	186	201	219
MENA	98	157	239	278	322	373	430	510

Source: Analysys Mason, GSMA calculations

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How Mobile Broadband has grown in Africa



Source : Wireless Intelligence for 54 countries (population 1 billion)

© GSMA 2011

The Importance of WRC's for mobile Broadband

- The identification of an adequate supply of spectrum for IMT is key to ensuring capacity, and common band plans internationally/regionally leading to economies of scale;
- WRC-15 is the next opportunity for this discussion;
- This requires the next conference (WRC12) to put it on the agenda for WRC-15
- This would allow for spectrum to come on line in 2020 and beyond

- **An adoption of AFCP on IMT would be of benefit for Africa**

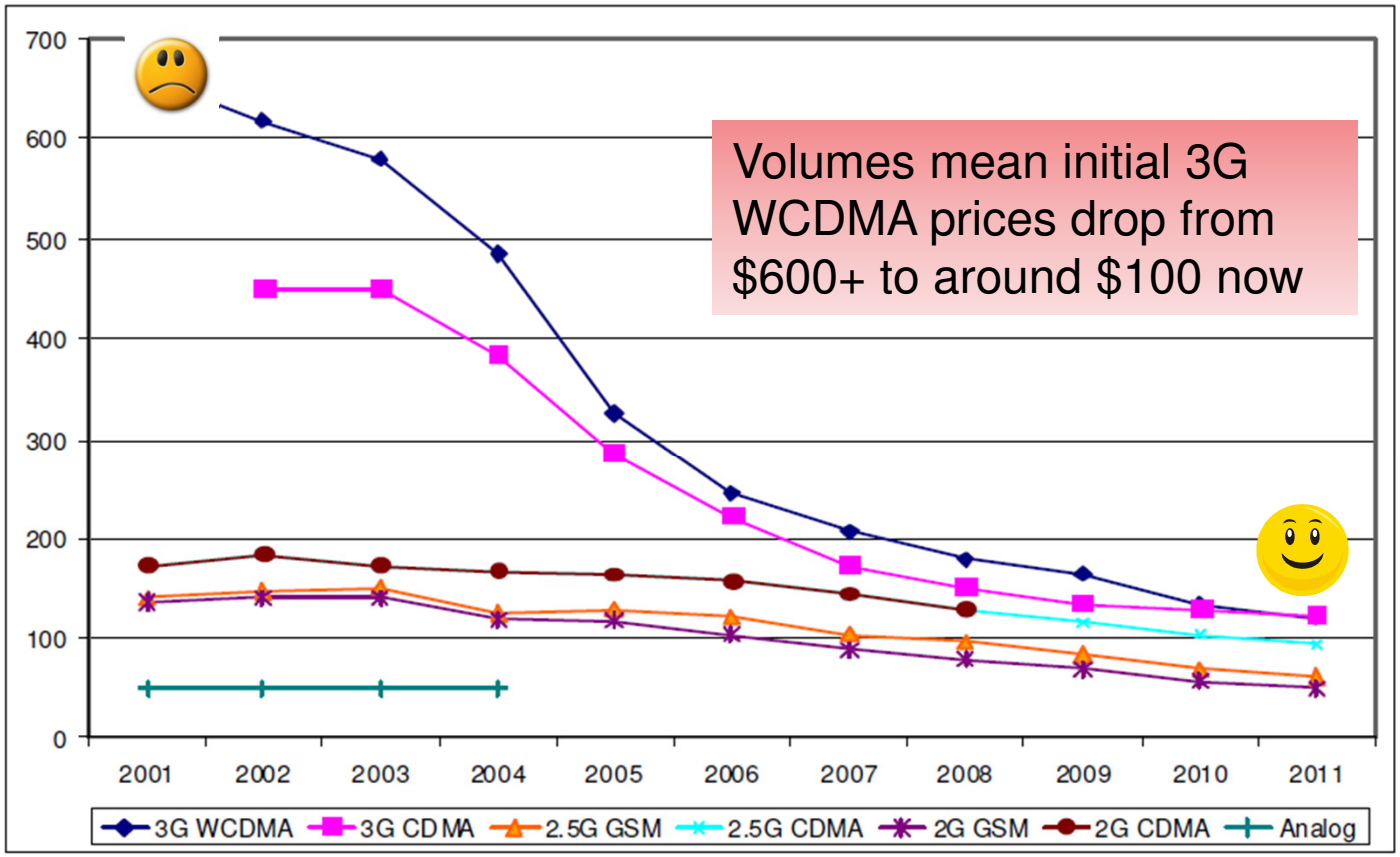
- Worth remembering that IMT is mobile broadband (all subs use IMT)
- Radio Regulations identifies spectrum for IMT, not mobile broadband. Mobile broadband is an application not a service

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Impact of Economies of Scale



Average handset prices ($US)



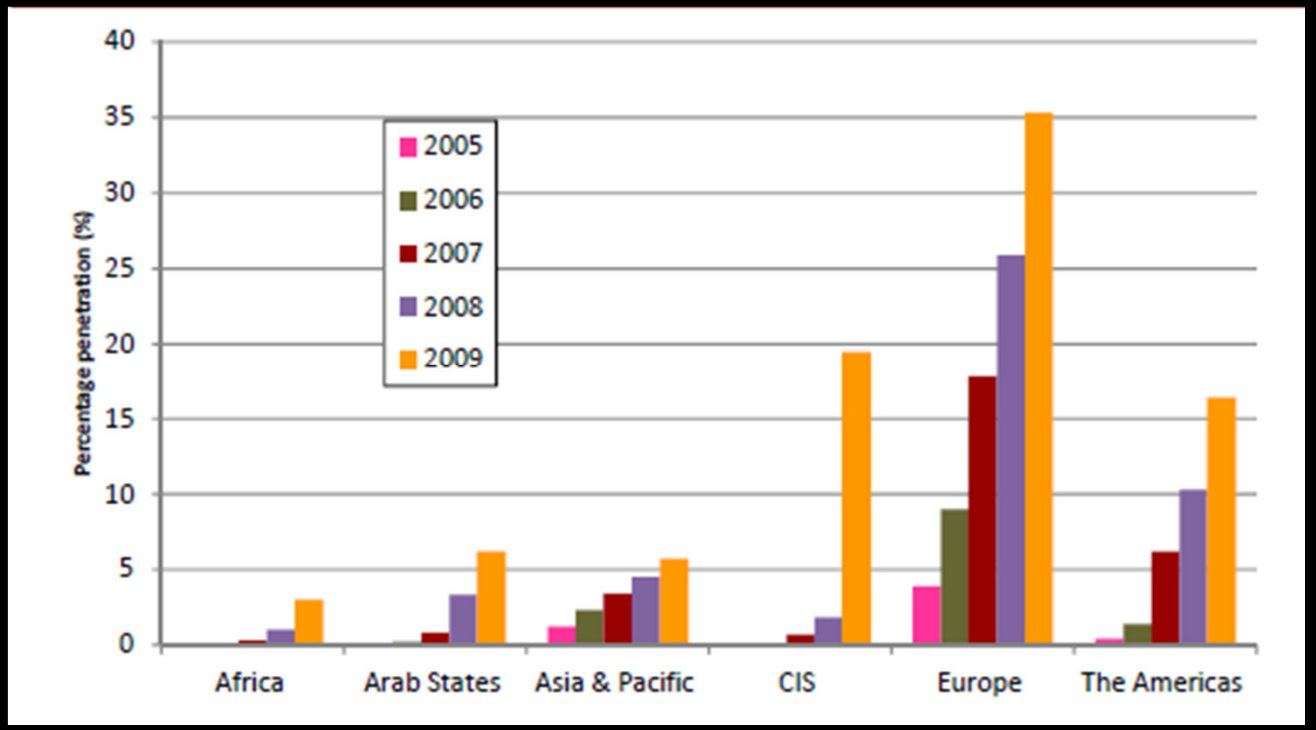
Source: LECG analysis of data from Strategy Analytics and Yankee Group.



