



Mobile Broadband Everywhere: Spectrum for Services

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Agenda

1

Main usages of Mobile Broadband

2

Growth

3

Operator perspectives – Orange experience

4

Conclusion

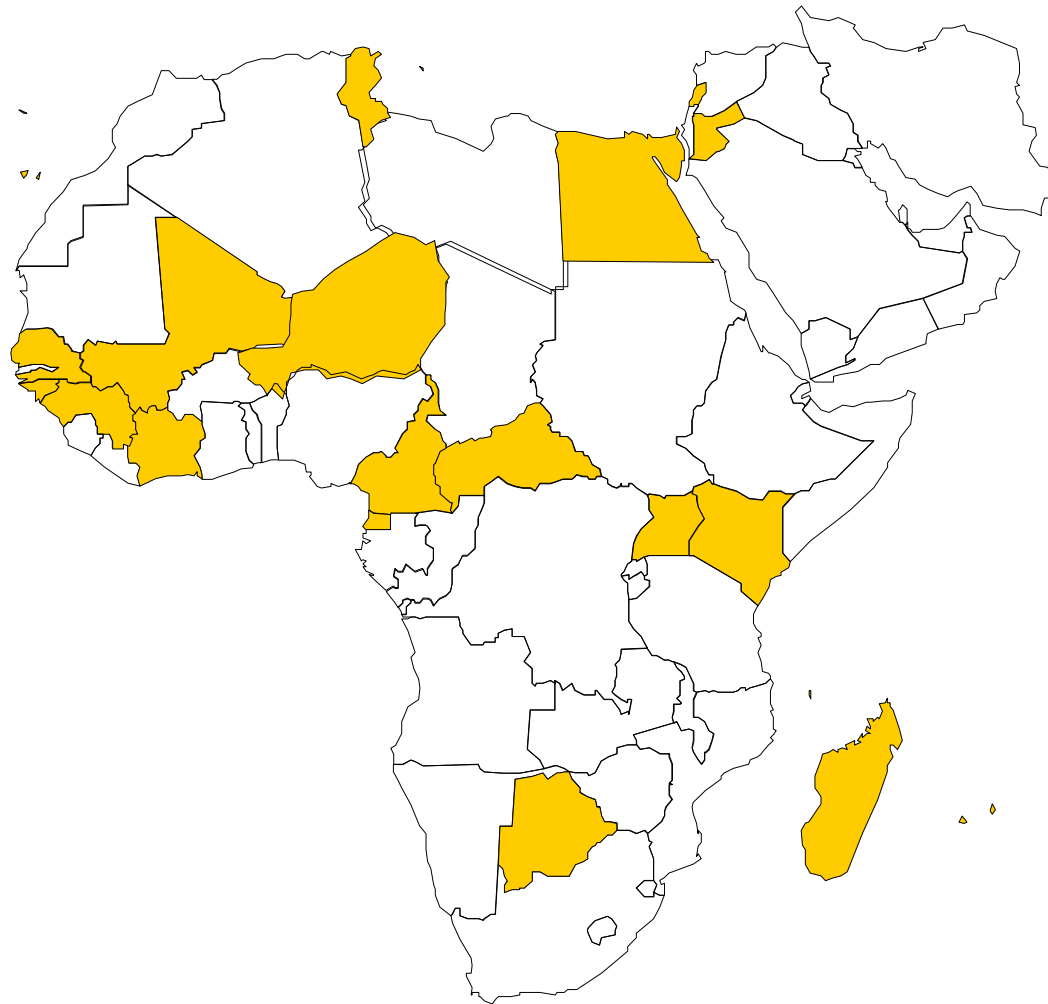
Orange FT Group: serving consumers in 27 countries

2009

182 M subscribers,
of which:

122 M mobile

13 M fixed
broadband in
Europe



Mobile Broadband: Opportunities for consumers

consumer needs



voice centric



voice and
web majors



voice and
advanced
web

business needs



voice centric



voice and
remote access



applications-
centric mobility

user behaviour with Mobile Broadband



serenity

- abundance promise
- peace of mind / simplicity
- security and privacy



entertainment

- on demand (content & services)
- me and my communities
- from mass media to my media



ethics and involvement

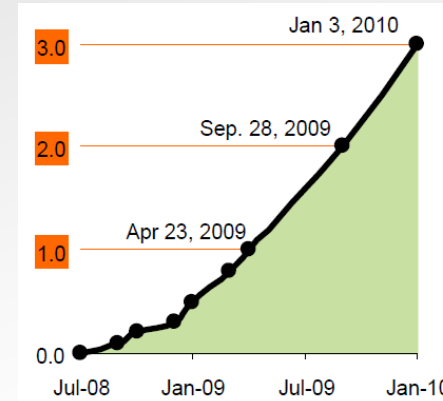
- responsible purchase
- CO₂ footprint lowering
- information transparency

