3G/UMTS and its evolution:
worldwide deployments & services -
Perspectives for the Arab Region

Jean-Pierre Bienaimé

Chairman, UMTS Forum

Summary

- **About the UMTS Forum**
- **3G/UMTS market update: deployments including HDSPA**
- **3G/UMTS operator strategies: which services are boosting ARPU and subscriber base**
- **The Perspectives for the Arab Region**

About The UMTS Forum

The UMTS Forum is an international, cross-sector industry body comprising operators, manufacturers, regulators, application developers, research organisations and IT industry players.

OBJECTIVES

To promote a common vision of the development and evolution of 3G/UMTS and to ensure its worldwide commercial success:

➢ by expressing a strong industry voice promoting 3G/UMTS technology and its evolutions through lobbying and promotional actions globally

➢ by forging dialogue between operators, manufacturers, administrations & regulators, and other market players that can ensure commercial success for all

➢ by providing market knowledge to aid rapid development and uptake of new services and applications

To provide practical support to industry, administrations and policy-makers:

➢ by offering guidance to governmental and financial communities, providing marketing input to technical standardization bodies (the Forum is a Market Representation Partner of 3GPP), and advising on spectrum requirements both for the present and future 3G systems

➢ through its membership of the three sectors of ITU, in the activities of which it participates regularly - such as the ITU-R WP8F – in view of preparation for the next World Radio Conference 2007 (WRC-07)

The UMTS Forum serves the interests of all its members through educational and promotional activities in its role as the voice of the 3G mobile market.

UMTS Forum Key Focus Areas

Work-plan 2006 in summary

Vision, Future Research & Market	Spectrum & Regulation	Technical Issues & Implementation
Evolution of 3G/UMTS	Global spectrum and spectrum arrangements for UMTS/IMT-2000 and its evolutions	Complementary technologies (mobile, Broadband Wireless Access...)
Services & Applications	Preparations for WRC-07	Mobile TV
Market forecasts, customer perspective and trends	Advice to industry and administrations on 3G licensing	3G standardisation and support to 3GPP
Relationships with international bodies (ITU, EC, CEPT/ECC...)		
Emerging markets action plan (including 'BRIC')		
Relationships with international media and financial community		
Visibility and participation at conferences, exhibitions, seminars and workshops		

The mass market embraces 3G/UMTS

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Some **big** numbers…

Almost **75 million** 3G/UMTS subscribers worldwide

more than **110** W-CDMA networks launched commercially

more than **315** W-CDMA devices launched or announced

approaching **3** times as many W-CDMA subscribers as EV-DO worldwide

Industry sources including Wireless Intelligence, May 2006

Continuing growth in global W-CDMA base

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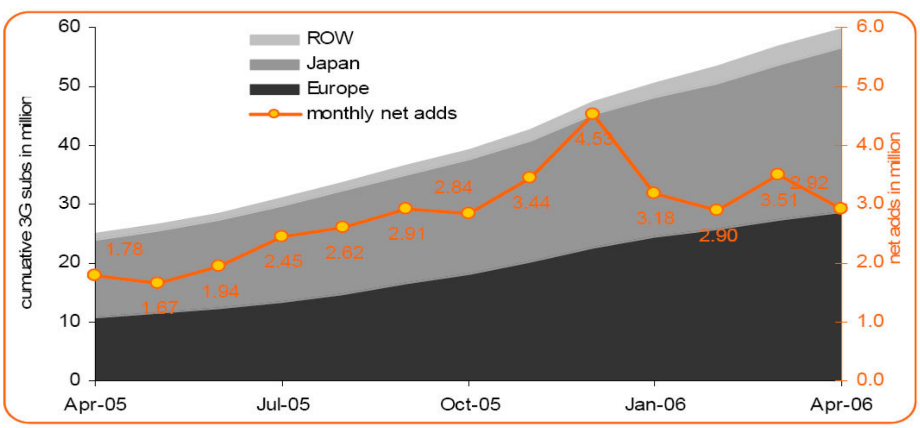
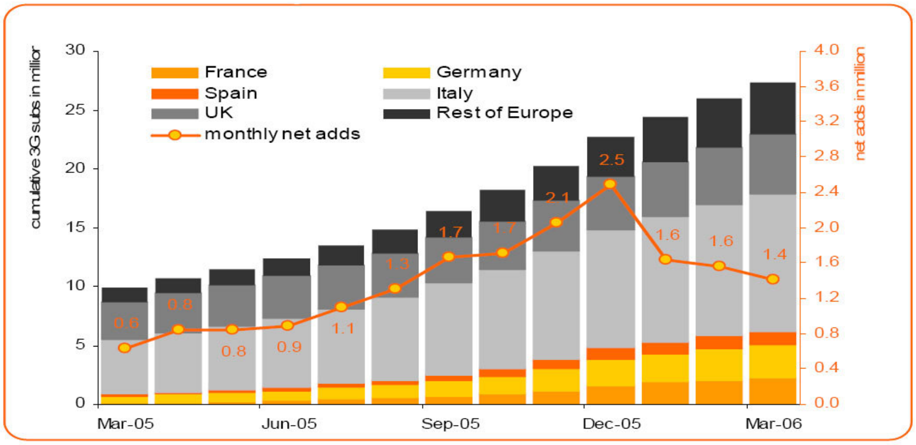


Source : EMC, TCA, Sofrecom (April 2006)

