

# Lessons learnt from UMTS deployments in Europe

**Bosco Eduardo Fernandes on  
behalf of Halina Uryga Orange  
France Telecom**

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**UMTS Forum**

**[www.umts-forum.org](http://www.umts-forum.org)**



ITU/BDT Regional Seminar on BWA  
For CIS; CEE and Baltic Countries  
26th-29th November, 2007  
Moscow, (Russian Federation)  
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# From GSM to GSM/UMTS

- For the GSM operators UMTS allows a smooth migration from 2G to 2G and 3G
  - Dual mode mobile stations
  - Core Network common to GSM and UMTS
  - Reuse of 2G services
- As Mobile Application Protocol is common to GSM and UMTS, the success of GSM roaming can be kept and extended
  - UMTS subscribers will benefit from the GSM footprint + Japan + Korea
- GSM/GPRS/EDGE services can be implemented in the UMTS network (Speech, SMS, Voice Mail, MMS, WEB browsing, data transfer ...)



# A world coverage with UMTS in harmonised bands

- When using a GSM/UMTS terminal, the UMTS subscribers are offered a world coverage
  - thanks to UMTS roaming agreements e.g. Orange France with 27 partners in 19 countries
- UMTS users benefit also from the present GSM roaming agreements


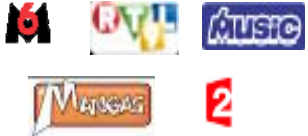




# Innovative Services with UMTS



- Video telephony - Live TV - Audio/video streaming - Download of multimedia content - Infotainment - Off-line games, on line games - Video messaging via MMS - Live sport Event - Video responder – Presence – Email - Intranet access - web conferencing ...

**Orange Intense  
the mobile  
broadband**









<p><b>Infotainment</b> Internet services on your mobile</p>  <p>Pour vivre l'information en direct!</p>	<p><b>Live TV</b> 54 channels on your mobile</p> 	<p><b>Orange World Video</b> All videos with 1 click</p> 	<p><b>Orange World Music</b> The best songs on your mobile</p> 
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**Orange World Portal: 5 millions of customers each month and 30 millions of connections per month**



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# Mobile: 4th screen for all everywhere

	 	 	 	 
	<b>Movies</b>	<b>Television</b>	<b>Computer</b>	<b>Mobile</b>
<b>Where?</b>	Outside	At home	At home/in the office	Everywhere
<b>What?</b>	Programs	Bouquet of channels	Large contents offer	54 TV channels 5000 videos
<b>How?</b>	Collective	Familial / Individual	Individual	Individual



# Orange France Live TV – 54+ channels largest offer on the market



Orange exclusive



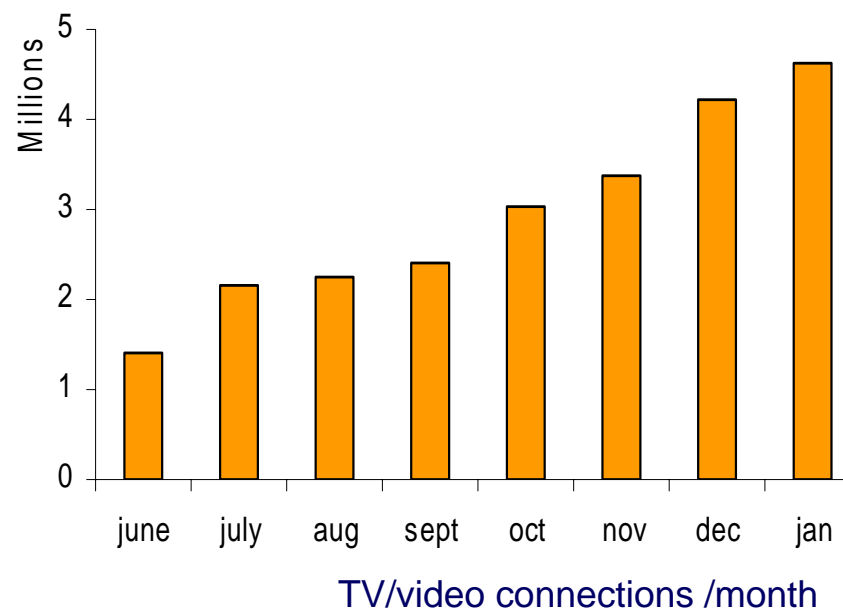
Other channels



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# TV and VoD in Orange France

