

## **REPORT 2**

Supply of services in monitoring regulatory and market developments for electronic communications and information society services in Enlargement Countries

2011-2013

ANNEX I
Cross-country comparative data

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## I. PARTICIPATING COUNTRIES

The table below lists the participating countries in order in which they are presented in the study report: the acceding country and the five candidate countries followed by the potential candidate countries. It also introduces two letter codes that will be used to identify specific entities on graphs and charts. The codes are based on the international two letter ISO codes that are also used for Internet domain names assigned by Internet Assigned Numbers Authority (IANA).

Country	Code	Comments					
Croatia	HR	Croatia is an acceding country. The EU and Croatia signed Croatia's EU Accession Treaty on December 9, 2011. Subject to ratification of the Treaty by all the Member States and Croatia, Croatia will become the EU's 28th Member State on July 1, 2013.					
Iceland	IS						
FYR Macedonia	MK	the constitutional name is the Republic of Macedonia, though it is not recognised under this name by some countries.  The EU refers to it by the provisional reference under which it was admitted to the United ations: "the Former Yugoslav Republic of Macedonia". This does not prejudge the outcome of the negotiations on the name of the country that are underway.  The country code "MK" is used by ISO and some other organisations.					
Montenegro	ME						
Serbia	RS	On March 1, 2012 European Council confirmed Serbia as a EU candidate country.					
Turkey	TR	r					
Albania	AL	-					
Bosnia & Herzegovina	BA	<ul> <li>Bosnia &amp; Herzegovina (BiH) comprises two parts:</li> <li>The Federation of Bosnia &amp; Herzegovina</li> <li>Republika Srpska</li> <li>A separate federal district of Brčko belongs to both.</li> <li>Bosnia &amp; Herzegovina is presented as a single geographic unit because its constituent parts have a common legislative and institutional framework for electronic communications and information society services, established at the entity level.</li> <li>The report treats separately the three incumbent operators that, while now operating nationally, were initially established in different parts of the entity:</li> <li>BH Telecom d.d Sarajevo (BA-bh) based in Sarajevo, the Federation of Bosnia &amp; Herzegovina</li> <li>Hrvatske Telekomunikacije d.o.o. Mostar (BA-ht) based in Mostar, the Federation of Bosnia &amp; Herzegovina</li> <li>Telekom Srpske a.d. Banja Luka (BA-ts) based in Banja Luka, Republika Srpska</li> </ul>					
Kosovo*	XK	*This designation is without prejudice to positions on status, and is in line with UNSC 1244 and the ICJ Opinion on the Kosovo declaration of independence.  Kosovo does not have an officially assigned ISO 3166 code. However, the structure allows for so-called user assigned codes. The code "XK" is used by Eurostat and some other organisations.					

#### II. CROSS-COUNTRY DATA

## A. General economic background

Any assessment of electronic communications markets in each monitored country needs to be seen against the general performance of the economy, its level and the relative growth rates in comparison with the economies of other enlargement countries and the EU member states.

The monitored indicators will include data on the size of individual economies, gross domestic product (GDP) and GDP growth, population and household statistics, national currencies, exchange rates and purchasing power parities (PPP), value added tax and any other taxes specifically applicable to electronic communications services.

The main source of information for these indicators will be the national statistical offices in the enlargement countries and Eurostat data.

#### 1. Currencies, inflation, exchange rates, VAT and special taxes

In order to compare the economies, markets prices and other indicators between the monitored entities and with the EU-27 it is necessary to make adjustments for the different exchange rates (see Table A.1).

Country	Currency	Code		Average exchange rate							
			2006	2007	2008	2009	2010	2011	March 1, 2012		
Croatia	Croatian Kuna	HRK	7.32	7.34	7.22	7.34	7.29	7.43	7.57		
Iceland	Iceland Krona	ISK	87.71	87.60	127.45	172.66	161.89	161.42	166.99		
FYR Macedonia	Macedonian Denar	MKD	61.19	61.17	61.26	61.40	61.17	61.70	61.50		
Montenegro	Euro	EUR	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Serbia	Serbian Dinar	RSD	85.00	78.67	81.91	94.12	103.40	101.95	110.58		
Turkey	New Turkish Lira	TRY	1.81	1.79	1.91	2.16	2.00	2.34	2.33		
Albania	Albanian Leke	ALL	123.27	122.20	122.80	132.06	137.77	140.34	140.02		
Bosnia & Herzegovina	Bosnian Marka	BAM	1.96	1.96	1.96	1.96	1.96	1.96	1.96		
Kosovo*	Euro	EUR	1.00	1.00	1.00	1.00	1.00	1.00	1.00		

Table A.1 – Exchange rates<sup>1</sup>

http://www.nbrm.gov.mk/default-en.asp?pmenu=kurslistENIKL

http://www.sedlabanki.is/?PageID=183

<sup>&</sup>lt;sup>1</sup> MB-Ch.8-Exchange rates at http://www.ecb.int/stats/services/downloads/html/index.en.html http://www.nbs.rs/export/internet/english/80/index.html

http://www.bankofalbania.org/web/pub/kursi\_2008\_2349\_1.xls

Currency fluctuations can have significant effects when comparing prices, spending patterns and operator revenues. The economic crisis and recession of 2008-09 has caused significant and unanticipated variations in exchange rates. As noted in previous reports, these can cause the apparent decline in the value of specific telecommunications markets when expressed in euros.

Prices can vary because of the different levels of taxation. It is therefore important to be able to identify, compare and, where appropriate, remove this element from any charges. The rates of value added tax (VAT) in the enlargement countries range from 16% in Kosovo to 25.5% in Iceland (see Figure A.1). These are close to the general range of the EU-27.

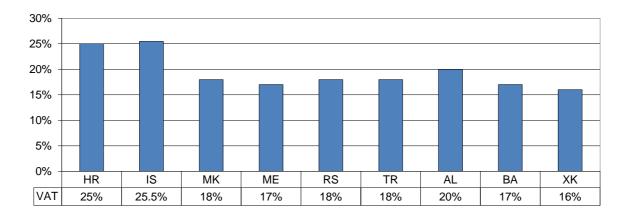


Figure A.1 – Rates of Value Added Tax

There are some additional retail taxes, notably in Turkey: the Special Communications Tax (SCT) of 25% on mobile network services, 15% on fixed voice telephony services and 5% on Internet services. These cannot be reclaimed by businesses and so must be included in retail charges.

From June 1, 2009 a temporary additional 10% tax on mobile communications services was introduced by the Serbian government as part of emergency economic measures to address the consequences of the economic crisis and the growing budget deficit. This tax was removed from January 1, 2011.

On August 1, 2009 a set of anti-recession measures also took effect in Croatia. This included the increase in VAT rate from 22% to 23% and the introduction of an additional 6% tax on mobile communications services. Croatia abolished this 6% tax from January 1, 2012, but it was re-introduced again from February 1, 2012. From March 1, 2012 the VAT rate in Croatia was further increased to 25%. On June 20, 2012 the Croatian government announced that the 6% tax on mobile services will be removed from July 1, 2012. Instead, the government is now considering increasing the annual spectrum usage fees paid by mobile operators to the state budget.

Country			Electronic communications taxes		
	Purpose of tax	Levied on operators or end users?	Specify to which sector it applies (fixed, mobile, internet)	How tax is calculated	Total funds raised (or expected)
Croatia	This tax was introduced as part of anti-recession measures	Levied on operators	Mobile: mobile voice calls and SMS	6% of gross income of mobile voice calls and SMS	Ca HRK 300m annually (estimate) (equivalent to approx. €40m)
Iceland	-	-	-	-	-
FYR Macedonia	-	-	-	-	-
Montenegro	-	-	-	-	-
Serbia	-	-	-	-	-
Turkey	Special Communication Tax Initially introduced as part of a series of new taxes levied to finance public works required to respond to the damage caused by the earthquake in Turkey's Marmara region in 1999.	Levied on end users and collected by operators	Fixed services: 15% Mobile services: 25% Internet services (fixed and mobile): 5%	The tax base for Special Communication Tax is the same as the Value Added Tax base.	No information available Some estimates were provided in a report released by GSMA in May 2012
Albania	-	-	-	-	-
Bosnia & Herzegovina	-	-	-	-	-
Kosovo*	-	-	-	-	-

Table A.2 – Special taxes on electronic communications network operators and users

## 2. Population and households

The four candidates and five potential candidates together have a population of 96.7 million people, or almost 20% of the EU-27 population (see Table A.3). The greatest part of that population is represented by Turkey, which is ten times the size of Serbia, the next largest country. Montenegro and Iceland have much the smallest populations. Consequently, it is necessary to be careful when comparing the eight much smaller markets with Turkey. There was a substantial downward adjustment in the population of Turkey for 2006, based on new survey data. The population figures for Serbia, Albania and Kosovo have also dropped considerably in 2011, following publication of new census data.

Country			Population	1		Percentage of EU-27 total	Inhabitants per sq	Households	Persons per
	2007	2008	2009	2010	2011	2011	km (latest data 2007)	(latest data 2007)	household 2009
Croatia	4.441	4.436	4.435	4.426	4.412	0.88%	78.5	1.477	3.0
Iceland	0.3076	0.315	0.319	0.317	0.318	0.06%	3.0	0.118	2.7
FYR Macedonia	2.042	2.045	2.048	2.053	2.057	0.41%	79.4	0.564	3.6

#### Enlargement countries monitoring report 2 – Annex I – July 2012

Country			Population			Percentage of EU-27 total	Inhabitants per sq	Households	Persons per
	2007	2008	2009	2010	2011	2011	km (latest data 2007)	(latest data 2007)	household 2009
Montenegro	0.625	0.627	0.630	0.616	0.618	0.12%	45.2	0.183	3.4
Serbia	7.382	7.366	7.335	7.307	7.121	1.42%	95.3	2.537	2.9
Turkey	69.689	70.586	71.517	72.561	73.723	14.67%	90.1	18.492	3.9
Albania	3.153	3.170	3.185	n/a	2.831	0.56%	109.7	0.753	4.2
Bosnia & Herzegovina	3.844	3.843	3.844	3.844	3.843	0.76%	75.1	1.034	3.7
Kosovo*	2.127	2.153	2.181	2.208	1.734	0.35%	195.3	0.311	7.0
Total	93.303	94.148	95.526	n/a	96.657	19.24%	-	25.469	3.8
EU-27	495.090	497.444	499.700	501.104	502.477	100.00%	-		2.4

Table A.3 – Populations and households (millions)

#### Notes:

Population data for 2010 is shown for reference only. Calculations in this report for penetration rates in 2010 were made based on 2009 population data, which was the latest available at the time of publication of the previous report. The latest information available on the number of households in each country is from 2007.

Source: Eurostat website (for all except Serbia, Albania and Kosovo): http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=demo\_gind&lang=en

Eurostat Pocketbook on candidate and potential candidate countries 2011 edition. KS-GM-11-001-EN (Table 1.1) http://epp.eurostat.ec.europa.eu/cache/ITY OFFPUB/KS-PF-10-001/EN/KS-PF-10-001-EN.PDF

http://epp.eurostat.ec.europa.eu/cache/ITY OFFPUB/KS-GM-11-001/EN/KS-GM-11-001-EN.PDF

Eurostat Compact Guide on candidate and potential candidate countries, Economic Developments, July 2011 edition <a href="http://epp.eurostat.ec.europa.eu/portal/page/portal/product\_details/publication?p\_product\_code=KS-31-11-154">http://epp.eurostat.ec.europa.eu/portal/page/portal/product\_details/publication?p\_product\_code=KS-31-11-154</a>

EU-27: Household composition is for the EU-25 in 2003.<sup>2</sup>

Serbia: source: http://popis2011.stat.rs/?lang=en
Albania: source: http://census.al/default.aspx?lang=en
Kosovo\*: source: http://esk.rks-gov.net/rekos2011/?cid=2,1

The population of the EU-27 and of Turkey has been increasing over the past five years. While the EU-27 population grew by approximately 1.5% from 2007 – 2011, however, Turkey's population grew more than three times as fast, by 5.8%. Most other enlargement countries have seen a gradual reduction in their populations.

The household composition in the enlargement countries is quite different from that of the existing EU member states, which have an average of 2.4 members per household. Households are larger, notably in Turkey and Albania, where the 2009 average per household was respectively 3.9 and 4.2. The figure for Kosovo is the

<sup>&</sup>lt;sup>2</sup> http://epp.eurostat.ec.europa.eu/tgm/printTable.do?tab=table&plugin=1&language=en&pcode=cdb10000&printPreview=true

highest. Higher numbers of people in a household would suggest that, cultural factors being equal, fixed telephone and broadband lines would be available to a larger number of people than in the EU-27 countries.

#### Gross Domestic Product

The Gross Domestic Product (GDP) is defined as the total market value of all final goods and services produced within a country in a year.<sup>3</sup> There is long-standing evidence that GDP and GDP growth correlate with telecommunications and telecommunications network growth.<sup>4</sup>

There are problems in determining the value of GDP accurately in some economies, given the existence of "informal" sectors that must be estimated.

The values shown in Table A.4 indicate the very different sizes of the enlargement economies.

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Croatia	25,538	28,112	30,011	32,759	35,725	39,102	42,833	47,370	45,379	45,917
Iceland	8,830	9,474	9,709	10,660	13,124	13,311	14,851	10,265	8,692	9,495
FYR Macedonia	3,893	3,839	4,001	4,105	4,325	4,676	5,081	5,791	6,676	6,905
Montenegro	1,295	1,360	1,510	1,67	1,815	2,149	2,808	2,808	2,981	3,104
Serbia	12,821	16,034	17,416	19,075	20,358	23,521	29,543	29,543	29,963	28,006
Turkey	219,816	243,570	269,322	314,304	387,655	419,013	472,879	501,133	441,600	550,506
Albania	3,945	4,541	4,705	5,048	5,881	6,561	7,168	7858	8,500	8,716
Bosnia & Herzegovina	5,977	6,424	7,067	7,416	8,757	9,843	11,126	12,637	12,268	12,570
Kosovo*	1,624	1,735	1,797	3,007	3,068	3,192	3,434	3,434	3,902	4,216
EU-27	9,580,843	9,942,614	10,110,180	10,607,864	11,061,969	11,683,833	12,362,879	12,512,071	11,785,475	12,255,454

Table A.4 – Gross domestic product (€ million)<sup>5</sup>

Notes: 2008 figures in EUR are mostly preliminary estimates (indicated as 'P') based on national statistics.

Source for 2010: Eurostat Compact Guide on Enlargement countries, economic developments, 2012 edition

http://epp.eurostat.ec.europa.eu/cache/ITY OFFPUB/KS-32-11-950/EN/KS-32-11-950-EN.PDF

Source for 2009: Eurostat Compact Guide on candidate and potential candidate countries, Economic Developments, July 2011 edition

http://epp.eurostat.ec.europa.eu/portal/page/portal/product\_details/publication?p\_product\_code=KS-31-11-154 Eurostat Pocketbook on candidate and potential candidate countries 2010 edition. KS-PF-10-001-EN (Table 5.1).

Source for 2008: Eurostat Pocketbook on candidate and potential candidate countries 2010 edition. KS-PF-10-001-EN http://epp.eurostat.ec.europa.eu/cache/ITY OFFPUB/KS-PF-10-001/EN/KS-PF-10-001-EN.PDF

Macedonia: State Statistical office, http://www.stat.gov.mk/english/glavna\_eng.asp

Montenegro: Source for 2009 and 2010: Statistical Office of Montenegro, http://www.monstat.org/eng/novosti.php?id=257

<sup>&</sup>lt;sup>3</sup> http://circa.europa.eu/irc/dsis/nfaccount/info/data/ESA95/ESA95-new.htm

<sup>&</sup>lt;sup>4</sup> Lars-Hendrik Röller & Leonard Waverman (2001) "Telecommunications infrastructure and economic development: a simultaneous approach" *The American Economic Review 91* (4) 909-923.

<sup>&</sup>lt;sup>5</sup> http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&init=1&language=en&pcode=tgs00028&plugin=0

Bosnia & Herzegovina: Bulletin of Agency for statistics of BiH (Thematic Bulletin - TB 10, Gross Domestics Product 2005-2008, http://bhas.ba/new/tb.asp?Test=a324r5&Pripadnost=6)
Kosovo\*: Statistical Office of Kosovo (SOK), http://www.ks-gov.net/ESK/eng/dmdocuments/GROSS%20DOMESTIC%20PRODUCT%20IN%20KOSOVO%202004%20-%202008.pdf

Figure A.2 shows the volume indices of GDP per capita in the monitored countries, expressed in relation to EU-27=100.

In 2010, GDP per inhabitant in Iceland, expressed in purchasing power standards (PPS), was 11% above the EU-27 average but this represents a significant fall from 31% above the EU average in 2000. In contrast, GDP per capita in the other enlargement countries was lower than that of the EU-27 in 2010 but has risen steadily over recent year by between three and six percentage points in all cases.

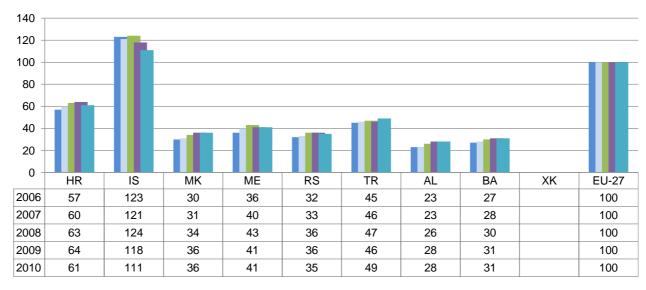


Figure A.2 – Volume index of GDP per capita in PPPs<sup>6</sup>

In the period from 2000 to 2007 GDP growth in constant prices was considerably higher in most of the enlargement countries than in the EU (see Figure A.3). The average growth in the EU-27 was 2.2%, less than half that achieved by Croatia. Other economies managed 5% or even 6%.

The unprecedented economic crisis which gathered pace in autumn 2008 affected the EU-27 and all enlargement countries. In 2009, the gross domestic product (GDP) decreased by 4.2% in the EU-27, before returning to growth of 2.0% in 2010.

<sup>&</sup>lt;sup>6</sup> http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&init=1&plugin=1&language=en&pcode=tec00114

The impact of crisis on the enlargement countries varied depending on each country's economic structure. Croatia, Iceland, Serbia and Turkey, which are more integrated in the global market, were heavily affected and Iceland was especially hard hit due to the collapse of the financial sector. In 2009, GDP fell by 6.8% in Iceland, 5.8% in Croatia, 4.7% in Turkey and 3% in Serbia. Montenegro, which was also severely hit, due to its dependence on external financing, saw its GDP contract by 5.7% in 2009.

Turkey achieved an exceptional turnaround in 2010, however, when its GDP growth rate jumped to 9.0%. Serbia also returned to growth, while Croatia and Iceland recorded smaller declines in GDP growth in 2010 than in 2009, recording rates of -1.2% and -4.0% respectively.

In Bosnia and Herzegovina the impact of the crisis was exacerbated by pro-cyclical fiscal policies with a high share of subsidies and social transfers in the budget. In 2009, GDP decreased by 2.9% in Bosnia and Herzegovina but GDP growth bounced back to 0.7% in 2010. Albania and Macedonia were least affected by the crisis, as they are less dependent on exports and their domestic markets held up well. In 2009, GDP decreased slightly, by 0.8%, in Macedonia before growing by 1.8% in 2010. Albania stood out with a growth rate of 3.3% in 2009 and 3% in 2010.

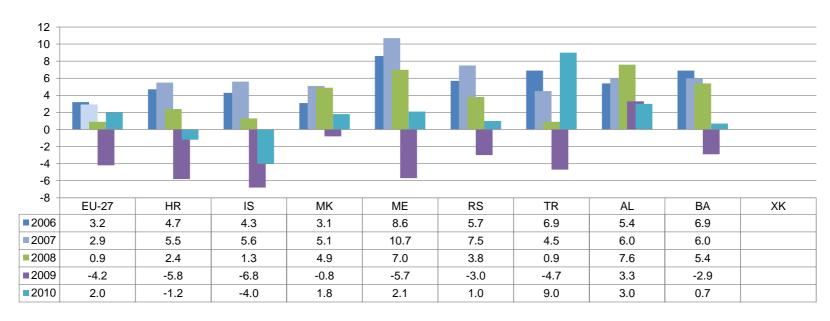


Figure A.3 – GDP growth rates, in percent<sup>7</sup>

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<sup>&</sup>lt;sup>77</sup> Source for 2010: Eurostat Compact Guide on Enlargement countries, economic developments, 2012 edition

#### B. Electronic communications market overview

This chapter compares the value of the electronic communications market in each of the enlargement countries, as well as growth rates and investment levels. It measures penetration rates and market competitiveness in both the fixed telephony and mobile telephony markets.

In the broadband market it provides detailed data on fixed access lines and on speeds, as well as on NGA deployment plans. It also measures mobile broadband uptake.

Finally, it compares the degree of control of electronic communications companies by foreign investors and their key financial ratios.

#### Electronic communications market value

The total value of the electronic communications market in the nine enlargement countries in 2011 was calculated as €16.07bn. This represents an increase year on year of 5.7% (using revised figures for 2010, which have been updated since the last report, and total €15.19bn).

The table below shows the sector revenue in 2007 – 2011 for all enlargement countries (Iceland is included only for 2009, 2010 and 2011).

Service category	2007*	2008*	2009	2010	2011	2010-11 growth
Fixed voice telephony	5,411,329,200	4,565,475,200	4,183,524,600	4,028,204,428	3,842,137,028	-4.6%
Internet services	965,443,300	1,272,911,900	1,531,031,400	1,639,126,245	2,020,015,911	23.2%
Mobile telecommunications	9,013,465,400	9,964,334,200	9,126,823,000	8,952,515,633	9,633,310,690	7.6%
Data communications	384,632,700	440,934,500	448,902,100	348,029,485	321,938,929	-7.5%
Cable TV (excl. internet)	113,333,300	144,899,500	181,364,900	225,346,894	246,646,747	9.5%
Total	15,888,203,900	16,388,555,300	15,471,646,000	15,193,222,684	16,065,133,893	5.7%

Table B.1 – Electronic communications market revenue by service category (€)

Notes:

All categories \*Figures for 2007 and 2008 do not include Iceland.

Croatia: Total revenue in the fixed voice telephony for 2011 only include retail revenues

Iceland: Please take a note of the fact that there are no specific networks that can be classified as "Cable TV's" in operation in Iceland." However the operators do operate

broadband networks that run IPTV, data and voice telephony over their networks."

Montenegro: The total for Montenegro includes €1,084,587 of 'other' revenues at Crnogorski Telekom that are not counted under any of the five service categories.

Albania: Fixed voice and mobile telephony services include revenue from retail and wholesale telephony services. Some operators offer bundles of double and triple play, and

revenues from individual services are not directly distinguished.

http://epp.eurostat.ec.europa.eu/cache/ITY\_OFFPUB/KS-32-11-950/EN/KS-32-11-950-EN.PDF
Data for 2009 is from Eurostat Compact Guide on candidate and potential candidate countries, Economic Developments, July 2011 edition http://epp.eurostat.ec.europa.eu/portal/product\_details/publication?p\_product\_code=KS-31-11-154

Mobile telecommunications represents 60% of the market (see Figure B.1). Fixed voice telephony represents just under a quarter of the market, followed by internet services, with much smaller shares for data communications and cable television.

What is clear, however, is that the internet services sector is growing in all countries, while the traditional fixed voice telephony sector is declining in most countries. In 2011 there was, moreover, a return to steady growth in the mobile sector, where growth had stagnated in 2010, although mobile revenue in Croatia, Macedonia, Montenegro and Albania declined. The cable television sector also recorded steady growth in most countries where it operates.

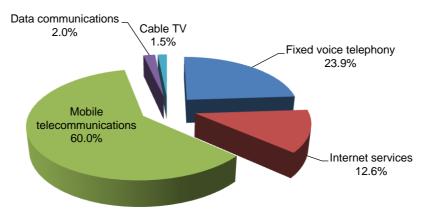


Figure B.1 – Electronic communications market revenue share by service category in 2011

Looking at revenue growth from electronic communications in 2011 by individual service categories in each country, it is possible to see which categories are growing and contracting in each market.

The general picture was of moderate growth in most sectors, with growth in all countries in the internet access services sector. Revenues from data communications (which includes data transmission services over fixed networks based on leased lines, IP-VPN, Frame Relay and ATM technology) declined in Bosnia, FY Macedonia and Serbia, while revenues from fixed voice telephony declined strongly in Croatia, Montenegro and Albania. In Kosovo, revenue growth was mainly in the cable sector.

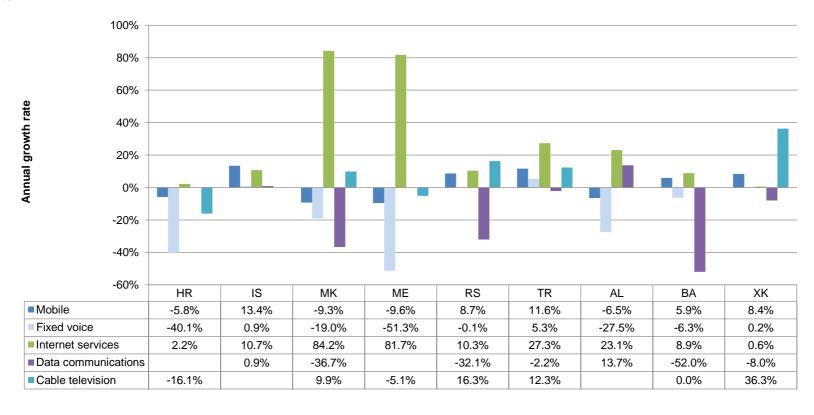


Figure B.2 – Sector revenue growth by country in 2011 (€)

Note: Montenegro:

Revenue from Data communications reported in 2010 was low, meaning that the percentage increase in 2011 appeared to exceed 8000% to reach €3.69m.

Electronic communications represents quite different proportions of the various economies (see Figure B.3). While this reflects different levels and patterns of spending and of production and supply within an economy, it may also be affected by the accuracy of the GDP measurements.

The high values for Montenegro may indicate underestimation of the GDP, although they do match the high household spending on communications in the country. For comparison, the electronic communications market constitutes around 3% of the EU-27 economy.

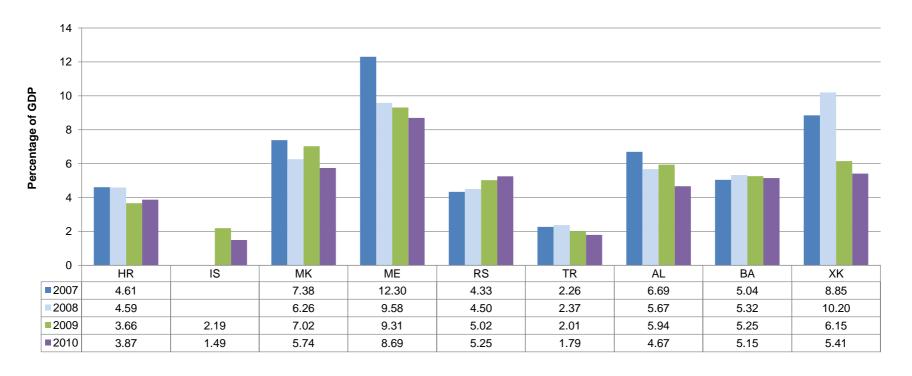


Figure B.3 – Electronic communications as a percentage of GDP

Breaking down total revenue by countries and sectors, the patterns are inevitably dominated by the size of the Turkish markets (see Figure B.4). In order to be able to compare countries, the same data are presented as percentages in Figure B.5.

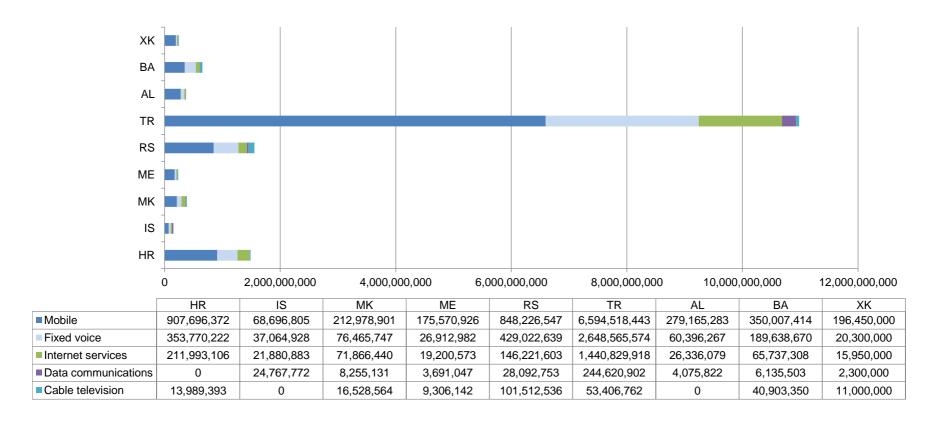


Figure B.4 – Electronic communications market revenues by service category by country in 2011 (€)

Notes:

Croatia: Total revenue for fixed voice telephony in 2011 (HRK 2.63bn, equivalent to €353.8m) only includes retail revenues. This explains the apparently large fall compared with the figure for 2010 of HRK 4.39bn (€590.9m). Fixed voice telephony retail revenue in 2010 was HRK 3.01bn (€412.9m).

Iceland: There are no specific networks that can be classified as "Cable TV" in operation in Iceland.

Albania: Fixed voice and mobile telephony services include revenue from retail and wholesale telephony services. Some operators offer bundles of double and triple play, and revenues from individual services are not directly distinguished.

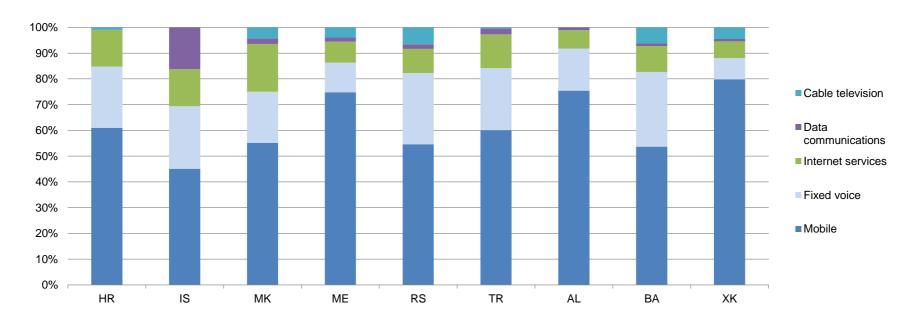


Figure B.5 – Electronic communications as percentage of revenue by service category by country in 2011

## 2. Investment in electronic communications

Country	Fixed voice	telephony	Internet	services	Mobile te	elephony	Cabl	e TV	Support	services
	2010	2011	2010	2011	2010	2011	2010	2011	2010	2011
Croatia	114,201,870	n/a	13,451,339	n/a	97,925,750	n/a	6,725,670	n/a	n/a	n/a
Iceland	1,263,788	712,430	997,402	1,499,200	6,690,644	3,097,520	0	0	6,294,161	6,740,204
FYR Macedonia	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Montenegro	10,123,985	n/a	n/a	n/a	10,188,789	n/a	0	n/a	n/a	n/a
Serbia	50,035,312	56,813,277	15,762,938	11,447,012	141,778,161	138,904,147	36,185,114	35,135,559	13,222,427	8,622,043
Turkey	469,339,139	654,644,809	n/a	n/a	1,136,193,648	1,052,907,275	12,551,230	39,574,795	n/a	n/a

#### Enlargement countries monitoring report 2 – Annex I – July 2012

Country	Fixed voice	telephony	Internet	services	Mobile to	elephony	Cabl	e TV	Support	services
	2010	2011	2010	2011	2010	2011	2010	2011	2010	2011
Albania	3,733,795	3,042,615	9,234,729	20,143,965	57,638,674	48,674,717	n/a	n/a	n/a	n/a
Bosnia & Herzegovina	54,364,643	48,179,034	5,164,048	10,692,136	67,537,056	47,434,082	1,280,275	974,011	1,380,488	9,989,621
Kosovo*	16,265,000	2,710,000	5,293,000	5,060,000	3,830,000	27,270,000	n/a	3,200,000	n/a	n/a

Table B.2 – Investment in electronic communications by country by service category, 2010 and 2011 (€)

Notes:

Croatia: Total investments in electronic communications in Croatia for 2011 were HRK 1570 million (€211.2 million). In 2011 Croatian regulator HAKOM introduced new

questionnaires for data collection, in which details of investments were collected by technology and not by service, which is why a breakdown by service category is not

available.

Turkey: 2011 mobile telecom market investment data is calculated based on the quarterly data.

Albania: Investment figures for telephony and internet services are aggregated by some operators.

Overall investment in electronic communications in the seven countries for which data is available was €2.45bn in 2011. This represents a slight increase from 2010 when the total for the nine countries was €2.41bn.

In Iceland, investment in support services held up in 2011 at ISK 1.09bn (€6.74m), while investment in mobile telephony more than halved compared with 2010, to just ISK 500m (€3.1m) in 2011.

In Kosovo, there was a significant decrease in investment in fixed voice telephony (from €16.3m in 2010 to €2.7m in 2011). This was due to the government's decision to freeze most of the capital and investment projects at the incumbent operator because of the privatisation process.

#### Enlargement countries monitoring report 2 – Annex I – July 2012

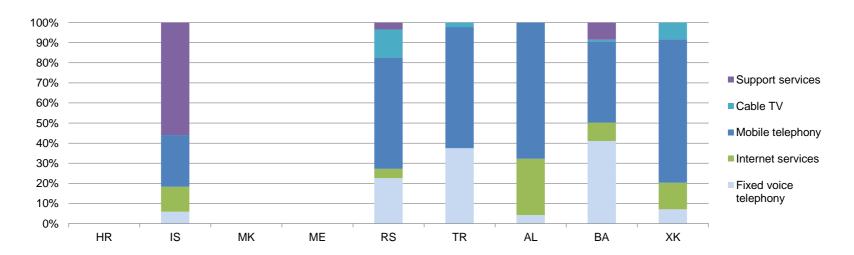


Figure B.6 – Investment in electronic communications by country by service category, year 2011 (€)

Note:

Croatia: Total investment in electronic communications in 2011 was HRK 1.57bn (€211m). A breakdown by service category is not available.

Macedonia: Data is not available. Montenegro: Data is not available.

#### 3. Fixed voice telephony market

#### a) Fixed network penetration and digitalisation rate

The numbers of active fixed lines are given in Table B.3, by technology and by user category. These are also shown as penetration rates, i.e. as lines per 100 population, in Figure B.7.

Statistics on analogue and ISDN lines can be compiled in two different ways. One method is to count the number of lines (or subscriptions); this yields the number of physical paths. The other method counts channels or 64 kbps voice equivalents available on the lines. ISDN lines provide a certain number of channels, each of which can support a voice conversation. For example, an ISDN basic rate connection includes two 64 kbps voice equivalents (comparable to two analogue phone lines) while an ISDN primary rate connection includes either 23 or 30 channels (similar to 23 or 30 analogue lines), each with 64 kbps of bandwidth. This report presents statistics based on the number of physical paths (or subscriptions) rather than the number of channels. A similar methodology is applied by the OECD (see

OECD (2011), OECD Communications Outlook 2011, OECD Publishing<sup>8</sup>, whereas the ITU reports individual channels rather than physical lines (i.e. ITU indicator i112, see ITU Handbook for the Collection of Administrative Data on Telecommunication/ICT (2011 Edition)<sup>9</sup>.

Country	Total number of fixed lines		By technology		By user cate	egory
		PSTN	ISDN	VoIP and other	Residential	Business
Croatia	1,760,869	1,373,164	65,612	322,093	1,373,478	387,391
Iceland	152,581	126,545	9,253	16,783	115,745	36,836
FYR Macedonia	422,053	303,823	11,146	107,084*	377,576	44,477
Montenegro	170,856	162,181	5,273	3,402	148,626	22,230
Serbia	2,881,232**	2,688,090	81,356**	111,786	2,510,738	273,807
Turkey	15,210,846	15,195,365	15,481	0	13,089,018	2,121,128
Albania	339,059	335,460	3,384	215	300,497	25,889
Bosnia & Herzegovina	914,828	836,443	27,081	51,304	816,538	98,290
Kosovo*	86,014	80,720	490	4,804	68,629	17,385
Total	21,938,338	21,101,791	219,076	617,471	18,500,348	3,027,433

Table B.3 – Fixed network lines by technology and by user category, Dec. 31, 2011

Notes:

Croatia: Cable line and fixed GSM are also included in VoIP. WLR lines are included in PSTN

Macedonia: VoIP Includes CaTV, WiMax, Wi-Fi and FTTH lines = 67,495. Also included in this column are 39,589 FGSM lines.

Montenegro: PSTN includes rural connections = 2,766

Serbia: The total of 2,881,232 fixed lines calculated by Cullen International includes ISDN subscriptions, rather than ISDN channels, as reported by RATEL. The total of

3,030,432 fixed lines reported by RATEL is broken down as follows:

2,688,090 PSTN lines 10,954 WLL lines, 80,157 CDMA lines, 10,162 public payphones,

230,556 ISDN voice channel equivalents (which represents 81,356 ISDN subscriptions).

10,513 lines in IP technology (not VoIP)

Bosnia & Herzegovina: 26,580 ISDN BA, and 501 ISDN PA

Total number of fixed lines is calculated as follows: PSTN lines + ISDN subscriber lines (not channels) + VOIP + public payphones

<sup>&</sup>lt;sup>8</sup> http://www.oecd-ilibrary.org/science-and-technology/oecd-communications-outlook-2011\_comms\_outlook-2011-en

<sup>9</sup> http://www.itu.int/dms\_pub/itu-d/opb/ind/D-IND-ITC\_IND\_HBK-2011-PDF-E.pdf

VOIP:

ISDN:

VOIP represents the number of Voice over Internet Protocol (VoIP) fixed line subscriptions. Refer to fixed telephone line VoIP subscriptions that have generated in- or outbound traffic within the past three months. This includes VoIP subscriptions through fixed wireless, DSL, cable, and other fixed Internet platforms that provide fixed telephony using Internet protocol, but excludes software-based VoIP applications (for example, VoIP using Skype, hotmail, or yahoo) – i.e. ITU indicator '112IP' ISDN is offered in two forms: Basic Rate Access (BRA) and Primary Rate Access (PRA). BRA lines allow two telephone numbers and two simultaneous calls, and are used by households and smaller organisations. PRA lines enable 30 simultaneous calls and are normally used by larger organisations.

The number of ISDN lines includes both BRA and PRA. ISDN figures represent individual subscriber lines (not channels) – i.e. ITU indicator '28'

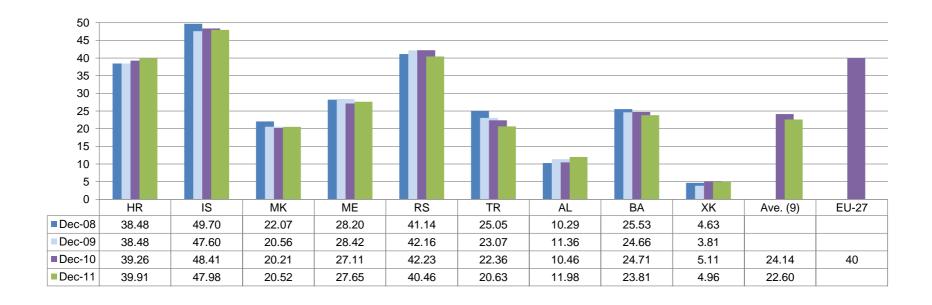


Figure B.7 - Fixed lines per 100 population

Note:

Serbia: Calculated using a figure of 2,881,232 fixed lines, which is based on ISDN subscriptions, rather than ISDN channels – see note under Table B.3 above.

A decline in fixed lines per 100 population was recorded in Turkey and Bosnia Herzegovina, in part due to fixed-to-mobile substitution.

Figure B.8, showing fixed network lines by technology, shows the significant uptake of VoIP in Croatia and Macedonia.

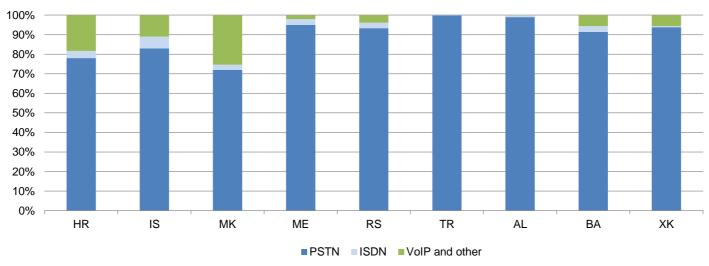


Figure B.8 – Fixed network lines by technology, Dec. 2011

Figure B.9 shows the fixed network digitalisation rate at the end of 2011. Seven of the nine countries have achieved full digitalisation, while the rates in Bosnia & Herzegovina and in Serbia increased by approximately 0.1 percentage points in 2011.

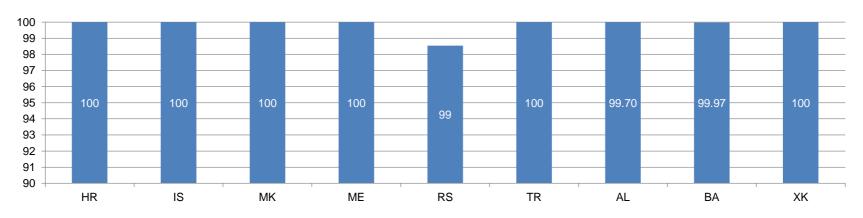


Figure B.9 – Fixed network digitalisation rate, Dec. 2011 (%)

### b) Competition

Table B.4 shows authorised public network operators and public fixed voice telephony service providers and highlights those which are operational in the market. Public network operators are defined as those installing, managing and operating a telecommunications network used to provide public voice telephony services. Public fixed voice telephony service providers include cable operators providing public voice telephony as well as managed VoIP operators.

Country	Public fixed teleph	Public fixed telephony network operators		lephony service providers
	Authorised operators	Operators active in the market	Authorised providers	Providers active in the market
Croatia	17	13	17	13
Iceland	2	2	5	5
FYR Macedonia	11	8	32	30
Montenegro	2	2	10	5
Serbia	3	3	45	45
Turkey	1	1	98*	67
Albania	79	55	6	6
Bosnia & Herzegovina	14	13	14	13
Kosovo*	3	2	3	2

Table B.4 - Competition in fixed telephony - network operators and service providers, Dec. 2011

Notes:

Serbia: During 1Q 2012, the fourth public fixed telephony network operator, SBB, started provision of voice services over its cable TV network.

