CONVERGENCE

Business & Regulatory Challenges

Lamia DELENDA

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Convergence Market

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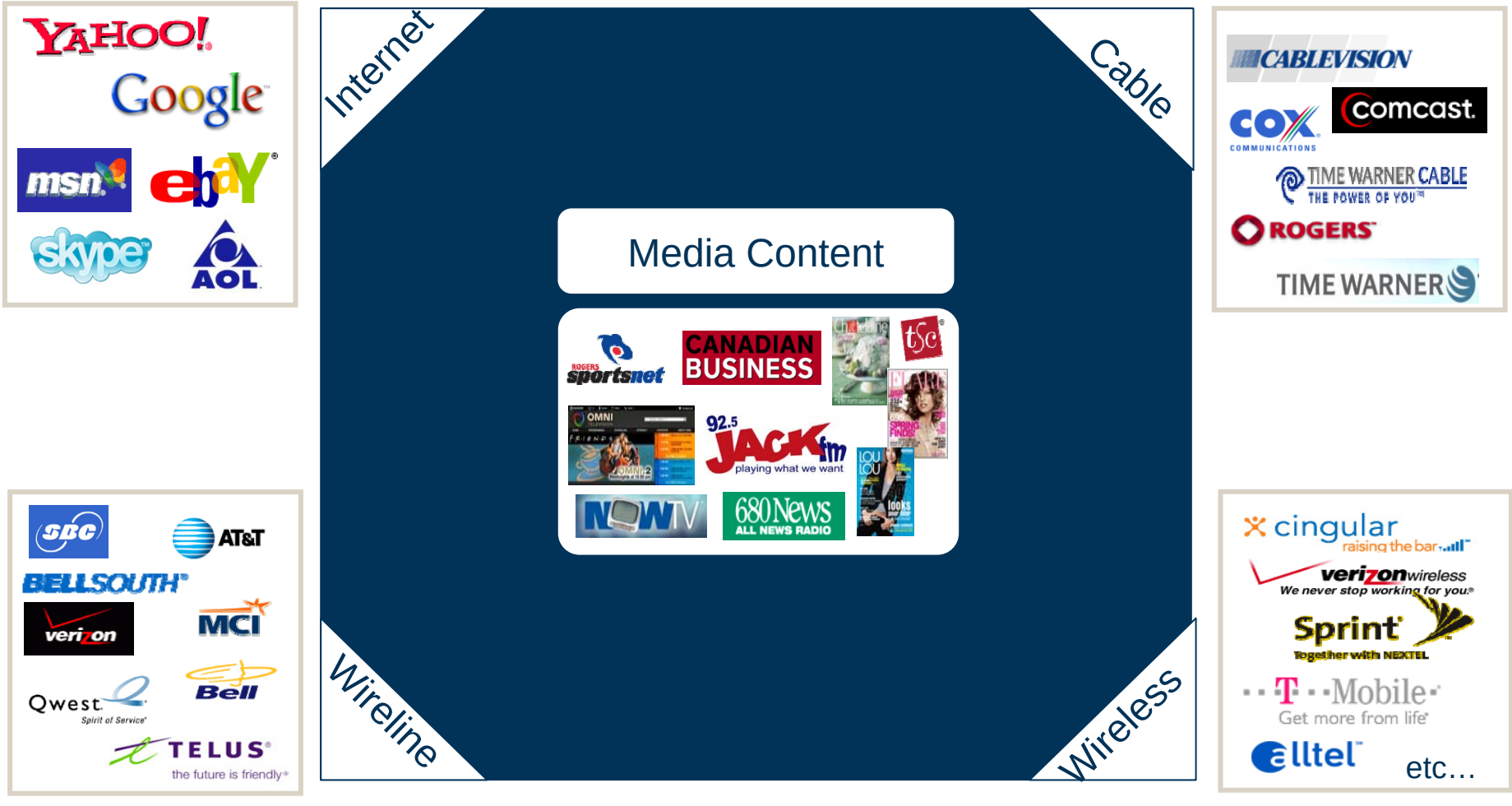
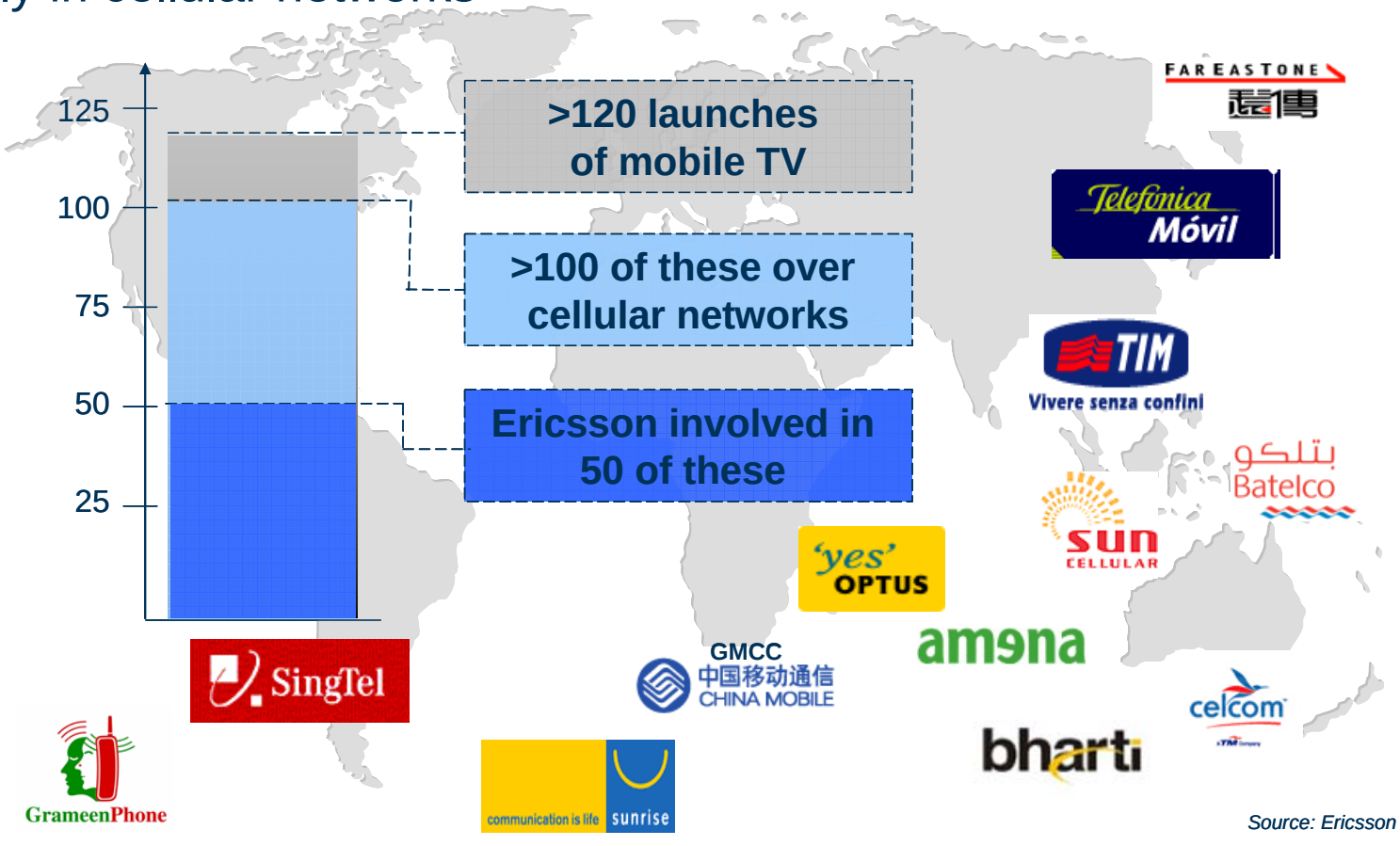
Convergence of the Industry in the US



