

## ***Mobile Services Evolution***



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## ***Many countries decided on IMT-2000***



### **Today's Mobile Services Market**

**Status June 2002 worldwide**

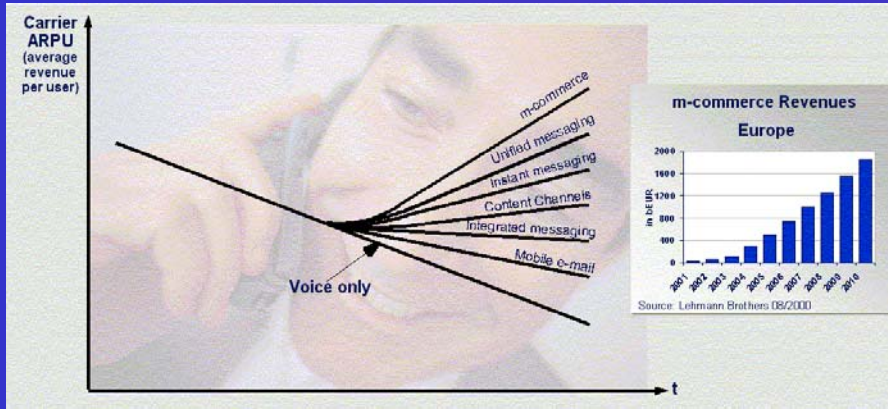
<b>Voice</b>	<b>&gt;</b>	<b>1 billion users</b>
<b>SMS</b>	<b>&gt;</b>	<b>30 billion SMS/month</b>
<b>Data</b>	<b>&gt;</b>	<b>50 million i-mode, WAP, GPRS subscriptions</b>

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# Mobile Revenue Trends



Source: Durlacher report on mobile commerce



# Central and Eastern European Market data



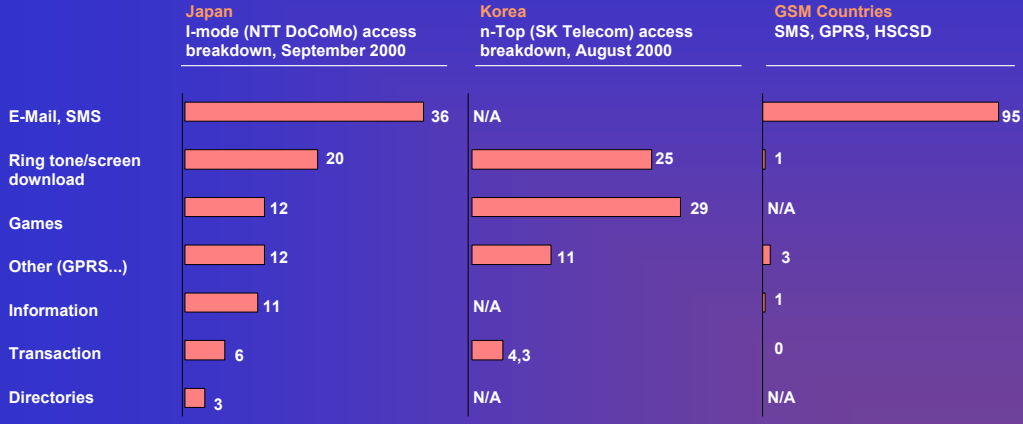
## Total Mobile users (analogue and digital standards)

Source	End 2002	End 2003	End 2004	End 2005	End 2006
EMC	64Mn	79Mn	92Mn	103Mn	113Mn
Siemens	74Mn	99Mn	125Mn	148Mn	169Mn



