



**Asia-Pacific
Economic Cooperation**

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Affordable Universal Access to Broadband Using the Mainstream Mobile Technologies

Submitted by: Ericsson



**Workshop on Universal Access to Broadband
Services
Singapore
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Affordable Universal Access to Broadband using the mainstream Mobile Technologies

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Broadband access is a Government priority

*"..the Australian Government views the provision of broadband access as an **essential nation-building activity**. It is the key to how we will participate in the future economic, political and social life of the country."*

Senator Stephen Conroy,
Minister for Broadband,
Communications and the
Digital Economy. 19 August
2008

*"Our digital networks will be the **backbone of our economy** in the decades ahead, Britain must invest in the industries of the future as it fights its way out of recession"*

Gordon Brown, Jan 29,
2009

*To build an economy that can lead this future, we will begin to rebuild America. It means **expanding broadband lines across America**, so that a small business in a rural town can connect and compete with their counterparts anywhere in the world. And it means investing in the science, research, and technology that will lead to new medical breakthroughs, new discoveries, and entire new industries.*

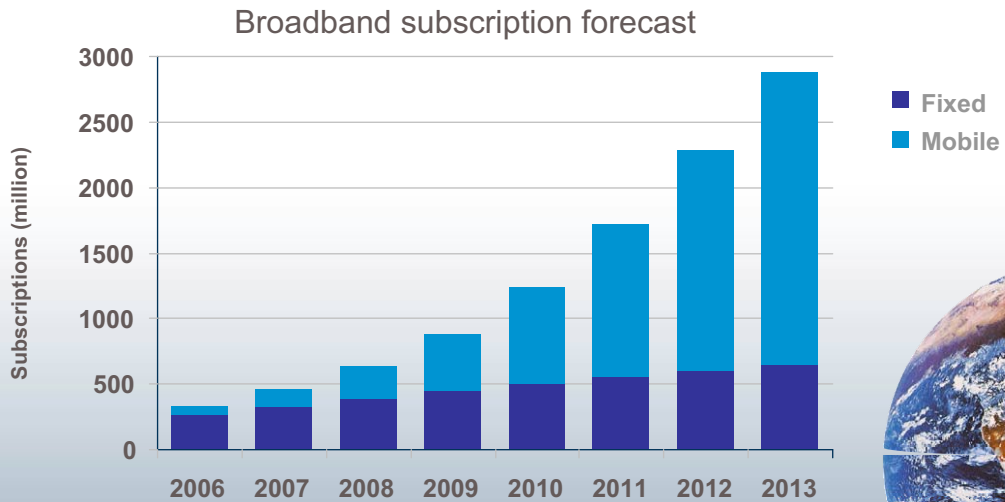
Barack Obama Jan 8, 2009

*"The need to **stimulate the economy is the main driver** for [China to] issuing licenses now"*

Francis Cheung, Head of Asian
telecommunications research, CLSA Ltd Hong
Kong, Jan 7, 2009

