



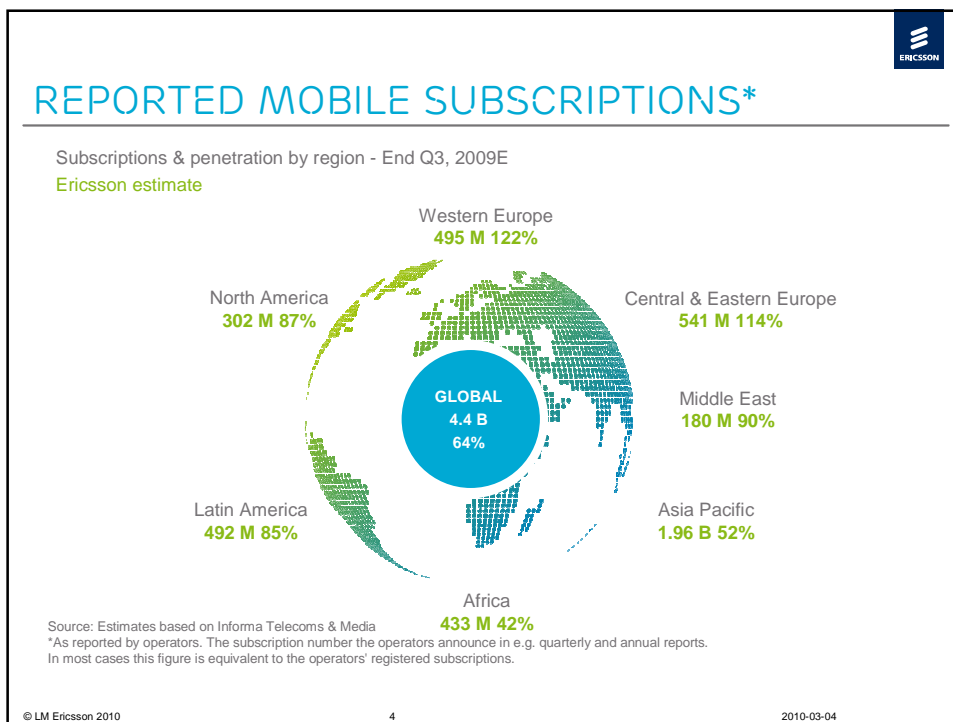
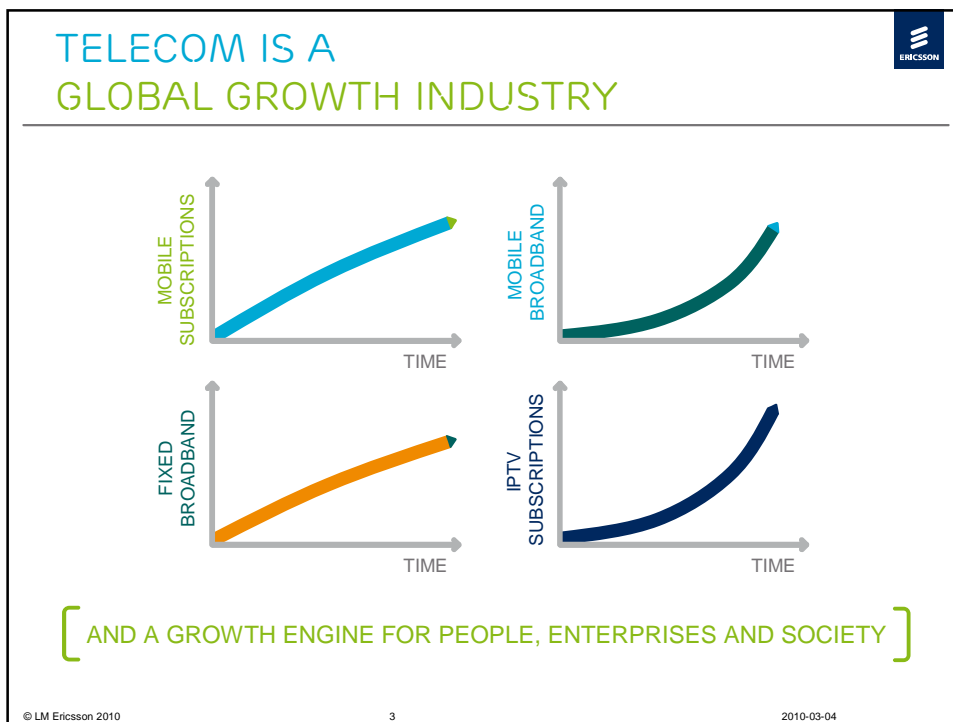
DIGITAL DEMOCRACY IN AFRICA:

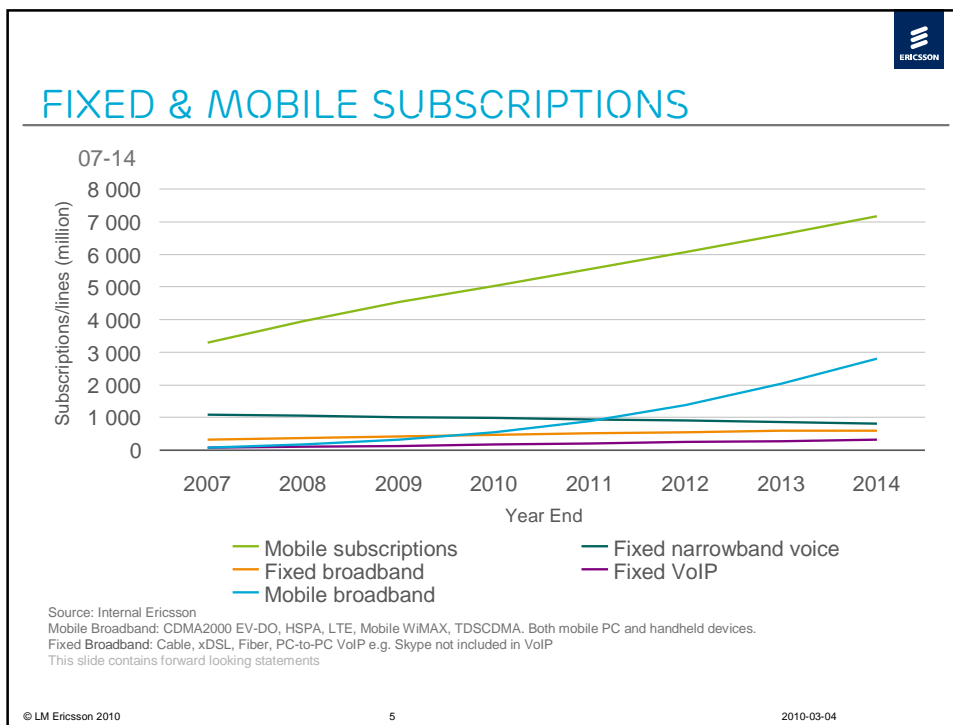
OLASENI ASHIRU
GOVERNMENT & INDUSTRY RELATIONS



CONTENT

- › BREAKING DOWN BARRIERS
- › TOWARDS A DIGITAL DEMOCRACY
- › CONCLUSION





SUCCESS OF THE MOBILE PHONE

IMPROVING THE QUALITY OF LIFE

The infographic illustrates five key areas where mobile phones have positively impacted quality of life:

- Strengthening social networks:** A group of people in a rural setting, one holding a mobile phone.
- A modern infrastructure that works:** A person using a mobile phone in a rugged, outdoor environment.
- A symbol of class and modernity:** A man in a white shirt talking on a mobile phone.
- Generating income:** A woman standing next to a yellow sign that reads "MOBILE PHONE SOLUTIONS" and "Free Quota 011-812-09-402".
- Enabling direct contact and privacy:** A young girl smiling while talking on a mobile phone.

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MOBILE NETWORKS

THE SERVICE DELIVERY PLATFORM



Field operations



Medical services



Supporting firefighting



Reporting traffic situation



Supporting the local police



Connecting the unconnected




Broadband on the move



Anywhere Internet access & entertainment


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BROADBAND COMES IN MANY FLAVORS




FIXED ACCESS

- xDSL
- Fiber (PON & P2P)
- Fiber/VDSL2
- Cable (DOCSIS2 → 3)



