



World Class Standards

# From hype to reality

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GSM...younger than ever

Lemesos, Cyprus  
15 – 16 March 2007

# The Global Success of GSM

- ❑ **GSM phone connections represent 35% of the world's population**
  - **Estimated 2.34 billion subscribers worldwide today**
  - **Over 700 GSM networks in 215 countries**
  - **Over 2000 user devices on the market**
  - **511 million subscriptions added in 2006**
  - **84% market share**
  
- ❑ **The mobile phone is a basic personal and essential item**
  - **Travel essentials: wallet/purse, keys, mobile phone (**
  
- ❑ **Rich and poor aspire to personal, mobile connectivity**
  - **GSM is making the biggest – and most startling - contribution to raising teledensity in all the developing markets**



# GSM Key Success Factors

- Open standard
- Roaming
- Roadmap security – future proof for 3G and beyond
- Economies of scale = competitiveness and cost advantage
- Global footprint
- More advanced learning curve than any other technology



### The landscape in 1998

- 100 million GSM subscriptions worldwide – the industry was proclaimed as a huge success
- The UK market had risen rapidly to 10 million subscriptions from 1 million in 1992
- “3G is coming” and would allow broadband access to the Internet
- Economists’ arguments for using auctions for 3G were making headway (2G spectrum had been allocated via “beauty contest”)

## The 3G/UMTS auctions

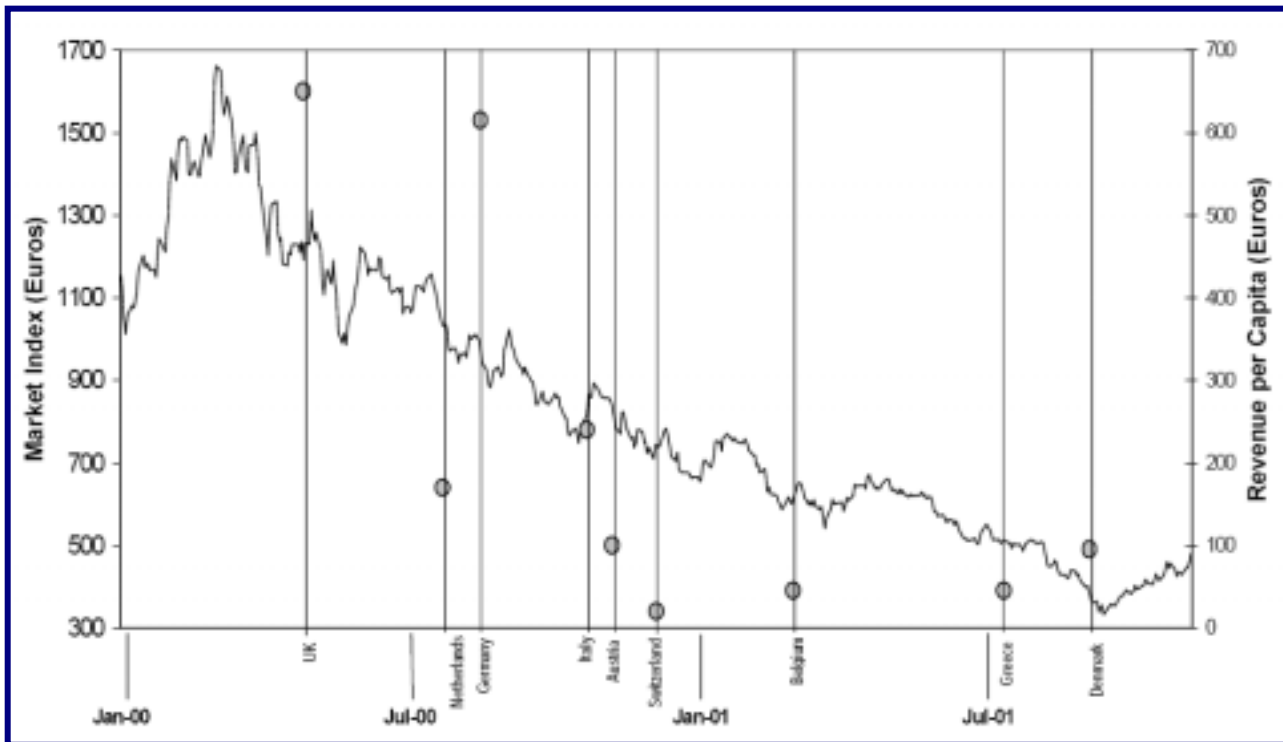
- ❑ The UK ran the world's first 3G/UMTS Auction which began 6 March 2000 and ended 27 April 2000
  