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Regional mobile broadband penetration

- Africa set to grow, but how will the increased demand be dealt with?



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WRC-12 and Agenda Item 8.2

- GSMA supports an Agenda Item along the lines:

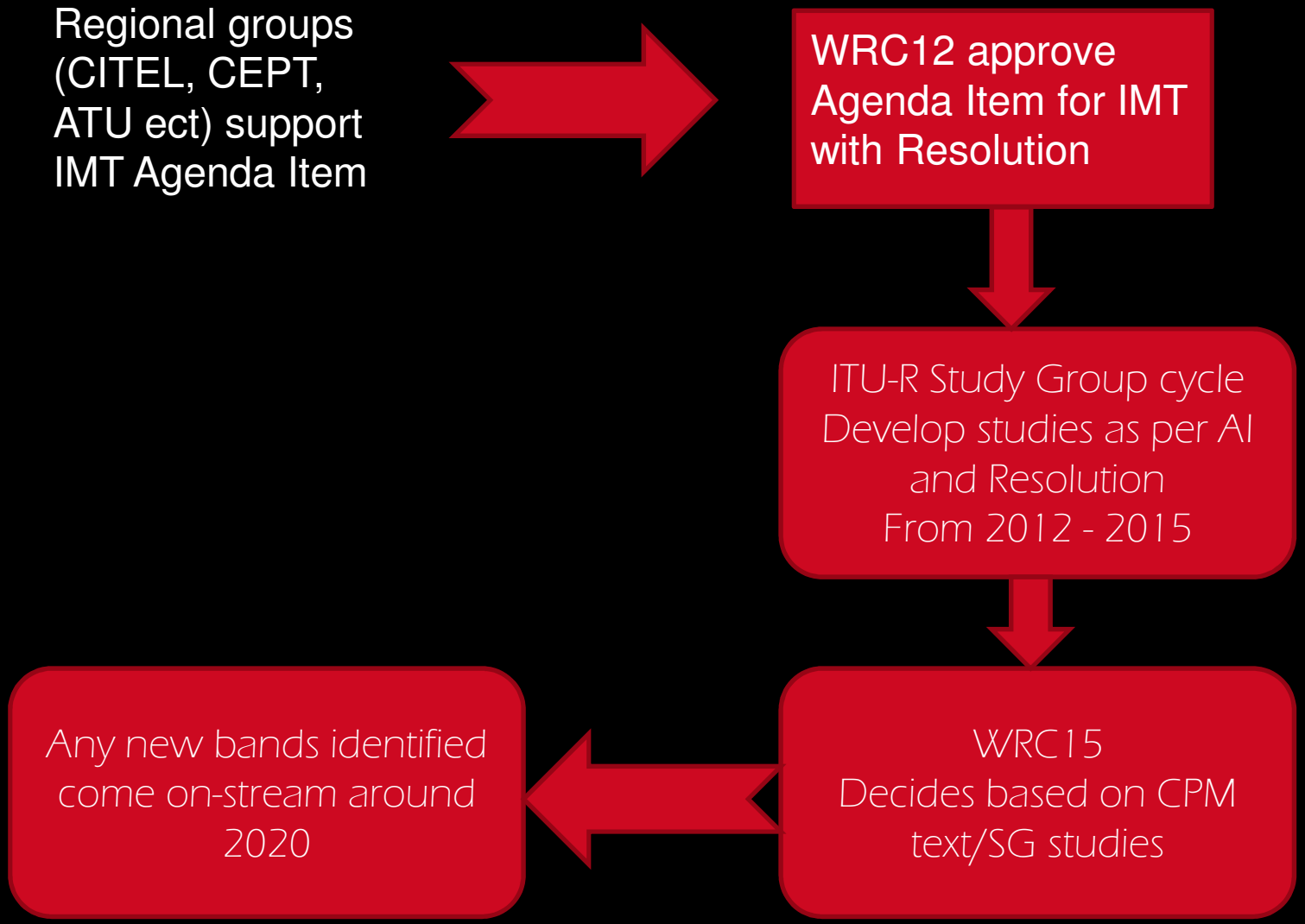
  "to consider spectrum requirements for the development of terrestrial mobile broadband applications and possible regulatory actions, including additional allocations to the mobile service on a primary basis and identification of bands for IMT, taking into account Resolution XXX and the results of ITU-R studies."

- Possible resolution proposed by Nigeria, or CITEL (May 11)

- Such an Agenda Item, for approval at WRC12, and discussion at WRC15, will allow studies to be done between 12 and 15 on bands and amount of spectrum within the relevant ITU-R Study Group

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Timings



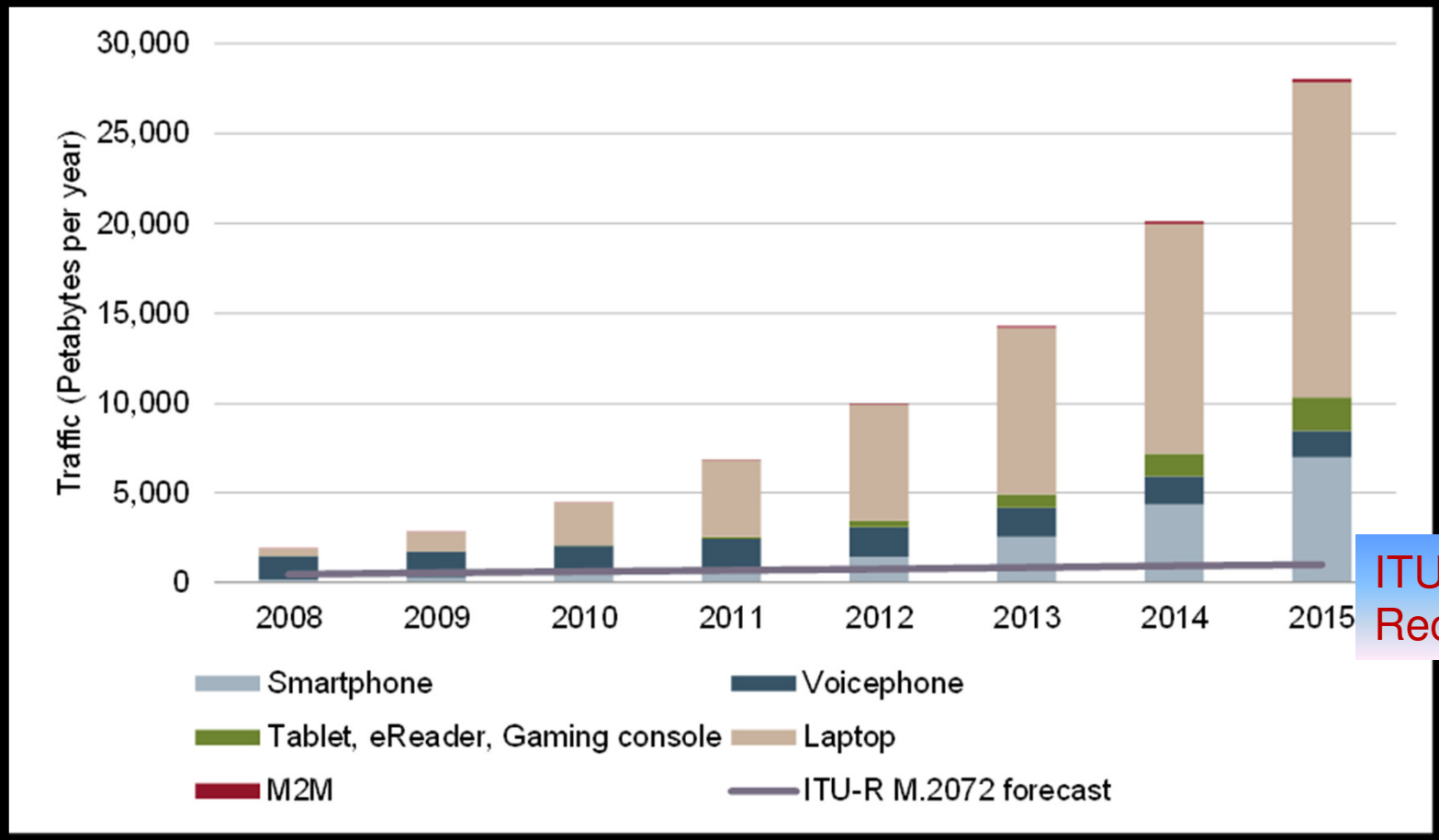
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How can increase in demand be dealt with