Mobile Broadband: Key Services

Application Stores

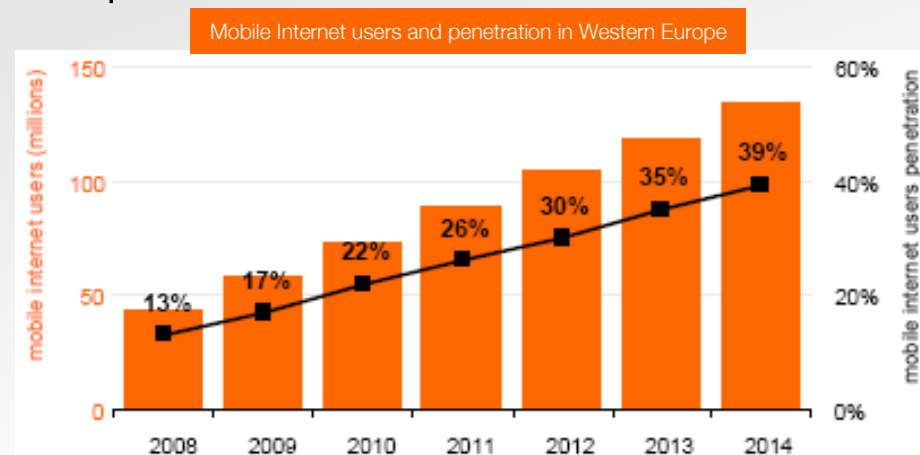
quick stats on downloaded apps

- [Lagardère Active \(press - France\):](#)
1m apps in 7 months and 32m pages viewed in June 2009 alone
- [Apple Store celebrated its 1.5bnth application in July 2009:](#)
20bn apps downloaded by 2014



Mobile portals

mobile media and Internet access
keeps growing in Western Europe

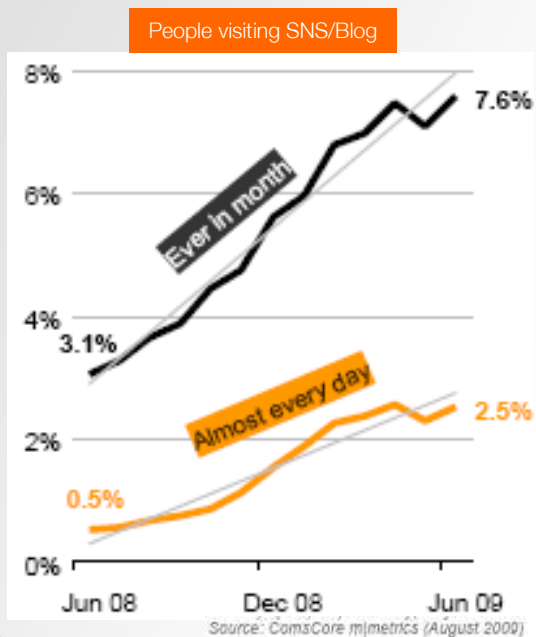


Source: Forrester Research

Mobile Broadband: Key Services (cont'd)

Social Network Service

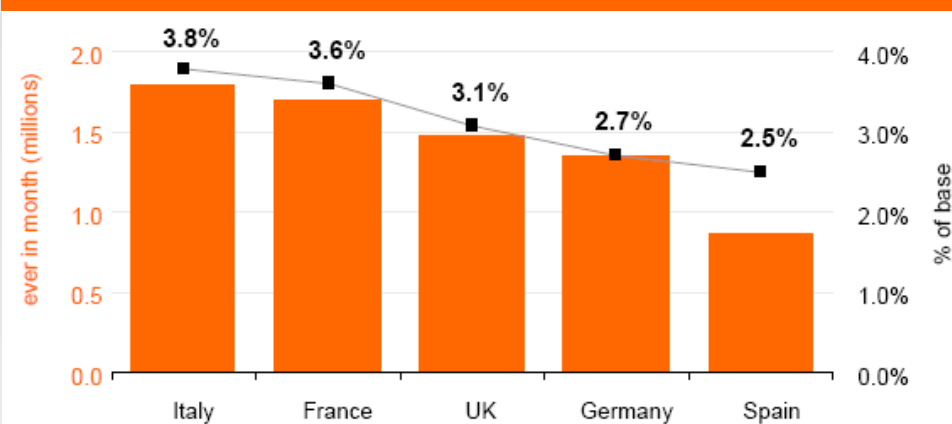
Social networking - **one of the main applications** - stimulates mobile broadband usage