Mobile TV is happening worldwide

Mainly in cellular networks



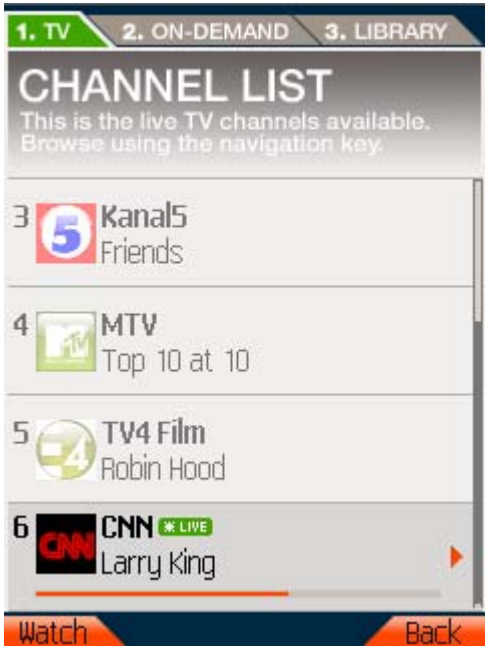
Source: Ericsson

MBMS Prototype shown 2007

Next steps: MBMS roll out during 2008
DVB-H: only Italy, further delays expected in Germany

Linear TV / on-demand integration

Invisible to end-user



OK

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EPG

LinearTV
(Broadcasted over MBMS, DVB-H,…)

On-demand
(3G Unicast)

Mobile Podcasting

1

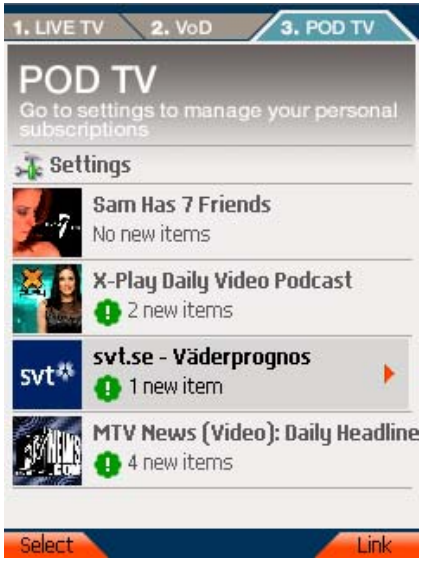
Subscribe to content of your choice. Video, music, audio books, etc

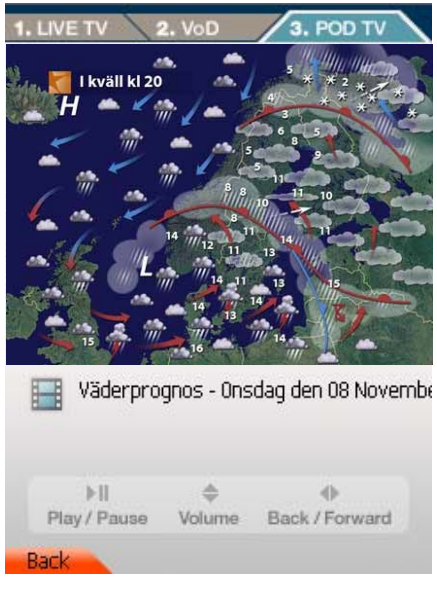
Content is downloaded silently in the background

2

3

Consume anywhere, anytime (even in 'flight-mode'). No network connection needed





Status of Regulatory developments in Europe

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RSPG Opinion on digital dividend

Policy objectives :

« Member States should, given the diversity in needs and objectives, be able to allocate any dividend to such services that best serve their demands.