Increasing adoption in Europe

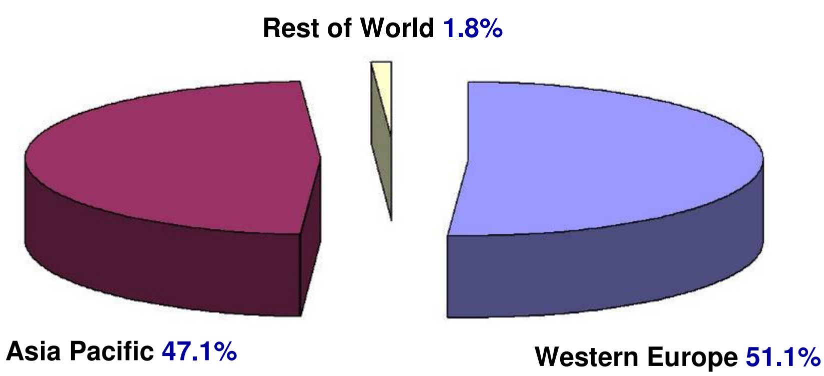
• Italy is leading European market ahead of UK, Germany and France



Source : EMC Database, Sofrecom (April 2006)

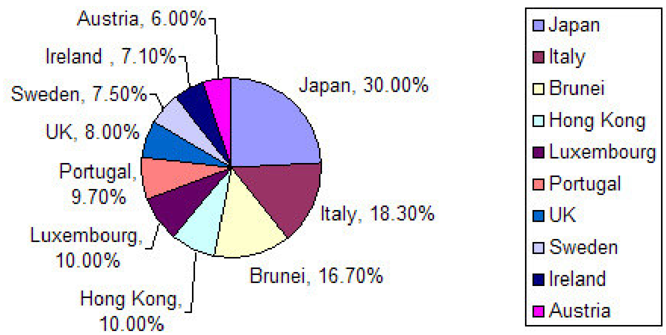
A regional view

Western Europe now single largest W-CDMA market



Source: Wireless Intelligence May 2006

Top Ten Countries Ranked by W-CDMA Penetration



Source: Wireless Intelligence 24 April 2006

3G/UMTS network launches

Several operators deploying W-CDMA & EDGE

EUROPE			
Austria	operator		launch
Austria	Mobilkom	3G EDGE	Apr-03
	H3G Austria		May-03
	Connect / One		Dec-03
	Tele.ring		Dec-03
	T-Mobile		Jun-04
Belgium	Proximus	3G EDGE	May-04
Bulgaria	Mobitel	3G EDGE	Mar-06
Croatia	VIPNet	3G EDGE	Jan-05
	T-Mobile	3G EDGE	Jun-05
Czech Rep.	T-Mobile	3G EDGE	Oct-05
	Eurotel	3G EDGE	Dec-05
Cyprus	Arreba		Dec-05
	CYTA		Apr-06
Denmark	Hi3G Denmark		Oct-03
	TDC		Oct-05
Estonia	EMT	3G EDGE	Oct-05
Finland	Telia sonera	3G EDGE	Oct-04
	Saunalahti		Jan-05
	Radiolinja/Elisa	3G EDGE	Nov-04
	DNA	3G EDGE	Dec-05
France	SFR	3G EDGE	Jun-04
	Orange	3G EDGE	Sep-04
Germany	Vodafone		May-04
	T-Mobile	3G EDGE	May-04
	e-plus		Aug-04
	O2		Jul-04
Greece	Vodafone		Aug-04
	Cosmote		May-04
	TIM		Jan-04
Guernsey	Wave Telecom		Dec-04
Hungary	T-Mobile	3G EDGE	Sep-05
	Pannon GSM	3G EDGE	Oct-05
	Vodafone		Dec-05
Ireland	Vodafone		Jul-04
	H3G Ireland		Jul-05
Isle of Man	Manx		Nov-05

EUROPE			
country	operator		launch
Italy	H3G Italy		Mar-03
	TIM	3G EDGE	May-04
	Vodafone		May-04
	Wind		Oct-04
Latvia	LMT	3G EDGE	Mar-06
Luxembourg	Tango (Tele2)		Jun-04
	VOXmobile S.A	3G EDGE	May-04
	LuxGSM (P&T)		May-04
Netherlands	Vodafone		Apr-04
	KPN Mobile		Jul-04
Norway	Telenor	3G EDGE	Dec-04
	Telia Netcom	3G EDGE	Mar-05
Portugal	Vodafone		May-04
	TMN		Apr-04
	Optimus		Jun-04
Poland	Polkomtel	3G EDGE	Sep-04
	PTC	3G EDGE	Apr-05
Romania	MobiFon (Connex)		Apr-05
Slovak Rep.	T-Mobile - Eurotel		Jan-06
	Orange		Mar-06
Slovenia	Mobitel		Feb-04
Spain	Vodafone		May-04
	Telefonica Moviles		May-04
	Amena		Oct-04
Sweden	H3G Sweden		Jun-03
	3GIS		Aug-03
	Vodafone		Apr-04
	Telia Sonera	3G EDGE	Mar-04
	Tele 2		Jun-04
Switzerland	Swisscom	3G EDGE	Oct-04
	Orange	3G EDGE	Sep-05
	Sunrise	3G EDGE	Dec-05
UK	H3G UK		Mar-03
	T-Mobile		Jun-04
	Orange	3G EDGE	Jul-04
	Vodafone		Apr-04
	O2		Oct-04

In orange: new networks commercially launched

3G EDGE Operators that have deployed both W-CDMA and EDGE networks

Source: Sofrecom (16th May 2006), GSA - W-CDMA deployments worldwide (3rd May 2006)

