



The changing telecom markets in South Eastern Europe

Study results

Belgrade, January 30, 2007

Agenda

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0. Management Summary (1)

- > The **telecom markets in SEE** are **very fragmented and have small sizes**
- > **Fixed and mobile penetrations in SEE** region are highly heterogeneous, but **mostly lower than west European and EU benchmarks.**
- > Only the summer tourism countries **Bulgaria, Croatia and Montenegro** have **significantly higher mobile penetration** than Germany due to seasonal prepaid customers
- > Internet, especially broadband, penetration is lower than EU average except in Slovenia where it is even higher than EU average. **Broadband penetration is critically low** in most SEE countries
- > Telekom markets in the SEE region are fully liberalized and **all regional incumbents are in the process of privatization**, whereby only Bulgaria finished the privatization of its incumbent already
- > **Bulgaria, Croatia and Slovenia** have developed a national broadband strategy, introduced carrier pre-selection and number portability which enables **a good framework for further optimal market development.** Other countries are lacking behind with an undefined legal framework
- > The SEE telekom markets are very fragmented; international players like **Mobilkom Austria, Deutsche Telekom, OTE and Telenor** are emerging in the region as leaders

Management Summary (2)

- > Only **two leading players from the region, Telekom Srbija and Telekom Slovenije**, are emerging with shares in companies in neighbouring countries
- > Apart from Bulgaria, there is still a **low level of competition in fixed line service**. In Serbia, Telekom Srbija is still the only fixed line operator
- > **Mobile companies owned by fixed line incumbents hold local market shares from 51% to 73%**, the rest of the market is divided between two or three competitors which allows a **good competitive environment in the mobile sector** in the region
- > Revenues and profitability are much different between incumbents. **T-Com Group Croatia has by far the highest revenues in the region**, while **BH Telekom and Telekom Srbija are the most profitable** (according to latest available figures)
- > **Bulgaria, Croatia and Slovenia gave licenses to several WiMAX providers** covering the country region from 30% to 70% with wireless broadband technology, while in all other countries the licencing process still has to be initiated

Management Summary – Outlook (1)

- > Further **consequent implementation of legal framework** (broadband strategy, carrier pre-selection and number portability, local loop unbundling) as main topic for further market development, especially in Bosnia-Herzegovina, Serbia, Montenegro and Macedonia
- > More **result orientation should be demanded from the national regulators** by the national governments in order to actually also enforce market liberalization
- > The competitive environment should be enforced with **introduction of more fixed line competition in Serbia as well as in Montenegro**
- > **Further privatizations of incumbents** (esp. Bosnia Herzegovina, Slovenia and Serbia) will contribute to a positive market development and have a positive impact on the state income (and will fuel the country's development in general)
- > Special focus should be paid towards the **development of the broadband sector**. The published broadband strategies do not foresee very offensive growth targets compared to EU benchmarks – Especially **governments are obliged to play a very active role** (with f.i. e-government, e-health, e-public administration and special subsidies/tax reductions for use of broadband)

Management Summary – Outlook (2)