Potential new services include a number of alternatives such as:

- Increase the number of programme services and/or enhance the TV experience (e.g. multi-camera angles for sports, individual news streams and other quasi-interactive options that are accessed using the remote control)

- Deliver services with higher technical quality (notably HDTV) or to portable and mobile receivers

- Enable electronic communication services other than broadcasting.

The digital dividend

- The digital dividend is the spectrum that will be made available within the bands 174-230 MHz and 470-862 MHz after the switch-off of analog television following the transition of television broadcasting from analog to digital modulation.

- The digital dividend would be available around 2015-2020 in most European countries. (RSPG)

What Services/Applications/Content for Digital Dividend ?

Broadcasting

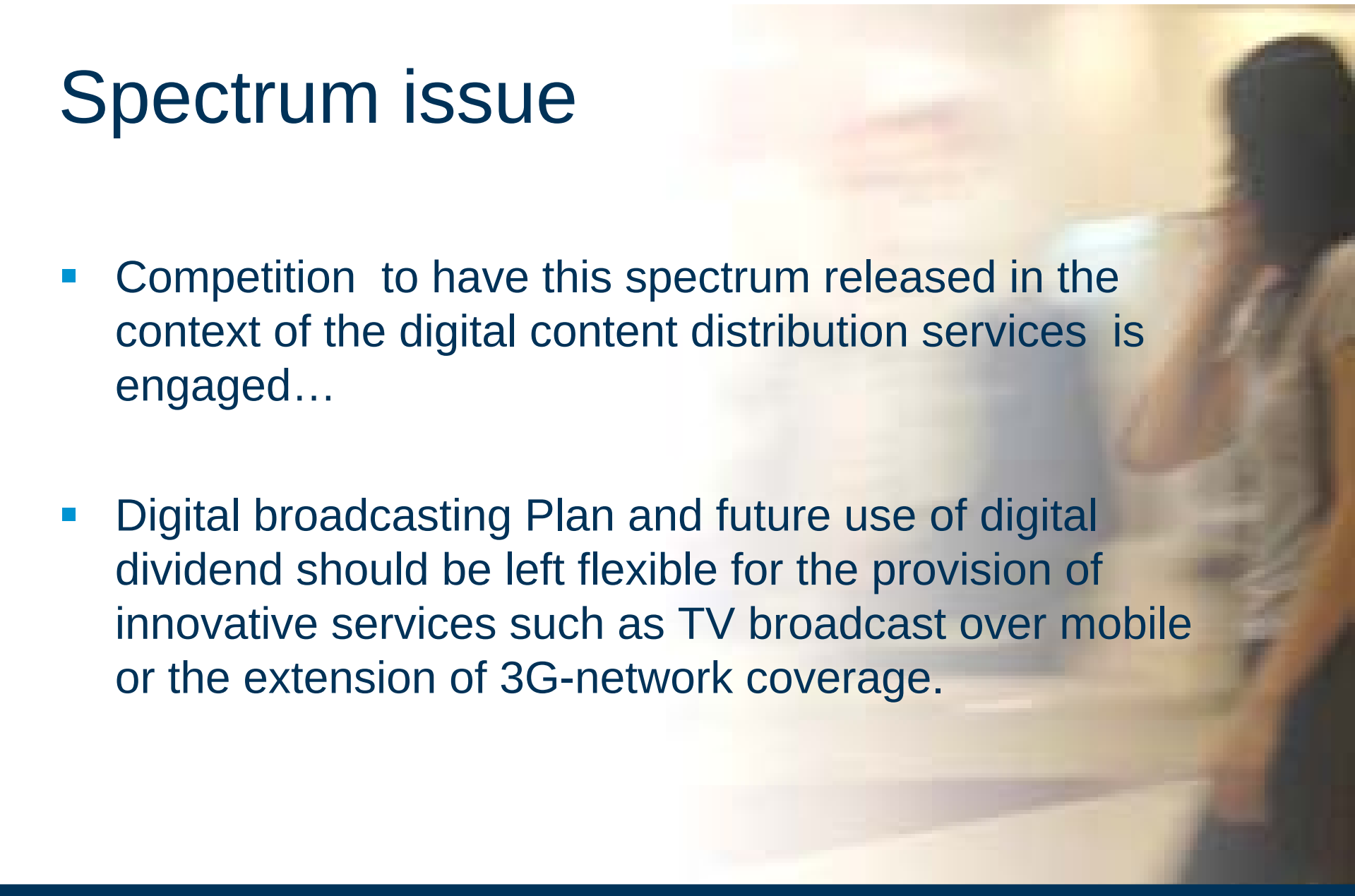
- Increasing the coverage and
- Increasing the number of digital broadcasting channels and their quality (HDTV) or offering new services such as mobile broadcasting

