

Report to 3GPP PCG #13

Alan Hadden
President, GSA
Global mobile Suppliers Association
www.gsacom.com

alan.hadden@gsacom.com

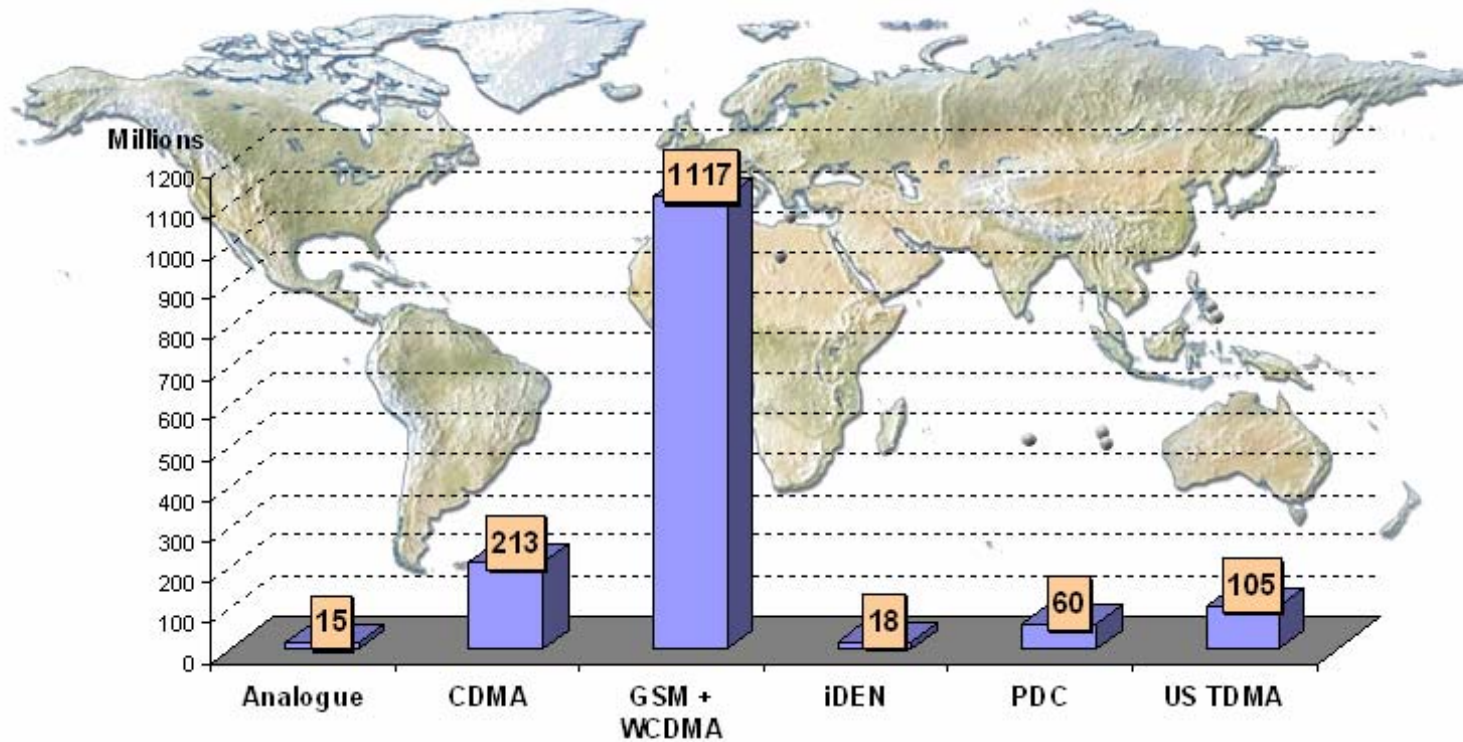
Tel +44 1279 439 667

info@gsacom.com

- ▶ Provide regular mobile market updates and analysis
- ▶ Promote roadmap to IMT-2000 systems and services
- ▶ Report progress on 3G/WCDMA deployments globally
- ▶ Explain:
 - ▶ business drivers for 3G; revenue growth opportunities, user experience
 - ▶ Enabling technologies – role of WCDMA and HSDPA
- ▶ Dialogue with operators, governments, media - all industry stakeholders
- ▶ Government consultations – Hong Kong, India