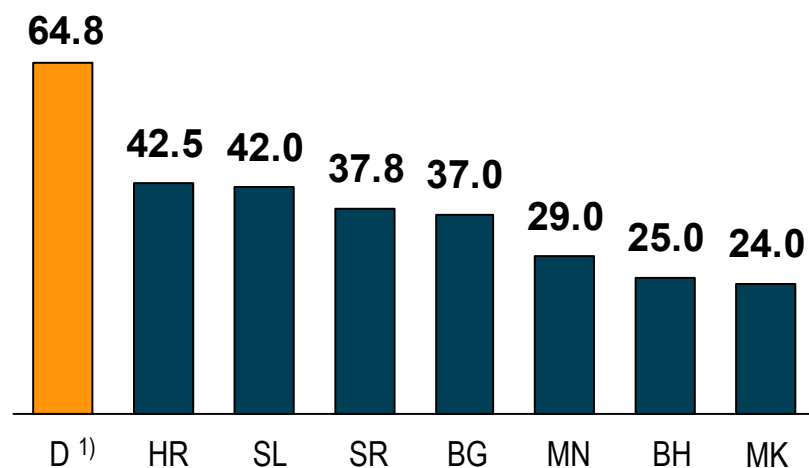
- > Further **regional takeovers and cooperations are to be expected** – there is also still room for national companies (esp. Telekom Slovenije and Telekom Srbija) to position themselves as leading regional forces. Especially **in the internet sector there is still significant room for takeovers**. Further regional cooperation will drive **synergy effects** and will have a **positive effect on margins**
- > The **licencing process for WiMax** licenses is running in three countries in the region and scheduled in the remaining countries which should allow further market development in the wireless sector

A.
**Telecommunications
in SEE today**



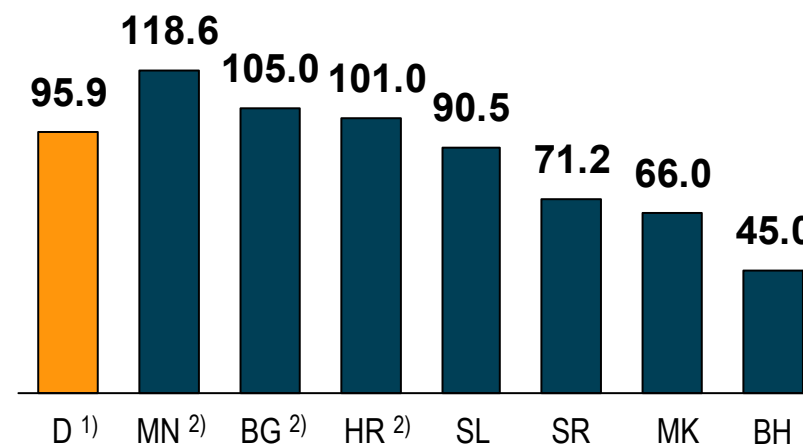
Fixed and mobile penetration are highly heterogeneous

Penetration fixed lines, 2006
 [per 100 inhabitants]



Penetration is much lower than in Germany;
 large difference between countries.

Penetration mobile lines, 2006
 [per 100 inhabitants]

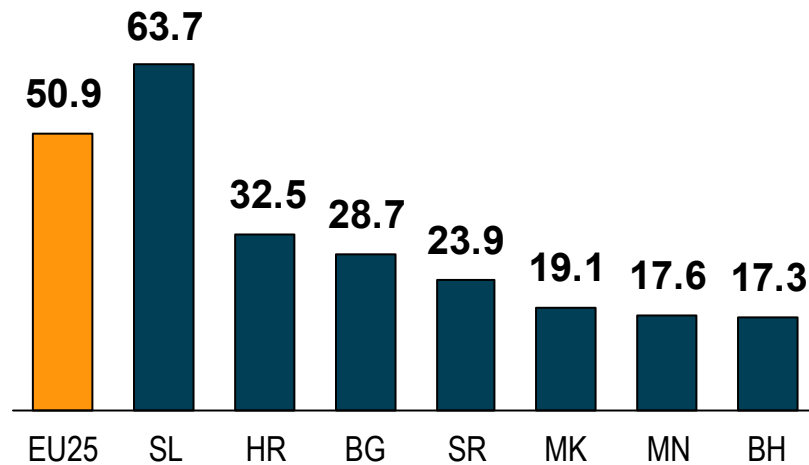


Montenegro, Bulgaria and Croatia have
 very high penetration due to tourism season.