Telecom

- The extension of coverage of mobile networks (3G -IMT),
- The use for broadband wireless access
- In addition, parts of the TV bands are already used for governmental purpose (police, defence): in particular, the bands 225-230 MHz and 830-862 MHz are already used by the Ministry of Defence in France.

The shaping of the emerging Business model will take this into account

Spectrum issue



- Competition to have this spectrum released in the context of the digital content distribution services is engaged…

- Digital broadcasting Plan and future use of digital dividend should be left flexible for the provision of innovative services such as TV broadcast over mobile or the extension of 3G-network coverage.

Flexibility should not hamper harmonised provision of these innovative services

What appears to be the challenges ?

1. Content provision and advertising Television

TV without frontiers Directive

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Content Policy

- Cultural diversity
- Freedom of information
- Freedom of expression..

Digital Funding

- Advertising represents today a major source of funding for commercial and to some extent public service broadcasters.

- In 1989, the “Television Without Frontiers” Directive allowed television advertising, sponsorship and teleshopping

Ensuring a Broadcast dynamic market

Establishing an audiovisual market implies as well and above all to find consistent rules for the economic aspect of television broadcast advertising.

2. The System to get access to part of the released spectrum

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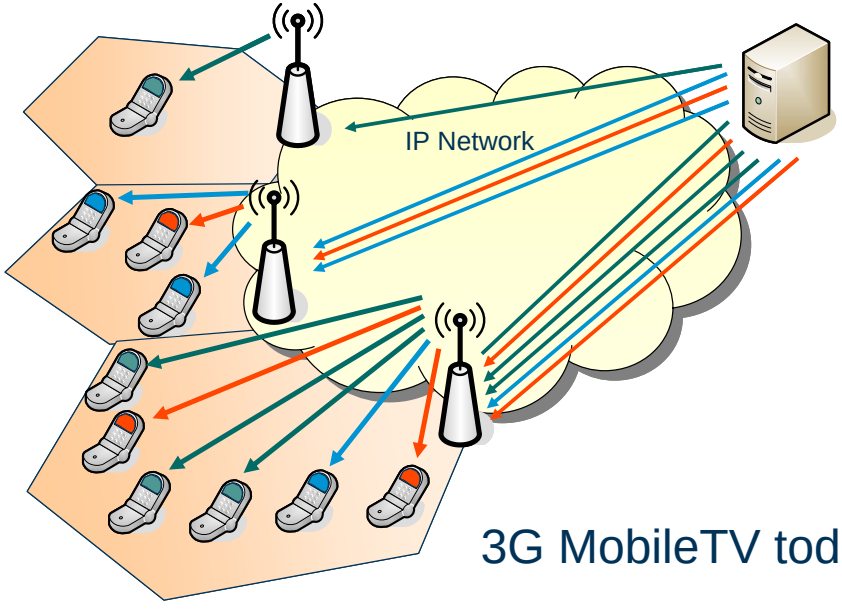
Unicast / Broadcast