Mobile TV & Video

Video and TV is centred around the new Smartphone TV applications

Europe's 5 biggest market: people who watched TV and/or video on mobile phone ever in a month, June 09

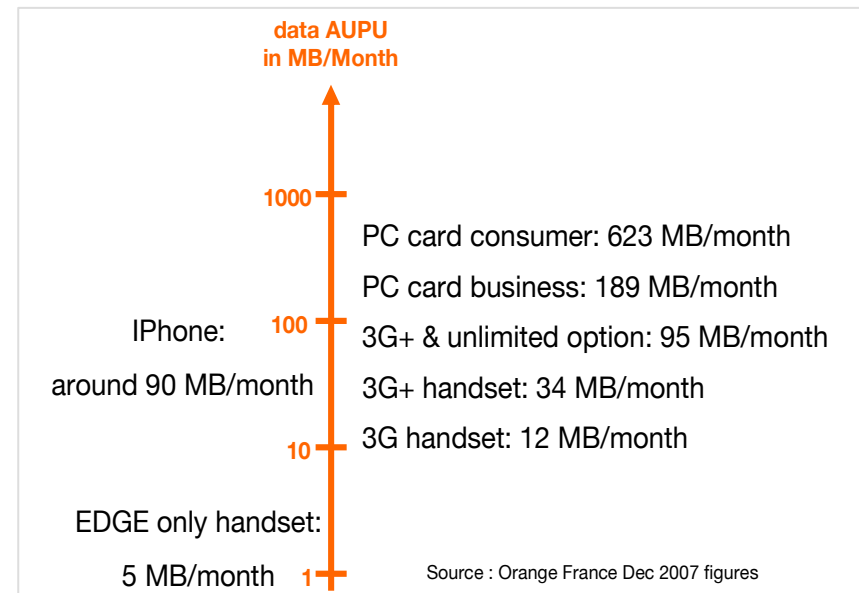


Source: ComScore m|metrics

Mobile Broadband: Key Services

Mobile internet and Video/TV traffic will explode in the coming years

- the usage per user increases with the performance and usability of devices ... and the abundance of offerings
- New user requirements for Mobile Services increase bandwidth hungry



Lead to increasing demand for suitable spectrum

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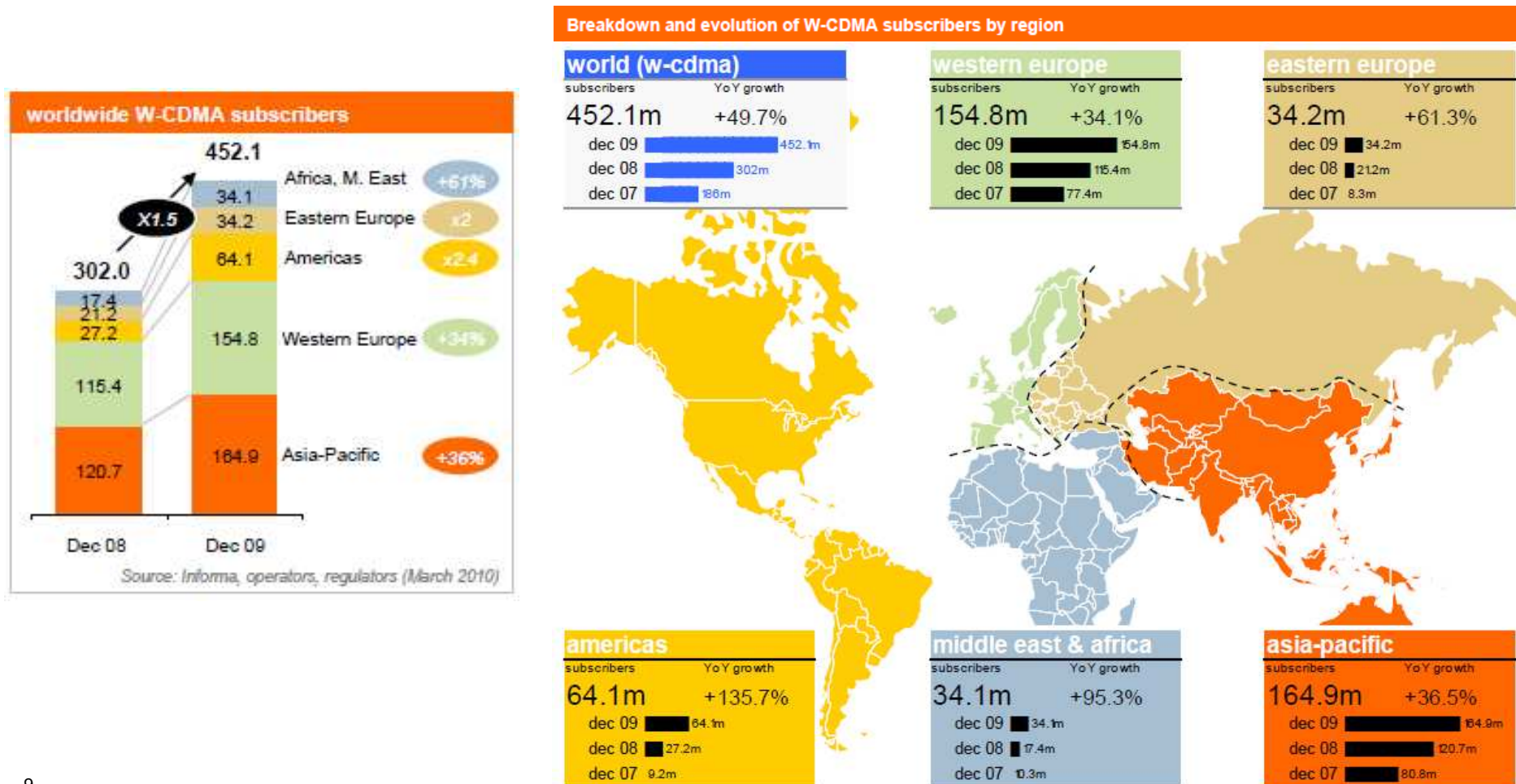
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Growth everywhere: mobile broadband subscription growth