- ❑ Published aims of the auction were:
  - To assign the spectrum efficiently
  - To promote competition
  - To realise the full economic value
  
- ❑ The UK 3G auction raised £22.47 billion (around 2.5% of GNP, or enough money to build 400 hospitals)
  
- ❑ UK mobile phone subscriptions reached 35 million in 2000

## 3G auctions in other Western Europe markets

- Netherlands – July 2000
- Germany – July/August 2000
- Italy – October 2000
- Austria – November 2000
- Switzerland – November/December 2000
- Belgium – March 2001
- Greece – July 2001
- Denmark – September 2001



# 3G auction revenues per capita 2000 - 2001



- Austria € 100
- Germany € 615
- Italy € 240
- Netherlands € 170
- Switzerland € 20
- UK € 650
- Belgium € 45
- Denmark € 95
- Greece € 45

Chart: Paul Klemperer




### Key learnings from the auctions

- ❑ The key determinants of success were how well the auctions attracted entry and discouraged collusion
- ❑ Sequencing of the auctions was crucial
- ❑ There is no “one size fits all” formula
- ❑ Companies were caught by surprise by the rapid change in market sentiment towards telecoms during the period of the auctions
  - Example: analysts’ estimates of the proceeds from the Swiss auction fell from €1000 per capita after the UK auction was held, to €400-600 per capita in the week before the Swiss auction was due to begin, but the actual outcome was €20