Turkey: \*There is no separation between PATS and Electronic Communication Service providers in Turkish legislation. There are 166 fixed telephony operators, 102 in the

content of right of use and 64 in the content of notification. However, only 98 operators have geographic and non-geographic numbers for assigning to subscribers.

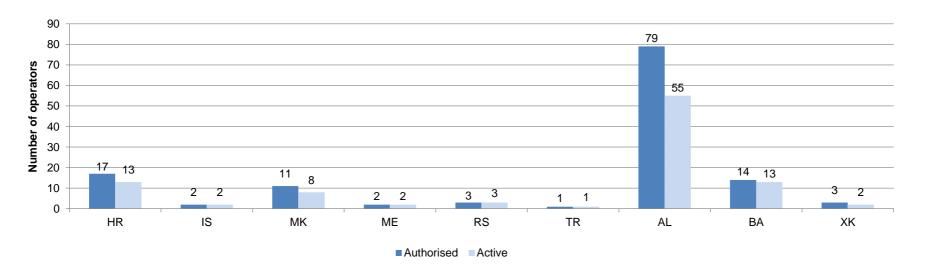


Figure B.10 – Public fixed telephone network operators, Dec. 2011

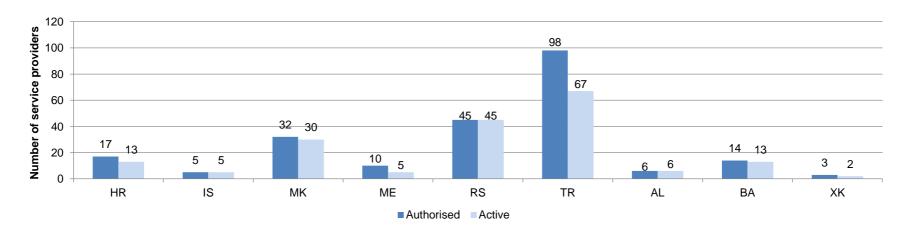


Figure B.11 – Public fixed voice telephony service providers, Dec. 2011

Market shares can be measured in different ways: by numbers of lines, customers, minutes of traffic and revenues. Table B.5 shows the market shares of the respective incumbent operators by revenues and by minutes of traffic. It is given for both national calls and international calls, in addition to the overall figure for the combination of the two.

The continued dominance of the incumbent operators is clear. The high incumbent market shares for international traffic suggest that the basic measures to introduce competition, by opening international gateways, have not always been effective. Alternative operators using carrier selection or VoIP ought in theory to be able to claim significant market shares with limited investment but in some markets have struggled to do so.

In Macedonia, the retail revenues for international calls at incumbent Makedonski Telekom have remained more or less stable since 2010 but the international tariff and call revenues of alternative operator ALO decreased in 2011, which is why the incumbent's market share appears to have increased in this segment compared with 2010 (from 76.2% to 81.2%).

In Iceland the incumbent's market share is lower than in the eight enlargement countries in South Eastern Europe and is comparable to the EU average.

Country	Overall r	narket share	Natio	National calls		tional calls
	By retail revenue	By minutes of traffic	By retail revenue	By minutes of traffic	By retail revenue	By minutes of traffic
Croatia	66.53%	64.32%	66.27%	64.36%	67.64%	63.25%
Iceland	62.4%	56.4%	61.7%	60.1%	65.9%	53.4%
FYR Macedonia	77.55%	74.65%	74.71%	74.81%	81.20%	68.65%
Montenegro	99.0%	99.0%	99.5%	99.5%	97.0%	97.6%
Serbia	99.74%	99.68%	99.72%	99.73%	99.86%	98.0%
Turkey	82.1%	88.7%	82.9%	88.7%	64.9%	69.6%
Albania	60.0%	96.0%	n/a	97%	n/a	71.0%
Bosnia & Herzegovina	96.04%	97.36%	98.09%	97.91%	89.31%	84.63%
Kosovo*	94.61%	97.32%	94.75%	98.0%	94.17%	91.12%
EU27	65.1% (2009)	56.2% (2010)	n/a	57.3% (2010)	n/a	37.7% (2010)

Table B.5 - Competition in fixed telephony - Incumbent operator market share, Dec. 2011 (%)

Notes:

EU data: Source: Digital Agenda Scoreboard 2011 and 2012

Albania: During 2011 the incumbent provided some offers of bundles of national-call minutes for a fixed fee. This explains the rise in the incumbent's share of national call traffic

compared with 2010 (from 93.3% in 2010 to 97% in 2011) despite a fall in the incumbent's share of retail revenue from fixed calls. At the same time, the voice-telephony users of the largest alternative operators tend to use a low number of national-call minutes, choosing to buy a fixed voice telephony subscription mainly because it is

bundled with a broadband subscription.

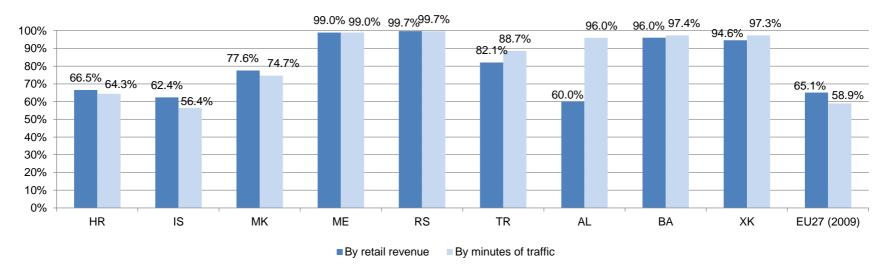


Figure B.12 – Incumbent operators' overall market shares in fixed voice telephony, Dec. 2011 (%)

Figure B.13 shows the share of numbers allocated to the incumbent and to alternative providers in each of the enlargement countries. It is an important indicator of the state of competition in the fixed market, though it is worth noting that not all of the allocated numbers are in immediate use.

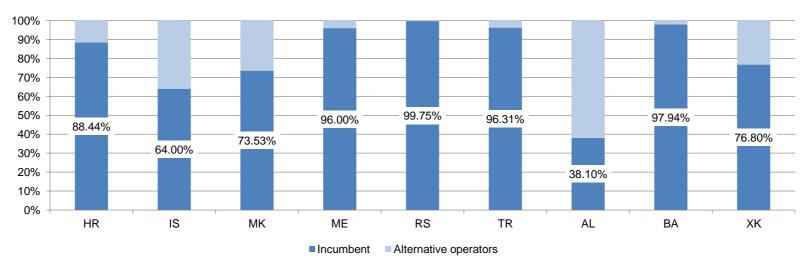


Figure B.13 – Fixed numbers allocated to incumbent and to alternative operators, Dec. 2011

#### Enlargement countries monitoring report 2 – Annex I – July 2012

Notes:

Albania: In 2011 the two biggest mobile operators (AMC and Vodafone, neither of which is owned by the fixed line incumbent) received fixed geographical numbers to provide

fixed telephony services using their GSM networks. Numbers allocated to the two mobile operators account for 34.6% of total fixed numbers. Numbers allocated to

alternative fixed-line operators account for 27.3% of total fixed numbers.

Bosnia & Herzegovina: Data for March 20, 2012

Table B.6 shows the total number of end users using alternative operators' fixed voice telephony services. A cost-effective way for alternative carriers to take market share from incumbent operators is using carrier selection (CS) and carrier pre-selection (CPS). The table shows the total number of subscribers using alternative carriers' voice services not only through CS/CPS, VoIP and direct access but also using alternative operators' own networks based on all available technologies.

In Macedonia, significant growth in the number of fixed lines provided by alternative operators continues to be fuelled in particular by the cable operators. Three major cable operators offer access to fixed telephony services and there is also a trend for smaller cable networks to rent their networks to other (bigger) operators that have been notified as providers of fixed telephony services.

Country	December 2009	December 2010	December 2011
Croatia	500,331	587,522	677,425
Iceland	35,781	34,861	39,014
FYR Macedonia	71,085	102,618	127,567
Montenegro	N/A	3,850	5,034
Serbia	0	4,667	6,461
Turkey	509,635	901,029	940,117
Albania	47,000	50,904	56,242
Bosnia & Herzegovina	41,489	45,783	58,204
Kosovo*	8,700	5,503	4,804

Table B.6 – Subscribers using alternative providers for fixed voice telephony services, 2009 – 2011

Notes:

Iceland: Dec. 2009: Residential, national – 2.767 / Residential, international calls – 3.343 / Business, national – 1.800 / Business, international calls – 1.923

Dec. 2010: Residential, national – 2.052 / Residential, international calls – 2.535 / Business, national – 1.921 / Business, international calls – 2.031

Dec. 2011: Residential both national and international – 2.186 / Business both national and international – 2.393 / PSTN/ISDN – 34.435

Macedonia: 127,567 subscriptions including CS/CPS, WLR, FGSM (excluding incumbent), and subscribers using voice services over FWA and cable networks

Montenegro: 1515-CS, 0-CPS, 0-WLR, 3519-Direct access

Albania: The figures refer to Albtelecom subscribers using prepaid calling cards of alternative operators

Kosovo\*: The number peaked in 2009 before an apparent drop in 2010, which was caused by a change in the definition of an 'active subscriber'.

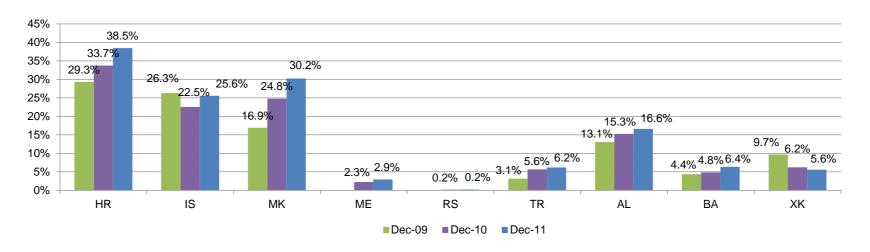


Figure B.14 – Subscribers using alternative providers for fixed voice telephony, as percentage of total number of fixed lines

## 4. Mobile market

## a) Mobile subscriptions

Country	Total number of active subscriptions	Penetration rate (%)
Croatia	5,115,140	119.2%
Iceland	344,085	108%
FYR Macedonia	2,213,223	107.8%
Montenegro	1,159,112	186.9%
Serbia	10,182,023	143.0%
Turkey	65,321,745	88.6%
Albania	5,236,349	185.0%
Bosnia & Herzegovina	3,171,283	82.5%
Kosovo*	1,478,944	85.3%

Table B.7 – Mobile subscriptions, Dec. 31, 2011

Notes:

Croatia: The definition of an active prepaid user was changed in 2011: User who has used a mobile service or refilled the account in the last 90 days. This definition applies to all

operators.

Before 2011 each operator used a different active prepaid user definition (90/180/270 days).

Macedonia: AEC uses a definition of 'active subscription' as follows: a subscription is active if there has been any communication activity (send/receive SMS, originate/receive a call)

or any financial transaction (pay a bill, buy vouchers, etc) in the last three months. Only activities initiated by one subscriber to another or to the operator are taken into

account.

Albania: The reported number refers to the total number of subscriptions based on the operators' own definitions for active subscriptions, regarding use of prepaid SIM cards (to

be credited at least once in the last 12 months etc.).

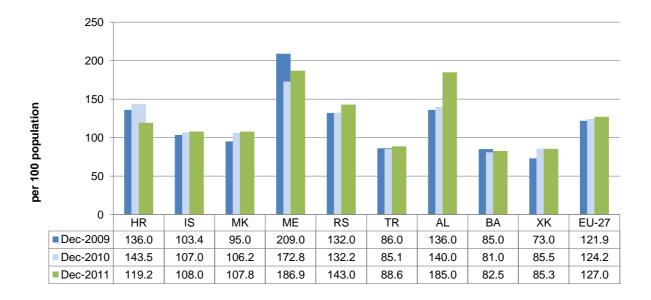


Figure B.15 – Mobile subscriptions per 100 population by country, Dec. 2009 – Dec. 2011

The jump in the mobile penetration rate in Serbia in 2011 is largely explained by a decrease in the population (based on the latest census data).

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Country	Prepaid mobile subscriptions (%)	Postpaid (monthly paid) mobile subscriptions (%)
Croatia	61.10%	38.90%
Iceland	46.2%	53.8%
FYR Macedonia	62.69%	37.31%
Montenegro	72.6%	27.4%
Serbia	64.0%	36.0%
Turkey	64.7%	35.3%
Albania	91.3%	8.7%
Bosnia & Herzegovina	83.66%	16.34%
Serbia	58.39%	41.61%
Kosovo*	95.83%	4.17%

Table B.8 – Mobile subscriptions – share of prepaid and postpaid, Dec. 2011 (%)

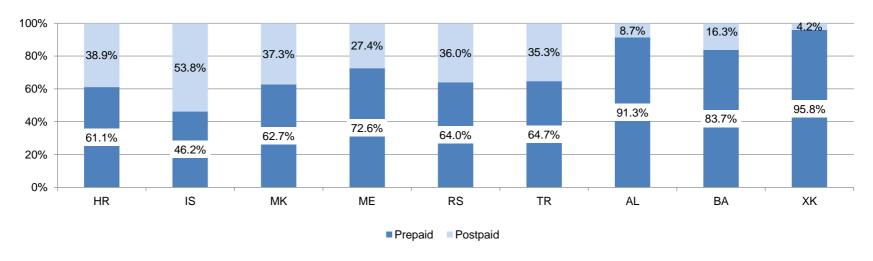


Figure B.16 – Mobile subscriptions – share of prepaid and postpaid, Dec. 31, 2011 (%)

## b) Competition

Country	Operator	Mobile operator market shares (%)				
		Based on subscriptions (Dec. 2011)	Based on revenues (full year 2011)			
Croatia	Hrvatski telekom (HT)	47.28%	48.72%			
	VIPnet	39.45%	35.91%			
	Tele2	13.27%	15.37%			
Iceland	Síminn	39.1%	*			
	Vodafone	29.4%	*			
	Nova	25.8%	*			
	Tal	5.3%	*			
	Alterna	0.3%	*			
FYR Macedonia	T-mobile	52.04%	65.54%			
	ONE	22.36%	16.47%			
	VIP	25.60%	17.99%			
Montenegro	Crnogorski Telekom	34.68%	*			
	Telenor	40.57%	*			
	Mtel	24.75%	*			
Serbia	Telekom Srbija	53.1%	38.84%			
	Telenor Srbija	30.8%	43.58%			
	VIP mobile	16.1%	17.58%			
Turkey	Turkcell	53.27%	51.35%			
	Vodafone	27.80%	28.50%			
	Avea	18.93%	20.15%			
Albania	Albanian Mobile Communications	37.0%	34.0%			
	Vodafone Albania	35.0%	52.0%			
	Eagle Mobile	20.0%	12.0%			
	Plus Communication	8.0%	2.0%			
Bosnia & Herzegovina	BH Telecom (BH Mobile)	42.93%	37.86%			
	Telekom Srpske (m:tel)	43.45%	38.66%			
	HT Mostar (HT Eronet)	13.62%	23.48%			

Country	Operator	Mobile operator market shares (%)			
		Based on subscriptions (Dec. 2011)	Based on revenues (full year 2011)		
Kosovo*	Vala	67.14%	69.62%		
	IPKO	25.28%	26.35%		
	Z mobile (MVNO)	6.97%	3.56%		
	D3 Mobile (MVNO)	0.60%	0.45%		

Table B.9 – Market shares of mobile operators

Notes:

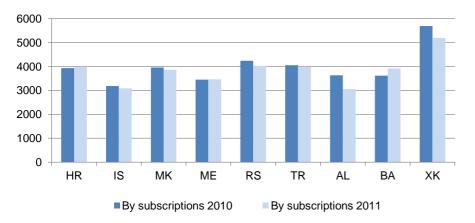
Croatia: Market shares of mobile operators by revenue are related to retail and wholesale revenues.

Iceland: Revenue data is highly sensitive and will not be disclosed at this time.

Macedonia: Revenue data is strictly confidential.

The level of concentration of a market can be measured in a number of different ways. The Herfindahl-Hirschmann Index (HHI), the sum of the squares of the market shares, is commonly used in assessing concentration in competition law. In any mobile market the value of the HHI will depend on the number of players licensed and operational, thereafter the value reflects the degree of concentration or market power. In a market with three players with equal market shares the HHI would be 33.33² + 33.33² + 33.33² = 3333, which is the lowest value possible for all the entities.

Figure B.17 shows the HHIs for the enlargement countries based on market share by subscriptions and market share by revenues.



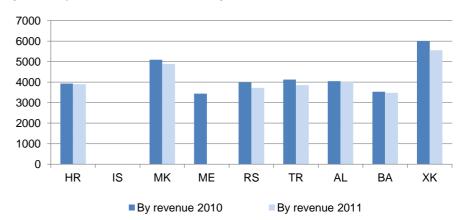


Figure B.17 - Mobile market concentration levels, HHI

#### 5. Broadband

#### a) Internet backbone infrastructure

Table B.10 provides data on the internet backbone infrastructure in the monitored countries.

- An internet exchange point (IXP) is a node where different internet service providers (ISPs) exchange internet traffic. An IXP typically consists of several network switches to which all participating ISPs connect. Often, the provider of the IXP is not an ISP itself, but a commercial data centre or a non-profit organisation like a university data centre. Many European IXPs are organised in the European Internet Exchange Association (Euro-IX). Table B.10 shows the IXPs in the monitored countries.
- The second column shows the total capacity of international internet bandwidth in Gbps. If the capacity is asymmetric (more incoming than outgoing), the incoming capacity is provided.

Country	Internet exchange points (name, URL)	International internet bandwidth (Gbps)
Croatia	CIX (Croatian Internet eXchange) www.cix.hr/	No data available
Iceland	RIX (Reykjavik Internet Exchange) www.rix.is/	88.5 Gbps
FYR Macedonia	No*	14.2 Gbps (October 2009)
Montenegro	No	21.4 Gbps
Serbia	SOX (Serbian Open Exchange) www.sox.rs/	263 Gbps
Turkey	<ul><li>Türk Telekom</li><li>Alternative operators*</li></ul>	<ul><li>1,027.5 Gbps</li><li>53.2 Gbps</li></ul>
Albania	No	30 Gbps
Bosnia & Herzegovina	No	30.6 Gbps (December 2010)
Serbia	SOX (Serbian Open Exchange) www.sox.rs/	263 Gbps
Kosovo*	KOSIX www.kosix.net/	23 Gbps

Table B.10 – Internet backbone infrastructure, Dec. 2011

Notes:

Macedonia:

The Macedonian Academic Research Network (MARNet) has started to prepare itself to become an IXP. Several local ISPs are connected to it. The intention is that MARNet will in the near future become a Macedonian IXP. The regulator, AEC, and the Ministry of transport and communications have held several meetings with ISPs and promoted the idea of a Macedonian IXP and the benefits of it.

Turkey: \*Seven ISPs have established TNAP (Turkish Network Alliance Platform) to improve service quality and reduce access times by carrying the internet traffic of ISPs

through a fiber backbone ( http://tnap.net.tr/en/).

Internet peering is not regulated in Turkey but following a market analysis procedure, IP transit services offered by Turk Telekom (ATM/FR/ME internet access) are

subject to regulation. Publication of a reference offer and price control are some of the remedies imposed on Turk Telekom in the market for IP transit services.

Kosovo Internet Exchange Point (KOSIX), established with the support of donors, the Norwegian government, USAID and CISCO. The official opening ceremony was

held on June 23, 2011. The project implementation started back in late October 2010 and the reconstruction work was finished by end December 2010, while by end

March 2011, all wholesale Internet Service Providers (ISPs) were connected with fibre cable to the KOS-IXP facility.

#### b) Fixed broadband access

Table B.11 shows the number of ISPs active on the market. Although some of these numbers appear impressive, the market shares held by the incumbent operators suggest that these ISPs are not having an easy time, with the exception of those in Kosovo, where the incumbent's market share is below 30%.

Country	Number of ISPs active on the market	Incumbent ISP's overall market share			
		By revenue	By number of connections		
Croatia	35	57.47%	67.37%		
Iceland	14	48.0%	50.6%		
FYR Macedonia	100	41.41%	47.56%		
Montenegro	7	N/A	81.1%		
Serbia	232	49.87%	47.7%		
Turkey	65	85.01%	85.13%		
Albania	45	N/A	43.0%		
Bosnia & Herzegovina	80	60.14%	64.36%		
Kosovo*	35	24.54%	25.43%		

Table B.11 – ISPs active on the market and incumbent ISP's market share, by country, Dec. 2011

Notes:

Kosovo\*:

Croatia: 67 registered (VoIP, broadband, narrowband).

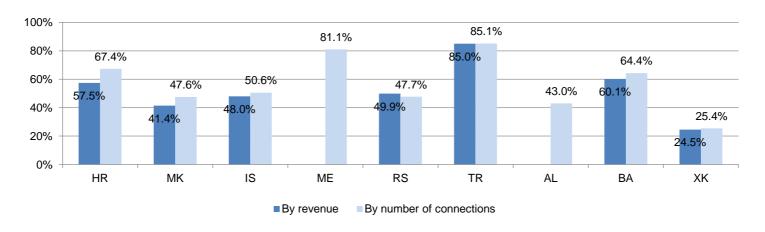


Figure B.18 – Incumbent ISP's market share, Dec. 2011

#### c) Fixed retail broadband access

The following section provides information on the deployment of fixed broadband access lines by incumbent operators and their subsidiaries or partners and by new entrants (alternative operators or ISPs) to end-users (see Table B.12). Mobile broadband connections, including UMTS and HSDPA cellular wireless data communications, are covered in a separate section below.

Country	Operator	Total number of fixed broadband connections (all technologies)	xDSL connections	Cable modem	Leased lines	FTTx	FWA	Other
Croatia	Incumbent	653,419	652,571	0	840	0	8	0
	Alternative operators	204,601	101,818	67,301	405	5,011	30,064	2
Iceland	Incumbent	56,416	56,105	0	0	311	0	0
	Alternative operators	55,130	36,640	0	0	16,954	1,487	49
FYR Macedonia	Incumbent	134,319	129,907	0	302	4,110	0	0
	Alternative operators	148,051	23,950	88,649	503	77	22,345*	12,527**
Montenegro	Incumbent	67,470	64,717	0	417	773	1,563	0
	Alternative operators	16,411	0	3,338	152	256	12,665	0

Country	Operator	Total number of fixed broadband connections (all technologies)	xDSL connections	Cable modem	Leased lines	FTTx	FWA	Other
Serbia	Incumbent	493,620	487,835	0	4,217	620	721	227
	Alternative operators	480,637	135,776	284,612	282	1,492	53,033	5,442
Turkey	Incumbent	6,111,924	6,096,022	0	0	0	0	15,902
	Alternative operators	1,453,604	680,014	460,451	447	267,144	0	45,548
Albania	Incumbent	60,055	53,254	0	754	6,047	0	0
	Alternative operators	79,642	44,509	27,829	567	5,215	0	1,522
Bosnia &	Incumbent	248,488	104,550	0	173	143,765	0	0
Herzegovina	Alternative operators	183,602	3,802	113,590	196	274	65,733	7
Kosovo*	Incumbent	36,432	36,432	0	0	0	0	0
	Alternative operators	106,811	0	98,759	0	922	7,130	0

Table B.12 - Fixed broadband connections with breakdown by incumbent and ANOs, and by technology, Dec. 2011

Notes:

Croatia: Total number of broadband connections (incumbent operator) includes lines provided by Iskon d.d.(an operator that is 100 % owned by HT d.d.)

Macedonia: FWA Includes Wi-Fi, WiMax and Canopy connections (Canopy is a Motorola proprietary technology). Other includes LAN connections.

Montenegro: FWA includes data for WiMax and WiFi access technology.

Albania: FTTx for incumbent refers to 6000 xDSL connections connected via MSANS plus 47 FTTB.

Bosnia & Herzegovina: The 143,761 FTTC lines of BH Telecom are reported under FTTX, and not under xDSL. (BH Telecom deploys fibre to the street cabinet.)

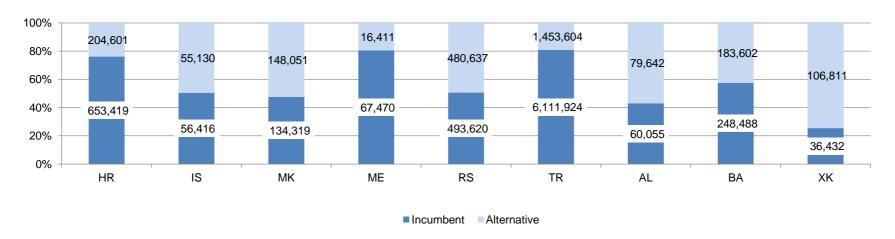


Figure B.19 – Fixed retail broadband connections by incumbent and alternative operators, Dec. 2011

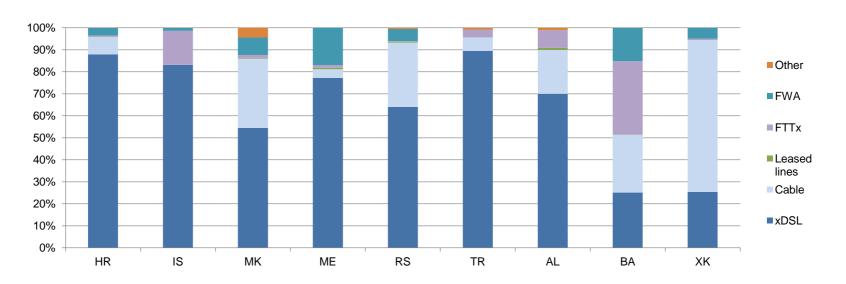


Figure B.20 – Fixed retail broadband connections by technology, Dec. 2011

The fixed broadband penetration rate, measured as the overall number of fixed broadband lines divided by the national population, averaged 10.9% in the nine enlargement countries at the end of December 2011. Only in Iceland was the penetration above the EU average, at 35.1%, while in the eight other countries it was significantly below the EU-27 average rate. The highest fixed broadband penetration level among these countries was observed in Croatia (19.5%) – which was above the level of Romania and Bulgaria that joined the EU in 2007.

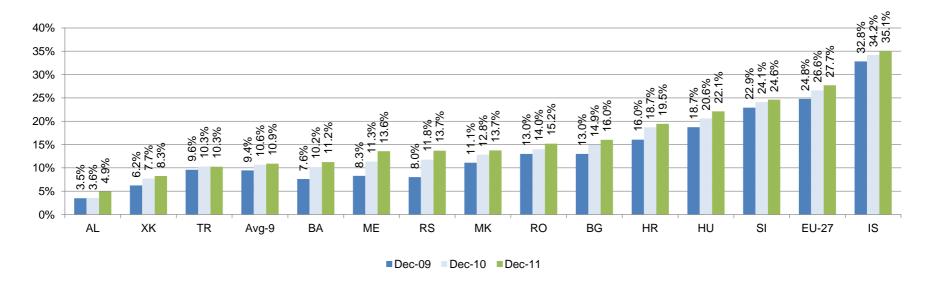


Figure B.21 – Fixed broadband penetration rate, 2009-2011

Note:

EU broadband data: Iceland:

Digital Agenda Scoreboard 2012 (for Dec 2011 data), Digital Agenda Scoreboard 2011 (for Dec 2010 data); and EC 15<sup>th</sup> Implementation Report 2009 figure is based on OECD broadband data, December 2010.

Table B.13 shows the retail DSL lines supplied by the incumbent operator and by alternative operators. The lines from alternative operators are broken down by those supplied using one of the types of wholesale offer from the incumbent operator (full LLU, shared access, bitstream or resale) and those delivered on their own networks.

Country	Incumbent operator's	Retail xDSL lines by	Breakdown of alternative operators' xDSL lines by the type of access					
	retail xDSL lines	alternative operators	Full LLU access	Shared access	Bitstream access	Resale	Own network	
Croatia	652,571	101,818	92,000	0	9,064	0	754	
Iceland	56,105	36,640	9,154	24,589	2,897	0	0	
FYR Macedonia	129,907	23,950	3,053	0	0	20,897	0	
Montenegro	64,717	0	0	0	0	0	0	
Serbia	487,835	135,776	0	0	135,776	0	0	
Turkey	6,096,022	680,014	992	7,529	699,765	13,857	0	
Albania	53,254	44,509	0	0	0	0	44,509	
Bosnia & Herzegovina	104,550	3,802	0	0	0	0	3,802	
Kosovo*	36,432	0	0	0	0	0	0	

Table B.13 - Competition in retail xDSL: incumbent lines and ANO lines by type of access, Dec. 2011

Notes: Croatia: Turkey:

Total number of broadband connections (incumbent operator) includes lines provided by Iskon d.d.(an operator that is 100 % owned by HT d.d.)

The total of 680,014 retail xDSL lines by alternative operators is calculated as the sum of alternative operators' active xDSL lines, as reported by ICTA. On the other hand, data included in the columns to the right, showing the breakdown of alternative operators' xDSL lines by type of access, is provided by Turk Telekom (and adds up to a slightly higher total of 722,143).

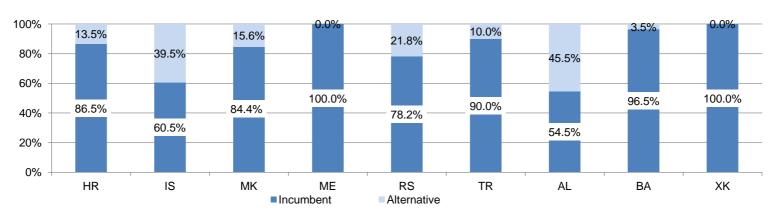


Figure B.22 - Competition in retail xDSL: share of lines for incumbent and ANOs, Dec. 2011 (%)

The figure below shows the type of xDSL wholesale access offers used by alternative operators in each of the enlargement countries. In Albania, where ANOs have a significant share of the xDSL market, they rely on their own networks, while in Iceland, Macedonia, Turkey and Serbia competition in the provision of retail xDSL services is provided on the basis of wholesale offers from the incumbent operators - almost exclusively bitstream access in Turkey and Serbia.

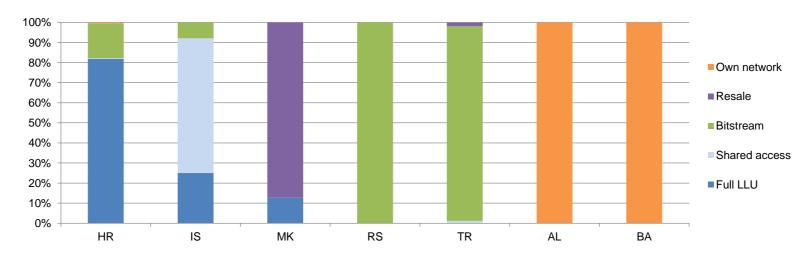


Figure B.23 – ANOs' xDSL lines by type of access, Dec. 2011 (%)

Note: Alternative operators in Montenegro and Kosovo do not use xDSL.

#### d) Fixed broadband speeds

Country		Distribution of retail broadband lines by download speeds								
	< 1 Mbps	1 Mbps - < 2 Mbps	2 Mbps - < 4 Mbps	4 Mbps - < 8 Mbps	8 Mbps - < 20 Mbps	> 20 Mbps				
Croatia	11,326	40,413	648,234	68,127	86,317	3,603				
Iceland		2,405	4,025	8,205	66,109	30,840				
FYR Macedonia	N/A	N/A	N/A	N/A	N/A	N/A				
Montenegro	11,409	47,412	5,187	9,779	247	146				
Serbia		551,716	398	3,370	24,161	N/A				
Turkey	71,647	650,332	76,609	6,043,117	741,	518				
Albania	N/A	18,830	47,341	20,784	1,908	N/A				
Bosnia & Herzegovina	43,835	250,687	97,743	34,325	5,500	9				
Kosovo*	32,960	33,996	75,913	80	136	158				

Table B.14 – Distribution of retail broadband lines by download speeds, Dec. 2011

Notes:

Croatia: Figures calculated on the basis of a total of 858,020 retail broadband lines and the originally supplied percentage splits as follows: <1 Mbps: 1.32%, 1 Mbps - <2 Mbps:

4.72%, 2 Mbps - <4 Mbps: 75.55%, 4 Mbps - <8 Mbps: 7.94%, 8 Mbps - <20 Mbps: 10.06% and >20 Mbps: 0.42%.

Macedonia: There is no such data in the AEC database.

Serbia: Figures calculated on the basis of a total of 974,247 retail broadband lines and the originally supplied percentage splits as follows: 1 Mbps - <2 Mbps:56.63%, 2 Mbps -

<10 Mbps: 40.89% and >10 Mbps: 2.48 %

Turkey: Subscriptions offering 'up to 8 Mbps', which represent the majority of subscriptions in Turkey, are shown in the column 4 Mbps - < 8 Mbps.

Albania: Figures refer to Albtelecom and Abcom (incumbent and the biggest alternative operator) distribution of lines by speeds.

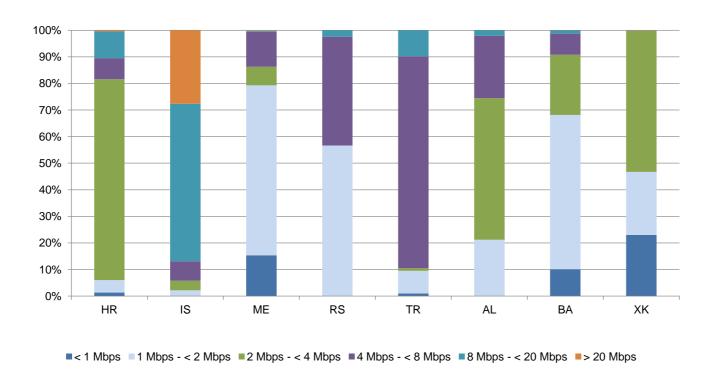


Figure B.24 – Distribution of retail broadband lines by download speeds, Dec. 2011

Notes: Macedonia:

No data is available.

Table B.15 shows the lowest and highest download speeds available for broadband internet access from the incumbent and from alternative operators in each of the enlargement countries.

Country		Incumbent ope	rator over DSL	Largest alt		Cable op	erator	FWA ope	erator	FTTH op	perator
		downstream	upstream	Downstream	upstream	downstream	upstream	downstream	upstream	downstream	upstream
Croatia	Operator	HT- Hrvats	ki Telekom	OT-Optima	Telekom	B.net Hr	vatska	Novi I	Vet		
	max	20 Mbps	768 kbps	20 Mbps	768 kbps	32 Mbps	1.5 Mbps	4 Mbps	4 Mbps	N/A	N/A
	min	4 Mbps	256 kbps	2 Mbps	256 kbps	4 Mbps	512 kbps	2 Mbps	2 Mbps	N/A	N/A
Iceland	Operator	Sím	inn	Vodafo	one			eMa	ix	Vodat	one
	max	12 Mbps	1 Mbps	12 Mbps	1 Mbps	N/A	N/A	6 Mbps	2 Mbps	50 Mbps	50 Mbps
	min	12 Mbps	1 Mbps	12 Mbps	1 Mbps	N/A	N/A	2 Mbps	512 kbps	50 Mbps	50 Mbps
FYR	Operator	Makedonsł	ki Telekom	ONE		Blizo	00	Neot	el	Makedonsk	i Telekom
Macedonia	max	16 Mbps	1 Mbps	16 Mbps	1 Mbps	50 Mbps	1 Mbps	5 Mbps	1 Mbps	60 Mbps	60 Mbps
	min	6 Mbps	768 kbps	6 Mbps	768 kbps	10 Mbps	1 Mbps	3 Mbps	512 kbps	20 Mbps	20 Mbps
Montenegro	Operator	Crnogorsk	i Telekom	lekom		M-Kabl M:tel		el	Crnogorski Telekom		
	max	10 Mbps	1 Mbps	N/A	N/A	6 Mbps	512 kbps	8 Mbps	768 kbps	45 Mbps	2 Mbps
	min	1 Mbps	128 kbps	N/A	N/A	512 kbps	64 kbps	512 kbps	256 kbps	1 Mbps	128 kbps
Serbia	Operator	Telekon	n Srbija	OrionTel	ekom	SBB		Madr	net	-	•
	max	16 Mbps	1 Mbps	16 Mbps	1 Mbps	100 Mbps	4 Mbps	8 Mbps	1 Mbps	N/A	N/A
	min	1.5 Mbps	256 kbps	512 kbps	256 kbps	2 Mbps	256 kbps	2 Mbps	256 kbps	N/A	N/A
Turkey	Operator	1TT	Net	Smil	е	Turks	sat	-		Supero	nline
	max	100 Mbps	1 Mbps	16 Mbps	1 Mbps	20 Mbps	1 Mbps	N/A	N/A	1000 Mbps	20 Mbps
	min	1 Mbps	256 kbps	1 Mbps	256 kbps	512 kbps	256 kbps	N/A	N/A	20 Mbps	5 Mbps
Albania	Operator	Albtel	ecom	ASC		Abco	om	-			•
	max	16 Mbps	1 Mpbs	12 Mbps	1 Mbps	20 Mbps	6 Mbps	N/A	N/A	N/A	N/A
	min	2 Mbps	256 kbps	1 Mbps	128 kbps	512 kbps	128 kbps	N/A	N/A	N/A	N/A
Bosnia &	Operator	BH Te	lecom	Logos	soft	Telem	ach	Dasto S	emtel	-	
Herzegovina	max	12 Mbps	1 Mbps	18 Mbps	1 Mbps	80 Mbps	4 Mbps	6 Mbps	512 kbps	N/A	N/A
	min	2 Mbps	256 kbps	4 Mbps	256 kbps	4 Mbps	384 kbps	2 Mbps	256 kbps	N/A	N/A

Country		Incumbent operator over DSL		Largest alternative operator over DSL		Cable operator		FWA operator		FTTH operator	
		downstream	upstream	Downstream	upstream	downstream	upstream	downstream	upstream	downstream	upstream
Kosovo*	Operator	PTK-	-TiK			lpko	)	Kujte	sa		
	max	12 Mbps	1 Mbps	N/A	N/A	2 Mbps	2 Mbps	5 Mbps	5 Mbps	N/A	N/A
	min	2 Mbps	512 kbps	N/A	N/A	1 Mbps	1 Mbps	256 kbps	256 kbps	N/A	N/A

Table B.15 – Fastest advertised retail broadband connection, by country, Dec. 2011

#### Notes:

Macedonia: All these advertised broadband offers are with limited capacities: when the capacity has been reached the speed is decreased. Bosnia & Herzegovina: Reference date is March 30, 2012. There is no operator with advertised FTTH services.

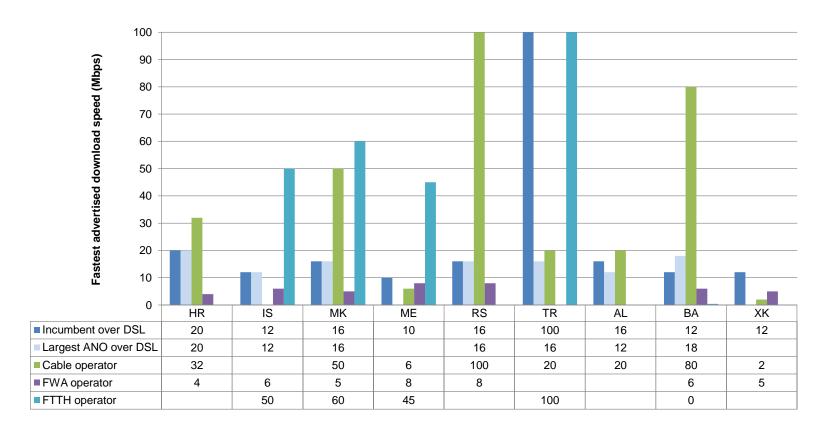


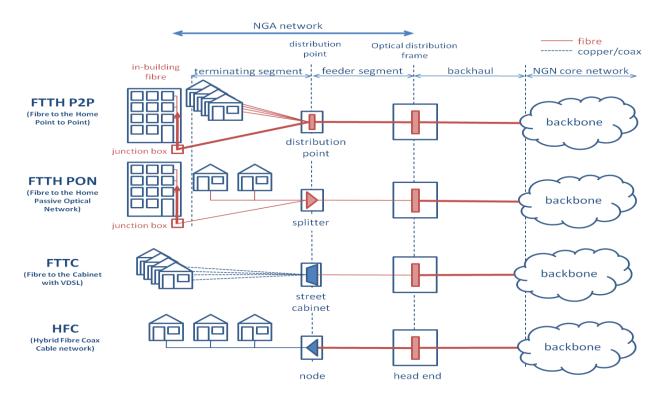
Figure B.25 – Fastest advertised retail broadband connection (Mbps), by country, Dec. 2011

#### Notes:

Turkey: FTTH operator Superonline is advertising speeds up to 1Gbps in ten regions of Turkey.

## e) NGA deployment plans

This section will address deployments of NGA infrastructure by incumbent telecom operators and by other players with significant geographic coverage. It will show NGA deployments that have been announced officially and publicly, including details of plans such as NGA coverage, investment and deployment targets.