1) Data only for Germany 2006 due to lack of EU data for 2006 2) Real penetration is lower; tourists make a strong influence with prepaid cards valid only for 3-6 months

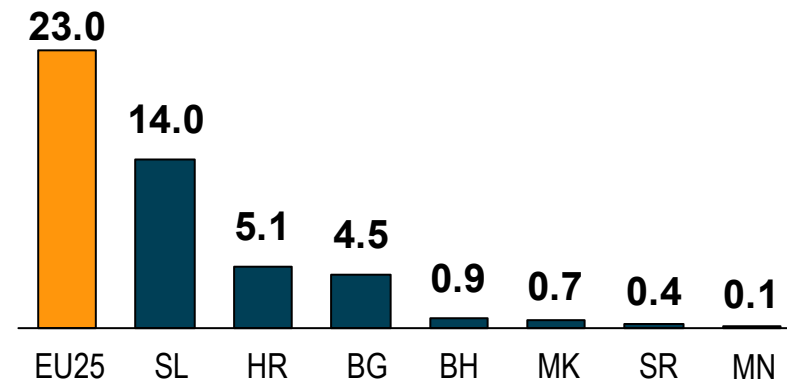
Broadband penetration significantly less developed than in European Union

Penetration **internet**, 2006
 [per 100 inhabitants]

















Slovenia is much ahead of SEE and EU average Internet penetration.

Penetration **broadband**, 2006
 [per 100 inhabitants]



Most of SEE countries have very low broadband penetration, only Slovenia closer to EU average.

Telecom market liberalization is well under way in SEE, privatization of incumbent is ongoing

Country	Market liberalization	Privatization of incumbent	Incumbents
Bosnia-Herzeg.			BH Telekom (State owned 90%)
Bulgaria			BTC (Viva Ventures, 65%; public owners, 35 %)
Croatia			T-Com Hrvatska (Deutsche Telekom, 51%)
Slovenia			Telekom Slovenije (State owned 62.53%)
Serbia			Telekom Srbija (State owned, 80%, OTE 20%);
Macedonia			A.D. Makedonski Telekomunikacii (State owned 47% + golden share)
Montenegro			Telekom Montenegro (Matáv–Deutsche T., 76,5%)



fully achieved



timeline planned, first measures taken or partly privatized



no measures taken or state-owned

An unequal development of the legal service framework prohibits an optimal market development

Country	Carrier pre-selection	Local Loop Unbundling (LLU)	Number Portability (NP)	Broadband Strategy
Bosnia-Herzeg.	No	No	No	No
Bulgaria	Yes	Yes: Jan 2005 no unbundled LL so far	Fixed: Jan 2009 Mobile: Jan 2007	Yes
Croatia	Yes	Yes: Oct 2005	Fixed: Jul 2005 Mobile: Nov 2006	Yes
Slovenia	Yes	n.a.	Fixed: May 2006	Yes
Serbia	No	No	No	No
Macedonia	Legally formalized not implemented yet	Yes: Dec 2005	Fixed: March 2007 Mobile: March 2007	No
Montenegro	No	n.a.	No	No

Definitions of terms used to explain legal service framework in fixed and mobile sectors

Terminology







- | | |
|------------------------------|--|
| Carrier pre-selection | > Is a mechanism that allows end-users to select , in advance, alternative communications providers to carry their calls without having to dial a prefix or install any special equipment at their premises. |
| Local loop unbundling | > Is the regulatory process of allowing multiple locally- and national-based telecommunications operators to make use of connections from the telephone exchange's central office to the customer's premises |
| Number portability | > Is the ability to take an existing fixed-line telephone number assigned by a local exchange carrier and reassign it to another , while referring to the same physical connection. Full mobile number portability is the equivalent term for mobile phones |
| Broadband strategy | > Is the strategy for the development of broadband internet access to create prerequisites for the accelerated development and adoption of this technology, marked as a basic infrastructure of the information society and knowledge-based economy. |