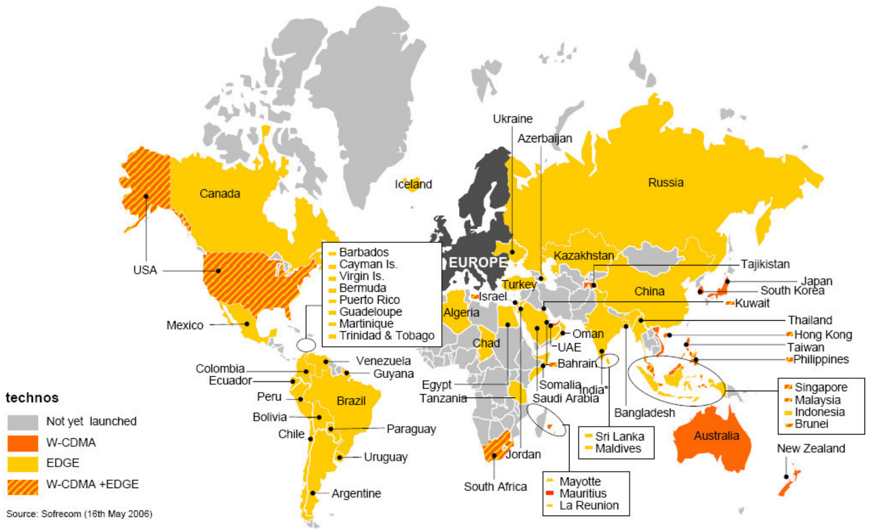
As of 16th May, there were 39 cellcos operating both an EDGE and W-CDMA network in 27 countries worldwide and 28 operators in 18 coutries in Europe

ASIA-PACIFIC			
country	operator		launch
Australia	H3G Australia		Apr-03
	Optus		Apr-05
	Telstra		Aug-05
	Vodafone		Oct-05
Hong Kong	H3G HK		Jan-04
	CSL	3G EDGE	Dec-04
	Smartone		Dec-04
	Sunday Comm.		Jun-05
Japan	NTT DoCoMo		Oct-01
	Vodafone KK		Dec-02
Malaysia	Maxis	3G EDGE	Apr-05
	Telekom Malaysia		May-05
New Zeland	Vodafone		Aug-05
Philippines	SMART	3G EDGE	Feb-06
	Globe	3G EDGE	Mar-06
Singapore	SingTel mobile	3G EDGE	Dec-04
	Mobile One		Dec-04
	StarHub		Apr-05
South Korea	SKT		Jun-05
	KTF		Sep-05
Taiwan	Taiwan Mobile		May-05
	VIBO Telecom		Dec-05
	FarEas Tone		Jul-05
	Chunghwa Telecom		Jul-05

W-CDMA in commercial operations		
	Countries	Operators
Worldwide	48	110
Europe	30	73

REST OF THE WORLD			
country	operator		launch
Bahrain	MTC Vodafone	3G EDGE	Dec-03
Brunei	B-Mobile Comm		Sep-05
Israel	Cellcom	3G EDGE	Jun-04
	Partner		Aug-04
Kuwait	Watanyia	3G EDGE	Feb-06
	MTC-Vodafone	3G EDGE	Dec-05
Mauritius	Emtel		Nov-04
South Africa	Vodacom		Dec-04
	MTN	3G EDGE	Jun-05
Tajikistan	TT-Mobile		Jun-05
	Babilon-Mobile		Jul-05
USA	Cingular Wireless	3G EDGE	Jul-04
UAE	Etisalat		Jun-04

3G/EDGE deployments: a global picture



Source: Sofrecom (16th May 2006)

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Complementary strategies in Europe

Several European operators are offering mobile broadband via a complementary mix of 3G/UMTS and other technologies including EDGE

technos

- Not yet launched
- W-CDMA
- EDGE
- W-CDMA +EDGE

Source : Sofrecom (16th May 2006)

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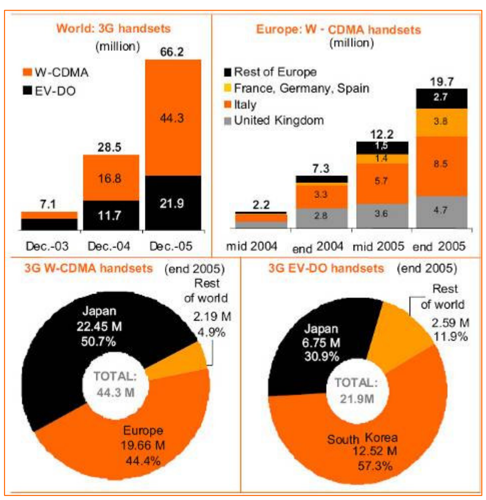
3G/UMTS Terminals

• April 2006: Over 315 3G/W-CDMA/HSDPA terminals (handsets and PC cards) commercially available or announced by a growing range of European, Asian and US vendors

• Latest models compare with 2G handsets in terms of battery life, weight and size

Growth driven by an improved customer experience



Increased 3G/UMTS market uptake driven by:

• Increased choice of terminals

• Smaller size and lower weight

• Improved battery life

• Reduction in entry cost (e.g. Christmas promotional offers by operators)

• Strong customer incentives through attractive tariff plans (e.g. pre-pay and fixed-price packages) – often aligned with 2/2.5G pricing

• Better customer experience through improved network coverage

3G/UMTS drives ARPU: the evidence

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3G customers at NTT DoCoMo in Japan spend €21 each month more than DoCoMo's 2G customers, i.e. an ARPU of €65 for 3G compared with €44 for 2G [September 2005]

Average 3G customers in the UK also spend €21 each month more than 2G customers, i.e. an ARPU of €64 for 3G compared with €43 for 2G [September 2005]

Source: Orange / SOFRECOM / survey by Telephia.

