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The Mobile Telecommunications Landscape in Associate Candidate and Western Balkan Countries

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Introduction

Over the last decade South Eastern European (SEE) countries (Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Former Yugoslavia Republic of Macedonia [FYROM], Romania, Serbia and Montenegro, Slovenia, Turkey) have embarked on an effort that involves complete transformation of their political, social, and economic structures in order to build a democratic political system and a free market economy. More than 130 million residents, with different languages and religious beliefs, populate the SEE region, which is situated at the crossroads of three continents and is the home of numerous cultures and traditions. These transitional campaigns, although common for all SEE countries, are distinguished by their individual characteristics and particularities that have impacts on the state of their mobile communications market status and mode of development.

Since all countries of the region have declared on a political level their aspiration to become members of the European Union and therefore a willingness to adopt the relevant *acquis communautaire* in the telecom sector, appropriate categorization would be based to their status in the EU. The aforementioned countries can be divided into three categories [1]: EU member states (Cyprus and Slovenia), associate candidate countries (ACCs: Bulgaria, Romania, Croatia, and Turkey), and western Balkan countries (WBCs: Albania, Bosnia and Herzegovina, FYROM, and Serbia and Montenegro). Since the telecommunications market in EU member states has been well analyzed in several studies, this article focuses on the development of mobile communications and the particular characteristics of the respective markets in ACC and WBCs.

Even though significant progress has been achieved, the telecommunications infrastructure in ACCs and WBCs is still lagging in comparison with developed countries. In addition, the existing regulatory framework is inadequate and in many cases impedes necessary investment activity in the sector. Generally, the evolution of the mobile market in developing countries of regions with monopolistic telecommunication infrastructure has similar characteristics. On one hand, the mobile market in SEE countries includes the first commercial code-division multiple access (CDMA) network in Europe (Zapp Mobile in Romania); on the other hand, it has reported the first below par investment in the European Global System for Mobile Communications (GSM) market (Cosmorom in Romania).

The remainder of the article is structured as follows. First, we present the most important regional players in the mobile communications market. The growth of mobile communications in SEE is analyzed in terms of penetration indicators. Finally, we present the progress in third-generation (3G) assimilation in some of the SEE countries.

Key Regional Players

The constant growth of the mobile market in SEE countries has drawn the interest of foreign telecommunications companies, which have launched significant investment plans. Currently, 41 mobile operators are active in the region. Hellenic Telecommunications Company (OTE) is one of the most important players of mobile telephony in SEE, as shown in Table 1, which presents mobile systems, mobile operators, and the principal shareholders in the ACCs and WBCs. OTE controls 100 percent of the mobile operators in Bulgaria and FYROM , while it is a shareholder of the Albanian AMC, RomTelecom, and Telecom Serbian operators. Vodafone is also an important player in this region, operating in Greece, Albania, and Romania, whereas Telecom Italia operates in Croatia and till recently in Greece, and Deutsche Telecom in Croatia and FYROM (MATAV).

Despite the emergence of some operators with regional rather than national orientations, the political fragmentation process, especially in the states that emerged from the disintegration of the former Yugoslavia, differentiates the WBCs from the other SEE countries as the whole region differs from the rest of Europe.

It is worth mentioning that the first sluggish investment of mobile telephony in the European GSM market was reported in a SEE country, in Romania. Cosmorom, 100 percent owned by Rom Telecom (54 percent owned by OTE), was the first GSM-1800 Romanian operator, launched commercially in March 2000. At the end of 2004 Cosmorom had some 80,000 subscribers, less than a 1 percent market share in a 10 million users market [2]. The Greek mobile operator CosmOTE is to take a majority stake (70 percent) in the ailing CosmoRom from fixed line carrier Romtelecom and will relaunch operations within 2005.

It should also be noted that Kosovo, which is part of the Serbia and Montenegro territory and under United Nations supervision, has established an independent regulatory body, launching tenders and issuing licenses. Vala-900 was awarded the first GSM license and has been operational since 2001. On March 2005 the court of Kosovo passed a final judgment, ruling that the Telecommunication Regulatory Authority (ART) is to grant frequencies to the Mobitel-Mobikos consortium for a second GSM license. The process of issuing this

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license was cancelled by ART in July 2004.

Furthermore, it is worth mentioning that in the union of Serbia and Montenegro, established in February 2003, each republic has full responsibility for the development of its telecommunications sector, including the legal/regulatory framework, according to the SCG Constitution [3]. Therefore, the speculated further disintegration of the SCG Union will have minor repercussions on the respective telecommunications markets, if any at all, since the two republics already function separately.

