

# *Mobilt Trådlöst Bredband HSPA och LTE*

Jan Färjh

Vice President

Head of Ericsson Research

# Major trends - today

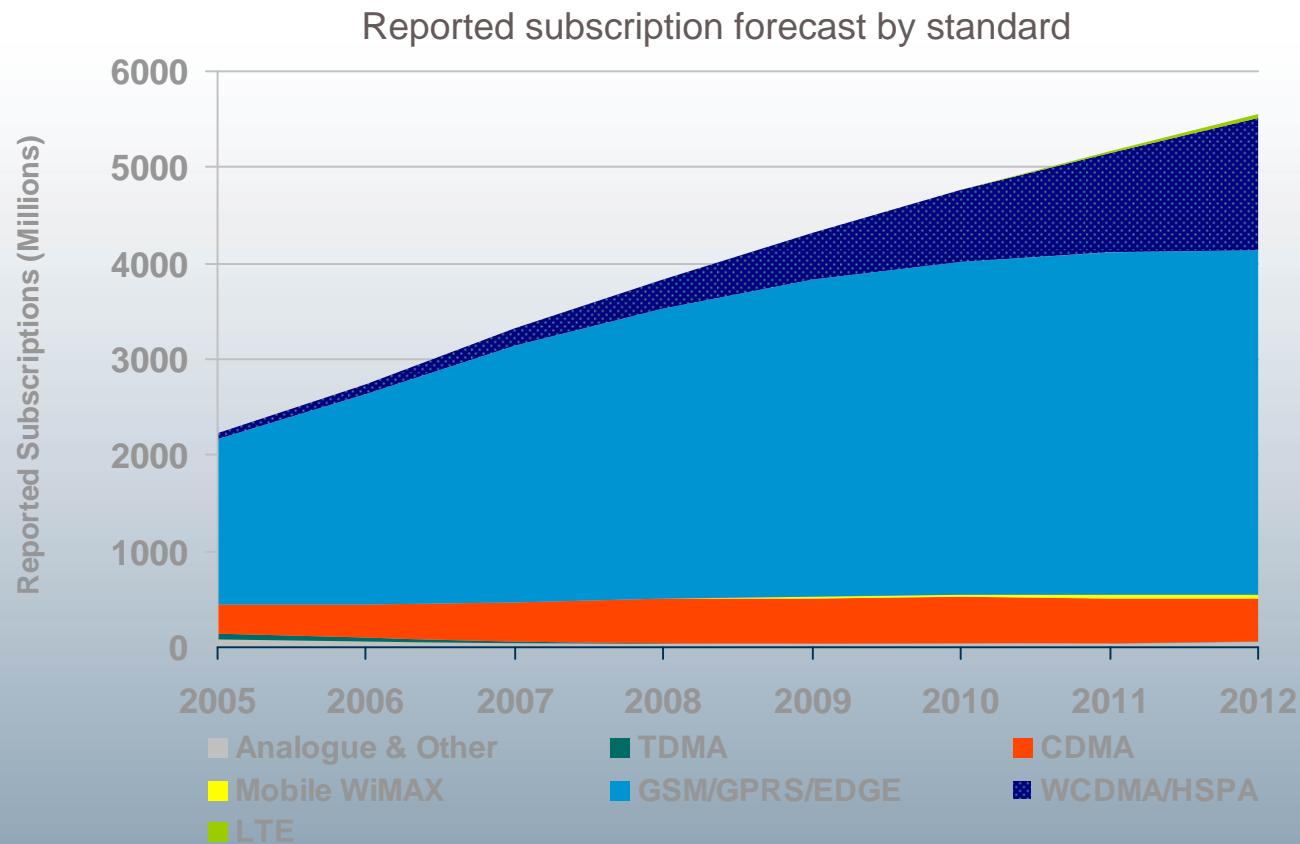
# Full Service Broadband



Broadband services to a screen of your choice

# Global cellular subscriptions

## By system standard

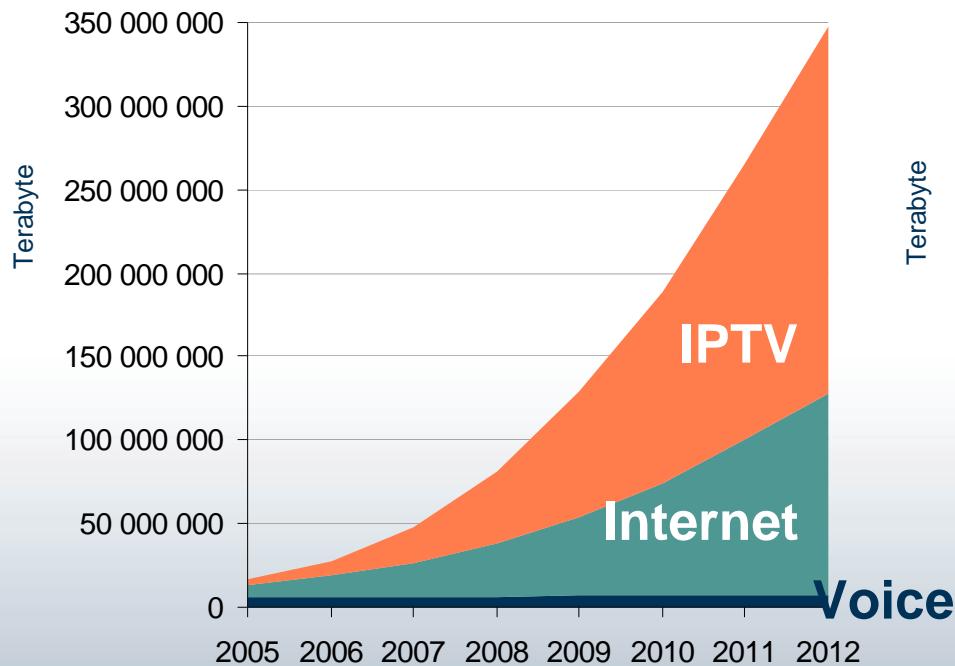


Source: Internal Ericsson

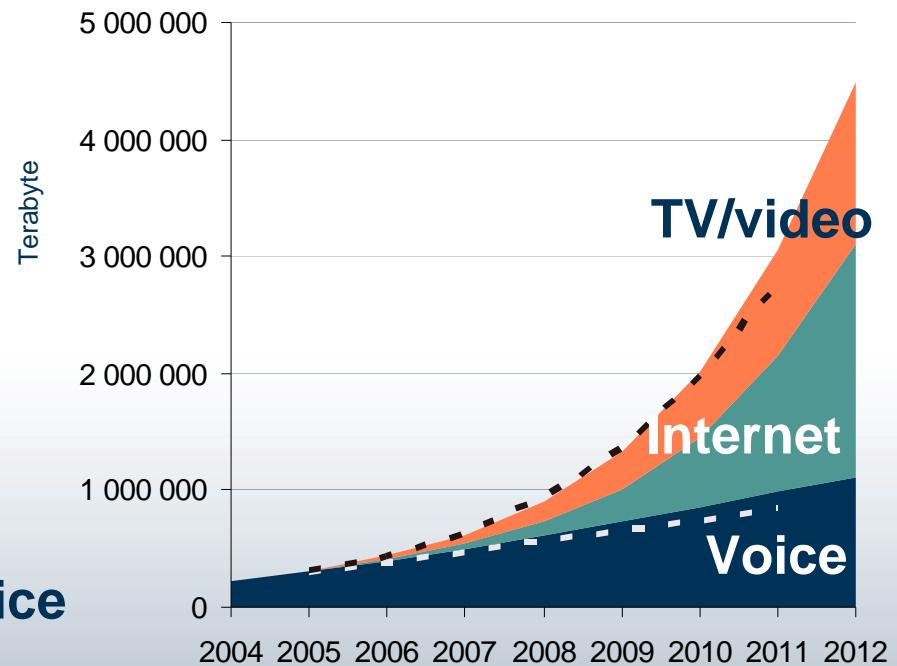
# Network traffic growth

Strong outlook

## Fixed access traffic



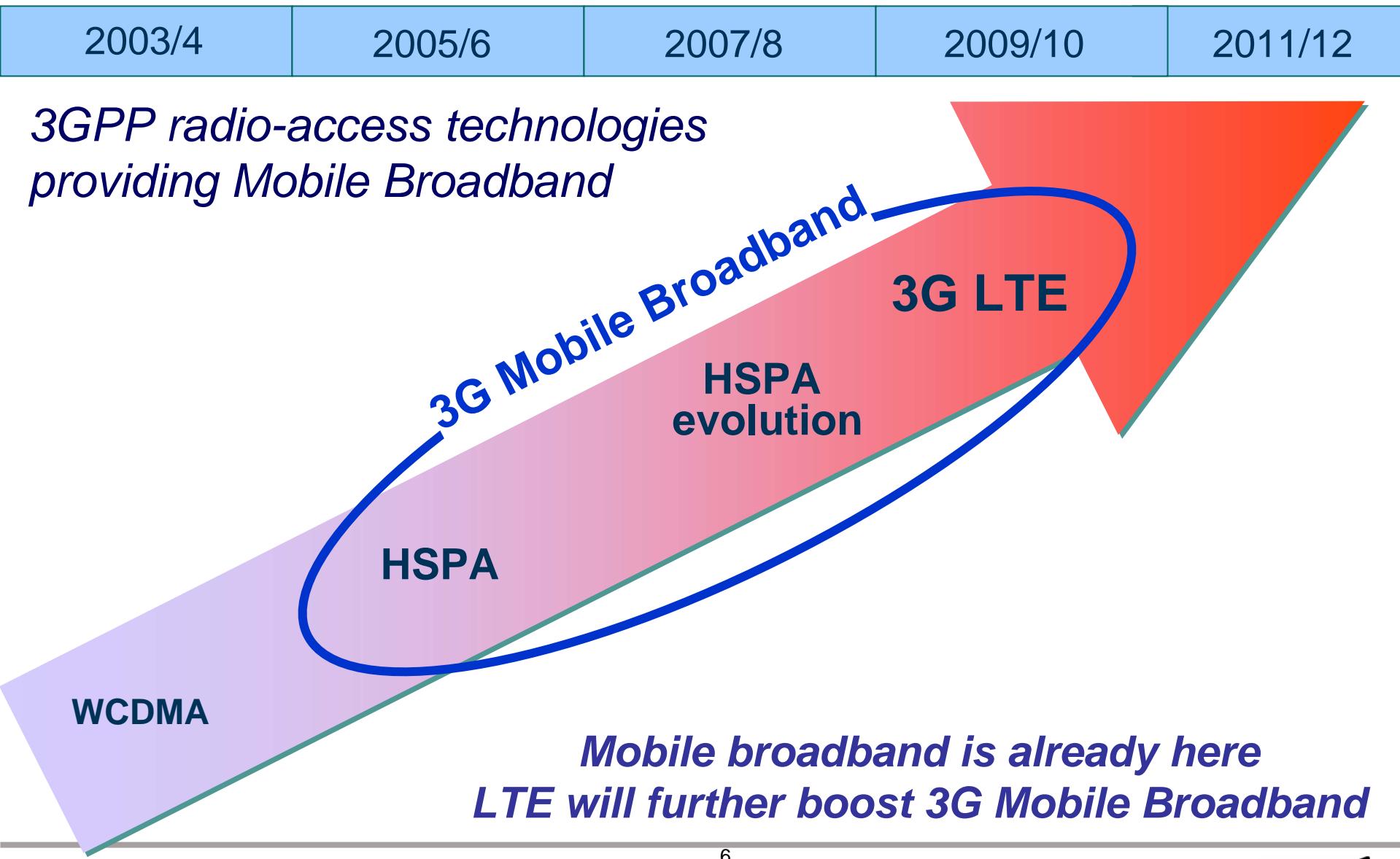
## Mobile access traffic



Source: Ericsson and market estimate

Traffic growth driven by TV, video and internet

# 3G Mobile Broadband



# HSPA – *High Speed Packet Access*

2003/4

2005/6

2007/8

2009/10

2011/12

*HSDPA and Enhanced Uplink*

Downlink: 3.6 Mbps  $\Rightarrow$  7.2 Mbps  $\Rightarrow$  14 Mbps

Uplink: Up to 5.8 Mbps

3G LTE

HSPA  
evolution

HSPA

WCDMA

*In commercial use since 2005!*

# HSPA deployment

More than 100 commercial networks

in more than 50 countries

with 7.2 Mbps available today

● HSPA

Source: GSA and Ericsson

# Over 300 HSPA enabled devices\*

- 137 mobile phones
- 51 PC with HSPA embedded
- 87 PC cards and USB modems
- 32 wireless routers
- 3 Media players and 1 camera



\*Commercially launched as of June 2007 (GSA)

Most popular device: HSPA USB module (Sweden, June 2007)

# HSPA offerings on market

## Some examples



Maxis Malaysia offering fixed 'replacement'  
Example: For RM 98/month = USD 30/month