NGA network topologies and technologies, source: CI research

Country	Operator	NGA network topology	NGA Retail serv	rice	NG	A network coverag	е
		(FTTH/FTTB/ FTTC/ DOCSIS 3.0)	Availability (specify geographic areas) Bandwidth	Take-up (% HH connected)	Planned commercial coverage (% HH)	Target year	Actual coverage (% HH)
Croatia	-	-	-	-	-	-	-
Iceland	Gagnaveita Reykjavíkur	FTTH P2P	Reykjavík 100 Mbps	41.1%	100%	2014	40-50%
FYR Macedonia	Makedonski Telekom	FTTH PON	Skopje and other cities	0.9% (4,939 HH)	-	-	10.1% (57,050 HH)
Montenegro	Crnogorski Telekom	FTTH	Podgorica, Herceg Novi, Budva, Bar, Danilovgrad, Tlvat	0.4% (773 HH)	-	-	3.96%
	Cabling	FTTH, FTTB, FTTC	Budva	0.1% (256 HH)	-	-	0.2%
Serbia	-	-	-	-	-	-	-
Turkey	Turk Telekom	FTTH/FTTB/FTTC	Turk Telekom is providing services only at wholesale level.	-	31.5% (appr. 6,000,000 HH)	end-2012	19.76% (3,755,440 HH*)
	Türksat	DOCSIS 2.0-3.0	Turksat is able to provide services in major 22 provinces.	2.5% (460,451HH)	-	-	15% (3,022,141 HH)
	Superonline	FTTH/FTTB	Superonline is able to provide FTTH/FTTB services in 10 major provinces.	1.2% (267,144 HH)	7% (1,300,000 HH)	end-2012	5.5% (1,048,152 HH)
Albania	Albtelecom	FTTC	-	0.8%	-	-	-
Bosnia & Herzegovina	BH Telecom	FTTC	Bihać, Goražde, Mostar, Sarajevo, Travnik, Tuzla, Zenica, TC Brčko 24 Mbps	13.9% (143,761 active connections)	23.8% (246,129 planned connections)	2014	-
	Logosoft	FTTC	Sarajevo 100 Mbps	-	-	-	-
Serbia	-	-	-	-	-	-	-
Kosovo*	IPKO	DOCSIS 2.0-3.0	IPKO is expected to complete the upgrade of its network to DOCSIS 3.0 by July 2012.	-	-	-	-
	Kujtesa	DOCSIS 3.0	Kujtesa has upgraded to DOCSIS 3.0 across the whole territory of Kosovo*.	-	-	-	-

Table B.16 – NGA deployment plans and actual coverage, Dec. 2011

Notes:

Macedonia:

Turkey:

Source: Annual report on the operations of the Group of Makedonski Telekom AD, 2011

\* 708,440 of these homes-passed are FTTB/H. Total number of HH in Turkey is 19,000,000.

Albtelecom is implementing NGA by FTTC using MSANS. Albtelecom has already installed 259 MSANS and the planned number is 850. Only 10% of customers are currently connected to MSANS and Albtelecom is in the process of connecting the rest of its customers. Albania:

#### Mobile broadband f)

Country	Mobile operator	Number of 3G mobile broadband subscriptions (dedicated data cards and wireless modems)
Croatia	T-HT	111,730
	VIPNet	145,118
	Tele2	31,105
Iceland	Síminn	18,603
	Nova	11,783
	Vodafone	10,747
	Tal	491
FYR Macedonia	T-Mobile	8,766
	ONE	8,013
	VIP	522
Montenegro	Telenor	36,966
	Crnogorski Telekom	27,450
	Mtel	19,609*
Serbia	Telekom Srbija	106,417
	Telenor	89,744
	VIP Mobile	53,381
Turkey	Turkcell	
	Avea	4,907,380
	Vodafone	
Albania	Vodafone Albania	25,493
	Albanian Mobile Communications	9,000

Country	Mobile operator	Number of 3G mobile broadband subscriptions (dedicated data cards and wireless modems)
Bosnia & Herzegovina	BH Telecom (BH mobile)	51,169
	Telekom Srpske (m:tel)	44,308
	HT Mostar	114
Kosovo*	N/A	N/A

Table B.17 – 3G broadband subscriptions (dedicated data cards and wireless modems), Dec. 2011

Notes:

Croatia: The total number of mobile broadband lines at the end of 4Q 2011 dropped because of changes in the definition of what is considered an active user. Definition of

active mobile broadband user: a customer who has used mobile broadband at least once in the last 90 days. This definition applies to all operators.

Before 2011 each operator used a different active-user definition.

Macedonia: In total, T-Mobile has 308,549 3G mobile broadband subscriptions, of which 8,766 are 3G USB subscriptions. In total, ONE has 64,217 3G mobile broadband

subscriptions, of which 8,013 are 3G USB subscriptions.

Montenegro: \*The number for Mtel is valid as of end-May 2012 (no data is available for end-December 2011). The number includes both modems and data-only SIM cards.

Turkey: The total of 4,907,380 includes dedicated data cards and wireless modems and excludes 3G mobile handsets.

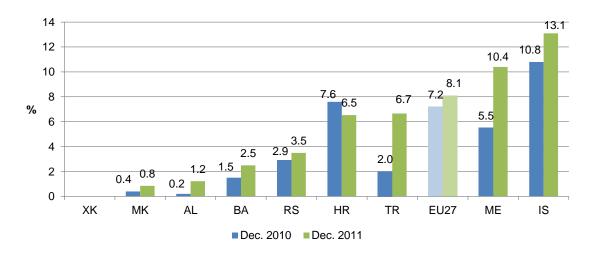


Figure B.26 – Dedicated data cards/ wireless modems per 100 population, 2010 – 2011

Notes: Montenegro:

The figure of 10.4% was reported directly by Montenegrin regulator EKIP as the mobile data SIM card penetration for end December 2011. Using the figures reported for the three operators in Table B.18 above, including the May 2012 data from MTeI, would give a penetration rate of 13.6%.

# g) National broadband targets

Country	Basic	broadband ta	rget	Fast or	ultra-fast broa	dband		oadband cov (as % of pop	erage and take- ulation)	Name of the national broadband plan, any	Public funding
	Speed	Coverage	Year	Speed	Coverage	Year	Speed	Coverage	Take-up	comments and link	assigned
Croatia	> 2 Mbps	75 % Population Fixed broadband	2013	> 30 Mbps	35% Population fixed broadband	2015	Not available	Not available	19.99% (fixed) 6.71% (mobile excl. smart- phones)	Broadband Development Strategy in the Republic of Croatia in the period from 2012 to 2015.	-
	> 2 Mbps	90 % population Mobile broadband	2013	> 30 Mbps	50% population mobile broadband	2015			(end of 2011)		
Iceland	30 Mbps	90% of homes and workplaces	2014	30 Mbps	100% of homes and workplaces	2022	>256 kbps	100%	73% (fixed) 27% (mobile excl. smart- phones)	Telecom Policy Statement 2011-2022, is up for discussion in the Parliament, but has not been approved yet, although it is likely to be	One off fee for spectrum licences will be used to finance these
				100 Mbps	50% of homes and workplaces	2014				approved this spring.	broadband targets.
				100 Mbps	99.9 % of population	2022					For the period 2012-2013 this is estimated to be around €2m.
FYR Macedonia	No plan	-	-	No plan	-	-	-	-	-	A new strategy to be drafted in 2012	-
Montenegro	-	-	-	10 Mbps	50% of the population	2014	>144 kbps	-	42.2% (fixed HH	Strategy for the development of information society 2012 –	No
					100% of the population	2016			penetration) 10.4% (mobile,	2016	
				30 Mbps	50% of the population	2016			data SIM card penetration)		
Serbia	4 Mbps	100% population	2012	100 Mbps	100% population	2020	>256 kbps	-	-	Strategy for the development of an information society in the Republic of Serbia until 2020	Not defined

Country	Basic	broadband tar	get	Fast or (	ultra-fast broad target	dband		oadband cove	erage and take- ulation)	Name of the national broadband plan, any	Public funding
	Speed	Coverage	Year	Speed	Coverage	Year	Speed	Coverage	Take-up	comments and link	assigned
Turkey	-	No coverage target, but penetration target of 20%	2013	-	-	-	-	-	-	9 <sup>th</sup> Development Plan 2007- 2013, p.60	-
Albania	-	-	-	-	-	-	-	-	-	-	-
Bosnia & Herzegovina	-	-	-	-	-	-	>256 kbps	55%(fixed BB) 60% (mobile BB)	11.25% (fixed) 9% (mobile, including dedicated connections and 3G data users)	Decision on the telecommunication sector policy of Bosnia and Herzegovina for the period 2008 – 2012	No
Kosovo*	-	-	-	-	-	-	>144 kbps	95% (fixed) 5% (FWA)	48.55% (penetration of HH) 8.26% (penetration of population) (all fixed broadband)	-	-

Table B.18 – National broadband targets

Notes:

Iceland: Telecom Policy Statement 2011-2022 is up for discussion in the Parliament, but has not been approved yet, although it is likely to be approved this spring.

The objective of the government is to create open and accessible communications for all: The main objective is that 90% of all homes and workplaces will have

access to 30Mbps by the year 2014 and by the year 2022 the same speed will be available to 100% of the population.50% of all homes and workplaces will have the possibility to receive 100 Mbps connections by 2014 and the same speed will be available to 99.9% of the population of Iceland by the year 2022.

Serbia: Source: www.digitalnaagenda.gov.rs/wp-content/uploads/Dokumenti/Strategije\_akcioni\_planovi/Strategija\_razvoja\_informacionog\_drustva2020.pdf

Turkey: According to the 9<sup>th</sup> Development Plan, it is expected that broadband penetration rate will reach 20% in 2013.

Albania: A broadband strategy document is under preparation from the Ministry.

Bosnia & Herzegovina The figure of 9% take-up for mobile broadband includes 95,591 users of dedicated 3G mobile data subscriptions via datacards/modems (as shown in Table B.18) and

250,585 active users of data services on 3G networks (where 'active' is defined as a connection that has accessed data in the last 90 days).

# 6. Degree of control of major undertakings by foreign investors

Table B.19 shows which key foreign strategic investors have a controlling interest in fixed and mobile operators, ISPs and cable TV operators in each of the enlargement countries.

Croatia	Investor		Operators	
		Fixed	Mobile	Cable TV
Croatia	Deutsche Telekom	Hrvatski Telekom (HT) – 51% Iskon Internet d.d. – 51% (100% owned by HT)	Hrvatski Telekom – 51%	-
	Tele2 Sweden	-	Tele2 – 100%	-
	Telekom Austria	VIPNet – 100%	VIPNet – 100%	B.net – 100% (100% owned by VIPNet)
Iceland	None	-	-	-
FYR Macedonia	Deutsche Telekom	Makedonski Telekom – 30.24% (51% owned by Magyar Telekom, which is 59.30% owned by Deutsche Telekom	T-Mobile – 30.24% (100% owned by Makedonski Telekom)	-
	Telekom Austria		VIP – 100%	-
	Telekom Slovenije	One – 100%	One – 100%	-
Montenegro	Deutsche Telekom	Crnogorski Telekom – 45.38% (76.53% owned by Magyar Telecom, which is 59.30% owned by Deutsche Telekom)	Crnogorski Telekom – 45.38% (76.53% owned by Magyar Telecom, which is 59.30% owned by Deutsche Telekom)	-
	Telenor	-	Telenor - 100%	-
	Telekom Srbija	-	m:tel – 82.85% (51% is owned by Telekom Srbija directly and 31.85% indirectly, via the 49% stake owned by Telecom Republika Srpska, which is in turn 65% owned by Telekom Srbija)	-
Serbia	Telenor	-	Telenor – 100%	-
	Telekom Austria	-	VIPmobile – 100%	-
	Greenhouse Telecommunications Holdings B.V	Orion Telekom – 100%	-	-
	Adria Cable B.V. Netherlands (consortium led by Mid Europa Partners)	-	-	SBB (Serbia Broadband) 100%

Country	Investor		Operators			
		Fixed	Mobile	Cable TV		
Turkey	Oger Telecom	Türk Telekom - 55% TT Net - 55% (100% owned by Türk Telekom)	Avea – 44.75% (81.37% owned by Türk Telekom)	-		
	TeliaSonera	Turkcell Superonline – 38.0% (100% owned by Turkcell)	Turkcell – 38.0% (held indirectly through shares in Turkcell Holding A.Ş. and in Sonera Holding B.V.)	-		
	Vodafone Group	-	Vodafone – 100%	-		
Albania	Cosmote (OTE)	-	AMC – 100%	-		
Albania	Vodafone Group	-	Vodafone Albania – 100%	-		
	Calik Enerji Telecommunications (consortium of Calik Enerji and Türk Telekom)	Albtelecom – 76%	Eagle Mobile – 76%	-		
	Telecom Slovenije	PRIMO – 75%	-	-		
	American broadband	Abcom – 100%	-	Abcom - 100%		
Bosnia & Herzegovina	Telekom Srbije	Telekom Srpske – 65%	m:tel – 65% (100% owned by Telekom Srpske)	-		
	T- Hrvatski Telekom (Croatia)	HT Mostar – 39.1%	HT Mostar - 39.10%	-		
	Telecom Slovenije	Aneks – 70%	-	Aneks – 70%		
Kosovo*	Telekom Slovenije/Mobitel	IPKO – 93.113%	IPKO – 93.113%	IPKO – 93.113%		

Table B.19 – Control of major undertakings by foreign investors

Notes:

Iceland:

No foreign investors have a controlling interest in fixed and mobile operators and ISPs in Iceland.
On January 25, 2012 Telekom Srbija a.d. acquired the ownership over all 20% of its share capital that used to be held by OTE. Information for Turkcell is based on Turkcell İletişim A.Ş.'s share holders in the Concession Agreement. Serbia:

Turkey:

## 7. Key financial ratios of the fixed incumbent operators and mobile operators

The most commonly used financial ratios in the assessment of the performance of telecommunications operators are:

- Return on Capital Employed (ROCE) the net profit before interest and taxes divided by the total capital employed;
- Earnings Before Interest, Taxes, Depreciation and Amortization (EBITDA) margin EBITDA divided by operating revenues; and
- Earnings Before Interest and Taxes (EBIT) margin the EBIT divided by operating revenues.

Return on Capital Employed (ROCE) is a measure of the returns that an operator realises from the capital it uses. The ratio can represent the efficiency with which capital is being used to produce revenue. ROCE is used both to compare the performance of different businesses and to assess whether a business generates sufficient returns to pay for its cost of capital.

ROCE compares earnings with capital invested in the company, taking into account sources of financing. Net assets or capital employed are examined rather than total assets. Capital employed can have many definitions, though, in general, it is the capital investment necessary for a business to function. It is commonly represented as the total assets less the current liabilities or fixed assets plus working capital. The main drawback is that it measures return against the book value of assets. As these are depreciated, ROCE will increase even though cash flow has remained the same. Thus, older businesses with depreciated assets will tend to have higher ROCE than newer, possibly better businesses. In addition, while cash flow is affected by inflation, the book value of assets is not. Consequently, revenues increase with inflation while capital employed generally does not (as the book value of assets is not affected by inflation).

The net income of a company is affected by decisions that the company made in previous years. This is because of the differences between accrual accounting and cash-based accounting. Some purchases can be depreciated or amortized over 20 years or more, with a negative impact on the net income long after the actual financial effects of the purchases have ceased.

The use of Earnings Before Interest, Taxes, Depreciation, and Amortisation (EBITDA) does not suffer from this distortion, allowing investors a better understanding of the profitability of the company. Depreciation and amortisation are non-cash charges, so that EBITDA is seen as a better proxy than earnings from the cash that flows through a company. Essentially, EBITDA measures the core income that a company earns before it covers its debt payments and pays its income taxes. Investors can also use this measure to compare the profit growth of companies that operate in different tax regimes. EBITDA can also assist lenders when estimating the cash flows that a company will have available to service its debt as it measures the amount of cash that a company has available for interest payments. Finally, EBITDA can provide a more accurate cash flow picture in industries where substantial non-cash depreciation and amortisation expenses might otherwise distort earnings.

Earnings before interest and taxes (EBIT), also known as operating income and operating profit, is a term used to describe a company's earnings. To calculate EBIT, basic expenses (e.g., the cost of goods sold, selling and administrative expenses) are subtracted from revenues. Profit is later obtained by subtracting interest and taxes from the result.

Country	Operator	Ke	y financial ratios and performance indicator	s (2011)
		ROCE	EBITDA margin (%)	EBIT margin (%)
Croatia	Hrvatski Telekom	19.20%	44.90%	27.30%
Iceland	Síminn	n/a	n/a	n/a
	Vodafone	n/a	n/a	n/a
	Nova	n/a	n/a	n/a
	Mila	n/a	n/a	n/a
FYR Macedonia	Makedonski Telekom	n/a	n/a	n/a
Montenegro	T-com	n/a	n/a	n/a
Serbia	Telekom Srbija	16.70%	48.28%	28.37%
	Telenor	43.22%	44.98%	26.17%
	VIP	-	24.70%	-
Turkey	TTAŞ	-	43%	29%
	Avea	n/a	n/a	n/a
	Vodafone	n/a	n/a	n/a
	Turkcell	-	31.1%	-
Albania	Albtelecom	n/a	n/a	n/a
	Vodafone Albania	n/a	n/a	n/a
	AMC	n/a	n/a	n/a
Bosnia & Herzegovina	BH Telecom fixed	4.83%	36.20%	18.59%
	BH Telecom Mobile	6.96%	47.44%	28.35%
	Telekom Srpske	15.64%	46.29%	24.15%
	HT Mostar	0.06%	34%	15%
Kosovo*	Posta dhe Telekomunikacioni i Kosoves (PTK)	0.21%	0.16%	-0.15%
	Vala	14.46%	60.99%	50.97%
	IPKO	5.68%	29.33%	10.53%

Table B.20 – Key financial ratios of the fixed incumbent and major mobile operators for the year 2011

Notes:

Croatia:

Serbia:

The figures provided are for HT Group.

VIP reported total loss and loss from operations for 2011.

TTAS figures are taken from the company's 2011 year-end investor presentation. The figures shown for Turkcell are for the whole Turkcell Group. Turkey:

# C. Information society legislation and policy

## 1. Ongoing legislative work

The following table addresses:

- preparations for new primary and secondary legislation with relevance for the electronic communications and information society, in particular transposition of the EU 2009 regulatory framework;
- which part of the EU acquis the planned legislation will transpose;
- current status and planned next steps; and
- which body or bodies are responsible for drafting.

Country	Description of draft legislation	Relevant EU <i>acquis</i>	Current status of preparations and schedule for the next steps	Responsible body
Croatia	No ongoing legislative work in	terms of primary legislation.		Ministry of maritime affairs, transport and infrastructure
Iceland	Amendments to the Electronic communications act	-	A bill was presented before Parliament by the Minister of the Interior in November 2011, with few amendments to the Electronic communications act, including legal basis for a new CERT team.  Parliament adopted the law in its spring session 2012.	Ministry of the Interior
	Amendments to the Electronic communications act	EU 2009 regulatory framework	A draft bill has been prepared by the Ministry of the Interior. The implementation of the EU 2009 regulatory framework is pending as it has not been incorporated into the EEA Agreement.  Adoption is expected in 4Q 2012.	Ministry of the Interior
	Law on the national domain .IS		A bill was presented before parliament by the Minister of the Interior in December. However it has not been approved, as it is still up for discussion.	Ministry of the Interior
FYR Macedonia	Amendments to the Law on electronic communications	EU 2009 regulatory framework	Transposition of the 2009 regulatory framework is planned for 2012	Ministry of Information Society and Administration
	Law on data in electronic form and electronic signature	EU Directive 1999/93/EC	Preparation	Ministry of Finance
Montenegro	Law on electronic communication	EU 2009 regulatory framework	Preparation of draft law has been started. Public consultations closed on March 26, 2012. After preparation of draft, law is going under inter-sectors harmonisation. Law proposal will be submitted to the Government for adoption, enclosed with report of inter-sectors consultations and report of public hearing. Planned adoption: 3Q 2012.	Ministry for Information Society and Telecommunication

Country	Description of draft legislation	Relevant EU acquis	Current status of preparations and schedule for the next steps	Responsible body
	Law on Amendments of Digital Broadcasting Law	Communication from the Commission on the transition from analogue to digital broadcasting, COM(2003)541 Communication from the Commission on accelerating the transition from analogue to digital broadcasting, COM(2005)204	Phase of inter-sectors harmonisation.  Law proposal will be submitted to the Government for adoption, before submission to Parliament.	Ministry for Information Society and Telecommunication
	Law on e-Governance		Preparation phase. Planned adoption: 4Q 2012.	Ministry for Information Society and Telecommunication
Serbia	Rulebook amending the Rulebook on the transition from analogue to digital television broadcasting and access to multiplexesin terrestrial digital broadcasting (Article 104 of the Law on electronic communications)		The rulebook has been adopted on Feb. 18, 2011.  In the meantime the Ministry has started work on drafting the new Rulebook on the DSO. Changes to the Rulebook are intended in order to enable the testing of complete network parameters before the analogue and the existing digital signal are switched off as well as to establish the initial network, which will broadcast DVB-T2 digital television signal and allow for the testing of this network. Also it has become possible to carry out the transition in stages (which was not the case previously) and this change is reflected in all documents.	Ministry of Culture, Media and Information Society
	Rulebook on the installation of electronic communications networks, electronic facilities and associated equipment in the construction of commercial and residential buildings (Article 43 of the Law on electronic communications)	Directive 2002/19/EC (Access Directive)	RATEL has prepared the draft. The Ministry has finished the public consultations and now it is preparing the final draft of the Rulebook.	Ministry of Culture, Media and Information Society
	Rulebook on technical requirements for devices and software for lawful interception of electronic communications and data retention (Articles 127 and 129 of the Law on electronic communications)	Directive 2002/58/EC (ePrivacy), Directive 2006/24/EC (Data Retention Directive)	The Ministry has concluded public consultations and final adoption is expected shortly.	Ministry of Culture, Media and Information Society

Country	Description of draft legislation	Relevant EU acquis	Current status of preparations and schedule for the next steps	Responsible body
	Law on information security	Council Decision of 31 March 2011 on the security rules for protecting EU classified information (2011/292/EU)	Public consultations on the draft law from Jan. 25 to Feb. 6, 2012.  Ongoing consultations with competent state authorities in accordance with legislative procedures prescribed.  Adoption in parliament expected by end of 2012.	Ministry of Culture, Media and Information Society
Turkey	Draft law on regulation of electronic commerce	EU Directives 1997/66/EC, 2000/31/EC, 2002/58/EC	Draft law was prepared by Ministry of Justice with the contribution of relevant Ministries and other institutions.  Submitted to the Grand National Assembly of Turkey on Dec. 27, 2010  Draft law published (in Turkish) at:  www.basbakanlik.gov.tr/Handlers/FileHandler.ashx?FileId=6593	Ministry of Customs and Trade
	Draft law on personal data protection	EU Directives 95/46/EC, 2001/45/EC, 2002/58/EC, 2006/24/EC	Submitted to the Grand National Assembly of Turkey on April 22, 2008  Draft law published (in Turkish) at:  www.kgm.adalet.gov.tr/tbmmkom/kisiselveriler.pdf	Ministry of Justice
	Draft law on amending certain laws for effective judicial services and postponing the case and sentences about crimes through press		Submitted to the Grand National Assembly of Turkey in February 2012 Draft law published (in Turkish) at: www.adalet.gov.tr/duyurular/2012/ocak/kanuntasarisison/tasarison.htm	Ministry of Justice
Albania	Law amending the Law on electronic communications	EU 2009 regulatory framework	Draft law consulted with stakeholders, line ministries, and other institutions. Two round tables organised in November and December 2011. Last comments received from market players by end of March, first week of April. Amended law to be submitted to Council of Ministers within May 2012 Comes into force: 2012	Ministry for Innovation and ICT
	Law amending the Law no. 10128 on electronic commerce, dated 11.5.2009		Working group established in February 2011; Draft amendments prepared and consulted with EC/DGMARKT; the revised draft consulted with different institutions.  Working group is working to reflect the comments.  Expected to be adopted within 2012	Ministry for Innovation and ICT
	Law on the right of way on state and private property for the construction of electronic communications network		Draft law has been submitted by the Council of Ministers to Parliament. It was discussed in parliamentary commissions and is in the process of being approved.	Ministry for Innovation and ICT
	New audiovisual law	Audiovisual Media Services Directive	The new law has been prepared and consulted with different stakeholders, CoE, EC, OSCE etc. The Law is scheduled to be adopted by the Parliament soon.	Assembly

Country	Description of draft legislation	Relevant EU acquis	Current status of preparations and schedule for the next steps	Responsible body
Bosnia & Herzegovina	Changes and addendums of Law on broadcasting system in B&H	EU secondary legislation for broadcasting	Work on draft of changes and addendums of Law on broadcasting system in B&H will start in June 2012  Draft will be published for national consultation: October 2012  Draft will be adopted by Council of Ministers: December 2012  Draft will be adopted by Parliament: April/May 2013  Changes and addendums of Law on Broadcasting system in B&H comes into force: May/June 2013	Ministry of Communications and Transport of B&H
	Harmonisation of the Law on broadcasting services with the EU acquis	EU secondary legislation for broadcasting	Working group established in April 2010 Planned next steps: Draft will be published for national consultation: August/September 2012 Draft will be adopted by Council of Ministers: November/December 2012 Draft will be adopted by Parliament: February/March 2013 Amending Law on Broadcasting System and Law on Broadcasting Services comes into force: March/April 2013	Ministry of Communications and Transport of B&H
	Draft of law on electronic communications	EU 2003 and 2009 regulatory framework on electronic communications	A TAIEX workshop was held on March 23 to 25, 2011. Work on draft of law on electronic communication started in September 2011.  Planned next steps:  Draft will be published for national consultation: November/December 2012  Draft will be adopted by Council of Ministers: February/March 2013  Draft will be adopted by Parliament: April/May 2013  Law on electronic communications comes into force: May/June 2013	Ministry of Communications and Transport of B&H
Kosovo*	Law on electronic communications, replacing the Law on telecommunication	EU 2009 and EU 2003 regulatory framework	Draft law has been approved in first reading by the Kosovo Assembly on March 15, 2012.  The relevant Parliamentary Commission approved the draft law on May 4, 2012.  Final approval is expected before mid 2012.  Technical assistance has been provided by a TAIEX mission.	Ministry of Economic Development together with Prime Minister's office, Telecommunications Regulatory Authority and Independent Media Commission

Table C.1 – Ongoing legislative work

## 2. Electronic communications and information society policy

This section examines which information society policy documents have been adopted and the responsible bodies:

- the body (or bodies) which is (are) responsible for preparing and overseeing the information society policy;
- the title and links to relevant adopted or prepared policy documents (if available, to English translations); and
- which policy areas are covered by the respective documents.

Country Responsible body for Information society policy documents information society Period of time covered					Policy are	as cover	ed (indica	ate with ti	ck marks	5)	
	information society policy	Period of time covered	Information society in general	Electronic communi- cations	Broadband	Digital TV	eSEEurope Initiative	Network security	Cybercrime	E-Govern- ment	E-Business
Croatia	Ministry of Maritime Affairs, Transport and Infrastructure (MMATI)	Strategy for the development of broadband access in the Republic of Croatia 2012–2015 (MMATI)			✓	1					
	Ministry of Administration	Strategy for the development of Electronic Government in the Republic of Croatia for the period 2009–2012 (e-Croatia)								✓	
	Ministry of Economy, (ME)	Strategy for the development of Electronic Business in the Republic of Croatia for the period 2007–2010 (MINGORP)									1
	Ministry of Administration Ministry of Maritime Affairs, Transport and Infrastructure (MMATI)	The Croatian Government adopted on May 25, 2007 a conclusion accepting the content of the eSEE Agenda+ for 2007–2012.					1				
Iceland	Prime Minister's Office	Iceland the e-Nation. Icelandic Government Policy on the Information Society 2008–2012	1							1	1
	Ministry of the Interior	Telecom policy statement 2011–2022 This new policy statement is replacing the previous one (2005–2010). It still in discussion within parliamentary committees and should thereafter be proposed as a new law under consideration by the legislature (2012 spring Parliament)		1	1	1		1	<b>√</b>		

Country	Responsible body for	Information society policy documents		i	Policy are	eas cover	ed (indica	ate with ti	ck marks	5)	
	information society policy	Period of time covered	Information society in general	Electronic communi-cations	Broadband	Digital TV	eSEEurope Initiative	Network security	Cybercrime	E-Govern- ment	E-Business
FYR Macedonia	Ministry of Information Society and	Government programme 2008–2012	✓			1				1	1
Maccachia	Administration	National Strategy for Information society development	1					1		1	1
		National strategy for electronic communication and information technologies	1	1	1					1	1
		National strategy for next generation broadband		1	1						
		National strategy for e-government	✓				1	1		1	
		Strategy for Public administration reform								✓	
		National strategy for e-inclusion	✓				1			1	
	AEC	Five years regulatory strategy of AEC (2012–2016)		1							
Montenegro	Ministry for Information Society and Telecommunication	Strategy for Information Society Development of Montenegro 2012–2016	1	1	1	1	1			1	
Serbia	Ministry of Culture, Media and Information Society,	Strategy for information society development up to 2020	1					1	✓	✓	1
	Digital Agenda Administration	Strategy for switchover from analogue to digital broadcasting of radio and television programme in the Republic of Serbia				1					
		Strategy for e-government development in period of 2009 to 2013								1	
		National strategy for broadband access up to 2012			1						
		Strategy for development of electronic communications up to 2020 adopted by the Government on Sep. 2, 2010		1							
		Strategy for the Increase of Participation of National Industry to the Development of Telecommunications in the Republic of Serbia		1							

Country	Responsible body for	Information society policy documents	Policy areas covered (indicate with tick marks)									
	information society policy	Period of time covered		Electronic communi-	Broadband	Digital TV	eSEEurope Initiative	Network security	Cybercrime	E-Govern- ment	E-Business	
		Action plan for the implementation eSEE Agenda+ for the development of information society in SEE 2007–2012, Official Journal of Republic of Serbia, no. 29/2009					1					
Turkey	Ministry of Development	Information Society Strategy and Action Plan (2006–2010) Will be applied until the new strategy and action plan has been prepared by the Ministry of Development.	1	1	1			1	1	1	1	
		9 <sup>th</sup> Development Plan (2007–2013)	1	1	✓					1	1	
		Medium Term Program (2011–2013)	1	1	✓					1	1	
		Annual Program (2012)	1	1	1					1	1	
	Ministry of Transport, Maritime Affairs and Communications	Transport and Communication Strategy (Target 2023) (2011–2023)		1	1					1		
		10 <sup>th</sup> Transportation Forum Report (2009–2023)	1	1	1							
Albania	Minister for Innovation and ICT	Cross cutting strategy for the information society (2008–2013) Council of Ministers Decision no. 59 dated 21.01.2009, amended by Council of Ministers Decision no. 586 dated 03.08.2011.	1		1		1			1	1	
	Minister for Innovation and ICT	Policy paper on electronic communications, Council of Ministers Decision no 322 dated 5.5.2010		1								
	Minister for Innovation and ICT	Strategy on analogue to digital switchover, Council of Ministers Decision no 292 dated 2.5.2012				1						
	Drafting broadband policy p	paper is on going										

Country	Responsible body for	Information society policy documents	Policy areas covered (indicate with tick marks)								
	information society policy	Period of time covered		Electronic communi-	Broadband	Digital TV	eSEEurope Initiative	Network security	Cybercrime	E-Govern- ment	E-Business
Bosnia & Herzegovina	Ministry of Communication and Transport of B&H	Policy, Strategy and Action Plan of Information Society Development in B&H (2004–2010)  Council of Ministers, November 2004  www.mkt.gov.ba/bos/dokumenti/zakoni/?id=1499  www.mkt.gov.ba/bos/dokumenti/zakoni/?id=1500  www.mkt.gov.ba/bos/dokumenti/zakoni/?id=1501  Decision on adoption of Policy of Telecommunications Sector in Bosnia and Herzegovina for period 2008–	1	1	1		1	1	1	1	<b>✓</b>
		2012, Dec. 18, 2008  Decision on adoption of Policy broadcasting sectors in Bosnia and Herzegovina, Nov. 28, 2006				1					
	Ministry of Communication and Transport of B&H Communications Regulatory Agency of B&H and DTT Forum of B&H	Strategy for switchover from analogue to digital terrestrial broadcasting in the frequency bands 174–230 MHz and 470–862 MHz in Bosnia and Herzegovina, June 17, 2009				1					
Kosovo*	Ministry of Economic Development	Government adopted on May 2, 2007 a decision accepting the document of the eSEE Agenda+ for 2007–2012.					1				
	Ministry of Public Administration	E-government strategy 2009–2015 and action plan approved by the Government on December 12 2008 (Ministry of Public Administration)								1	
		Draft of the Sectoral Strategy of Ministry of Transport and Communications is ready for Government Approval. Electronic Communications, and Broadband sectors are major parts of this strategy		1	1						
		National Strategy for Information Society Development of Kosovo, for period 2006–2012 Approved on April 26, 2006	1								

Country	Responsible body for				s)						
	information society policy	Period of time covered	Information society in general	Electronic communi- cations	Broadband	Digital TV	eSEEurope Initiative	Network security	Cybercrime	E-Govern- ment	E-Business
		Working Group (WG) for Analogue Digital Switchover Strategy is established. Independent Media Commission is leading this WG. It is expected this strategy to be ready by the end of 2012.				1					
		Active participation in the project of the Council of Europe and European Union 'Cyber @ IPA' for Regional Cooperation in Criminal Justice: Strengthening capacities in the fight against cybercrime (DGHL/2010/2467), from which project will result a strategy in the field of combating cybercrime							1		

Table C.2 – Information society policy

- 3. Bodies responsible for electronic communications and information society topics Overview, which bodies are responsible for the following topics:
- Ministry responsible for electronic communications legislation and policy making
- Ministry or agency responsible for information society policy making in general
- National regulatory authority for electronic communications regulation (NRA)
- National competition authority (NCA)
- Audio-visual media regulator (or broadcasting authority)
- Body responsible for the implementation of the R&TTE Directive
- Body responsible for information society statistics
- Electronic Commerce Directive: body (bodies) responsible for supervision and national contact point
- Electronic Signatures Directive: body (bodies) responsible for supervision and/or accreditation

- Data protection authority
- Body responsible for network security (Art. 13a, 13b Framework Directive)
- Body responsible for personal data security (Art. 4 e-Privacy Directive)
- Body (bodies) responsible for the enforcement of intellectual property rights
- Computer emergency response team (CERT), bodies responsible for cyber attacks, national alert platforms and harmful content alert hotlines
- Body responsible for domain name policy making, and national domain name registry.

Country	Name of the body (in original language) Link to website, if available	Name of the body (in English)	Responsibilities (see list below)		
Croatia	Ministarstvo uprave www.uprava.hr	Ministry of Administration	Ministry responsible for information society policy making in general, for e-Government and for the implementation of Digital Agenda for Europe		
	Ministarstvo pomorstva, prometa i infrastrukture www.mppi.hr	Ministry of Maritime Affairs, Transport and Infrastructure	Ministry responsible for electronic communications legislation and policy making Body responsible for the implementation of R&TTE Directive		
	Hrvatska agencija za poštu i elektroničke komunikacije www.hakom.hr	Croatian Post and Electronic Communications Agency	National regulatory authority for electronic communications regulation (NRA)  Body responsible for network security (Art. 13a, 13b Framework Directive)  Body responsible for personal data security (Art. 4 e-Privacy Directive)		
	Agencija za zaštitu tržišnog natjecanja www.aztn.hr	Croatian Competition Agency	National competition authority (NCA)		
	Ministarstvo kulture www.min-kulture.hr	Ministry of Culture	Audio-visual media regulator (or broadcasting authority)		
	Državni zavod za statistiku www.dzs.hr	Croatian Bureau of Statistics	Body responsible for information society statistics		
	Ministarstvo gospodarstva www.mingorp.hr	Ministry of Economy	Electronic Commerce Directive: body (bodies) responsible for supervision and national contact point Electronic Signatures Directive: body responsible for supervision		

Country	Name of the body (in original language) Link to website, if available	Name of the body (in English)	Responsibilities (see list below)			
	Hrvatska akreditacijska agencija www.akreditacija.hr	Croatian Accreditation Agency	Electronic Signatures Directive: body responsible for accreditation			
	Agencija za zaštitu osobnih podatka www.azop.hr	Croatian Personal Data Protection Agency	Data protection authority			
	Ministarstvo unutarnjih poslova www.mup.hr	Ministry of Interior	Body (bodies) responsible for cybercrime			
	Državni zavod za intelektualno vlasništvo www.dziv.hr	State Intellectual Property Office	Body (bodies) responsible for the enforcement of intellectual property rights			
	Hrvatska akademska i istraživačka mreža – CARNet www.cert.hr	Croatian Academic and Research Network – CARNet	Computer emergency response team (CERT), responsible for cyber attacks, national alert platforms and harmful content alert hotlines			
			Body responsible for domain name policy making, and national domain name registry			
	Zavod za sigurnost informacijskih sustava – ZSIS www.zsis.hr	Information Systems Security Bureau	National body for prevention and protection from computer threats to public information systems  Central state body for technical aspects of information security in information systems of government bodies and legal entities  In charge for information systems security accreditations procedures			
	Ured Vijeća za nacionalnu sigurnost www.uvns.hr	Office of the National Security Council	Central state body responsible for information security Coordinates activities in implementation of measures and standards of information security			
Iceland	Innanríkisráðuneytið http://www.innanrikisraduneyti.is/	Ministry of the Interior	Ministry or agency responsible for information society policy making in general (since January 2012) Ministry responsible for electronic communications legislation and policy making			
	Póst- og fjarskiptastofnun (PFS) http://www.pfs.is/	Post and Telecom Administration	National regulatory authority for electronic communications regulation (NRA)  Body responsible for the implementation of the R&TTE Directive			

Country	Name of the body (in original language) Link to website, if available	Name of the body (in English)	Responsibilities (see list below)
			Computer emergency response team (CERT), responsible for cyber attacks, national alert platforms and harmful content alert hotlines Body responsible for network security (13a, 13b Framework Directive) Body responsible for personal data security (Art. 4 e-Privacy Directive)
	Samkeppniseftirlitið http://www.samkeppni.is/	National competition authority	National competition authority (NCA)
	Fjölmiðlanefnd http://www.fjolmidlanefnd.is/	The Media Committee	Audio-visual media regulator (or broadcasting authority)
	Hagstofa Íslands http://hagstofan.is/	Statistics Iceland	Body responsible for information society statistics
	Efnahags- og viðskiptaráðuneyti http://www.efnahagsraduneyti.is/	Ministry of Economic Affairs	Electronic Commerce Directive: body (bodies) responsible for supervision and national contact point
	Neytendastofa http://www.neytendastofa.is/	The Consumer Agency	Electronic Signatures Directive: body (bodies) responsible for supervision
	Persónuvernd http://www.personuvernd.is/	The Data Protection Authority	Data protection authority Body responsible for personal data security (Art. 4 e- Privacy Directive)
	Menntamálaráðuneytið http://www.menntamalaraduneyti.is/	Ministry of Education, Science and Culture	Body responsible for the enforcement of intellectual property rights
	ISNIC – Internet á Íslandi hf. http://www.isnic.is/en/	ISNIC – Internet á Íslandi hf.	Body responsible for domain name policy making, and national domain name registry
			A new law will establish responsibility for domain name policy making at the Ministry of the Interior.
	Rannsókna og háskólanet Íslands (RHnet) http://www.rhnet.is/	Icelandic University Research Network (RHnet)	Computer emergency response team (CERT)
FYR Macedonia	Ministerstvo za informaticko opstestvo I administracija http://www.mio.gov.mk/	Ministry of information society and administration	Ministry or agency responsible for information society policy making in general Ministry responsible for electronic communications legislation and policy making
	Agencija za elektronski komunikacii http://www.aek.mk/	Agency for electronic communications	National regulatory authority for electronic communications regulation (NRA)

Country	Name of the body (in original language) Link to website, if available	Name of the body (in English)	Responsibilities (see list below)
	Sovet za radiodifuzija na Republika Makedonija http://www.srd.org.mk/	Broadcasting Council of the Republic of Macedonia	Audio-visual media regulator (or broadcasting authority)
	Drzaven zavod za statistika http://www.stat.gov.mk/	State statistical office	Body responsible for information society statistics
	Ministerstvo za vnatresni raboti http://www.mvr.gov.mk/	Ministry of interior	Body responsible for network security (Art. 13a, 13b Framework Directive)
	Ministerstvo za ekonomija http://www.economy.gov.mk/	Ministry of economy	Body responsible for cybercrime  Electronic Commerce Directive: body (bodies) responsible for supervision and national contact point Body responsible for the implementation of the R&TTE Directive, together with AEC.
	Ministerstvo za finansii http://www.finance.gov.mk/	Ministry of finance	Electronic Signatures Directive: body (bodies) responsible for supervision and/or accreditation
	Ministerstvo za kultura http://www.kultura.gov.mk/	Ministry of culture	Body responsible for the enforcement of intellectual property rights
	Direkcija za zastita na licni podtaoci http://www.dzlp.mk/	Directorate for personal data protection	Data protection authority; Body responsible for personal data security (Art. 4 e-Privacy Directive)
	Komisija za zastita od konkurencija http://kzk.gov.mk/	Commission for protection of competition	National competition authority (NCA)
	MARNet http://dns.marnet.net.mk/	MARNet	Body responsible for domain name policy making, and national domain name registry.
Montenegro	Ministarstvo za informacono društvo i telekomunikacije http://www.mid.gov.me/	Ministry for Information Society and Telecommunications	Ministry responsible for electronic communications legislation and policy making Ministry responsible for information society policy making in general Computer emergency response team (CERT), bodies responsible for cyber attacks, national alert platforms and harmful content alert hotlines
			Body responsible for information society statistics Electronic Commerce Directive: body (bodies) responsible for supervision and national contact point Electronic Signatures Directive: body (bodies) responsible for supervision and/or accreditation Body responsible for domain name policy making, and national domain name registry

Country	Name of the body (in original language) Link to website, if available	Name of the body (in English)	Responsibilities (see list below)
	Agencija za elektronske komunikacije I poštansku djelatnost http://www.ekip.me/	Agency for Electronic Communications and Postal Services	National regulatory authority for electronic communications regulation (NRA)  Body responsible for network security (Art. 13a, 13b)
			Framework Directive)
	Uprava za zaštitu konkurencije http://www.uzzk.gov.me/	Administration for Protection of Competition	National competition authority (NCA)
	Agencija za elektronske medije http://www.ardcg.org/	Agency for Electronic Media	Audio-visual media regulator (or broadcasting authority)
	Zavod za intelektualnu svojinu http://www.ziscg.me/	Intelectual Property Office	Body responsible for the enforcement of intellectual property rights
	Radio difuzni centar Crne Gore http://www.rdc.co.me/	Broadcast Center of Montenegro	Body responsible for the implementation of the R&TTE Directive
	Zavod za statistiku Crne Gore – MONSTAT http://www.monstat.org/cg/	Statistical Office of Montenegro	Body responsible for information society statistics
	Agencija za zaštitu ličnih podataka http://azlp.me/	Agency for Personal Data Protection	Data protection authority  Body responsible for personal data security (Art. 4 e- Privacy Directive)
	.ME Register (doMEn) http://www.domen.me/	.ME Register (doMEn)	National domain name registry
Serbia	Republička agencija za elektronske komunikacije (RATEL)	Republic Agency for Electronic Communications	National regulatory authority for electronic communications regulation (NRA)
	www.ratel.rs		Body responsible for network security (Art. 13a, 13b Framework Directive)
			Body responsible for personal data security (Art. 4 e- Privacy Directive) (together with the data protection authority)
	Ministarstvo kulture, informisanja i informacionog društva	Ministry of Culture, Media and Information Society	Ministry responsible for information society policy making in general
	www.kultura.gov.rs		Ministry responsible for electronic communications legislation and policy making
			Body responsible for the implementation of the R&TTE Directive.
	Uprava za digitalnu agendu www.digitalnaagenda.gov.rs	Digital Agenda Administration	Administrative body responsible for information society regulation within the Ministry Electronic Signatures Directive: body responsible for supervision