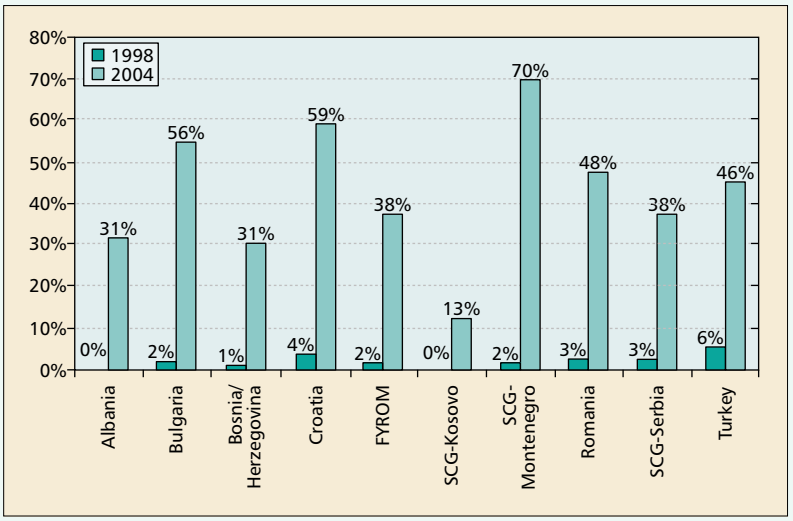
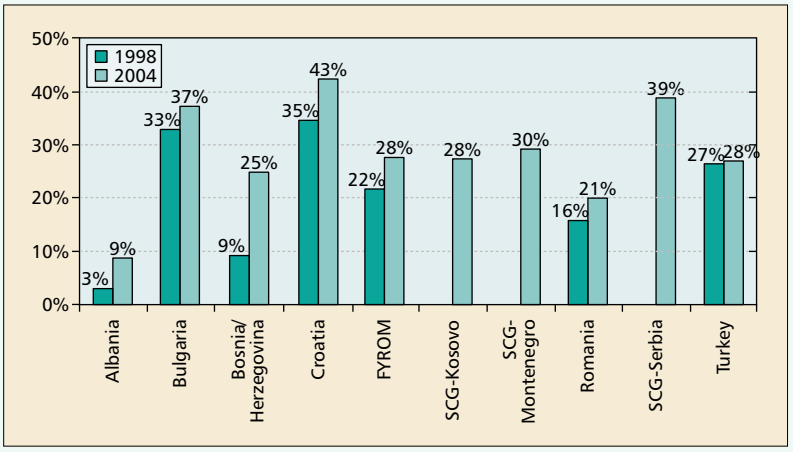


Figure 1.



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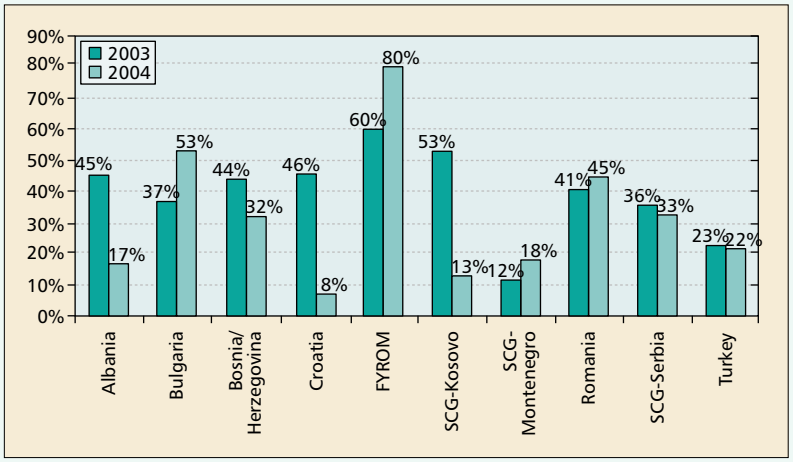

Figure 3.

GSM (900 and 1800 MHz) is the most popular mobile system in the region, with over 80 percent of total subscribers. However, some analog systems, NMT450 and NMT900, operate in Bulgaria and Croatia. Early in December 2001, a new mobile service, Zapp Mobile, based on CDMA at 450 MHz was launched in the Romanian market by Telemobil. This system offered voice and data services up to 154 kb/s, while after the launch of EV-DO in late 2004 the maximum speed was increased to 2.5 Mb/s. The CDMA 450 implementation requires less operator investment than GSM for national coverage (US$600–700 million for 95 percent coverage of the Romanian population), since it provides wider coverage per base station [4]. CDMA 450 is currently the only technology providing an opportunity for NMT operators to enter the digital era in Eastern Europe. The Telemobil experiment (and similar experiences from SkyLink in St. Petesburg and Eurotel in the Czech Republic) suggests that CDMA could target a nice market not competing directly with GSM, addressed mainly at corporate clients and low-coverage rural areas. However, handling CDMA and TETRA (400 MHZ) is a field of investigation for regulators in Eastern Europe.