The telecom market is very fragmented in SEE – Competition is still emerging

Overview of main operators

	Slovenia	Croatia	Bosnia and Herzegov.	Serbia	Macedonia	Montenegro	Bulgaria
Fixed line	1. Telekom Slovenije 2. T2 3. Amis	1. T-Com Hrvatska (Deutsche Telekom. 51%) 2. Metronet 3. Optima	1. BH Telekom 2. Telekom Srpske (Telekom Srbija 65%) 3. HT Mostar (T-Com Hrvatska 37,24%)	1. Telekom Srbija	1. A.D. Mak. Telekomunikaciji (Magyar Telecom 61%) 2. On.Net (T. Slovenije 76%)	1. Telekom Montenegro (Magyar Telecom 76.53%)	1. BTC (Viva Ventures 65%) 2. Orbitel (Magyar Telecom 100%)
	16 fixed line operators	5 fixed line operators					
Mobile	1. Mobitel 2. Si.mobil 3. Vega	1. T-Mobile 2. Vipnet (Mobilkom Austria 100%) 3. Tele2	1. BH Mobile (BH Telekom) 2. Mobi's (Telekom Srpske) 3. Eronet (HT Mostar 51%, T-Com 49%)	1. MTS (Telekom Srbija) 2. Telenor 3. Mobilkom Austria	1. T-Mobile 2. Cosmofon (OTE 100%) 3. Mobilkom Austria	1. T-Mobile 2. Promonte (Telenor 100%)	1. Mobitel (Mobilkom Austria 100%) 2. GloBul (OTE) 3. Vivatel (BTK)

Currently, six main players, four international and two regional operators, are emerging in the region

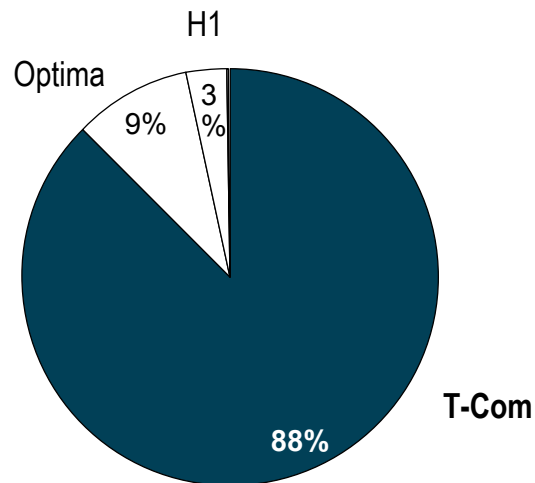
		Slovenia	Croatia	BIH	Serbia	Macedonia	Montenegro	Bulgaria	
INTERNATIONAL PLAYERS		MOBILE	> Si.mobil (100%)	> Vipnet (100%)		> Greenfield invest. (100%)	> Greenfield invest. (100%)	> Mobitel (100%)	
		FIXED							
		MOBILE		> T-Mobile (51%)	> HT Mostar		> T Mobile (51%)	> Telekom Mont. (76.53%)	> Orbitel (100%)
		FIXED		> T-Com Hrv. (51%)			> MakTel (51%)	> TMobile (76.53%)	
	MOBILE		> Telekom Srbije (20%)			> Cosmofon (100%)		> GloBul (100%)	
	FIXED								
	MOBILE				> Mobi063 (100%)		> Promonte (100%)		
	FIXED								
REGIONAL PLAYERS		MOBILE	> Mobitel (100%)						
		FIXED					> On net (76%) > Ipko Net (75%)		
	MOBILE			> Mobi's (65%)	> MTS (100%)				
	FIXED			> Telekom Srpske (65%)					

Croatia: T-Com retains dominant position in fixed lines while T-Mobile is market leader in mobile