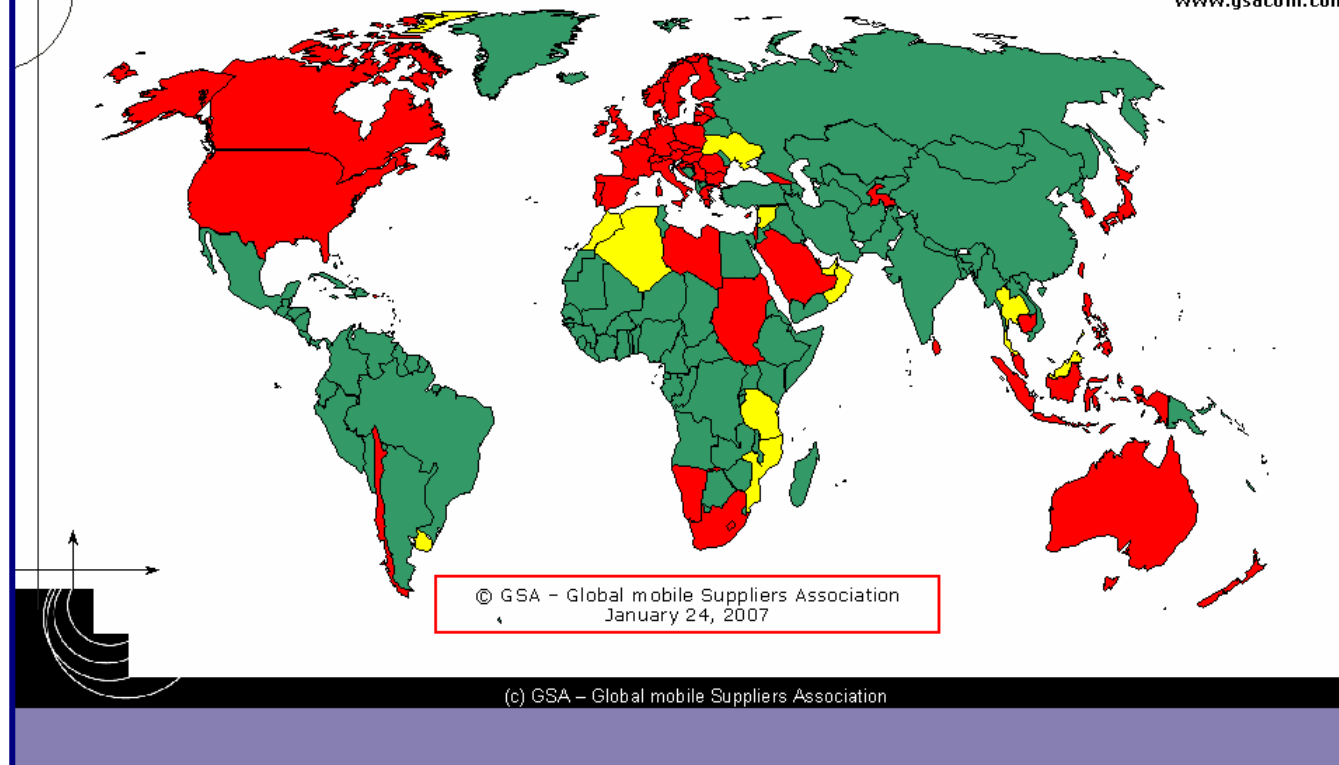


# TODAY: 3G/UMTS is a global success

146 3G/WCDMA commercial networks in 67 countries

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

Source of data: GSA survey

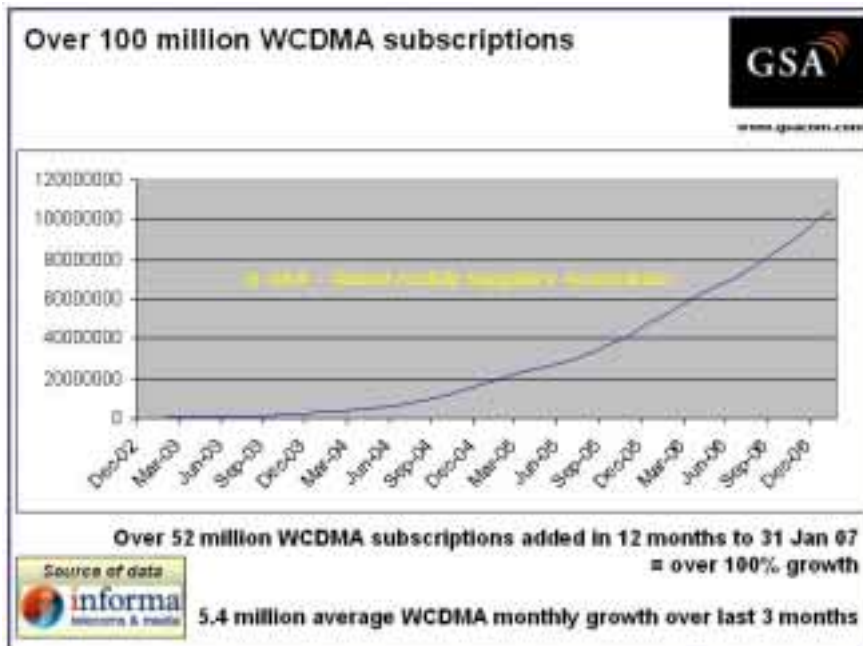