FIXED/ NOMADIC WIRELESS

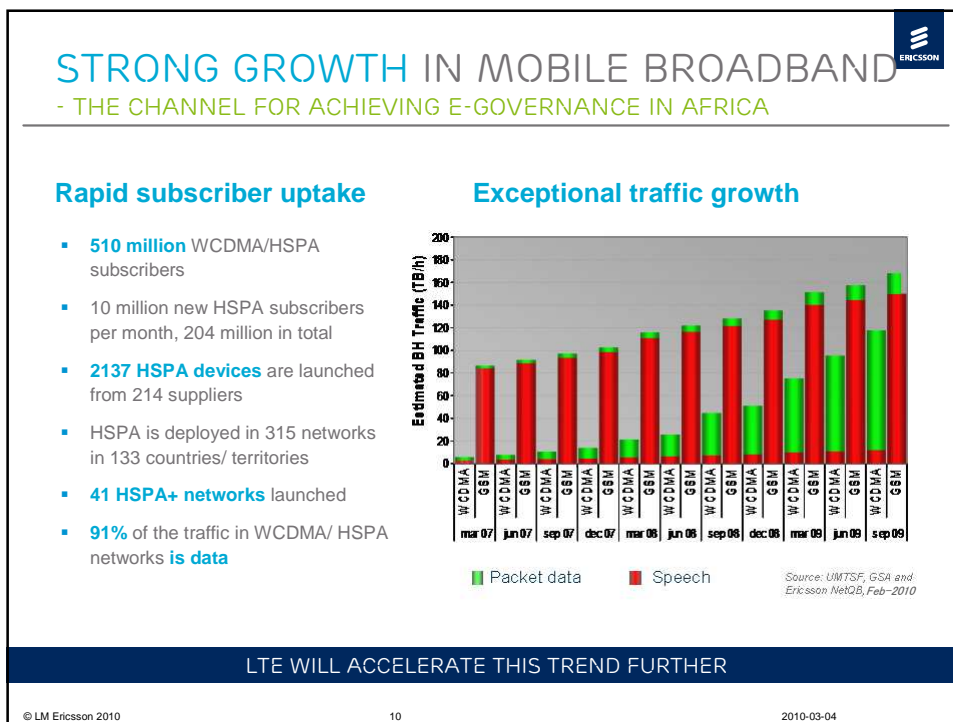
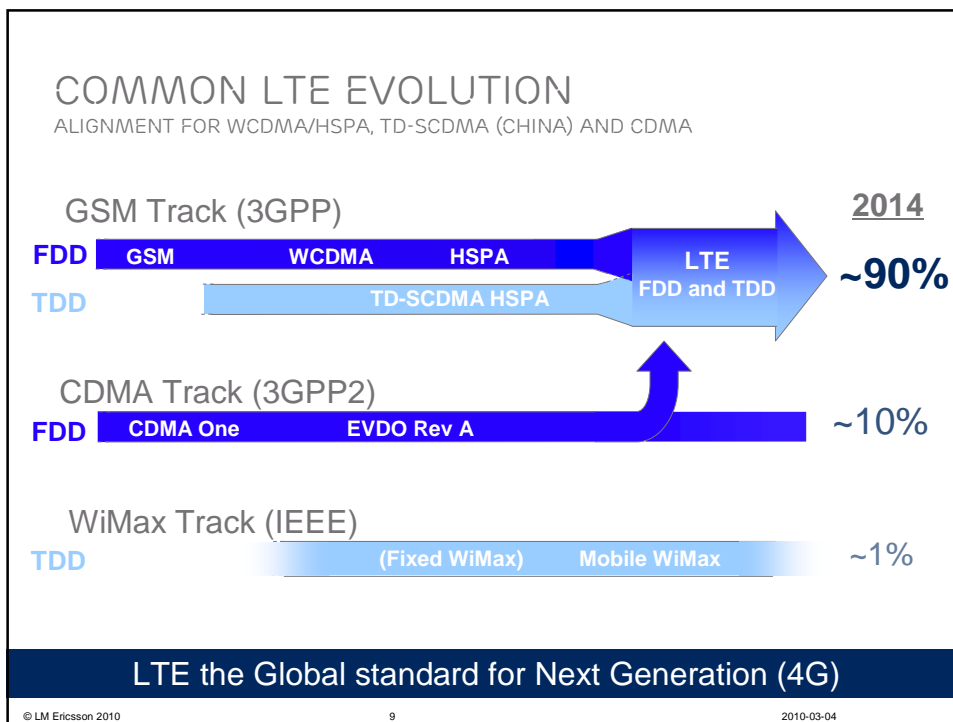
- WiMAX
- "Fixed Mobile HSPA/LTE"
- Satellite/ Terrestrial
- Unlicensed (WiFi, etc)
- Others