# Most popular Data Applications in early Mobile Data Markets

## Percentage use of data services

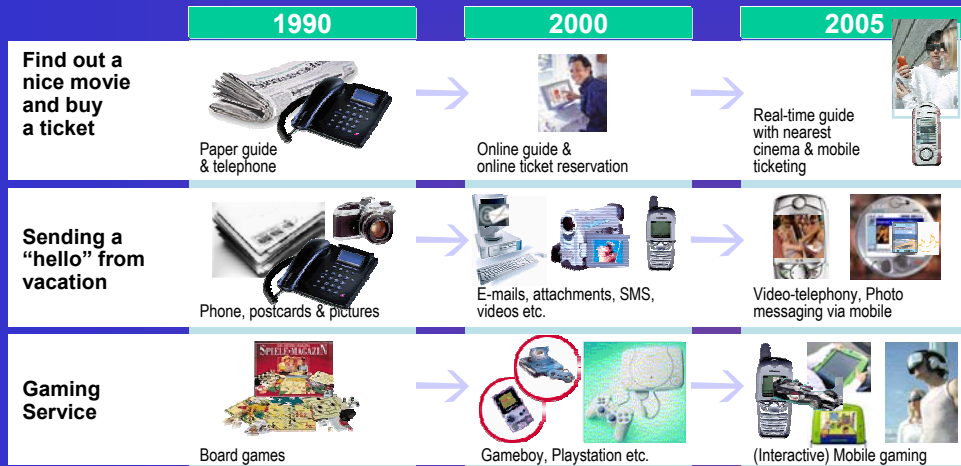


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# Changing Lifestyles & End-user Habits



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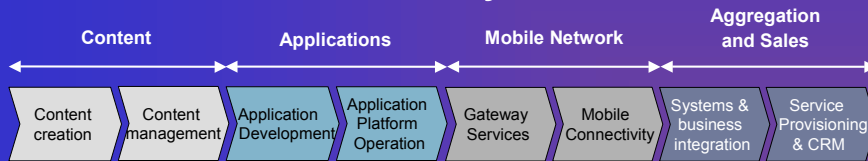
# Mobile Services Value Chain



## The "old" voice centric mobile industry:



## The "new" mobile data industry:



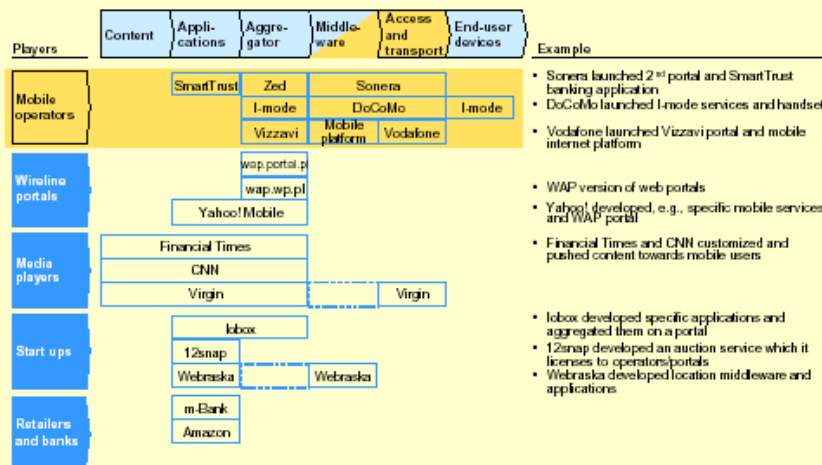
Source: Siemens ICM N M P (2001)

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## EXAMPLE OF PLAYERS IN THE VALUE CHAIN FOR CONSUMER M-DATA, 2000



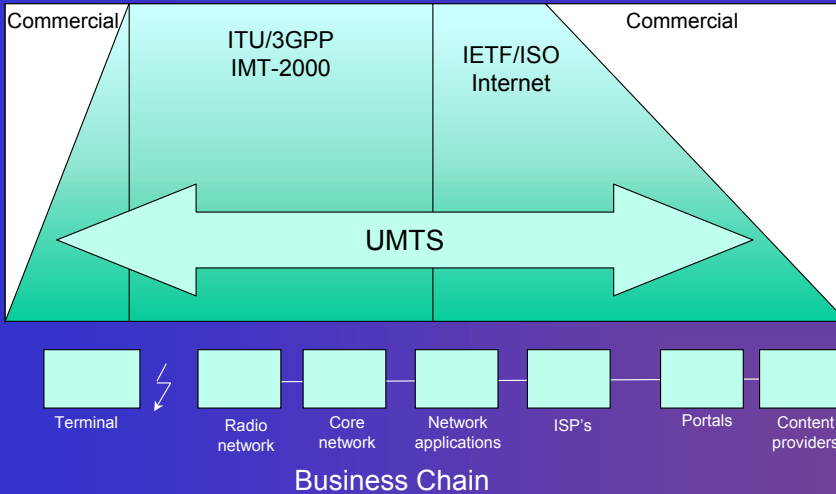
Source: EU Commission Report G/2002

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# UMTS extends the business chain for 3<sup>rd</sup> Party Content Services