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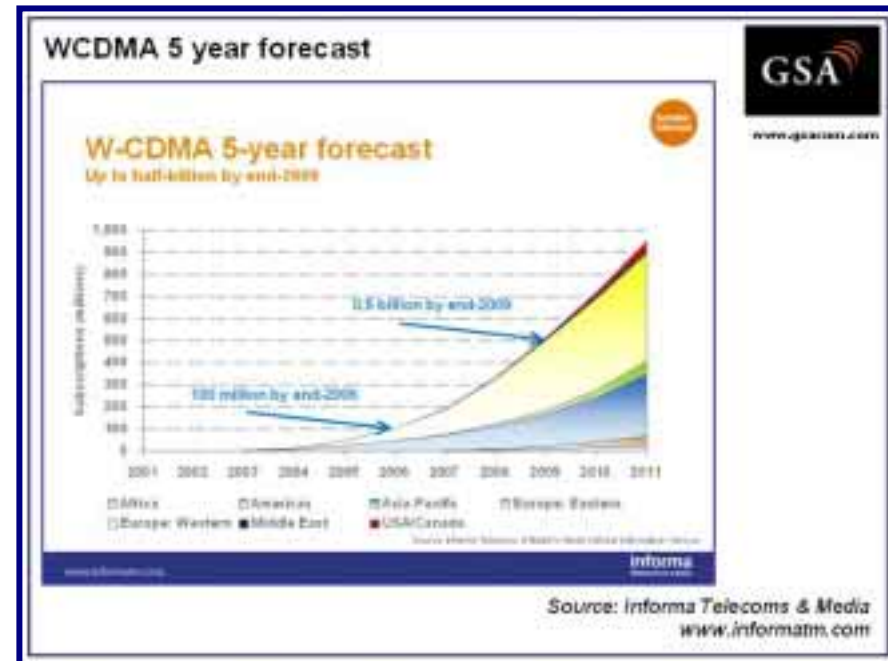
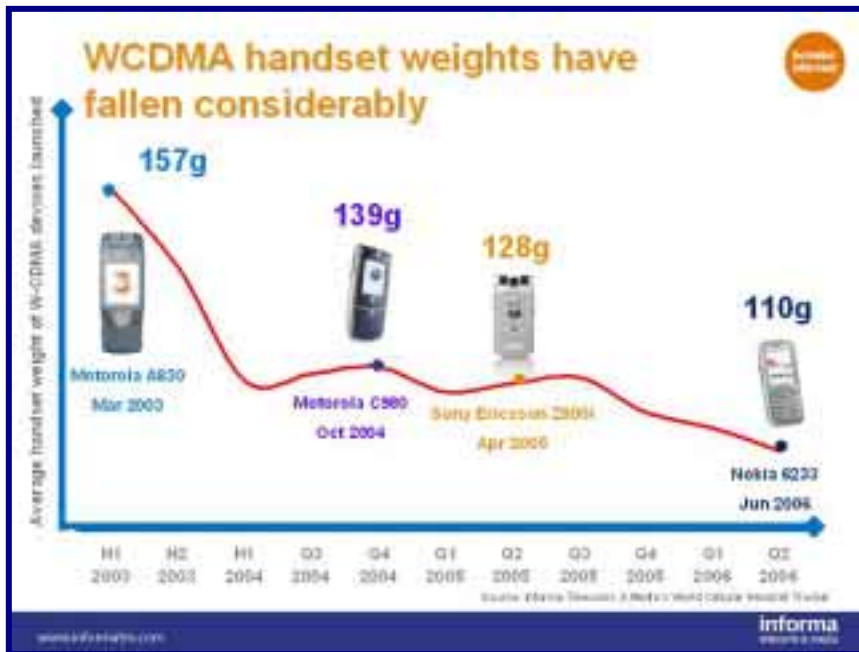


## WCDMA leads the 3G mobile world

- ❑ WCDMA has 73% share of the first 200 3G networks launched
  - 146 commercial WCDMA networks
  - Over 100 million WCDMA subs. including 50+ million in W. Europe