MOBILE ACCESS

- GSM/EDGE
- WCDMA/HSPA
- LTE
- CDMA2000
- EVDO
- Mobile WiMAX

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BREAKING DOWN BARRIERS

MAKING TELECOM AVAILABLE TO LOW INCOME HOUSEHOLDS

- › Infrastructure challenges
 - Dearth of basic infrastructure
 - Planning regulations


- › Taxation

- › Harmonised spectrum allocations

- › Regulation

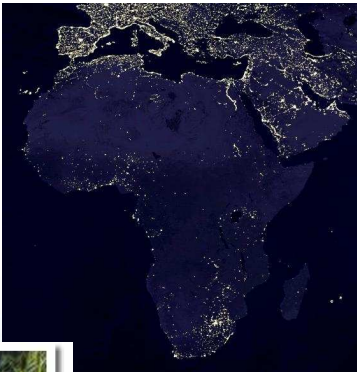




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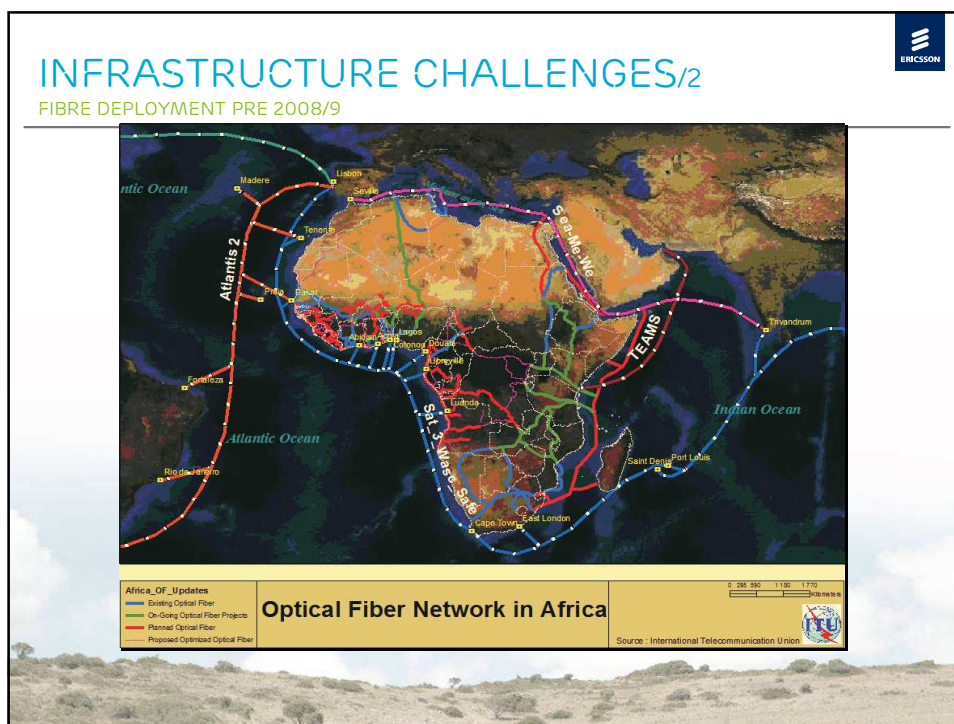
INFRASTRUCTURE CHALLENGES

- › Dearth of critical infrastructure
- › Poor/underdeveloped road network
- › Under-investment by incumbents
- › Rollout required for
 - › Core
 - › Power; and
 - › Transmission networks
- › Incessant vandalism of fibre
- › Competition, cost and connectivity



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INFRASTRUCTURE CHALLENGES/3

PLANNING REGULATIONS

- › High planning 'fees'
– Nigerian scenario
- › Local regulations
- › Uncertain land registration
- › Plethora of building permits
- › Local planning embargoes


➔

A CASE OF MULTIPLE TAXATION/REGULATION?