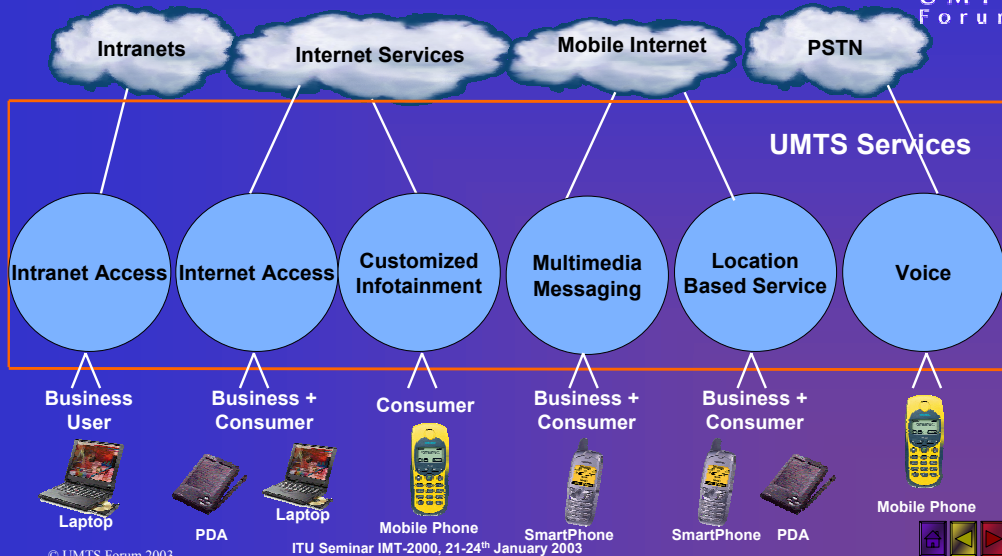


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# UMTS Service Categories



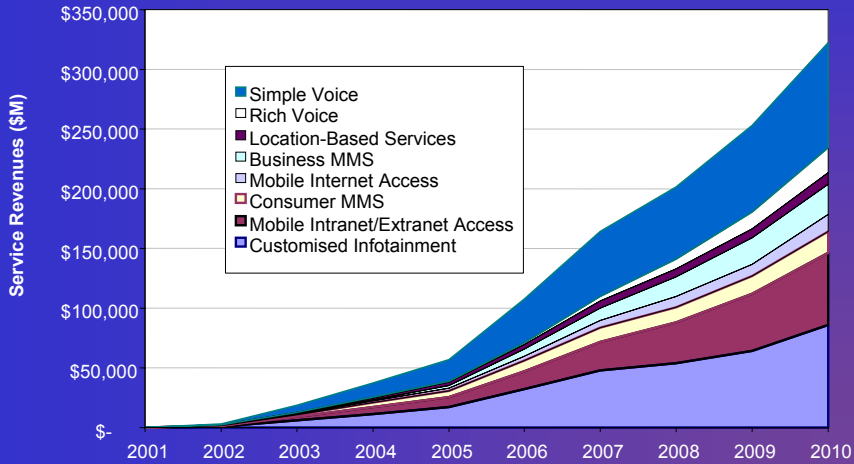
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# 3G Revenue Growth till 2010