The rate of growth of mobile telephony in ACCs and WBCs in the last five years is impressive and, in terms of figures, it reflects an evolution in some countries: in Croatia from 4 to 59 percent, in Bulgaria from 2 to 55 percent, and in Montenegro from 2 to 70 percent [5]. However, the growth of fixed lines in the same countries does not exceed 5 percent (Figure 2). The fact that mobile penetration rates in the region are low compared to Western Europe indicates that the market has not yet reached saturation. Figure 3 depicts the annual growth of mobile penetration in 2003 and 2004. It can be observed that mobile penetration increased more than 20 percent in almost all countries between 2002 and 2003. Growth in 2004 is also evident, although at a relatively lower rate. The highest increase, approximately 60 and 80 percent, can be found in FYROM, due to the launch of a second operator, Cosmofon. Competition between two companies (MT and Cosmofon) has decreased prices and increased offers to clients. As far as Kosovo is concerned, the mobile market increased very fast during 2002, but only by 18 percent in 2004. The low growth in Montenegro's market is due to the already high mobile penetration (70 percent) and dramatic growth during the last three years. To be more precise, the mobile penetration in this country has grown by 36, 54, and 67 percent in 2000, 2001, and 2002.

The main causesof the expansion of mobile telephony in SEE countries could be attributed to the relatively low penetration of fixed tele-

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Country	Company	Status	System	Partnership
Albania	AMC	Private	GSM 900	85% Cosmote GR,- Telenor ASA NO, 15% Albanian State
	Vodafone	Private	GSM 900/1800	51% Vodafone Group, 49% Vodafone GR
	Eagle Mobile	State-owned	GSM 900/1800	100% Telecom Albania (Albtelekom)
Bosnia and Herzegovina	BH Telecom	Semi-public	GSM 900	90% BiH State, 10% Private shareholders
	Mobilna Srpske (MOBI'S)	State-owned	GSM 900	100% Telekom Srpske
	ERONET	Private	GSM 900	49% HT d.o.o., Zagreb, HR , 51% HT d.d. Mostar, BiH
Bulgaria	Mobikom	Private	UMTS/NMT 450 GSM 900/1800	100% Bulgarian Telecom (BTC)
	Globul	Private	UMTS/GSM 900/1800	100% Cosmote (OTE Group), Greece
	MobiTel AD (M-TEL)	Private	UMTS/GSM 900	40% ABN AMRO Cap, Citigroup Inv. 60% founding shareholders
Croatia	Vipnet	Private	UMTS/GSM 900	100% Mobikom Austria
	T-Mobil	Private	UMTS/NMT 450 GSM 900	100% Deutsche Telekom
	Tele 2	Private	UMTS/GSM 900/1800	100% Tele 2 AB, Sweden
Turkey	Turkcell	Private	GSM 900	40.28% Cukurova Group 37.09% Sonera Holding, 6.07% M.V. Group free float 16.33% and 0.23%.
	Telsim	State-owned	GSM 900	Turkish Government (takeover for debt resolution)
	TT &TIM (AVEA)	Private	GSM 1800	40% Telecom Italia Mobile (TIM) 40% Turk Telecom (TT) 20% Turkiye Is-Bankasi Group (ISBANK)
	FYROM Cosmofon	Private	GSM 900	100% Cosmote (OTE Group), Greece
	MT (Mobimak)	Private	GSM 900	51% Stonebridge Com. MATAV 47,1% Government, 1.9% IFC
Romania	Connex GSM (Mobifon SA)	Private	UMTS/GSM 900	100% Vodafone UK
	CosmoRom	Private	GSM 1800	70% CosmOTE, 30% RomTelecom (54.01% OTE, GR, 44.99% Romanian Government)
	Orange Romania	Private	UMTS/GSM 900/1800	96.6% Orange (France Telecom Group) 14.28% Polish investment funds
	Zapp Mobile	Private	NMT 450, CDMA 2000	99.53% INAQUAM SA Others with less than 0.3% each SCG
Serbia	Telecom Serbia	Semi-Public	GSM 900	80% PE PTT Serbia, 20% OTE Greece
	Mobtel Srebjia	Private	GSM 900	51% BK Trade, Moscow, RU 49% Telecom Serbia
	Monte-negro Monet	Semi-public	GSM 900	100% Telekom Crne Gore (51.12% Government, 28.86% Citizens., 20.02 private inv. funds)
	Pro Monte	Private	GSM 900	100% Telenor Mobile Comm., Norway
Kosovo	Vala 900	Semi-public	GSM 900	76% PTK Kosovo, 23% Monaco Telecom
	(Mobitel-Mobikos)	Private	GSM 900	Mobitel, Slovenia; Mobikos, Kosov