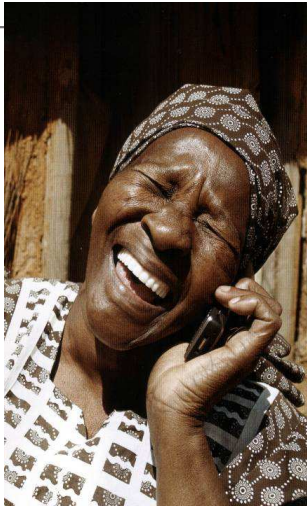
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INFRASTRUCTURE CHALLENGES/4

TIME FOR A REVISED PLANNING POLICY




- › Administrative planning 'fees'
- › Trained staff
- › Firm timetables
- › Clear National regulations
- › Land registry
- › Single building permit
- › Streamline processes
- › Remove anomalous impediments
 - No local planning embargoes



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TAXATION



"In 10 short years, what was once an object of luxury and privilege...has become a basic necessity in Africa"

- **Paul Kagame**, President of Rwanda, in 2008 referring to the mobile phone


- › Mobile communications **benefit to an economy** can be estimated to 8% of GDP
 - McKinsey
- › **Removing all non-VAT taxes** invariably **lowers mobile prices**

But in sub-Saharan Africa

- › 24 governments levy specific luxury taxes on mobile handsets
- › 8 governments levy specific luxury taxes on mobile usage (air time)
- › 25+ governments levy specific luxury taxes on ICT equipment

If Social Welfare is enhanced by access to mobile, why is there import duty on network equipment?

Source: Deloitte for the GSMA report: Global mobile tax review 2006-07 / GSMA analysis



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TAXATION₂

NEED FOR A RETHINK?



- › Taxing mobile phones as a luxury is no longer appropriate
- › Mobile phones boost GDP, create jobs and are a vital part of the socio-economic landscape in sub-Saharan Africa
- › There is a need for Governments (in consultation with the industry and other experts) to analyse the impact of lowering and removing mobile specific taxes

AND

- › African Governments are encouraged to change their taxation regimes accordingly

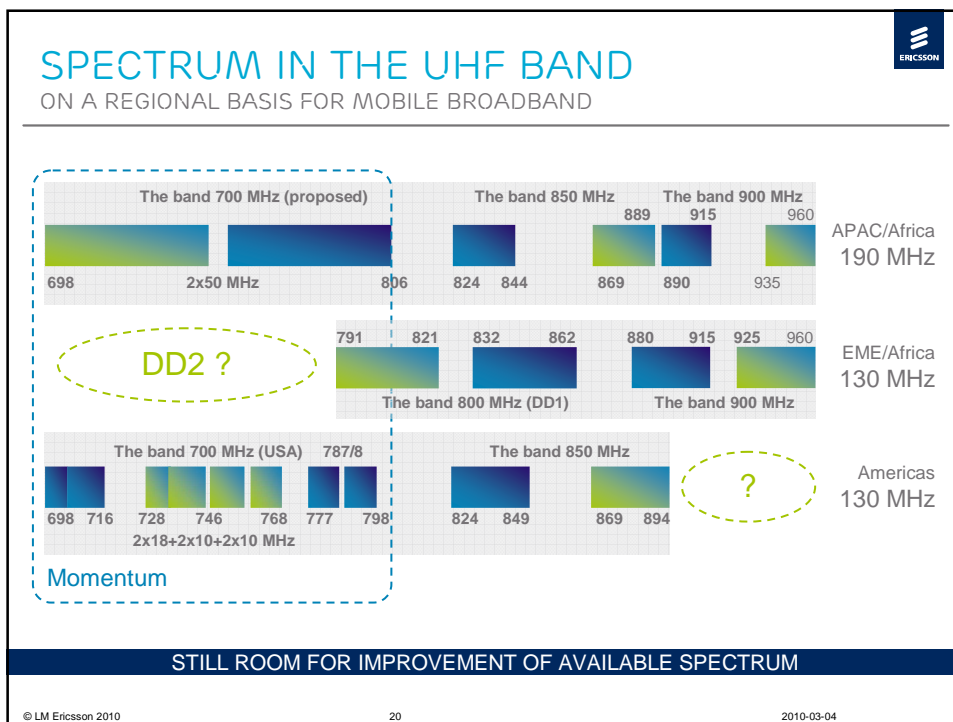
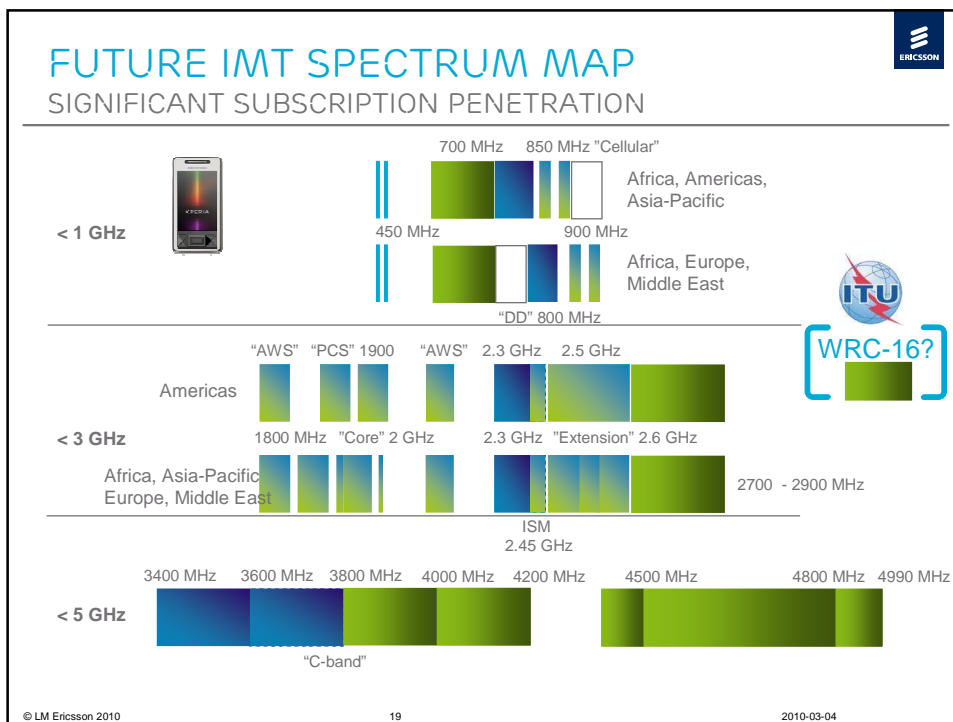
SPECTRUM