Focus Croatia

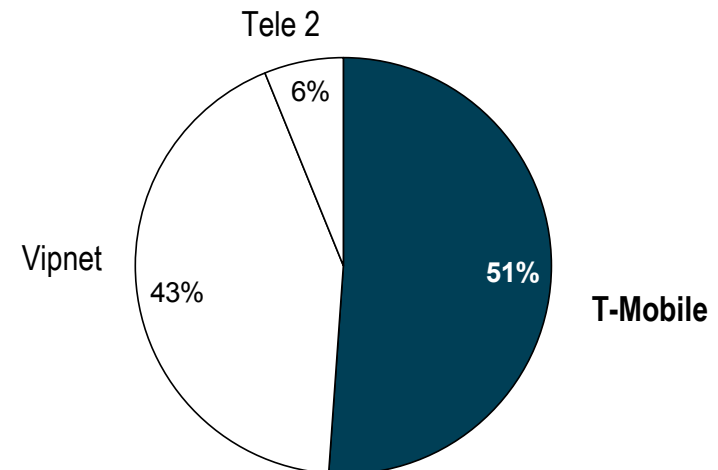
Market share, 2006 [%]

FIXED LINES



Market share, 2006 [%]

MOBILE LINES

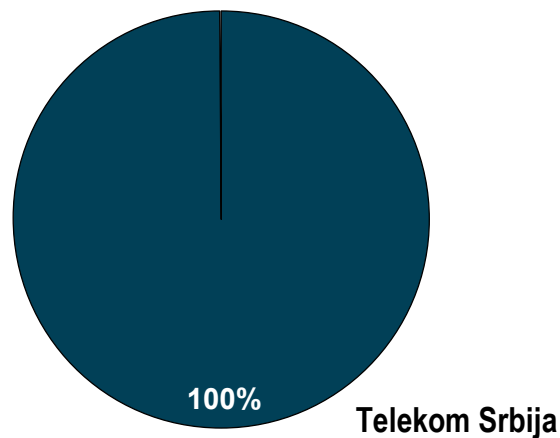


Serbia: Telekom Srbija is monopolist in the fixed line sector and MTS main player in the mobile sector

Focus Serbia

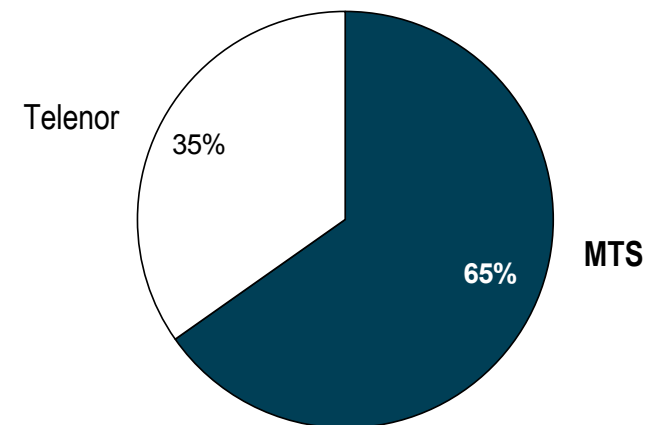
Market share, 2006 [%]

FIXED LINES



Market share, 2006 [%]

MOBILE LINES

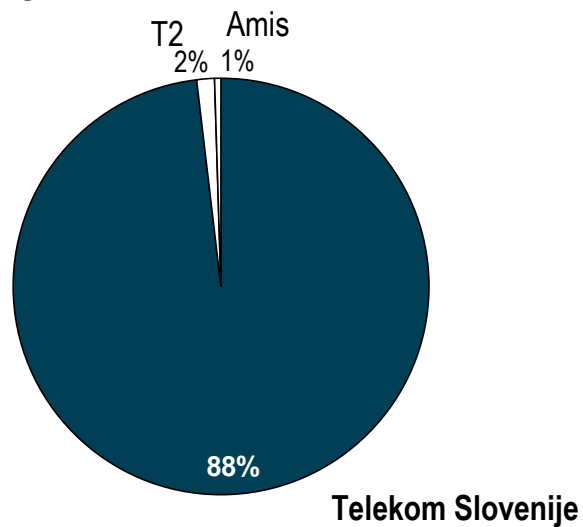


Slovenia: Telekom Slovenije plays the major role in fixed telephony as well as in mobile through Mobitel