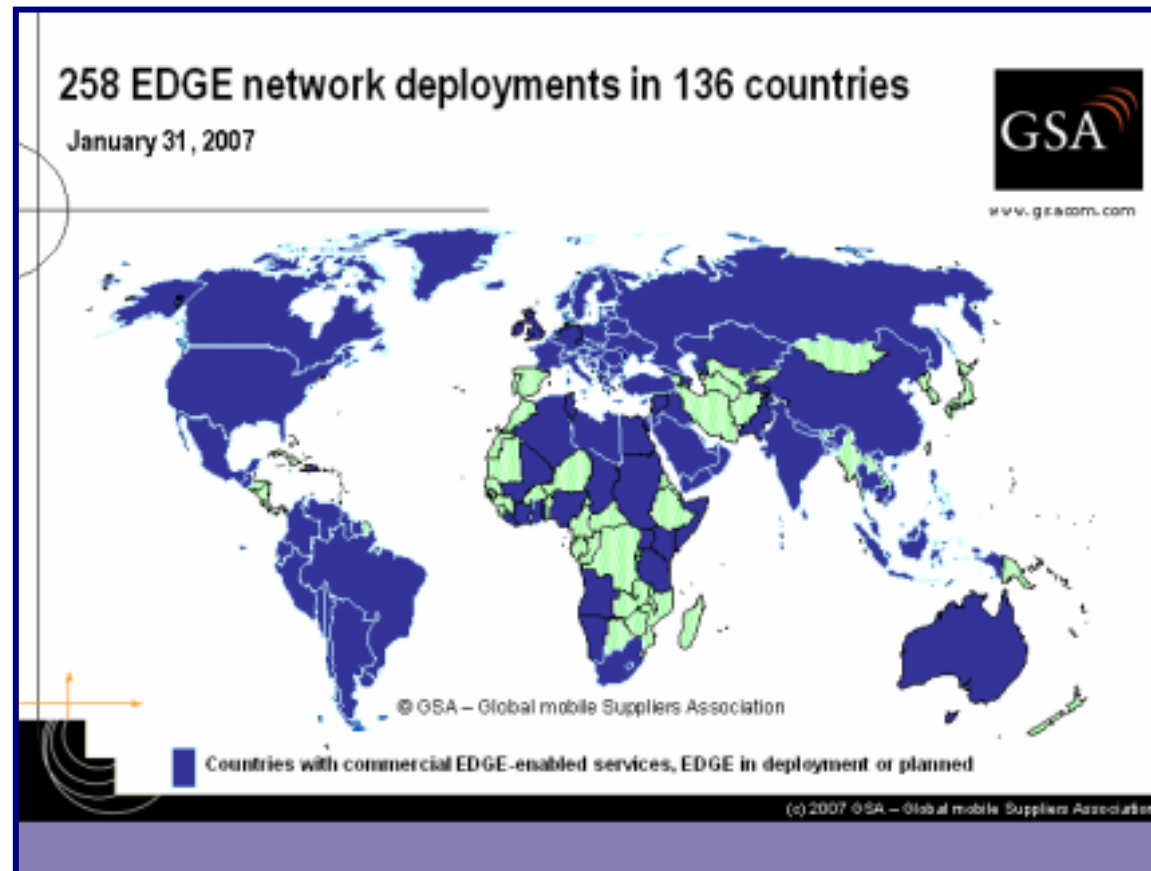


## WCDMA trends are positive



## GSM/EDGE is mainstream

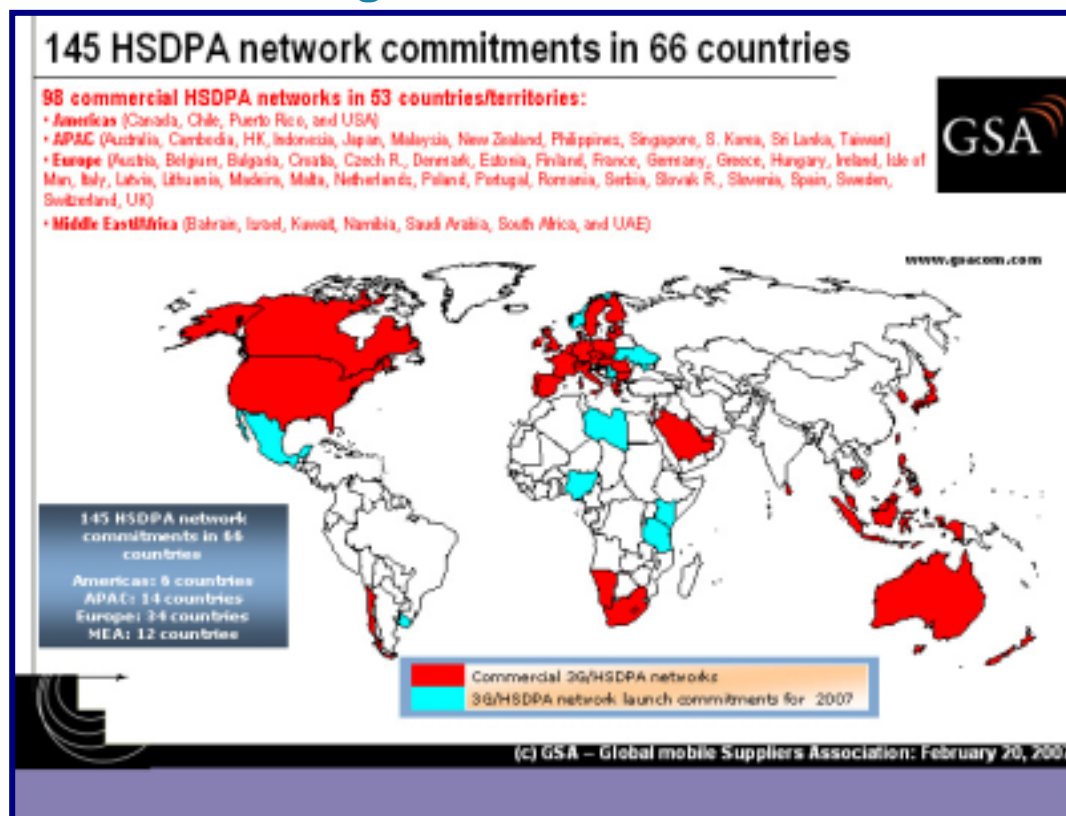
- ❑ 196 commercial GSM/EDGE networks in 105 countries
  - Complements 3G/WCDMA for service continuity/best user experience



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## Full mobile broadband with HSPA