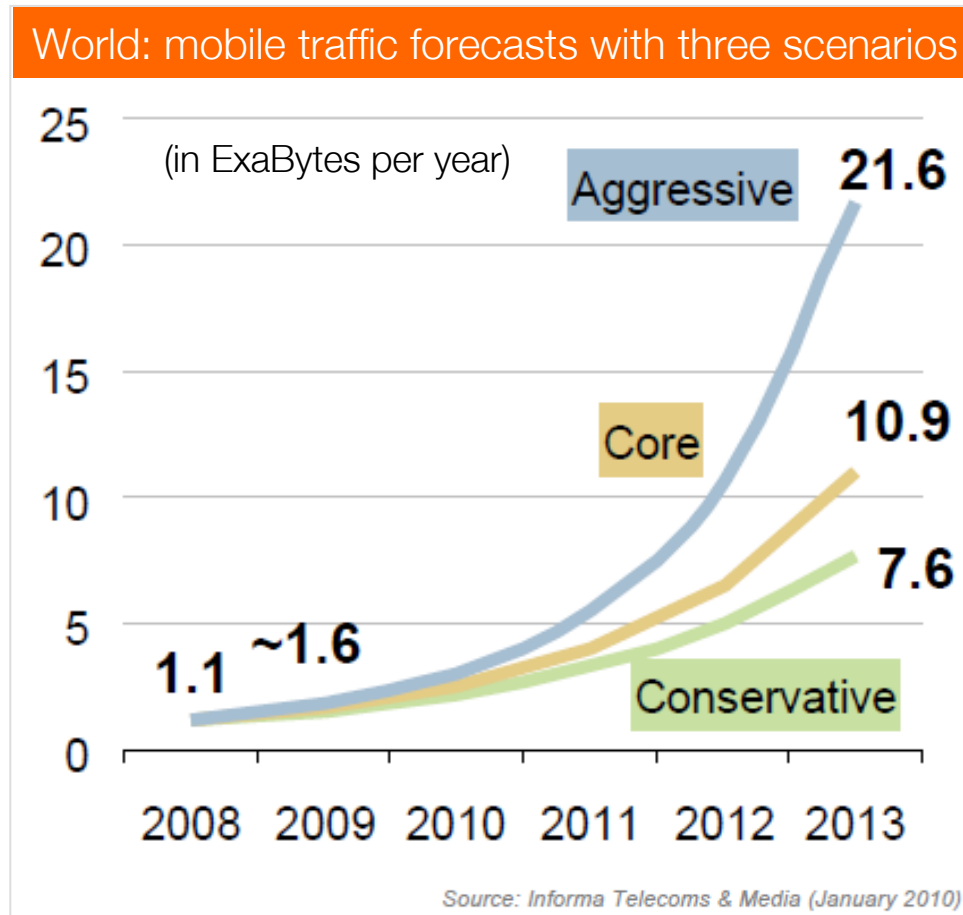
IMT with HSPA is a key for Mobile Broadband



Source: Informa for W-CDMA figures, CDG/Sofrecom for EV-DO figures (March 2010). Subscribers bars at scale for one region, not for regions comparisons.