- An AI would allow the issue to be studies and reviewed by all parties
- Mobile industry would argue that:
  - Spectrum efficiency has increased from say 0.2 bits/s/Hz (GPRS/Edge) to 2 + bits/s/Hz (LTE Advanced)
  - Use of WiFi Off-load
  - Use of pico/femto cells
  - Extra cells sites
- But that discussion about more spectrum by 2020 is necessary, otherwise capacity could be a very limiting factor in realising the “broadband vision”
- That will be particularly hard for countries with low fixed broadband

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How mobile traffic has grown

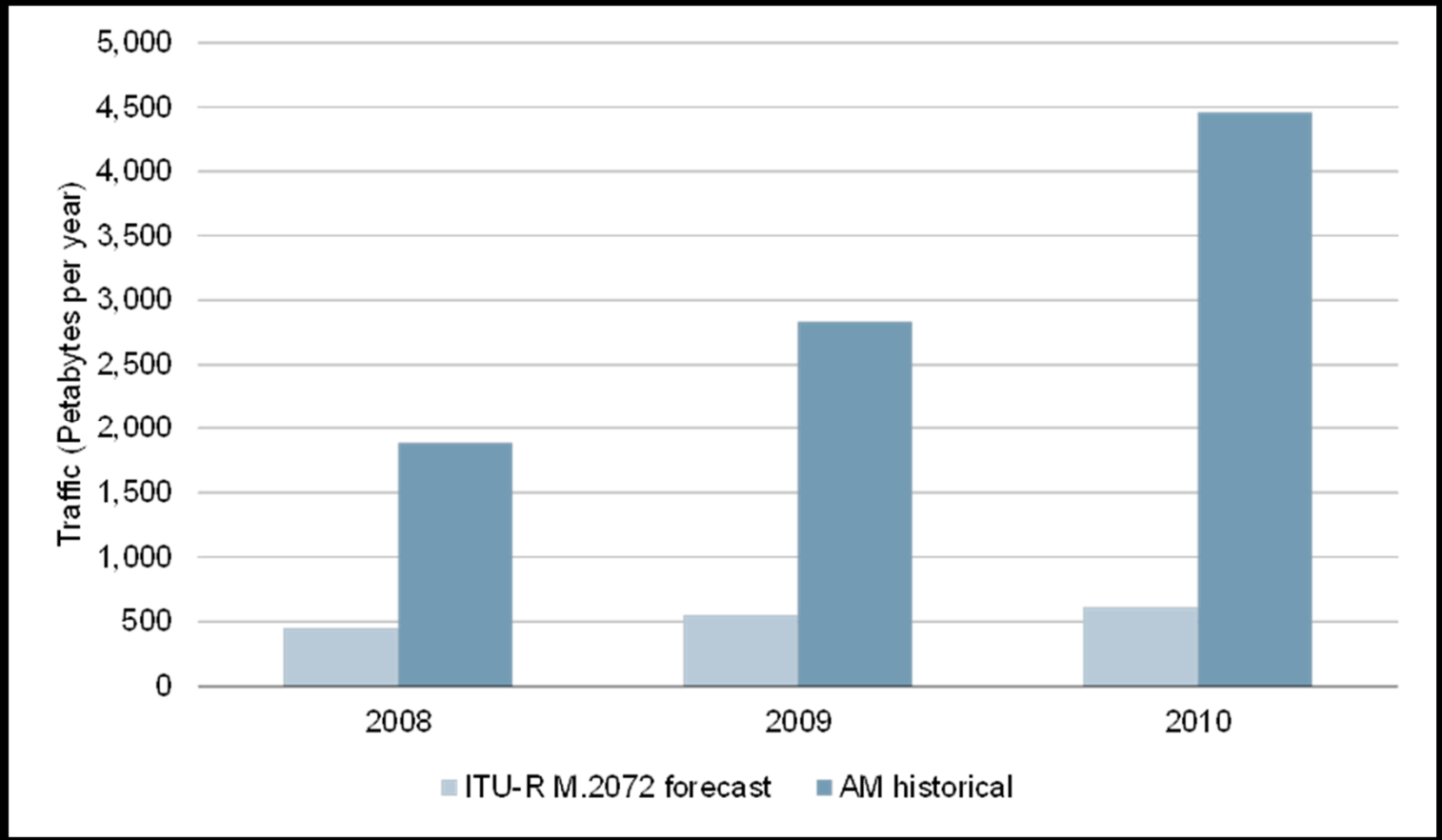


ITU prediction Rec 2072

Source : GSMA study by Analysys Mason

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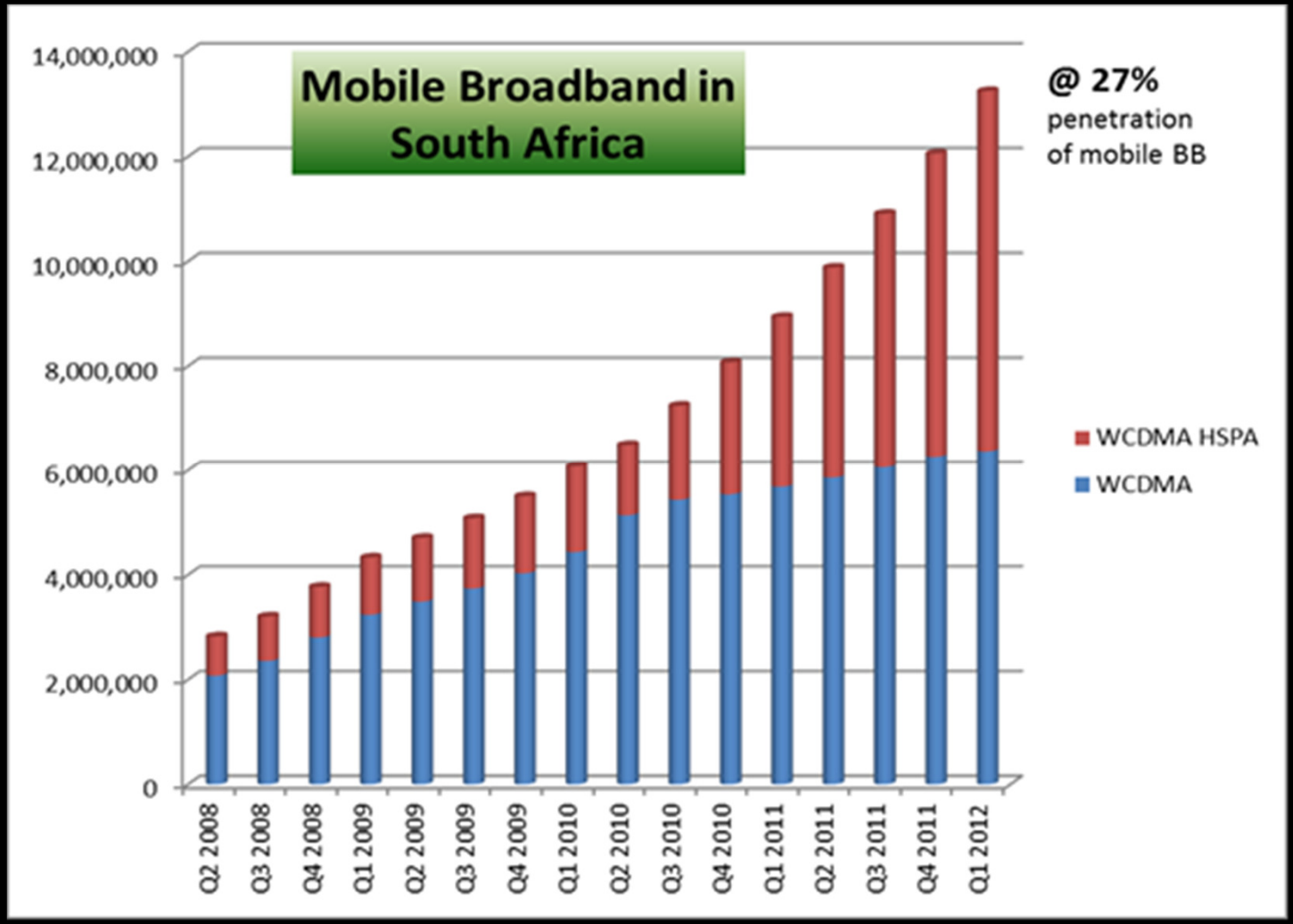
Real figure 7x more than predicted