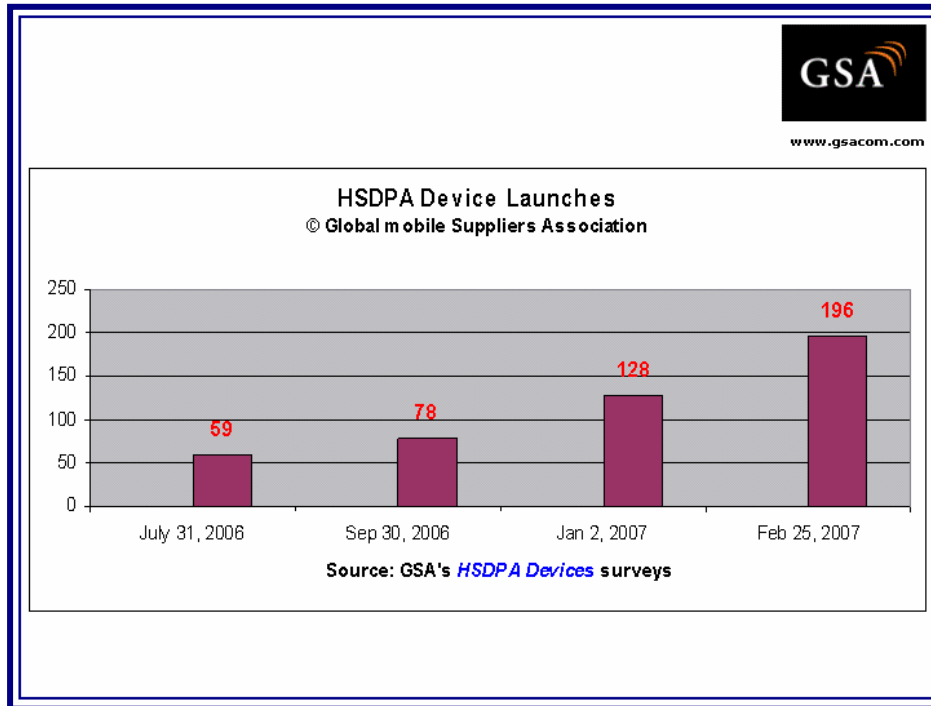
- The first step is High Speed Downlink Packet Access - HSDPA
  - Almost 100 networks launched
  - Mobile broadband using HSDPA launched in 25 of 27 EU countries



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## More devices addressing all segments



www.gsacom.com

GSA survey "HSDPA Devices" – February 25, 2007

### 196 HSDPA devices launched by 51 suppliers:

- 86 mobile phones
- 34 notebooks
- 39 PC datacards: PCMCIA & PCI Express Mini Cards
- 19 broadband wireless routers
- 14 USB modems
- 1 dual interface ExpressCard/34 & USB modem
- 2 PMP (Personal Media Player)
- 1 camera

### Increasing speed

- All WCDMA operators are expected to deploy HSPA
- Most HSDPA networks support 1.8 Mbps peak throughput; at least 33 networks support 3.6 Mbps
- Some networks offer 7.2 Mbps; user devices from April 2007
- One network is announced as 14.4 Mbps ready
- Network speeds will increase throughout 2007 as part of the planned evolution; 42 Mbps expected by mid-2008
- First HSUPA launch announced offering 1.4 Mbps peak in uplink



# GSM fuelling growth in the developing markets

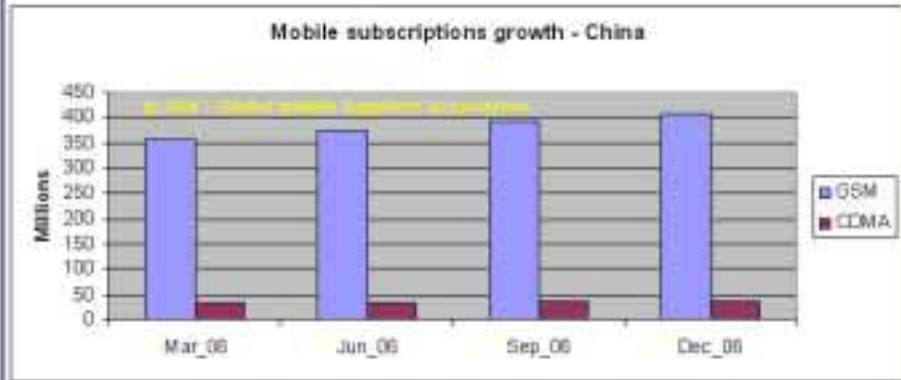
Mobile subscriptions growth - India



Almost 47 million GSM subscriptions added in 2006 = 80% growth  
GSM gained over 75% share of the market in 2006  
4.5 million average GSM monthly growth in 2H 2006  
CDMA added 15 million in 2006



