

Thematic Paper:  
**Key issues in the evolution  
to always-on  
mobile multimedia  
environments**



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**ITU/BNetzA New Initiatives Workshop**  
*The Regulatory Environment Future Mobile Multimedia Services*  
[www.itu.int/multimobile](http://www.itu.int/multimobile)

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The views expressed in this presentation are those of the author and do not necessarily reflect the opinions of the ITU or its membership.  
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# shifting tides

- from local thinking to global thinking
- from stable markets to fast-paced innovation
- from physical distance to virtual proximity
- from occasional information flow to constant information flow
- from big devices to small devices
- from passive users to active users
- from low-speed to high-speed
- from fixed to mobile



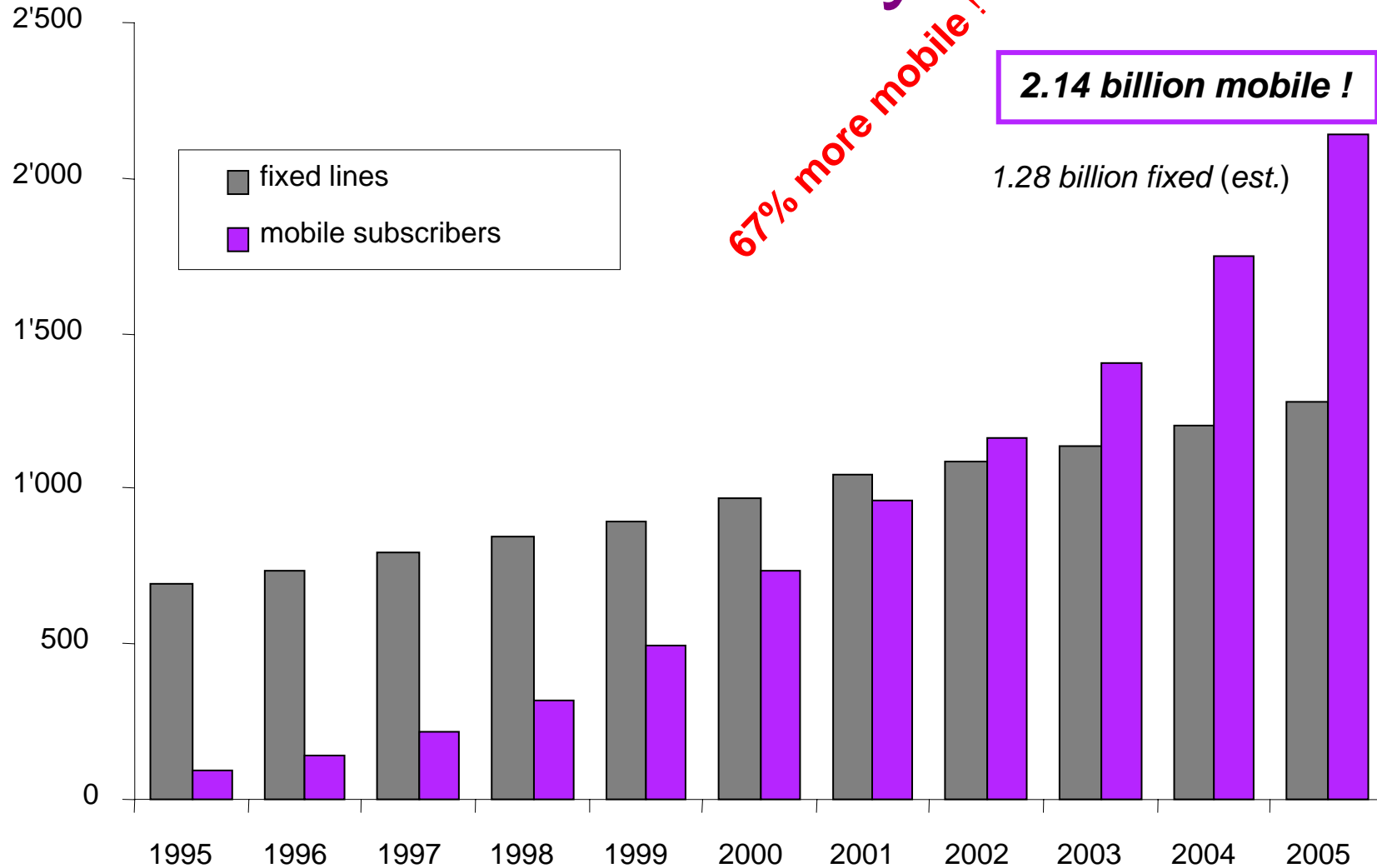
NASA



# we are indeed much more mobile today...



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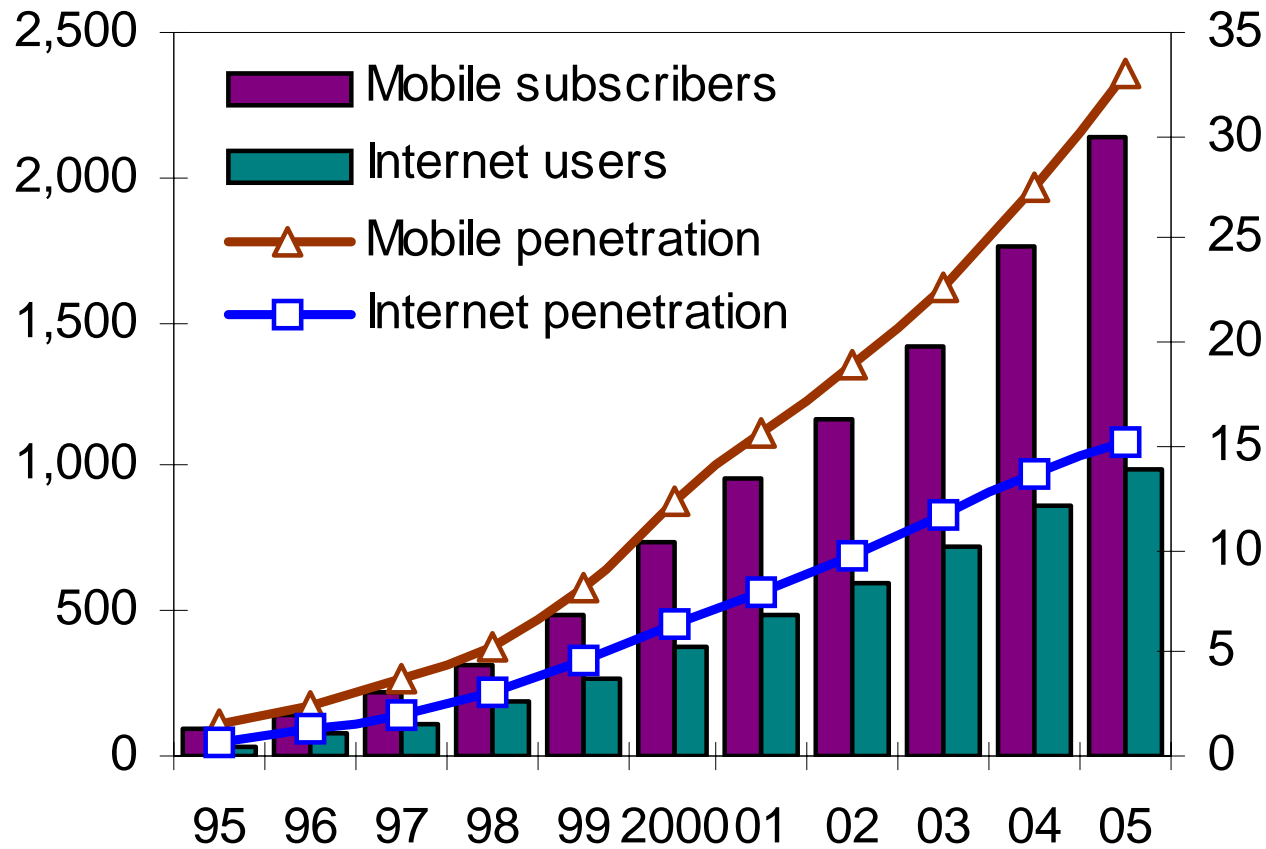
# ...and loving it!

- the mobile has become a portable daily necessity not unlike e.g. a pen or a piece of ID?
- it is typically no more than one metre away from users (day & night)
- it often replaces wristwatch & alarm
- its loss causes panic and major disruption in daily life
- it is reflective of individual identity (as an extension of the self) (e.g. fashion accessory, personal diary, photo album)
- it indeed has wide appeal and can facilitate shared experiences (e.g. moblogging, P2P exchange)
- it's the most intimate ICT device around, creating “emotional attachment” in users



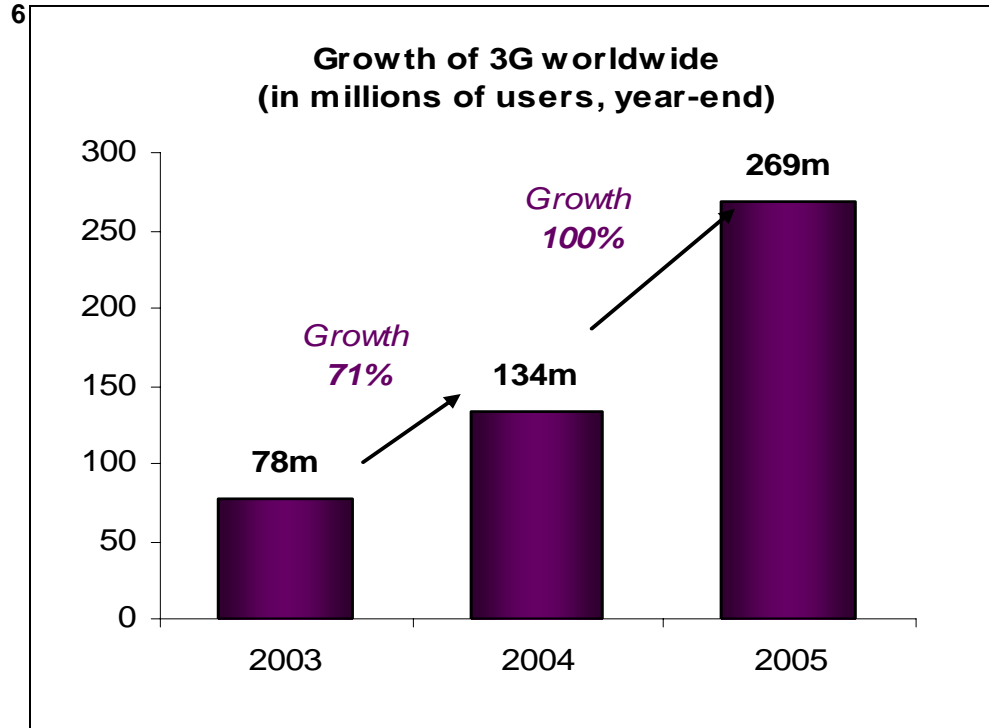
# a decade of stunning growth for mobile & internet

Users (millions) and penetration per 100 pop.