Source : GSMA study by Analysys Mason

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Mobile Broadband grown in South Africa



Source : Wireless Intelligence

© GSMA 2011

Conclusions

- That an Agenda Item for WRC15 on IMT needs to be agreed at WRC12
- This is necessary to ensure that international harmonisation can occur if more IMT spectrum needs to be identified.
- This will allow time for ITU Study Groups to consider the issues and develop supporting studies of needs and candidate bands from the year 2012 up to WRC16.
- An AFCP for IMT should be considered

Doubling something every year means that in 10 years there is 1000 times more





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Supporting Slides



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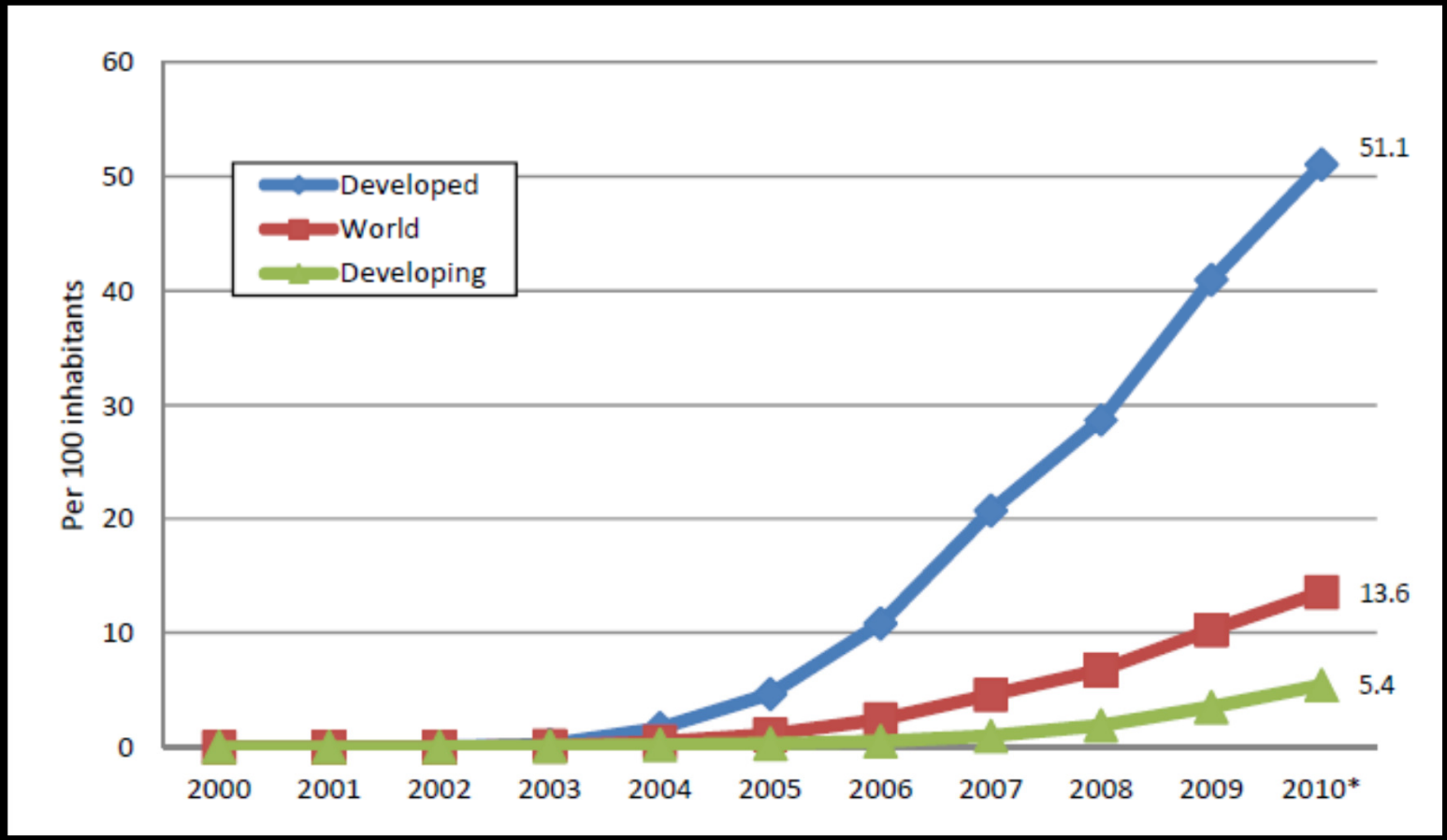
Launches in 2100 MHz (Mb/s) - Africa