Country	Name of the body (in original language) Link to website, if available	Name of the body (in English)	Responsibilities (see list below)
	Komisija za zaštitu konkurencije www.kzk.org.rs	Commission for Protection of Competition	National competition authority (NCA)
	Republička radiodifuzna agencija www.rra.org.rs	Republic Broadcasting Agency	Audio-visual media regulator (or broadcasting authority)
	Republički zavod za statistiku webrzs.stat.gov.rs	Statistical Office of the Republic of Serbia	Body responsible for information society statistics
	Poverenik za informacije od javnog značaja i zaštitu podataka o ličnosti www.poverenik.rs	Commissioner for Information of Public Importance and Personal Data Protection	Data protection authority Body responsible for personal data security (Art. 4 e- Privacy Directive) (together with RATEL)
	Registar nacionalnog internet domena Srbije (RNIDS) rnids.rs рнидс.срб	Register of National Internet Domain of Serbia (RNIDS)	Body responsible for domain name policy making and national domain name registry
	Ministarstvo poljoprivrede, trgovine, šumarstva i vodoprivrede www.mpt.gov.rs	Ministry of Agriculture, Trade, Forestry and Water management	Electronic Commerce Directive: body responsible for supervision and national contact point
	Zavod za intelektualnu svojinu www.zis.gov.rs	Intellectual Property Office	Body responsible for the enforcement of intellectual property rights
	Racunarski centar Univerziteta u Beogradu AMRES-CSIRT www.amres.ac.rs	Serbian Academic Network AMRES-CSIRT	Computer emergency response team (CERT)
Turkey	Kalkınma Bakanlığı– Bilgi Toplumu Daire Başkanlığı http://www.bilgitoplumu.gov.tr/	Ministry of Development – Information Society Department	Responsible for information society policy making in general
	Ulaştırma, Denizcilik ve Haberleşme Bakanlığı http://www.ubak.gov.tr/	Ministry of Transport, Maritime Affairs and Communications	Ministry responsible for electronic communications legislation and policy making
	Bilgi Teknolojileri ve İletişim Kurumu (BTK) http://www.tk.gov.tr/	Information and Communication Technologies Authority (ICTA)	National regulatory authority for electronic communications regulation (NRA)  Body responsible for network security (Art. 13a, 13b Framework Directive)
			Body responsible for personal data security (Art. 4 e- Privacy Directive)
			Body responsible for the implementation of the R&TTE Directive
			Electronic Signatures Directive: body responsible for supervision

Country	Name of the body (in original language) Link to website, if available	Name of the body (in English)	Responsibilities (see list below)
			Body responsible for secondary legislation on domain names  Body responsible for data protection in the field of electronic communications
	Rekabet Kurumu http://www.rekabet.gov.tr/	Competition Authority	National competition authority (NCA)
	Radyo ve Televizyon Üst Kurumu (RTÜK) http://www.rtuk.org.tr/	Radio and Television Supreme Council	Broadcasting authority
	Türkiye İstatistik Kurumu http://www.tuik.gov.tr/	Turkish Statistical Institute http://www.turkstat.gov.tr/	Body responsible for information society statistics
	Kültür ve Turizm Bakanlığı http://www.kultur.gov.tr/	Ministry of Culture and Tourism	Body responsible for the enforcement of intellectual property rights
	Orta Doğu Teknik Üniversitesi Nic.tr https://www.nic.tr/	Middle East Technical University Nic.tr	National domain name registry
	TR CERT http://www.tr-cert.gov.tr/	TR CERT	Computer emergency response team (CERT)
Albania	Ministri per Inovacionin Teknologjine e Informacionit dhe Komunikimit www.mitik.gov.al	Minister for Innovation and ICT	Policy making on electronic communication and postal services. Leading information society development process
	Autoriteti i Komunikimeve Elektronike dhe Postare www.akep.al	Electronic and Postal Communications Authority	National regulatory authority for electronic communications  Body responsible for network security (Art. 13a, 13b Framework Directive)
			Body responsible for personal data security (Art. 4 e-Privacy Directive). The Commissioner of Data Protection is the responsible body for data protection in general. AKEP and the Commissioner have signed a MoU for cooperation regarding data protection in electronic communication.
			Body responsible for domain name policy making and national domain name registry
			Body responsible for the implementation of the R&TTE Directive, together with the Market Surveillance Directorate of Ministry of Economy, Trade and Energy (Council of Ministers' decision 331 dated April 14, 2011)

Country	Name of the body (in original language) Link to website, if available	Name of the body (in English)	Responsibilities (see list below)
			Electronic Commerce Directive: body responsible for supervision, together with the Consumer Protection Directorate of Ministry of Economy, Trade and Energy. According to the draft law of amendments of ecommerce law, the responsible institutions will establish national contact points within a month after the law will come into force.
	Agjencia Kombetare për Shoqërinë e Informacionit www.akshi.gov.al	National Agency on Information Society	Government Agency for development of e-government and information society
	Autoriteti i Konkurencës www.caa.gov.al	Competition Authority	National competition authority (NCA)
	Këshilli Kombëtar i Radiotelevizionit www.kkrt.gov.al	National Council of Radio Television	National regulatory authority for broadcasting
	Autoriteti Kombëtar për Çertifikimin Elektronik www.akce.gov.al	National Authority for Electronic Signature	Government Agency responsible for e-signature issues, supervisory body for e-signature service providers
	Zyra Shqiptare e të Drejtave të Autorit www.zshda.gov.al	Albanian Office for the Rights of Authors	Government Agency responsible for rights of authors
	Komisioneri për Mbrojtjen e të dhënave personale www.kmdp.al	Data Commissioner Office	Independent body responsible for protection of personal data.
	Agjencia Kombëtare për Sigurinë Kompjuterike	National Cyber Security Agency (ALCIRT)	Government agency responsible for cyber attacks.
Bosnia & Herzegovina	Ministarsto komunikacija i transporta BiH www.mkt.gov.ba	Ministry of Communications and Transport of B&H	Ministry responsible for electronic communications and information society legislation and policy making * Body responsible for the implementation of the R&TTE Directive ** Electronic Commerce Directive: body (bodies) responsible for supervision and national contact point; Electronic Signatures Directive: body (bodies) responsible for supervision and accreditation ***
	Regulatorna agencija za komunikacije BiH www.rak.ba	Communications Regulatory Agency of B&H	National regulatory authority for electronic communications and audiovisual media regulation (NRA)  Body responsible for network security (Art. 13a, 13b Framework Directive)  Body responsible for the implementation of the R&TTE Directive
	Konkurencijsko vijeće BiH www.bihkonk.gov.ba	Competition Council B&H	National competition authority (NCA)

Country	Name of the body (in original language) Link to website, if available	Name of the body (in English)	Responsibilities (see list below)
	Agencija za statistiku BiH www.bhas.ba	Agency for Statistics B&H	Body responsible for information society statistics****
	Agencija za zaštitu ličnih podataka u BiH www.azlp.gov.ba	Personal Data Protection Agency in B&H	Data protection authority Body responsible for personal data security (Art. 4 e- Privacy Directive)
	Institut za intelektualno vlasništvo BiH www.ipr.gov.ba	Institute for Intellectual Property of B&H	Body responsible for the enforcement of intellectual property rights
	Ministarstvo sigurnosti BiH www.msb.gov.ba	Ministry of Security of B&H	Computer emergency response team (CERT), responsible for cyber-attacks, national alert platforms and harmful content alert hotlines
	Univerzitetski tele-informatički centar (UTIC) www.utic.ba	University tele-informatic centre (UTIC)	Body responsible for domain name policy making and national domain name registry
	tion Society of B&H will be established. garding the development of technical regulations by f B&H. over the domain of ICT Benchmarking.		
Kosovo*	Autoriteti Rregullator i Telekomunikacionit www.art-ks.org	Telecommunications Regulatory Authority	National regulatory authority for electronic communications regulation (NRA) Body responsible for network security (Art. 13a, 13b Framework Directive) Body responsible for the implementation of the R&TTE Directive Will become responsible to operate a CERT under the new Law on electronic communications
	Ministria e Zhvillimit Ekonomik mzhe.rks-gov.net	Ministry of Economic Development	Responsible for electronic communications legislation and policy making Responsible for information society policy making in general Electronic Commerce Directive: body (bodies) responsible for supervision and national contact point
	Komisioni Kosovar i Konkurrencës ak.rks-gov.net	Kosovo Competition Commission	National competition authority (NCA)
	Komisioni I Pavarur për Media www.kpm-ks.org	Independent Media Commission	Audio-visual media regulator (or broadcasting authority)

Country	Name of the body (in original language) Link to website, if available	Name of the body (in English)	Responsibilities (see list below)
	Agjencia Kombëtare për Mbrojtjen e të Dhënave Personale	National Agency for the Protection of Personal Data	Data protection authority (established recently, board appointed by the Assembly in June 2011, no website yet)  Body responsible for personal data security (Art. 4 e-Privacy Directive)
	Ministria e Kulturës, Rinisë dhe Sportit www.mkrs-ks.org	Ministry of Culture, Youth and Sports	Body responsible for the enforcement of intellectual property rights

Table C.3 – Bodies responsible for electronic communications and information society topics

# D. National regulatory authorities

This section examines the effectiveness of the institutional framework and environment in the electronic communications sector. In addition to the scope of NRA powers and responsibilities, this section also seeks to cover the issues associated with the standards of good governance such as *independence*, *accountability*, *transparency*, *participation and effectiveness*.

### 1. NRA structural separation

The table below provides information about state ownership and the control of fixed and mobile telecommunications operators. This includes any 'golden shares', i.e., special powers granted to the state by law or by the articles of association of a company that allow it to maintain a special influence in privatised companies.

Country	Name of operator	State shareholding	Golden share	Government unit responsible for ownership functions
Croatia	-	-	-	-
Iceland	Farice efh	28.1%		Ministry of Finance
FYR Macedonia	A.D. Makedonski Telekom	36.81%	Yes	Ministry of Finance
Montenegro	-	-	-	-
Serbia	Telekom Srbija a.d.	100%	-	Ministry of Finance
Turkey	Türk Telekomünikasyon A.Ş.	30%	Yes	Undersecretariat of Treasury
	Türsat A.Ş.	100%	-	Undersecretariat of Treasury
	Avea İletişim Hizmetleri A.Ş.	24.4%	-	Undersecretariat of Treasury
Albania	Albtelecom sh.a (with Eagle Mobile)	24%		Ministry of Economy, Trade and Energy

Country	Name of operator	State shareholding	Golden share	Government unit responsible for ownership functions
Bosnia &	BH Telecom d.d. Sarajevo	90%	-	Federation of B&H
Herzegovina	Hrvatske telekomunikacije d.d. Mostar	50.1%	-	Federation of B&H
Kosovo*	PTK (Post and Telecommunications Enterprise of Kosovo)	100%	-	Ministry of Economic Development

Table D.1 – State ownership of telecommunications operators

N	otes:	
I۷	ULCO.	

Croatia: Croatian State divest remaining shares in the incumbent Hrvatski Telekom d.d. (HT) as of December 2010 and is no longer shareholder of HT. Deutsche Telekom is

the majority shareholder with a 51% holding, the Croatian War Veterans' Fund owns 7%, State Retirement Fund hold 3.5% and Institutional and private investors own

the remaining 38.5%. Hrvatske telekomunikacije d.d. changed its name into Hrvatski Telekom d.d. in May 2010.

Iceland: The telecommunication industry in Iceland is mostly privatised with little state ownership. Exception is the company Farice ehf, who operates submarine fibre optic

cables from Iceland to Denmark and the UK. Another 26.7% of shares is owned by Landsvirkjun, an energy company owned by the Icelandic State. The remaining

shares are held by Arion bank.

Serbia: In December 2011, OTE, the Greek telephone operator controlled by Deutsche Telekom, agreed to sell its 20% stake in Telekom Serbija back to the company for

€397m.This follows an earlier attempt of the Serbian government to privatise a 51% stake in Telekom Srbija in 2011.

Kosovo\*: The privatisation process of the PTK was initially launched in late 2010 and cancelled in October 2011, re-launched again in 2012.

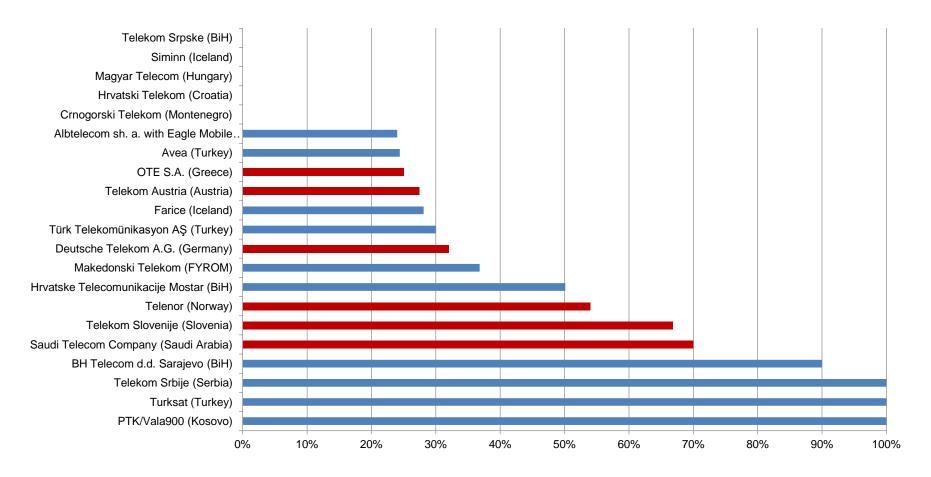


Figure D.1 – State ownership of telecommunications operators: monitored and investing countries

### 2. Division of responsibilities between the government and the NRA

The table below shows:

- whether certain NRA decisions are subject to prior or subsequent approval by the Ministry or the government (e.g. US provider designation, relevant markets to be analysed by the NRA, timing; and
- powers of the Ministry or the government to give binding directions to the NRA.

Country	Government (ministry) approval required for adopting certain regulatory decisions?	Government (ministry) powers to give instructions to NRA?
Croatia	The Radio Frequency Allocation Table is adopted by the minister competent for the electronic communications, based on the proposal of HAKOM Council (Article 81(1) of the Law on Electronic Communications - LEC)	<ul> <li>Under Article 4 LEC the ministry:</li> <li>may give guidelines and instructions to HAKOM concerning the implementation of the established principles and policy objectives for the development of electronic communications;</li> <li>may not influence the adoption of HAKOM decisions in individual cases</li> <li>Any type of influence on HAKOM work that might jeopardise its autonomy and independence is prohibited under Article 7 LEC</li> <li>Article 18(4) LEC states that final decisions and other administrative acts of HAKOM may not be annulled or repealed on the basis of supervision rights, or repealed under emergency procedures, or be made null and void by a competent body.</li> </ul>
Iceland	<ul> <li>The Minister competent for the electronic communications (the Minister of Interior):</li> <li>approves beforehand auctions of frequencies (Article 11 of the Electronic Communications Act –ECA)</li> <li>gives approval if PTA wishes to appeal decisions of the appellate committee to the courts</li> <li>shall determine the tariff for services assigned to PTA covering registration of undertakings, issuing licences and certificates, inspections(Article 14 of the Law on Post and Telecom Administration)</li> <li>approves financial contributions needed for universal service that are reviewed annually by PTA (Article 22 ECA)</li> <li>adopts bylaws foreseen under ECA.</li> </ul>	Article 1 of the Law on Post and Telecom Administration: PTA is an independent institution under the ultimate administration of the Minister of Interior. PTA is independent in regards to all administrative decisions. The meaning of the ultimate administration in this context includes policy making and budgetary issues
FYR Macedonia	<ul> <li>Government issues to AEC its prior consent for the amount of an one-time authorisation fees for radio frequencies assigned subject of public tender procedure (Article 62(3) of the Law on Electronic Communications - LEC)</li> <li>The Minister of Information Society and Administration approves the tender procedure for selection of universal service provider and approves the contract with the universal service provider (Article 6(2), LEC)</li> </ul>	<ul> <li>AEC, in its work and in taking the decisions within the scope of its competencies is independent and not subordinated to any state body or other public legal person or undertaking engaged in operating in the field of electronic communications and is impartial towards them.</li> <li>Government has no legal right to intervene in adopting decisions by AEC (Article 7 LEC).</li> <li>The Ministry carries out supervision over the legality of the work of AEC of electronic communications; and gives opinion on the plan for allocation of radio frequencies (Article 6(1) LEC).</li> </ul>

Country	Government (ministry) approval required for adopting certain regulatory decisions?	Government (ministry) powers to give instructions to NRA?
Montenegro	<ul> <li>The Ministry:</li> <li>adopts bylaws for which the inputs are prepared by EKIP (Article 5 of the Law on Electronic Communications - LEC)</li> <li>issues consent to EKIP for the amount of a one-off registration fee (Article 32 LEC)</li> <li>prescribes criteria and methodology that EKIP shall comply with when issuing enactments related to the amount of fees and the manner of payment for operators of electronic communications networks and service providers, which carry out their activities on the basis of general authorisations and use of limited resources – frequencies and numbers (Article 5 LEC)</li> <li>The government:</li> <li>may undertake corrections to the scope of universal service based on proposal by the Ministry (Article 52 LEC)</li> <li>determines the amount of fee for limited resources by adopting the Financial Plan of EKIP (Articles 84 and 97 LEC)</li> </ul>	<ul> <li>The Law on Electronic Communications in general does not prescribe independence of EKIP from other state bodies or public authorities.</li> <li>Article 130 LEC authorises the Ministry to perform "supervision of legality and purposefulness" of EKIP activities. This supervisory function, however, should not be applied to the regulatory decisions and regulatory rules adopted by EKIP, where EKIP must be independent.</li> <li>EKIP decisions, although directly enforceable, are not final in the administrative procedure and can be appealed to the Ministry. If the Ministry accepts statements in the appeals filed by operators or end-users, EKIP when reassessing its decision shall act in compliance with the Ministry's instructions.</li> <li>LEC also foresees two types of supervisory powers in electronic communications: inspection supervision and expert supervision performed by EKIP. Under the new law on inspection, the inspectorate is established, and the inspector for telecommunication will be transferred from the Ministry to the inspectorate.</li> </ul>
Serbia	<ul> <li>The Statute of RATEL is subject to approval of the government.</li> <li>The government approves by-laws that define all fees charged by RATEL, concerning frequency usage, radio station licence issuance, numbering usage, annual fees for performing electronic communications activities etc.</li> <li>Under Article 83, Law on Electronic Communications – LEC, the government approves the Frequency Allocation Plan on a proposal made by the ministry that was prepared by RATEL.</li> <li>Under Article 84, LEC, the ministry adopts the Frequency Assignment Plan on a proposal made by RATEL.</li> <li>Under Article 104, LEC, the ministry adopts the Act on a switchover from analogue to digital broadcasting of television programs on a proposal made by RATEL.</li> <li>Under Article 55, LEC on a proposal made by RATEL, the ministry determines universal service geographic scope, the number and the quality of services as well as the necessary requirements for the accessibility for disabled persons.</li> </ul>	<ul> <li>Article 7, LEC states that RATEL is functionally and financially independent of government authorities, organisations and entities, as well as organisations performing electronic communications activities.</li> <li>However, under the same article, the ministry supervises the lawfulness and appropriateness of functioning of RATEL in performing the entrusted duties.</li> <li>Under Article 23, LEC, RATEL is required, before publication of its proposed bylaws and secondary acts, to get a non-binding opinion from the ministry on the compliance of the proposed regulation with the constitution and relevant laws.</li> <li>Under Articles 132-135, LEC, the Ministry is authorised to perform inspection supervision of electronic communication activities.</li> </ul>
Turkey	<ul> <li>The Council of Ministers approves upon the proposal by ICTA and the resolution by the Ministry the minimum one-off fees for rights of use for frequencies and numbers.</li> <li>The Ministry is the responsible body for all Universal Service regulations and execution according to Universal Service Law No. 5369, and Decree Law No. 655.</li> </ul>	<ul> <li>ICTA shall act independently while performing its duties. Not any body, office, authority or person could direct or instruct ICTA (Article 5, Law on the Establishment of the Information and Communication Technologies Authority).</li> <li>However according to the article 45 of the Decree Law No. 649 dated 17.08.2011, the minister is entitled to audit performance and activities of national regulatory authorities in all aspects.</li> </ul>

Country	Government (ministry) approval required for adopting certain regulatory decisions?	Government (ministry) powers to give instructions to NRA?
Albania	The minister approves decisions related to:  assignment of frequencies which are limited and require tender procedures (Articles 5, 65, 66, 68, 69 of the Law on Electronic Communications No 9918 –LEC)	AKEP is regulatory body in the field of electronic communications and postal service which supervises the regulatory framework defined by this law, and by the Law on postal service and the development policies defined by the Council of Ministers (Article 6(1) LEC).
	selection of Universal service provider (Article 5, 26 LEC)	AKEP is a public, independent, non-budgetary, legal entity, which exercises its activity in compliance with legislation in force. AKEP in its work and decision-making within its competencies is independent (Article 6(2) LEC).
		AKEP is chaired by the governing council, which is independent in the decision making, and it functions based on the internal regulation adopted by its council (Article 114 LEC).
		The minister may issue orders and instructions for completing the regulatory framework defined by this Law and government's policies in the sector of electronic communications. (Article 5 LEC)
Bosnia & Herzegovina	Council of Ministers, based on a proposal of RAK:  defines scope of universal service and financing mechanism and designates telecommunication operators responsible for provision of USO services (Article 12 of the Law on Communications – LC)  adopts the schedule of infractions and resulting penalties that may be imposed by RAK (Article 46 of the LC).	Neither the Council of Ministers, nor individual Ministers nor any other person shall in anyway interfere in the decision-making of RAK in individual cases (Article 36, Section 2 of the Law on Communications)     As policy maker, the Council of Ministers issues obligatory political guidelines (sector policy). The sector policy defines the regulatory priorities and the action plan for RAK, although it does not influence individual RAK decisions.
Kosovo*	<ul> <li>The ministry is responsible for developing the policies in the telecommunications sector, including the development of relevant legislation.</li> <li>The tender documentation for fixed telephony and mobile spectrum licences is prepared by the ministry.</li> <li>The government approves the National Radio Frequencies Plan.</li> </ul>	<ul> <li>TRA may include a grant of the right to use a radio frequency in the license for the provision of mobile public radio services, in accordance with the policy set by the Ministry (Article 33 of the Law)</li> <li>TRA defines the scope of universal service following a recommendation from the Ministry. The Ministry may recommend modifications to the definition of the universal service scope to TRA (Article 49 of the Law)</li> </ul>

Table D.2 – Regulatory decisions subject to government approval

#### Notes:

Iceland:

PTA is an independent body under the ultimate direction of the Minister of Interior. Responsibility for the daily activities of PTA lies with its Director who is appointed by the Minister of Interior. PTA advises the Minister on matters relating to post and telecommunications. PTA operates according to the Act on the Post and Telecom Administration, passed by the Icelandic Parliament in July 2003 and amended in December 2006 by an Act No. 172, which entered into force on January 1, 2007. PTA has the duty to inform the Ministry if PTA believes there is a need for changes in the law (Article 3 law on PTA). Draft legislation is always submitted by the Ministry for public consultation. The result depends on the outcome of the consultation in case of valid observations of stakeholders.

Kosovo\*:

The draft new law on electronic communications is expected to be adopted by the end of the first half of 2012.

### 3. Appointment and dismissal of the NRA management

The EU 2009 regulatory framework introduced an explicit requirement for clear and defined in advance provisions on the dismissal of the management of the NRAs and transparent procedures where the reasons for the dismissal are clearly stated. The rules and procedures for appointment and dismissal of the NRA management are covered in the table below, addressing:

- NRA management structure;
- government bodies involved in the appointment and dismissal of the NRA management;
- duration of office term of the NRA management; and
- grounds for removal of the NRA management.

Country	NRA management	Bodies involved in appointment	Duration of office term (and reappointment possibility)	Bodies involved in dismissal	Grounds for dismissal
Croatia	Council	Parliament, based on the proposal of the government	5 years Possibility of reappointment without limitation	Parliament, based on the proposal of the government	<ul> <li>Upon own request</li> <li>Provision of false information or failure to give information about circumstances important for the appointment</li> <li>If his/her conduct brings in question his/her reputation or reputation HAKOM, i.e. his/her independence or independence of HAKOM</li> <li>Inability to properly carry out his/her duty for more than six months in the row</li> <li>Permanent loss of ability to perform his/her duty</li> <li>Final conviction of a criminal offence</li> <li>Non-fulfilment of objectives and tasks defined in HAKOM annual work</li> </ul>
					programme     Conflict of interests

Country	NRA management	Bodies involved in appointment	Duration of office term (and reappointment possibility)	Bodies involved in dismissal	Grounds for dismissal
	Director	Council, after the public recruitment procedure	4 years Possibility of reappointment without limitation	Council	<ul> <li>Upon own request</li> <li>Provision of false information or failure to give information about circumstances important for the appointment</li> <li>If his/her conduct brings in question his/her reputation or reputation of HAKOM, i.e. his/her independence or independence of HAKOM</li> <li>Inability to properly carry out his/her duty for more than six months in the row</li> <li>Permanent loss of ability to perform his/her duty</li> <li>Final conviction of a criminal offence</li> <li>Non-fulfilment of objectives and tasks defined in HAKOM annual work programme</li> <li>Conflict of interests</li> </ul>
Iceland	Managing director	Appointed by the Minister of Interior	5 years Possibility of reappointments without limitation	Minister	General Law on rights and duties of public officials and employees of the State, no. 70-1996, Chapter VI, Paragraph 26-37  Resignation upon own request Repeated or gross negligence at work Failure to comply with the budget requirements Failure to achieve satisfactory results Conflict of interest Conviction for a criminal act Inability to perform duties for reasons of illness or injury
FYR Macedonia	Commission	National Assembly	5 years 2 consecutive term limitation	National Assembly	<ul> <li>Upon own request</li> <li>Sentence for a criminal act in duration of more than six (6) months or a safety measure imposed for prohibition to perform professional activities and duties for more than six (6) months</li> <li>Absence from three consecutive meetings of the Commission or from five meetings in aggregate during any twelve month period of his term of office</li> <li>Conflict of interest</li> <li>Non-submission of required annual reports or annual activity plan of AEC to the National Assembly may be ground for collective dismissal of the Commission</li> </ul>

Country	NRA management	Bodies involved in appointment	Duration of office term (and reappointment possibility)	Bodies involved in dismissal	Grounds for dismissal
	Director	Commission, after the public recruitment procedure	5 years 2 consecutive term limitation	Commission	<ul> <li>Upon own request</li> <li>Inability to perform duties for reasons of illness lasting longer than six (6) months</li> <li>Acceptance of a position or practice that is incompatible with his/her function of a Director</li> <li>In case of being convicted for a crime by a prison sentence of more than six (6) months or a safety measure has been imposed for prohibition to conduct professional activities and duties in duration of more than six (6) months</li> <li>Violation of the provisions of this Law or the provisions thereunder as defined in the auditing report</li> <li>Abuse of his position</li> </ul>
Montenegro	Council	Parliament, after the public recruitment procedure	5 years 2 consecutive term limitation	Parliament	<ul> <li>Resignation</li> <li>Conviction of a crime, or an act making them discreditable for performing duties</li> <li>Violations of the Law or the provisions thereunder</li> <li>Performing duties incompetently or negligently</li> <li>By their performance or conduct damage the reputation and independence of EKIP</li> <li>Permanent loss of ability to perform duties</li> <li>Conflict of interest</li> </ul>
	Executive Director	Council, after the public recruitment procedure	4 years 2 consecutive term limitation	Council	Resignation Conviction of a crime, or an act making them discreditable for performing duties Violate the Law or the provisions thereunder, perform duties incompetently or negligently By their performance or conduct damage the reputation and independence of EKIP Permanent loss of ability to perform duties Conflict of interest

Country	NRA management	Bodies involved in appointment	Duration of office term (and reappointment possibility)	Bodies involved in dismissal	Grounds for dismissal
Serbia	Managing board	National Assembly, based on the list of the candidates composed by the government following a public call	5 years 2 consecutive term limitation	National Assembly, at its own initiative or based on the proposal of the government	<ul> <li>Candidate provided incorrect information or failed to provide information that was relevant to the appointment</li> <li>Conflict of interest</li> <li>Inability to exercise professional duties for more than 6 months</li> <li>Refusal or failure to perform the duties of a member of the Managing Board without reasonable cause for a minimum of three consecutive months or for a minimum of six months with interruptions in the course of a year</li> <li>Negligence or improper work</li> <li>Conviction for a criminal act</li> </ul>
	Executive director	Managing Board	5 years Possibility of reappointment without limitation	Managing Board	<ul> <li>Candidate provided incorrect information or failed to provide information that was relevant to the appointment</li> <li>Conflict of interest</li> <li>Inability to exercise professional duties for more than 6 months</li> <li>Failure to submit annual or periodical reports to the Managing Board in a timely manner</li> <li>Disposal of the RATEL funds contrary to the adopted financial plan</li> <li>Negligence or improper work</li> <li>Conviction for a criminal act</li> </ul>
Turkey	Board	two members that represent the telecommunications sector are nominated by operators having at least 10% market share     one member that represents the consumers nominated by the Ministry of Customs and Trade with Turkish Union of Chambers and Commodity Exchanges     three members of whom one represents	5 years Possibility of reappointment without limitation	Council of Ministers	<ul> <li>Inability to work due to serious illness</li> <li>Failure to comply with the requirements for being appointed</li> <li>Professional misconduct</li> <li>Criminal offences</li> </ul>

Country	NRA management	Bodies involved in appointment	Duration of office term (and reappointment possibility)	Bodies involved in dismissal	Grounds for dismissal
		wireless services and two represent the telecommunication services, and the Chairman of the Board are nominated by the Ministry of Transport, Maritime Affairs and Communications.			
Albania	Governing Council Executive Director	Parliament, based on the proposal of the Council of Ministers Parliament appoints one of the members of the Governing Council as the Chairman, who also acts as the Executive Director	5 years 2 consecutive term limitation	Parliament, based on the proposal of the Council of Ministers	<ul> <li>Physical or mental incapability</li> <li>Conviction for a criminal act</li> <li>Appointment as a Member of Parliament or a local government body</li> <li>Inability to exercise professional duties for more than 6 months</li> <li>Acts in contradiction with provisions of the Law.</li> </ul>
Bosnia & Herzegovina	Council	Parliamentary Assembly, based on the list of the candidates presented by the the Council of Ministers	4 years 2 consecutive term limitation	Parliamentary Assembly	<ul> <li>Illness resulting in incapability of performing his or her duties</li> <li>Conviction of a crime punishable by imprisonment</li> <li>A conflict of interest by a member of the Council of RAK, as defined in the RAK Code of Ethics</li> <li>Resignation</li> <li>Non-performance of duties for members of the Council of RAK, as reflected by failure to participate in three (3) or more successive meetings</li> <li>Violation of the RAK Code of Ethics</li> </ul>
	Director General	Council of Ministers based on the proposal of RAK Council	4 years 2 consecutive term limitation	Council of Ministers	<ul> <li>Illness rendering the Director General of RAK incapable of performing his or her duties</li> <li>Conviction of a crime punishable by imprisonment</li> <li>A conflict of interest by the Director General, or a member of the Council of RAK, as defined in the RAK Code of Ethics</li> <li>Resignation</li> <li>Failure of the Director General to perform his/her duties pursuant to this Law, internal RAK rules or contract of employment</li> <li>Violation of the RAK Code of Ethics</li> </ul>

Country	NRA management	Bodies involved in appointment	Duration of office term (and reappointment possibility)	Bodies involved in dismissal	Grounds for dismissal
Kosovo*	Board	National Assembly, based on the proposal of the government The Minister of Economic Development, acting in consultation with the Prime Minister appoints one member of the Board as the Chairman, who is also responsible for the administration and operational issues	5 years 2 consecutive terms limitation	National Assembly	<ul> <li>Mental or physical incapacity</li> <li>Disqualification under the provisions of the present Law</li> <li>Declaration of bankruptcy or insolvency</li> <li>Unexcused absence from three consecutive official and ordinary meetings of the TRA</li> <li>Conviction of a criminal offense</li> <li>Personal, spousal or direct family interest in a license awarded under the provisions of this Law</li> <li>Beneficial financial gains obtained from any telecommunications equipment supplier or service provider</li> <li>Professional incompetence or misconduct</li> </ul>

Table D.3 – Appointment and dismissal of the NRA management

# 4. NRA budget and sources of financing

The NRA financial and operational means play an important role in ensuring a stable and predictable regulatory environment. Therefore, the financial resources available to the NRA, the number of employees and its ability to attract and retain suitably qualified staff are particularly important aspects for assessing the capacity of the NRA to operate effectively.

The EU regulatory framework requires that the NRAs are self-financing and that their fees should be set at the minimum level sufficient to cover their administrative costs.

The table below presents information on the operational expenses of the NRAs in 2008-2011.

Country	2009	2010	2011
Croatia	8,343	8,988	11,705
Iceland	1,567	1,947	1,961
FYR Macedonia	2,126	3,343	4,642
Montenegro	4,069	5,182	3,370
Serbia	5,803	6,460	7,200
Turkey	117,522	67,308	90,417

Country	2009	2010	2011
Albania	1,486	1,360	1,639
Bosnia & Herzegovina	4,467	4,360	4,485
Kosovo*	1,471	1,546	1,169

Table D.4 – NRA operational expenses and running costs, in thousands Euro

The next table shows NRA revenue in 2010 together with its sources and the allocation of the collected funds. In this table, the term "authorisation fees" is used to describe one-off fees related to the issue of all types of authorisations, including individual licences.

Country	NRA			sources	Funds allocation						
	revenue	Annual revenue-based fees	Authorisation/ registration fees	Spectrum fees	Numbering fees	US fund contributions	Other	NRA operational expenses	State budget	US fund	NRA reserves
Croatia	12,567	4,756	-	6,325	1,015	-	471	11,705	-	-	861
Iceland	1,961	890	0.4	750	231	232	89	1,961	-	232	-
FYR Macedonia	7,828	938	-	5,776	859	-	255	4,642		-	3,186
Montenegro	4,749	2,646	5	1,434	529	-	135	3,370	1,379	-	-
Serbia	13,095	3,227	2,304	6,288	2,295	-	-	7,200	5,895		-
Turkey	582,375	-	-	490,360	-	-	92,027	90,417	291,343	103,501	97,114
Albania	1,938	-	-	1,682	171	-	86	1,639	299	-	-
Bosnia & Herzegovina	5,348	2,745	-	217	2,372	-	-	2,485	1,635	-	-
Kosovo*	18,044	652	14,257	2,672	424	-	38	1,169	16,874		-

Table D.5 – NRA revenue and allocation of funds in 2011, in thousands Euro

Notes: Iceland:

The revenue of the NRA stems from 1) annual frequency fees 2) turnover fee 3) numbering fee 4) fees for inspection and licences. The revenue goes to the state budget and is reallocated annually in the state budget process to the PTA.

The NRA and the US fund have separate streams of income and are treated separately in the state budget. The income for the US fund comes from turnover fee, which is separate from the turnover fee collected by the PTA. The US fund reported in the table above is not calculated as part of the total revenue of the NRA.

# 5. NRA staffing

The table below shows:

- the NRA staff and separately, the number of qualified employees dealing with
  - general regulatory issues;
  - frequency monitoring tasks; and
- legal or financial restrictions to the NRA's ability to recruit new staff or to set the level of remuneration (e.g. salaries tied to civil service rates).

Country		Employees of the NRA in 201	11	Restrictions to the NRA
	Total	Handling electronic communications regulatory tasks	Handling frequency monitoring tasks	ability to recruit new staff and/or to set salary level
Croatia	174	63	20	The recruitment of new staff is regulated by the NRA's Annual Activity Programme. Funds for salaries are ensured by the NRA's Annual Budget. Both the Annual Activity Programme and the Annual Budget are subject to the prior approval by the government.
Iceland	26	11	5	No legal restrictions
FYR Macedonia	121	44	20	No legal restrictions
Montenegro	64	22	13	No legal restrictions The number of staff and salaries are set according to the financial plan approved by parliament.
Serbia	105	42	17	Number of employees is defined in the financial plan approved by the government.
Turkey	761	378	35	Up to now, salary levels of the personnel were set according to an internal system of grades. Upper limit of the salary of the Chairman of the ICTA Board was that of the Undersecretary of the Prime Ministry. Salaries of other personnel were set accordingly.  However, according to the Decree Law No. 666 dated 02.11.2011, ICTA may no longer set salary of its newly recruited staffs independently. That is, all newly recruited experts will have the same financial and social rights as experts who work in other Ministries and regulatory authorities.  ICTA staff recruited before the new law continues to receive salaries set according to internal grade system.
Albania	60	32	8	The structure and the level of salaries are determined in accordance with the Law No. 9584, dated July 17, 2006 that links the salary levels of independent institutions to the salary levels of civil service positions.

Country	Employees of the NRA in 2011			Restrictions to the NRA		
	Total	Handling electronic communications regulatory tasks	Handling frequency monitoring tasks	ability to recruit new staff and/or to set salary level		
Bosnia & Herzegovina	113	29	29	The Law on Salaries and Allowances for Civil Servants of June 23, 2008 brings the salary level of the NRA staff within the pay scales for civil servants. The NRA has to follow the established scales for the basic salary levels and is only able to increase salaries of its staff through an additional regulatory bonus scheme.		
Kosovo*	33	8	8	The number of employees and the recruitment is restricted by the Parliament.  The structure and the level of salaries of TRA staff are linked to civil servant pay scales.		

Table D.6 – NRA staffing

### 6. NRA accountability

Independence needs to be reconciled with measures to ensure that the regulator is accountable for its actions. Such measures may include establishing certain procedures whereby the NRA performance is reviewed against specific objectives, ensuring that the regulator provides a report of its activities and its use of financial resources. Lastly, it is important to establish an effective appeal mechanism against regulatory decisions, with an appeal body independent of the parties involved.

The table below shows the requirements for:

- publication by the NRA of an action plan setting specific targets and deliverables;
- reporting by the NRA of its activities and the use of financial resources; and
- review of the NRA performance by an independent body.

Country	NRA action plan and reporting		Financial accountability		
	Approval and publication procedure (bodies involved: government, parliament)	Review of the results (bodies involved)	NRA budget approval procedure	Reporting and audit requirements	Rules on allocation of surplus NRA budget
Croatia	Annual activity plan is subject of the prior consent of the government Publication in the Official Gazette and on HAKOM website	Annual report submitted to the government and Parliament	Annual financial plan is subject of the prior consent by the government	The Annual and Financial report are submitted to the government and Parliament The Financial report is subject to the auditing, in accordance with the national auditing regulations.	HAKOM transfers the surplus of collected funds to its budget for the next calendar year. These funds could be used for the development of electronic communications and postal services in accordance with the strategies and implementation plans of the government adopted pursuant to the Electronic

Country	NRA action plan a	NRA action plan and reporting		Financial accountability		
	Approval and publication procedure (bodies involved: government, parliament)	Review of the results (bodies involved)	NRA budget approval procedure	Reporting and audit requirements	Rules on allocation of surplus NRA budget	
					Communications Act and the law regulating postal services sector, and in compliance with the rules on state aid.	
Iceland	Ministry of Interior	Ministry of Interior	Ministry of Finance and Ministry of Interior	The Icelandic National Audit Office	In practice remaining funds are transferred to capital reserves. However in the state budget process the allocation of the capital is restricted by the annual state budget law, resulting in the situation that the PTA has a surplus ('reserved equity') which it is not authorised to use for now.	
FYR Macedonia	National Assembly approves Annual Financial and Operational Plan of AEC Publication on AEC website	Annual Report is approved by the National Assembly	Annual Financial and Operational Plan are approved by the National Assembly	Financial plan is audited by the commercial and independent audit company. Another second audit can be conducted by the State audit body	AEC transfers the surplus of collected funds to its budget for the next calendar year. All these funds or their part could be used for development of electronic communications and information society services of Macedonia, in accordance with the approved financial plan of AEC.	
Montenegro	Work program is delivered to the Parliament for adoption. Publication on EKIP website	EKIP prepares Annual Activity Report for previous year (Article 16 of LEC). The Report is adopted by EKIP Council upon the government consent (Article 16 of LEC) Parliament adopts the Annual Activity Report of EKIP (Amendments to LEC – 2010) Reports shall be published on EKIP website	EKIP delivers its Financial Plan for next calendar year to the government for making a proposal to Parliament. The Financial Plan shall be submitted to the Parliament for adoption, as a separate part of the Budget	The audit of the Financial Plan is performed by independent auditors appointed by the government	If the total revenue is higher than total expenses, the surplus in funds shall be transferred to a separate account and may only be used for meeting legal obligations related to EKIP operations in the next calendar year	

Country	NRA action plan a	nd reporting	Financial accountability		
	Approval and publication procedure (bodies involved: government, parliament)	Review of the results (bodies involved)	NRA budget approval procedure	Reporting and audit requirements	Rules on allocation of surplus NRA budget
Serbia	Managing Board adopts the annual Framework Business Plan of RATEL, in accordance with the strategic documents and action plans for the electronic communications sector  Annual reports on the activities of RATEL are made publicly available on RATEL's website	Managing Board submits an annual report on the activities of RATEL to the National Assembly Upon request of the National Assembly or the government, RATEL submits a report of its activities	The financial plan is adopted by the Managing Board and is subject to government approval The financial plans are made publicly available on RATEL's website	Managing Board adopts the annual financial report of RATEL, which is subject to auditing by an independent authorised auditor.  The annual financial report and the authorised auditor's report are submitted to the government  The annual financial reports are made publicly available on RATEL's website	According to the new Law on Cinematography of Dec. 26, 2011, RATEL is required to transfer 10% of its gross annual revenue from the collected fees to the State Cinema Centre to promote national film industry.      The surplus of collected funds (net revenue) RATEL transfers to the state budget. A part of this surplus is transferred to the budget of the Autonomous Province of Vojvodina, in proportion to the revenue of electronic communications operators and service providers within the province. These funds then must be allocated to the development of the electronic communications and information society sector.
Turkey	Annual Work Plan is approved by the ICTA Board before the publication on ICTA website.	Annual Report is approved by the ICTA Board before the publication on ICTA website	Annual budget of ICTA is approved by Parliament	The Financial Report is submitted to the Turkish Court of Auditors.	20% of the surplus is transferred to R&D Fund of Ministry of Transport, Maritime Affairs and Communication. 20% of the surplus is transferred to Universal Service Fund and 60% to the state budget.
Albania	AKEP reports to Albanian parliament once a year by submitting the Annual Report. The parliament issues a Resolution, which covers assessment on AKEP work for the previous year and also the main objectives/plans for the next year.	Results of AKEP work are presented in the Annual Report, submitted to the parliament.	According to article 117, of the Law: Financing and Budget of AKEP Financing sources of the Electronic and Postal Communications Authority are the payments according to the definitions in Article 24 and 119 (payments for the supervision of the market	According to article 117, of the Law: Financing and Budget of AKEP AKEP shall keep full and accurate accounts of actual expenses, in compliance with the Albanian legislation on accounting.	According to article 117, of the Law: Financing and Budget of AKEP Any amount exceeding the expenses of AKEP shall go to the State Budget

Country	NRA action plan a	nd reporting		Financial accountability		
	Approval and publication procedure (bodies involved: government, parliament)	Review of the results (bodies involved)	NRA budget approval procedure	Reporting and audit requirements	Rules on allocation of surplus NRA budget	
	Based on the Resolution of the Parliament, AKEP board approves its action plan.		(maximum 0.5% of operator annual turnover), payments for frequencies and numbers) of this Law and other legal acts in force.  Not later than six months before a financial year starts, AKEP makes a forecast of the operational cost fund and submits it to the Council of Ministers for approval.			
Bosnia & Herzegovina	RAK Council prepares annual activity and financial report and submits it to the Council of Ministers.  The Council of Ministers publishes the annual activity and financial report	RAK Council receives reports from the Director General. Council of the Ministers receives the annual activity and financial report from RAK	Council of Ministers approves budget, based on proposal of RAK.	The use of funds by RAK is subject to review by the Supreme Audit Institution and in addition is audited by an independent auditor every year.	RAK transfers the surplus of collected funds to the state budget in accordance with the decision of the Council of Ministers	
Kosovo*	TRA Board approves the action plan and its publication.	Parliament reviews the results on annual basis	Annual budget is subject to the prior approval of the Parliament	Financial statements are audited by independent auditor	TRA transfers the surplus of collected funds compared to the Annual financial plan to the state budget.	