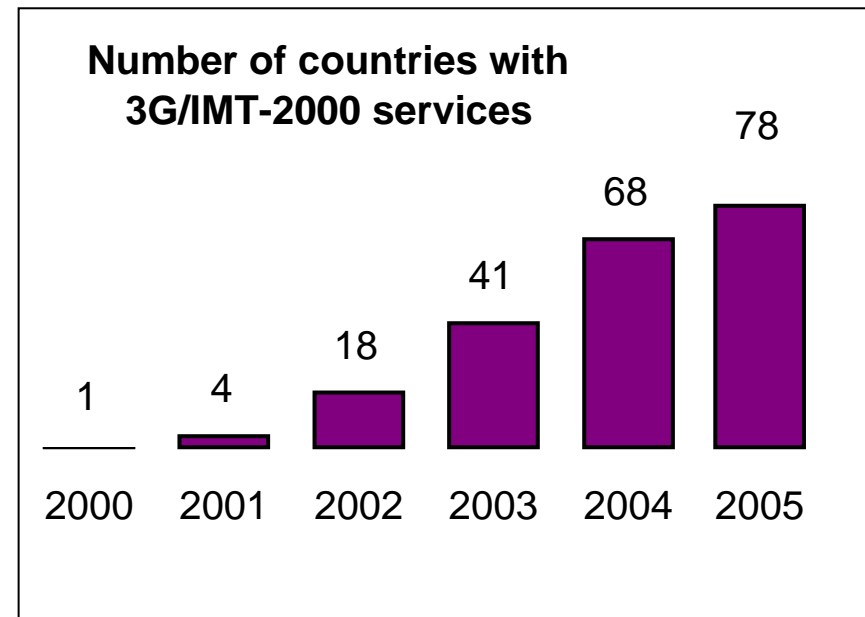


# internet goes mobile with IMT-2000/3G

## estimated users

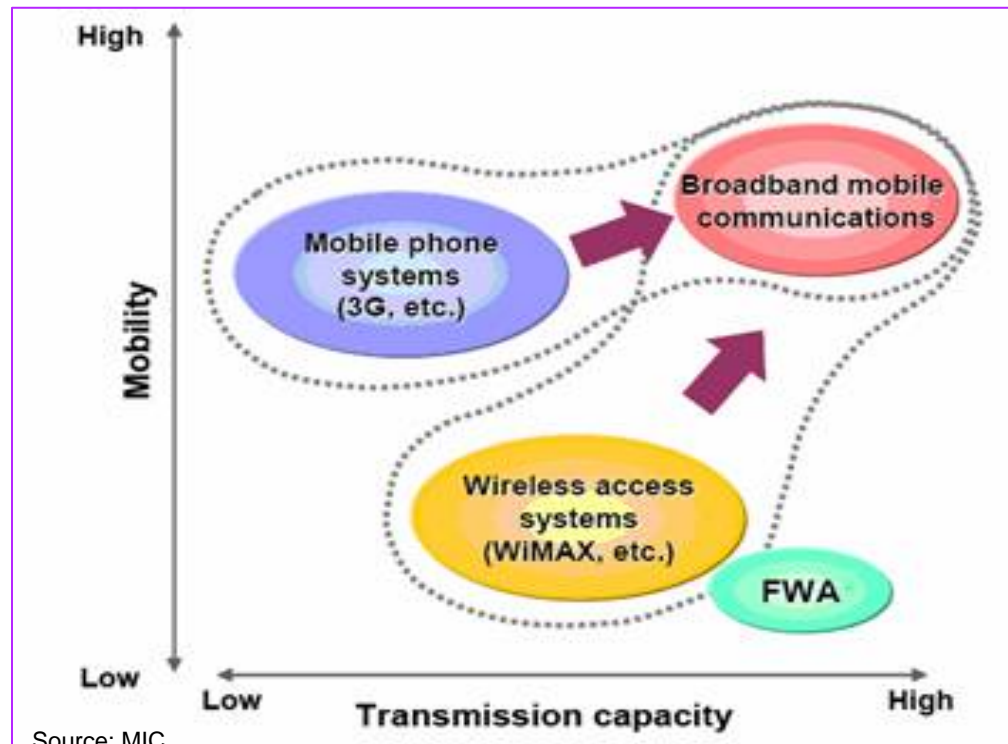


## economies with networks



# converging objectives: towards ubiquitous broadband connectivity...

*Key question: how to make effective use of spectrum to achieve this objective?*



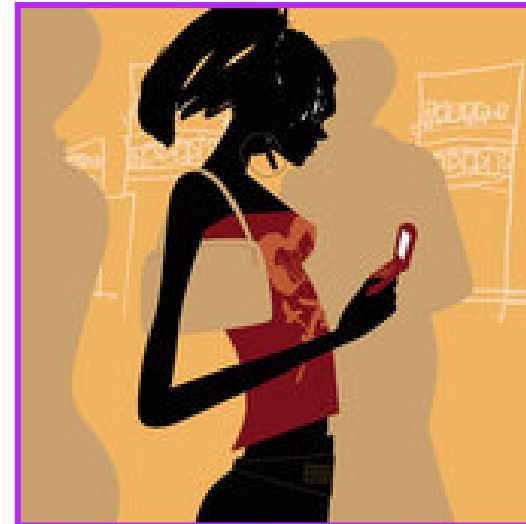
*more on spectrum in the presentation of 2<sup>nd</sup> Background Paper  
“Towards flexible spectrum regulation”, today at 14:45*