Broadband Infrastructure even more important in the current financial turmoil

Impressive broadband growth anticipated



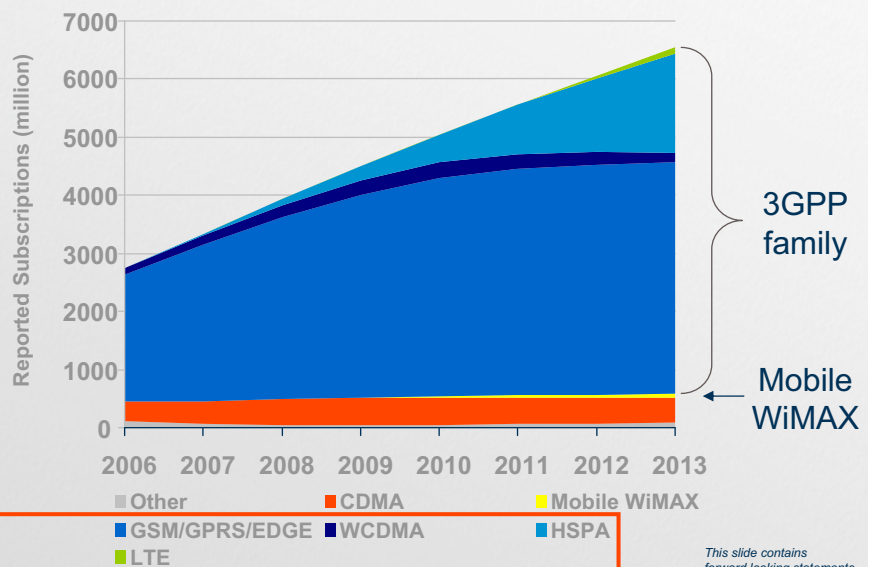
Source: Internal Ericsson

Mobile Broadband includes: CDMA2000 EV-DO, HSPA, LTE, Mobile WiMAX, Other
 Fixed broadband includes: DSL, FTTx, Cable modem, Enterprise leased lines



Mobile broadband will be 80% of subscriptions in 2013

3GPP family success gives economies of scale



Incremental introduction of new capabilities based on a standardized cost-efficient subscription machine



This slide contains forward looking statements

Harmonized spectrum is a key mass market enabler

264 3G/WCDMA commercial operators in 115 countries

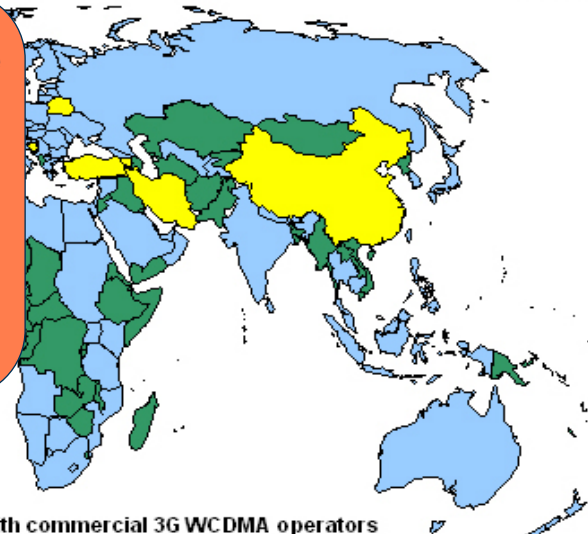
- Excludes MVNOs
- Dual band networks counted as single networks



over 93.5% of commercial WCDMA operators have launched HSPA

China, India, Vietnam and Thailand has increased the reach of 3G to the Asian population from 17% to **90%**!

Bangladesh and Pakistan are expected to join later in 2009 making the **Asia Pacific population living in 3G/HSPA licensed countries even higher than GSM**