Examples: 1Gb = USD 53/month  
4Gb = USD 79/month



Examples:  
USD 25/month 250 MB included  
USD 53/month 1GB included



Examples  
USD 12/month - 25MB/day



3 Sweden example:  
Unlimited 3.6 Mbps = USD 29/month



Formerly  
**at&t** **cingular** raising the bar

Cingular  
First in the world  
Examples: Unlimited USD 59,99

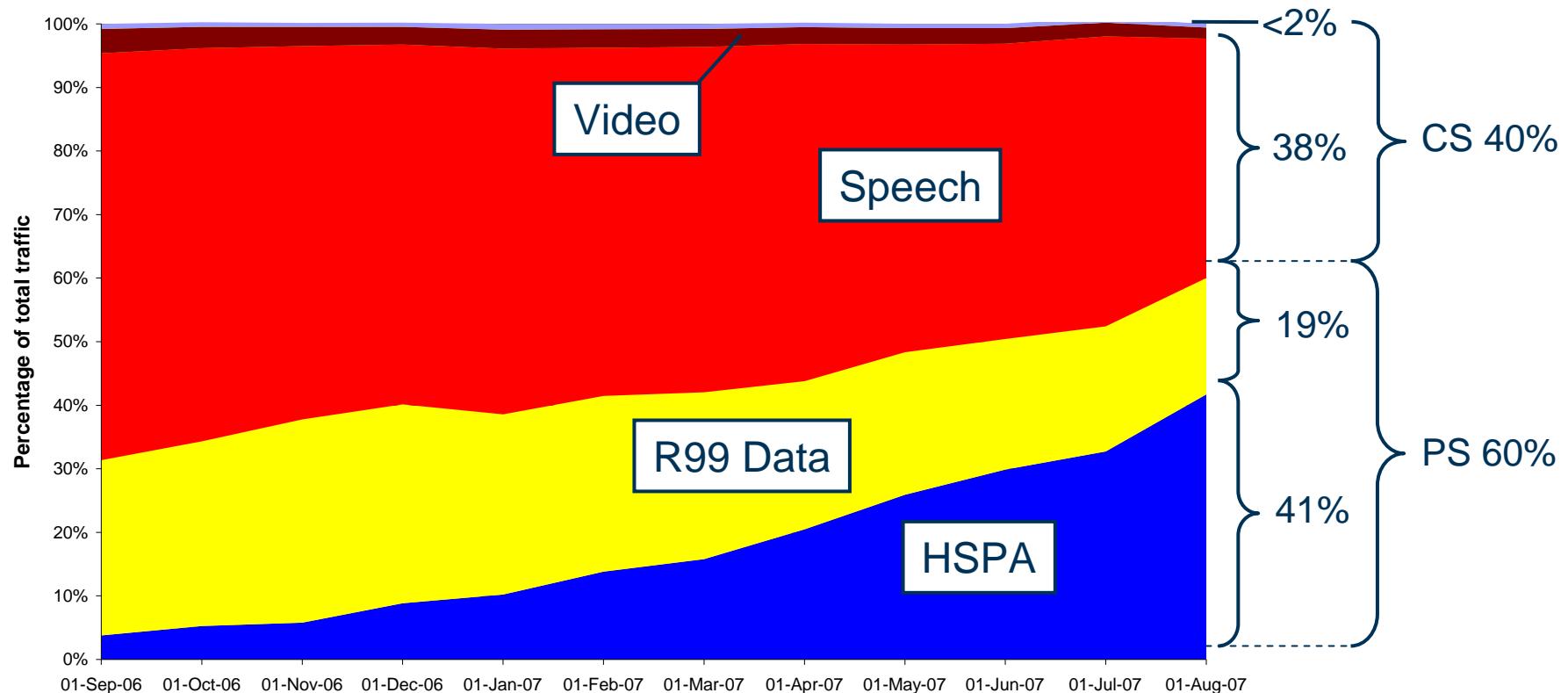
Projection: 50% of all sold Laptops/ Notebooks to have HSPA by 2011