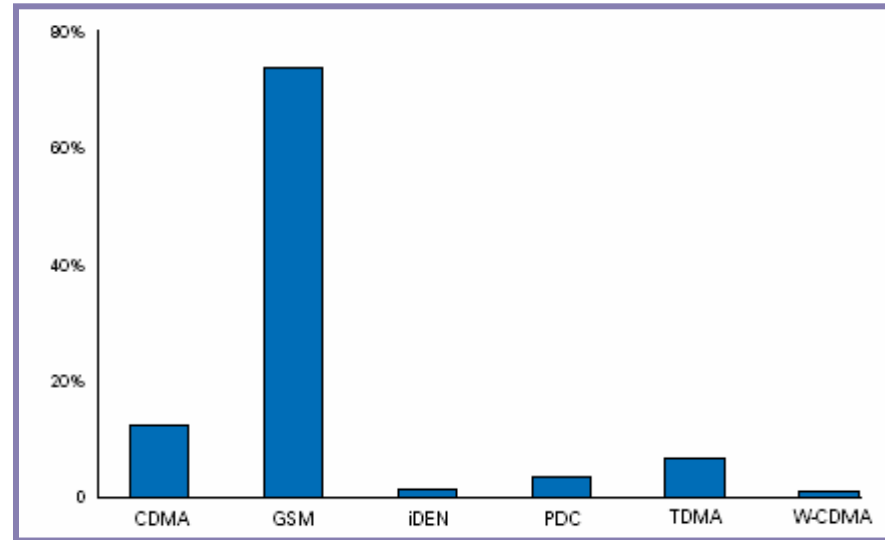
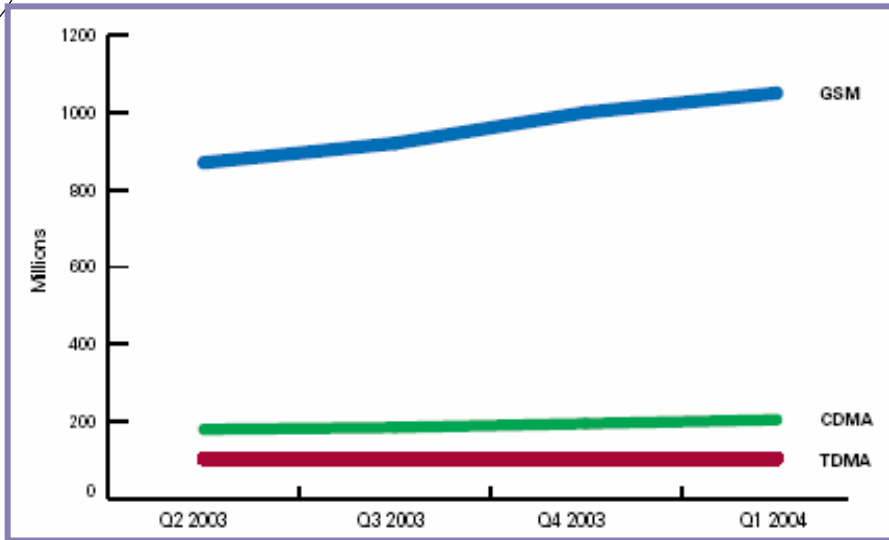
Mobile subscribers by technology