Table D.7 – NRA accountability

### Notes:

Turkey:

As indicated in Report 1, Court of Auditors, Inspection Council of Prime Ministry and the State Inspection Council of Presidency may probe activities of ICTA. However, none of these are regular investigations and they are not directly related to implementation of Work Plan.

# 7. NRA enforcement powers

The table below shows:

- powers of the NRA to impose fines, specific instances when a fine can be imposed and the level;
- specific examples of recourse to these measures by the NRA in practice.

Country	NRA powers t	o impose fines	Applied in practice (recent examples)	
	Directly or only by referring to a court	Maximum amount of fine		
Croatia	By referring a case to a competent Misdemeanour Court	5% of the total annual gross revenue earned by providing electronic communications networks and services in the year preceding the year in which the violation was committed	Several proceedings are pending before the courts.	
Iceland	PTA may impose penalties for the failure to comply with a specific obligation by a set deadline.  No general powers to impose fines for the breach of legislation. Ideas of introducing an authorisation for the NRA to impose fines were discussed in the parliament, however no conclusion was reached, and therefore the NRA's powers remain the same for now.	€3,030 (ISK 500,000) per diem for the failure to comply with the obligations by the set deadline	None All the cases have been resolved before the deadlines.	
FYR Macedonia	By referring to a court in compliance with the Law on Misdemeanours or the Law on Criminal Procedures	10% of the total annual revenues acquired during the commercial year prior the year when the misdemeanour was performed or of the total revenue acquired for a shorter period of the year preceding the misdemeanour, provided that the legal entity commenced its operations during that year	None	
Montenegro	By referring case to a competent court	Three hundred fold minimal wages in Montenegro (ca €16,500)	A couple of infringement proceedings have been launched in compliance with the law, with decisions still pending.	
Serbia	By referring case to a competent court	€19,618 (RSD 2,000,000)	None	
Turkey	ICTA may impose fines directly	3% of the total annual revenue	A fine corresponding to 0.2% of TTNET's (subsidiary of incumbent) 2010 net sales (€2,030,739 (TRY 4,975,336)) was applied, because of the lack of measure to protect subscribers' personal data.	
Albania	AKEP may impose fines directly	10% of the previous year turnover	None	

Country	NRA powers to impose fines		Applied in practice (recent examples)
	Directly or only by referring to a court	Maximum amount of fine	
Bosnia & Herzegovina	RAK may impose fines directly	€76,695 (BAM 150,000) In case of repeated violations, €153,390 (BAM 300,000)	In September 2011 RAK imposed unique fines of €15,338 (BAM 30,000) on two mobile operators for delaying introduction of number portability.  In February 2012, one of the mobile operators was fined additionally €48,572 (BAM 95,000) for repeated delaying of number portability.
Kosovo*	TRA may impose fines directly	€250,000	In 2010 TRA issued three fines, the highest fine issued was €150,000

#### Table D.8 - NRA enforcement powers

Notes:

Iceland: PTA may impose and collect fines from electronic communications undertakings and postal operators failing to fulfil the obligations prescribed for them or other

commitments imposed upon them in accordance with the Electronic communications Act and the Postal Services Act. Fines may be from ~€303 to €3,030 (ISK 50,000 to ISK 500,000) per day. Such fines are enforceable by execution; cf. the fifth paragraph of Article 1 of Act No. 90/1989, on enforcement proceedings. Referral to the

Rulings Committee for electronic communications and postal affairs shall postpone execution but the Committee's rulings are enforceable by execution.

Turkey: Operators have the right to appeal after imposition of fine.

### 8. Resolution of disputes between undertakings

The table below shows whether the NRAs are authorised to resolve commercial disputes and describes the applicable procedures and the timeframe.

Country	Type of commercial disputes that can be resolved by NRAs	Dispute resolution procedures and deadlines	Publication of disputes by the NRA
Croatia	<ul> <li>Disputes between electronic communications network operators.</li> <li>Disputes between electronic communications network operators and providers of value added services.</li> </ul>	<ul> <li>HAKOM intervention after 45 days of unsuccessful negotiations on request of the involved operators</li> <li>HAKOM issues binding decision within shortest time possible or maximum 120 days from receiving the request</li> <li>HAKOM decision must be implemented within 15 days from the day of its issue to the parties unless a different term is determined by decision.</li> </ul>	In the Official Gazette and on HAKOM's website, taking into account the confidentiality of business information.

Country	Type of commercial disputes that can be resolved by NRAs	Dispute resolution procedures and deadlines	Publication of disputes by the NRA
Iceland	Disputes between electronic communications network operators	<ul> <li>Should disputes arise between undertakings operating public electronic communications networks or providing public electronic communications services, or between postal operators, concerning obligations under the Electronic communications Act or the Postal Services Act, a party to the dispute may refer the case to PTA.</li> <li>PTA shall seek to reconcile the parties.</li> <li>Should they fail to reach an agreement, PTA may resolve the dispute with a decision as rapidly as possible, and no later than within four months, except in exceptional circumstances</li> </ul>	On PTA's website, taking into account the confidentiality of business information.
FYR Macedonia	Disputes between operators of electronic communications networks and service providers upon a proposal by either party to the dispute.	<ul> <li>AEC shall initiate a dispute resolution procedure ex officio or at the request by a party to the dispute.</li> <li>AEC shall apply the provisions of the Law on General Administrative Procedure to the dispute resolution procedures of AEC</li> <li>AEC is obliged to resolve the dispute within 42 (forty-two) days from the date of receiving the proposal for initiation of a dispute resolution procedure. The deadline for resolution of the dispute may be extended if it is necessary due to the complexity of the procedure, by in no case shall exceed four (4) months.</li> </ul>	On AEC's website, taking into account the confidentiality of business information.
Montenegro	Disputes among entities in the market of electronic communications.	<ul> <li>EKIP has right to take decision about the subject of dispute upon the request of one of the parties in dispute</li> <li>The decision shall be taken within 30 days upon submitting a request for settling a dispute</li> <li>Article 19, LEC prescribed that the NRA shall reach decision within the period of 90 days after the submission of the request. However, the Law on improvement of business environment reduced this period to 30 days.</li> <li>The decision is enforceable in accordance with the Law on general administrative procedure.</li> </ul>	On EKIP website, taking into account the confidentiality of business information.
Serbia	Disputes between electronic communications network operators.	RATEL intervenes after 60 days of unsuccessful negotiations on request of the involved operators     RATEL issues binding decision within shortest time possible or maximum 60 days from receiving the request	On RATEL's website

Country	Type of commercial disputes that can be resolved by NRAs	Dispute resolution procedures and deadlines	Publication of disputes by the NRA
Turkey	Law No 5809 on Electronic Communications, article 18(1), ICTA is entitled to initiate dispute resolution procedure between parties upon the request of any party regarding access issues which are stated in the Law.	Bylaw on Access and Interconnection, article 18:  In case that no agreement is established within utmost two months following a new access request or that any dispute arises within the scope of existing access contract, any of the parties may apply to ICTA for the dispute settlement procedure  ICTA notifies the other party within seven days that dispute resolution has been requested. The operator submits its views, and information and documents regarding the issue to ICTA within fifteen days upon the receipt of notification  ICTA shall, within thirty days following the date when information and documents in question have been received, decide whether to accept the dispute resolution request	On ICTA's website, taking into account the confidentiality of business information.
		<ul> <li>ICTA is authorised to determine terms, conditions and prices of access agreement that are the subject matter of the dispute within two months following the date when the dispute resolution commenced</li> <li>In case the request for dispute resolution is related to a service not offered beforehand, the content of the request requires a comprehensive study and information gathering process, and in the other exceptional cases ICTA deems necessary, this period may be extended with a further two months.</li> </ul>	
Albania	Disputes between providers of electronic communications networks and services	<ul> <li>If the undertakings fail to reach an agreement on access and interconnection within 45 days from the receipt of the access or interconnection request.</li> <li>Procedures and deadlines are based on Code of Administrative Procedures that allows a maximum of 3 months for dispute resolution.</li> <li>For access and interconnection disputes, AKEP issues a binding order that has to be implemented by parties within 1 month of the date of the order.</li> <li>In cases where the undertakings cannot reach an agreement related to the payment/fee for the joint use of the infrastructure and equipment, AKEP, within 30 days from the date of request submission by any either concerned party, shall decide the amount of payment/fee in compliance with the respective regulation approved for this purpose.</li> </ul>	On AKEP's website.
Bosnia & Herzegovina	Disputes between providers of electronic communications networks and services: e.g. failure to reach an interconnection agreement	<ul> <li>RAK intervenes after 6 weeks of failed negotiations on request of the involved operators</li> <li>RAK issues binding decision within 6 (in exceptional cases 10) weeks from receiving the request.</li> </ul>	No obligation to publish the decisions on disputes.

Country	Type of commercial disputes that can be resolved by NRAs	Dispute resolution procedures and deadlines	Publication of disputes by the NRA
Kosovo*	Disputes involving service providers and owners of land and facilities	TRA shall undertake such dispute resolution procedures, either at the request of any of party to a dispute under paragraph one (1) of this section, or of its own motion.	No obligation to publish the decisions on disputes
		Upon receipt of a request by party to commence dispute resolution procedures, TRA shall have not longer than six (6) weeks to collect information for the purpose of accepting or rejecting such request.	
		Proceeding will end within the 30 days period from the date of the decision to proceed with the request, exception to this, are cases that foresee otherwise, or when postponement is due to exceptional circumstances.	

Table D.9 – Resolution of disputes between undertakings

# 9. Appeal procedures

The table below provides an overview of the national appeal mechanisms against NRA decisions.

Country	Appeal body	Automatic suspension of the NRA decision on appeal?	Can appeal body rule on merits of a case?	Third party rights of appeal?	Average duration of an appeal procedure
Croatia	High Administrative Court	No	Yes	Yes, if it can prove that it has a legitimate interest in the case	2 years A progress was made by the Administrative Court during 2010 and 2011; with some appeals solved in a time limit shorter than 1 year. A party can appeal the NRA's decision within 30 days from the date of receipt of the decision. There is no time limit for appeal procedure set by law

Country	Appeal body	Automatic suspension of the NRA decision on appeal?	Can appeal body rule on merits of a case?	Third party rights of appeal?	Average duration of an appeal procedure
Iceland	First instance: Rulings Committee for electronic communications and postal affairs comprised of three persons appointed by the Minister of Interior and an equal number of alternates nominated by the Supreme Court. The Chairman and alternate Chairman shall fulfil the conditions of eligibility for Supreme Court judges. The Committee shall be appointed for a four-year term. The Committee may call upon the assistance of experts.      Second instance: District Court	No	Yes	Yes, if it can prove that it has a legitimate interest in the case	First instance: 8 weeks. An appeal must be received by the Rulings Committee within four weeks of the party learning of PTA's decision.  Second instance: no time limit. An appeal against a Rulings Committee ruling must be initiated within six months of the time the party concerned was informed of the Committee's ruling
FYR Macedonia	Administrative Court	No Upon complainant's request, AEC may suspend the appealed decision pending a court final decision, in particular, if irreparable harm could be caused to the complainant by its enforcement. Suspension must be issued not later than within 3 days from the receipt of the request.	No The appeal body can only judge the correct application of the laws and applicable bylaws and the procedure.	No However, a third person, who would be directly harmed by an annulment of the challenged decision, shall have a position of a party in the dispute as interested person.	There is no time limit for appeal procedure set by law.  According to article 20 of the Law on Administrative Disputes of May 19, 2006, a party can appeal the NRA decision within 30 days from the date of receipt of the decision.
Montenegro	First instance: Ministry responsible for electronic communications     Second instance: Administrative Court	No	Yes In practice, Ministry rarely uses the possibility to decide merits of the case, even when all the facts are established by the NRA. Usually it returns the case to the NRA for a repeated procedure and decision making or confirms the initial decision of the NRA.	Yes, if it can prove that it has a legitimate interest in the case	The procedure before the Ministry shall be completed within 60 days, pursuant to the Law on general administrative procedure The procedure in the court takes longer as there is no legal time limit within which the court must reach a decision.

Country	Appeal body	Automatic suspension of the NRA decision on appeal?	Can appeal body rule on merits of a case?	Third party rights of appeal?	Average duration of an appeal procedure
Serbia	Administrative Court	No	Yes	Yes, if it can prove that it has a legitimate interest in the case	1 year A party can appeal the NRA's decision within 30 days from the date of receipt of the decision.
Turkey	Council of State for appeals against ICTA decisions related to the sector     Administrative Court appeals against the decisions of ICTA on the administrative fines     License Coordination Council for the disputes on concession agreements	No	Yes	Yes, if it can prove that it has a legitimate interest in the case.	There is no time limit for appeal procedure of License Coordination Council.  A party can appeal the NRA"s decision within 60 days from the date of receipt of the decision.
Albania	<ul> <li>First instance: Governing Council of AKEP for administrative appeal</li> <li>Second instance: First instance court</li> <li>Yes, in the case of administrative appeals, the AKEP decision is suspended until a decision is taken by the Governing Council of AKEP.</li> <li>No, when the appeal is presented to the First instance court</li> </ul>		Yes	Yes	30 days from the appeal date, for the administrative appeal to AKEP Governing Council.  There is no time limit for appeal procedure of the First instance court.
Bosnia & Herzegovina	First instance: Council of RAK     Second instance: State Court of Bosnia & Herzegovina	No	Yes	Yes, if it can prove that it may be directly harmed by an annulment of the disputed decision.	Council of RAK decides on an appeal within 30-60 days, depending on its scheduled sessions.     According to article 19 of the Law on Administrative Disputes, RAK decisions must be appealed to the Court within 60 days from the decision date. There is no deadline defined for the appeals to the Court. In practice, the procedures in the Court can take several years.
Kosovo*	Administrative Court No		Yes	Yes, if it can prove that it has a legitimate interest in the case	Up to 5 years There is no time limit for appeal procedure of the court

Table D.10 – Appeal procedures

Notes:

Iceland: Act on the Post and Telecom Administration, No. 69, 24 March 2003, Article 13

If PTA wishes to submit a ruling of the Rulings Committee to a court, it must first seek the acceptance of the minister of interior for such decision.

Macedonia: Following the amendments on the Law for electronic communications from august 2008, the Commission of the Agency is no more the first instance appeal body. The

decision of Director of the Agency is final and executive. The unsatisfied party can submit an appeal before the Administrative Court within 30 days

Turkey: License Coordination Council is established separately for each agreement and composed of the representatives of the NRA and the operator concerned. The

decisions of the License Coordination Council are not binding but advisory.

### 10. NRA transparency and participation

Article 3, Framework Directive requires NRAs to exercise their powers impartially and transparently. Lack of transparency undermines legal certainty and increases the potential for political interference. Furthermore, according to the participation principle, regulatory processes should be structured so as to allow formal consultation of stakeholders before decisions are made.

The table below examines the transparency of the NRA decision-making process and the ability for all stakeholders to actively contribute to the decision-making. The criteria for assessing the NRA transparency include:

- the existence of a consultation process and the scope of the covered decisions or issues of general interest;
- the timescale given for commenting; and
- the obligation to publish adopted decisions.

Country	NRA policies for public consultations on specific decisions	Time period for comments	Publication of decisions adopted by the NRA
Croatia	Public consultation procedure is mandatory before adopting of all decisions with significant influence on the electronic communications market	15-60 days	Yes, on the NRA website
Iceland	Under Article 6, Act on Post and Telecom Administration, before taking a decision which will have a significant impact on the electronic communications market in question, PTA shall give interested parties the opportunity to comment on it. In practice, public consultations are held on market analysis, approval of reference offers, frequency auctions, etc.	4-6 weeks	Yes, on the NRA website
FYR Macedonia	According to Article 105 of the Law for electronic communications, AEC and other state bodies shall be obliged to obtain and take appropriate account of the opinions of interested parties, in formulating measures in the electronic communications market and prior to taking decisions of general application that will significantly influence such market, and in the adoption of acts and regulations. AEC may also hold a public hearing on the proposed regulation, at which representatives of interested parties may be invited to present their views and opinions on the proposed matter.	Minimum 30 days	Yes, on the NRA's website Prior to the adoption of the regulation, AEC shall make publicly available the obtained opinions and comments, where the confidential information and data shall not be disclosed.

Country	NRA policies for public consultations on specific decisions	Time period for comments	Publication of decisions adopted by the NRA
Montenegro	<ul> <li>Public consultation process is mandatory in all cases that will have significant influence on the market of electronic communications</li> <li>EKIP guidelines for conducting an open consultation process in electronic communications sector also define deadlines and conditions for conduction a consultation process in all other cases subject to the NRA's decision</li> </ul>	Minimum 30 days In compliance with guidelines, in some cases the consultation period may vary from 15 to 60 days.	Yes, on the NRA's website
Serbia	Public consultation on the drafts of the bylaws     Public consultation in cases where it is necessary to permanently regulate or additionally extend the effect of temporary measures prescribed by bylaws.	Minimum 30 days in cases where the subject is related to bylaws determining the general conditions for activities in the electronic communications sector, market analyses, and issues concerning shared use of facilities, interconnection and access     Minimum 10 days in other cases	Yes, on the NRA's website
Turkey	A consultation mechanism is established and documents on issues that have an effect on the sector are published on the NRA's web site.	Usually 30 days	No legal obligation for NRA to publish all its decisions. Decided on case by case basis.
Albania	<ul> <li>In the preparation process of regulatory documents for the electronic communications market, and prior to taking decisions that will significantly influence such market.</li> <li>Regarding the conclusions reached on market analysis, SMP designation and remedies</li> </ul>	<ul> <li>For market analysis public consultations the deadline is not shorter than 60 days.</li> <li>For all other public consultations the minimum deadline is 30 days.</li> </ul>	Yes, on the NRA's website.
Bosnia & Herzegovina	When issuing regulatory rules	Minimum 14 days	Yes, in Official Gazette of Bosnia and Herzegovina
Kosovo*	TRA may initiate public hearings on all substantive telecommunications matters, either on its own initiative or upon the written request from the Ministry.  TRA prepared and published in 2011 guide for Public consultation.	Depending from the issue TRA may decide on time interval for public consultation. Until now TRA has practice 30 days for public consultation	Yes, on the NRA's website

Table D.11 – NRA transparency and participation

# 11. Cooperation between NRA and competition authority

The table below examines the degree of cooperation established between NRAs and NCAs.

Country	Competition authority	Formal agreement between NRA and Competition Authority			
Croatia	Croatian Competition Agency (CCA)	Yes On July 14, 2006 the CCA and HAKOM concluded the Agreement on co-operation in the area of competition in the telecommunications market			
Iceland	Icelandic Competition Authority (ICA)	Yes On February 22, 2001 the ICA and PTA adopted the rules on handling and resolution of issues that fall within the scope of the legislation on post and electronic communications and also the competition law. The agreement is general in nature and can also include market analysis.			
FYR Macedonia	Commission for Protection of Competition	Yes In February 2007, AEC and the Competition Authority signed a Memorandum of Cooperation.			
Montenegro	Administration for Protection of Competition	Yes On April 28, 2009 EKIP signed the cooperation agreement with the Competition Authority in ensuring competition and prevention of harmful effects of the lack of competition in the market of electronic communications.			
Serbia	Commission for Protection of Competition (CPC)	Yes On May 17, 2011 the Commission for Protection of Competition and the RATEL concluded the Agreement on co- operation in the area of competition in the telecom services market.			
Turkey	Competition Authority	Yes ICTA and the Competition Authority signed a protocol of cooperation on November 2, 2011. The protocol regulates matters related to the exchange of information, obtaining opinions and coordination and cooperation.			
Albania	Competition Authority	Yes  AKEP and the Competition Authority signed the Memorandum of Understanding on August 29, 2007. The MoU includes procedures for cooperation especially for the market analyses procedures, coordination and exchange of information between AKEP and CA staff.			
Bosnia & Herzegovina	Competition Council of Bosnia and Herzegovina	No			
Kosovo*	Kosovo Competition Authority (KCA)	Yes On September 21, 2011 TRA established a formal cooperation with Kosovo Competition Authority by signing a Memorandum of Understanding (MoU).			

Table D.12 – Cooperation between NRA and competition authority

# E. Market access conditions in electronic communications

This section provides information on the status of liberalisation and authorisations frameworks for electronic communications services.

# 1. Liberalisation of public fixed telecommunications networks and services

The table below summarises the legal framework for the liberalisation of public fixed voice telephony and data networks and services.

Country	Liberalisation of public fixed voice telephony networks and services			Liberalisation of data networks and services		Legal basis
	Local	Domestic long distance	International	Services	Networks	
Croatia	January 1, 2003	January 1, 2003	January 1, 2003	1995	January 1, 2003	Law on Telecommunications 1999 and 2003  HT's exclusive rights ceased to apply on Dec. 31, 2002. First licences to alternative fixed telephony operators were issued in 4Q 2004. The first fixed alternative operator started offering services in 1Q 2005.  In 1995 the first alternative ISP started offering services.
Iceland	January 1, 1998	January 1, 1998	January 1, 1998	1997	1997	The 1996 revisions to the 1993 Telecommunications Act made provisions to open the telecommunication sector to full competition, in line with the EU full liberalisation of the telecommunication market in 1998 (EU directives 96/19 and 97/33 ONP) and 1997 GATS/WTO commitments and exceptions.  The Telecommunications Act No. 107/1999 completed deregulation of the telecommunications sector by opening up the incumbent's telecommunication network to competitive providers.
FYR Macedonia	March 2005	March 2005	March 2005	February 1998	April 2000	Law for Electronic Communications of March 2005 introduced full liberalisation and general authorisation regime for all types of networks and services.  Data networks and services were liberalised following the adoption of the amendments to the Telecommunications law ("Official Gazette of RM" No. 17/1998).
Montenegro	January 1, 2004	January 1, 2004	January 1, 2004	January 1, 2004	January 1, 2004	Telecommunications Law of 2000 (Official Gazette No. 59/2000).
Serbia	Formally liberalised from June 9, 2005 In practice, fully liberalised from January 2012			National – April 2003 International – June 2005	June 9, 2005	Articles 32 and 109 of Telecommunication Law of April 2003 granted Telekom Srbija exclusive rights for all fixed services until June 9, 2005, except for Internet and Cable TV services.  Until June 9, 2005 there was a requirement to use international leased lines from the incumbent operator.  Two licences enabling provision of public fixed voice telephony networks and services issued to alternative operators: in June 2009 to Orion (Media Works) – for FWA/CDMA services and in February 2010 to Telenor for public fixed networks and services.

Country	Liberalisation of public fixed voice telephony networks and services		Liberalisation of data networks and services		Legal basis	
	Local	Domestic long distance	International	Services	Networks	
						The Law on Electronic Communications 2010 completed full liberalisation and introduced general authorisation regime for public fixed telephony networks and services from Jan. 1, 2012. SBB broadband has launched its services under the new regime.
Turkey	May 10, 2009	May 17, 2004	May 17, 2004	December 26, 2003	March 6, 2006	Telegram and Telephone Law No. 406 of February 4, 1924 (with amendments), replaced by the Electronic Communications Law No 5809 of November 10, 2008
Albania	Rural areas: February 1998 Urban areas: April 2007, through regional licences	July 2003	January 2005	1998	1998	<ul> <li>Public voice telephony networks and services:</li> <li>Law No. 8287 of February 18, 1998 liberalised rural local network provision. This was replaced by Law No. 8618 of June 14, 2000.</li> <li>Council of Ministers Decision No. 464 of July 3, 2003 liberalised domestic long-distance and international services.</li> <li>Law No. 9637 of November 6, 2006 introduced the concept of regional licensing for rural and urban areas, for both local and domestic long-distance services. The NRA adopted the implementing rules on April 2, 2007.</li> <li>Law No. 9918 of May 19, 2008 on Electronic Communications introduced general authorisation regime for all types of networks and services.</li> <li>Data networks and services:</li> <li>Article 4, Law No. 8287 of February 18, 1998 liberalised data networks and services</li> </ul>
Bosnia & Herzegovina	July 1, 2002	July 1, 2002	January 1, 2006	July 1, 2002	July 1, 2002	Liberalisation implemented in accordance with Telecom Sector Policy documents.  The first licences to alternative providers of voice telephony services were issued in 2006, after the liberalisation of international services (no operators were interested to provide national services only).

Country	Liberalisation of public fixed voice telephony networks and services		Liberalisation of data networks and services		Legal basis	
	Local	Domestic long distance	International	Services	Networks	
Kosovo*	May 2003	May 2003	January 2008	May 2003	January 2008	Liberalisation formally introduced by Law on Telecommunications No 2002/7, as amended by Law No. 03/L-085. The licensing framework was implemented in 2006, following TRA Board decision of Sept. 7, 2005. The second licence for fixed telephony was issued to first alternative
						operator on Sept 8, 2006 and third licence was issued on February 2, 2009.
						First authorisations for ISP are issued to incumbent operator and to two alternative operators on May 18, 2005 at one-off fees of €150,000. The present authorisation framework (with a €2,000 one-off licence fee for national ISP and €500 one-off licence fee for Regional ISP) implemented in 2006 by TRA Board decision of Sept. 7, 2005

Table E.1 - Liberalisation of public fixed telecommunications networks and services

#### 2. Authorisation regime for electronic communications services

Article 3, Authorisation Directive establishes a general authorisation regime for the provision of electronic communications networks and/or services. Undertakings may only be required to notify the intention to commence the provision of electronic communication networks or services and to submit information required to allow the NRA to keep a register or list of providers. However, there is no requirement to obtain an explicit decision by the NRA before the start of activities. Individual authorisations may only be necessary for the use of limited resources, such as spectrum, numbers and rights of way.

The EU regulatory framework requires authorisation fees to be limited to what is necessary to cover the administrative cost of the regulatory authority. Only those fees that are paid for access to limited resources may deviate from this criterion.

The table below describes authorisation regimes, covering:

- authorisation types defined in the legislation: individual authorisation/licence; class licence, general authorisation with/without notification to the NRA;
- networks and services covered by the specific authorisation type;
- authorisation charges or other administrative fees paid by authorised undertakings (one-off and annual fees).

Specific fees related to individual authorisations to use limited resources such as spectrum and numbers are not covered in this table.

Country	Authorisation type:	Networks/services	Authorisation charges/administrative fees					
	individual licence, class licence, general authorisation with/without notification to the NRA	covered by the authorisation type	One-off fees	Annual fees				
Croatia	General authorisation with notification to the NRA	All publicly available electronic communications networks and services	None	0.25% of annual revenue				
Iceland	General authorisation with notification to the NRA	All publicly available electronic communications networks and services	None	0.30% of annual revenue				
FYR Macedonia	General authorisation with notification to the NRA	All publicly available electronic communications networks and services	None	Annual fee is based on annual revenue, but cannot exceed €250,000 per year.  According to the total annual revenues, there are 5 categories of network operators and service providers:  Less than €16,207 (MKD 1m) - 0.07%  €16,207 - €162,075 (MKD 1m to MKD 10m) - 0.14%  €162,075 - €1,620,746 (MKD 10m to MKD 100m) - 0.21%  €1,620,746 - €8,103,728 (MKD 100m to MKD 500m) - 0.28%  Above €8,103,728 (MKD 500m) - 0.35%				
Montenegro	General authorisation, with notification to the NRA	All publicly available electronic communications networks and services	€1,000	1.01% of annual revenue for 2011 Under Article 32 of the Law on Electronic Communications 2008 annual fees may not exceed 1.5% of annual gross revenue of the previous year.				
Serbia	General authorisation with notification to the NRA	All electronic communications services and networks, except for those under licencing regime.	None	Up to 0.4% of annual revenue or minimum RSD 10,000 (€98)				
	Individual licence	public fixed telephony networks and services (until January 2012, general authorisation foreseen thereafter)     public mobile telecommunication networks	-	<ul><li>0.08% of annual revenue</li><li>0.5% of annual revenue</li></ul>				
Turkey	General authorisation with notification to the NRA	All publicly available electronic communications networks and services	None	0.35% of annual revenue				
	The general authorisation regime was introduced on May 10, 2009 under the provisions of the Electronic Communications Law No. 5809.  However, authorisation and concession agreements, which were signed before the entry into force of the new law, will remain in force until their termination due to expiry, annulment or termination:  One authorisation agreement in force: Turksat (satellite operator)  Seven concession agreements in force: Turk Telekom, three for GSM services (valid until 2023) and three for UMTS/IMT-2000 services (valid until 2029)							

Country	Authorisation type:	Networks/services	Authorisation charges/administrative fees			
	individual licence, class licence, general authorisation with/without notification to the NRA	general authorisation with/without notification to the		Annual fees		
Albania	General authorisation with notification to the NRA	All publicly available electronic communications networks and services	None	Up to 0.5% on annual turnover  Not yet applied in practice, as the frequency usage fees have been sufficient to cover the expenses of the NRA.		
Bosnia & Herzegovina	Individual license	Fixed and mobile public telephone networks and services (licences issued to the three incumbent operators)	€511 (BAM 1,000)	Public fixed telephony network and services: €204,516 (BAM 400.000)  Public mobile GSM networks and services: €255,646 (BAM 500,000)  Public mobile UMTS networks and services: €51,130 (BAM 100,000)		
		Public fixed telephony services	€511 (BAM 1,000)	€19,429 (BAM 38,000)		
		Public fixed telecommunication networks	€511 (BAM 1,000)	<ul> <li>local: € 1,534 (BAM 3,000)</li> <li>regional: € 2,556 (BAM 5,000)</li> <li>national: € 15,338 (BAM 30,000)</li> </ul>		
		Provision of internet services	€255 (BAM 500)	€511 (BAM 1,000)		
Kosovo*	Individual licence	All publicly available electronic communications networks and services	Mobile Virtual Network Operator (MVNO): €50,000 National fixed telephone services: €50,000 International telecommunications facilities: €25,000 International telecommunications services: €25,000 Internet services: €500 (regional); €2,000 (national) VAS €1,000	0.3 % of gross annual turnover attributable to licensed activity		

Table E.2 – Authorisation regime for electronic communications services

Notes:

Serbia: Until January 1, 2012, the authorisation regime for public fixed telephony networks and services was based on individual licences awarded subject to public tender

procedure.

Bosnia & Herzegovina: In January 2012 the annual fees for provision of internet services, public fixed telecommunications networks and public fixed telephony services were reduced.

Kosovo\*: In March 2011 the regulation on licensing and authorisation was amended, reducing the one off fees to a level necessary to cover administrative cost.

Authorisation requirements for Cable TV networks and services sometimes are more complex than for other providers of electronic communications services, involving two regulatory authorities – the NRA responsible for electronic communications and broadcasting regulator.

The table below summarises the authorisation requirements for Cable TV networks.

Country	Authorisation requirements Cable TV networks	Any additional authorisation required to offer other electronic communications services (e.g. voice services or internet access)
Croatia	General authorisation with notification to NRA	General authorisation with notification to NRA for additional services.
Iceland	General authorisation with notification to NRA	General authorisation with notification to NRA for additional services.
FYR Macedonia	General authorisation with notification to NRA Registration of the broadcasting retransmission activities with the Broadcasting Council is required according to the Broadcasting Law	General authorisation with notification to NRA for additional services
Montenegro	General authorisation with notification to NRA	General authorisation with notification to NRA for additional services.
Serbia	Authorisation (class licence) issued under the Telecommunications Law of 2003, until expiration  General authorisation with notification to the NRA (new regime under the Law on Electronic Communications of June 29, 2010) <i>plus</i> an approval from the Republic Broadcasting Agency (RBA) for content according to article 40 of the Broadcasting Law	General authorisation with notification from the NRA for additional services (until January 1, 2012 an individual licence was required for public fixed telephony networks and services)
Turkey	General authorisation with notification to NRA	General authorisation with notification to NRA for additional services, covering:  infrastructure operating service to offer leased line services  wired broadcasting service to offer radio/TV broadcasting services  internet service provision  fixed telephony service and the application for the right to use numbers.
Albania	General authorisation with notification to NRA  A separate licence to provide broadcasting services is a requirement under the Broadcasting Law. A general authorisation is foreseen by the draft new Law on Audio Visual Media Services.	General authorisation with notification to NRA for additional services, except broadcasting services.
Bosnia & Herzegovina	Individual licences:	Additional individual service licences:  for provision of fixed public telephone services or  for provision of internet services
Kosovo*	Individual licence from the Independent Media Commission (IMC) under the Regulation on Cable Distribution of Radio and TV in Kosovo (CIMC 2007/04) of July 6, 2007.	Additional individual licence issued by NRA to provide other electronic communications services.

Table E.3 – Authorisation requirements for Cable TV networks

#### 3. Rights of way

Rights of way are necessary to establish electronic communications infrastructure, in particular, for new fixed network infrastructure access to install cables and ducts, across public and private land. Construction permits for mobile network infrastructure can also present a problem. Article 11 of the Framework Directive requires that applications for the development of infrastructure shall be handled by the relevant authorities in a transparent, non-discriminatory manner and without delay. The Framework Directive also requires that the authorities issuing building permits must be structurally separated from the network operators that apply for them.

There are steps that can be taken to streamline application procedures, for example, in defining the maximum time periods for dealing with applications and making rules for the free use of or easy access to public domains.

The table below sets outs the regime for rights of way. It shows:

- the legal basis for granting rights of way and construction permits;
- procedures for access to public land, including responsible authorities dealing with applications; and
- time scales for granting permits.

Country	Legal basis for granting rights of way and construction permits (specify all necessary permits)	Relevant authorities and their role	Timescales for granting permits
Croatia	<ul> <li>Articles 26 - 29 of the Law on Electronic Communications 2008, as amended, state that all infrastructure operators have a right to acquire right of use of public and private land.</li> <li>Ordinance on the Right of Way Certificate and Fee (Official Gazette 152/11)</li> <li>Law on physical planning and construction (Official Gazette 76/2007,38/2009, 55/2011)</li> </ul>	Depending on the administration of the public property for which right of way is requested:  HAKOM  relevant municipality  Ministry of environmental protection, physical planning and construction  Institution for protection of historical monuments  Institution for protection of natural resources.  For private property, the operator must have permission from the land owner.  A request for approval can be made under article 27 of the Electronic Communications Law, or an expropriation procedure according to Article 21 Section 2 of the General Expropriation Law.  In accordance with the provisions of the General Expropriation Law, operators can acquire ownership or usufruct (right of use), when it is of interest of the Republic of Croatia.	Article 27 Section 4 of the Law on Electronic Communications prescribes 30 days deadline for issuing building permits by the manager of the public property or the private property owner, and 30 days deadline for issuing location permits by planning authorities.

Country	Legal basis for granting rights of way and construction permits (specify all necessary permits)	Relevant authorities and their role	Timescales for granting permits
Iceland	Articles 69 and 70 of the Law on Electronic Communications state that infrastructure operators have a right to acquire right of use of public and private land	A request for approval for expropriation can be made under article 70 of the Law on Electronic Communications. The Minister of Communications may, after having received the opinion of the PTA, authorise the expropriation of the property in whole or in part. The compensation shall be then assessed in accordance with the Law on Expropriation no. 11, April 6, 1973.	A special valuation committee appointed by the Minister shall within two months start its working procedure on any specific case.
FYR Macedonia	All public network operators have non-discriminatory rights of way established by the Law on Electronic communications	State land may be used by public operators upon application to a responsible department within the Ministry of Finance for the purpose of establishing the right of use or defining the expropriation procedures  For the purpose of establishing the right of use and easement under Article 90 of the Law on Electronic Communications, an operator shall submit a proposed contract to the owner of the real estate.  The proposed contract must spell out the amount of monetary compensation as the reimbursement for right of use and easement of the real estate, which must be equal to the market value of the equivalent right of use in an ordinary commercial transaction of the same type and scope of rights, without taking into account unusual or personal circumstances and interest.	If the owner of the real estate fails to agree within ten (10) days of receipt of the proposed contract to sign it, the interested operator may request that the administrative body responsible for decisions concerning expropriation of real estate establish the right of use and easement of the real estate.
Montenegro	<ul> <li>It is defined by the LEC that the construction of electronic communications networks with associated infrastructure shall be carried out according to the law and regulations regulating the field of the construction of facilities, if it is not contrary to this law.</li> <li>Pursuant to the Law on physical planning and construction of facilities, a facility can be built on the basis of a building permit and technical documentation.</li> <li>Building permits are issued, <i>inter alia</i>, on the basis of the proof of ownership, or another right on the building site.</li> <li>Technical documentation is prepared in compliance with urban-technical requirements.</li> </ul>	<ul> <li>Pursuant to the Law on construction of facilities, relevant bodies for issuing urban-technical requirements, building and operating permits are the Ministry and municipalities, depending on whether the facility is included in state or local planning document.</li> <li>In the procedure for obtaining necessary documents for getting a building permit, various approvals of different bodies are needed, depending on the type of the facility, its purpose, the place where it is being built, etc.</li> <li>The LEC has defined construction, development, maintenance and utilization of electronic communications networks as activities of public interest for Montenegro. The NRA has no special powers regarding the construction of electronic communications networks.</li> </ul>	Urban-technical requirements shall be published on the website of an administrative body (state or local one) in the period of 7 days following the drafting of an offprint prepared on the basis of a planning document.      Building permit shall be issued in the period of 15 days following the submission of the request if all requirements have been met concerning technical documentation, revision report, proof of ownership and the proof of a contract on regulating the relationship concerning the compensation for utility equipment.

Country	Legal basis for granting rights of way and construction permits (specify all necessary permits)	Relevant authorities and their role	Timescales for granting permits
Serbia	<ul> <li>Article 50 of the Law on Electronic         Communications 2010: operators are entitled to         request the right of way through other person's         property or the right to use other person's property         (easement), should it be necessary for the         construction or installation of electronic         communications networks and associated         facilities.</li> <li>Law on Spatial Planning and Construction of 2009</li> </ul>	Relevant authorities include Ministry of Environment, Mining and Spatial Planning, municipalities, RATEL The operator and the owner and/or holder of the right to use the property shall sign a contract to regulate in detail the manner of executing easement  When easement is based on publicly owned property, and in cases where the law which regulates public property does not prescribe otherwise, relevant public authorities which decide about the agreement shall define the conditions for acquiring the rights to easement in a non-discriminatory manner and make it publicly available, and reach the decision on signing the agreement without delay.	Article 50 of the Law on Electronic Communications 2010 prescribes 30 days deadline for the manager of the public property for reaching the decision on signing the agreement.  The Law on spatial planning and construction sets deadlines for authorities to issue permits.  These deadlines are between 8 and 15 days from the day when complete documentations is submitted. If the required documents are not submitted, the authority in 8 days has to answer to the applicant and require clarification, which should be submitted in due time (usually in 30 days).  For simpler installations like new antennas on tower, new container or new base station it is not required to have any permit.
Turkey	Articles 22 - 30 of the "Law on Electronic Communications (2008)" state that all infrastructure operators have a right to acquire right of use of public and private land.  Article 13 of "Decree Law on Organisation and Duties of Ministry of Transport, Maritime Affairs and Communications (2011)" gives the right and duty of determining rules and procedures about rights of way to the Ministry.  A new regulation will be prepared by the Ministry.	<ul> <li>Depending on the administration of property for which rights of way is requested:</li> <li>Ministry of Transport, Maritime Affairs and Communications</li> <li>Ministry of Finance</li> <li>relevant municipality</li> <li>Ministry of Forestry and Aqua Affairs</li> <li>Ministry of Environment and Urban Development</li> <li>Ministry of Culture and Tourism and the other related public authorities.</li> <li>For the establishment of right of easement or right to use of or to hire any property which is under the exclusive possession of Treasury or under State's possession and discretion, the operator has to apply first to Ministry of Transport, Maritime Affairs and Communications.</li> <li>As regards any other public property, the operator must have permission from the authority that owns the property.</li> <li>As regards private property, the operator must have permission from the land owner.</li> </ul>	Article 23, Section 2 of the Electronic Communications Law states that public corporations and institutions evaluate the references for the demand of rights of way by giving priority and without any delays and they have to conclude such procedure within 60 days.