Optimus, Portugal  
Examples:  
2GB/month USD 40  
6GB/month USD 53

# World Average Traffic Mix per Month

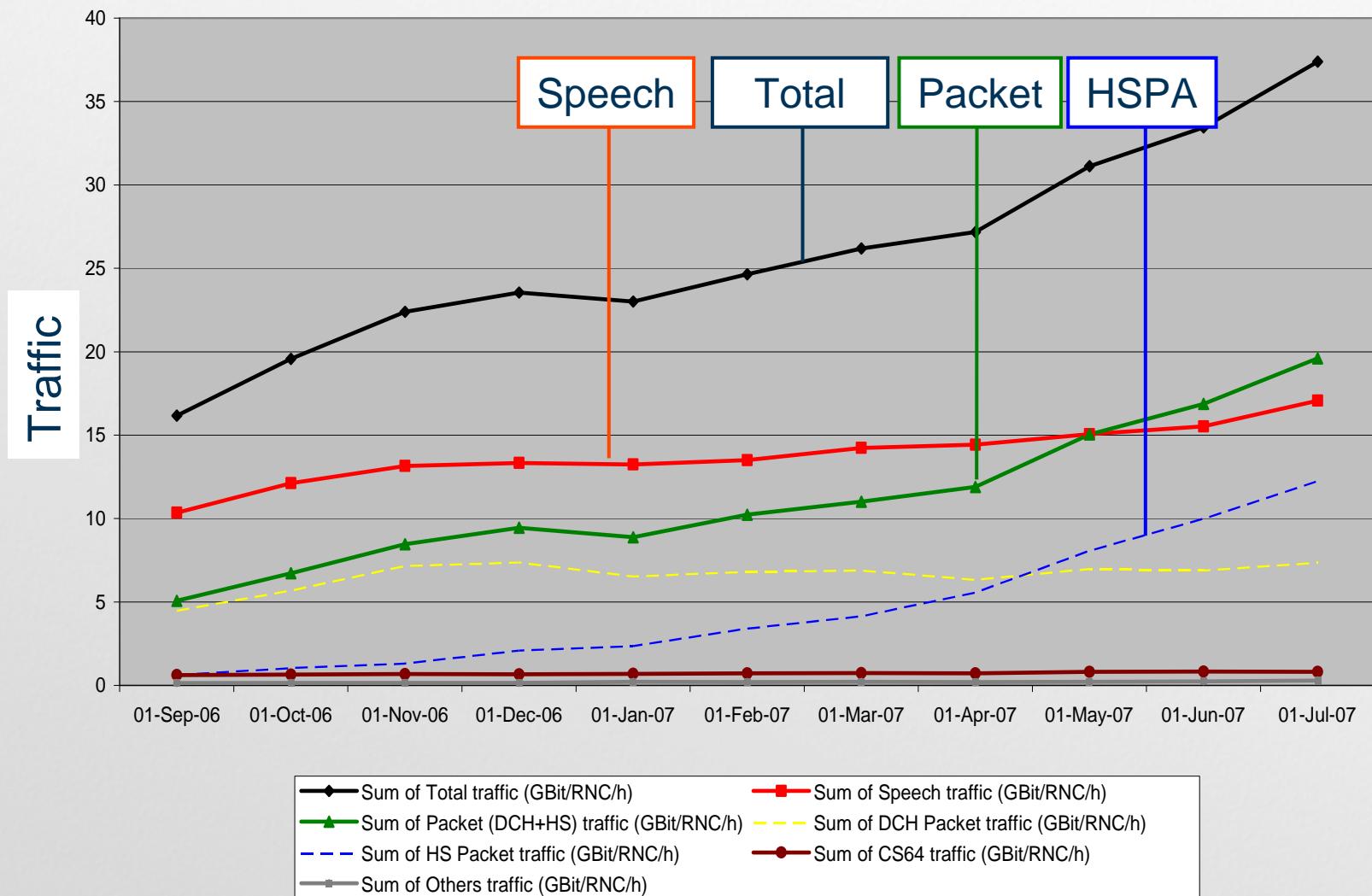
## WCDMA and HSPA



data is already now 60 % of the total WCDMA traffic

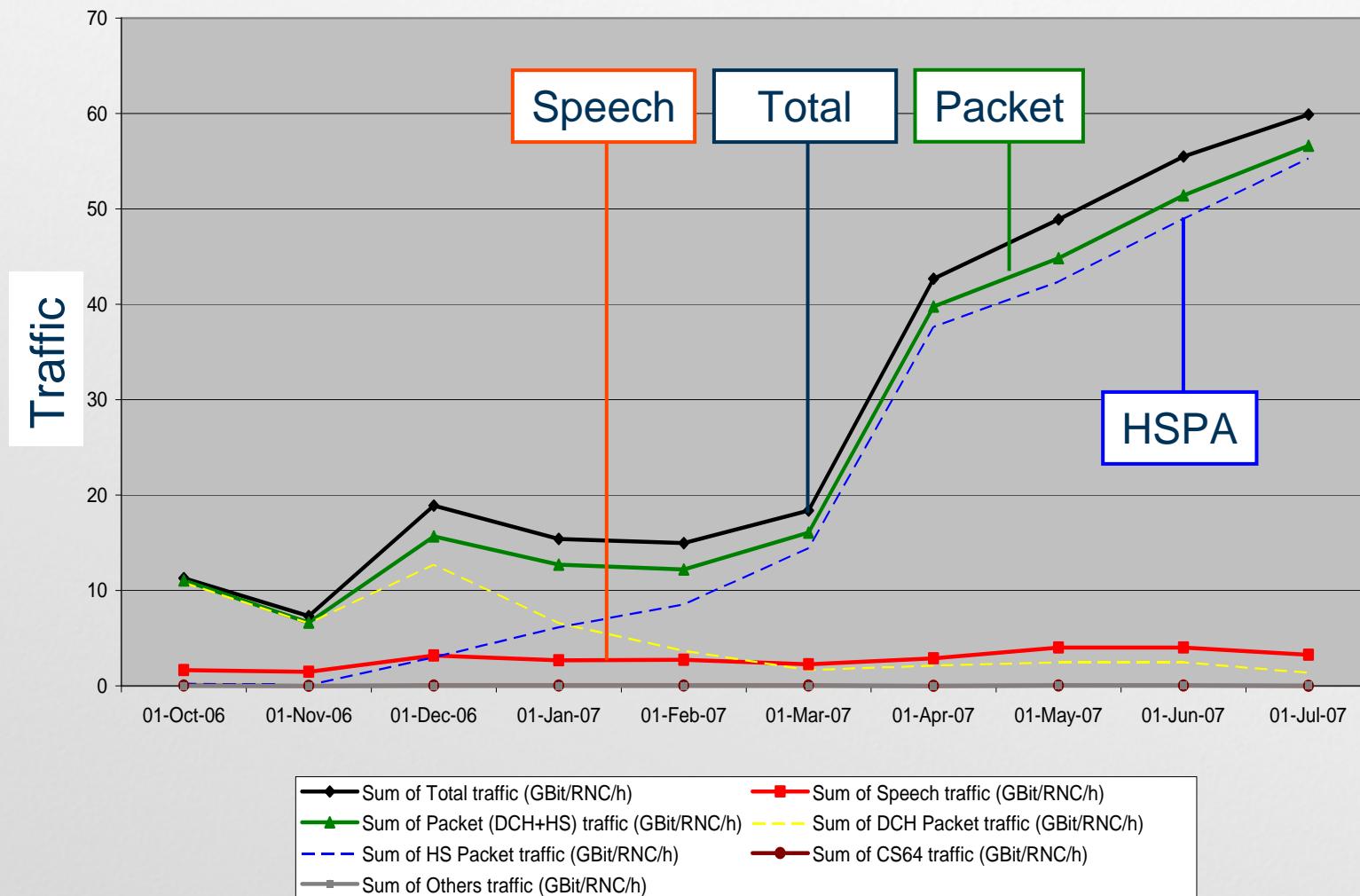
# Average traffic volume per RNC

Average of selected operators

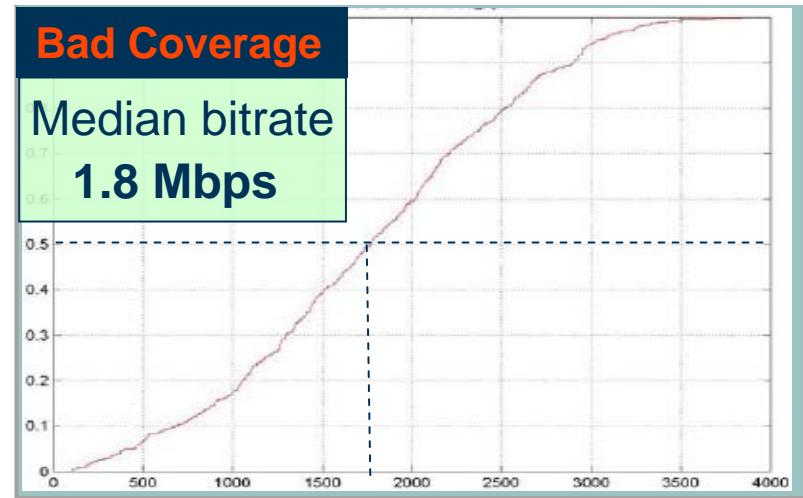
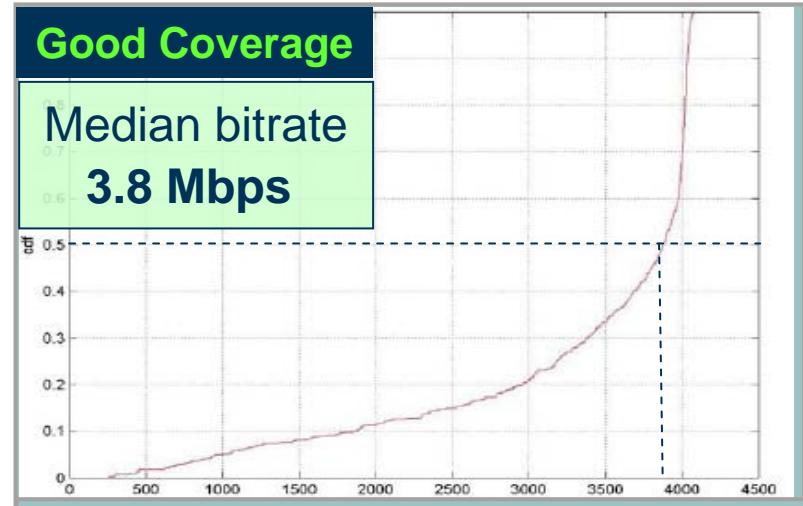
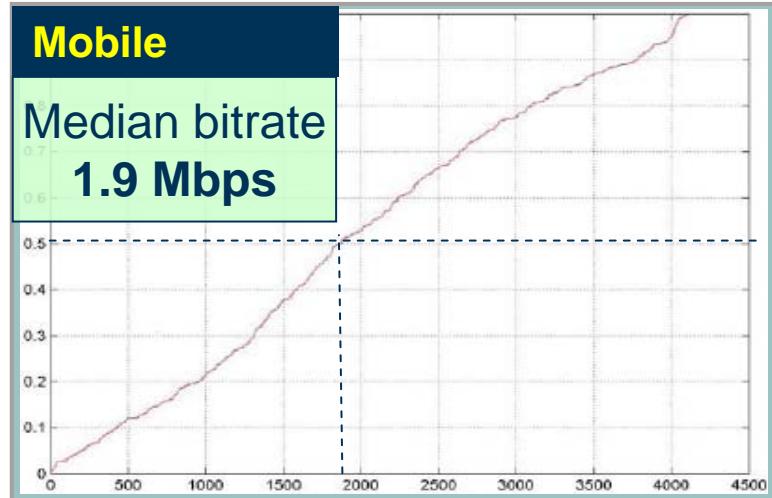