- June 2004



Source: EMC World Cellular Database September 2004

Mobile technology growth, market share

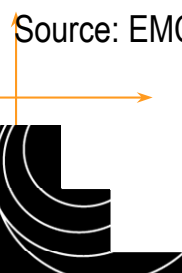


Mobile subscribers globally by technology

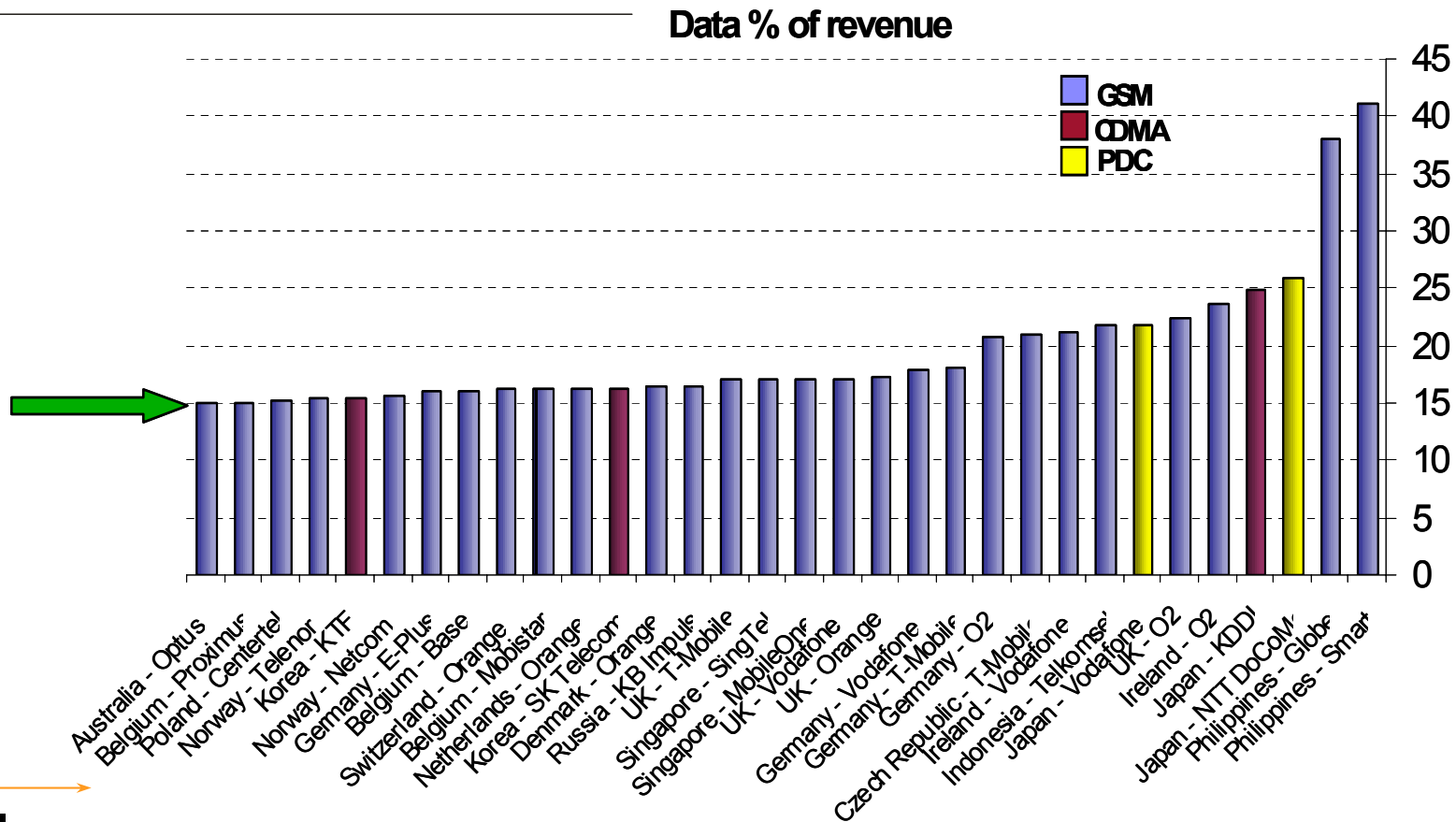
Source: EMC May 2004

Mobile technology market share

Source: EMC June 2004

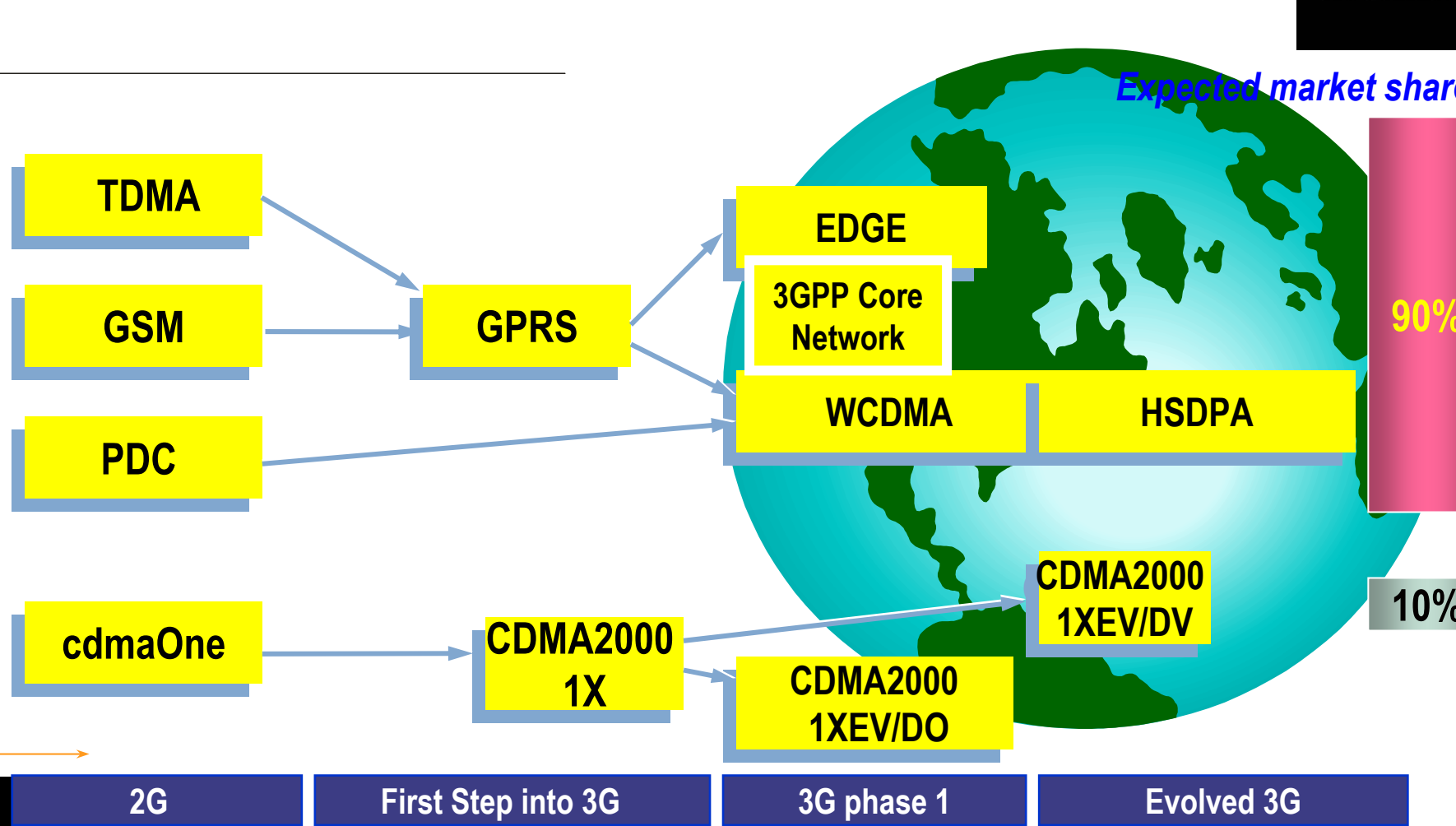


32 operators had over 15% revenue from mobile data - Q1 2004



Source of data: EMCWorld Cellular Data Metrics, June 2004