Country	Legal basis for granting rights of way and construction permits (specify all necessary permits)	Relevant authorities and their role	Timescales for granting permits
Albania	Article 93 of Law 9918/2008 on Electronic Communications (right of using public and private properties)  Draft new Law "On the right of way on state and private property for the construction of electronic communication networks" is approved by the Council of Ministers and is in the process of being approved by Parliament.	Depending on the areas under public property, notifications have to be submitted to the respective Council of Territorial Regulation (KRRT) of the regional/local authorities:  • for cities - municipality KRRT  • for communes - district KRRT	According to Article 50 of the Law no. 8405 of Sep. 17, 1998, on urban planning, as amended, the deadline for approval or refusal of construction permit is 45 days from the request.
Bosnia & Herzegovina	<ul> <li>Articles: 9, 14, 22, 34, 36 and 49 of the Law on Country Planning and Use of Land in Federation of Bosnia and Herzegovina (Official Gazette FBiH, no. 52/02)</li> <li>Law on Country Planning in Republic Srpska (Official gazettes RS, no. 84/02)</li> <li>Law on City Construction Land (Official Gazettes FBiH, no. 67/05)</li> <li>Law on City Construction Land (Official Gazettes RS, no. 86/03)</li> </ul>	Municipal authorities are relevant authorities where applicant will be advised on further procedures.	The general terms are 30 and 60 days, but in general, applicant will need more time to collect necessary documentation and different approvals.
Kosovo*	Article 27 of the Law on Telecommunications All public network operators have non-discriminatory rights of way established by law Regulation on the 'Rights of Way and Common use of Infrastructure Sharing' approved by TRA on March 20, 2012	Public land may be used by public operators upon application to municipal authorities.  According to Article 27 of the Law on Telecommunications, TRA may establish rules for the use of publicly and privately controlled property for telecommunications services and service providers.	A licensed telecommunications operator, may, in conformity with the legislation in force, enter into agreements with private persons to use their land and facilities for the installation and maintenance of telecommunication networks and equipment.

#### Table E.4 – Rights of way

#### Notes:

Iceland: Article 69 - Access to land

Should it prove necessary for an electronic communications undertaking to lay lines for electronic communications facilities, either above or below ground, across land owned by another person, or over, on, through or under buildings or other structures on the property, the owner of the property in question is obliged to authorise such, provided full compensation is made. The owners or persons controlling such property or structures shall be consulted as to where the lines shall be laid and care shall be taken to ensure that the interests of the owner are disturbed as little as possible. Persons employed on electronic communications facilities shall take care to cause owners and residents no more inconvenience than is absolutely necessary.

Should the installation or maintenance of electronic communications facilities cause damage to lands, structures or other property which cannot be rectified, or should the installation of electronic communications facilities result in restricting the usefulness of the property concerned, the owner of the electronic communications facility shall make compensation for the damage. Should no agreement be reached on the amount of compensation, a decision on compensation shall be made in accordance with the Expropriation Act.

# F. Radio spectrum

#### 1. Frequency management

The table below provides information on the bodies which are responsible for:

- frequency allocation, including the decision on the national frequency plan; and
- frequency assignments, covering individual authorisations to use frequencies in the national frequency plan. Frequencies for the military sector are normally decided outside this framework.

Country	Frequency allocation	Frequency assignment	Legal basis
Croatia	Ministry of the Sea, Transport and Infrastructure (on the basis of a proposal by the NRA)	Croatian Post and Electronic Communications Agency (HAKOM, the NRA)	Articles 81-82 Law on Electronic Communications of June 19, 2008, amended in July 2011 (Official Gazette, No. 73/2008 and 90/2011)
Iceland	Post and Telecom Authority (PTA, the NRA)	Post and Telecom Administration of Iceland (PTA, the NRA)	Article 14 Law on Electronic Communications, No. 81, 26 March 2003
FYR Macedonia	Agency for Electronic Communications (AEC, the NRA), prepares and adopts the national plan of radio frequency bands allocation, upon a previous consent obtained from the government.	Agency for Electronic Communications (AEC, the NRA)	Chapter 6 Law on electronic communications ("Official Gazette of the Republic of Macedonia" No. 13/2005, 17/2007, 55/2007, 98/2008, 83/2010 and 13/2012)
Montenegro	Government (on the basis of a proposal by the NRA)	Agency for Electronic Communications and Postal Services (EKIP, the NRA)	Articles 8 and 63 Law on Electronic Communications (Official Gazette, No. 50/2008, 70/2009, 49/2010, 32/2011)
Serbia	Government (on the basis of a proposal by the NRA to the ministry responsible for the electronic communications)	Republic Agency for Electronic Communication of the Republic of Serbia (RATEL, the NRA)	Articles 81, 83 and 84 Law on Electronic Communications (Official Gazette, No. 44/10)
Turkey	Information and Communication Technologies Authority (ICTA, the NRA)	Information and Communication Technologies Authority (ICTA, the NRA)	Article 36 Law on Electronic Communications No 5809, November 5, 2008 Bylaw on Spectrum Management, July 2, 2009
Albania	Council of Ministers (on the basis of the proposal by the Minister)	Electronic and Postal Communications Authority (AKEP, the NRA)	Articles 62-64 Law on Electronic Communications No. 9918 from 2008
Bosnia & Herzegovina	Communications Regulatory Agency (RAK, the NRA)	Communications Regulatory Agency (RAK, the NRA)	Article 3 Law on Communications (Official Gazette, No 31/2003)
Kosovo*	Government (on the basis of a proposal by the NRA)	Telecommunications Regulatory Authority (TRA, the NRA)	Article 22 and 28 Law on Telecommunications (No 2002/7), as amended by Law (No. 03/L-085)

Table F.1 – Frequency management

Notes Turkey:

As regards the frequency assignment, in accordance with the Article 36(3) of the Law 5809, Turkish Armed Forces and Radio and Television Supreme Board make and implement frequency planning in frequency bands allocated thereto, within the framework of national frequency plan done by ICTA.

#### 2. Spectrum licences issued to mobile operators

The following table specifies the award methods and spectrum assignments issued to mobile operators.

#### Award methods

- Auction (A): licence awarded to highest bidder.
- **Beauty contest** (BC) (or comparative selection): the applicant with the most points according to published criteria (and fee, if any) wins. No financial bidding involved. The applicant may be required to pay one-off and annual fees for the licence.
- **Hybrid** (H): a combination of beauty contest and auction (where financial bid constitutes one of the selection criteria).
- Granted (G): includes licences granted on a first-come-first-served basis, awarded via a lottery, direct offer, or without tender.

Country	Operator	Spectrum	System	How much	Award	Hov	v much paid?	Licence	Expiry
		band (MHz)		assigned?	spectrum method - assigned?	One-off/auction	Annual	awarded	year
Croatia	Hrvatski Telekom	900	Neutral license, frequency plan allows GSM, UMTS &LTE	2 x 14.4 MHz	G	HRK 105m (€14m) one-off fee for GSM – paid in 1999 HRK 50m (€6.85m) – paid for renewal in 2009	terminal (levied on post- paid end-users)  • €24k per 1 MHz to HAKOM	1999 (commercially available since mid- 1995 without formal licence), renewed in 2009	2024
		1800	Neutral license, frequency plan allows GSM, UMTS &LTE	2 x 20 MHz	G	See above		2007 for 2x8.4 MHz, renewed in 2009, 2011 additional 2x11.6 MHz	2024
		2100	Neutral license, frequency plan allows UMTS	2 x 15 MHz (FDD) 5 MHz (TDD)	G	HRK 132m (€18.2m) one-off fee for UMTS		Oct. 2004	2024

Country	Operator	Spectrum	System	How much	Award	Hov	How much paid?		Expiry
		band (MHz)		spectrum assigned?	method	One-off/auction	Annual	awarded	year
	VIPnet	900	Neutral license, frequency plan allows GSM, UMTS &LTE	2 x 14.4 MHz	BC	€14m (HRK 105m) one-off fee for GSM – paid in 1999 €6.85m (HRK 50m) – paid for renewal in 2009	0.5% annual revenue     HRK 120 (€16) per mobile terminal (levied on postpaid end-users)     €24k per 1 MHz to HAKOM	Sep. 1998, renewed in 2009	2024
		1800	Neutral license, frequency plan allows GSM, UMTS &LTE	2 x 10 MHz	G	See above		July 1, 2011	2024
		2100	Neutral license, frequency plan allows UMTS	2 x 15 MHz (FDD) 1 x 5 MHz (TDD)	G	€18.2m (HRK 132m ) one-off fee for UMTS		Oct. 2004	2024
	Tele 2	900	Neutral license, frequency plan allows GSM, UMTS &LTE	2 x 5 MHz (E-GSM)	BC	€23.5m (HRK 172m) joint one-off fee for GSM/UMTS	0.5% annual revenue     HRK 120 (€16) per mobile terminal (levied on postpaid end-users)     €24k per 1 MHz to HAKOM	2007	2024
		1800	Neutral license, frequency plan allows GSM, UMTS &LTE	2 x 12 MHz	BC			Oct. 2004 renewed in 2009	2024
		2100	Neutral license, frequency plan allows UMTS	2 x 15 MHz (FDD) 1 x 5 MHz (TDD)	BC			2004	2024

Country	Operator	Spectrum	System	How much	Award	Hov	w much paid?	Licence	Expiry
		band (MHz)		spectrum assigned?	method	One-off/auction	Annual	- awarded	year
Iceland	Síminn	900	GSM/UMTS	2 x 10 MHz 2 x 5 MHz	ВС	Renewal fee paid in 2012: €323k (ISK 52.5m)	<ul> <li>€1,551 (ISK 256k) per 1 MHz</li> <li>0.5% annual revenue</li> </ul>	1996 renewed in Feb. 2012	2022 (2 x 10 MHz) 2017 (2 x 5 MHz)
		1800	GSM/UMTS	2 x 15 MHz	BC	Renewal fee paid in 2012: €92k (ISK 15m)	<ul> <li>€1,551 (ISK 256k) per 1 MHz</li> <li>0.5% annual revenue</li> </ul>	2000 renewed in Feb. 2012	2022
		2100	3G/UMTS	2 x 15 (FDD) 1 x 5 MHz (TDD)	BC		<ul> <li>€1,551 (ISK 256k) per 1 MHz</li> <li>0.5% annual revenue</li> </ul>	2007	2022
	Fjarskipt ehf /Vodafone	900	GSM/UMTS	2 x 10 MHz 2 x 5 MHz	ВС	Renewal fee paid in 2012: €323k (ISK 52.5m)	<ul> <li>€1,551 (ISK 256k) per 1 MHz</li> <li>0.5% annual revenue</li> </ul>	1998 renewed in 2000 and in Feb. 2012	2022 (2 x 10 MHz) 2017 (2 x 5 MHz)
		1800	GSM/1800	2 x 15 MHz	BC	Renewal fee paid in 2012: €92k (ISK 15m)	<ul> <li>€1,551 (ISK 256k) per 1 MHz</li> <li>0.5% annual revenue</li> </ul>	2000 renewed in 2011 and in Feb. 2012	2022
		2100	3G/UMTS	2 x 15 (FDD) 1 x 5 MHz (TDD)	BC		<ul> <li>€1,551 (ISK 256k) per 1 MHz</li> <li>0.5% annual revenue</li> </ul>	2007	2022
	Nova ehf	900	GSM/UMTS	2 x 5 MHz	G		<ul> <li>€1,551 (ISK 256k) per 1 MHz</li> <li>0.5% annual revenue</li> </ul>	2007	2022
		1800	GSM/UMTS	2 x 15 MHz	ВС	Renewal fee paid in 2012: €47k (ISK 7.6m)	<ul> <li>€1,551 (ISK 256k) per 1 MHz</li> <li>0.5% annual revenue</li> </ul>	2009 additional 2 x 8.8 MHz granted in Feb. 2012	2022
		2100	3G/UMTS	2 x 15 (FDD) 1 x 5 MHz (TDD)	BC		<ul> <li>€1,551 (ISK 256k) per 1         MHz</li> <li>0.5% annual revenue</li> </ul>	2007	2022

Country	Operator	Spectrum	System	How much	Award	Hov	w much paid?	Licence	Expiry
		band (MHz)		spectrum assigned?	method	One-off/auction	Annual	awarded	year
	IMC	1800	GSM/UMTS	2 x 5 MHz	BC	Renewal fee paid in 2012: €21k (ISK 3.4m)	<ul> <li>€1,551 (ISK 256k) per 1 MHz</li> <li>0.5% annual revenue</li> </ul>	2000 renewed in 2011 and additional 2 x 2.5 MHz granted in Feb. 2012	2022
FYR Macedonia	T-Mobile	900	GSM	2 x 12.5 MHz	G		€28,700 per 1 MHz to AEC	2001 (commercially available since 1996 without formal licence), renewed on Sep. 5, 2008	Sep. 5, 2018
		1800	GSM	2 x 10 MHz	Н	€2m	€21,000 per 1 MHz to AEC	June 9, 2009	Jun. 9, 2019
		2100	UMTS	2 x 15 MHz (FDD) 1 x 5 MHz (TDD)	Н	€10m	€21,000 per 1 MHz to AEC	Dec. 17, 2008	Dec. 17, 2018
	ONE	900	GSM	2 x 12.5 MHz	Н	€17.3m	€28,700 per 1 MHz to AEC	2001, renewed on Sep. 5, 2008	Sep. 5, 2023
		2100	UMTS	2 x 10 MHz (FDD)	Н	€10m	€21,000 per 1 MHz to AEC	Dec. 17, 2008	Dec. 17, 2018
	VIP	900	GSM	2 x 10 MHz (E- GSM)	Н	€10m	€28,700 per 1 MHz to AEC	March 23, 2007	March 23, 2017
		1800	GSM	2 x 10 MHz	Н		€21,000 per 1 MHz to AEC	March 23, 2007	March 23, 2017
Montenegro	Telenor	900	GSM	2 x 9.6 MHz	G	€4.34m (DEM 8.5m*) one-off fee for GSM/DCS1800 paid in 2002*	<ul> <li>up to 1.5% annual revenue depending on EKIP annual financial plan (1.01% annual revenue in 2011)</li> <li>€44,160 to EKIP</li> </ul>	Jan. 1, 2002 (commercially available since mid- 1996 without formal licence)	Dec. 31, 2016

Country	Operator	Spectrum	System	How much	Award	Hov	v much paid?	Licence	Expiry
		band (MHz)		spectrum assigned?	method	One-off/auction	Annual	- awarded	year
				2 x 3.6 MHz	Н	€1.10m paid in 2012 for additional 900 MHz, 1800 MHz and 2100 MHz spectrum	€4,416 to state budget	Jan. 1, 2012	
		1800	GSM	2 x 20 MHz	G	See above	<ul> <li>up to 1.5% annual revenue depending on EKIP annual financial plan (0.96% annual revenue in 2010)</li> <li>€36,800 to EKIP</li> <li>€3,680 to state budget</li> </ul>	Jan. 1, 2002 (commercially available since mid- 1996 without formal licence)	Dec. 31, 2016
				2 x 9.6 MHz	Н	See above		Jan. 1, 2012	
		2100	UMTS	2 x 15 MHz (FDD) 1 x 5 MHz (TDD)	Н	€4m one-off fee	up to 1.5% annual revenue depending on	April 12, 2007	April 12, 2022
				2 x 10 MHz	Н	See above	EKIP annual financial plan (0.96% annual revenue in 2010)  • €20,125 to EKIP  • €2,012.5 to state budget	Jan. 1, 2012	Dec. 31, 2016
	Crnogorski Telekom	900	GSM	2 x 9.6 MHz	G	€4.34m (DEM 8.5m) one-off fee for GSM/DCS1800 paid in 2002	up to 1.5% annual revenue depending on EKIP annual financial plan (0.96% annual revenue in 2010)     €44,160 to EKIP	Jan. 1, 2002 (commercially available since mid- 2000 without formal licence)	Dec. 31, 2016
				2 x 1.8 MHz	Н	€ 0.55m paid in 2012 for additional 900 MHz, 1800 MHz and 2100 MHz spectrum	€4,416 to state budget	Jan. 1, 2012	
		1800	GSM	2 x 20 MHz	G	See above	<ul> <li>up to 1.5% annual revenue depending on EKIP annual financial plan (0.96% annual revenue in 2010)</li> <li>€36,800 to EKIP</li> <li>€3,680 to state budget</li> </ul>	Jan. 1, 2002 (commercially available since mid- 2000 without formal licence)	Dec. 31, 2016
				2 x 4.8 MHz	Н	See above	€ €3,000 to state budget	Jan. 1, 2012	

Country	Operator	Spectrum	System	How much	Award	Hov	v much paid?	Licence	Expiry
		band (MHz)		spectrum assigned?	method	One-off/auction	Annual	awarded	year
		2100	UMTS	2 x 15 MHz (FDD) 1 x 5 MHz (TDD)	Н	€2.4m one-off fee paid in 2007	up to 1.5% annual revenue depending on	April 10, 2007	April 10, 2022
				2 x 5 MHz	Н	See above	EKIP annual financial plan (0.96% annual revenue in 2010)  • €20,125 to EKIP  • €2,012.5 to state budget	Jan. 1, 2012	Dec. 31, 2016
	MTEL	900	GSM	2 x 9.6 MHz	Н	€16m joint one-off fee for GSM/ DCS1800/UMTS	up to 1.5% annual revenue depending on EKIP annual financial plan (0.96% annual revenue in 2010)  €44,160 to EKIP  €4,416 to state budget	April 20, 2007	April 20, 2022
		1800	GSM	2 x 20 MHz	Н		up to 1.5% annual revenue depending on EKIP annual financial plan (0.96% annual revenue in 2010)  €36,800 to EKIP  €3,680 to state budget	April 20, 2007	April 20, 2022
		2100	UMTS	2 x 15 MHz (FDD) 1 x 5 MHz (TDD)	Н		up to 1.5% annual revenue depending on EKIP annual financial plan (0.96% annual revenue in 2010)     €20,125 to EKIP     €2,012.5 to state budget	April 20, 2007	April 20, 2022
Serbia	Telekom Srbija	900	GSM	2 x 9.6 MHz	G	0 (replacement of	RSD 21,600,000 (€211,873) RSD 11,052,000 (€108,408)	Aug. 15, 2006	Aug. 15, 2016
		1800	GSM	2 x 9.8 MHz	G	previous licence)		Aug. 15, 2006	Aug. 15, 2016
		2100	UMTS	2 x 15 MHz (FDD) 1 x5 MHz (TDD)	G		RSD 4,500,000 (€44,140)	Aug. 15, 2006	Aug. 15, 2016

Country	Operator	Spectrum	System	How much	Award	Hov	w much paid?	Licence	Expiry
		band (MHz)		spectrum assigned?	method	One-off/auction	Annual	- awarded	year
	Telenor	900	GSM	2 x 9.6 MHz	А	€1.513bn	RSD 17,280,000 (€169,498)	Aug. 31, 2006	Aug. 31, 2016
		1800	GSM	2 x 10 MHz	А		RSD 9,000,000 (€88,280)	Aug. 31, 2006	Aug. 31, 2016
		2100	UMTS	2 x 15 MHz (FDD) 1 x 5 MHz (TDD)	A		RSD 2,250,000 (€22,070)	Aug. 31, 2006	Aug. 31, 2016
	VIP Mobile	900	GSM	2 x 4.2 MHz	А	€320m	RSD 3,780,000 (€37,078)	Dec. 1, 2006	Dec. 1, 2016
	1800	GSM	2 x 20 MHz	A		RSD 9,000,000 (€88,280)	Dec. 1, 2006	Dec. 1, 2016	
		2100	UMTS	2 x 15 MHz (FDD) 1 x 5 MHz (TDD)	A		RSD 2,250,000 (€22,070)	Dec. 1, 2006	Dec. 1, 2016
Turkey	Avea İletişim Hizmetleri A.Ş.	900	GSM	2 x 1.1 MHz	Α	€5.55m (+18% VAT)	0.35% annual gross revenue (paid to ICTA)	Feb. 2009	2026
				2 x 1.3 MHz	А	€1.74bn (+17% VAT)	15% annual gross sales     (Treasury share)	Jan. 2001	
		1800	GSM	2 x 15 MHz	Α				
		2100	UMTS	2 x 15 MHz	А	€214m (+18% VAT)		April 2009	2029
	Turkcell İletişim Hizmetleri A.Ş.	900	GSM	2 x 1 MHz	А	€9.8m (+18% VAT	0.35% annual gross revenue (paid to ICTA)	Feb. 2009	2023
				2 x 10 MHz	A	€347m (+15% VAT)	15% annual gross sales     (Treasury share)	April 1998	1
		2100	UMTS	2 x 20 MHz FDD	A	€358m (+18% VAT)		April 2009	2029

Country	Operator	Spectrum	System	How much	Award	Hov	w much paid?	Licence	Expiry
		band (MHz)		spectrum assigned?	method	One-off/auction	Annual	- awarded	year
	Vodafone Telekomünikasyon	900	GSM	2 x 1 MHz	А	€4.5m (+18% VAT)	0.35% annual gross revenue (paid to ICTA)	Feb. 2009	2023
	A.Ş.			2 x 10 MHz	А	€347m (+15% VAT)	15% annual gross sales(Treasury share)	April 1998	
		2100	UMTS	2 x 15 MHz (FDD) 1 x 5 MHz (TDD)	A	€250m (+18% VAT)		April 2009	2029
Albania Albanian Mobile Communications	900	GSM	2 x 8 MHz	Н	€57.58m (US\$ 80m)	€71,142 (ALL 9,984,000)	Aug. 19, 1999	2014	
	1800	GSM	2 x 9 MHz	Н	(privatisation of 76% of state owned AMC)	€64,027 (ALL 8,985,600)			
	2100	UMTS	2 x 15 MHz (FDD) 1 x 5 MHz (TDD)	Н	€15.1m	€142,511 (ALL 20,000,000)	Sep. 28, 2011	2026	
	Vodafone Albania	900	GSM	2 x 8 MHz	Н	€27.5m (US\$ 38m)	€71,142 (ALL 9,984,000)	June 9, 2001	2016
		1800	GSM	2 x 9 MHz	Н		€64,027 (ALL 8,985,600)		
		2100	UMTS	2 x 15 MHz (FDD) 1 x 5 MHz (TDD)	Н	€31.4m	€142,511 (ALL 20,000,000)	Dec. 12, 2010	2025
	Eagle Mobile	900	GSM	2 x 8 MHz	Н	No separate fee (license was part of privatisation package of fixed incumbent)	€71,142 (ALL 9,984,000)	March 1, 2004	2019
		1800	GSM	2 x 9 MHz	Н		€64,027 (ALL 8,985,600)		
	Plus Communication	900	GSM	2 x 8 MHz	Н	€7.2m joint one-off fee for 900&1800	€71,142 (ALL 9,984,000)	June 26, 2009	2024
		1800	GSM	2 x 9 MHz	Н	MHz	€64,027 (ALL 8,985,600)		
Bosnia & Herzegovina	BH Telecom	900	GSM & UMTS	2 x 8 MHz	G	€72m (BAM 140m) joint one-off fee for	€15,339 (BAM 30,000)/ channel	Oct. 2004	2019
		1800	GSM & UMTS	2 x 12 MHz	G	900&1800 MHz	€7,669 (BAM 15,000)/ channel	Feb. 2005	2019
		2100	UMTS	2 x 15 MHz (FDD) 1 x 5 MHz (TDD)	G	€15m (BAM 29.34m)	€5,113 (BAM 10,000)/channel	April 2009	2024
	Telekom Srpske	900	GSM & UMTS	2 x 8 MHz	G	€72m (BAM 140m) joint one-off fee for	€15,339 (BAM 30,000)/ channel	Oct. 2004	2019
		1800	GSM & UMTS	2 x 12 MHz	G	900 & 1800 MHz	€7,669 (BAM 15,000)/ channel	Dec. 2004	2019

Country	Operator	Spectrum	System	How much	Award	Hov	v much paid?	Licence	Expiry
		band (MHz)		spectrum assigned?	method	One-off/auction	Annual	- awarded	year
		2100	UMTS	2 x 15 MHz (FDD) 1 x 5 MHz (TDD)	G	€15m (BAM 29.34m)	€5,113 (BAM 10,000)/ channel	April 2009	2024
	HT Mostar	900	GSM & UMTS	2 x 8 MHz	G	€72m (BAM 140m) joint one-off fee for 900 & 1800 MHz	€15,339 (BAM 30,000)/ channel	Oct. 2004	2019
		1800	GSM & UMTS	2 x 8 MHz	G		€7,669 (BAM 15,000)/ channel	Dec. 2004	2019
		2100	UMTS	2 x 15 MHz (FDD) 1 x 5 MHz (TDD)	G	€15m (BAM 29.34m)	€5,113 (BAM 10,000)/ channel	April 2009	2024
Kosovo*	PTK Vala	900 MHz	GSM	2 x 13.6 MHz	G	€6.5m	0.3% of annual revenue	2004	2019
	1800 MHz 2 x 10 MHz €14	€14m		2011	2019				
	Ipko	900 MHz	GSM	2 x 10 MHz	Н	€75m	0.3% of annual revenue	2007	2022
	Telecommunicat- ions	1800 MHz	GSM	2 x 10 MHz				2007	2022

Table F.2 – Spectrum licences issued to mobile operators

Note:

Croatia Ministry of Maritime Affairs, Transport and Infrastructure is consulting on a draft proposal to modify the structure of frequency fees from Jan. 1, 2013 as follows: to

remove the fee per terminal levied on post-paid end-users and to increase the fee paid to the state budget from 0.5% to 5%.

Macedonia: ONE in the beginning of the 2012 returned to AEC the 2x5 MHz FDD and 5 MHz TDD in the 2100 spectrum band.

Montenegro: Euro, as official currency, began to be applied in March 2002. In the first half of the year it was possible to pay in both currencies, the EUR and DEM. Operators paid in

DEM, according to the then prevailing average exchange rate: €1 = DEM 1.95583

Serbia: Mobtel (Mobi63) and Telekom Srbija were the first licenced mobile operators for GSM 900/1800 spectrum. On August 31, 2006 Mobi63 (ex Mobtel) operations

together with additional 3G spectrum licence were sold on auction to Telenor ASA, Norway, for €1.5bn, valid from August 31, 2006 for 10 years (with a possible extension of another 10 years). On November 10, 2006 Mobilkom Austria AG (now VIP mobile) won a combined GSM 900/1800 and UMTS licence valid from

December 1, 2006 for 10 years (with a possible extension of another 10 years).

Bosnia & Herzegovina: Licences to mobile operators have been awarded based on decision of the BH Council of Ministers. Duration of licences may be extended for a period of ten years.

### 3. Refarming of 2G spectrum for 3G/4G services

The table below shows whether the refarming of the GSM spectrum in the 900 MHz and the 1800 MHz bands has been decided at the national level. It addresses the allowed change of the spectrum use ranging from enabling deployment of UMTS and LTE services in the GSM bands to their liberalisation on technology neutral basis

Country	Decision on spectrum refarming in 900 and 1800 MHz bands?	Technologies permitted in 900 and 1800 MHz bands	Redistribution of existing spectrum assignments in 900 and 1800 MHz bands
Croatia	900 and 1800 MHz – Yes In 900 MHz band, operators have shown no interest in refarming the band, up till now. In 1800 MHz band, no refarming is necessary, since all of the operators have spectrum according to 5 MHz blocks. The spectrum assignment plan for the 900 MHz and 1800 MHz bands was amended in February 2012 to allow the use of GSM, UMTS and LTE technologies in these bands	GSM, UMTS and LTE	No
Iceland	900 and 1800 MHz – Yes  The spectrum assignment plan for the 900 MHz and 1800 MHz bands was amended to allow the use of both GSM and UMTS technologies in these bands in 2008.	GSM and UMTS LTE in the 1800 MHz to be allowed after the 800/1800 MHz spectrum to be held in autumn 2012	Yes Spectrum assignments were re-distributed in February 2012 to allow contiguous blocks of 5 MHz.
FYR Macedonia	900 and 1800 MHz – Yes	GSM and UMTS AEC is planning to include LTE and WiMAX as permitted technology in these bands.	No
Montenegro	900 and 1800 MHz – Yes  National radio frequency allocation table adopted in 2010 allows introduction of IMT technology in the bands 900 MHz and 1800 MHz	GSM, UMTS and LTE Telenor launched LTE in 1800 MHz band in November 2011 in Cetinje	No
Serbia	900 and 1800 MHz – No (in progress)  On March 6, 2012 RATEL submitted the final proposal of the Frequency Allocation Plan to the Ministry of Culture, Media and Information Society for adoption and publication.  The proposed allocation for 900 MHz and 1800 MHz bands includes amendments to permit the usage of these bands on a technology neutral basis. The Plan is expected to be adopted by the end of 2012, whereupon a modification of individual licences may be expected.	GSM	No

Country	Decision on spectrum refarming in 900 and 1800 MHz bands?	Technologies permitted in 900 and 1800 MHz bands	Redistribution of existing spectrum assignments in 900 and 1800 MHz bands
Turkey	900 and 1800 MHz – No  The strategy decision about usage of UMTS services in 900/1800 MHz bands has been takenby the Ministry of Transport, Maritime Affairs and Communications in September 2011. According to this decision, usage of UMTS services in 900/1800 MHz bands will be allowed after refarming of these bands among operators. Necessary procedures are being carried out by ICTA.	GSM	No
Albania	900 and 1800 MHz – No	GSM	No
Bosnia & Herzegovina	900 and 1800 MHz – Yes  New spectrum assignment plan, adopted in September 2010, allowed the use of both GSM and UMTS in these bands. RAK issued Annexes to UMTS licences in December 2010, allowing operators to use UMTS in the 900/1800 MHz bands.	GSM and UMTS	No
Kosovo*	900 and 1800 MHz – No	GSM	No

Table F.3 – Refarming of GSM spectrum

#### 4. Broadband wireless access

#### a) Licensed spectrum bands

The table below shows the status of BWA spectrum licensing (also referred to as wireless local loop). The table does not include Wi-Fi networks operated in the unlicensed 2.4 GHz and 5 GHz frequency bands.

Country	Frequency bands	Status and number of licences National/Regional	Size of the spectrum block	Licence duration period	Any technology/service restrictions?
Croatia	3.4 – 3.6 GHz	One operator has a license on a national level. All other licenses have been either revoked or have expired.	2x21 MHz	8 years	No
	10-10.3 GHz	One operator has a license on a national level.	300 MHz	12 years	No
Iceland	3.4-3.6 GHz	7 regional licences	2 x 14 MHz	10 years	No
FYR Macedonia	3.4 – 3.6 GHz	One operator has licences in all 6 regions. Licenses for all other operators were revoked.	31.5 MHz (TDD)	2007-2017	No

Country	Frequency bands	Status and number of licences National/Regional	Size of the spectrum block	Licence duration period	Any technology/service restrictions?
Montenegro	3.4-3.8 MHz	6 national licences	2 x 21 MHz (FDD)-two licences 50 MHz (TDD)-two licences 25+15 MHz (TDD)-one licence 2 x 25 MHz (FDD/TDD) – one licence	2007-2012 (four licences) 2010-2015 (one licence) 2011-2016 (one licence)	No
Serbia	3.4-3.6 GHz	As of November 2004, there are 51 valid licences for individual radio stations covering all territory of the Serbia, mostly within Belgrade and Novi Sad, all issued under the previous law.  Licensing process has been postponed until the adoption of	2x21 MHz per each license	10 years	No
		new Allocation plan, which is expected to be adopted during 2012. Available spectrum blocks are defined in Official Gazette No. 17 of Feb. 13, 2008.			
	410 - 430 MHz	In May 2009 RATEL issued two national FWA licences in the 411-418/421-428 MHz band to Telekom Srbija and Orion Telecom (Media Works) following a tender procedure announced in March 2009. Both winners paid €540,000 per licence.	2 x 3.5 MHz per each frequency authorisation	10 years	Restricted to fixed services (FWA) including voice and data transmission
Turkey	-	No FWA license issued.	-	-	-
Albania	-	No FWA license issued.	-	-	-
Bosnia & Herzegovina	-	No FWA license issued.	-	-	-
Kosovo*	-	No FWA license issued.	Not decided	Up to 15 years	No

Table F.4 – Broadband wireless access – spectrum licences

### Public Wireless Local Area Networks (WLAN) in unlicensed spectrum bands

Country	Full frequency bands available		Authorisation requirements for provision of access to public network and administrative fees
	2.4 GHz	5 GHz	
Croatia	Yes	Yes	Notification for general authorisation (for provision of services) and notification of putting station into service (for each station).
Iceland	Yes	Yes	General authorisation with notification to the NRA
FYR Macedonia	Yes	Yes	General authorisation with notification to the NRA

Country	Full freque	ncy bands available	Authorisation requirements for provision of access to public network and administrative fees
	2.4 GHz	5 GHz	
Montenegro	Yes	Yes	Frequencies could be used on a non licensed basis, but there is regulatory annual fee – up to 1,5% annual revenue depending on NRA's annual financial plan (1.01% annual revenue in 2011) for operators providing WLAN to public in these non-licensed bands.
Serbia	Yes	Yes	General authorisation with notification to the NRA
Turkey	Yes	Yes	General authorisation with notification to the NRA and Administrative fee is paid each year in an amount of 0.35% of its net sales specified under income table for the previous year.
Albania	Yes	Yes	General authorisation with notification to the NRA
Bosnia & Herzegovina	Yes	Yes	General authorisation with notification to the NRA  Bands are licensed exempt according to the Rule 46/2009, Official Gazette of Bosnia and Herzegovina No. 52/09
Kosovo*	Yes	Yes	General authorisation with notification to the NRA.  No administrative fees.

Table F.5 – Public Wireless Local Area Networks

# 5. Spectrum awards in progress

The table below shows the spectrum award procedures that have been completed recently or will be launched shortly.

Country	Frequency bands	Spectrum use of licence (technology and service restrictions)	Status/deadline to apply	Number of licences National/Regional	Size of the spectrum block per licence	Validity of licence	Price (fixed price or minimum reserved price)	Procedure (auction/comparative selection, any restrictions to bidders)
Croatia	3.4 – 3.6 GHz	BWA	Licence awarded on April 12, 2012	1 national	2x14 MHz	8 years	€49,000 for the first year, to be increased gradually by 20% within first 5 years to the amount that will apply in subsequent years	Simplified procedure since no other parties were interested
	800 MHz	LTE (proposed)	Timing and award procedure to be decided	Up to 3 national licences	2x30 MHz	-	-	-
Iceland	800 MHz 1800 MHz	Technology neutral	Auction planned by end 2012	Up to 3 national licences	2x30 MHz	-	-	-
FYR Macedonia	800 MHz	Technology neutral	Auction planned in 1H 2013	Up to 3 national licences	2x30 MHz	-	-	-

Country	Frequency bands	Spectrum use of licence (technology and service restrictions)	Status/deadline to apply	Number of licences National/Regional	Size of the spectrum block per licence	Validity of licence	Price (fixed price or minimum reserved price)	Procedure (auction/comparative selection, any restrictions to bidders)
Montenegro	3600-3800 MHz	BWA	MTEL applied for one block of 2x25 MHz in Feb. 22, 2011.  EKIP held public consultation procedure in March 2011.  Since only interested party was MTEL, EKIP granted the license directly to them on July 12, 2011.	1 national	2 x 25 MHz (FDD/TDD)	5 years	No fee	Results of public consultation process showed that there was no need for conducting public tender procedure. Licence was granted directly on request.
	380-400 MHz	TETRA	EKIP issued licence on March 1, 2012 to Wireless Montenegro d.o.o. for using radio- frequency for PPDR.	1 national	To be decided	5 years	No fee	Granted
	410-430 MHz	CDMA	Licence issued on Dec. 30, 2011 to BBMI d.o.o.	1 national	2 x 2.5 MHz	5 years	No fee	Results of public consultation process showed that there was no need for conducting public tender procedure. Licence was granted directly on request.

Country	Frequency bands	Spectrum use of licence (technology and service restrictions)	Status/deadline to apply	Number of licences National/Regional	Size of the spectrum block per licence	Validity of licence	Price (fixed price or minimum reserved price)	Procedure (auction/comparative selection, any restrictions to bidders)
	900 MHz 1800 MHz 2100 MHz	GSM/UMTS	Tender documentation published on November 1, 2011. Bids invited by Dec. 15, 2011. On Dec. 23, Telenor was announced the winner who had the obligation to offer 2/3 of awarded spectrum in all three bands to other two existing operators already assigned spectrum in these bands. Crnogorski Telekom accepted 1/3 of awarded spectrum in all three bands and paid 1/3 of the one off fee to Telenor. Since MTEL wasn't interested, Telenor kept 2/3 of awarded spectrum.	2 national	Telenor:  2 x 3.6 MHz in  900 MHz  2 x 9.6 MHz in  1800 MHz  2 x 10 MHz in  2100 MHz  Crnogorski Telekom:  2 x 1.8 MHz in  900 MHz  2 x 4.8 MHz in  1800 MHz  2 x 5 MHz in  2100 MHz	5 years	€1.315m was min reserve price for entire spectrum available €1.65m one-off fee offered and paid by Telenor to the state budget €0.55m one-off fee paid by Crnogorski Telekom to Telenor for 1/3 of the spectrum	Comparative selection, where the bid price and the network deployment plan are the main criteria In case, if the winning bid is submitted by one of the three existing operators, it would be required to offer 1/3 of the tendered to each of the two other operators at 1/3 of the offered price.
Serbia	-	-	-	-	-	-	-	-
Turkey	-	-	-	-	-	-	-	-
Albania	2100 MHz	UMTS	Tender procedure for third licence was cancelled in February 2012 as two bids submitted by Eagle and Plus were below the minimum reserve price.	1 national	2x15 MHz (FDD) with 1x 5 MHz (TDD)	15 years	€12.5m min reserve price	Comparative selection, where the bid price and network coverage are the main criteria

Country	Frequency bands	Spectrum use of licence (technology and service restrictions)	Status/deadline to apply	Number of licences National/Regional	Size of the spectrum block per licence	Validity of licence	Price (fixed price or minimum reserved price)	Procedure (auction/comparative selection, any restrictions to bidders)
Bosnia & Herzegovina	400 MHz	CDMA/PAMR	Tender procedure launched in June 2011. Two winners were selected in August 2011.	2 national	2 x 2.5 MHz	10 years	€128,848 (BAM 252,000)	Comparative selection
Kosovo*	-	-	-	-	-	-	-	-

Table F.6 – Spectrum awards in progress

#### Notes:

Bosnia & Herzegovina: In order to finally award licenses for usage of 400 MHz spectrum, RAK required operators to obtain licenses for provision of telecommunications networks and voice telephony services. In January 2012, one of the selected operators completed required procedure and was awarded the frequency licence. Another operator's licence application is still pending.

# 6. Analogue switch-off dates and use of the digital dividend

Country	Analogue switch-off date	Decision making process	Spectrum available for mobile/wireless communications (actual or planned) at UHF IV and V (470 – 862 MHz) spectrum bands				
			Lower band 470–790 MHz range	790-862 MHz band	Award details		
Croatia	Oct. 5, 2010	On Oct. 5, 2010 switchover from analogue to digital TV broadcasting was completed.	Undecided	72 MHz	Award procedure planned by end 2012. Details to be decided.		
Iceland	Jan. 1, 2012	The frequency band of 792-862 MHz is free for reallocation from January 2012. National consultation took place in Q3 2011 on this band.	Undecided	72 MHz	Auction planned in autumn 2012.		
FYR Macedonia	June 1, 2013		Undecided	72 MHz National Plan for assignment of radiofrequencies was amended in Oct. 2011. 790-862 MHz is dedicated for LTE. 2x30 MHz (6 blocks of 2x5 MHz)	Auction planned in early 2013. Spectrum will become available from June 1, 2013.		

Country	Analogue switch-off date	Decision making process	Spectrum available for mob	Spectrum available for mobile/wireless communications (actual or planned) at UHF IV and V (470 – 862 MHz) spectrum bands				
			Lower band 470–790 MHz range	790–862 MHz band	Award details			
Montenegro	June 17, 2015 (proposed)	The Strategy on the switchover from analogue to digital broadcasting systems in Montenegro adopted on April 10, 2008 and the law on digital broadcasting adopted in July 2011 initially set out the switchover target date of Dec. 31, 2012. In April 2012, the government of Montenegro adopted the draft amendments to the law on digital broadcasting, which provide for an extension of the deadline for the transition from analogue to digital TV broadcasting until June 17, 2015. The final date is subject to approval by Parliament	Undecided	Undecided	Undecided			
Serbia	June 17, 2015	The initial date of April 4, 2012 set out in the Strategy and Rules of transition from analogue to digital emission of TV program and access to the multiplex in terrestrial digital broadcasting (Official Gazette of RoS no. 12/11) was postponed by the government decision on change of strategy (Official Gazette of RoS no. 18/12).	Undecided	Undecided	Undecided			
Turkey	March 2015	The Law No.6112 of February 15, 2011, requires to complete analogue switch-off by March 2015 at the latest.  The strategy decision of Ministry of Transport, Maritime Affairs and Communications of June 2010 provides that 790-862 MHz band will be used for communication services such as PPDR or wireless/mobile communications other than broadcasting.	Undecided	72 MHz	Undecided			
Albania	June 17, 2015	The new national strategy for analogue switch-off adopted in May 2012 envisages a region-by-region analogue switch-off, starting from April 2013 and ending in January 2015, with the ultimate deadline of June 17, 2015.	Undecided	72 MHz	Undecided			

Country	Analogue switch-off date	Decision making process	Spectrum available for mobile/wireless communications (actual or planned) at UHF IV and V (470 – 862 MHz) spectrum bands				
			Lower band 470–790 MHz range	790–862 MHz band	Award details		
Bosnia & Herzegovina	Dec. 1, 2014	On June 17, 2009 the Council of Ministers of Bosnia and Herzegovina adopted the Strategy on the digital switch-over within the frequency bands of 174-230MHz and 470-862MHz in Bosnia and Herzegovina.  A new action plan developed by the Expert Committee in January 2012 and forwarded to the Council of Ministers for adoption proposes a new switch-off date of Dec. 1, 2014, instead of initially approved Dec. 1, 2011.	Undecided	Undecided	Undecided		
Kosovo*	2015	The Independent Media Commission, in cooperation with all competent institutions and stakeholders, started to work on the drafting of the strategy in 2010.	Undecided	Undecided	Undecided		

Table F.7 – Analogue switch-off dates and use of the digital dividend

#### Notes:

Kosovo\*:

Kosovo is not a member of ITU. Planning of DTT for Kosovo (as a result of RRC-06) is done within the planning of the Republic of Serbia. Kosovo is allocated one assignment and one allotment that ensures only 48% coverage of the territory of the Republic of Kosovo. The rest is to be covered by the neighbouring country on the north. More than a technical problem, the issue of DTT is to be solved on a political level in a triangle of cooperation between Kosovo-ITU-Serbia.