# Average traffic volume per RNC

## Aggressive operator

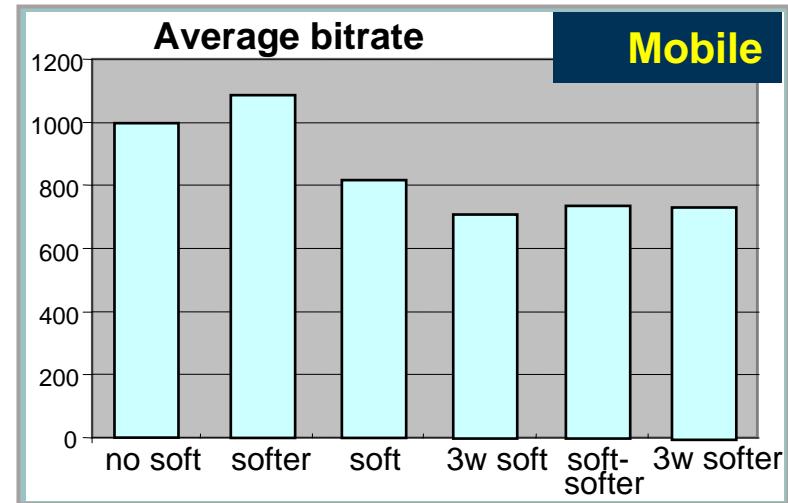
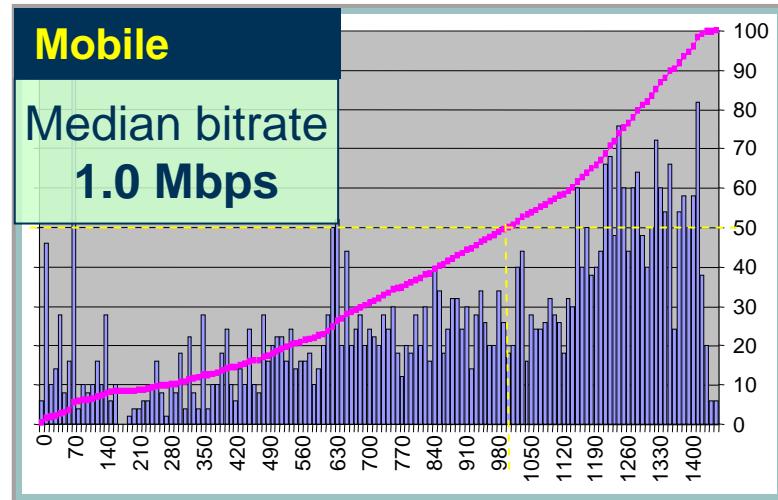
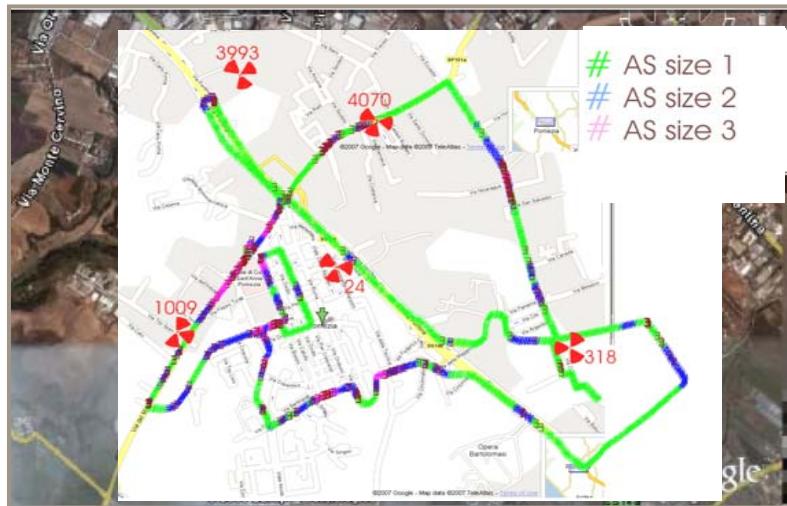