- 54 TV channels and 5 000 VoD (500 new every week)
- 22 millions TV/video connections in 2005
- 7,6 millions connections in January 2007
  - 56% TV, 44% VoD
- Specific contents for mobile video are developing
- Mobile TV over 3G:
  - 30 min/month
- DVB-H trials in France
  - 35 min/day

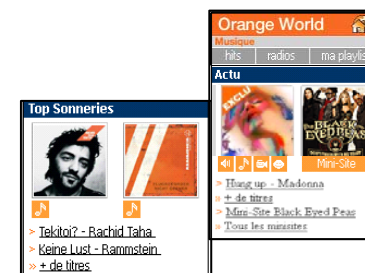


# Music on mobile



## Music in Orange it is already...

- Possibility to discover artist & title when hearing the radio
- Le Streaming
- 10 300 ring tones,
- 2 000 fun tones,
- 300 000 titles
- 11 radios
- And a number of exclusivities like a single of Madonna « hung up »...



## Uses already developed

- 5 millions of connections to Music portal in 2<sup>nd</sup> half 2007
- In 2005: 10 millions of download products
- Operation Madonna: 150.000 ring tones downloaded





# Feature and Services for the business market



- For the internet access we feature up to 128 kb/s uplink and 384 kb/s downlink  
These throughputs are available both with a UMTS/GPRS PCMCIA card and with a classical handset
- Innovative and efficient services relying on high throughputs at the radio interface
  - Intranet access, email with attachments
  - Access to the personal environment (mail, agenda)
  - Multimedia messaging with picture and video
  - web conferencing
  - Video-telephony towards fixed and mobile terminals



# Multimode-multiband terminals at affordable prices

 <p>3G</p> <p>Sony Ericsson Z1010</p> <p>Démo 3D</p>	 <p>3G</p> <p>LG U8150</p> <p>Démo 3D</p>	 <p>3G</p> <p>Samsung SGH- Z105U</p> <p>Démo 3D</p>	 <p>3G</p> <p>Mobile PC Card 3G</p>	 <p>3G EDGE</p> <p>Nokia 6680</p> <p>Démo 3D</p>
 <p>3G EDGE</p> <p>Nokia 6630</p> <p>Démo 3D</p>	 <p>3G</p> <p>Samsung SGH- Z500</p> <p>Démo 3D</p>	 <p>3G</p> <p>Sony Ericsson K600i</p> <p>Démo 3D</p>	 <p>3G</p> <p>Samsung SGH- Z300</p> <p>Démo 3D</p>	 <p>3G</p> <p>LG U8210</p> <p>Démo 3D</p>
 <p>3G EDGE</p> <p>Nokia N70</p> <p>Démo 3D</p>	<p>3G</p> <p>Visuel bientôt disponible</p> <p>Sagem my WZ</p>	 <p>3G EDGE</p> <p>Orange PC Card 3G/EDGE</p>	<ul style="list-style-type: none"> <li>• depending on the offer</li> <li>• starting from 1€</li> </ul>	



# Video-glasses: virtual screen commercialised by Orange



les lunettes vidéo Orange

une nouvelle expérience  
de la vidéo  
sur mobile !