3G Operator Evolution Options (Mid 2004)

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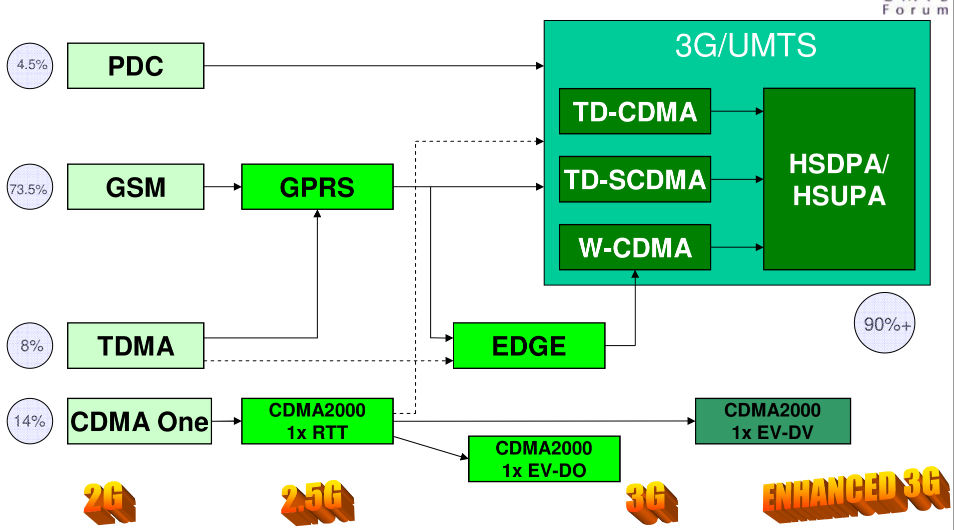

HSDPA (High Speed Downlink Packet Access)

The next step in evolution of the 3GPP air interface

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HSDPA = high speed mobile broadband, enabling a wide variety of high bandwidth multimedia services including:

- high quality streaming video,
- fast downloads of high resolution images and large files,
- interactive e-mails & gaming,
- telematics,…

Compared with WCDMA, HSDPA:

1. increases throughput (2→14.4 Mbps): total and average per user
2. reduces latency
3. increases data capacity up to 5x in dense urban environments (micro-cells)

HSDPA: Global deployment status

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HSDPA in commercial operations	Countries	Operators
Worldwide	20	25
Europe	13	16

As of 16th May, 25 operators have commercially launched HSDPA services in 20 countries, whereas 94 operators have announced that they were deploying HSDPA in 48 countries.

EUROPE

country	operator	deployment / launch target	launch
Austria	T-Mobile		Mar-06
	Tele.ring	yes	
	Mobilkom		Jan-06
	H3G	yes	
	One	mid 2006	
Belgium	Proximus	summer 2006	
	Mobistar	3Q06	
Bulgaria	MobiTel		Mar-06
Croatia	VIPNet		Apr-06
Czech Rep.	Eurotel Praha		Apr-06
	T-Mobile	Jun-06	
	Oskar-Vodafone	yes	
Denmark	H3G	yes	
Estonia	Elisa		Apr-06
Finland	Elisa		Apr-06
	Finnet	yes	
France	Bouygues Tel	April 2007	
	Orange	2H06	
	SFR	2H06	
Germany	T-mobile		Mar-06
	O2	3Q06	
	E-Plus	yes	
	Vodafone		Mar-06
Guernsey	Cable & Wireless	yes	
Hungary	Pannon GSM	yes	
	T-Mobile	2006	
Ireland	O2	yes	
	Vodafone	YE06	
Isle of Man	Manx		Nov-05
Italy	Vodafone	2H06	
	H3G		Feb-06
	TIM	May-06	
Jersey	Cable & Wireless	yes	
Latvia	Bite	yes	

EUROPE

country	operator	deployment / launch target	launch
Lithuania	Bite	yes	
	Omnitel	yes	
Madeira	Optimus		Feb-06
Netherlands	T-Mobile		Apr-06
	Telfort	YE06	
	KPN	YE06	
Poland	Polkomtel	2006	
	PTC	yes	
Portugal	Optimus	yes	
	TMN		Apr-06
	Vodafone		Mar-06
Romania	Connex-Vodafone	YE06	
Slovak Rep.	Orange	2006	
Slovenia	Mobitel	yes	
Spain	Movistar	yes	
	Vodafone	yes	
	Amena	yes	
Sweden	H3G	yes	
	3GIS	yes	
Switzerland	Swisscom		Mar-06
	Orange	yes	
	Sunrise	2Q06	
UK	O2	3Q06	
	Vodafone	mid-2006	
	T-Mobile	1Q06	
	Orange	2H06	
	H3G	2H06	

AMERICAS

country	operator	deployment / launch target	launch
Canada	Rogers Wireless	fall 2006	
USA	Cingular Wireless		Oct-05
	EDGE Wireless	yes	

ASIA-PACIFIC

country	operator	deployment / launch target	launch
Australia	Vodafone	yes	
	H3G	yes	
	Telstra	yes	
China	China Mobile	yes	
Hong Kong	Sunday	yes	
	SmarTone-Vodaone	YE06/2007	
	H3G	3Q06	
	Hong Kong CSL	3Q06	
Japan	NTT DoCoMo	3Q06	
	Vodafone	yes	
	eMobile	yes	
	BB mobile	yes	
Malaysia	Maxis	yes	
New Zealand	Vodafone	yes	
Philippines	Smart Com.		Ar-06
	Globe		Mar-06
Singapore	M1	2006	
South Korea	SK Telecom		May-06
	KFT	2Q06	
Taiwan	VIBO	yes	
	Taiwan Mobile	yes	

REST OF THE WORLD

country	operator	deployment / launch target	launch
Bahrain	MTC-Vodafone	2006	
Israel	Cellcom	yes	
	Partner		Mar-06
Kuwait	Watanyia		Feb-06
Qatar	Q-Tel	yes	
South Africa	MTN		Mar-06
	Vodacom		Apr-06
Tanzania	Vodacom	2006	
UAE	Etisalat		Apr-06

in Orange: Networks commercially launched as of 16th Mai 2006

Source: Sofrecom (16th Mai 2006), GSA - GSM/3G market/ technology update (8th Mai 2006)