# HSDPA 7.2 Mbps performance



High field performance in downlink

# Enhanced Uplink 1.4 Mbps mobility



High field performance in uplink

# HSPA evolution

2003/4

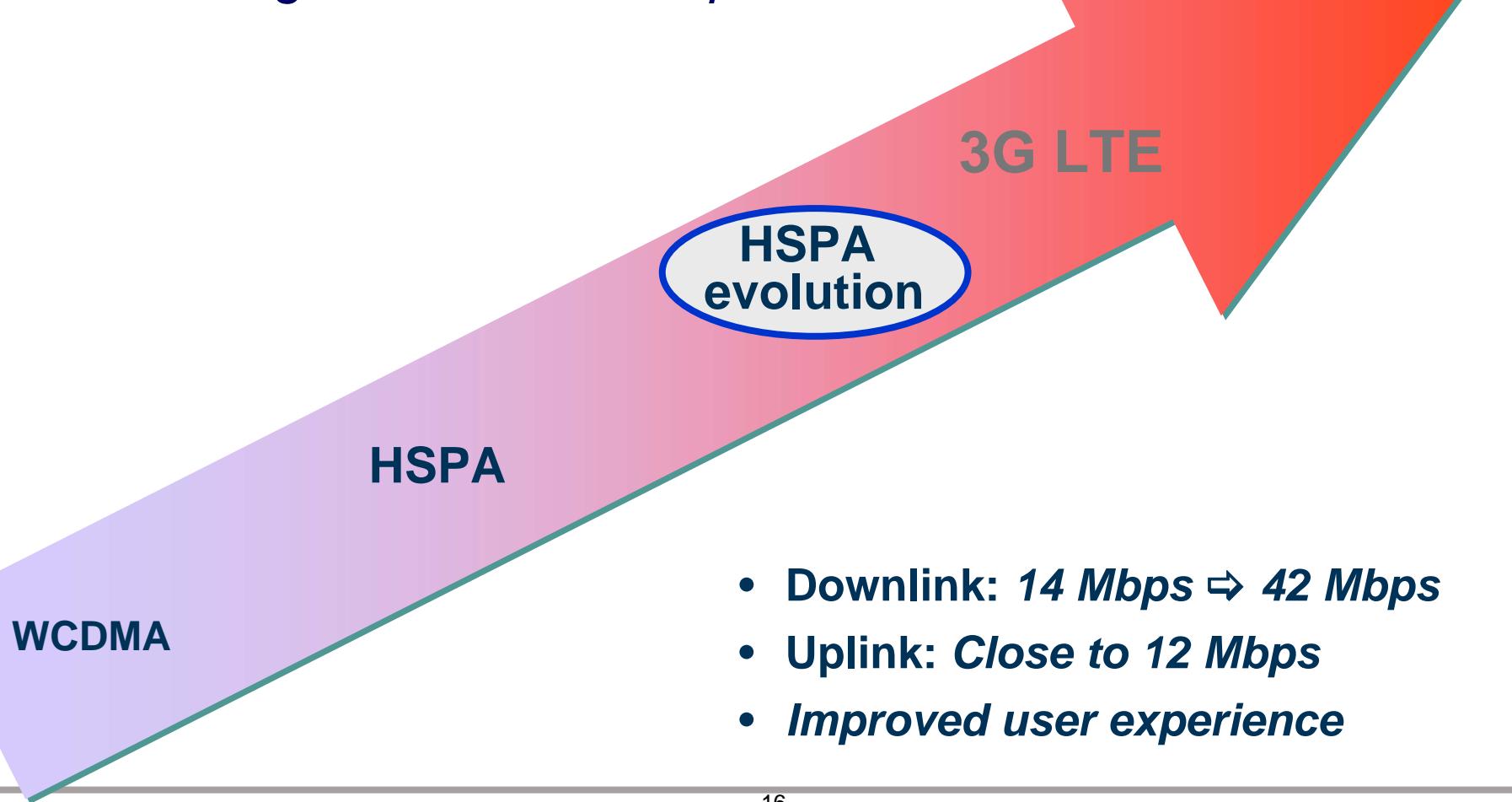
2005/6

2007/8

2009/10

2011/12

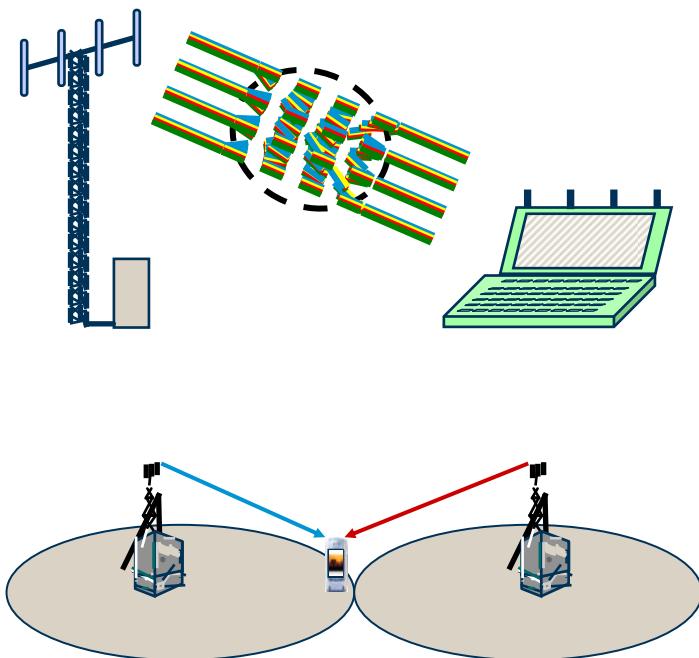
*To ensure long-term HSPA competitiveness*



# HSPA evolution

- Higher-order modulation ✓
  - Downlink – 64QAM
  - Uplink - 16QAM
- MIMO, 2x2 downlink ✓
- "Continuous Packet Connectivity" ✓
- Enhanced Broadcast/Multicast

*Specifications  
finalized*



- ***Higher data rates***
- ***Higher capacity***
- ***Reduced user-experience latency / faster access***