visionnez vos vidéos préférées ■

jouez aux derniers jeux mobiles ■  
téléchargés sur Orange world

explorez les services Orange World ■

consultez et envoyez ■  
vos mails, vos SMS, vos MMS

299 Euros, uniquement compatible  
avec le Samsung D600E

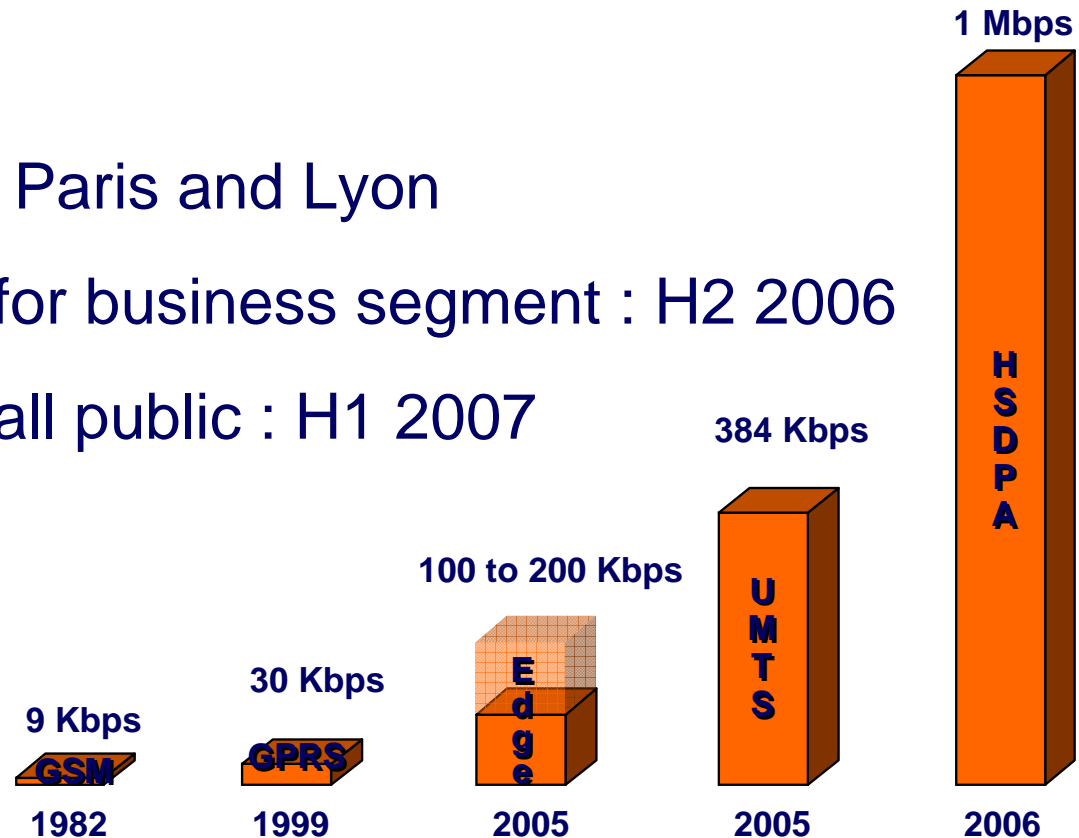


# Orange is deploying technical solutions to improve user comfort



## HSDPA

- experimentations in Paris and Lyon
- commercial launch for business segment : H2 2006
- commercial launch all public : H1 2007



# Orange TDD trial

- Trial in Lille for business segment : June 20 to December 20, 2005
  - Vendor-supplied network and CPE
  - CPE: PC card only
  - Objectives:
    - Test technology performances
    - Identify new usages allowed by very high speed
- Trial results
  - High speed performances, strong customer satisfaction
  - DL: 600 Kbps on average, peak at 1 Mbps
  - UL: 250 Kbps on average, peak at 600 Kbps
  - First page web pop up in only 2 s

**TDD trial has revealed a strong demand for mobile broadband wireless access on the business market**

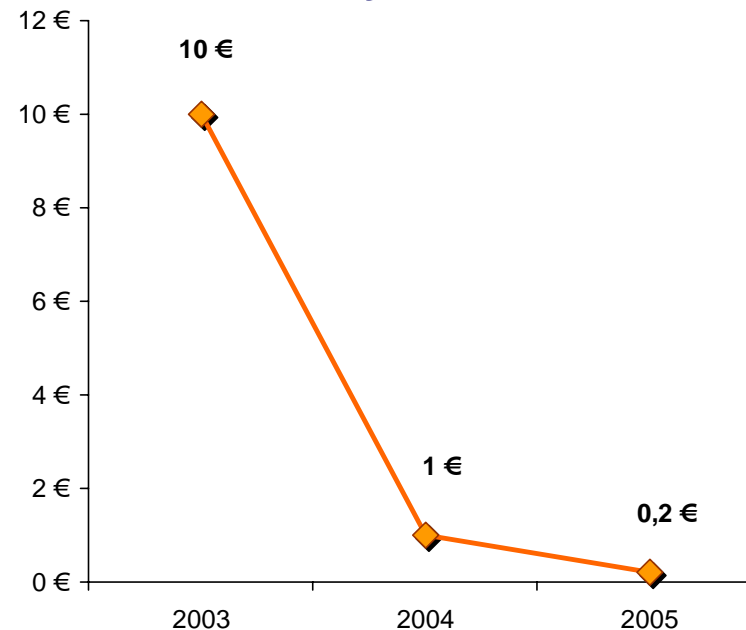


# Technological development and network extension allow democratisation of offer

## Orange France example

- Offers start with 10€/month for unlimited TV/video on WE
- UMTS available in all offers including pre-paid «mobicarte»
- Visiophony at price of classical call