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## ...for the changing user

- from user to developer
- from observer to creator
- from follower to leader
- from consumer to producer
- from audience to player
- from reader to storyteller
- from a passive listener to active speaker
- from subject to participant





# manufacturers continue to aim for more & more personalization ...

- **fashion phones:** e.g. chocolate-like phones such as Nokia's 7380, LG's slim KG800 & Motorola RAZR, athletes' sport smartphones
- **security phones:** e.g. fingerprints, or Pantech's finger-writing PG-2800
- **mood phones:** e.g. Ornetia biorhythm for windows-based smartphones
- **smelly phones** e.g. Samsung's patent application for perfume-spraying mobile phone functionality
- **slow phones** e.g. NTT DoCoMo's handset which slows down talking speeds

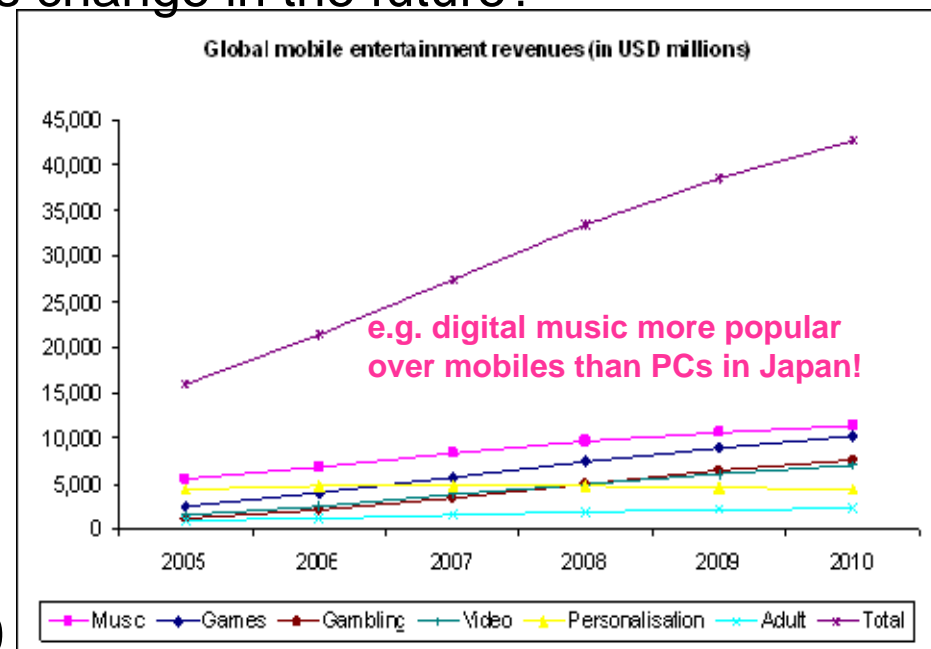


Source: Nokia

# ...while operators scramble to push multimedia services

- large proportion of content still stems from personalization services (e.g. ringtones, wallpapers)
  - driven by events or brands unrelated to the mobile industry, e.g. popular TV series. Will this change in the future?

- analysts predict that content will diversify over the next years, first to more audio & video services (e.g. mobile TV, with share of personalization services decreasing)
- Total mobile entertainment revenues set to rise from 15.8 to 42.8 bn USD by 2010



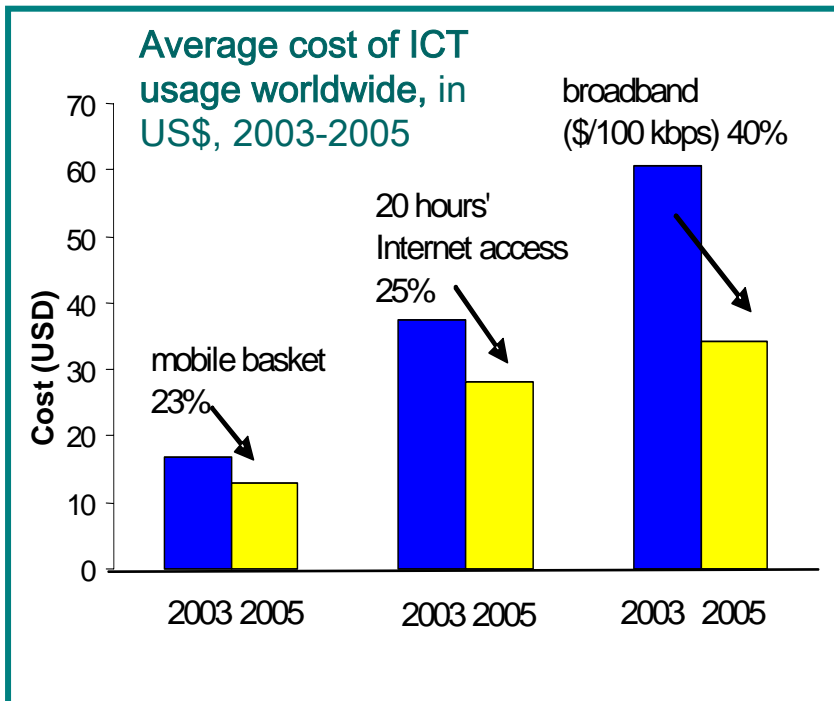
Source: Informa

- (how) will traditional mobile players re-position themselves?