*Enhanced system performance and end user experience*

# 3G Long Term Evolution

2003/4

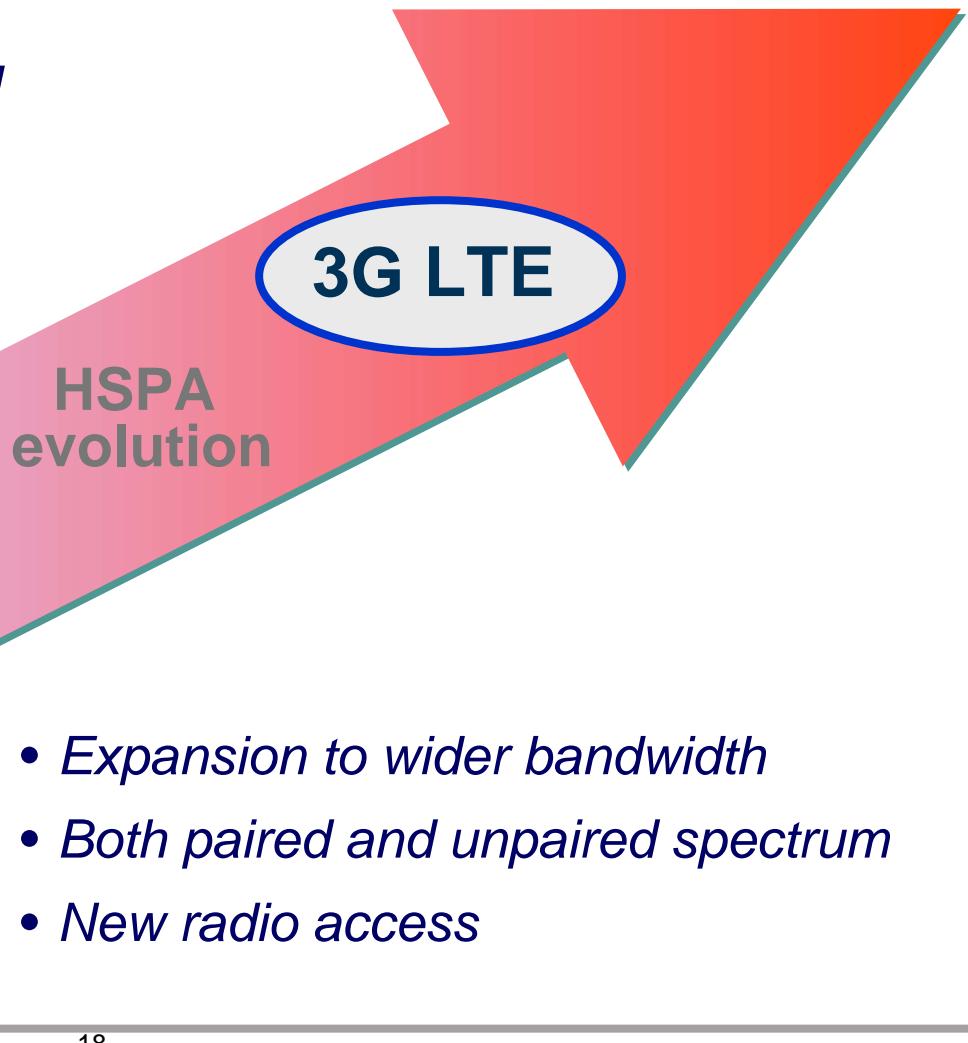
2005/6

2007/8

2009/10

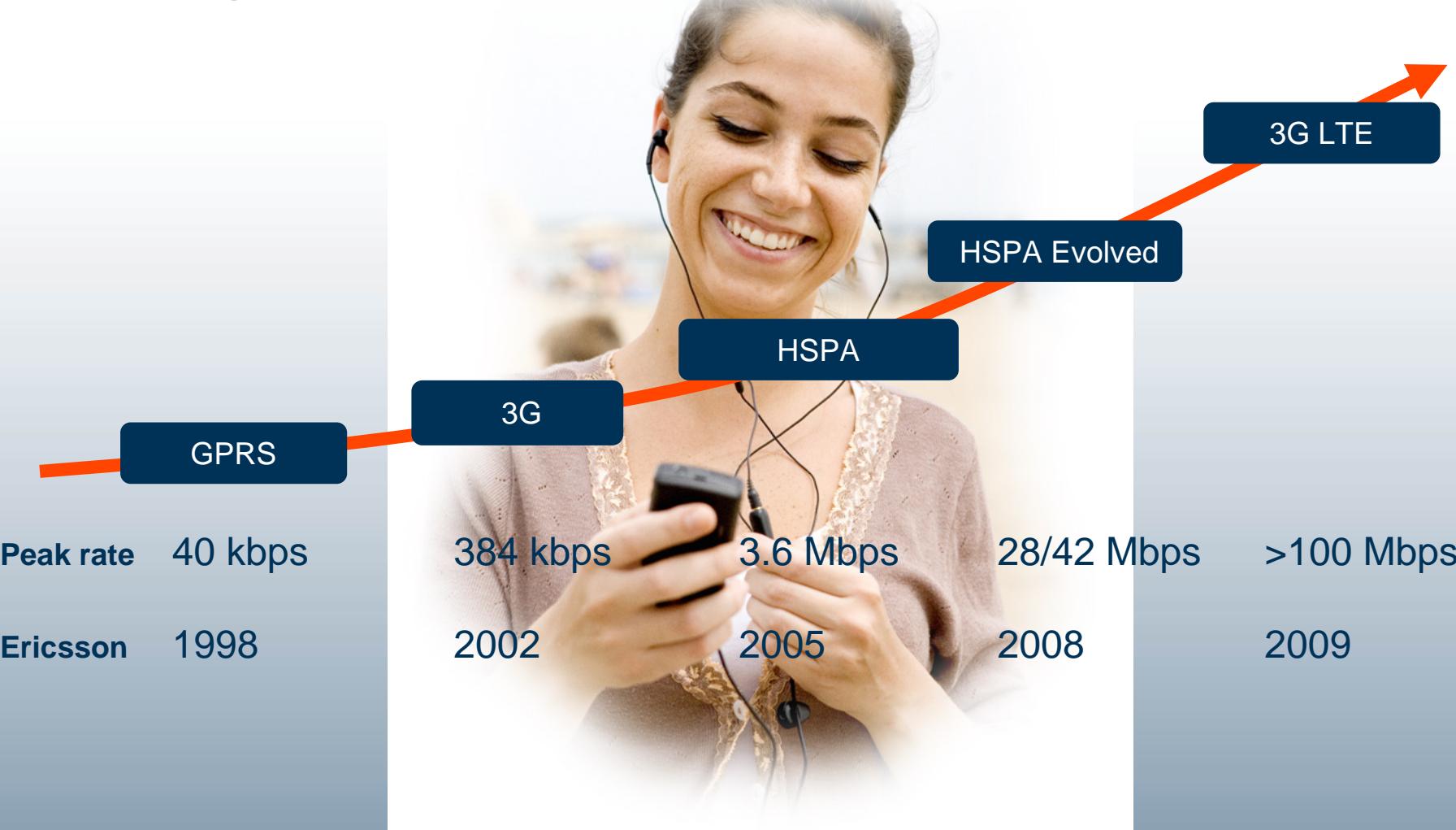
2011/12

- *Further boost 3G Mobile Broadband*
- *Provide a smooth transition towards 4G radio access (IMT-Advanced)*