Pros and Cons

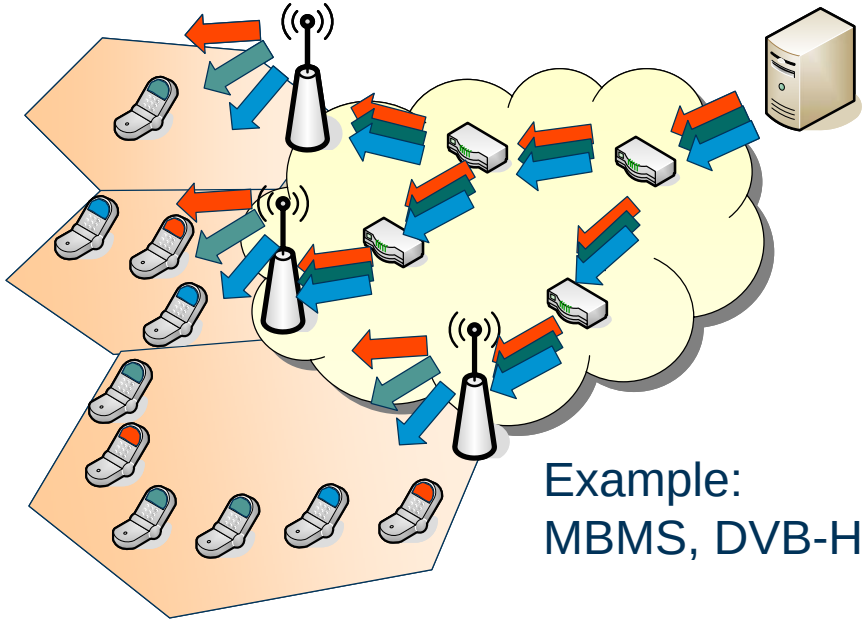
Unicast



3G MobileTV today

- Only active users consume transmission resources
- Unlimited channels
- Interactivity for free
- Limited number of simultaneously active users