Table 1. *Mobile operators in ACC and WC countries.*

phony in rural areas, the long waiting lists and times for a fixed line, and the considerably low quality of fixed telephony services. Moreover, mobile technology permits faster rollout, while the cost for mobile services appears to be cheaper in comparison to fixed.

However, a deeper analysis of the mobile market in these countries shows that the increase in the subscriber base is mainly due to prepaid services. All countries tend to have high penetration levels, more than 53 percent of prepaid telephony with respect to post-paid, as can be seen in Figure 4. Especially in the case of Albania, Croatia, and Montenegro, prepaid customers correspond to 97, 82, and 82 percent of the total number of mobile users, respectively. Subscribers' preference for prepaid telephony, in spite of higher tariffs, may be attributed to the high monthly contract fees of post-paid telephony and the customer's ability to control cost more easily with prepaid services.

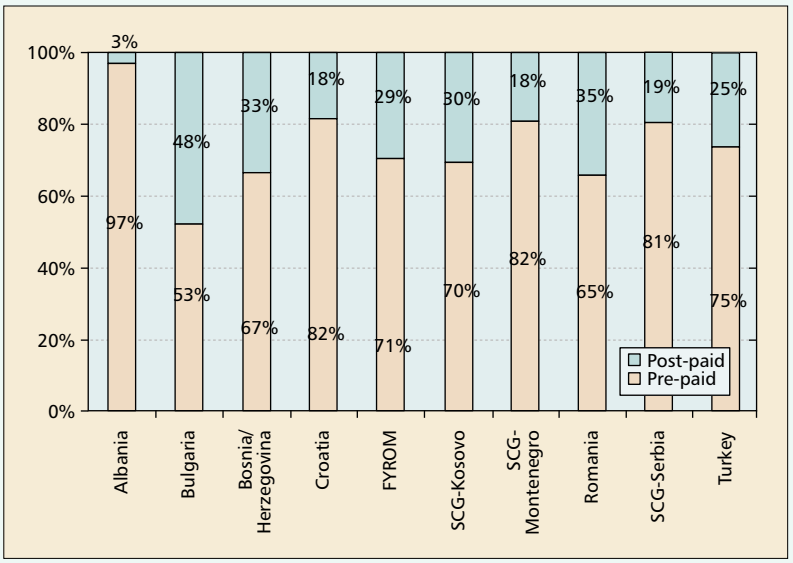

Figure 4.

The Road to 3G and the Future

Two licensees have been granted by the Romanian Goverment, to Orange Romania and Connex, to provide 3G services. Zapp Mobile services based on CDMA450 (another 3G technology) have already been operating since 2001, while in April 2005 Connex launched the first Universal Mobile Telecommunications System (UMTS) mobile service in Romania. In Bulgaria the three mobile communication providers, Mobikom, Globul, and Mobitel, have licenses to offer UMTS. Croatia gave its three licenses to GSM providers Vipnet, T-Mobile, and Tele2. Turkish authorities do not have a specific plan for licensing 3G yet, although licenses are expected to be granted during 2005–2006. However, a new National UMTS Coordination Committee was created in 2002 in order to prepare the Turkish mobile market for the introduction of 3G.

In the near future, the main competition for 3G and GSM is expected to come from WiFi and WiMAX technologies. Hybrid solutions of satellite and IEEE 802.11x, including voice over IP services, will challenge the dominance of GSM/UMTS. Due to the relative delay in 3G development, the battle in ACCs and WBCs will be fought under different rules than in EU member states.

Conclusions

This article highlights the situation pertaining to mobile communications in emerging markets like the ACCs and WBCs. It can easily be deduced that the mobile market in these countries has grown dramatically in the past five years without becoming saturated yet, which implies that further growth can be foreseen with many investment opportunities for operators still. As far as the future is concerned, the constant upgrade of services mobile telephony offers allows thinking that its growth in the ACCs and WBCs will continue, and competition against fixed services will become stronger.

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