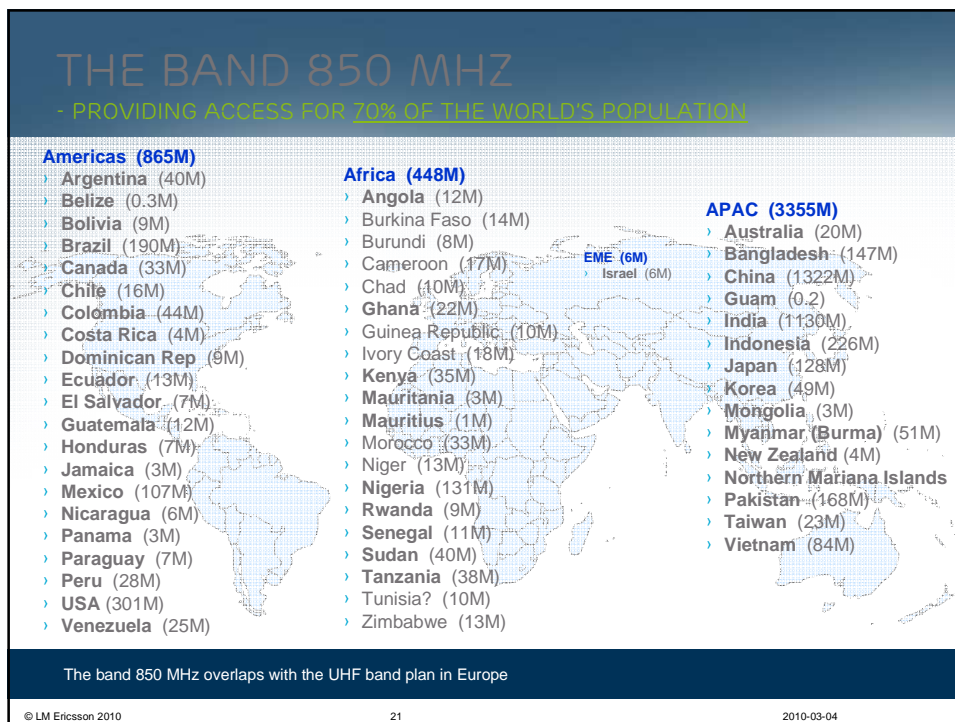


- › *"Wireless carriers have been clamoring for more spectrum as their customers increasingly check e-mail, update Facebook and watch video on the go. Broadband services are already choking in some markets, and next-generation services will tax wireless networks even more. Although the potential of mobile broadband is limitless, its oxygen supply is not.*

Spectrum — our airwaves — really is the oxygen of mobile broadband service. Without sufficient spectrum, we will starve mobile broadband of the nourishment it needs to thrive."