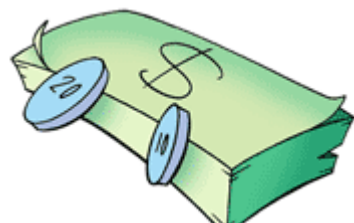
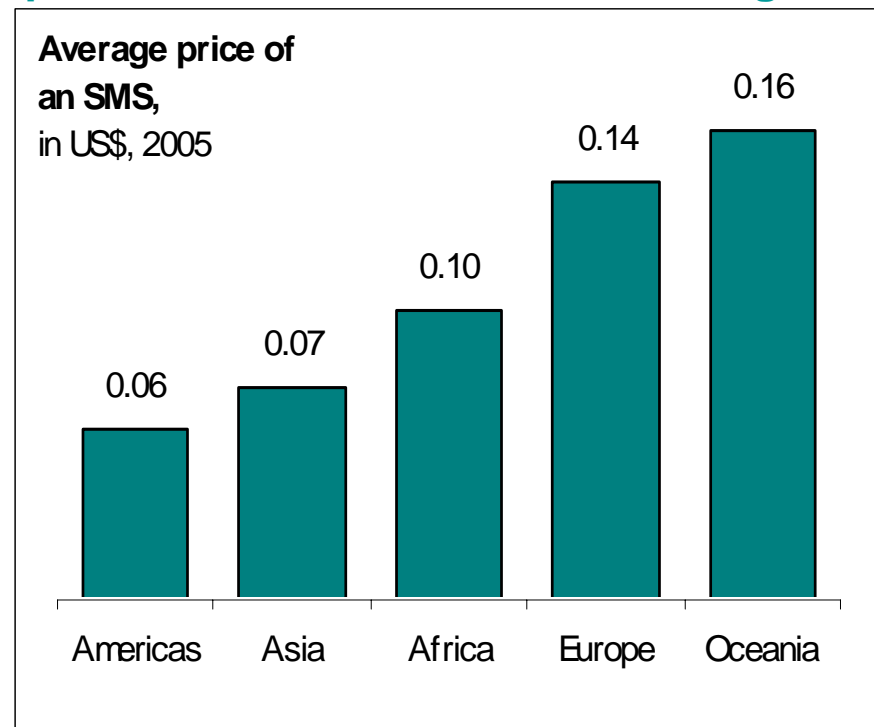
# more multimedia - more money...? not in the consumer's pocket

price of mobile services hasn't decreased  
at same rate as broadband, internet

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cheap-to-produce services, e.g. SMS, priced well-above cost in some regions



# affordability remains a problem and threatens take-up

- research by European commission (2004) reveals:
  - 16% of households without a mobile phone cite affordability as obstacle
- mobile termination and roaming are notable for systemic high pricing
- transparency in tariff structures is still limited
- cost of new handsets, in particular 3G handsets, has been cited as obstacle to service take-up
- regulatory intervention could include, *inter alia*: cost-oriented price controls, licence conditions imposing disclosure requirements, price comparisons, and fostering competition (e.g. through MVNOs)



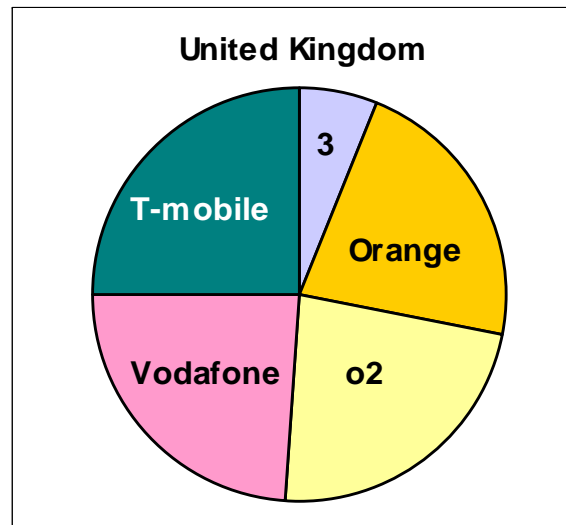
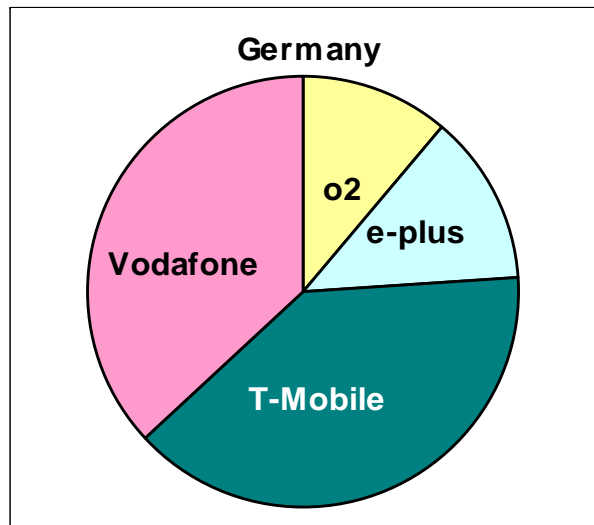
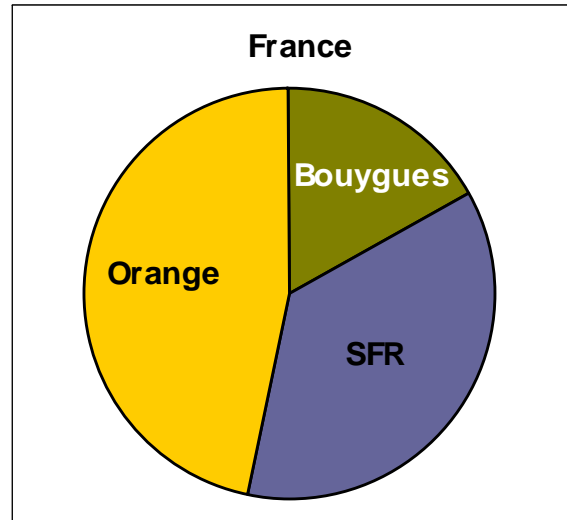
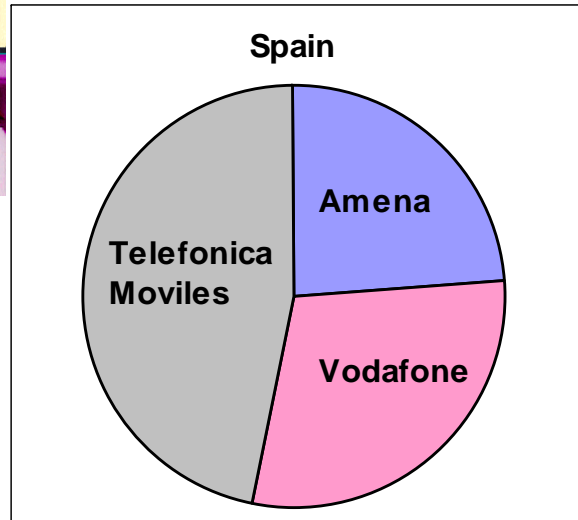
# compete, compete?