© GSA – Global mobile Suppliers Association
January 19, 2009

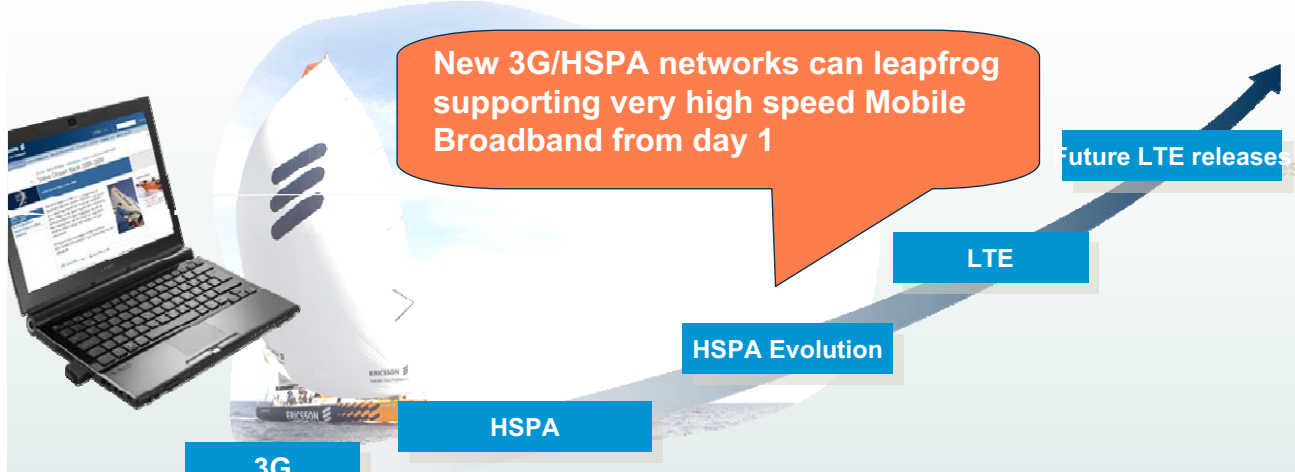
- Countries with commercial 3G WCDMA operators
- Countries with 3G WCDMA licenses & networks in deployment
- GSM markets expected to evolve to 3G WCDMA

(c) GSA – Global mobile Suppliers Association

In developing markets the Mobile Broadband potential is increasing rapidly

Mobile broadband speed evolution

3GPP Technologies



	3G	HSPA	HSPA Evolution	LTE	Future LTE releases	Target
Peak rate	384 kbps	3.6 Mbps	7/14 Mbps	21/28/42 Mbps	~150 Mbps	1 Gbps
	2002	2005	2007	2008/2009	2009	2013

Higher peak data rates enable a better user experience

HSPA the dominant mobile broadband technology

More than 1276 HSPA-devices from 164 suppliers

- 515 HSPA phones (~40%)
- 9 Personal Media, 5 Cameras
- 624 PC with embedded HSPA, PC cards, USB modems (~49%)
- 123 wireless routers (~10%)



Source: GSA – Global mobile Suppliers Association: January, 2009

Broadband devices - PC & routers - now almost 60%

April 2009

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Universal Access

Key facts

- It has taken about 15 years to create the mobile networks world coverage, 90% using the GSM/EDGE technology
- Step-by-step mobile networks has turned less attractive remote areas into profitable, sustainable areas based on voice and text services
- The same GSM/EDGE networks are now being upgraded to Mobile Broadband networks using 3G/HSPA and IP technology
- It is an incremental introduction of new capabilities based on a standardized cost-efficient subscription machine
- These networks can deliver any service, voice, internet, e-services, video etc. everywhere ensuring sustainability for operators while servicing community centers, schools, hospitals, etc as well as individuals

GSM/EDGE the world leading 2G technology

April 2009

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Key facts

- Thousands of different devices, with different form factors and price points are available today
- Devices are backward compatible enabling fallback to GSM/EDGE where there is lack of 3G/HSPA coverage,
- The world fleet of Personal Computers can connect to these networks already today using WiFi via a router or directly via separate or inbuilt HSPA access modules
- The leading mobile operators of the world have now decided to follow this technology route leading to LTE
- We see no need for a special new technology path for rural areas rather the opposite as the economy of scale demonstrated by GSM for voice is bound to be repeated for HSPA/LTE for broadband

3GPP ensure a strong GSM/EDGE/WCDMA/HSPA/LTE path

Universal Access

The way forward ...