## The price of Mo was divided by 50 in two years



# Selected Mobile Video Telephony Pricing

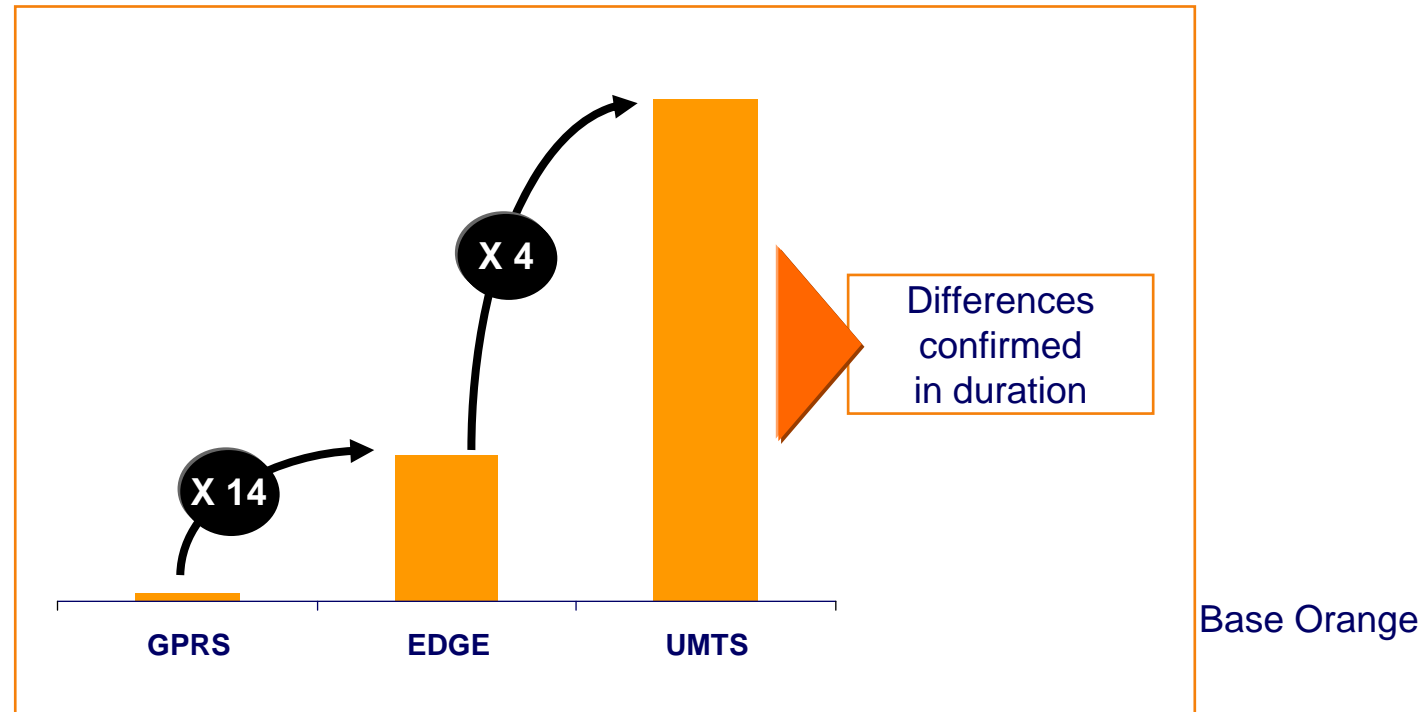
Country	Operator	Vid Call
Belgium	Proximus	Same price as voice (until end Jun 06)
France	Orange	Same price as voice (until end Jun 06)
	SFR	Same price as voice (promo)
Germany	Vodafone	Same price as voice until end Jun 06
	T-Mobile	Same price as voice until end Jun 06
Italy	TIM	EUR 0.6/ min (onnet): EUR 1.2/ min (offnet) outside 100 min bundle
Netherlands	Vodafone	EUR 0.75/ min
Spain	Amena	EUR 0.12 call set up + EUR 0.25/ min
	Movistar	EUR 0.15 - EUR 0.2/ min
	Vodafone	EUR 0.5/ min (contract): EUR 0.7/ min (prepaid)
Switzerland	Orange	Same price as voice
	Sunrise	Same price as voice
	Swisscom	Same price as voice
UK	Orange	GBP 0.3/ min (onnet): GBP 0.5/ min (offnet)
	Vodafone	GBP 0.35/ min (onnet): GBP 0.55/ min (offnet)
	O2	same as voice (until end Mar 06). After - GBP 0.5/ min (offnet)