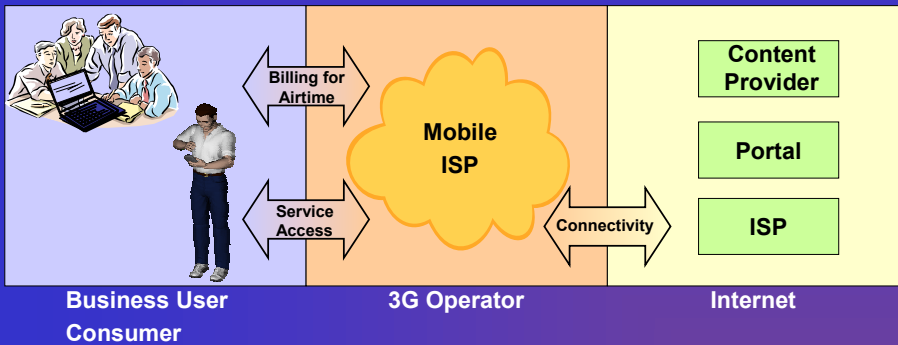
Worldwide Revenues - All Services



Source: Telecompetition Inc., February 2001



# Internet Access: 3 % Operator Revenues (2010)

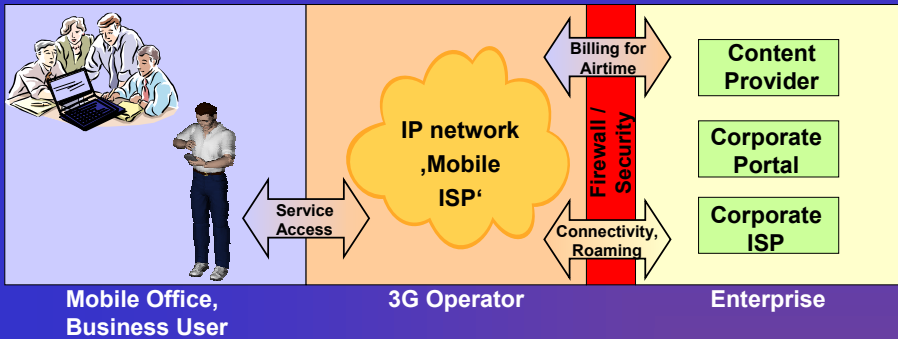


## Applications:

- Messaging (E-Mails, SMS, MMS)
- Download video, music, streaming
- VoIP, Video over IP
- m-banking
- m-commerce (m-purchasing), trading
- www travel
- www Infoservices



# Intranet/Extranet Access: 15 % Operator Revenues (2010)



## Enterprise Applications:

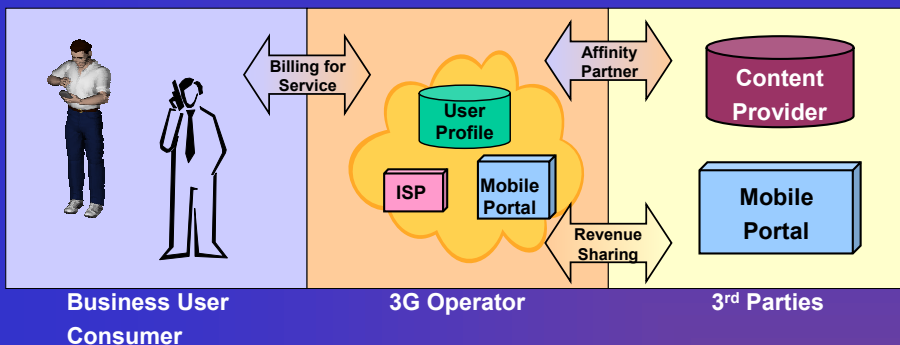
- Messaging (E-Mails), Travel assistance (www)
- Mobile Sales, Technical Services
- Teleworking, Access to Corporate Database
- Video Telephony, Conferencing
- Fleet Management, Warehouse

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# Customized Infotainment: 28 % Operator Revenues (2010)