Evolution of Mobile Systems to 3G



Adoption of different mobile standards

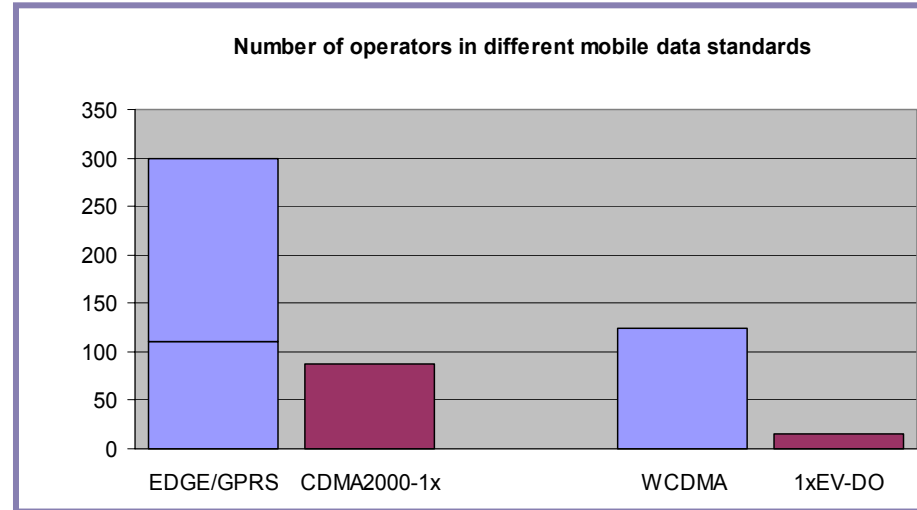


First steps to 3G

- ▶ GPRS: 300 operators, includes 111 deploying EDGE with 35 launched (GSA, September 17, 2004)
- ▶ Cdma2000-1x: 87 commercial networks (CDG, September 7, 2004)

3G

- ▶ WCDMA: 125 announcements & licenses. 48 commercial WCDMA networks (GSA, September 9, 2004)
- ▶ CDMA 1x EV-DO: 10 commercial networks (CDG, September 10, 2004)