Mobile subscriptions growth - China

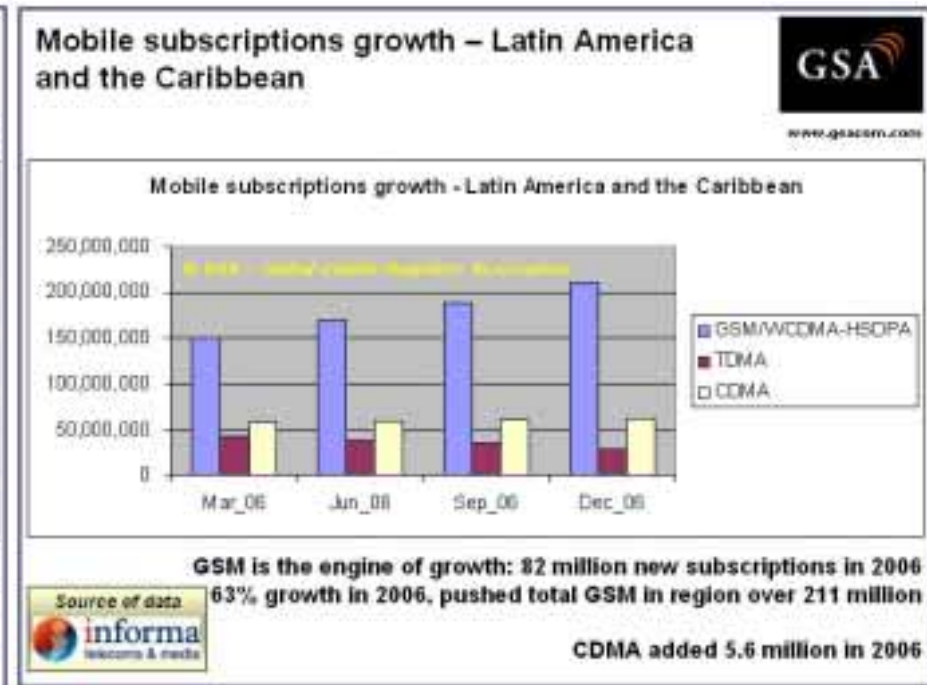
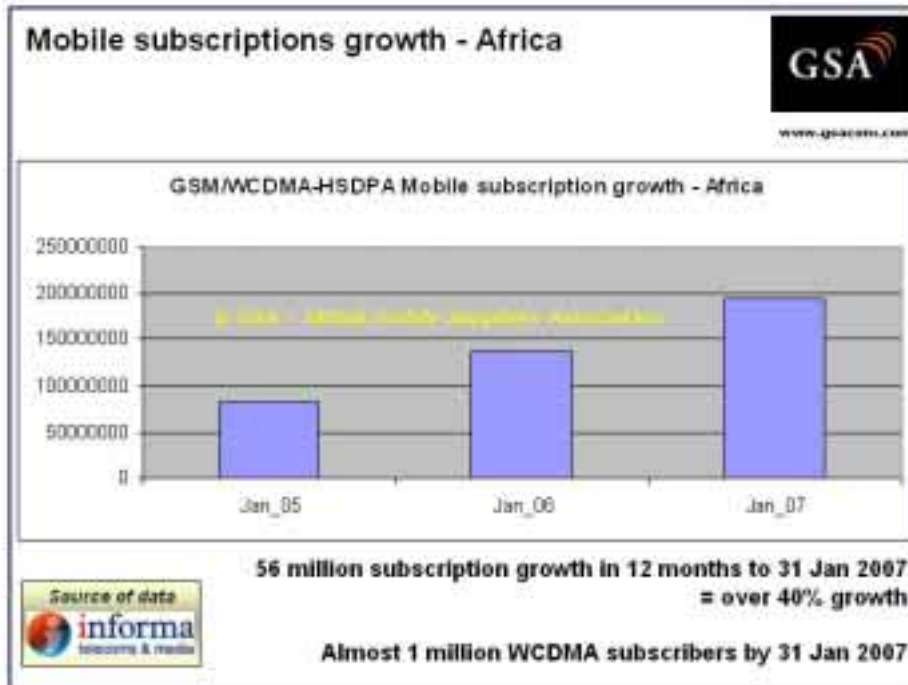