## Applications:

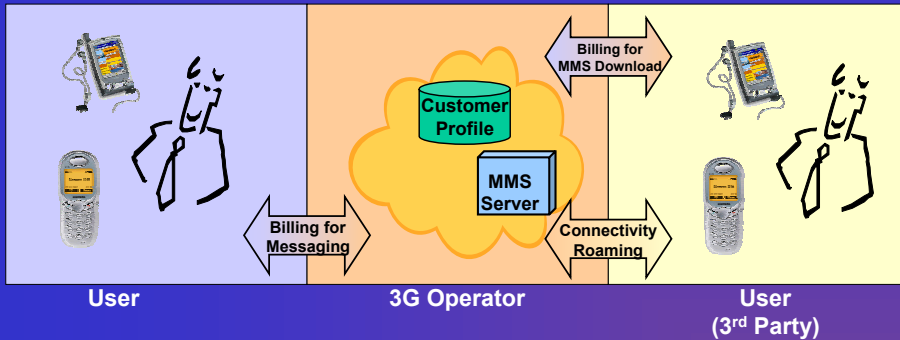
- Information (photo, video, music download)
- www Travel
- Education (Schools, Universities)
- Mobile messaging, Chatting (SMS, MMS)
- Gaming
- m-shopping, banking, e-wallet, micro-payment
- voice portal
- video portal

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# Multimedia Messaging: 15 % Operator Revenues (2010)



Applications = Extension of SMS:

MMS: Image, Video, Unified Messaging  
Mobile postcard, video/audio clip

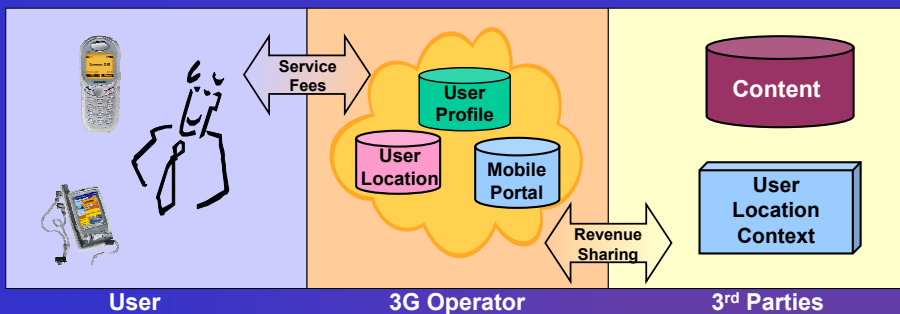
- MS Office documents
- Machine-to-Machine
- Music
- Mobile chatting
- Photo messaging
- Video messaging

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# Location based Services: 3 % Operator Revenues



Applications:

- Navigation (person, car)
- Localised Info (yellow pages)
- Location based m-commerce
- Telematics
- Trading (vehicle, goods, person)

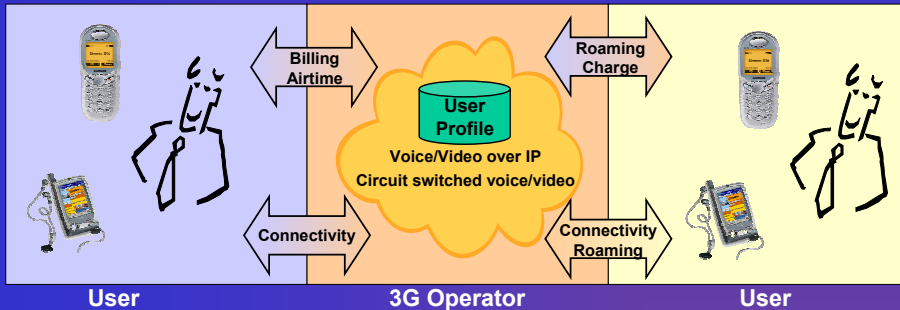
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# Rich Voice: 34 % Operator Revenues



### Applications:

- Telephony/Conferencing
- Videotelephony, Conferencing, Presence
- Telemedicine
- Teleworking (building industry etc.)
- Multimedia communication (IMS)

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# Service Transmission Times Mobile/Fixed Networks



