

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

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# Summary

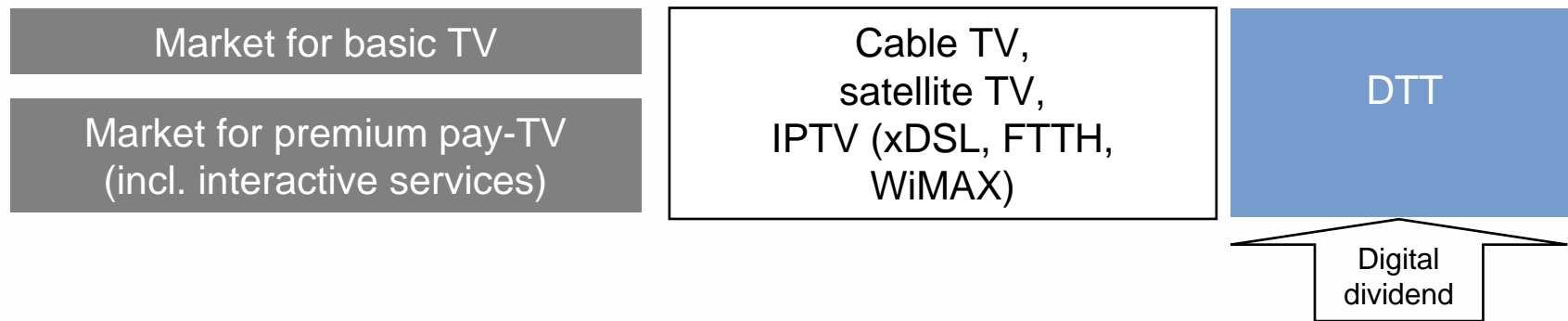
- TV and broadband are major markets to benefit from the digital dividend
- Harmonisation at European level is paramount (frequency bands and standards)
- Country-specific factors relevant for the uptake of services based on the digital dividend include:
  1. Market demand and penetration
  2. Extent 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

# TV and broadband services benefiting from the digital dividend

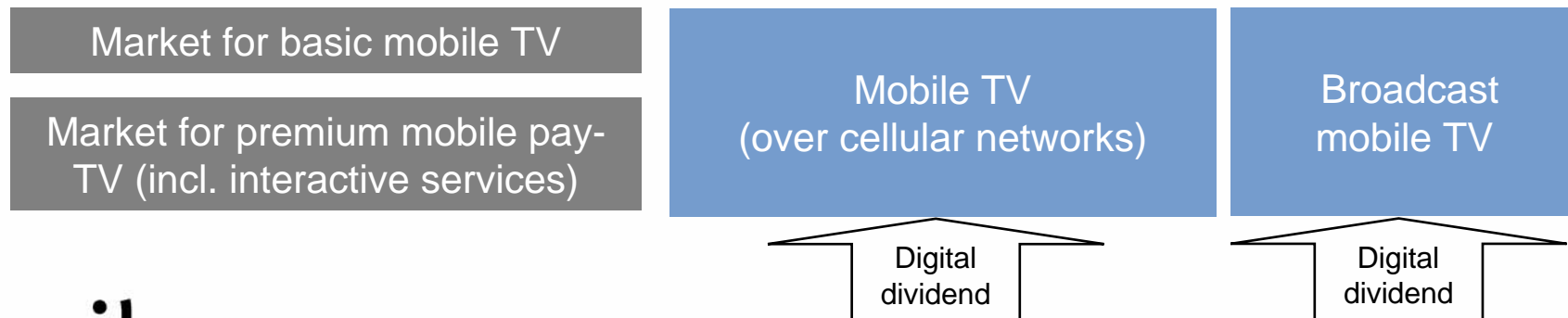
Services:	Spectrum from 470 – 862 MHz band:	Additional or alternative spectrum:
Digital terrestrial television (DTT)	Large parts of band	None
Mobile TV broadcast	Below 750 MHz	e.g., L-Band (1452-1492 MHz)
Wireless broadband communications	800 MHz band	e.g. 900/1800 MHz & 2.1/2.6 GHz bands

# TV markets benefiting from the digital dividend

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



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



# Broadband markets benefiting from the digital dividend

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



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



## 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 circumstances

# 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

# 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)		Mobile BB penetration (1)	
SI	22,1	PL	4,7
CZ	17,8	SK	4,5
HU	17,2	HU	3,8
EL	15,6	CZ	3,2
SK	14,3	SI	2,5
PL	12,8	RO	2,1
RO	12,3	EL	1,6
BG	11,9	BG	1,0
(1) Number of fixed BB connections in % of pop, 7/2009		(1) Number of dedicated data service cards / modems / keys in % of pop, 7/2009	
Source: COCOM		Source: COCOM	



## 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 complementary 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)			
	Terrestrial	Cable	Satellite	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

## Factor 2: Platform competition

### Broadband markets:

- 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

## 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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