Focus Slovenia

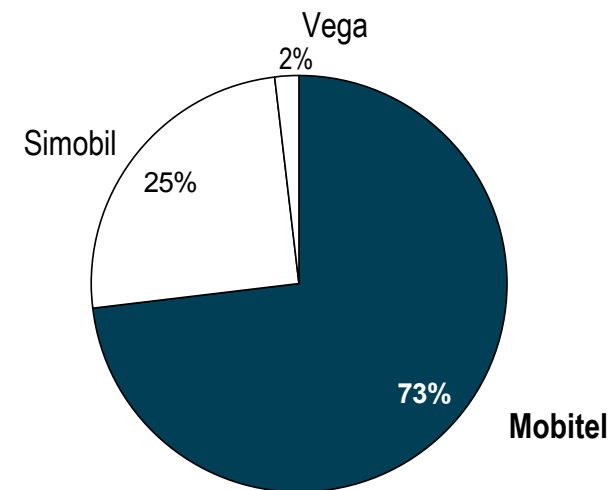
Market share, 2006 [%]

FIXED LINES



Market share, 2006 [%]

MOBILE LINES

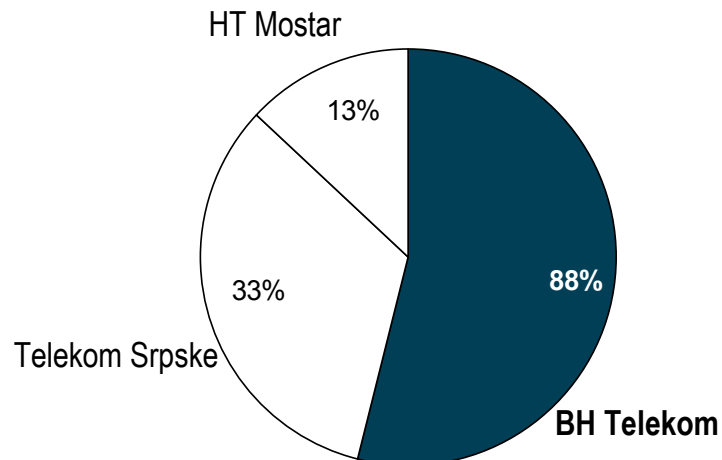


BiH: The fixed and mobile markets are divided amongst three players – BH Telekom/Mobile in lead

Focus Bosnia and Herzegovina

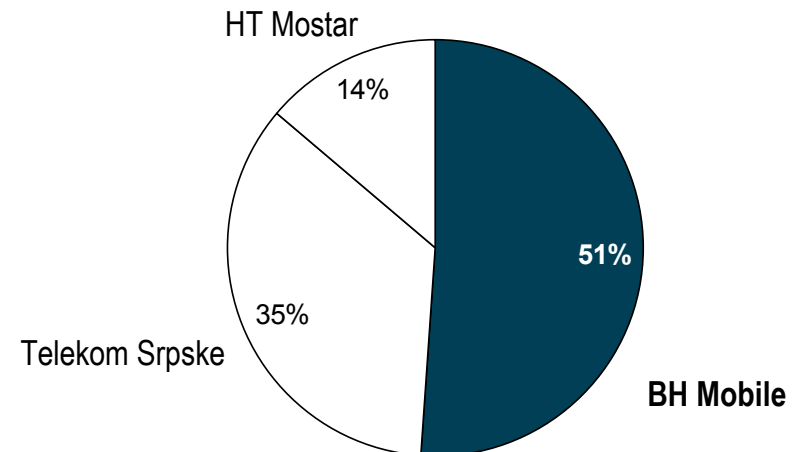
Market share, 2006 [%]