- FCC Chairman, **Julius Genachowski** in a speech at the New America Foundation, Washington





HARMONIZED SPECTRUM AND STANDARDS

Harmonized spectrum is necessary and key for the public mobile broadband access developments; as for the industry to be able to successfully respond to **national policy goals** by providing **standardized products**

- › **Economy of scale** (based on a mass market)
- › Easy **cross-border coordination**
- › **Cross-border operation** (between countries)
- › **Global roaming** capabilities
- › **Interoperability** choice and convenience
- › **Efficient use** of spectrum (also in border areas)

spectrum efficiency

harmonized spectrum

standards

Harmonized spectrum has enabled global mobile penetration of 59%

PROVIDING AFFORDABLE SERVICES TO ALL

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IS THERE A ROLE FOR REGULATION?

- › Regulation can oil or throw sand into the motor
- › Regulation key to success, therefore...
- › ...Continue liberalisation
- › Adopt Holistic regulation and redefine markets based on realities
- › Spectrum allocation for broadband to all & everywhere
- › Stimulate Interoperability
- › Help build sustainable society!
- › *"With technological convergence now blurring the lines between telephony, broadcasting, and online services, ICT regulators play a key role in fostering ongoing innovation and competition, enabling operators to adopt the latest, most powerful technologies, and ensuring consumers enjoy the very best range of services at the lowest possible prices"*

- ITU Secretary-General Dr Hamadoun Touré



MOBILE BROADBAND CONNECTS THE UNCONNECTED

- › MTN @ccess Internet café in South Africa
- › Job searching and applications
- › Health and education information
- › Launched HSPA in June 2006 and profitable after just two months
- Telstra provides broadband to remote areas in Australia using HSPA
- Also ethernet connections and fixed phone connections provided using HSPA
- 98% of pop covered in 10 months
- Up to 200 km distance from basestation



[GROWTH FOR THE INDIVIDUAL AND FOR THE COUNTRY]



E-GOVERNMENT IN INDIA

- › Mobile version of government services to 60 million citizens in remote areas
- › Mobile coverage, but very limited fixed Internet access
- › Services:
 - filling forms
 - payment of utility bills
 - land records
 - employment exchanges
 - etc.



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TRUE BROADBAND CONNECTIVITY TO INDIAN VILLAGES



- › E-learning: Long distance classes
- › E-Medicine: ECG, pulse rate, etc and video sent to main hospital → real-time diagnosis → doctor advising
- › E-Governance: On-line government info to villagers
- › Entertainment: Mobile TV, streaming, downloads of local movie clips, songs, etc.
- › Video Calling & Video conferencing
- › Mobile-to-PC & PC-to-mobile video calls



GRAMJYOTI

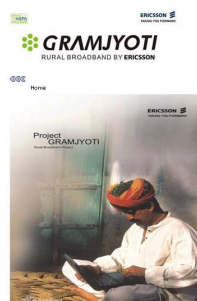
RURAL BROADBAND BY ERICSSON

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BRIDGING THE DIGITAL DIVIDE TESTING IMT-2000 IN INDIA



- › High speed Internet services using HSPA
- › Catalyst for social and economical empowerment
- › 18 villages & 15 towns
- › Community Centers & Schools (3,000 children)
- › Supported by DoT



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DISTANCE E-LEARNING IN AFRICA

- › Ericsson and Stanford University collaboration
- › Innovative use of mobile technologies to bridge the digital divide
- › Benefits?
 - Students from different continents
 - Researchers from several countries and perspectives
 - Lively discourse and debate
 - Creation of Global village



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ERICSSON AND MILLENNIUM VILLAGES