Traffic growth (1/2)

The current and future trends

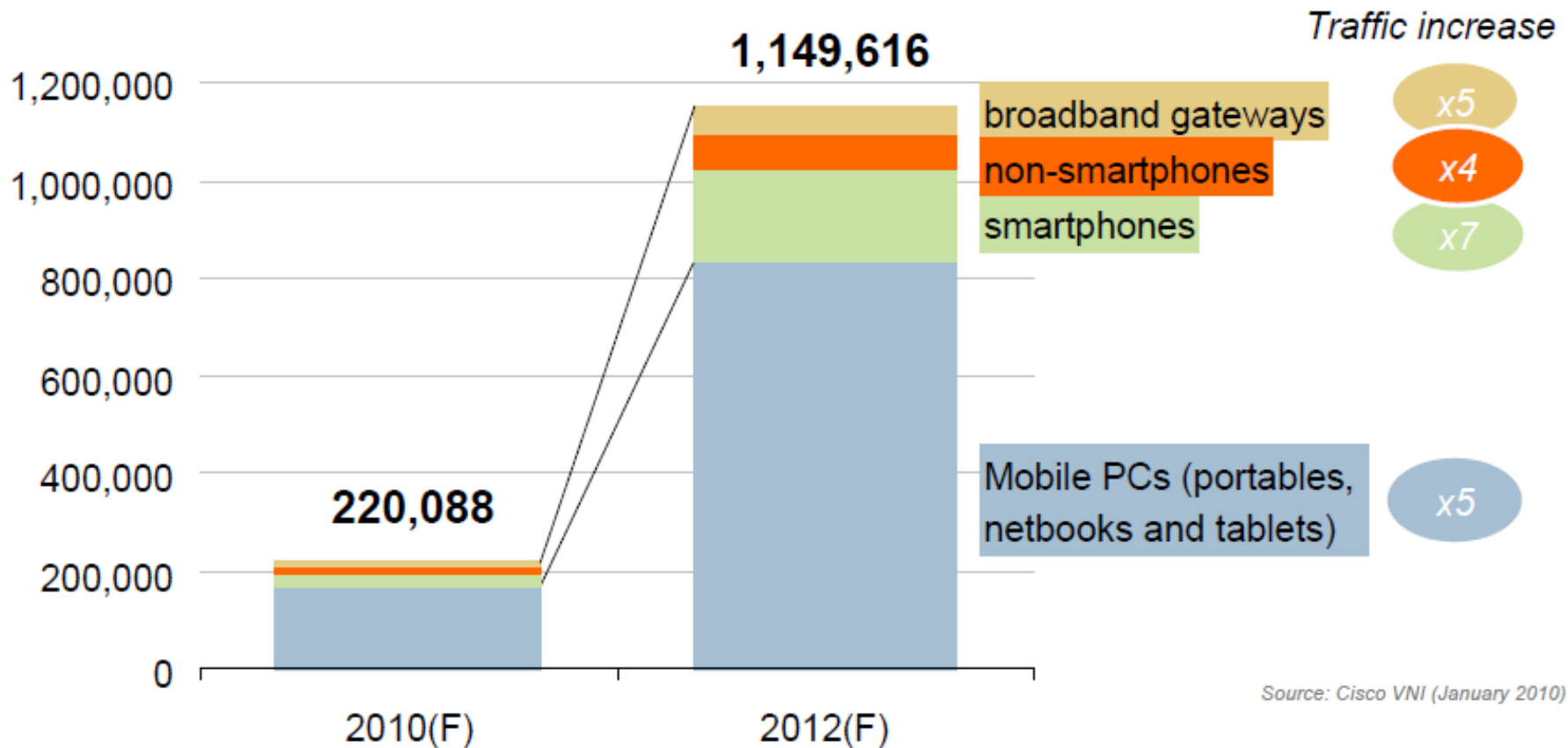


- **Core scenario:** this is the most likely scenario and assumes that current trends witnessed in mobile markets will continue throughout the forecast period.
- **Conservative scenario:** effect of the crisis and the consumers choose to remain loyal to traditional.
- **Aggressive scenario:** economic downturn has less an effect on data services as consumer demand and attractive pricing schemes fuel higher than expected growth in user and traffic

Traffic growth (2/2)

The current and future trends

World: mobile data traffic by device type (TB per month)



A terabyte (TB) is equal to 10¹² (1 trillion short scale) bytes or 1000 gigabytes