FIXED LINES



Market share, 2006 [%]

MOBILE LINES

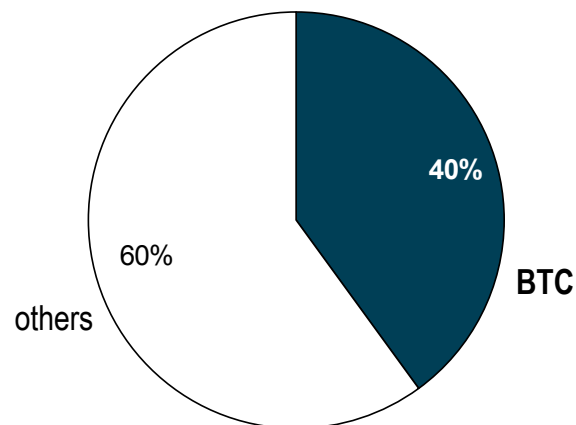


Bulgaria: Major player in fixed lines is BTC and in mobiles lines is Mobiltel (Mobilkom Austria)

Focus Bulgaria

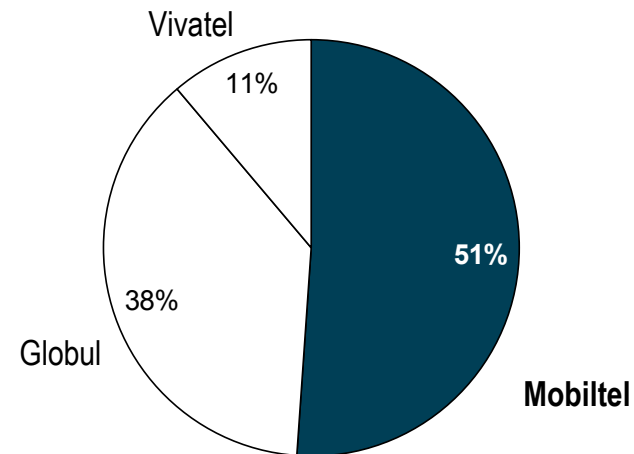
Market share, 2006 [%]

FIXED LINES



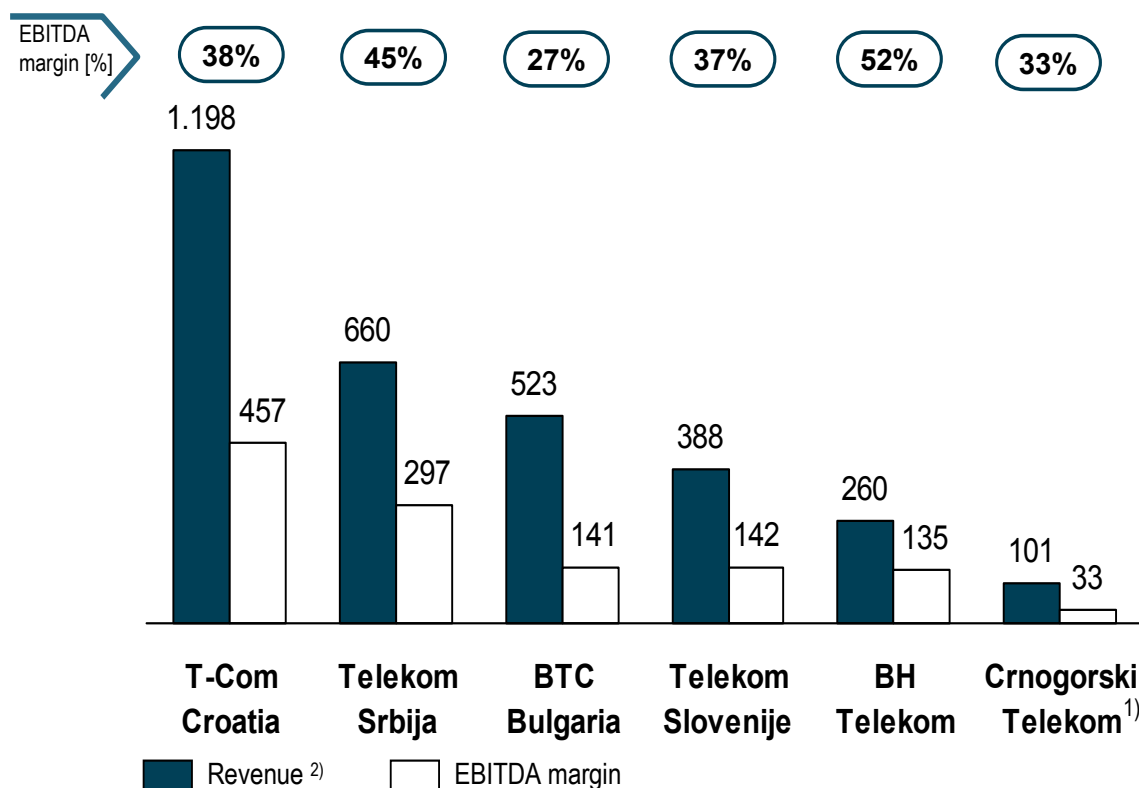
Market share, 2006 [%]