- ICT regulatory trends in Europe:
  - from *ex ante* to *ex post*
  - roll back of sector-specific regulation as markets become more competitive in favour of competition law
- mobile has traditionally been less regulated than fixed
- many of the larger mobile markets remain relatively concentrated in Europe
- number of specific concerns have arisen:
  - e.g. SMS termination, roaming, access to premium sports content



# major mobile markets

## Shares of network operators in mid-2005



with exception of UK, retail sector in major mobile markets is relatively concentrated around a few players

... dominated by incumbent (with at least 40% share)

- New entrants have not had much success, with notable exception of 3

# the case of mobile sports content

- 2006 **FIFA World Cup™** is expected to be the first mainstream event where video mobile will play a key role as a media platform
- 09/05: the EC released the findings of Sector Inquiry into the provision of 3G sports content
  - inquiry concluded that sports services offered over mobile platforms and non-mobile platforms were distinct markets, due to lack of substitutability
  - though the inquiry covered 3G specifically, it noted the need to keep this question under review as technologies such as fixed wireless networking and DVB-H develop
- EC stated that the market for 3G sports services may form an entirely different market compared to other types of 3G content, which would require case-by-case evaluation
- it went on to highlight areas of particular concern...

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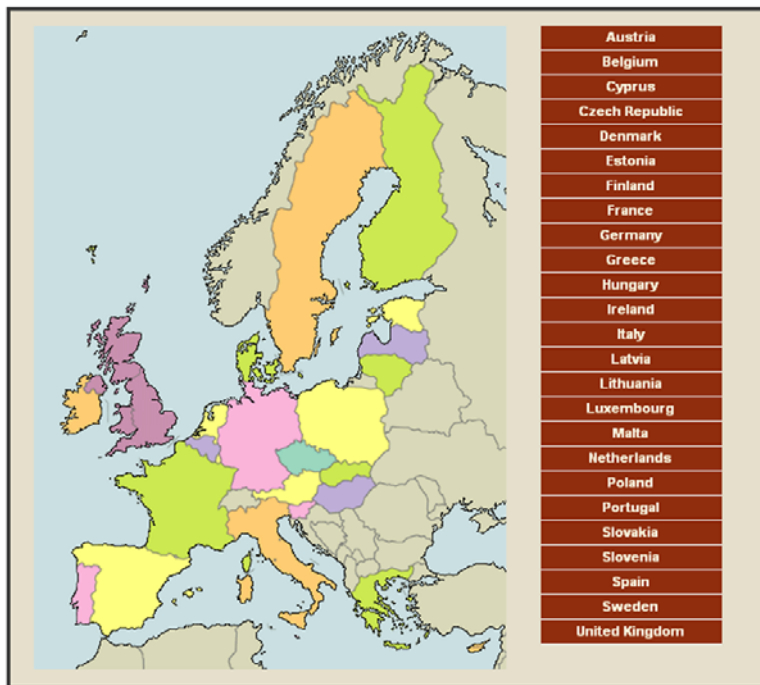
*More on sports content in the session on  
“Mobile Multimedia & the Law”, tomorrow at 11:45  
More on the promotion and diversification of mobile  
content tomorrow at 9:45*



# not so free to roam...

- roaming =15% of global mobile revenues in 2004 (US\$78.6 billion)
- EC first looked into issue in 2000
- In 2005, a tariff comparison [website](#) was set-up

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- Roaming charges vary widely, with the highest rate found by EC to be 13 euros a minute (Maltese calling home from Latvia)
- EC now proposing a [regulation](#) (consultation period ended in May 2006) which will be put into effect no earlier than summer 2007

*more on this in the session on  
“Regulatory conundrums” tomorrow  
at 14:30*



# SMS - SOS

- by some estimates, the total SMS revenues in 2005 were about 75 billion USD. Compare this to:
  - Global box office: 25-30 billion
  - Global music industry revenues: 35 billion
  - Videogaming, consoles & all software: 40 billion
- though SMS interconnection costs are very low, **retail costs remain high**
- this does not bode well for future mobile data and multimedia pricing
- though little has been done thus far, some regulators are imposing **price caps** on SMS termination (e.g. ARCEP).
- however, some argue that **intervention at retail (rather than wholesale) level** may be required





# calling the virtual

- Mobile Virtual Network Operators (MVNOs) have long been seen as an answer to affordability and competition issues, notably on the European market
  - though many are struggling to break even
- The presence of MVNOs can **promote competition** as follows:
  - enabling new entrants to enter the market without incurring large network costs
  - bringing down prices and expanding consumer choice
  - promoting the use of excess network capacity
- Is a **new generation** of MVNOs starting up?
  - The move from the voice-only reselling model to the niche MVNO focused on content distribution, e.g. Disney mobile, Amp'd Mobile
- Is **there a future** for MVNOs?