Over 65 million GSM subscriptions added in 2006 = 19% growth  
CDMA added under 4 million in 2006  
GSM gained over 94% share of market growth in 2006  
Almost 5.5 million average GSM monthly growth in 2006



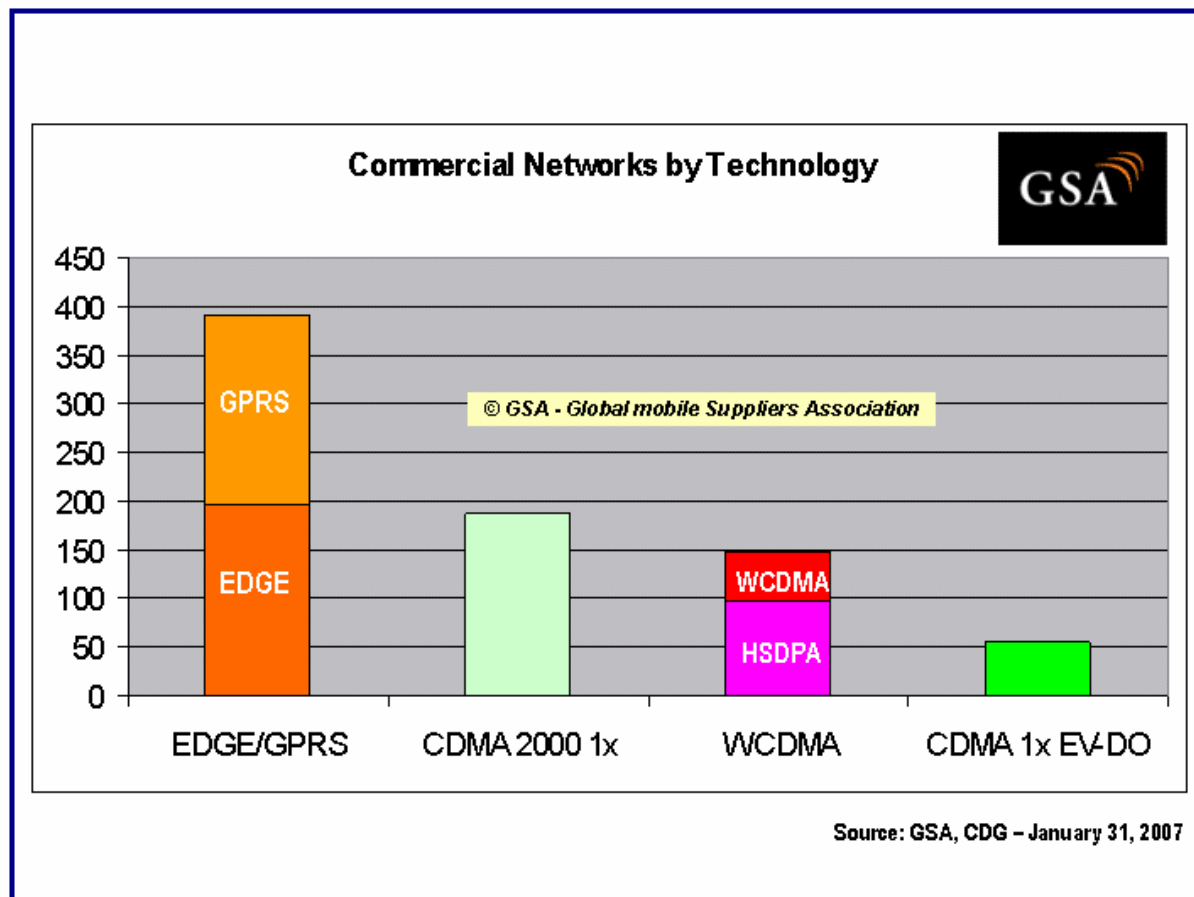


## Widespread GSM/EDGE in Africa, LAC



- EDGE gave many users first experience of fast access to Internet
- The evolution to 3G/WCDMA is now underway
- HSDPA is commercially available in Africa and Latin America

## Reality: GSM is the world choice



- ❑ GSA – Global mobile Suppliers Association
- ❑ [www.gsacom.com](http://www.gsacom.com)      <http://gsacom.mobi>

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