Service Data Volume	Transfer Time					
	2nd Generation GSM - GPRS		Fixed PSTN / ISDN ≤ 64 kbps	3rd Generation UMTS		
	9,6 kbps	50 kbps		128 kbps	384 kbps	2 Mbps
E-mail 5 kbyte	8 s	1,7 s	1,6 s	1,2 s	0,5 s	<0,5s
SMS with photogr. 5 kbyte (JPEG 2000)	8 s	1,7 s	1,6 s	1,2 s	0,5 s	<0,5s
Web page 20 kbyte	20 s	4,5 s	4 s	2,4 s	0,8 s	<0,5s
Document 100 kbyte	2 min	35 s	25 s	12 s	4 s	<1s
3 min Audio CD 2 Mbyte MP3	40 min	9 min	6,5 min	3 min	--- <sup>1)</sup>	--- <sup>1)</sup>
10s Videoclip 600 kbyte MPEG4	10 min	2,5 min	1,5 min	45 s	15 s <sup>2)</sup>	

User acceptance

<sup>1)</sup> Optimal CD Quality  
Streaming = 128 kbps  
<sup>2)</sup> Videostreaming

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## How will Services Differ in the Regions of the World?



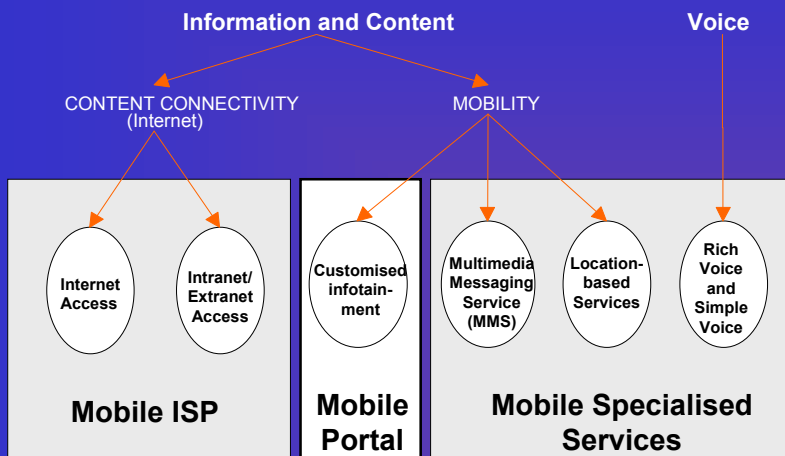
- Requirements vary in the regions regarding services and applications
- Wireless access to the Internet may be the first driver for 3G in many countries in order to get faster penetration – public WLAN access will be complementary
- Specific Mobile Services will come from 2G evolution: MMS, Rich Voice, LBS, Infotainment

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## 3G leads to new Business Models

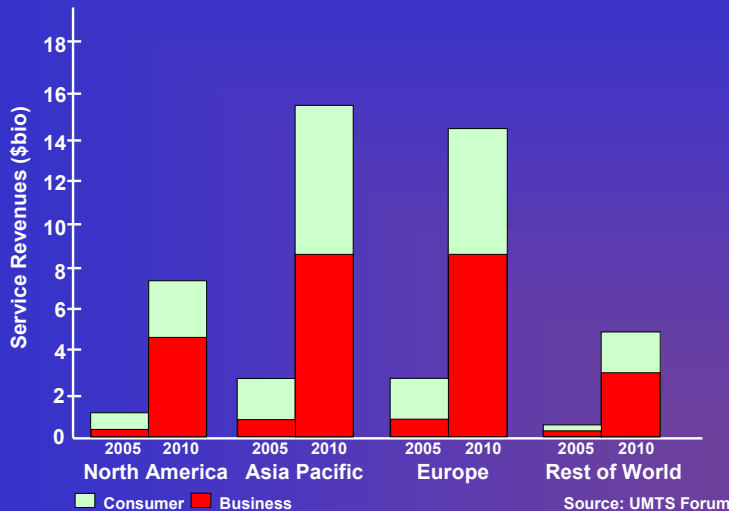


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## Multimedia Messaging Service Revenues by Region in 2005 and 2010



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## The UMTS Forum Estimates show that



- Wireless Access accelerates Internet Penetration compared to wireline access (for business, for schools, private)
- UMTS Services will dominate in the global market place – Economy of scale
- Global Industry Support for Service Evolution from 2G to 3G

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*Thank you for your Attention!*



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