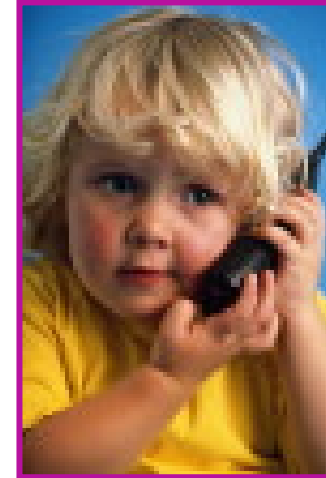
*More on this in the session on  
“Competition policy and role of MVNOs” tomorrow at 16:00*



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# content rules

- 3Gs for 3G
  - regulating specific forms of content
  - increasing use of camera phones and user-generated content
  - protection of minors
- advertising
  - advertising rights & responsibilities
  - the problem of spam
- copyright and DRM
  - prevention of piracy & payment of appropriate royalties
  - rewarding content creation without limiting distribution
- mobile commerce, mobile payments



*More on this in the sessions on  
“Mobile multimedia and the law” &  
“Spam on mobiles”, tomorrow starting at 11:45*

# content and convergence

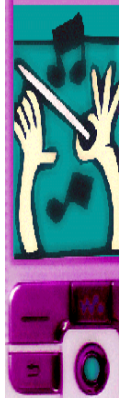
- traditional separation of broadcasting and telecommunications giving way to increasing convergence: both in terms of media & regulation
- Europe's TWF Directive now being amended as *Audiovisual Media Services Directive*
  - to cover (scheduled and on-demand) media services over internet, mobile, telecom, broadcasting and over *“any other electronic network whose principal purpose is the provision of moving images to the general public”*
  - regardless of technology used, multimedia services will be subject to a minimum standard of protection relating to e.g. advertising, discrimination, incitement to hatred



*More on content and convergence in sessions on “Broadcasting in an era of convergence” today at 15:05, “Promoting and diversifying mobile content” tomorrow at 9:45, & “Mobile Multimedia & the Law”, tomorrow at 11:45*



# the intimate mobile, the private mobile?

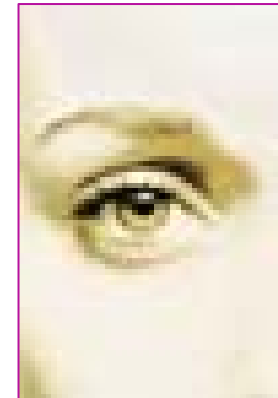


- the mobile phones has become one of the most intimate ICT devices ever known
- as such, its use, particularly in light of the growing use of **location-based services** and **camera phones**, has raised concerns about data protection and privacy
- some governments have attempted to control the use of camera phones (e.g. regarding the taking of illicit or indecent photos) as have commercial enterprises (e.g. gyms, night clubs)
- the right to privacy also includes the right to freedom from interference and in this respect, the fight against **mobile spam** is crucial
- other important consumer protection issues include the **health and environmental impacts** of mobile phones

*More on this in the session on “Protecting the consumer in a pervasive multimedia environment”, tomorrow at 10:30*

# big brother on the phone?

- growth of citizen journalism
  - through use of camera phones and moblogging, all human activities susceptible of being recorded
  - climate of security threats and terrorism may mean that vigilantes become increasingly common
- lack of technical and economic incentives to delete any information about anyone
- such an environment of surveillance (real or perceived) may lead to lack of individuality, self-expression and greater anxiety in decision-making (no matter how small)
- these elements are crucial to individual and societal development