# G. Regulatory framework for market analyses

# 1. Market analysis and SMP regulations

The table below examines national frameworks for market analyses carried out by the NRAs.

Country	NRA powers to collect information Any restrictions?	Definition of relevant markets Set out in the law or defined based on the NRA analysis?	Basis for SMP designation 25% threshold or 40% plus analysis of other factors?	Imposition of remedies Pre-defined by law or discretionary imposed by the NRA	Frequency for market analysis
Croatia	No restrictions (Articles 53(3), 54(2) of the Electronic Communications Act)	The NRA has discretion to define relevant markets taking into account the EC recommendation on relevant markets and applying the three criteria test (Article 53 of the Electronic Communications Act).	Competition law principles, taking into account market shares and other relevant criteria, and EC guidelines (Article 55 of the Electronic Communications Act)	Discretionary remedies can be imposed by the NRA (listed in Articles 58 to 65 of the Electronic Communications Act).	At least once every three years (Article 52 of the Electronic Communications Act)
Iceland	No restrictions	The NRA has discretion to define relevant markets taking into account the EC recommendation on relevant markets and applying the three criteria test	Competition law principles, taking into account market shares and other relevant criteria, and EC guidelines	Remedies are discretionary imposed by the NRA (listed in Article 27 of the Electronic Communications Act)	Every three years
FYR Macedonia	No restrictions Operators of electronic communications networks and service providers are required to submit at the request of the NRA information related to their activities, including financial data. The request has to be justified, based on reasonable grounds and proportionate to its purpose Confidential information received from another regulatory body can only be used for the purposes for which it was requested. (Article 23 of Law on Electronic Communications). The NRA is collecting data according to guidelines for	Under Article 41 of the Law on Electronic Communications, the NRA defines relevant product, service and geographic markets in accordance with the Law on Protection of Competition and in cooperation with the NCA.  In Aug. 2005, the NRA adopted a Decision on the determination of relevant markets setting out 18 relevant markets according to the EC Recommendation of 2003 that were assessed by the NRA in its first round analysis.  On Sep. 23, 2010 the NRA adopted a new Decision on the determination of relevant markets where it identifies 13 relevant markets to be analysed in the second round. A further 14 <sup>th</sup> market covering wholesale SMS termination on individual mobile	The NRA in its assessment of SMP in a relevant market takes into account the provisions of the Law on Protection of Competition, combined with other criteria defined in Article 40 of Law on Electronic Communications and AEC methodology for analysis of relevant markets.  According to the provisions of the Law on Protection of Competition, a company has a dominant position on a relevant market if it has market share of over 40%, combined with assessment of other factors.	Remedies are discretionary imposed by the NRA (listed in Articles 44-52 of the Law on Electronic Communications).	The NRA may decide on the periodicity of market analysis in consultation with the NCA (Article 42 of Law on Electronic Communications).  Amendments to the Law on Electronic Communications adopted in June 2010 removed the requirement to review markets on a yearly basis.

Country	NRA powers to collect information Any restrictions?	Definition of relevant markets Set out in the law or defined based on the NRA analysis?	Basis for SMP designation 25% threshold or 40% plus analysis of other factors?	Imposition of remedies Pre-defined by law or discretionary imposed by the NRA	Frequency for market analysis
	provision of data and information for market analysis purposes adopted by the NRA on a quarterly basis.	networks was added to the list in the analysis process.			
Montenegro	No restrictions (Article 18 of the Law on Electronic Communications) The information request, however, must be justified and proportionate.	Discretionary definition by the NRA, in cooperation with the NCA and taking into account the EU practices (Article 41 of the Law on Electronic Communications)	Competition law principles, taking into account market shares and other relevant criteria (Article 47 of the Law on Electronic Communications)	Remedies are discretionary imposed by the NRA (listed in Articles 48-51, 56 of the Law on Electronic Communications).	Not defined Under Article 143, Transitional provisions of the Law on Electronic Communications, the NRA was to complete its first market analysis within one year from the entry into force of the law, i.e. by August 27, 2009. In practice, EKIP completed its first round market analysis by the end of 2011.
Serbia	No restrictions Operators are required to submit at the request by the NRA all information that is necessary for its activities (Article 41 of the Law on electronic communications).	Article 59 of the Law on electronic communications provides for discretionary definition by the NRA, taking into account relevant recommendations of the European Commission.	Competition law principles, taking into account market shares and other criteria for assessment of individual or collective dominance (Articles 61-62 of the Law on Electronic Communications)	Remedies are discretionary imposed by the NRA (listed in Articles 63-71 of the Law on Electronic Communications).	At least once every three years (Article 60 of the Law on Electronic Communications)

Country	NRA powers to collect information Any restrictions?	Definition of relevant markets Set out in the law or defined based on the NRA analysis?	Basis for SMP designation 25% threshold or 40% plus analysis of other factors?	Imposition of remedies Pre-defined by law or discretionary imposed by the NRA	Frequency for market analysis
Turkey	According to the "Bylaw on Principles and Procedures in the Electronic Communications Sector for the Determination of the Undertakings with Significant Market Power and the Remedies which is to be Imposed for Those Undertakings (SMP bylaw)", the NRA can demand any information without restrictions during the market analysis. NRA can use public surveys, studies by third parties and international benchmarks.	The NRA has discretion to define relevant markets applying competition law principles.  According to article 8 (1) of the SMP bylaw, for all markets to be analysed the three criteria test must be applied.	Dominance concept is based on competition law principles. In the SMP bylaw, market shares of the operators are considered as the primary source.  The determination of the market shares of the operators can be made based on revenue, subscriber or user numbers, traffic volume, transmission capacity and transmission line number, as long as they are appropriate and available.  In addition to market shares, SMP assessment can be based on a number of other criteria defined in Article 9 of SMP bylaw. Those criteria are aligned with the SMP guidelines of the European Commission.	Under Article 11 of the SMP Bylaw, the NRA may impose on operators with SMP the following remedies:  Transparency Publication of reference access or interconnection offers Non discrimination Accounting separation Access or interconnection Subject to tariff regulation Cost accounting Carrier selection and carrier preselection and Providing minimum sets of leased lines. Under article 7 (3) of the Law on Electronic Communications, the NRA may impose discretionary remedies, allowing differentiation among operators with SMP on the same market and among different markets. All remedies regarding access and interconnection are imposed where SMP analysis is concluded.	At least once every three years (Article 6 (1) of the SMP bylaw)
Albania	No restrictions. Under article 16 of the Law on Electronic Communications, undertakings are obliged to provide data and any other information as requested by the NRA.	The NRA has discretion to define relevant markets applying competition law principles (Article 32 of the Law on Electronic Communications).  AKEP market analysis regulation of July 17, 2009 defined relevant markets subject to regulation.  The list comprises 16 markets of EC recommendation of 2003 (all except for broadcasting and international roaming services).	Competition law principles, taking into account market shares and other relevant criteria (Article 33 of the Law on Electronic Communications).  AKEP market analysis regulation also makes reference to the EC guidelines on market analysis.	Remedies are discretionary imposed by the NRA (listed in Articles 39-45, 56 of the Law on Electronic Communications)	On regular basis, but no less than once every two years (Article 34 of the Law on Electronic Communications)

Country	NRA powers to collect information Any restrictions?	Definition of relevant markets Set out in the law or defined based on the NRA analysis?	Basis for SMP designation 25% threshold or 40% plus analysis of other factors?	Imposition of remedies Pre-defined by law or discretionary imposed by the NRA	Frequency for market analysis
Bosnia & Herzegovina	No restrictions. Licence conditions of all licensed operators and service providers contain an obligation to provide to the Agency any requested information in a timely fashion.	Discretionary definition by the Agency (Article 14 of the Law on Communications)  The NRA has to define relevant markets taking into account the EC recommendation on relevant markets and applying the three criteria test (Article 4 of the Rule 54/2011 on analysis of electronic communications markets, October 31, 2011)	Competition law principles, taking into account market shares and other criteria for assessment of individual or collective dominance (Article 4 of the Rule 54/2011 on analysis of electronic communications markets, October 31, 2011)	Remedies are discretionary imposed by the NRA (listed in Articles 12-20 of the Rule 54/2011 on analysis of electronic communications markets, October 31, 2011)	Once every year (Article 14 of the Law on Communications)
Kosovo*	The NRA has the authority to collect and maintain information, including but not limited to statistics, financial, employment and network performance reports or other reports that it requires in order to fulfil its responsibilities Article 12 of Law on Telecommunications (No 2002/7), as amended by Law (No. 03/L-085.)	The NRA has discretion to define relevant markets according to the Regulation on Market Analysis and Definition of the Providers with Significant Market Power (No. Prot. 115/1/10, Dec. 20, 2010).	The main criteria for defining SMP is 25% market share in a relevant market, combined with an assessment of other criteria. This is according to Article 44 of Law on Telecommunications (No 2002/7), as amended by Law (No. 03/L-085)	Discretionary remedies can be imposed by the TRA (listed in Article 6 of the Regulation on Market Analysis and Definition of the Providers with Significant Market Power, No. Prot. 115/1/10, Dec. 20, 2010).	At least once every three years (Article 3.12 of the Regulation on Market Analysis and Definition of the Providers with Significant Market Power (No. Prot. 115/1/10, Dec. 20, 2010).

Table G.1 – Market analysis and SMP regulations

# 2. Analysis of relevant markets by NRAs

The table below examines the analysis of relevant retail and wholesale markets by the NRAs.

Country	Relevant market(s) defined by the NRA	Geographic scope	Operator(s) with SMP	Remedies imposed on SMP operator(s)	Legal basis Reference to relevant legislation or NRA decision
Croatia	Wholesale voice call termination on individual mobile networks (M7/2007)	National	<ul> <li>HT d.d. (T-Mobile)</li> <li>VIPnet d.o.o.</li> <li>Tele2 d.o.o.</li> </ul>	HT and VIPnet  Transparency (RIO)  Access and interconnection  Price control and cost orientation  Non discrimination  Tele2  Transparency (minimal offer)  Access and interconnection  Price control - asymmetry  Non discrimination	HAKOM decision of July 17, 2009
	Wholesale access and call origination on the public mobile telephone networks (M15/2003)	-	No SMP Three criteria test is not fulfilled.	Deregulated	HAKOM decision of July 17, 2009
	Retail public mobile services	-	No SMP Three criteria test is not fulfilled.	Deregulated	HAKOM decision of July 17, 2009
	Wholesale SMS termination on individual mobile networks	-	No SMP Three criteria test is not fulfilled.	Deregulated	HAKOM decision of July 17, 2009
	Wholesale call termination on individual public telephone networks provided at fixed location (M3/2007)	National	HT d.d.     All other (8) alternative operators	<ul> <li>HT</li> <li>Transparency (RIO)</li> <li>Access and interconnection</li> <li>Price control and cost orientation</li> <li>Non discrimination</li> <li>Accounting separation</li> <li>Other operators</li> <li>Access and interconnection</li> <li>Price control - asymmetry</li> <li>Non discrimination</li> <li>Transparency (minimal offer)</li> </ul>	HAKOM decision of July 17, 2009

Country	Relevant market(s) defined by the NRA	Geographic scope	Operator(s) with SMP	Remedies imposed on SMP operator(s)	Legal basis Reference to relevant legislation or NRA decision
	Wholesale call origination on the public telephone network provided at a fixed location (M2/2007)	National	HT d.d.	<ul> <li>Transparency (RIO)</li> <li>Access and interconnection</li> <li>Price control and cost orientation</li> <li>Non discrimination</li> <li>Accounting separation</li> <li>CS/CPS obligation</li> </ul>	HAKOM decision of July 17, 2009
	Wholesale transit services in the public telephone networks (M10/2003)		No SMP Three criteria test is not fulfilled.	Deregulated	HAKOM decision of July 17, 2009
	Wholesale network infrastructure access (including shared and full access) at fixed location (M4/2007)	National	HT d.d.	<ul> <li>Transparency (RUO)</li> <li>Access and interconnection</li> <li>Price control and cost orientation</li> <li>Non discrimination</li> <li>Accounting separation</li> </ul>	HAKOM decision of July 17, 2009
	Wholesale broadband access (M5/2007)	National	HT d.d.	<ul> <li>Transparency (BSA RO)</li> <li>Access and interconnection</li> <li>Price control and cost orientation</li> <li>Non discrimination</li> <li>Accounting separation</li> </ul>	HAKOM decision of July 17, 2009
	Access to the public telephone network at a fixed location for residential and non-residential customers (M1/2007)	National	HT d.d. and its subsidiary (Iskon Internet d.d.)	HT (wholesale level)  Access, including CS/CPS and WLR (PSTN and ISDN)  Price control and cost orientation  Non discrimination  Accounting separation  Transparency (WLR RO)  HT (retail level)  Retail price control and prohibition of unjustified bundling  Iskon Internet (retail level)  Retail price control	HAKOM decision of April 6, 2011

Country	Relevant market(s) defined by the NRA	Geographic scope	Operator(s) with SMP	Remedies imposed on SMP operator(s)	Legal basis Reference to relevant legislation or NRA decision
	Retail publicly available international telephone calls at fixed location for residential and non-residential customers (M4 and 6/2003)	-	No SMP Three criteria test is not fulfilled.	Deregulated	HAKOM decision of June 15, 2011
	Retail publicly available local and national telephone calls at fixed location for residential and non-residential customers (M3 and 5/2003)	National	HT d.d. and its subsidiary (Iskon Internet d.d.)	HT and Iskon Internet     Retail price control and cost orientation	HAKOM decision of July 20, 2011
	Wholesale terminating segments of leased lines, irrespective of the technology used to provide leased or dedicated capacity (M 6/2007)	National	HT d.d.	<ul> <li>Transparency (LL RO)</li> <li>Access and interconnection</li> <li>Price control and cost orientation</li> <li>Non discrimination</li> <li>Accounting separation</li> </ul>	HAKOM decision of Nov. 30, 2011
	Wholesale trunk segments of leased lines (M14/2003) - non-competitive routes	National	HT d.d.	<ul> <li>Transparency (LL RO)</li> <li>Access and interconnection</li> <li>Price control and cost orientation</li> <li>Non discrimination</li> <li>Accounting separation</li> </ul>	HAKOM decision of Nov. 30, 2011
	Retail broadband access	National	HT d.d. and its subsidiary (Iskon Internet d.d.) (also deemed to have SMP on closely related market of transmission of PayTV channels, in accordance with Article 55 (5) of the Electronic Communications Act of 2008)	Retail price control     Cost- orientation     Prohibition to inhibit market entry or restrict competition by setting predatory prices     Prohibition to show undue preference to specific endusers     Prohibition to unreasonably bundle certain types of services	HAKOM decision of March 21, 2012

Country	Relevant market(s) defined by the NRA	Geographic scope	Operator(s) with SMP	Remedies imposed on SMP operator(s)	Legal basis Reference to relevant legislation or NRA decision
Iceland	Retail access to the public telephone network at fixed location (M1-2/2003)	National	Síminn hf.	Wholesale level CS/CPS Access to single billing (WLR) Non-discrimination Transparency (including publication of reference offer) Accounting separation Regulatory cost accounting and cost orientation Price control	PTA decision of Dec. 5, 2008
	Retail publicly available telephone calls at fixed location (M3-6/2003)	National	Síminn hf.	No obligations imposed at retail level	PTA decision of Dec. 5, 2008
	Minimum set of leased lines, comprising specified types of leased lines up to and including 2Mb/sec) (M7/2003)	National	Síminn hf.	Access to specified types of lines     Non-discrimination     Transparency     Accounting separation     Price controls and cost orientation (HCA)	PTA decision of Sep. 28, 2007
	Wholesale call origination on the public telephone network provided at a fixed location (M8/2003)	National	Síminn hf.	<ul> <li>Obligation to grant access</li> <li>Non-discrimination</li> <li>Transparency (RIO)</li> <li>Accounting separation</li> <li>Obligations concerning price controls and cost accounting</li> </ul>	PTA decision of Dec. 4, 2008

Country	Relevant market(s) defined by the NRA	Geographic scope	Operator(s) with SMP	Remedies imposed on SMP operator(s)	Legal basis Reference to relevant legislation or NRA decision
	Wholesale call termination to geographic numbers in public fixed networks (M9/2003)	National	Síminn hf.     Fjarskipti ehf	Síminn hf.  Obligation to grant access  Non-discrimination Transparency (RIO) Accounting separation Obligations concerning price controls and cost accounting  Fjarskipti ehf Obligation to grant access Non-discrimination Transparency Price controls	PTA decision of Dec. 4, 2008
	National transit services in the public telephone network provided at fixed locations (M10/2003)	National	Síminn hf.	<ul> <li>Obligation to grant access</li> <li>Non-discrimination</li> <li>Transparency (RIO)</li> <li>Accounting separation</li> <li>Obligations concerning price controls and cost accounting</li> </ul>	PTA decision of Dec. 4, 2008
	Wholesale unbundled access (M11/2003)	National	Míla ehf.	Access to copper local loops and related infrastructure     Non-discrimination     Transparency (RUO)     Accounting separation     Price controls and cost orientation (HCA)	PTA decision of Dec. 21, 2007
	Wholesale broadband access (M12/2003)	National	Síminn hf.	Access to BSA over copper local loops and related infrastructure     Non-discrimination     Transparency     Accounting separation     Price controls	PTA decision of April 18, 2008

Country	Relevant market(s) defined by the NRA	Geographic scope	Operator(s) with SMP	Remedies imposed on SMP operator(s)	Legal basis Reference to relevant legislation or NRA decision
	Wholesale terminating segments of leased lines (M13/2003)	National	Míla ehf.	<ul> <li>Access on reasonable request</li> <li>Non-discrimination</li> <li>Transparency (RO)</li> <li>Accounting separation</li> <li>Price controls and cost orientation (HCA)</li> </ul>	PTA decision of Sep. 28, 2007
	Wholesale trunk segments of leased lines (M14/2003)	National	Míla ehf.	<ul> <li>Access on reasonable request</li> <li>Non-discrimination</li> <li>Transparency (RO)</li> <li>Accounting separation</li> <li>Price controls and cost orientation (HCA)</li> </ul>	PTA decision of Sep. 28, 2007
	Wholesale access and call origination on mobile networks (M15/2003)	-	No SMP Three criteria test is not fulfilled.	Deregulated Regulatory obligations from Síminn hf. removed	PTA decision of March 30, 2012
	Wholesale market for broadcasting transmission services to deliver broadcast content to end users (M18/2003)	National	No undertaking has SMP	-	PTA decision of Nov. 4, 2007
	Wholesale call termination on individual mobile networks (M7/2007)	National	<ul> <li>Síminn hf.</li> <li>Fjarskipti ehf (Vodafone)</li> <li>IMC Island hf.</li> <li>Nova hf.</li> <li>Tal ehf.</li> </ul>	Access     Non-discrimination     Obligation for monitoring of tariffs (glide path up to Jan. 1, 2013)     Accounting separation (Síminn & Fjarskipti)     Cost accounting (Síminn)	PTA decision of Jan. 13, 2012 (third round)

Country	Relevant market(s) defined by the NRA	Geographic scope	Operator(s) with SMP	Remedies imposed on SMP operator(s)	Legal basis Reference to relevant legislation or NRA decision
FYR Macedonia	Access to the public telephone network at a fixed location (M1-2/2003)	National	AD Makedonski Telekom	CS and CPS WLR, based on retail minus Non discrimination Ex ante price control Transparency obligation (publication of charges, terms and conditions) Accounting separation Prohibition of anti competitive behaviour Prohibition for unreasonable bundling of services (allow customers to buy unbundled elements of any service elements)	AEC decision of Oct. 28, 2010
	Publicly available telephone services at a fixed location (M3-6/2003)	National	AD Makedonski Telekom	CS and CPS WLR, based on retail minus Non discrimination Ex ante price control Transparency obligation (publication of charges, terms and conditions) Accounting separation Prohibition of anti competitive behaviour Prohibition for unreasonable bundling of services (allow customers to buy unbundled elements of any service elements)	AEC decision of Oct. 28, 2010
	A minimum set of leased lines (M7/2003)	National	AD Makedonski Telekom	<ul> <li>Non discrimination</li> <li>Ex ante price control</li> <li>Transparency obligation (publication of charges, terms and conditions)</li> <li>Accounting separation</li> </ul>	AEC decision of April 1, 2010

Country	Relevant market(s) defined by the NRA	Geographic scope	Operator(s) with SMP	Remedies imposed on SMP operator(s)	Legal basis Reference to relevant legislation or NRA decision
	Call origination services in the public telephone network at a fixed location (M8/2003)	National	AD Makedonski Telekom	Interconnection and access (obligation for interconnection and access and RIO)     Non discrimination     price control (based on LRIC)     Transparency obligation (publication of RIO)     Accounting separation     Carrier selection and pre selection     Access and use of specific network elements ( wholesale line rental)	AEC decision of Oct. 28, 2010
	Call termination services in the public telephone network at a fixed location (M9/2003)	National	AD Makedonski Telekom and 7 alternative fixed operators:  ONE-Skopje On Net-Skopje Neotel-Skopje Aikol-Stip Cabletel-Skopje Anutel-Skopje Infel Net Plus-Ohrid	AD Makedonski Telekom:     Interconnection and access (obligation for interconnection and access and RIO)     Non discrimination     Price control (based on LRIC)     Transparency obligation (publication of RIO)     Accounting separation     Alternative operators:     Interconnection and access     Non discrimination     Transparency obligation     Price control	AEC decision of Oct. 28, 2010
	Transit services in the public fixed telephone network (M10/2003)	National	AD Makedonski Telekom	<ul> <li>Interconnection and access</li> <li>Non discrimination</li> <li>Price control (based on LRIC)</li> <li>Transparency obligation</li> <li>Accounting separation</li> <li>Access and use of specific network elements</li> </ul>	AEC decision of Oct. 28, 2010

Country	Relevant market(s) defined by the NRA	Geographic scope	Operator(s) with SMP	Remedies imposed on SMP operator(s)	Legal basis Reference to relevant legislation or NRA decision
	Wholesale physical network infrastructure access (including shared or fully unbundled access) at a fixed location (M11/2003)	National	AD Makedonski Telekom	<ul> <li>Non discrimination</li> <li>Price control (based on LRIC)</li> <li>Transparency obligation</li> <li>Accounting separation</li> <li>Access and use of specific network elements</li> </ul>	AEC decision of Oct. 28, 2010
	Broadband services access (M12/2003)	National	AD Makedonski Telekom	<ul> <li>Non discrimination</li> <li>Price control (based on LRIC)</li> <li>Transparency obligation</li> <li>Accounting separation</li> <li>Access and use of specific network elements</li> </ul>	AEC decision of Oct. 28, 2010
	Terminating segment of leased lines (M13/2003)	National	AD Makedonski Telekom	<ul> <li>Non discrimination</li> <li>Ex ante price control</li> <li>Transparency obligation (publication of charges, terms and conditions)</li> <li>Accounting separation</li> </ul>	AEC decision of April 1, 2010
	Trunk segments of leased lines (M14/2003)	National	AD Makedonski Telekom	<ul> <li>Non discrimination</li> <li>Ex ante price control</li> <li>Transparency obligation (publication of charges, terms and conditions)</li> <li>Accounting separation</li> </ul>	AEC decision of April 1, 2010
	Access to public mobile communication networks and services for the purpose of call origination in public mobile communication networks (M15/2003)	National	T-Mobile	Interconnection and access     Non discrimination     Price control (based on LRIC)     Transparency obligation (publication of charges, terms and conditions)     Accounting separation     Access and use of specific network elements	AEC decision of July 29, 2010

Country	Relevant market(s) defined by the NRA	Geographic scope	Operator(s) with SMP	Remedies imposed on SMP operator(s)	Legal basis Reference to relevant legislation or NRA decision
	Call termination services in public mobile communication networks (M16/2003)	National	<ul><li>T-Mobile</li><li>ONE Operator</li><li>VIP Operator</li></ul>	<ul> <li>Interconnection and access</li> <li>Non discrimination</li> <li>Price control (based on LRIC)</li> <li>Transparency obligation (publication of charges, terms and conditions)</li> <li>Accounting separation</li> </ul>	AEC decision of May 18, 2010
	Wholesale SMS termination in individual public mobile communications networks	National	T-Mobile ONE Operator VIP Operator	<ul> <li>Interconnection and access</li> <li>Non discrimination</li> <li>Price control (based on LRIC)</li> <li>Transparency obligation (publication of charges, terms and conditions)</li> <li>Accounting separation</li> </ul>	AEC decision of May 10, 2011
Montenegro	Access to the public telephone network at a fixed location for residential and non-residential customers (M1/2007)	National	Crnogorski Telekom	<ul> <li>CS/CPS</li> <li>WLR</li> <li>Prohibition of excessive prices, too high or too low prices</li> <li>Non-discrimination</li> <li>Prohibition of unduly bundling</li> </ul>	EKIP decision of Nov. 12, 2010
	Call origination on the public telephone network provided at a fixed location (M2/2007)	National	Crnogorski Telekom	<ul> <li>Access and interconnection</li> <li>Transparency (RIO)</li> <li>Non-discrimination</li> <li>Accounting separation</li> <li>Price control (benchmarking) and cost accounting</li> </ul>	EKIP decision of Nov. 12, 2010

Country	Relevant market(s) defined by the NRA	Geographic scope	Operator(s) with SMP	Remedies imposed on SMP operator(s)	Legal basis Reference to relevant legislation or NRA decision
	Call termination on individual public telephone networks provided at a fixed location (M3/2007)	National	Crnogorski Telekom M:Tel	Crnogorski Telekom	EKIP decision of Nov. 12, 2010
	Network infrastructure access (including shared or fully unbundled access) at a fixed location (M4/2007)	National	Crnogorski Telekom	<ul> <li>Access</li> <li>Transparency (RUO)</li> <li>Non-discrimination</li> <li>Accounting separation</li> <li>Price control (benchmarking) and cost accounting</li> </ul>	EKIP decision of Nov. 12, 2010
	Wholesale broadband access (M5/2007)	National	Crnogorski Telekom	<ul> <li>Access</li> <li>Transparency (RO)</li> <li>Non-discrimination</li> <li>Accounting separation</li> <li>Price control (retail minus 42%) and cost accounting</li> </ul>	EKIP decision of Nov. 12, 2010
	Terminating or trunk segments of leased lines, irrespective of the technology used to provide leased or dedicated capacity (M6/2007)	National	Crnogorski Telekom	<ul> <li>Access</li> <li>Transparency (RO)</li> <li>Non-discrimination</li> <li>Accounting separation</li> <li>Price control (benchmarking) and cost accounting</li> </ul>	EKIP decision of Nov. 12, 2010

Country	Relevant market(s) defined by the NRA	Geographic scope	Operator(s) with SMP	Remedies imposed on SMP operator(s)	Legal basis Reference to relevant legislation or NRA decision
	Voice call termination on individual mobile networks (M7/2007)	National	Telenor T-Mobile M:Tel	<ul> <li>Access and interconnection</li> <li>Transparency (RIO)</li> <li>Non-discrimination</li> <li>Price control (benchmarking) and cost</li> </ul>	EKIP decision of Nov. 12, 2010
	Publicly available local/and or national telephone services provided at a fixed location for residential and business customers (M3 and 5/2003)	National	Crnogorski Telekom	Regulatory obligations imposed on wholesale level:  CS/CPS and WLR Regulatory obligations imposed on retail level:  Prohibition of excessive prices, too high or too low prices  Non-discrimination  Prohibition of unduly bundling	EKIP decision of Dec. 30, 2011
	Publicly available international telephone services provided at a fixed location for residential and business customers (M4 and 6/2003)	National	Crnogorski Telekom	Regulatory obligations imposed on wholesale level:  CS/CPS and WLR Regulatory obligations imposed on retail level:  Prohibition of excessive prices, too high or too low prices  Non-discrimination  Prohibition of unduly bundling	EKIP decision of Dec. 30, 2011
	Wholesale trunk segments of leased lines (M14/2003)	National	Crnogorski Telekom	<ul> <li>Access and interconnection</li> <li>Transparency (Reference offer for trunk segments of leased lines)</li> <li>Non-discrimination</li> <li>Accounting separation</li> <li>Price control (prices in accordance with the Recommendation EC on pricing aspects of wholesale leased lines</li> </ul>	EKIP decision of Dec. 30, 2011

Country	Relevant market(s) defined by the NRA	Geographic scope	Operator(s) with SMP	Remedies imposed on SMP operator(s)	Legal basis Reference to relevant legislation or NRA decision
	Access and call origination on public mobile telephone networks (M15/2003)	National	Telenor Crnogorski Telekom M:Tel	<ul> <li>Access and interconnection</li> <li>Transparency (RIO)</li> <li>Non-discrimination</li> <li>Price control and cost accounting</li> </ul>	EKIP decision of Dec. 30, 2011
	Broadcasting transmission services to deliver broadcast content to end-users (M18/2003)	National	Broadcasting Centre	<ul> <li>Access</li> <li>Transparency (RO)</li> <li>Non-discrimination</li> <li>Accounting separation</li> <li>Price control and cost accounting</li> </ul>	EKIP decision of Dec. 30, 2011
Serbia	Retail access to the public telephone network (M1/2007)	National	Telekom Srbija a.d.	<ul> <li>Prohibition of excessive pricing</li> <li>Prohibition of barriers to entry or excessive pricing or underpricing such as to limit the competition</li> <li>Prohibition of preferential treatment of an end-user</li> <li>Price control</li> <li>Obligation to obtain a formal approval from NRA for price formulation and price changes for bundled services</li> <li>Individual tariff control measures</li> <li>Cost-oriented prices or benchmarked prices</li> </ul>	Electronic Communications Law (Official Gazette of the Republic of Serbia, no.44/10) RATEL decision from Nov. 2011
	Wholesale call origination on the public telephone network provided at a fixed location (M2/2007)	National	Telekom Srbija a.d.	<ul> <li>Publication of relevant data – reference offer</li> <li>Non-discrimination</li> <li>Accounting separation</li> <li>Provision of access</li> <li>Price control and cost accounting</li> </ul>	Electronic Communications Law (Official Gazette of the Republic of Serbia, no.44/10) RATEL decision from Nov. 2011

Country	Relevant market(s) defined by the NRA	Geographic scope	Operator(s) with SMP	Remedies imposed on SMP operator(s)	Legal basis Reference to relevant legislation or NRA decision
	Wholesale call termination on individual public telephone networks provided at a fixed location (M3/2007)	National	Telekom Srbija a.d. Orion Telekom	Telekom Srbija a.d.  Publication of reference interconnection offer  Non-discrimination  Accounting separation  Provision of access  Price control and cost accounting  Orion Telekom  Publication of reference interconnection offer  Non-discrimination  Provision of access  Price control	Electronic Communications Law (Official Gazette of the Republic of Serbia, no.44/10) RATEL decision from Nov. 2011
	Wholesale network infrastructure access (including shared or fully unbundled access) at a fixed location (M4/2007)	National	Telekom Srbija a.d.	<ul> <li>Publication of reference offer</li> <li>Non-discrimination</li> <li>Accounting separation</li> <li>Provision of access</li> <li>Price control and cost accounting</li> </ul>	Electronic Communications Law (Official Gazette of the Republic of Serbia, no.44/10) RATEL decision from Nov. 2011
	Wholesale broadband access (M5/2007)	National	Telekom Srbija a.d.	<ul> <li>Publication of reference offer</li> <li>Non-discrimination</li> <li>Accounting separation</li> <li>Provision of access</li> <li>Price control and cost accounting</li> </ul>	Electronic Communications Law (Official Gazette of the Republic of Serbia, no.44/10) RATEL decision from Nov. 2011
	Wholesale leased lines (M6/2007)	National	Telekom Srbija a.d.	Publication of reference offer     Non-discrimination     Accounting separation     Price control and cost accounting     Provision of minimum set of leased lines	Electronic Communications Law (Official Gazette of the Republic of Serbia, no.44/10) RATEL decision from Nov. 2011

Country	Relevant market(s) defined by the NRA	Geographic scope	Operator(s) with SMP	Remedies imposed on SMP operator(s)	Legal basis Reference to relevant legislation or NRA decision
	Voice call termination on individual mobile networks (M7/2007)	National	Telekom Srbija a.d. Telenor Vip Mobile	<ul> <li>Publication of reference interconnection offer</li> <li>Non-discrimination</li> <li>Provision of access</li> <li>Price control</li> </ul>	Electronic Communications Law (Official Gazette of the Republic of Serbia, no.44/10) RATEL decision from November 2011
	Retail distribution of media content	National	Serbia Broadband – Srpske kablovske mreze d.o.o. (SBB)	<ul> <li>Prohibition of excessive pricing</li> <li>Prohibition of barriers to entry or excessive pricing or underpricing such as to limit the competition</li> <li>Prohibition of preferential treatment of an end-user</li> <li>Price control</li> <li>Obligation to obtain a formal approval from NRA for price formulation and price changes for bundled services</li> <li>Individual tariff control measures</li> <li>Cost-oriented prices or benchmarked prices</li> </ul>	Electronic Communications Law (Official Gazette of the Republic of Serbia, no.44/10) RATEL decision from November 2011
	Retail publicly available telephone services provided at a fixed location (M 3-6/2003)	National	Telekom Srbija a.d.	<ul> <li>Prohibition of excessive pricing</li> <li>Prohibition of barriers to entry or excessive pricing or underpricing such as to limit the competition</li> <li>Prohibition of preferential treatment of an end-user</li> <li>Price control</li> <li>Obligation to obtain a formal approval from NRA for price formulation and price changes for bundled services</li> <li>Individual tariff control measures</li> <li>Cost-oriented prices or benchmarked prices</li> </ul>	Electronic Communications Law (Official Gazette of the Republic of Serbia, no.44/10) RATEL decision from November 2011

Country	Relevant market(s) defined by the NRA	Geographic scope	Operator(s) with SMP	Remedies imposed on SMP operator(s)	Legal basis Reference to relevant legislation or NRA decision
Turkey	Wholesale call termination in individual mobile networks (M16/2003)  Wholesale mobile access and call origination (M15/2003)	National	Turkcell Vodafone Avea  Other mobile service providers (i.e. potential new entrants)  Turkcell	Turkcell, Vodafone, Avea  Non-discrimination  Cost accounting  Accounting separation  Transparency  Publication of RIO  Price control  Access and interconnection  Co-location  Other mobile network operators  Access and interconnection  Non-discrimination  Transparency  Access and interconnection  Non-discrimination	Decision no. 2009/DK - 10.627 of Dec. 8, 2009  Decision no. 2009/DK - 10.626 of Dec. 8, 2009
				<ul> <li>Cost accounting</li> <li>Accounting separation</li> <li>Transparency</li> <li>Publication of reference offer</li> <li>Price control (cost orientation)</li> <li>Co-location</li> </ul>	
	Retail access to the public telephone network at fixed location for residential and business customers (M1-2/2003)	National	Türk Telekom	<ul><li>Access</li><li>CS/CPS</li><li>WLR</li><li>Non-discrimination</li><li>Price control</li></ul>	Decision no. 2009/DK – 10/659 of Dec. 16, 2009
	Retail publicly available national, local and international telephone calls at fixed location (M3-6/2003)	National	Türk Telekom	<ul><li>Access</li><li>CS/CPS</li><li>Non-discrimination</li><li>Third party billing</li><li>Price control</li></ul>	Decision no. 2009/DK – 10.625 of Dec. 8, 2009

Country	Relevant market(s) defined by the NRA	Geographic scope	Operator(s) with SMP	Remedies imposed on SMP operator(s)	Legal basis Reference to relevant legislation or NRA decision
	Wholesale call termination on public telephone networks provided at a fixed location (M9/2003)	National	Türk Telekom     Other fixed telephone network operators assigned subscriber numbers	Türk Telekom  Interconnection  Non-discrimination  Co-location  Cost accounting  Accounting separation  Transparency  Publication of reference offer  Price control (cost-orientation)  Other operators  Interconnection  Non-discrimination  Transparency	Decision no 2009.DK – 10.624 of Dec. 8, 2009
	Wholesale call origination on the public telephone network provided at a fixed location (M8/2003)	National	Türk Telekom	<ul> <li>Interconnection</li> <li>CS/CPS</li> <li>Non-discrimination</li> <li>Cost accounting</li> <li>Accounting separation</li> <li>Transparency</li> <li>Publication of reference offer</li> <li>Price control (cost orientation)</li> <li>Co-location and facility sharing</li> </ul>	Decision no. 2010/DK – 10/9 of Jan. 7, 2010
	Transit services in the public telephone network provided at fixed locations (M10/2003)	National	Türk Telekom	<ul> <li>Non-discrimination</li> <li>Cost accounting</li> <li>Accounting separation</li> <li>Transparency</li> <li>Publication of reference offer</li> <li>Price control (cost orientation)</li> </ul>	Decision no. 2010/DK-10/103 of Feb. 17, 2010

Country	Relevant market(s) defined by the NRA	NRA scope			Legal basis Reference to relevant legislation or NRA decision
	Wholesale unbundled access (including shared access) to local loops and sub loops for the purpose of providing broadband and voice services (M11/2003)	National	Türk Telekom	<ul> <li>Unbundled access</li> <li>Non-discrimination</li> <li>Cost accounting</li> <li>Accounting separation</li> <li>Transparency</li> <li>Publication of reference offer</li> <li>Price control (cost-orientation)</li> <li>Co-location and facility sharing</li> </ul>	Decision no. 2010/DK – 10/10 of Jan. 7, 2010
	Wholesale broadband access (M12/2003)	National	Türk Telekom	<ul> <li>Wholesale broadband access (xDSL resale, XDSL IP/ATM BSA, ATM, FR, ME resale)</li> <li>Naked DSL (IP BSA)</li> <li>Non-discrimination</li> <li>Cost accounting</li> <li>Accounting separation</li> <li>Transparency</li> <li>Publication of reference offer</li> <li>Subject to tariff regulation</li> <li>Co-location and facility sharing</li> </ul>	Decision no. 2010/DK – 10/20 of Jan. 7, 2010
	Wholesale leased lines (M13-14/2003)	National	Türk Telekom	<ul> <li>Access (point-to-point line provision and partial circuits)</li> <li>Non-discrimination</li> <li>Cost accounting</li> <li>Accounting separation</li> <li>Transparency</li> <li>Price control (cost-orientation)</li> <li>Co-location</li> <li>Publication of reference offer</li> </ul>	Decision no. 2010/DK – 10/19 of Jan. 7, 2010

Country	Relevant market(s) defined by the NRA	Geographic scope	Operator(s) with SMP	Remedies imposed on SMP operator(s)	Legal basis Reference to relevant legislation or NRA decision
	Retail leased lines (M7/2003)	National	Türk Telekom	<ul> <li>Provision of minimum set</li> <li>Non-discrimination</li> <li>Transparency</li> <li>Price control</li> <li>Cost accounting</li> <li>Accounting separation</li> <li>Publication of SLA</li> </ul>	Decision no. 2010/DK – 10/18 of Jan. 7, 2010
Albania	Wholesale call termination on individual mobile networks (M16/2003)	National	<ul> <li>Albanian Mobile Communications</li> <li>Vodafone Albania</li> <li>Eagle Mobile</li> </ul>	Non-discrimination     Transparency     Access and interconnection     Price control and cost orientation based on BULRAIC     RIO	AKEP decisions of March 31, 2010, amended on July 23, 2010: AMC, Vodafone, Eagle Mobile
	Wholesale access and call origination on mobile networks (M15/2003)	National	<ul> <li>Albanian Mobile Communications</li> <li>Vodafone Albania</li> </ul>	Access and interconnection, including MVNO access and national roaming and access and call origination for calling cards operators and calls to 0800 numbers     Non-discrimination     Transparency (RIO)     Cost orientation for provision of access and call origination for Calling cards operators and calls to 0800 numbers     Provision of MVNO access and national roaming on commercial terms	AKEP decisions of March 31, 2010, amended on July 23, 2010: AMC, Vodafone
	Retail access to the public telephone network at fixed location (M1-2/2003)	National	Albtelecom	Non-discrimination     Cost orientation	AKEP decision of July 26, 2010, amended on Aug. 28, 2010
	Retail publicly available telephone calls at fixed location (M3-6/2003)	National	Albtelecom	<ul><li>Transparency</li><li>Price control</li><li>CS/CPS</li></ul>	