…with HSUPA launches expected from 2007

HSDPA: Global deployment status

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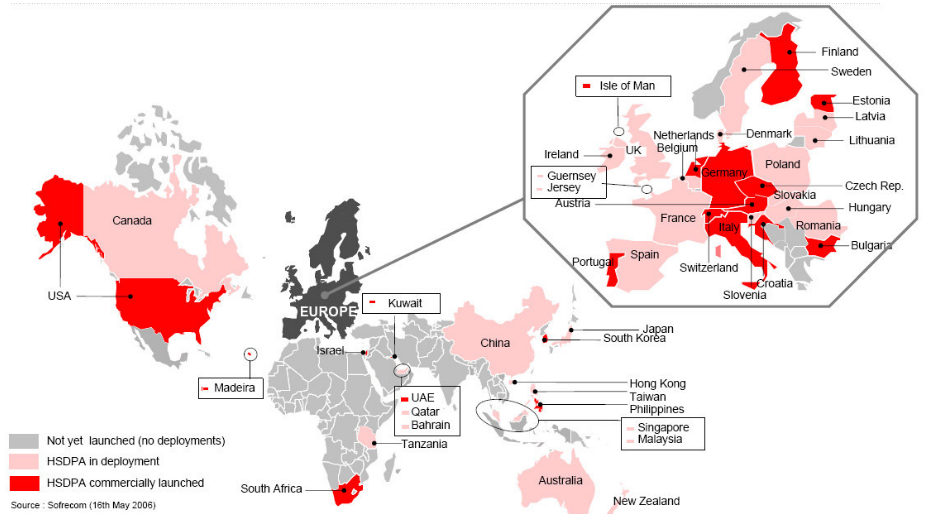

Promoting the global success of third generation mobile

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HSDPA: Now a market reality

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- 25+ HSDPA networks already in service
- 90+ HSDPA networks planned, in trial or in deployment…

EUROPE

- Orange France in trial
- T-Mobile (Germany & Austria) launched March 06
- Mobilkom Austria launched Jan 06
- H3G Italy launched Feb. 06
- O2 / Manx Telecom launched Nov 05
- Vodafone Germany & Portugal launched Mar. 06
- SFR (France) in trial
- Optimus Madeira launched Feb. 06
- Elisa Finland & Estonia launched April 06
- Swisscom Switzerland launched Mar. 06
- TIM (Italy) in trial
- Mobiltel Bulgaria launched March 06
- Eurotel Czech Rep. launched Apr. 06

ASIA PACIFIC

- NTT DoCoMo in trial
- Sunday Hong Kong in trial
- KTF Korea in trial
- SKT Korea launched May 06
- M1 Singapore in trial
- Smart Com & Globe (Philippines) April 06

MIDDLE EAST / AFRICA

- Wataniya Kuwait launched Feb. 06
- Etisalat UAE launched April 06
- MTN & Vodacom RSA launched April 06

NORTH AMERICA

- Cingular AT&T US launched Dec 05
- Rogers Wireless Canada in trial

…plus HSUPA launches from 2007

Promoting the global success of third generation mobile

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3G operator strategies: case study

ORANGE FRANCE

- Launched business EDGE offer in April 2005 and to consumers 2 months later – complementing 3G/UMTS coverage
- Unified "Orange Intense" mobile broadband offering – does not differentiate between EDGE and WCDMA technologies
- Key customer offers during 2005 have included:
  - "Discovery" 50% discount on monthly fee and free TV
  - Add a second handset for €1 and get 1 free hour of video calls between phones
  - Mobile broadband services included in all tariff plans with video telephony at same rate as voice for set period
  - Christmas €30 rebate on EDGE/3G phones and 50% discount on Orange World multimedia package
  - Unlimited voice and video calls at any time to three Orange numbers
- By Year End 05 had exceeded 1 million mobile broadband customers, double initial target

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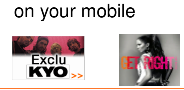
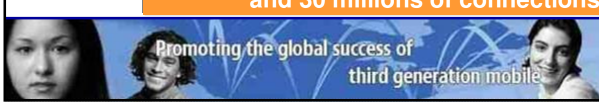
Innovative Services with UMTS

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

Infotainment	Live TV	Orange World Video	Orange World Music
Internet services on your mobile	54 channels on your mobile	All videos with 1 click	The best songs on your mobile
Pour vivre l'information en direct !			 Exclu KYO

Orange World Portal: 5 millions of customers each month and 30 millions of connections per month



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New Orange World portal: video, TV, music

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1. Portal structured with folders
2. An animated area udpated several itmes each day
3. Direct access to « univers » (vidéo, TV and music)
4. A direct link to Gallery
5. Direct access to most used services

Promoting the global success of third generation mobile

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TV and VoD in Orange France

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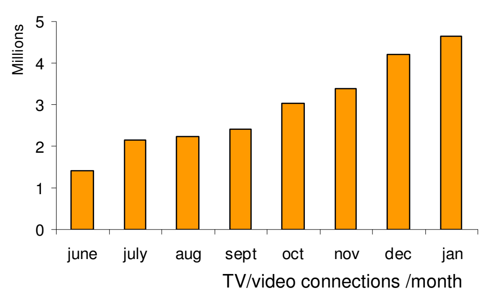
- 54 TV channels and 5 000 VoD (500 new every week)
- 22 millions TV/video connections in 2005
- 4,6 millions connections in January 2006
  - 56% TV, 44% VoD
- Specific contents for mobile video are developing
- Mobile TV over 3G:
  - 35 min/month
- DVB-H trials in France
  - 30 min/day