Unitel	Angola	Dec 2008	1.8
Mascom (MTN)	Botswana	Aug 2008	1.8
Etisalat	Egypt	May 2007	7.2
Mobinil	Egypt	Dec 2008	
Vodafone	Egypt	May 2007	7.2
Airtel (Bharti)	Ghana	Dec 2008	1.8
Safaricom	Kenya	May 2008	7.2
Vodacom	Lesotho	May 2008	3.6
Libyana	Libya	Dec 2007	3.6
Telma	Madagascar	Nov 2009	
TNM	Malawi	Dec 2009	
Emtel (Millicom)	Mauritius	Dec 2007	1.8
Orange (Mauritius Telcom)	Mauritius	Aug 2009	7.2
Maroc Telecom (Vivendi)	Morocco	Jan 2008	3.6
Meditel	Morocco	Apr 2007	3.6
mcel (Mozambique)	Mozambique	Dec 2008	
Vodacom	Mozambique	Feb 2010	7.2

leo (Orascom)	Namibia	Jun 2008	1.8
MTC	Namibia	Dec 2006	7.2
Airtel (Bharti Airtel)	Nigeria	Feb 2009	1.8
Glo Mobile (Globacom)	Nigeria	Feb 2008	3.6
MTN	Nigeria	Dec 2007	3.6
Tigo (Millicom)	Rwanda	Dec 2009	
8ta (Telkom)	South Africa	Oct 2010	7.2
Mobi (Telkom)	South Africa	Dec 2008	
MTN	South Africa	Mar 2006	7.2
MTN	South Africa	Jun 2005	
MTN	South Africa	May 2010	21
Vodacom	South Africa	Apr 2006	7.2
Vodacom* (LTE)	South Africa	Oct 2012	150
Vodacom	South Africa	Feb 2010	43.2
MTN	Sudan	May 2010	7.2
Sudani (Sudatel)	Sudan	Nov 2009	7.2
Zain	Sudan	Apr 2008	7.2
Vodacom	Tanzania	Feb 2007	1.8
Orange	Uganda	Oct 2009	
UT Mobile (Uganda Telecom)	Uganda	Nov 2007	1.8

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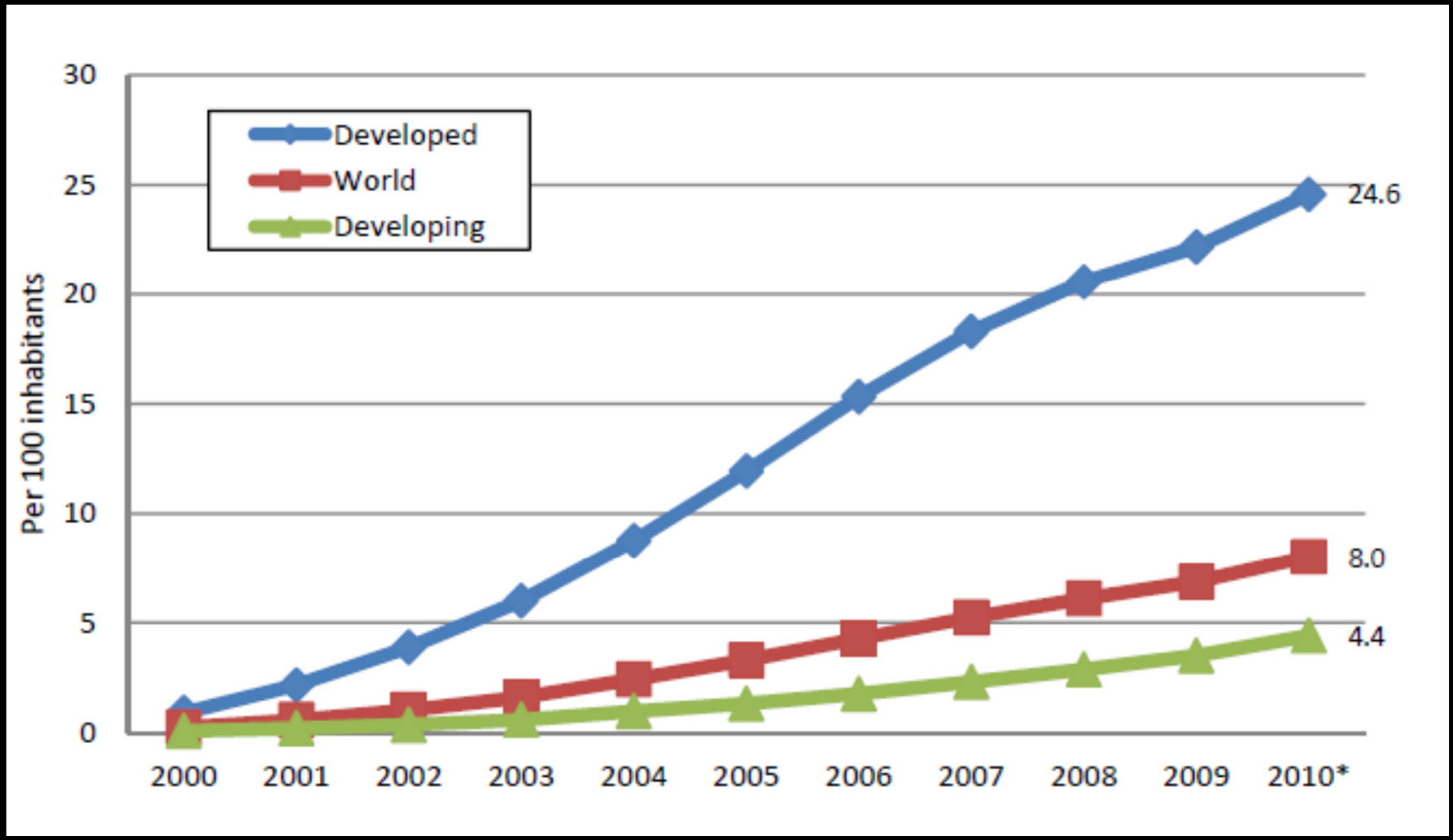
Mobile Broadband penetration



