



Role of Mobile Media Convergence

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Licences for 3G Networks

four national 3G licensees:

TeliaSonera (also GSM 900 and 1800)

Radiolinja (also GSM 900 and 1800)

Finnet Group (also GSM 900 and GSM 1800)

Tele2 (swedish)

- was issued on the 18th March 1999
 - Telia Mobile was sold to Finnet Group (6/03)
 - Finnet/Tele2 licence to Tele2
 - the Ministry has asked operators for updated plans
 - delays in commercial launches but no severe problems in Finland
- => some thoughts to use also EDGE/GSM



Regulation or free Competition in the Future Mobile Market

- to be taken into account

- EU cooperation and harmonization
- market players
 - network operators
 - service operators
 - internet-operators (ISPs) ?
 - content providers
 - end users
 - manufacturers
- international (global) cooperation



Regulation or free Competition in the Future Mobile Market

- to be taken into account

- role of mobile virtual network operators (MVNOs)
- need for open SIM (more IDs in one SIM-card)
- mobile phone as credit card (Korea)
- need for open network architecture
- who "owns" the customer / who charges the customer
 - operator or content provider
- role for an independent ISP
- regulation and licensing should give enough flexibility for market players to follow market and customer needs
 - market driven or regulatory driven
- competition environment different than in fixed networks
 - local / long distance & international / mobile



Mobile Internet

- one of the key areas in the future
- 'Mona-project' sponsored by the MinTC
- 2.5G is still in early days
- 2.5G will give good experiences for future 3G services
- lack of enhanced terminals in Finland
- 3G will fuel mobile internet
- other access systems to broadband will fuel mobile internet
- convergency services using hybrid digital tv and mobile networks will have many applications
- digital television to mobile 3G terminal (Japan, Korea, Fin)



Last mile solutions (broadband access):

- Copper lines
 - ADSL 256 k - 2 Mbit/s
- Wireless local loop (WLL, WLAN) *) 1 - 2 Mbit/s
- Mobile - GPRS/EDGE/GSM 10 - 256 kbit/s
- Mobile - 3 G 384 k - 2 Mbit/s
- Cable tv networks *) 512 k - 5 Mbit/s
- Digital tv **) 100 k - 20 Mbit/s
- IPDC (mobile terminals/digital tv **) 100 k – 11 Mbit/s
- Satellite *) 38 Mbit/s
- Power lines *) 1 Mbit/s ?
- Optical fiber according the need

*) shared capacity between all users, **) one => many



IP Datacast Trial Network

(more info: www.rtt.tv)

- the IPDC trial network was launched on 10th Sep 2002 in Helsinki
- to study IPDC technology and functionality of services with different portable devices
- data rates up to 12 Mbit/s
- one main transmitter (100W) and four gap-fillers (20W)
- supporting mobile reception
 - transmission parameters: 16 QAM, CR=1/2, GI=1/8
 - => net data rate ~ 11 Mbps
- participants: media houses, broadcasting & telecom operators, technology companies and manufacturers



IP Datacast Working Group

- established by the Ministry of Transport and Communications (18.10.2002 – 31.3.2003)
- to study the possibilities to introduce the 4th digital multiplex for the provision of IPDC services
 - new types of content
 - new technology
 - new hybrid network model (broadcasting and mobile networks)
 - costs, network planning, frequency planning
 - indoor reception
 - possible needs to amend regulation
 - return channel, charging, mobile terminals, timetable
 - the role of content producers, content providers, service operators, network operator, mobile operators



IP Datacast Working Group

- participants (11 companies):
 - Ministry of Transport and Communications
 - Ficora (Finnish NRA)
 - public and commercial broadcasting companies (3)
 - independent content provider
 - broadcasting network operator
 - mobile operators (3)
 - manufacturer
- the report (31 pages) on www.mintc.fi



Future Plans

- need for a precommercial trial:
 - to start during 2004 in Helsinki area
 - ~ 6 main transmitter and ~ 20-30 gap-fillers
 - 500 – 2000 trial users
 - mobility and indoor coverage will differ between areas
 - several broadcasting and mobile network operators involved
 - several content providers involved
 - to get market information
 - to get network planning and frequency planning information



Future Plans

- the provision of IPDC services:
 - licence for a commercial network in 2004/2005
 - coverage area 70 % of population
 - estimation: 200-300 transmitters (1-5 kW) and ~ 1300 gap-fillers
 - data rates up to 11 Mbit/s
 - mobile reception
 - indoor coverage
 - return channels via mobile networks
 - commercial launch in 2005/2006
 - supplement other networks and services
- need for more commercial IPDC networks in 2008/2010??



Convergence

- towards multichannel environment
 - same services via different networks and technologies
 - same terminals use different networks
 - same customized services in different countries
- key words
 - broadband, mobile, wireless, broadcasting, internet protocol, fixed, satellite etc.