MOBILE LINES



Highest 2005 revenues has T-Com Croatia, but the highest EBITDA margin has BH Telekom

Revenues and EBITDA margin in 2005 [EUR m]










Comments

- > There is a large difference between national telecom incumbents in revenues and EBITDA margin (which should for telecommunication sector be between 35 and 40%)
- > T-Com Croatia has highest revenues from all regional incumbents
- > The most profitable operator is BH Telekom with EBITDA margin more than 50%
- > Crnogorski Telekom has the lowest revenues for 2004, but good profitability; financial statements for 2005 are not available although Telekom is listed on the stock exchange

1) Data for Crnogorski Telekom from 2004 due to lack of data for 2005; data for MakTel not available 2) Revenue includes fixed and mobile telephony, as well as internet service
 Source: Operators financial statements

Four countries in the region have issued WiMax licenses, other are expected to tender in 2007

Country	WiMax start date	Number of providers ¹⁾	Territory coverage	WiMax licence regulation
Bosnia-Herzeg.	End 2007	n.a.		Communications Regulatory Agency
Bulgaria	2006	4		Communications Regulation Commission
Croatia	2006	9		Croatian Telecomm. Agency
Slovenia	2006	2		Post and Electronic Communications Agency
Serbia	End 2007	n.a.		Telecommunication Agency
Macedonia	March 2007	n.a.		Agency for Electronic Communications
Montenegro	2007	3		Montenegro Broadcast. Agency

 fully covered
  partly covered
  not covered

1) One provider can have several licences for different regions

Source: National Telecommunication Agencies

VIE-4989-90000-901-019

B.

Scope of action to develop telecom markets in SEE



SEE telecommunication can be brought to EU level by enforcing the right legal framework

BASICS: ALIGNING LAWS WITH EU DIRECTIVES



- > **Setting "rules of the game"** – passing laws aligned with EU legislation and enforcing them (e.g. Local Loop Unbundling and Number Portability)
- > Defining a clear **broadband strategy** and action plan for further development

RESPONSIBILITY: CLEAR ROLES FOR ALL PLAYERS



- > **Operators:** develop strategies before further privatization, **increase operational efficiency and cross-national synergies** to be able to invest more
- > **Regulator:** ensure forward-oriented actions in order to **promote competition**, this will lead to **more investments and usage**, promote triple play
- > **Governments:** subsidize and **promote usage of broadband**– this is the basis for the information society – **critical current status!** Introduce **eGov, eHealth, etc.**

Providing the basis for the future development of the region – there is no need to lag behind European Best Practice

Delivering results.

Roland Berger
Strategy Consultants