EMPOWERMENT THROUGH COMMUNICATIONS





Mobile communication and Internet
to 400,000 people in rural Africa




Focusing on healthcare, education,
agriculture and infrastructure



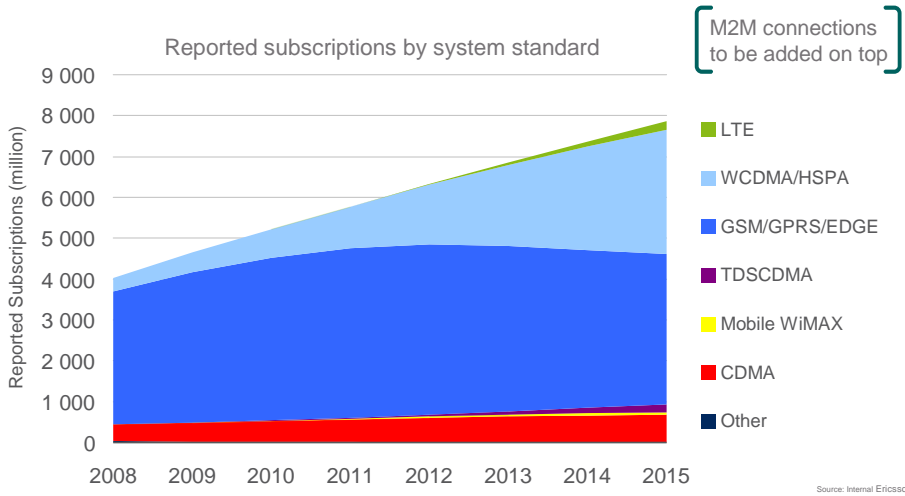
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TOWARDS 50 BILLION 2020

- SUBSCRIBERS => SUBSCRIPTIONS => DEVICES => AGGREGATED "THINGS"



Reported subscriptions by system standard

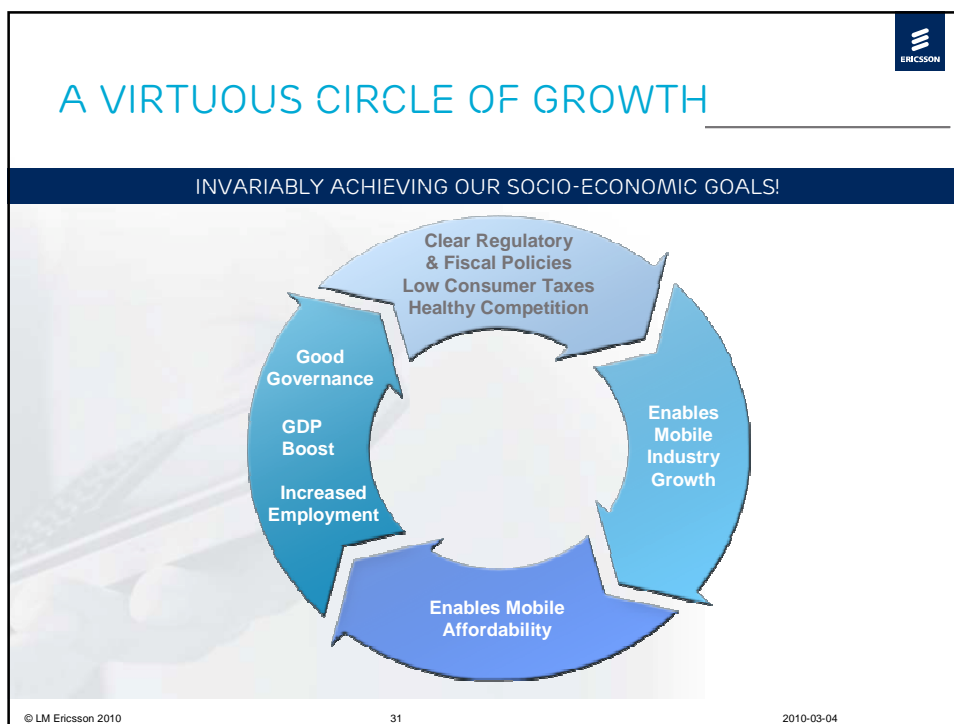



Year	CDMA	Other	GSM/GPRS/EDGE	WCDMA/HSPA	Mobile WiMAX	TDSCDMA	LTE
2008	500	0	3000	500	0	0	0
2009	500	0	3500	1000	0	0	0
2010	500	0	4000	1500	0	0	0
2011	500	0	4500	2000	0	0	0
2012	500	0	4500	2500	0	0	0
2013	500	0	4500	3000	0	0	0
2014	500	0	4500	3500	0	0	0
2015	500	0	4500	4000	0	0	500

M2M connections
to be added on top

HARMONIZED SPECTRUM IS THE KEY MASS MARKET ENABLER


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CONCLUSIONS

- › There must be a **committed drive towards continued liberalisation** of telecommunications and **Holistic regulation**
- › **Timely allocation of harmonised spectrum enables enhanced penetration of services**
- › **3GPP family technologies are guaranteed to provide and satisfy the national visions and needs while providing for affordable devices and services** in a harmonized spectrum arrangement



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