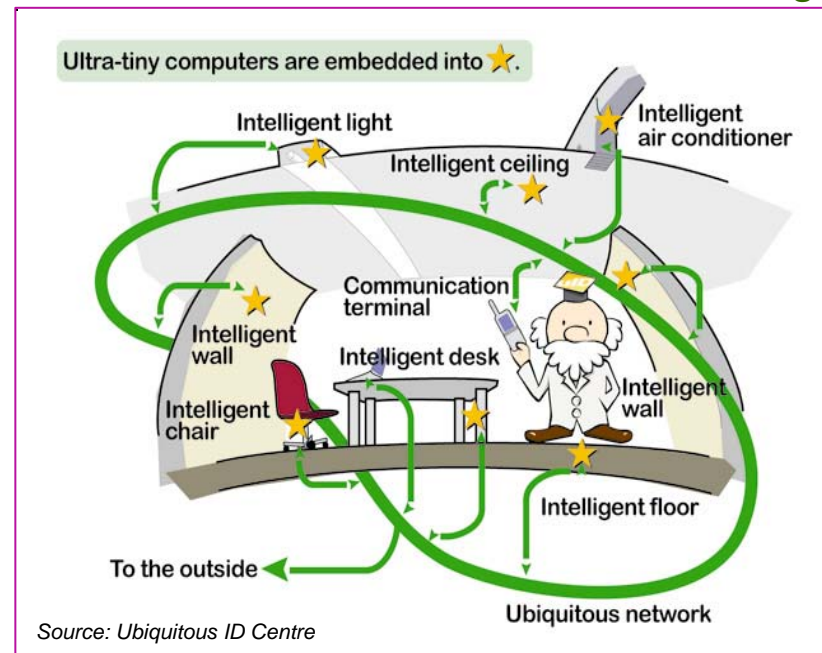




# from mobility to ubiquity

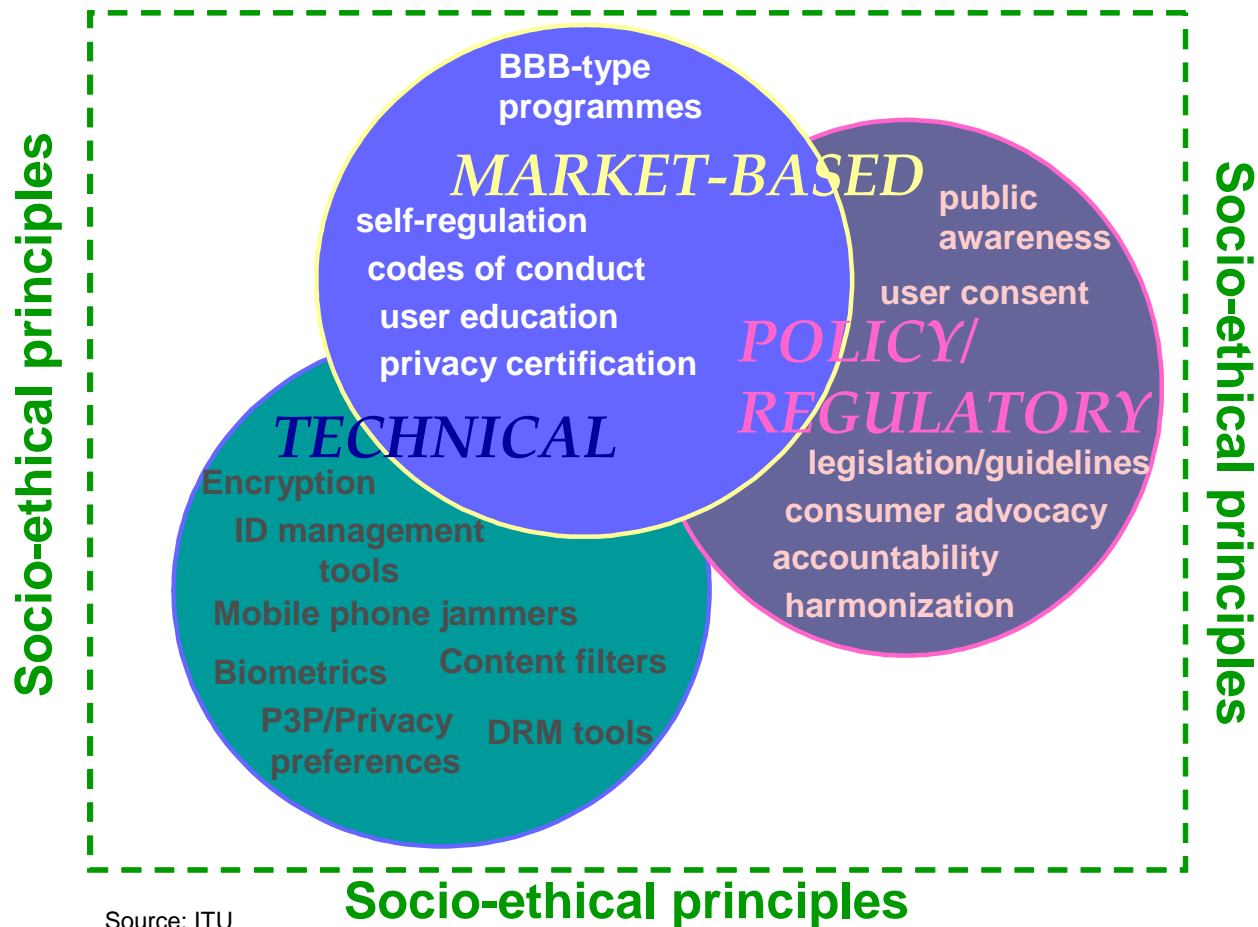
- the overwhelming use of mobile communications today is but a beginning
- we are witnessing the dawn of a new era of ubiquitous/ambient connectivity
- growth of technologies like wireless sensor networks and RFID mean that in the future, individual items or things may become networked, leading to an “internet of things”
- what issues can already be addressed in an always-on mobile multimedia environment that might foster the growth of ubiquitous networking, and ensure its user-centric, healthy and safe development?

## From smart mobiles to ambient networking



# towards a holistic approach to mobile multimedia & content...

Example: Privacy and data protection in mobile multimedia



Source: ITU



# ... through global dialogue

- development of harmonized approaches , e.g. spectrum, licensing
- data protection schemes across borders
- securing infrastructure: from network security to spam
- standardization of privacy-enhancing technologies (PETs)
- articulation of global digital identity management principles
- cooperation on digital rights management
- governance issues



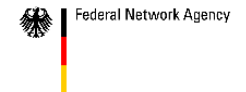
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- **what rules for IP-enabled NGNs (2006)**
- **ubiquitous network societies (2005)**
- **shaping the future mobile information society (2004)**
- **internet governance (2004)**
- **radio-spectrum management for a converging world (2004)**

### forthcoming topics:

- **the future of voice (2007)**

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