Source: Strategy Analytics, 19 April 2006



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# New technologies are beneficial for customer



Comparison of traffic generated by **active** user of the system in 2006

**The change of technology for a customer results in improved comfort and therefore in increased usage and traffic**





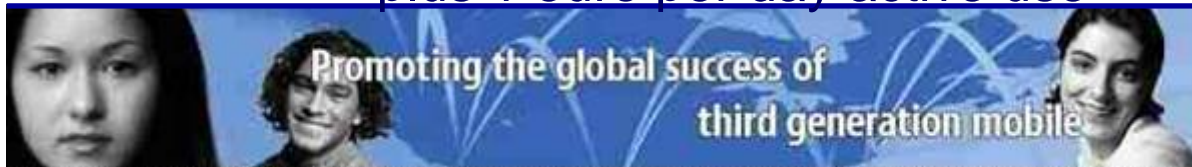
# Laptops with embedded UMTS and HSDPA emerging



- Vodafone
  - New notebooks with built-in UMTS and HSDPA shown at CEBIT
  - Sales to start during H1 2006
  - Dell and Lenovo announced partnership with Vodafone Group
  - Negotiations with other PC manufacturers in progress
  - Vodafone “Web Connect Fair Flat National” monthly rate of €49.30 including a free data volume of **5 GB**
- T-Mobile
  - Fujitsu-Siemens notebooks with built-in HSDPA, UMTS and WiFi
  - Sales start second quarter of 2006
  - Subsidies of up to €500 per laptop which could lead to consumer prices starting at €100 for 2 year contract
  - T-Mobile “webn’n’walk XL”
    - 35€/mth incl **5 GB** (plus 200 hr WiFi)
    - plus 1 euro per day active use

Data Source:

Vodafone and T-Mobile websites



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# GSM/GPRS + 3G + EDGE coverage

## Population coverage

- 58 % - UMTS
- 93 % - EDGE



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# UMTS-900 Standard

- Band I UMTS2000 (core band)
- Band II UMTS1900 (PCS band)
- **Band III UMTS1800 (GSM1800 band)**
- Band IV UMTS1700/2100 (for Americas)
- Band V UMTS850 (for Americas)
- Band VI UMTS800 (for Japan)
- Band VII UMTS2600 (UMTS extension band)
- **Band VIII UMTS900 (GSM 900 band)**
- Band IX UMTS1700 (for Japan)



# Orange's spectrum strategy for UMTS



## UMTS at 2 GHz

### Extension of coverage

- rural
- urban indoor

### Extension of capacity, high-bit-rate and services

- urban

Year 2008  
UMTS at 900 MHz

Year 2010  
UMTS at 1800 MHz and 2,5 GHz

Year 2010  
UMTS-LTE in UMTS bands

~ 2011  
UMTS at lower bands

~ 2015  
IMT-Advanced between 2.7 & 5 GHz



## To conclude:

- UMTS - the only efficient path from GSM for GSM operators
  - common Core Network, co-siting, dual mode terminals, GSM roaming can be kept and extended...
  - UMTS allows new harmonised radio resources for the operators
- UMTS deployment in 2GHz resulted in increased usage and traffic
  - speed leads to higher usage and improved comfort for a customer with an innovative services portfolio
  - UMTS900 will help to improve coverage and
  - UMTS evolutions offer improvements in the same network and within the existing bands



*Thank you  
for your attention!!!*



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