Promoting the global success of third generation mobile

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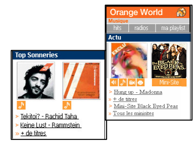
Music on mobile

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

- **2.5 millions of connections to Music portal in 2nd half 2005**
- In 2005: 10 millions of download products
- Operation Madonna: 150.000 ring tones downloaded

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3G operator strategies: service offerings

MOBILE TV

Sport is the most popular content:

- **Orange proposed Eurosport TV channel in France and UK (followed by Vodafone in Germany and Netherlands).**
- **Vodafone Germany proposed 'Budesliga Show' analysis and interviews on day's football matches, combined with alert services**
- **T-Mobile proposed 'DSF mobile TV' including German domestic league and UEFA Champions League football matches**

Adapted format for a different use – operators forge deals with media companies and create specially-adapted content (e.g. 2-3 min clips):

- **Vodafone launched the '24: Conspiracy' streaming programme in arrangement with Fox Entertainment. In partnership with national RAI TV (Italy) and Sky (UK), totalling more than 1 million streams of its exclusive Sky Mobile TV offer in 2 wks**
- **Amena launched in November special series for mobile viewers 'Los SuperVillanos'**
- **Three signed contract with Disney to use clips from hit series 'Lost'**

Operators give free unlimited access to encourage users:

- **In Germany, Vodafone and T-Mobile include free mobile TV in tariff plans for initial period; Vodafone UK included free viewing of Sky Mobile TV**

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3G operator strategies: service offerings

MOBILE MUSIC

New music portals and music catalogues extended:

- TIM Italy launched its i.music store and T-Mobile launched 'Musicload' in Germany.

Exclusive content adds value:

- T-Mobile signed 18-month deal and France Telecom Group signed deal with Madonna to exclusively offer their music.
- Three signed deal with EMI Music UK to include exclusive content from Robbie Williams, Kylie Minogue and Coldplay in its 'Video Jukebox' service. 10 million full-length video downloads in 6 months following service launch in 2004.
- Three also announced in June 2005 that 30 million music tracks have been downloaded or streamed on its networks in 9 global markets since service launched.

The phone becomes a music player:

- Phones now integrate music players… internal memory now facilitates adoption of this service

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Examples of innovative service offerings

Eurotel Praha offers Map Search service on its "Eurotel Live" 3G portal.

- **3G customers can search for cities and streets and plan travel itineraries on their mobile device.**
- **Users can enter a city, street or an address to retrieve a colour map and show the best travel route.**
- **Shows hotels, hospitals, pharmacies, ATMs and post offices**
- **Over 14,000 restaurants, historical monuments and other landmarks also included.**

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Innovative tariff proposals… case study

British operator Three is "paying" its customers for receiving calls and messages, up to €0.07 per minute and €0.03 per SMS.

- **Credit gained can be used to buy call minutes and services.**
- **Customers can only use this credit bonus when they buy a new "WePay" prepay topup, minimum price €15.**
- **Credit must be used within 30 days of the top-up.**

More innovative tariff proposals…

Clearer, more attractive pricing for 3G services

SFR in France, Wind in Italy and DoCoMo in Japan have now opted not to differentiate between 2G and 3G pricing.

3G videotelephony has been the subject of many price initiatives, such as free calls for one year with TIM or billing at voice prices in France.

Vodafone Italia charges only for the first minute of the call with the "Infinity Video" option.

Vodafone Portugal and its Best500 plan including 500 minutes of voice and videotelephony to be shared between four numbers.

Source: Orange / SOFRECOM

Keys for 3G operator success

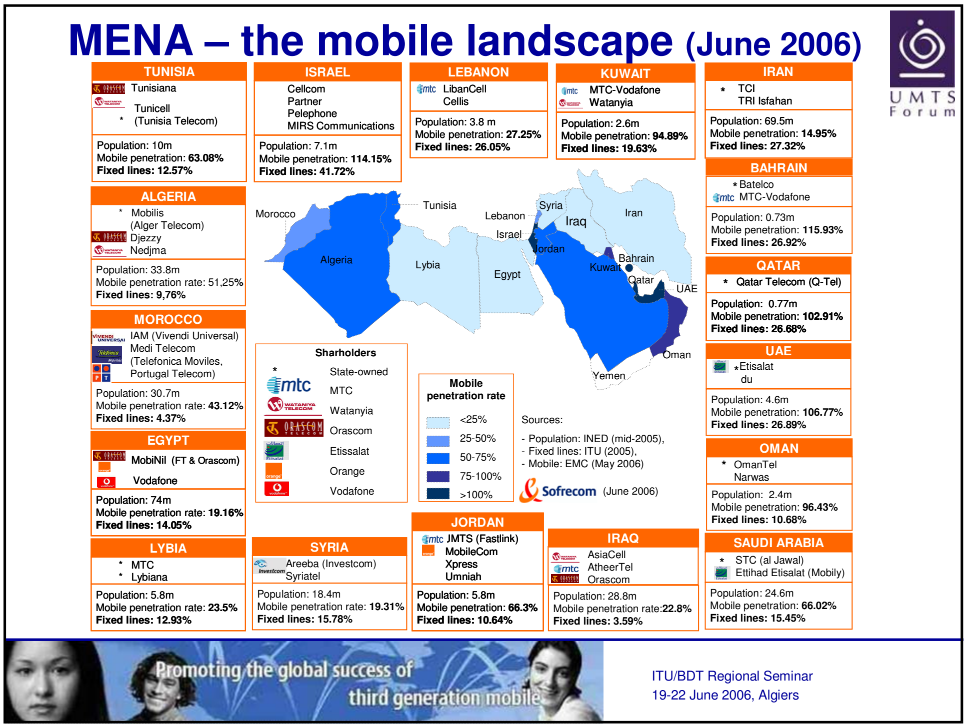
Market uptake of mobile data services depends on these key success factors:

- **Research into customer needs and availability of high quality, tailored local content and applications**
- **Strong platform integration (networks and terminals interoperability)**
- **Effective content integration**
- **Extensive, optimized network coverage (full is always preferable to partial…) with efficient handover from 3G>2G**
- **'Network externality' effect (utility and usage grows by a square factor in proportion to the number of users)**
- **Scale of addressable market (bringing proportional economies of scale)**
- **Availability of economic handsets tailored to market needs**
- **Create strong revenue models that drive demand and encourage usage**
- **Easy to understand customer tariffs**
- **Strong marketing support**

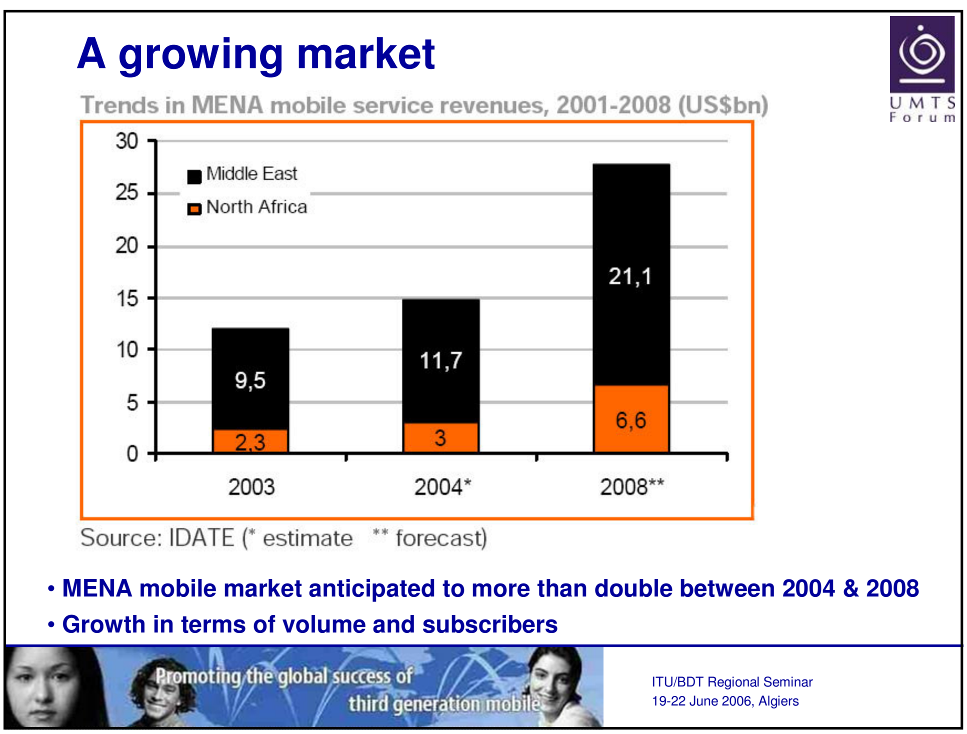
Source: various inc. Sina Mobile January 2006

Based on these criteria, the leading mobile data market in the world is Japan (more than 90% of users subscribe to mobile data services), while the second is South Korea (more than 50% of users subscribe to mobile data).

3G/UMTS: an evolutionary path to Next Generation Networks – perspectives for the Arab Region



MENA – the mobile landscape (June 2006)
TUNISIA
Tunisiana
Tunicell
* (Tunisia Telecom)
Population: 10m
Mobile penetration: 63.08%
Fixed lines: 12.57%
ISRAEL
Cellcom
Partner
Pelephone
MIRS Communications
Population: 7.1m
Mobile penetration: 114.15%
Fixed lines: 41.72%
LEBANON
LibanCell
Cellis
Population: 3.8 m
Mobile penetration: 27.25%
Fixed lines: 26.05%
KUWAIT
MTC-Vodafone
Watanyia
Population: 2.6m
Mobile penetration: 94.89%
Fixed lines: 19.63%
IRAN
* TCI
TRI Isfahan
Population: 69.5m
Mobile penetration: 14.95%
Fixed lines: 27.32%
ALGERIA
* Mobilis
(Alger Telecom)
Djezzy
Nedjma
Population: 33.8m
Mobile penetration rate: 51,25%
Fixed lines: 9,76%
BAHRAIN
*Batelco
MTC-Vodafone
Population: 0.73m
Mobile penetration: 115.93%
Fixed lines: 26.92%
Morocco
Algeria
Tunisia
Lybia
Egypt
Lebanon
Israel
Syria
Iraq
Jordan
Iran
Kuwait
Bahrain
Qatar
UAE
Oman
Yemen
QATAR
* Qatar Telecom (Q-Tel)
Population: 0.77m
Mobile penetration: 102.91%
Fixed lines: 26.68%
MOROCCO
IAM (Vivendi Universal)
Medi Telecom
(Telefonica Moviles,
Portugal Telecom)
Population: 30.7m
Mobile penetration rate: 43.12%
Fixed lines: 4.37%
Sharholders
* State-owned
MTC
Watanyia
Orascom
Etissalat
Orange
Vodafone
Mobile penetration rate
<25%
25-50%
50-75%
75-100%
>100%
Sources:
- Population: INED (mid-2005),
- Fixed lines: ITU (2005),
- Mobile: EMC (May 2006)
Sofrecom (June 2006)
UAE
*Etisalat
du
Population: 4.6m
Mobile penetration: 106.77%
Fixed lines: 26.89%
OMAN
* OmanTel
Narwas
Population: 2.4m
Mobile penetration: 96.43%
Fixed lines: 10.68%
EGYPT
MobiNil (FT & Orascom)
Vodafone
Population: 74m
Mobile penetration rate: 19.16%
Fixed lines: 14.05%
JORDAN
JMTS (Fastlink)
MobileCom
Xpress
Umniah
Population: 5.8m
Mobile penetration: 66.3%
Fixed lines: 10.64%
IRAQ
AsiaCell
AtheerTel
Orascom
Population: 28.8m
Mobile penetration rate:22.8%
Fixed lines: 3.59%
SAUDI ARABIA
* STC (al Jawal)
Ettihad Etisalat (Mobily)
Population: 24.6m
Mobile penetration: 66.02%
Fixed lines: 15.45%
LYBIA
* MTC
* Lybiana
Population: 5.8m
Mobile penetration rate: 23.5%
Fixed lines: 12.93%
SYRIA
Areeba (Investcom)
Syriatel
Population: 18.4m
Mobile penetration rate: 19.31%
Fixed lines: 15.78%
UMTS Forum
Promoting the global success of third generation mobile
ITU/BDT Regional Seminar
19-22 June 2006, Algiers