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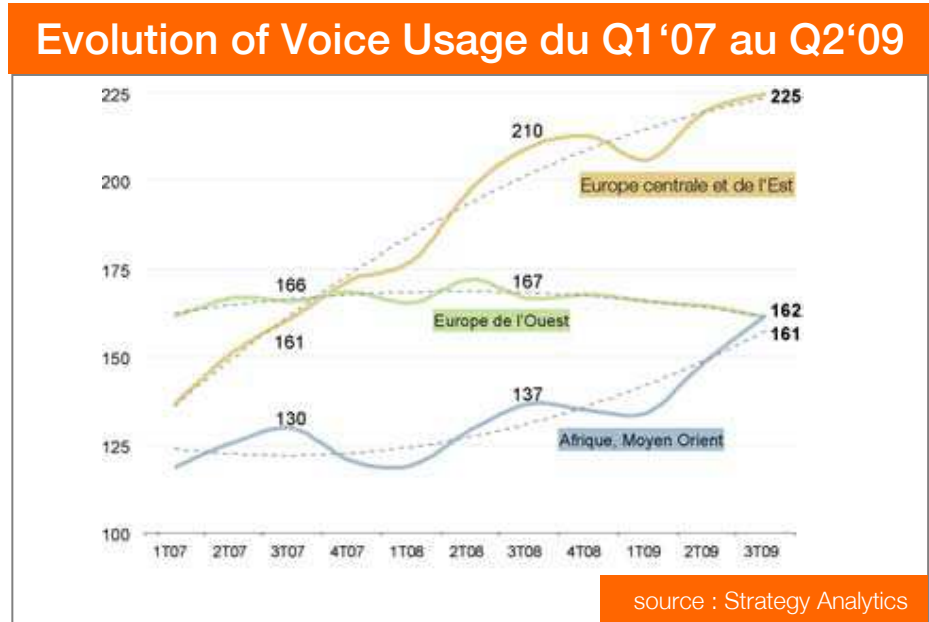
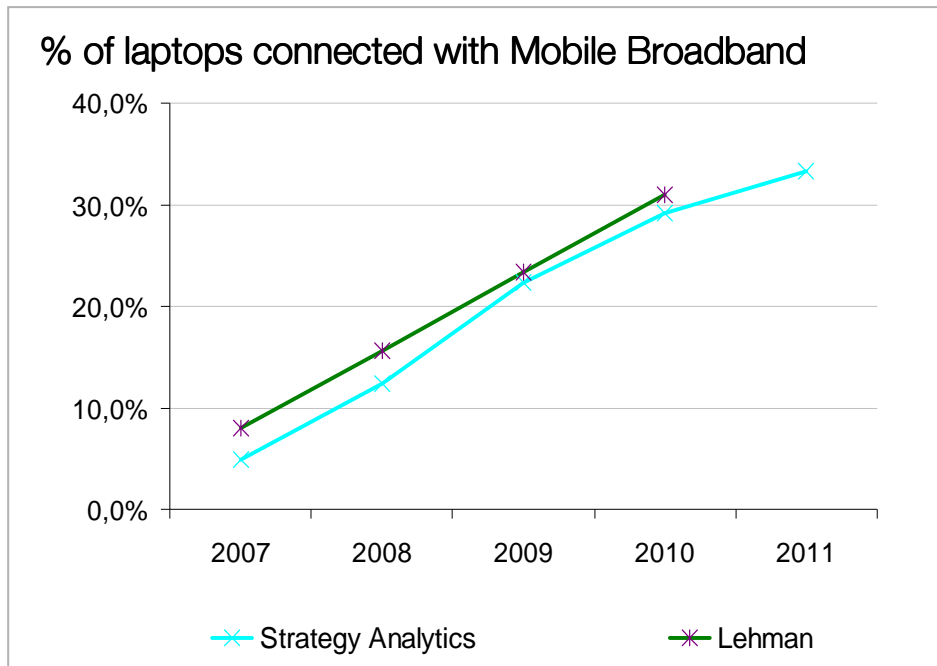