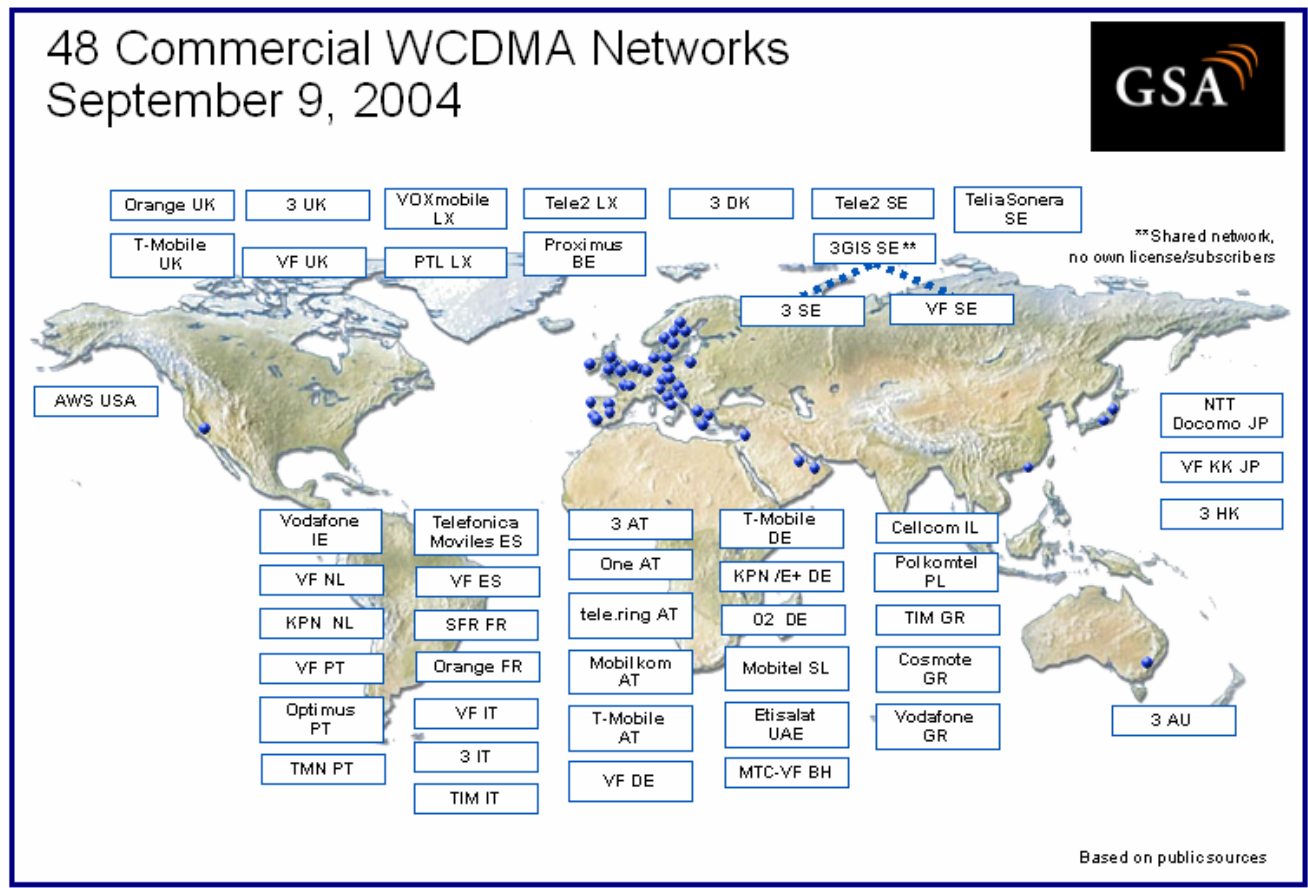
Evolved 3G

- ▶ HSDPA: all WCDMA operators expected to upgrade to HSDPA (SW upgrade to BTS)
- ▶ CDMA 1x EV-DV: expected fragmentation of operators into different evolution steps, due to required hardware upgrades in each step

WCDMA growth accelerating globally



48 Commercial WCDMA networks in 23 countries (9 September 2004); over 9 million users;
 10 pre-commercial networks (9 September 2004); 125 WCDMA licences in 40 countries..



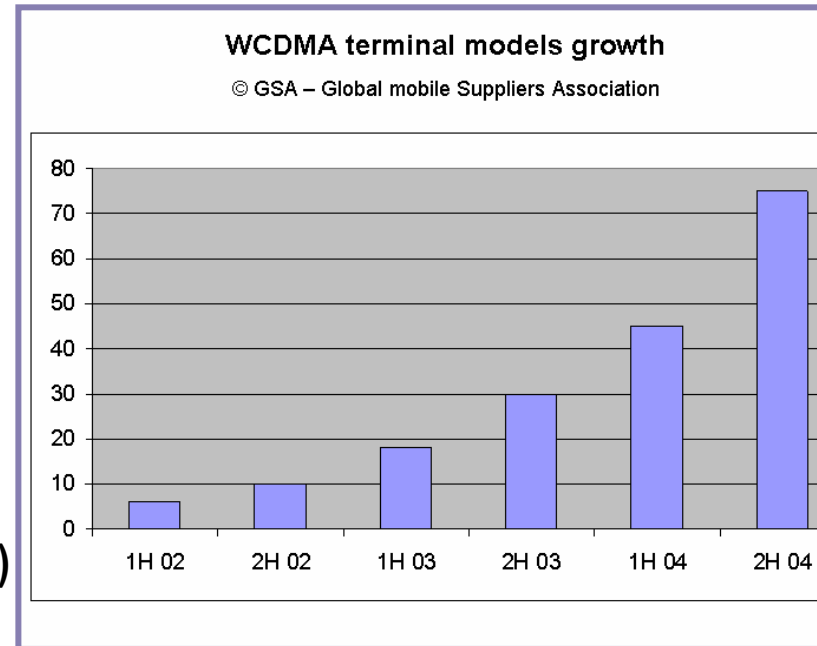
Updates at www.gsacom.com/downloads/wcdma/WCDMA_Fact_Sheet.pdf

WCDMA devices and suppliers



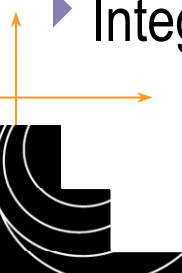
- ▶ Fujitsu
- ▶ LGE
- ▶ Lucent/Novatel
- ▶ Mitsubishi
- ▶ Motorola
- ▶ NEC
- ▶ Nokia
- ▶ NTT DoCoMo (Raku Raku)
- ▶ Panasonic
- ▶ Samsung
- ▶ Sanyo
- ▶ Seiko
- ▶ Sharp
- ▶ Siemens
- ▶ Sony Ericsson
- ▶ Toshiba
- ▶ Vodafone (Datacard)

75 models in the market



Updates at www.gsacom.com/downloads/wcdma/WCDMA_Devices.pdf

- ▶ Growing number of operators publicly committed to a combined, integrated WCDMA/EDGE network, for the best user experience of 3G services
- ▶ e.g.: AT&T Wireless/Cingular, CSL, TIM Hellas, TIM Italy, Netcom, Swisscom; Telenor, TeliaSonera, Vodafone MTC, etc.
- ▶ Simple service migration - GSM/EDGE/WCDMA for similar user experience/ service continuity, and roaming. Builds on existing applications/service portfolios
- ▶ Gradual investment; step-by-step evolution
- ▶ Integrated EDGE/WCDMA devices shipping from Q4 2004