- Many studies has shown how availability of ICT can increase a country's economic growth
- The lack of fixed line alternatives in the developing countries gives space for alternative wireless broadband technologies (CDMA 2000, WiBRO, fixed WiMAX, XGP, high power WiFi, etc)
- When issuing licenses for wireless broadband it is important to treat technologies providing similar services equal to enable a level play-field
- High requirements (USO) on spectrum usage & population coverage rather than high licensing costs and taxes would increase build out pace
- Universal Service Funds (USF) can speed up rural deployment but is often used as an additional tax or subsidy to alternative technologies
- For spectrum licensing regulators should consider technology neutrality combined with internationally harmonized spectrum arrangements with clearly defined transmission directions, as well as paired and unpaired sub-bands

Regulators must enable spectrum for mainstream global ICT technologies

Universal Access

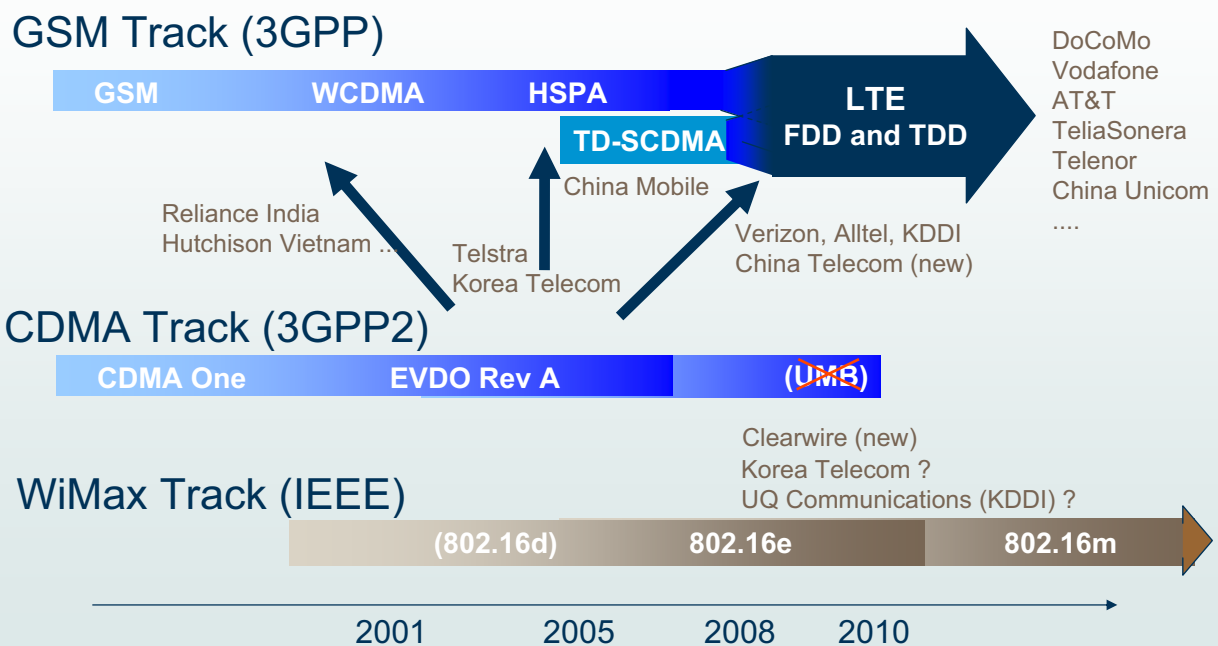
The way forward ...

- The world wide pace of building mobile coverage into new remote areas with GSM as the initial technology is continuing full force in developing markets
- Low power consumption in combination with renewable energy solutions decrease thresholds for new deployment
- There are now over 4 billion mobile subscriptions world wide
- ARPU's on \$1-2 are enough to create a sustainable voice and text service in markets like Bangladesh and India.
- Developed markets are delivering (almost) unlimited data plans for ~\$30 today, a typical level for profitable voice services five years ago
- We predict 1 billion data subscriptions end 2010 whereof 50% wireless
- We predict almost 3 billion wireless data subscriptions by 2013

Affordable ICT will be delivered from the mobile networks

Common LTE evolution

Alignment for WCDMA/HSPA, TD-SCDMA and CDMA



Strong commitment for 3GPP from world leading Mobile Operators

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TAKING YOU FORWARD