www.broadbandcommission.org

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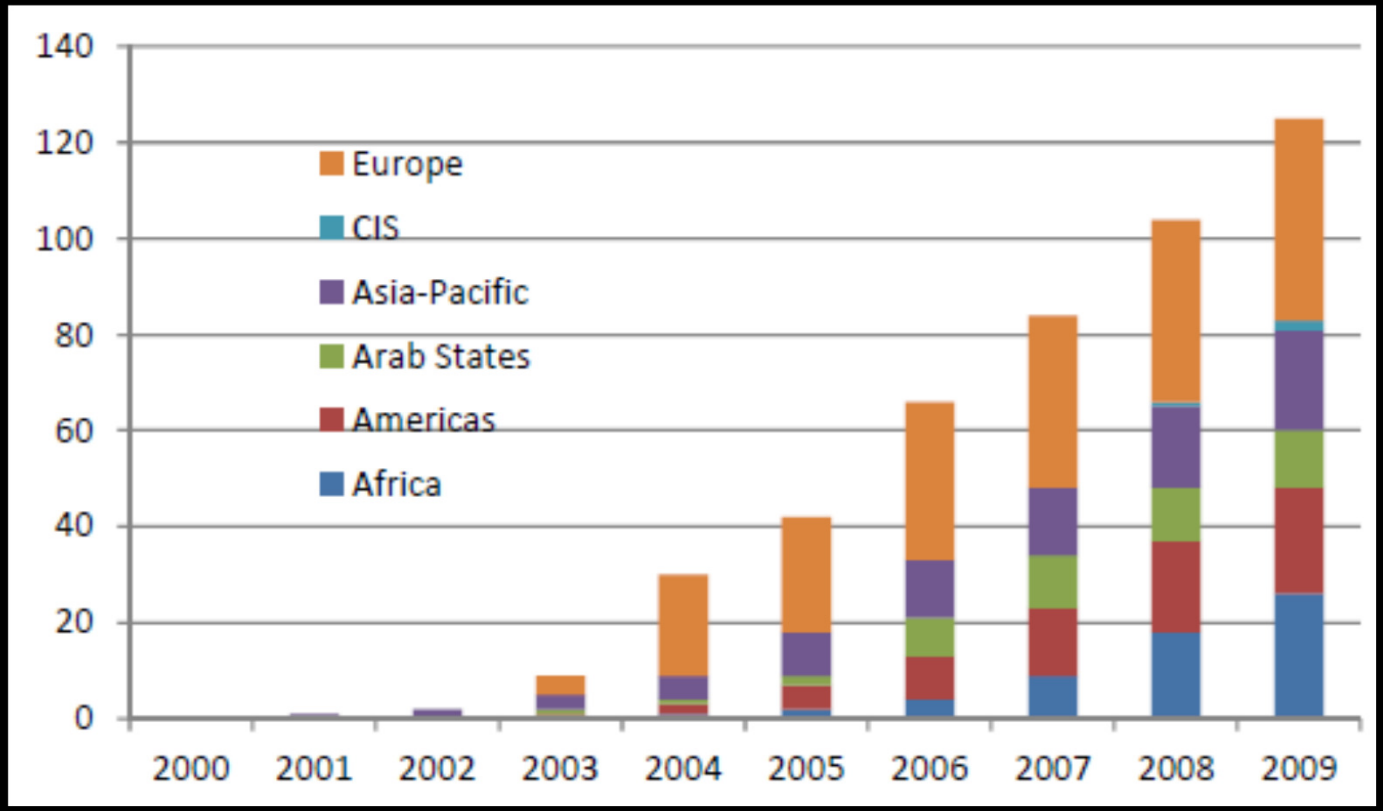
Fixed Broadband penetration



www.broadbandcommission.org

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Number of countries have assigned IMT spectrum



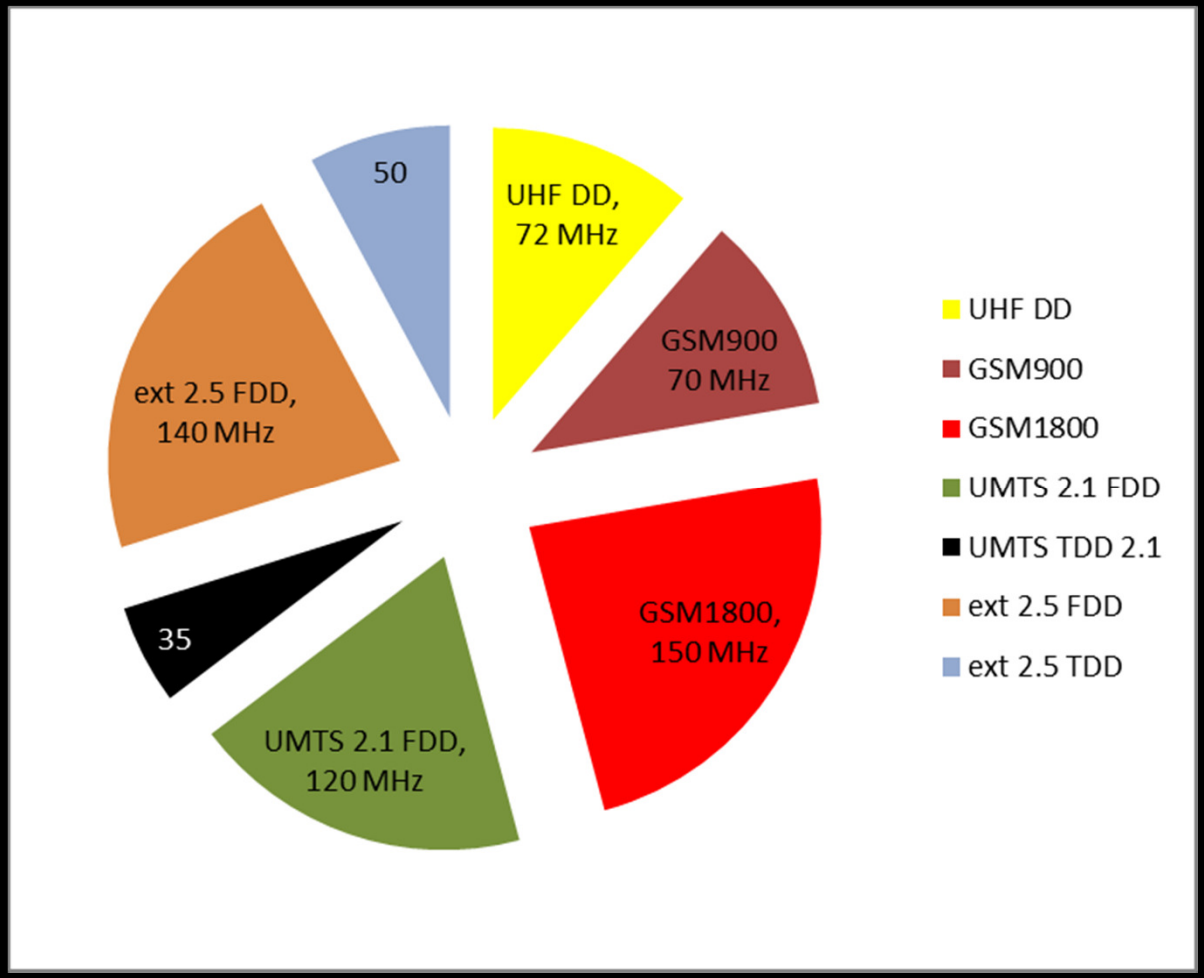
www.broadbandcommission.org

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Maximum IMT Spectrum available in Region 1