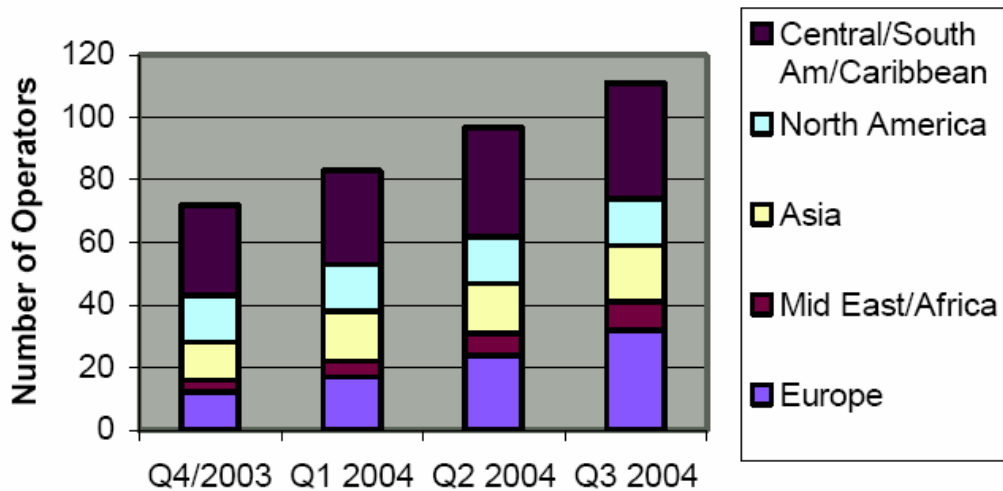
EDGE - strong take up globally



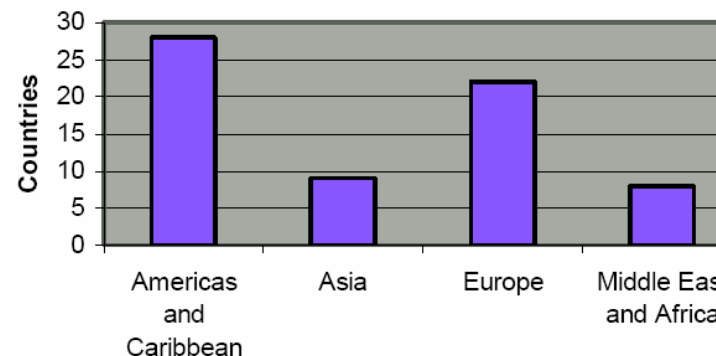
- ▶ 111 operators in 67 countries committed to deploy EDGE
- ▶ Commercially available on 35 networks on all continents

EDGE Operator Commitments - 17 September 2004

© Global mobile Suppliers Association



Countries committed to EDGE deployment



- ▶ EDGE uses existing spectrum, sites
- ▶ Small incremental investment for triple GPRS datarates, voice capacity
- ▶ Natural evolution for all GSM operators - fastest path to 3G

Updates at www.gsacom.com/downloads/edge/EDGE_Operators.pdf

EDGE devices shipping or announced

- industry is committed to EDGE
- 38 products in the market - covers all segments globally
- EDGE: standard in most new phones from end 2004



Updates at
www.gsacom.com/programs/edge.php4#databan



Sony Ericsson



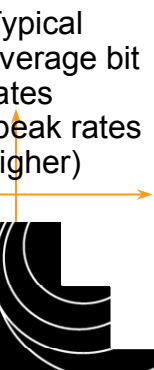
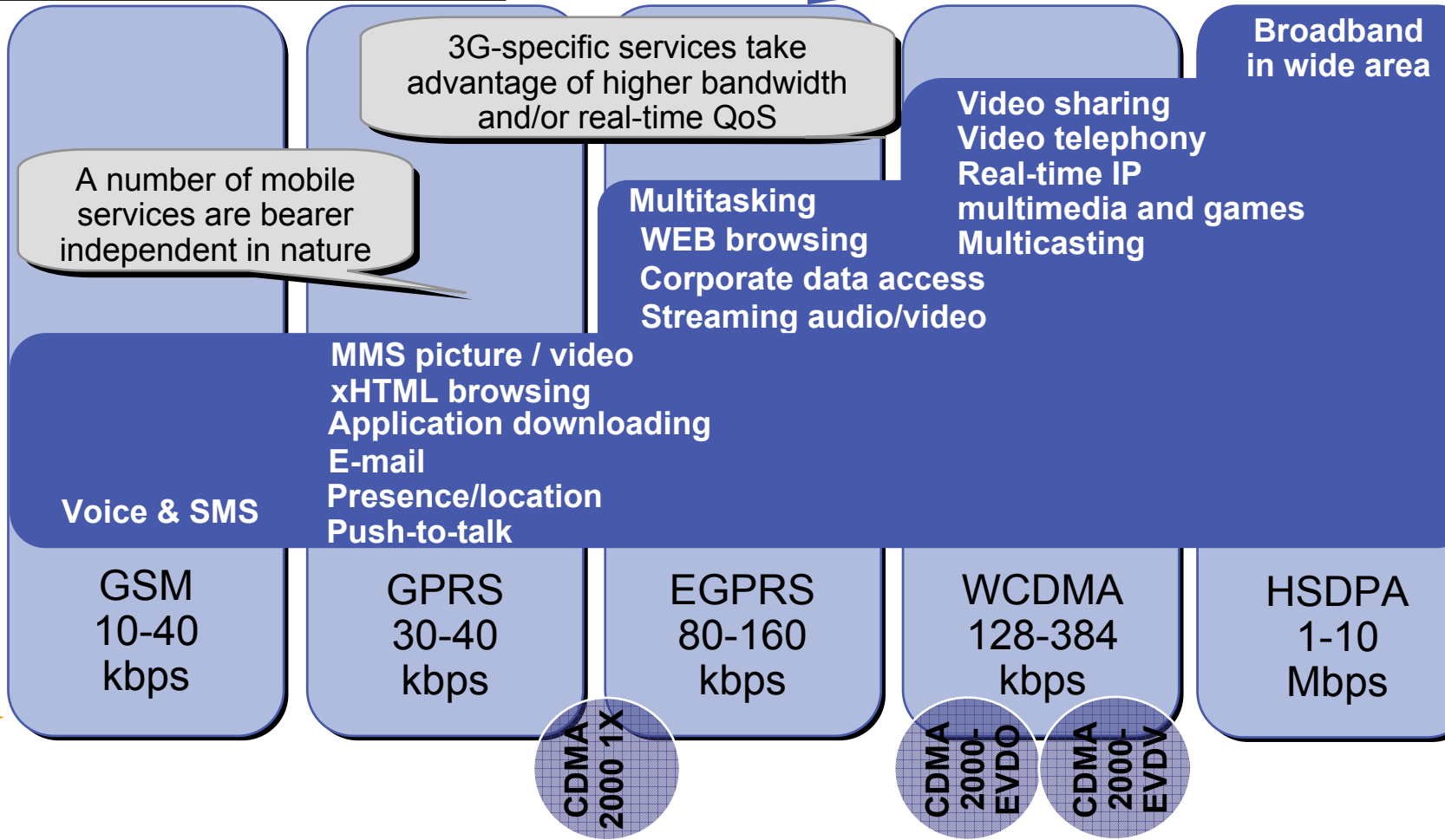
mobile



