Is the Eastern and South-Eastern European market ready for the services provided based on the digital dividend?

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Summary

- TV and broadband are major markets to benefit from the digital dividend
- Harmonisation at European level is paramount (frequency bands and standards)
- Country-specific factors relevant for the uptake of services based on the digital dividend include:
  1. Market demand and penetration
  2. Extent of platform competition
  3. Release of spectrum
  4. Regulatory environment
- Is Eastern and South-Eastern Europe ready? No unique answer given the wide divergencies across countries

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TV and broadband services benefiting from the digital dividend

Services:	Spectrum from 470 – 862 MHz band:	Additional or alternative spectrum:
Digital terrestrial television (DTT)	Large parts of band	None
Mobile TV broadcast	Below 750 MHz	e.g., L-Band (1452-1492 MHz)
Wireless broadband communications	800 MHz band	e.g. 900/1800 MHz & 2.1/2.6 GHz bands

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TV markets benefiting from the digital dividend

- Transmission of TV programmes & other audiovisual content to a stationary/ portable device

  - Market for basic TV
  - Market for premium pay-TV (incl. interactive services)

  - Cable TV, satellite TV, IPTV (xDSL, FTTH, WiMAX)
  - DTT ← Digital dividend

- Transmission of TV programmes & other audiovisual content to a mobile device („mobile TV“)

  - Market for basic mobile TV
  - Market for premium mobile pay-TV (incl. interactive services)

  - Mobile TV (over cellular networks) ← Digital dividend
  - Broadcast mobile TV ← Digital dividend

Broadband markets benefiting from the digital dividend

- Provision of broadband Internet access at a fixed location (to a stationary/portable device)

(Unlikely to be a substitute for very high bandwidth)

Market for fixed broadband Internet access	Cable, xDSL, FTTH, WiMAX	Mobile broadband (cellular)
		↑ Digital dividend

- Provision of broadband Internet access to a mobile device („mobile Internet“)

Market for mobile broadband Internet access	Mobile broadband (cellular)
	↑ Digital dividend

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Factors relevant for the uptake of services based on the digital dividend

- Harmonisation at European level is paramount (frequency bands and standards)
- Country-specific factors relevant for the uptake of services based on the digital dividend include:
  1. Market demand and penetration
  2. Extent of platform competition
  3. Release of spectrum
  4. Regulatory environment
- Is Eastern and South-Eastern Europe ready for a quick uptake? No unique answer given the divergencies in national cirumstances

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Factor 1: Market demand and penetration

TV markets:

- Basic TV and premium Pay-TV
  - Established mass markets
  - Further growth with multiplication of TV channels, better viewing quality (HDTV) and interactive TV products (VoD, etc.)
- Mobile TV
  - Emerging market also in Eastern and South-Eastern Europe
  - Uptake uncertain, but may eventually come, along with multiplication of mobile TV channels and interactive TV products

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Factor 1: Market demand and penetration

Broadband markets:

- Fixed broadband Internet access
  - Broadband penetration in many Eastern and South-Eastern European countries below EU average, will catch up in the longer run
  - Mobile broadband can improve „fixed“ broadband penetration, in particular, in rural areas
- Mobile Internet
  - Emerging market
  - High growth predicted, with lower prices, higher speeds, new applications and new mobile devices

Fixed BB penetration (1)	
SI	22,1
CZ	17,8
HU	17,2
EL	15,6
SK	14,3
PL	12,8
RO	12,3
BG	11,9

(1) Number of fixed BB connections in % of pop, 7/2009

Source: COCOM

Mobile BB penetration (1)	
PL	4,7
SK	4,5
HU	3,8
CZ	3,2
SI	2,5
RO	2,1
EL	1,6
BG	1,0

(1) Number of dedicated data service cards / modems / keys in % of pop, 7/2009

Source: COCOM

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Factor 2: Platform competition

TV markets:

- Basic TV and premium Pay-TV
  - DTT competes with cable, satellite, and xDSL/FTTH (IPTV)
  - Cable strong in many Eastern and South-Eastern European countries, cable overbuild in PL and BG
  - 2-5 satellite platform operators in a single country
  - Cable, satellite & xDSL/FTTH offer more channels, cable & xDSL/FTTH offer more interactivity
  - DTT, together with satellite, important for rural areas – and a complentary platform for free TV in urban areas
- Mobile TV
  - Broadcast mobile TV not cost effective if demand is low – MNOs use streaming (over HSPA/LTE)

	HH penetration (1)			
	Terres-trial	Cable	Satel-lite	DSL
RO	5	69	25	0,6
HU	14	61	21	-
SI	16	48	8	28
SK	22	36	39	2
BG	25	51	23	0,6
PL	33	34	32	1
RS	44	47	9	-
HR	43	17	29	10
CZ	48	26	22	2
EL	87	-	12	1

(1) Main reception device, in % of TV households, end 2009
Source: SES Astra

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Factor 2: Platform competition

<u>Broadband markets:</u>

- Fixed broadband Internet access
  - In some Eastern and South-Eastern European countries, mobile broadband may become a substitute for, and a competing platform to, fixed broadband (except very high bandwidth)
  - In many rural areas, mobile broadband is the only platform
- Mobile Internet
  - Mobile cellular networks are unrivalled, where users are on the move

	Coverage (1)	
	UMTS	HSDPA
EL	89	89
SI	74	74
HU	73	73
SK	71	62
BG	65	50
CZ	60	na
RO	50	30
PL	31	19

(1) Coverage in % of population, end 2008

Source: IDATE

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Factor 3: Release of spectrum

- Markets need certainty about ASO date
- Markets need certainty about clearance of digital dividend spectrum for uses other than DTT
  - Many Eastern and South-Eastern European undecided about 800 MHz band for wireless broadband
  - Many Eastern and South-Eastern European countries undecided about locating spectrum for mobile TV

Factor 4: Regulatory environment

- Markets need “open, transparent and non-discriminatory” spectrum assignment procedures
- Need to integrate assignment of spectrum to broadcast multiplexes within a broader approach that takes the programming into account
- Need to assign spectrum to wireless broadband networks within a broader approach that integrates assignment of other „fresh“ spectrum and migration of legacy spectrum
- Markets can cope with coverage obligations, but infrastructure sharing may be required
- One DTT multiplex usually sufficient to carry public service programmes, must-carry obligations for mobile TV not justified (nascent service)

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