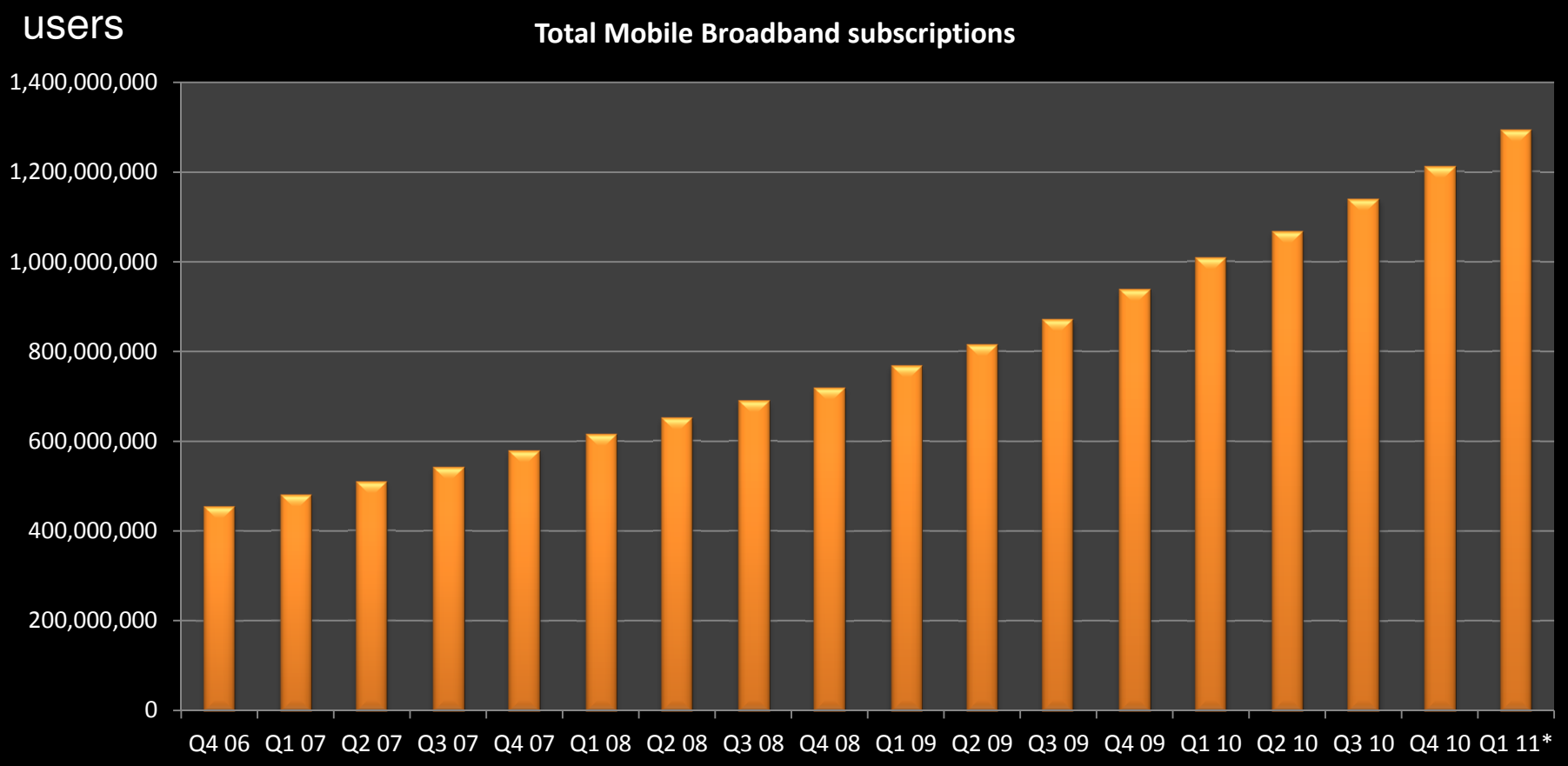
Total spectrum now = 637 MHz

Not all is available in most markets



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How mobile data has grown

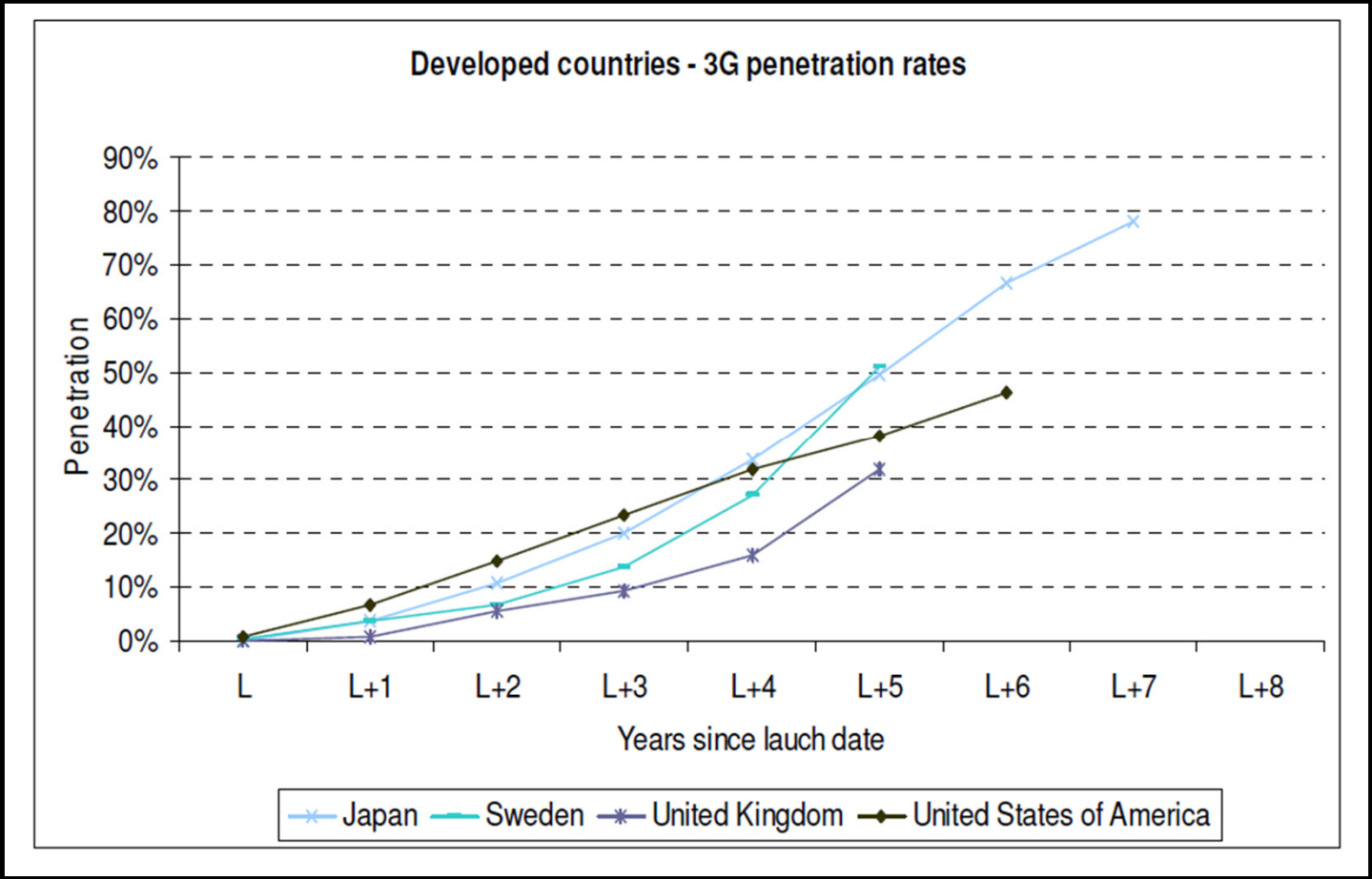


Currently @3 million LTE users globally, projected to rise 22m end 2012

Source: Wireless Intelligence

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Time from deployment to mass market adoption