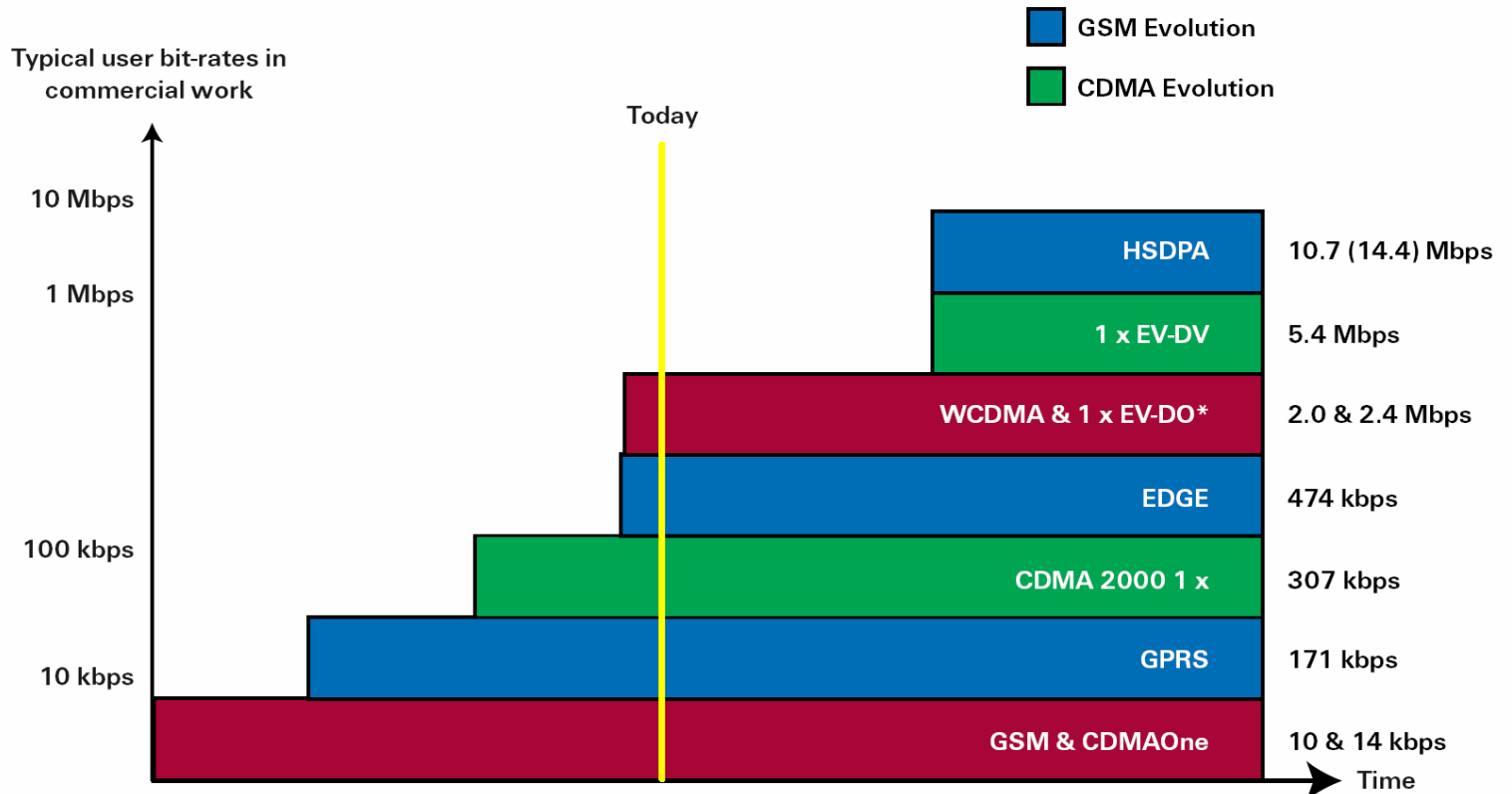
Services roadmap



Improved performance, decreasing cost of delivery



Performance evolution of cellular technologies



* Spectrum and hardware allocated to EV-DO can provide data-only service, while all other technologies manage dynamically voice and data