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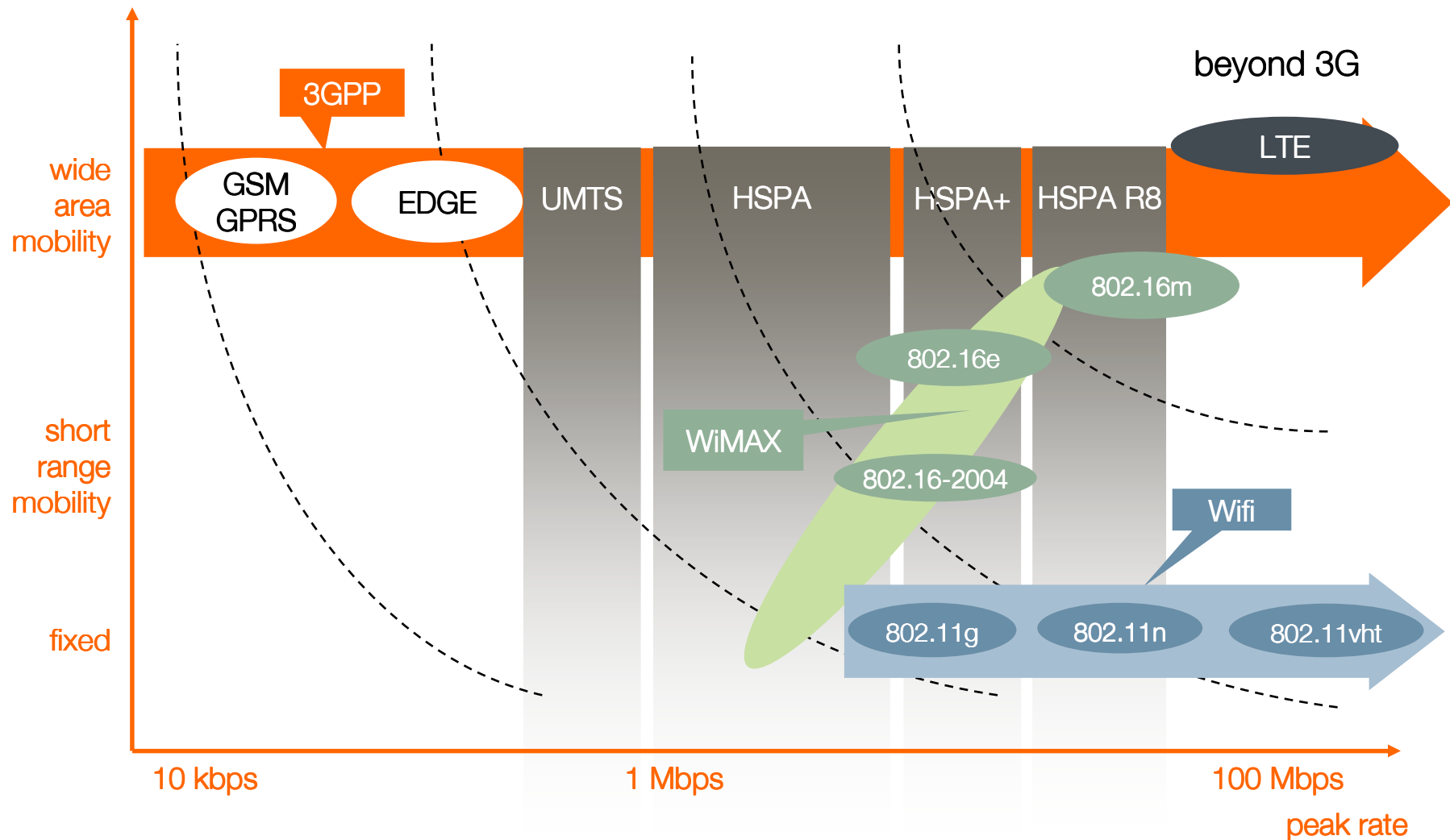
Traffic growth : better understanding of mobile data traffic