A growing market
Trends in MENA mobile service revenues, 2001-2008 (US$bn)
Middle East
North Africa
30
25
20
15
10
5
0
9,5
2,3
11,7
3
21,1
6,6
2003
2004*
2008**
Source: IDATE (* estimate ** forecast)
• MENA mobile market anticipated to more than double between 2004 & 2008
• Growth in terms of volume and subscribers
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Towards 3G – country status (June 2006)

Middle East	Technologies	3G status	Comments
Bahrain	GSM / EDGE W-CDMA	- MTC-Vodafone **EDGE** / **W-CDMA** (Dec-03), **HSDPA** (May-06) - Batelco **EDGE** (Mar-05), deploying **W-CDMA**	-
Israel	GSM / EDGE W-CDMA / HSDPA CDMA 2000 / EV-DO iDEN	- Peplephone **CDMA 2000 EV-DO** (Sept.-04) - Cellcom **EDGE** / **W-CDMA** (June-04), **HSDPA** in deployment - Partner **W-CDMA** (December-04), **HSDPA** (March-06)	MIRS operates an iDEN network. No information released about 3G upgrade
Jordan	GSM / EDGE iDEN	- Mobilcom **EDGE** (July-04) - Fastlink **EDGE** (June-05) - Umniah **EDGE** (June-05)	-
Kuwait	GSM / EDGE W-CDMA / HSDPA	- MTC-Vodafone **EDGE** (Dec-04), **W-CDMA** (Dec-05) - Wataniya **EDGE** (March-05), **W-CDMA** / **HSDPA** (Feb-06)	-
Qatar	GSM	- Q-Tel **WCDMA** and **HSDPA** in Deployment	Monopoly
Saudi Arabia	GSM	- Etilsalat **EDGE** (March-05), **W-CDMA** / **HSDPA** in deploylment (launch target date June-06) - STC **W-CDMA** (June-06)	-
Syria	GSM	-	no lience attribution project for the moment
UAE	GSM W-CDMA / HSDPA	- Etilsalat **W-CDMA** (June-04), **HSDPA** (Apr-06)	-

North Africa	Technology	3G status	Comments
Morrocco	GSM	Maroc Telecom 3G demostration in partnership with chineese manufacturer ZTE (Mar-06)	Call for 3G bids in feb-05. 2 W-CDMA licences are expected to be granted in 2006.
Algeria	GSM/EDGE CDMA WLL	Mobilis First experimental **W-CDMA** network in Algeria (Dec-04) in partnership with Chineese manufacturer Huawei, CDMA WLL built by Huawei. Orascom **EDGE** trials with Alcatel (July04)	Licences to be awarded in 2007
Tunisia	GSM	Chineese manufacturer ZTE ran the first ever 3G call in Tunisia (July-04) with Tunisia's PTT CERT (R&D center)	Commercial services was supposed to be launched during 2H 05
Lybia	GSM	-	Monopoly
Egypt	GSM CDMA 2000 1x WLL	Telecom Egypt deploying **CDMA 2000 WLL,** applied for a 3G licence in partnership with Telecom Italia (May-06)	Call for 3G bids (May-06), a total of 21 companies, which formed 10 major alliances, have applied to bid

Source: Sofrecom, operators / Regulation Authorities (June 2006)

Selected 3G/UMTS operator focus

Examples of growth strategies in Arab region

ETISALAT
UAE

- Exploring new value-added service options to attract customers
- Enhanced offering will potentially include upgraded content, MMS and other new features
- Feasibility studies currently underway: launch of new services by end 2005

MTC-Vodafone
Bahrain

- 3G roaming agreements signed with seven global mobile operators in Middle East and Asia
- Enables automatic non-voice roaming for customers in UAE, Singapore, Hong Kong and Japan

The Arab Region – deploying 3G/UMTS

- The Arab Region has already commercially entered the mobile broadband world with EDGE (Algeria, Bahrain, Brunei, Egypt, Jordan, Kuwait, Oman, Saudi Arabia, UAE) and 3G/WCDMA (Bahrain, Brunei, Kuwait, UAE) – 3G licensing under process in Morocco, Qatar, Tunisia… HSDPA already launched in Kuwait and UAE !
- With the timely licensing and introduction of 3G/UMTS, the region will have the opportunity to maintain alignment with the GSM/UMTS world and enjoy the benefits of:
    - greater economies of scale
    - simplified international roaming
    - IPR export opportunities for services and applications
    - wider choice of cost-effective terminals

Arab region's operators, end users and equipment manufacturers will all benefit from 3G/UMTS

For more information

www.umts-forum.org