Hong Kong, 15-19 November 2004

GSA at the 3G World Congress
and Exhibition



3G World Congress: Presentation, and Exhibition booth



17 November - **Victoria Peak Mobile Summit**

GSA by-invitation event for VIP guests from Asia Pacific region
GSM/EDGE/WCDMA network operator community



18 November **Media Briefing**

Regional and global update - market, services, applications,
technologies, evolution path.

Dialogue with Operators and the media

(excluding commercial conferences)



GSA-organised operator–vendor forum themed “*Mobile services from GSM to WCDMA*”. Events held during 1H 2004:

Cannes – February 23, New Delhi – April 20, Beijing – May 31

Results at www.gsacom.com/opzone/content/gsm_evolution_forum.php4

Media conferences held during 1H 2004: Beijing, Cannes, Hong Kong, Jakarta, London, Manila, and New Delhi

Media coverage reports at www.gsacom.com/news/media_coverage.php4

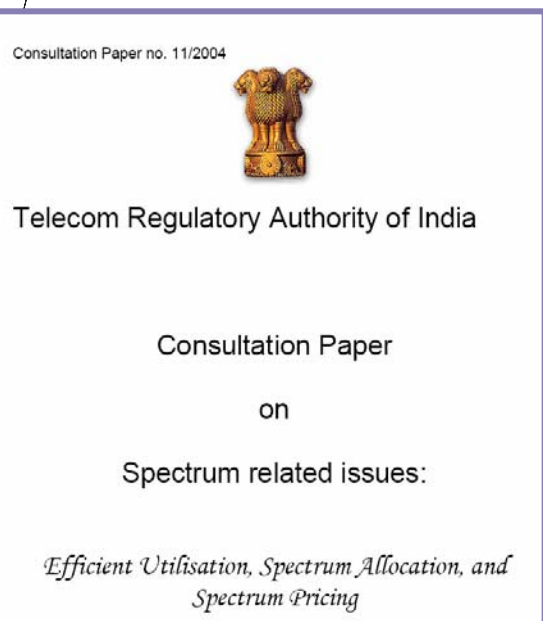
- Enabling data services in Hong Kong
- Recover “under-utilised” 850 MHz spectrum
- License new operator

Recovery of 2G operators’ spectrum for re-allocation would be unprecedented
Policy changes de-stabilise. Implicit assumptions in the consultation:

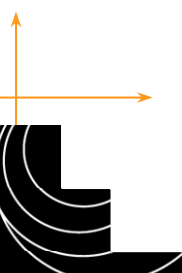
- ▶ ***HK operators making insufficient progress on data services:***
 - ▶ **ignores GSM capabilities/performance/roadmap to 3G**
 - ▶ **Does not take into account progress in HK**
- ▶ ***A new player should be introduced***
 - ▶ **HK already has 12 operating networks and very low tariffs**
- ▶ ***cdma2000 as the enabling technology***
 - ▶ **overlooks GSM/WCDMA scale economies, openness, interoperability, automatic global international roaming, etc.**

India spectrum consultation – the critical issue:

Possible allocation of PCS1900 spectrum for cdma 1x



- ▶ PCS1900 overlaps with 3G/IMT-2000 core band
- ▶ Duplex reversals would result in severe interference from cdma 1x to WCDMA and cdma2000 systems
- ▶ Mitigation techniques – filtering, guard bands, increased site co-ordination, extra base stations, expensive/impractical
- ▶ Standardisation does consider mixed band environments
No mitigation techniques to protect against IMT-2000 devices interfering with cdma 1x handsets
- ▶ Blocks evolution to IMT-2000 for GSM & CDMA operators
- ▶ 1800 MHz 1x infrastructure/devices commercially available
SOLUTION: allocate IMT-2000 spectrum (which is available!) for 3G IMT-2000 systems/services now



GSM/3G resources

-GSM/EDGE/WCDMA/HSDPA

(register at www.gsacom.com)

GSM/3G Market Update; Services Update

www.gsacom.com/gmd/index.php4

WCDMA Databank – Fact Sheet, WCDMA devices

www.gsacom.com/gsm_3g/index.php4#wcdma_databank

EDGE Databank – operators, devices, platforms, reports

www.gsacom.com/programs/edge.php4#databank

GSM/3G Network Update – progress to 3G worldwide

www.gsacom.com/programs/dialogue.php4

Operator Zone – targeted for GSM/WCDMA operators (450+ users)

www.gsacom.com/opzone/index.php4

Opinion papers, responses to consultations

www.gsacom.com/gsm_3g/opinion_papers.php4

GSA

Newsletter

www.gsacom.com/programs/dialogue.php4