significant increase of voice + data traffic




- traffic growth driven by
 - Increase in terms of penetration
 - New Mobile Broadband capable devices

Mobile Broadband: a global trend towards LTE



Harmonisation

- Harmonisation is still key
 - Harmonising spectrum has been the **bedrock of the success** of technologies such as GSM by driving equipment & device economies of scale
 - The process of releasing more spectrum has, however, highlighted the **difficulties of harmonising** both spectrum allocation & band-plans across regions
 - Concerted **efforts are needed** by national & international regulators to limit any differences on spectrum licensing



Maximising technology **economies of scale** through spectrum harmonisation and ensuring effective **link between spectrum strategy & device availability** is key

Spectrum Harmonisation: A time consuming process

Time to achieve regional & international spectrum harmonization is about several years from start to commercial volumes



- GSM services – originally around voice
- To adapt new data needs new bands had to be identified.

- 1992: WRC-92 the 2.1GHz band was identified.

- 1999: UMTS was standardised as the main technology to be used in this band.

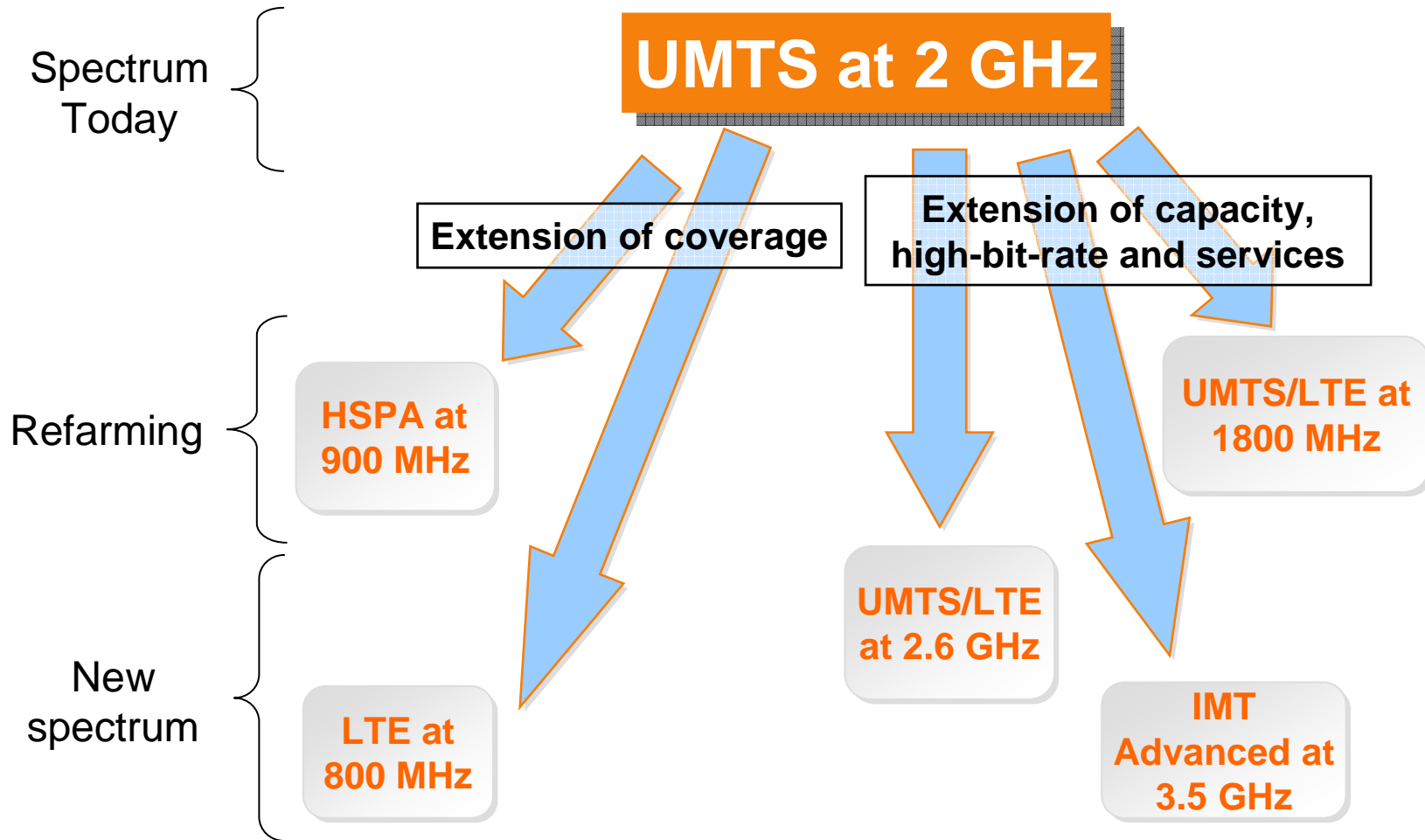
- 2000: Awards process in Europe

- 2005: Launch of mass market services

13 YEARS
PROCESS

Spectrum Harmonisation

Why are the spectrum enablers key for mobile broadband?



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Growth of mobile spectrum usages

Data traffic for Internet Access

More and more customers and devices with mobile internet capability.

Data traffic for multimedia contents on Mobile Broadband

Live television and video on demand...

Data traffic for smart networking people

Social networking.

Conclusion

Future mobile spectrum needs

Important to facilitate harmonised use of **identified spectrum** for Mobile Broadband

- Importance of technical studies to **ensure no interference**
- Adequate balance between **Capacity and Coverage** bands, with particular attention to the bands below 1GHz

We encourage **harmonisation of spectrum usage** worldwide

- to optimise **economies of scale**
- to ensure timely **availability of equipment**
- to respond quickly to **market needs** and bridge the Digital Divide



thank you