Broadcast

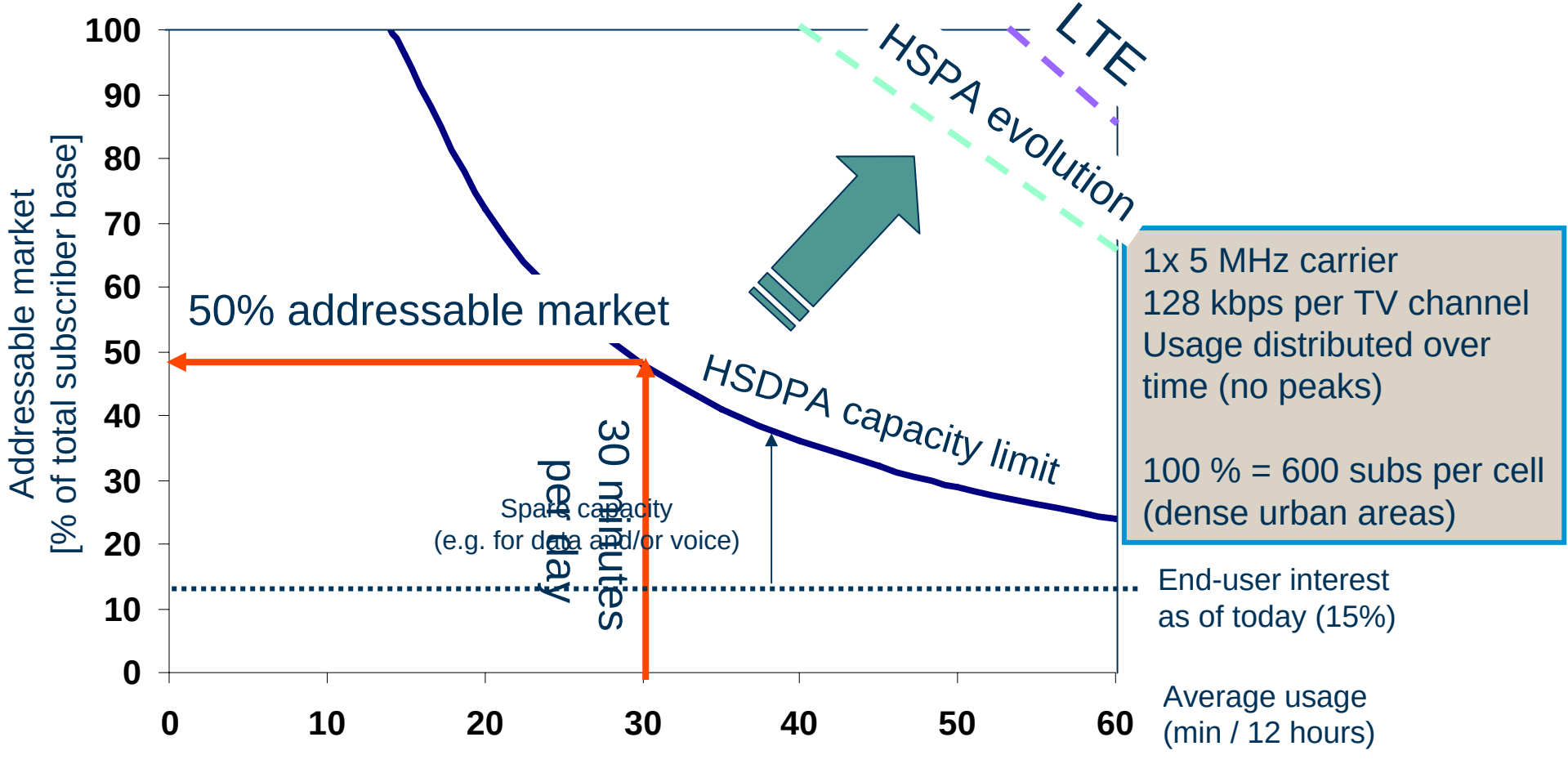


Example:
MBMS, DVB-H

- Transmission resources allocated all the time
- Limited channels
- Interactivity requires integration with unicast
- unlimited number of users

Addressable Mobile TV market today

Typical 3G unicast (HSDPA) mobile network deployment scenario



HSDPA: 30 minutes TV usage per day for 50% of the addressable market

The System : IMT advanced

MBMS in a nutshell

- "Multimedia Broadcast and Multicast Services"
- Standardized by 3GPP (3rd Generation Partnership Project)
- Seamless integration of broadcast/multicast transmission capabilities into 3G service and network infrastructure
  - Allows broadcast in the radio access network
  - Reuses IP Multicast Framework
- Capacity of cellular broadcast bearers in 3GPP R6
  - UMTS: 64-256 kbps per transmission channel
  - GSM/EDGE: 32-128 kbps per transmission channel
- 3GPP R6 functionally frozen since Q4/2004

EMP MBMS prototype

- Demonstrator platform for MBMS, HSDPA/HSUPA (IMT baseband) and Multimedia VoIP
- Developed in cooperation with major Ericsson Business Units to ensure end-to-end interoperability
- Showcase of Unicast - Broadcast Mobile TV
- Evolution of existing client technology
- Available Q4 2006
- Compatible with Ericsson MBMS test-bed for E2E trials and demonstrations

Terminal availability

- EMP reference terminals to start to test and evaluate MBMS services expected to be available **Q4 2007**
- **Commercial release** of MBMS functionality including Enhanced broadcast mode available to handset vendors late **Q1/ early Q2 2008**
- Commercial handsets on the market expected **Q4 2008**

- Enabling accomodation of emerging systems supposes adaptations compatible with the experience to date and the expected market with its technological changes in the future
- And certainly regulators push !

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