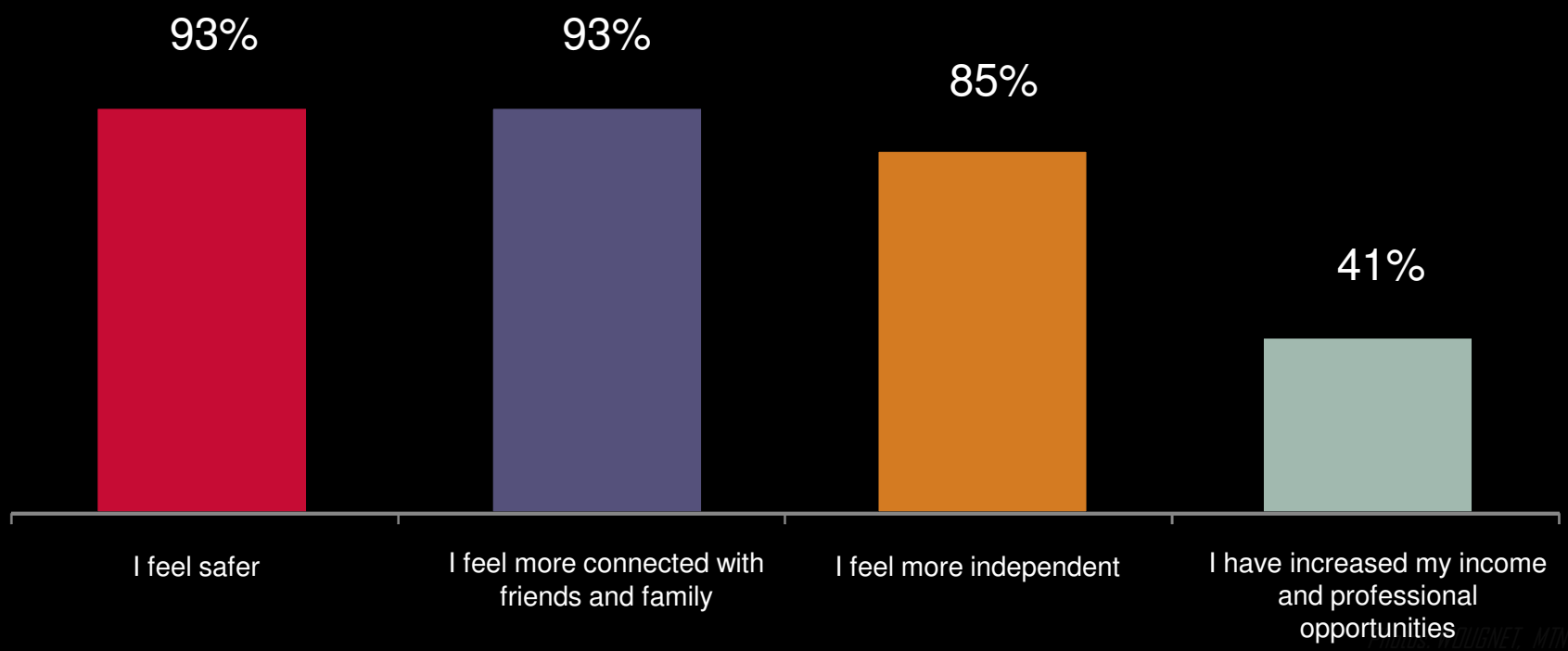


http://gsmworld.com/documents/Report_GSMA_LECG_Feb_09.pdf

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The Social Benefit of Mobile

Positive Outcomes & Feelings Associated with Mobile Phone Ownership

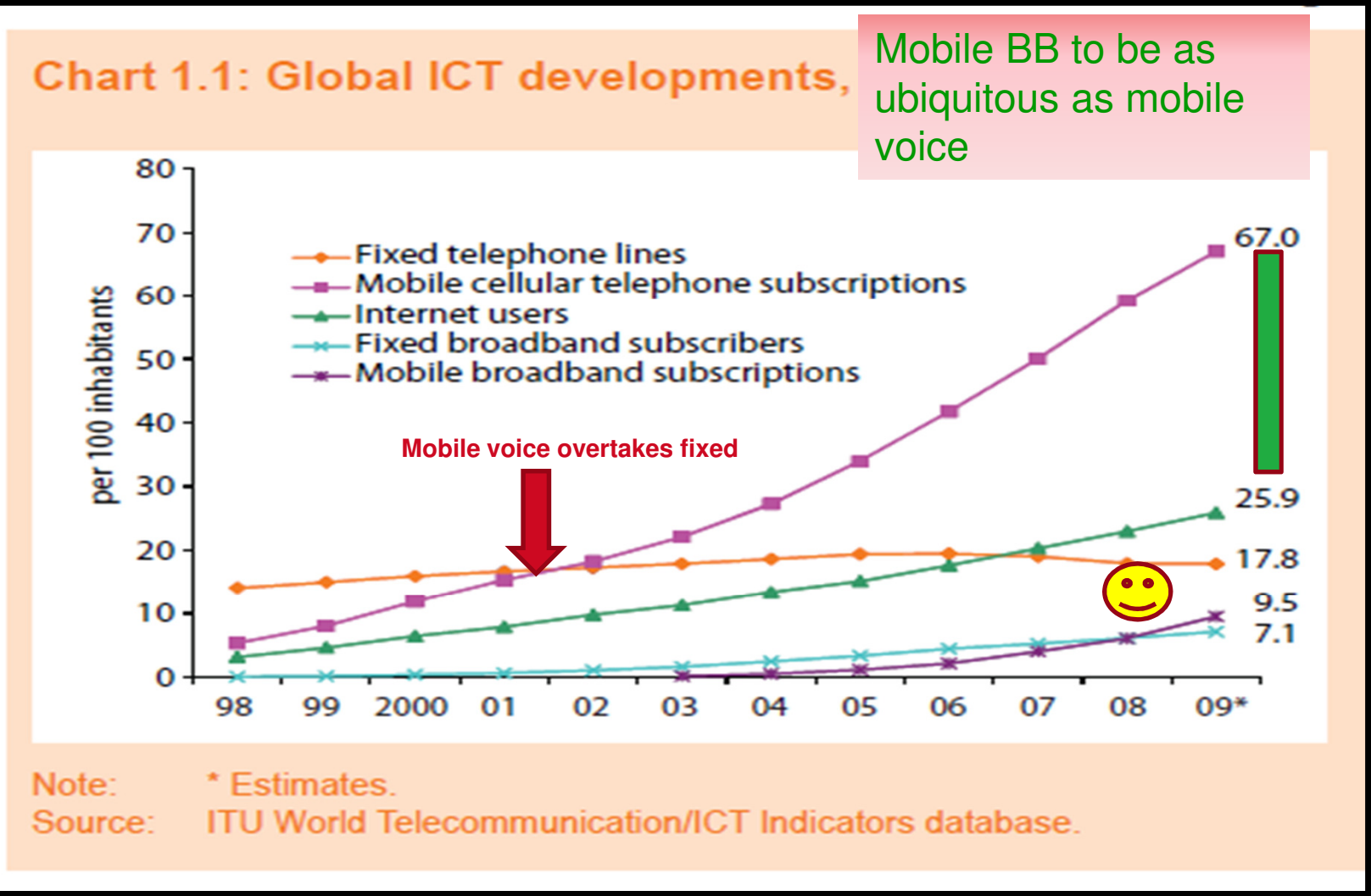


(respondents* that own a mobile phone)

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The opportunity : 5 billion + MBB users

Mobile BB to be as ubiquitous as mobile voice



Source : http://www.itu.int/ITU-D/ict/publications/idi/2010/index.html

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