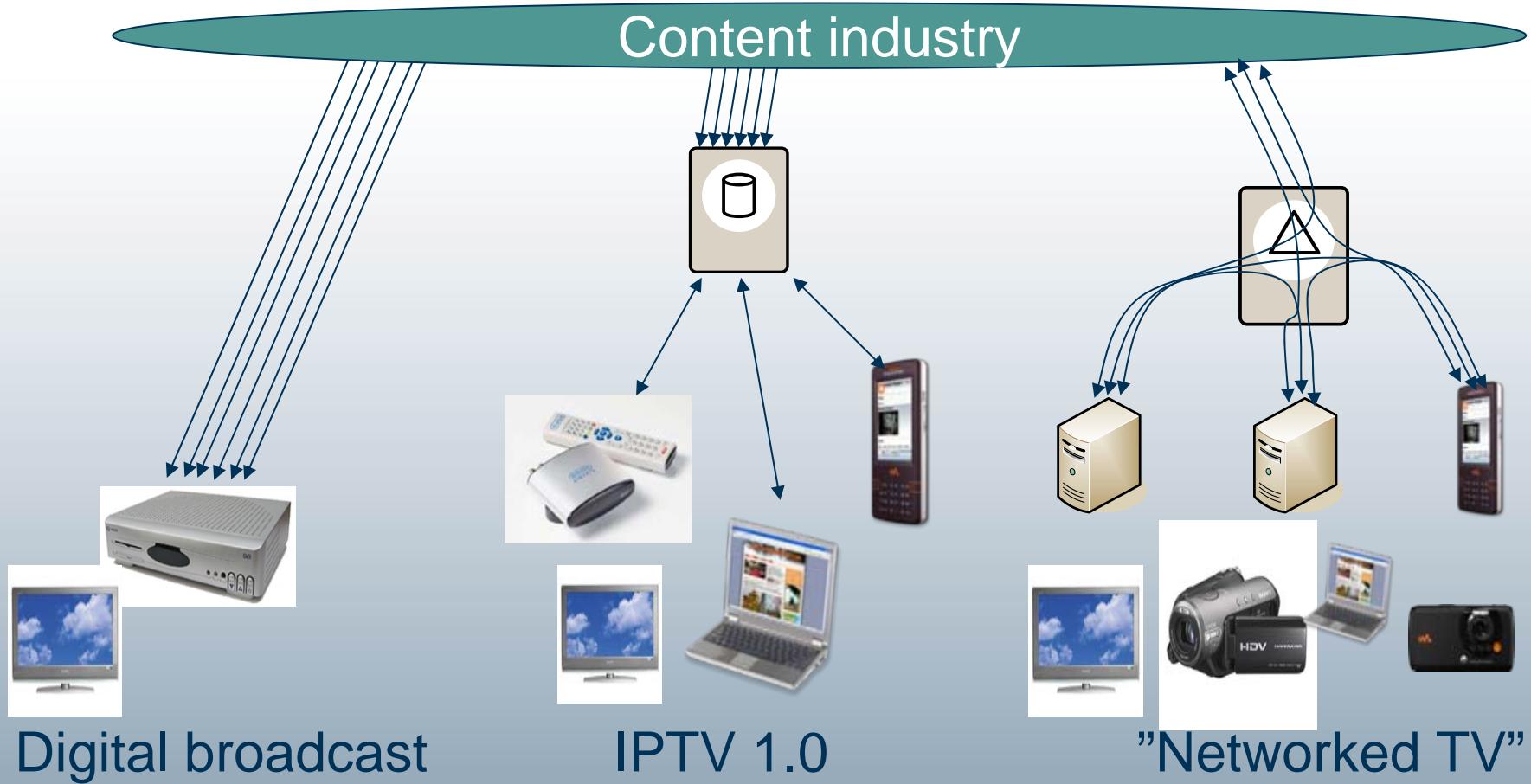
# GSM and 3G data evolution

1000 x Higher Peak Rate in 10 years



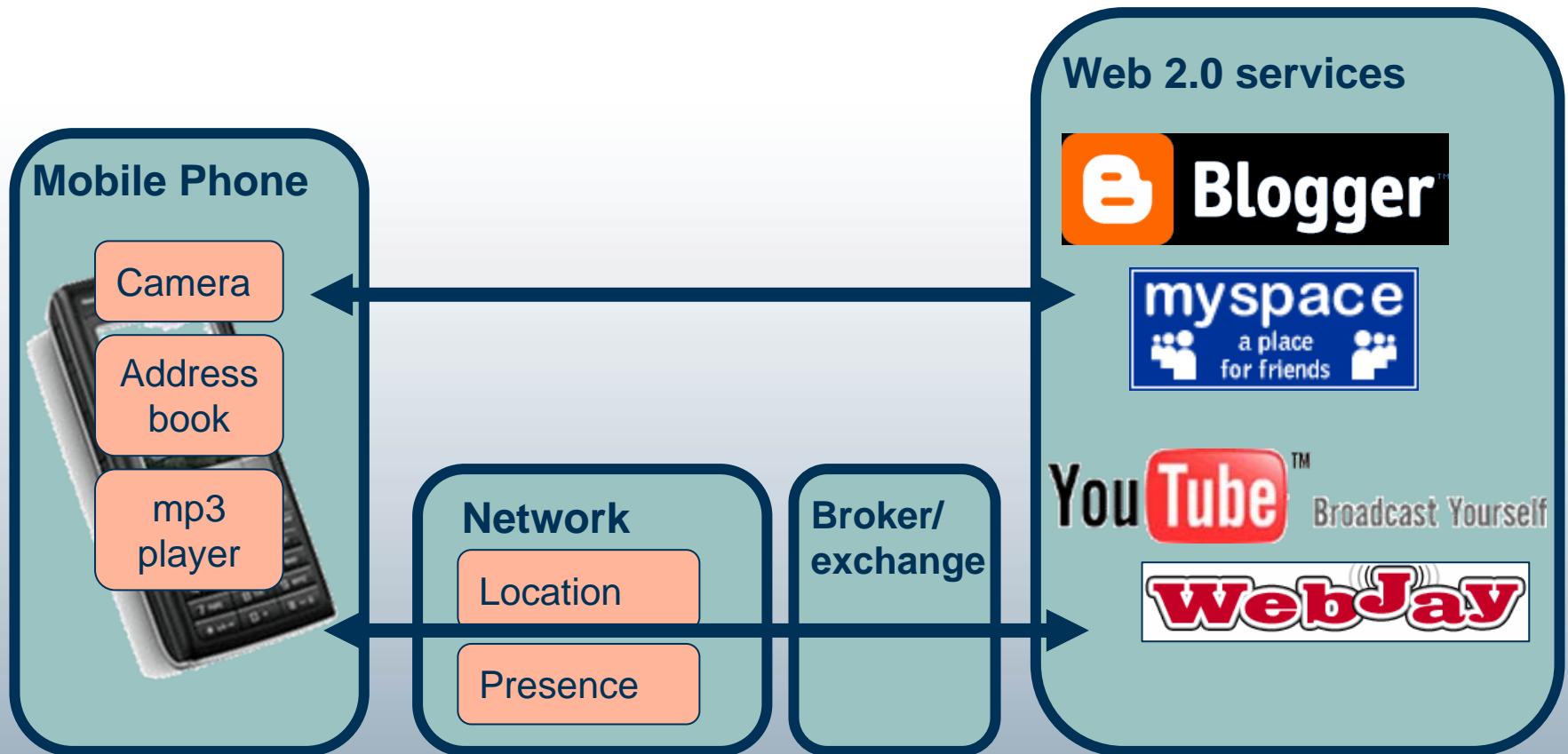
1000 x Higher Peak Rate in 10 years

# Digital TV evolution – three phases



Networked TV - a new dimension of the TV user experience

# Making Web 2.0 mobile



Make the phone the main source of User Generated Content

# Summary

- Mobile broadband is here with good performance
- Data traffic has surpassed voice traffic
- Performance will increase even further
- Excellent opportunity to introduce new services



**TAKING YOU FORWARD**