Country	Relevant market(s) defined by the NRA	Geographic scope	Operator(s) with SMP	Remedies imposed on SMP operator(s)	Legal basis Reference to relevant legislation or NRA decision
	Wholesale call termination to geographic numbers in Albtelecom fixed network (M9/2003)	National	Albtelecom	<ul><li>CS/CPS</li><li>Non-discrimination</li><li>Cost orientation</li></ul>	
	Wholesale call origination on the public telephone network provided at a fixed location (M8/2003)	National	Albtelecom	<ul><li>Transparency</li><li>Access and interconnection</li></ul>	
	National transit services in the public telephone network provided at fixed locations (M10/2003)	National	Albtelecom	<ul><li>Respect confidentiality</li><li>Price control</li><li>RIO</li></ul>	
	Minimum set of leased lines, comprising specified types of leased lines up to and including 2Mb/sec) (M7/2003)	National	Albtelecom	<ul> <li>Non-discrimination</li> <li>Transparency</li> <li>Publication of reference offer plus SLA/KPI</li> </ul>	AKEP decision of April 13, 2011
	Wholesale terminating segments of leased lines (M13/2003)	National	Albtelecom	Access and interconnection and joint usage of network facilities	
	Wholesale trunk segments of leased lines (M14/2003)	National	Albtelecom	<ul> <li>Accounting separation</li> <li>Regulatory cost accounting and cost orientation</li> <li>Tariff control (retail and wholesale)</li> </ul>	
	Wholesale broadband access (M12/2003)	National	Albtelecom	<ul> <li>Non-discrimination</li> <li>Transparency</li> <li>Publication of reference offer</li> <li>Access and interconnection and joint usage of network facilities</li> </ul>	AKEP decision of April 13, 2011
	Wholesale unbundled access (M11/2003)	National	Albtelecom	<ul> <li>Non-discrimination</li> <li>Transparency</li> <li>Publication of reference offer</li> <li>Access and interconnection and joint usage of network facilities</li> <li>Accounting separation</li> <li>Regulatory cost accounting and cost orientation</li> <li>Tariff control</li> </ul>	

Country	Relevant market(s) defined by the NRA	Geographic scope	Operator(s) with SMP	Remedies imposed on SMP operator(s)	Legal basis Reference to relevant legislation or NRA decision
	Wholesale SMS termination in individual public mobile communications networks	National	<ul> <li>Albanian Mobile Communications</li> <li>Vodafone Albania</li> <li>Eagle Mobile</li> <li>Plus Communication</li> </ul>	<ul> <li>Non-discrimination</li> <li>Transparency</li> <li>Access and interconnection</li> <li>Price control and cost orientation based on BULRAIC</li> </ul>	AKEP decisions of Oct. 31, 2011: AMC, Vodafone, Eagle Mobile, Plus Communication
Bosnia & Herzegovina	Fixed telephony services	Geographic extent of each fixed network	BH Telecom d.d. Sarajevo     Telekom Srpske a.d. Banja Luka     Hrvatske Telekomunikacije d.d. Mostar	<ul> <li>Non-discrimination</li> <li>Transparency</li> <li>RIO</li> <li>Access and interconnection</li> <li>Price control</li> <li>Accounting separation and cost orientation</li> <li>CS and CPS</li> </ul>	RAK decision of Dec. 28, 2009 (Official Gazette of BiH 05/2010)
	Mobile telephony services	Geographic extent of each fixed network	BH Telecom d.d. Sarajevo     Telekom Srpske a.d. Banja Luka     Hrvatske Telekomunikacije d.d. Mostar	<ul> <li>Non-discrimination</li> <li>Transparency</li> <li>RIO</li> <li>Access and interconnection</li> <li>Price control</li> <li>Accounting separation and cost orientation</li> </ul>	RAK decision of Dec. 28, 2009 (Official Gazette of BiH 05/2010)
	Leased lines	Geographic extent of each fixed network	BH Telecom d.d. Sarajevo     Telekom Srpske a.d. Banja Luka     Hrvatske Telekomunikacije d.d. Mostar	<ul> <li>Non-discrimination</li> <li>Transparency</li> <li>RIO</li> <li>Access and interconnection</li> <li>Price control</li> <li>Accounting separation and cost orientation</li> </ul>	RAK decision of Dec. 28, 2009 (Official Gazette of BiH 05/2010)

Country	Relevant market(s) defined by the NRA	Geographic scope	Operator(s) with SMP	Remedies imposed on SMP operator(s)	Legal basis Reference to relevant legislation or NRA decision
Kosovo*	Access to the public telephone network at a fixed location	National	PTK	Price control (Article 6.1 of Regulation on SMP) Prohibition of cross-subsidies (Article 6.2 of Regulation on SMP) Accounting separation (Article 6.3 of Regulation on SMP Access (Article 6.4 of Regulation on SMP) Transparency (Article 6.5 of Regulation on SMP) Non-discrimination (Article 6.6 of Regulation on SMP)	TRA decision No 180 Feb. 29, 2012
	Publicly available local and/or national telephone services provided at a fixed location	National	PTK	Price control (Article 6.1 of Regulation on SMP) Prohibition of cross-subsidies (Article 6.2 of Regulation on SMP) Accounting separation (Article 6.3 of Regulation on SMP) Access (Article 6.4 of Regulation on SMP) Transparency (Article 6.5 of Regulation on SMP) Non-discrimination (Article 6.6 of Regulation on SMP)	TRA decision No 181 Feb. 29, 2012
	Publicly available international telephone services provided at a fixed location	National	PTK	Price control (Article 6.1 of Regulation on SMP) Prohibition of cross-subsidies (Article 6.2 of Regulation on SMP) Accounting separation (Article 6.3 of Regulation on SMP Access (Article 6.4 of Regulation on SMP) Transparency (Article 6.5 of Regulation on SMP) Non-discrimination (Article 6.6 of Regulation on SMP)	TRA decision No 182 Feb. 29, 2012

Country	Relevant market(s) defined by the NRA	Geographic scope	Operator(s) with SMP	Remedies imposed on SMP operator(s)	Legal basis Reference to relevant legislation or NRA decision
	Call origination on the public telephone network provided at a fixed location	National	PTK	<ul> <li>Price control (Article 6.1 of Regulation on SMP)</li> <li>Prohibition of cross-subsidies (Article 6.2 of Regulation on SMP)</li> <li>Accounting separation (Article 6.3 of Regulation on SMP</li> <li>Access (Article 6.4 of Regulation on SMP)</li> <li>Transparency (Article 6.5 of Regulation on SMP)</li> <li>Non-discrimination (Article 6.6 of Regulation on SMP)</li> </ul>	TRA decision No 183 Feb. 29, 2012
	Call termination on individual public telephone networks provided at a fixed location	National	PTK, Ipko	Price control (Article 6.1 of Regulation on SMP)  Prohibition of cross-subsidies (Article 6.2 of Regulation on SMP)  Accounting separation (Article 6.3 of Regulation on SMP)  Access (Article 6.4 of Regulation on SMP)  Transparency (Article 6.5 of Regulation on SMP)  Non-discrimination (Article 6.6 of Regulation on SMP)	TRA decisions No 184 for PTK No 185 for IPKO Feb. 29, 2012
	Transit services in the fixed public telephone network	National	PTK	Price control (Article 6.1 of Regulation on SMP) Prohibition of cross-subsidies (Article 6.2 of Regulation on SMP) Accounting separation (Article 6.3 of Regulation on SMP) Access (Article 6.4 of Regulation on SMP) Transparency (Article 6.5 of Regulation on SMP) Non-discrimination (Article 6.6 of Regulation on SMP)	TRA decision No186 Feb. 29, 2012

Country	Relevant market(s) defined by the NRA	Geographic scope	Operator(s) with SMP	Remedies imposed on SMP operator(s)	Legal basis Reference to relevant legislation or NRA decision
	Wholesale unbundled access (including shared access) to metallic loops and sub-loops for the purpose of providing telecommunications services	National	PTK	Price control (Article 6.1 of Regulation on SMP) Prohibition of cross-subsidies (Article 6.2 of Regulation on SMP) Accounting separation (Article 6.3 of Regulation on SMP Access (Article 6.4 of Regulation on SMP) Transparency (Article 6.5 of Regulation on SMP) Non-discrimination (Article 6.6 of Regulation on SMP)	TRA decision No187 Feb. 29, 2012

Table G.2 – Analysis of relevant markets by NRAs

Notes:

Macedonia: In April 2012 AEC published for consultation its draft third round analysis of the wholesale market for call termination on individual public mobile networks. Second

round analysis of wholesale infrastructure access market (M4/2012) and wholesale broadband access market (M5/2012) are currently in progress.

Albania: On April 20, 2012 AKEP published its new draft market analyses of wholesale mobile call termination and wholesale mobile access/call origination markets for public

consultation until June 20, 2012.

Bosnia & Herzegovina: BH Telecom, Telekom Srpske and HT Mostar designated as SMP operators in the markets for fixed and mobile voice telephony services and leased lines, in

accordance with Law on Communications. Obligations on operators with SMP status are prescribed by the Law and licence conditions.

In order to provide legal basis for implementation of market analysis and imposition of obligations in accordance with current EU regulatory framework, RAK adopted in October 2011 the Rule on Market Analysis. Preliminary analyses of markets 3, 4, 5 and 7/2007 have been performed. Market analysis documents expected to be

finalised and published for consultations by the end of 2012.

Kosovo\*: Analysis of the wholesale market for call termination on individual mobile networks is in progress.

## H. Competitive safeguards

### 1. Carrier selection and pre-selection

Article 19 of the Universal Service Directive in its original version stated that NRAs must require operators with SMP in the markets for the provision of connection to and use of the public telephone network at a fixed location to enable their subscribers to access the services of any interconnected provider of publicly available telephone services:

- on a call-by-call basis by dialling a CS code; and
- by means of CPS, with a facility to override any pre-selected choice on a call-by-call basis by dialling a carrier selection code.

The EU 2009 regulatory framework moved this provision into article 12 of the Access Directive. According to the new rules, NRAs shall oblige SMP operators to allow carrier selection and/or pre-selection if a market analysis has shown that this access obligation is an appropriate remedy.

The tables below examine the regulatory obligations to offer CS and CPS and the availability of CS and CPS in practice.

#### a) Carrier selection

Country		CS implementation	on for different type of call	s	Which operators are required to	Call origination for CS
	Local	National	International	Calls to mobile	provide CS?	included in RIO?
Croatia	February 2005	February 2005	February 2005	February 2005	HT d.d.	HT RIO, Section 4.1
Iceland	January 1998	January 1998	January 1998	January 1998	Siminn	Siminn RIO, Annex 3a, Section 2.4
FYR Macedonia	May 2008	February 2006	February 2006	February 2006	AD Makedonski Telekom	MATERIO, Annex 3.D
Montenegro	January 2008	January 2008	January 2008	January 2008	Crnogorski Telekom	CT RIO, February 2011, Section 2.4.1
Serbia	Not implemented	Not implemented	Not implemented	Not implemented	Not implemented	-
Turkey	October 2009	July 2006	July 2006	July 2006	Turk Telekom	TT RIO, Section 2.1.1.2
Albania	May 2012	May 2012	October 2011	May 2012	Albtelecom	Albtelecom RIO
Bosnia & Herzegovina	October 2006	October 2006	October 2006	October 2006	BH Telecom d.d. Sarajevo Telekom Srpske a.d. Banja Luka Hrvatske Telekomunikacije d.d. Mostar	BH Telecom RIO, section 5.3 Telekom Srpske RIO, section 5 HT Mostar RIO, section 2.2.3
Kosovo*	Not implemented	Not implemented	Not implemented	Not implemented	Not implemented	-

Table H.1 - Carrier selection

Notes:

Serbia: Carrier selection and pre-selection is not planned to be introduced and applied in 2012.

Kosovo\*: The regulation for carrier selection (CS) and pre-selection (CPS) approved by TRA board on 15.06.2010. Based on the TRA SMP decision No 183 for 'Call origination

on the public telephone network provided at a fixed location' PTK as SMP operator is obliged to offer access for CS/CPS

## b) Carrier pre-selection

Country		CPS implementation	on for different type of cal	Which operators required to	Call origination for CPS	
	Local	National	International	Calls to mobile	provide CPS?	included in RIO?
Croatia	February 2005	February 2005	February 2005	February 2005	HT d.d.	HT RIO, Section 4.1
Iceland	April 2000	April 2000	April 2000	April 2000	Siminn	Siminn RIO, Annex 3a, Section 2.4
FYR Macedonia	May 2008	February 2006	February 2006	February 2006	AD Makedonski Telekom	MATERIO, Annex 3.D
Montenegro	February 2011	February 2011	February 2011	February 2011	Crnogorski Telekom	CT RIO, February 2011, Section 2.4.2
Serbia	Not decided	Not decided	Not decided	Not decided	Not decided	-
Turkey	October 2009	July 2006	July 2006	July 2006	Turk Telekom	TT RIO, Section 2.1.1.2
Albania	May 2012	May 2012	October 2011	May 2012	Albtelecom	Albtelecom RIO
Bosnia & Herzegovina	Introduced in July 2007 Effective from 2009	Introduced in July 2007 Effective from 2009	Introduced in July 2007 Effective from 2009	Introduced in July 2007 Effective from 2009	BH Telecom d.d. Sarajevo Telekom Srpske a.d. Banja Luka Hrvatske Telekomunikacije d.d. Mostar	BH Telecom RIO, section 5.3 Telekom Srpske RIO, section 5 HT Mostar RIO, section 2.2.3
Kosovo*	Not decided	Not decided	Not decided	Not decided	Not decided	-

Table H.2 - Carrier pre-selection

Notes:

Serbia: Carrier selection and pre-selection is not planned to be introduced and applied in 2012.

Kosovo\*: The regulation for carrier selection (CS) and pre-selection (CPS) approved by TRA board on 15.06.2010. Based on the TRA SMP decision No 183 for 'Call origination

on the public telephone network provided at a fixed location' PTK as SMP operator is obliged to offer access for CS/CPS.

#### c) Implementation in practice

Country	CS implement	ation in practice	CPS implementation in practice		
	How many alternative operators offer CS in practice?	Number of CS users (traffic volumes if available)	How many alternative operators offer CPS in practice?	Number of CPS users (traffic volumes if available)	
Croatia	0	0	4	240,422	
Iceland	2	N/A	2	4,500	
FYR Macedonia	1	3,981	2	20,492	
Montenegro	2	1,515	-	-	
Serbia	-	-	-	-	
Turkey	13	260,306	9	313,663	
Albania	-	-	-	-	
Bosnia & Herzegovina	6	43,864	1	2	
Kosovo*	-	-	-	-	

Table H.3 – CS/CPS implementation in practice

Notes:

Croatia: Data reference - Q4 2011

Macedonia Total traffic for 2011 (CS and CPS) is 31,318,688 minutes Turkey:

All data were taken from ICTA Market Data Report 2011 Quarter4

C(P)S has been available since end 2011 but there has been no request for C(PS) codes yet. Albania:

Bosnia & Herzegovina: CS traffic - 22,822,068 minutes in 2011, CPS traffic - 5,896 minutes in 2011

#### 2. Number portability

The tables below summarises the implementation of number portability in fixed and mobile networks, respectively:

- for geographic and non-geographic numbers;
- the legal basis and the implementation deadline; and
- the technical solution: number portability can be implemented either by onward (indirect) routing or by direct routing:

With onward routing, a call to a ported number is routed to the donor network (i.e. the network to which the called party previously subscribed to), which then forwards the call to the recipient network (i.e. the network providing service to the subscriber after porting).

With **direct routing**, a central or distributed database of ported numbers is used for routing calls to ported numbers directly to the recipient network:

- All calls query ACQ, where the originating operator consults the database for all calls.
- Query on release QoR, where the originating operator consults the database only when the call to the ported number is rejected by the donor network.
- duration on the porting process;
- for countries where an NP centralized database solution has been implemented, the method of its financing is shown; and
- statistics on ported numbers.

# a) Fixed number portability

Country	Imple	mentation	Legal basis	Inter-operator	Technical	Duration of the	NP database	Ported
	Geographic numbers	Non-geographic numbers		charge per ported number	solution	porting process	financing	numbers statistics
Croatia	July 2005	July 2005	Art. 72 of the Telecommunications Law of 2003 Bylaw on number portability and carrier reselection of Dec. 2004 (Official Gazette 183/04). HAT Decision on number portability and carrier pre- selection of August 26, 2005 (with amendments) Art. 76 of the Electronic Communications Act (Official Gazette no.: 73/08). Bylaw: Ordinance on number portability of April 2009. (Official Gazette no.: 42/09), with amendments (Official Gazette no.: 62/11) of June 2011.	€6.8 (HRK 50) per request	Direct routing, QoR with centralised database	Max. 5 working days from subscriber request	Centralised database is operated by the NRA and funded from the NRA budget.	630,719 fixed numbers ported on March 23, 2012

Country	Imple	mentation	Legal basis	Inter-operator	Technical	Duration of the	NP database	Ported
	Geographic numbers	Non-geographic numbers		charge per ported number	solution	porting process	financing	numbers statistics
Iceland	Sep. 15, 2000 (since Feb. 2001 available between all number areas in the country)	Sep. 15, 2000	PTA rules on number portability No. 617/2010 of July 6, 2010	€3.33 (ISK 550)	Direct routing, ACQ with centralised database	One working day, except in rural areas	Centralised database is operated and funded by the operators	27,000 numbers
FYR Macedonia	Sep. 1, 2008	Not implemented Non-geographic numbers not used in practice in fixed telephony	Articles 84 and 85 of the Law on Electronic Communications Bylaw on Number Portability	Max. one-off fee of €3.23 (MKD 200) (applies both to operators and end-users) The fee was set by the NRA decision of June 2009 According to 2012 amendments to the law, this amount is charged only to the operator recipient, the subscriber should only pay the administrative expenses.	Direct routing, QoR with centralised database	2 (two) working days from the acceptance of the porting request by the operator-donor	Centralised database is operated by the NRA and funded from the NRA budget	85,324 fixed numbers ported until March 20, 2012 (source AEC)
Montenegro	Dec. 2011	Dec. 2011	Article 99 of the Electronic Communications Law Bylaw on number portability of Dec. 2009	€3.5 set by EKIP's decision, but not applied by operators in practice	ACQ method	Maximum 5 working days from subscribers request	Centralised database is operated by the NRA and funded from the NRA budget.	0

Country	Imple	mentation	Legal basis	Inter-operator	Technical	Duration of the	NP database	Ported
	Geographic numbers	Non-geographic numbers		charge per ported number	solution	porting process	financing	numbers statistics
Serbia	Planned to be introduced as of Dec. 1, 2012	Planned to be introduced as of Dec. 1, 2012	Dec. 1, 2012 Art. 79 of the Law on Electronic Communications ("Official Gazette of the RoS" 44/10); Rules on number portability in public fixed telephone networks (Official Gazette No. 52/11)	RSD 1,000 (€9.80) except in cases where the request for number porting is associated with the request for full LLU access in which case the fee amounts to RSD 500 (€4.90)	ACQ and QoR with centralized database	3 working days from subscribers request.  If the request for number porting is associated with a request for the full LLU access, operators shall process both requests simultaneously within a period which shall not exceed 30 days	Centralised database will be operated by the NRA and funded from the NRA budget	-
Turkey	Sep. 10, 2009	Sep. 10, 2009	Art. 32 of the Electronic Communications Law of 2008 Bylaw on Number Portability of 2009 (Official Gazette dated 2/7/2009, numbered 27276) Principles and Procedures Regarding Implementation of Number Portability, approved by ICTA decision dated 16/3/2011 numbered 2011/DK- 08/132 (with amendments)	€0.9 (TRY 2.00)	Direct routing, ACQ with centralised database	Maximum 6 days from subscriber request for porting not including LLU Maximum 9 days from subscriber request for porting including LLU	Centralised database is operated by the NRA and funded by the operators connected to the database.	207,940 fixed numbers ported as of end May 2012
Albania	Not implemented	Not implemented	Deadline: June 2009 Law on Electronic Communications set the implementation deadline within 12 months from its entry into force. Testing concluded January 2012. Fixed number portability is expected to start initially in 2 geographical zones	Not decided Max. porting charge for end- users is €4.32 (ALL 600), incl. VAT	Direct routing, ACQ with centralised database	3 days from subscriber request	Centralised database is operated by a third party and funded from the NRA budget.	-

Country	Imple	mentation	Legal basis	Inter-operator	Technical	Duration of the	NP database	Ported
	Geographic numbers	Non-geographic numbers		charge per ported number	solution	porting process	financing	numbers statistics
			continuing with other zones and by September 2012 it will be available throughout the national territory.					
Bosnia & Herzegovina	Sep. 2011	Sep. 2011	Telecom Sector Policy, Official Gazette No. 8/2009 sets implementation deadline at the end of 2009 Law on Communications, Official Gazette No. 31/2003, Art. 8, 27, 38 and 39 RAK Rule on Number Portability No. 32/08	Maximum charge for subscriber - €15.33 (BAM 30)	Direct routing, ACQ with centralized database	10 days	Centralised database financed by telecom operators	871 fixed numbers ported until March 2012
Kosovo*	Not implemented	Not implemented	Deadline: not defined. Legal basis: Section 39 of the Telecommunications Law Implementing regulation is being drafted by the NRA.	-	-	-	-	-

### Table H.4 – Fixed number portability

Notes:

Non-geographic numbers are not used as subscriber numbers in fix telephony. There is a series of short numbers starting with 15 in each geographical numbering area which are treated as subscriber numbers and which can be ported. Macedonia:

Since country codes issues are not resolved, number portability can only partially been implemented, TRA has drafted a regulation number portability which has Kosovo\*:

undergone first phase of consultation with stakeholders.

# b) Mobile number portability

Country	Implemented	Legal basis	Inter-operator	Technical	Duration of the	NP database	Implem	nentation
	or not		charge per ported number	solution	porting process	financing	Ported numbers statistics	As % of total mobile numbers?
Croatia	Oct. 1, 2006	Article 72 of the Telecommunications Law of 2003 Ordinance on number portability and CPS of Dec. 2004 (Official Gazette 183/04) NRA Decision on number portability and CPS of Aug. 26, 2005 (with amendments) Art. 76 of the Electronic Communications Act (Official Gazette no.: 73/08) Bylaw: Ordinance on number portability of April 2009. (Official Gazette no.: 42/09), with amendments (Official Gazette no.: 62/11) of June 2011.	HRK 50 (€6.8)	Direct routing, ACQ with centralised database	Max. 3 working days from subscriber request	Centralised database is operated by the NRA and funded from the NRA budget.	324,719 mobile numbers ported on March 23, 2012	6.1 %
Iceland	Oct.1, 2004	PTA rules on number portability No. 617/2010 of July 6, 2010	€3.33 (ISK 550)	Direct routing, ACQ with centralised database	One working day, except in rural areas	Centralised database is operated and funded by the operators	45,000	13%

Country	Implemented	Legal basis	Inter-operator	Technical	Duration of the	NP database	Implem	nentation
	or not		charge per ported number	solution	porting process	financing	Ported numbers statistics	As % of total mobile numbers?
FYR Macedonia	Sep.1, 2008	Articles 84 and 85 of the Law on Electronic Communications Bylaw on number portability	Max. one-off fee of €3.23 (MKD 200) (applies both to operators and endusers) The fee was set by the NRA decision of June 2009.	Direct routing, QoR with Centralised Data- Base (CDB)	One working day from the submission of the transaction into CDB	Centralised database is operated by the NRA and funded from the NRA budget.	66,354 (March 20, 2012)	1.38% (4,791,000 granted mobile numbers, with the average utilisation of numbering resources per operator ca 50%)
Montenegro	Dec. 2011	Art. 99 of Electronic Communications Law Bylaw on number portability of Dec. 2009	€3.5 set by EKIP's decision, but not applied by operators in practice	Direct routing, ACQ with centralised database	Maximum 5 working days from subscribers request	Centralised database is operated by the NRA and funded from the NRA budget.	797 (Feb. 21, 2012)	0.069%
Serbia	July 1, 2011	Deadline: July 1, 2011 Rules on number portability in public mobile telecommunication networks (Official Gazette No. 5/10), December 25, 2009 Art. 79 of the Law on Electronic Communications (Official Gazette No. 44/10)	€9.80 (RSD 1,000)	Direct routing, ACQ with centralised database (for calls originating on mobile networks) Onward routing and QoR (for calls originating on fixed networks)	Max 4 working days from subscribers request	Centralised database operated by the NRA and funded from the NRA budget	53,609 (end of March 2012)	Approx. 0.53%
Turkey	Nov. 9, 2008	Art. 32 of the Electronic Communications Law of 2008 Bylaw on Number Portability of 2009 (Official Gazette dated 2/7/2009, numbered 27276) Principles and Procedures	€0.9 (TRY 2.00)	Direct routing, ACQ with centralised database	Max. 6 days from subscriber request	Centralised database is operated by the NRA and funded by the operators connected to the database.	38,766,888 mobile numbers ported as of end Jan. 2012	59.2%

Country	Implemented	Legal basis	Inter-operator	Technical	Duration of the	NP database	Implem	entation
	or not		charge per ported number	solution	porting process	financing	Ported numbers statistics	As % of total mobile numbers?
		Regarding Implementation of Number Portability, approved by ICTA decision dated 16/3/2011 numbered 2011/DK-08/132 (with amendments)						
Albania	May 2011	Law on Electronic Communications set the implementation deadline within 12 months from its entry into force.	€4.28 (ALL 600)	Direct routing, ACQ with centralised database	Max 3 working days from subscribers request	Centralised database is operated by a third party and funded from the NRA budget.	70,000 (May 1, 2012)	1.34%
Bosnia & Herzegovina	Not implemented Implementation deadline: June 2012	Telecom Sector Policy, Official Gazette No. 8/2009 sets implementation deadline at the end of 2009 Law on Communications, Official Gazette No. 31/2003, Art. 8, 27, 38 and 39 RAK Rule on Number Portability No. 32/08	Maximum charge for subscriber - €15.33 (BAM 30)	Direct routing, ACQ with centralised database	10 days	Centralised database financed by telecom operators	-	-
Kosovo*	Not implemented	Deadline: not defined. Legal basis: Section 39 of the Telecommunications Law Implementing regulation is being drafted by the NRA.	-	-	-	-	-	-

Table H.5 – Mobile number portability

Notes:

Kosovo\*: Since the country code issues are not resolved, number portability can only partially been implemented, TRA has drafted a regulation on number portability which is expected to be finalised in 2012.

#### 3. Reference interconnection offer

One of the key factors in enabling a competitive telecommunications market is ensuring the availability of a reference interconnection offer (RIO) from the operators with significant market power in transparent and non-discriminatory manner.

The table below provides an overview of fixed and mobile operators with SMP that are required to publish reference interconnection offers and the number of interconnection agreements. For fixed operators, it shows RIOs published by operators designated as having SMP in the wholesale markets for origination (M2/2007), termination (M3/2007) and transit (former M10/2003). For mobile operators, it covers RIOs published in the wholesale markets for call termination (M7/2007) and for access and origination (former M15/2003).

Country	St	atus of RIO	Number of agreements		
	Fixed operators with SMP	Mobile operators with SMP	Fixed	Fixed	Mobile
			- Fixed	– Mobile	- Mobile
Croatia	T-HT Last updated on April 1, 2012	T-HT RIO, last updated on Jan. 1, 2012 VIPnet RIO, last updated on Jan. 1, 2012 Tele2 minimum offer, last updated on Jan. 1, 2012	36	19	3
Iceland	Siminn, valid from Aug. 1, 2011	No obligation to publish RIO	4	5	1
FYR Macedonia	Makedonski Telekom, valid from June 24, 2011 Neotel, valid from March 30, 2011 ONE and On.net, valid from Jan. 2011 Aicall, valid from Jan. 2011 Cabletel, valid from Jan. 2011	Call termination: T-Mobile, valid from June 2011 ONE, valid from Jan. 2011 VIP operator, valid from July 2011 Access and call origination: T-Mobile reference access offer approved by AEC in Nov. 2010	14	11	5
Montenegro	Crnogorski Telekom Mtel Valid from Feb. 2011	Call termination: Telenor T-Mobile Mtel Valid from Feb. 2011	3	4	3
Serbia	Published and approved RIO for call termination on public telephone networks for Orion telekom d.o.o., valid from April 1, 2012.  Telekom Srbija RIO presented to RATEL on April 12, 2012  Changes and amendments requested by RATEL decision of April 30, 2012	Published and approved RIOs for call termination on mobile telephone networks for:  Telekom Srbija a.d., valid from April 1, 2012  Telenor, valid from April 1, 2012  VIP mobile, valid from April 1, 2012	3	6	3
Turkey	Turk Telekom, last revision on reference interconnection offer was made in July 2011	Avea, Turkcell, Vodafone, last revision on reference interconnection offers was made in Sep. 2011	70	87	3

Country	Sta	atus of RIO	Number of agreement		
	Fixed operators with SMP	Mobile operators with SMP	Fixed –	Fixed –	Mobile -
			Fixed	Mobile	Mobile
Albania	Albtelecom, valid from April 2011	Vodafone Albania, valid from Dec. 2010 AMC, valid from Dec. 2010	57	22	6
		Eagle Mobile, valid from Dec. 2010  Vodafone and AMC RIOs include call origination for Calling cards operators and calls to 0800 numbers			
Bosnia & Herzegovina	RIOs of BH Telecom, HT Mostar and Telekom Srpske, valid from July 2011.	Reference offers for MVNO access and interconnection, valid from April 2011:	17	-	-
	RIOs available at RAK website	BH Telecom			
		HT Mostar			
		Telekom Srpske			
		Reference offers available at RAK website			
Kosovo*	New RIOs of PTK and IPKO to be prepared in 2012	No RIO published	1	1	1

Table H.6 – Reference interconnection offer

Notes:

Croatia: On December 31, 2009 T-Mobile Hrvatska d.o.o. was merged into HT d.d.

Macedonia: In March 2011, AEC amended RIOs for all fixed network operators designated as having SMP in markets 8-10/2003 introducing new interconnection charges that

were calculated based on the BU-LRIC model developed by AEC.

In August 2010, AEC amended RIOs for all mobile network operators designated as having SMP in market 16/2003 introducing new interconnection charges that were

calculated based on the BU-LRIC model developed by AEC.

## 4. Wholesale unbundled access

The table below shows:

- availability of the reference unbundling offer;
- implementation: the number of LLU agreements and the number of unbundled loops.

Country	Status of RUO	Implemen	ntation
	Legal basis	Number of LLU agreements	Number of unbundled loops
Croatia	HT RUO valid from Oct. 1, 2009 was imposed as obligation on M4/2007 Last amendment to RUO was made in March 2011 The first RUO was published in Oct. 2005 in accordance with LLU ordinance of April 6, 2005 (amended in Aug. 2005).	5 (full access) 1 (shared access) Including Iskon (100% owned by HT)	130,669 (full access, of which 48,445 by Iskon) 635 (shared access, of which 635 by Iskon) (Data as of Q4 2011)
Iceland	MILA RUO, valid from April 2009 Obligation on the operator MILA, based on a decision by PTA nr. 26/2007 in accordance with regulation no. 199/2002	4 (full access) 6 (shared access) Including Siminn	9,154 (full access) 24,589 (shared access) Excluding Siminn, Data as of Q4 2011
FYR Macedonia	Makedonski Telekom RUO, valid from June 2011  The first RUO was approved by AEC in May 2006, based on Article 146 of the Law on electronic communications that designated the incumbent Makedonski Telekom as having SMP in the market for provision of fixed telephony networks and services.  Following the market analysis of M11/2003, on Oct. 28, 2010 Makedonski Telekom was designated as having SMP in this market and imposed the obligation to publish RUO.	1 (full access)	3,053
Montenegro	Crnogorski Telekom RUO is available from Feb. 2011. Final decision on market analysis of M4/2007 was adopted on Nov. 12, 2010.	-	-
Serbia	Telekom Srbija RUO presented to RATEL on April 12, 2012 Changes and amendments requested by RATEL decision of April 30, 2012	1	-
Turkey	The first Türk Telekom RUO was approved in Nov. 2006 and last revision to RUO was made in Nov. 2011.  Based on the Communiqué concerning the unbundled access to the local loop, Turk Telekom is obliged to submit its RUO for approval by ICTA before the end of March each year.	11 (full access) 11 (shared access) Data as of April 30, 2011	976 (full access) 7,239 (shared access) (Data as of Feb. 1, 2012)
Albania	Albtelecom RUO approved by AKEP on May 31, 2012. A public consultation on draft RUO was held in Dec.r 2011. Obligation on Albtelecom to publish RUO was imposed by AKEP on April 13, 2011.	-	-

Country	Status of RUO	Implementation				
	Legal basis	Number of LLU agreements	Number of unbundled loops			
Bosnia & Herzegovina	BH Telecom, Telekom Srpske and HT Mostar published on RAK website in Jan. 2010, in accordance with Rule 35/2008 on Unbundled Access to the Local Loop ("Official Gazette BH", number 54/08)  RAK approved the first RUOs of BH Telecom, Telekom Srpske and HT Mostar in Dec. 2009	3 LLU agreements	96 (shared access)			
Kosovo*	RUO is not available  Based on TRA decision on SMP obligations adopted in February 2012, PTK has the obligation to prepare and publish RUO.	-	-			

Table H.7 – Reference unbundling offer

#### 5. Wholesale broadband access

The table below shows

- whether BSA/resale has been mandated or offered on commercial basis;
- pricing rule;
- the incumbent operators' wholesale broadband access offers with handover at ATM/Ethernet level, IP level or end-to-end resale;
- availability of "naked DSL" and multicast facilities;
- practical implementation: the number of BSA/resale agreements and the number of broadband lines offered by alternative operators based on the incumbent's BSA/resale offers.

Country	Legal basis	Pricing rule set by	A	Access options		Naked DSL Multicast		Implementation	
	BSA/resale offered on commercial basis if not mandated?	NRA?	ATM/Ethernet handover	IP handover	End-to-end resale			Number of BSA/resale agreements	Number of broadband lines with BSA/resale
Croatia	HAKOM decision on M5/2007, July 17, 2009	IP level-retail minus 60% Ethernet-retail minus 68%	Ethernet handover available, DSLAM on reasonable request	Yes	No (no obligation)	Yes	Yes	6 BSA agreements	25.316 (BSA lines) as for Q4 2011

Country	Legal basis	Pricing rule set by	,	Access options		Naked DSL	Multicast	Implem	entation
	BSA/resale offered on commercial basis if not mandated?	NRA?	ATM/Ethernet handover	IP handover	End-to-end resale			Number of BSA/resale agreements	Number of broadband lines with BSA/resale
Iceland	PTA decision on M12/2003, Oct. 2008	Cost orientation, after an initial period of retail minus	Yes	Yes	Yes	Yes	Yes	11 (BSA)	2,897 (BSA)
FYR Macedonia	AEC decision on M11/2003, Oct. 28, 2010 AEC decision of November 2010 amending 'retail- minus' prices for BSA	Retail minus: from 30% to 80%, depending on the access level or resale option  Development of BU LRIC model is in progress for calculation of bitstream prices for all four levels (1, 2, 3 and 4) of bitstream access and resale of bitstream services. To be finalised by June 2012.	Yes	Yes	Yes	Yes	No	1	20,897 (resale)
Montenegro	NRA decision on M5/2007, Nov. 12, 2010	Retail minus 42%	Yes	Yes	No	Yes, upon reasonable request	Yes, upon reasonable request	-	-
Serbia	Until 2012 Telekom Srbija offered WBA on commercial basis. Following RATEL analysis of the wholesale broadband access market (M5/2007), Telekom Srbija a.d. is imposed an obligation to provide BSA at IP-, Ethernet and DSLAM levels. First regulated reference offer submitted to RATEL for approval in April 2012	Cost orientation	No	Yes	No	No	No	22	135,776 lines

Country	Legal basis	Pricing rule set by	,	Access options		Naked DSL	Multicast	Implem	entation
	BSA/resale offered on commercial basis if not mandated?	NRA?	ATM/Ethernet handover	IP handover	End-to-end resale			Number of BSA/resale agreements	Number of broadband lines with BSA/resale
Turkey	ICTA decision on M12/2003, Jan. 7, 2010	Not set specifically in market analysis decision. But in practice retail minus is used. Minus value is around 18-20% for resale	Yes	Yes	Yes	Yes	No Not mentioned in the market analysis document or reference offer. But Turk Telekom has a separate multicast VPN service which ISPs may use with bit stream access to offer IPTV services to their xDSL end users.	36 resale agreements 17 BSA agreements	8,062 (resale) 718,278 (IP BSA) Turk Telekom's retail broadband subsidiary TTNet has 6,232,352 lines based on WBA
Albania	AKEP decision No. 1565, April 13, 2011	Commercial negotiation	Yes	Yes	Yes	No	No	-	-
Bosnia & Herzegovina	Not mandated. No agreements concluded on commercial basis.	-	-	-	-	-	-	-	-
Kosovo*	Not mandated. No agreements concluded on commercial basis.	-	-	-	-	-	-	-	-

Table H.8 – Wholesale broadband access

#### 6. Wholesale line rental

An incumbent operator may rent its subscriber lines on a wholesale basis to alternative operators that would then 'resell' the subscriber line to the end user ('wholesale line rental' - WLR). In conjunction with carrier pre-selection ('all calls' option), WLR enables alternative operators to end the billing relationship between the incumbent and the end-user.

The table below shows whether WLR is available in the monitored countries.

Country	WLR available since when?	Legal basis for the imposition of WLR	Pricing rule set by NRA?	Publication of a reference offer	Implementation	
					Number of WLR agreements	Number of WLR lines
Croatia	Available from July 1, 2011	HAKOM decision on M1/2007 of April 6, 2011	Retail minus 15%	July 1, 2011 HT WLR reference offer	2	111,908 (as of Q4 2011)
Iceland	Available from Dec. 2008	PTA decision on M1-6/2003 of Dec. 5, 2008 PTA decision on price control for residential and business access of June 2011	Cost orientation, after an initial period of retail minus 20%	Yes (pending)	1 (pending)	-
FYR Macedonia	Available from March 2009	AEC decision on M1-2/2003, Oct. 28, 2010 Initially imposed as a remedy in accordance with article 146(1) of the Electronic Communications Law. Bylaw on WLR (Official Gazette No. 154/2008 of 12.12.2008)	Retail minus: 20% - 35%	March 2009 Makedonski Telekom WLR reference offer	1	20,492
Montenegro	Available from Feb. 2011	EKIP decision on M1/2007 of Nov. 12, 2010	Retail minus 5%	February 2011 Crnogorski Telekom WLR reference offer	-	-
Serbia	No	-	-	-		-
Turkey	Available from Feb. 2012	ICTA decision on M1-2/2003, Dec. 16, 2009	Cost orientation ICTA approved the WLR charges based on the cost information submitted by Turk Telekom, taking into account the implementation in other countries, and the relationship between WLR and other services offered in the same and/or similar markets at wholesale and retail levels (LLU, PSTN retail etc.).	July 2011 Published as annex to Turk Telekom's RIO	4	46,939 (as of June 2012)

Country	WLR available since	Legal basis for the imposition of	Pricing rule set by	Publication of a	Implementation		
	when?	WLR	NRA?	reference offer	Number of WLR agreements	Number of WLR lines	
Albania	No	-	-	-	-	-	
Bosnia & Herzegovina	No	-	-	-	-	-	
Kosovo*	No	-	-	-	-	-	

Table H.9 - Wholesale line rental

Notes:

Kosovo\*: PTK as SMP operator in the 'access to the public network at the fixed location' is obliged to offer wholesale line rental.

# 7. Implementation of wholesale offers in fixed networks in practice

Country	Country Fully unbundled lines		Shared lines		Bitstream access		Broadba	and resale	Wholesale line rental	
	Number of agreements	Number of lines	Number of agreements	Number of lines	Number of agreements	Number of lines	Number of agreement s	Number of lines	Number of agreements	Number of WLR lines
Croatia	5	130,669	1	635	6	25,316	-	-	2	111,908
Iceland	3	9,154	5	24,589	11	2,897	-	-	1 pending	-
FYR Macedonia	1	3,053	-	-	-	-	1	20,897	2	20,492
Montenegro	-	-	-	-	-	-	-	-	-	-
Serbia	1	-	-	-	22	135,776	-	-	-	-
Turkey	11	976	11	7,239	17	6,773,740	36	144,161	4	46,939
Albania	-	-	-	-	-	-	-	-	-	-
Bosnia & Herzegovina	3	-	1	96	-	-	-	-	-	-
Kosovo*	-	-	-	-	-	-	-	-	-	-

Table H.10 – Wholesale offers in fixed networks in practice

Notes:

Croatia, Turkey: Reported figures include services provided to the retail subsidiaries of the incumbents.

### 8. Access obligations in NGA environment

### a) Access obligations imposed on SMP operators in wholesale broadband markets

National regulators may decide to impose specific obligations to ensure better competitive conditions for alternative operators related to NGA deployments. The table below looks at whether NGA is included in the scope of market analyses of wholesale infrastructure access and wholesale broadband access (markets 4-5/2007) and whether the operators designated to have SMP are imposed specific NGA access obligations.

Country	NGA included in scope	SMP	P	assive infras	structure acces	s obligations			Included in
	of wholesale (physical) network infrastructure access market (M4/2007)?	operator(s)	In-building fibre	Duct access	Dark fibre	SLU	Fibre unbundling	Other?	reference offer?
Croatia	Yes HAKOM decision on M4/2007 of July 2009	НТ	No specific SMP obligation, but symmetric obligation that applies to all operators based on Ordinance on technical conditions of electronic communications network for business and residential buildings (Dec. 16, 2009)	Yes	Yes, if duct access not available	Yes (on reasonable request)	Yes, point to point fibre unbundling (on reasonable request)	WDM access, if dark fibre not available	T-HT Reference offer for duct access (Feb. 2011)
Iceland	Yes (under consideration) PTA analysis of M4/2007 is under way	-	-	-	-	-	-	-	-
FYR Macedonia	Yes AEC decision on M11/2003 of Oct. 28, 2010. Also included in the scope of the new analysis of M4/2007 – to be completed by June 2012.	Makedonski Telekom	No	Yes	Yes	No	No	No	No
Montenegro	Yes EKIP decision on M4/2007 of November 2010	Crnogorski Telekom	No	Yes	No	No	No	No	Duct access is included in Crnogorski Telekom RUO (Feb. 2011)

Country	NGA included in scope	SMP	P	assive infras	tructure acces	s obligations			Included in
	of wholesale (physical) ope network infrastructure access market (M4/2007)?		In-building fibre	Duct access	Dark fibre	SLU	Fibre unbundling	Other?	reference offer?
Serbia	No	-	-	Yes	-	-	-	-	Telekom Srbija reference offer for access to network elements and associated facilities
Turkey	No See note below	-	-	Yes See note below	-	-	-	-	Yes Reference Offer Website
Albania	No	-	-	-	-	-	-	-	-
Bosnia & Herzegovina	No	-	-	-	-	-	-	-	-
Kosovo*	No	-	-	-	-	-	-	-	-

Table H.11 – Passive infrastructure access obligations imposed on SMP operators

Notes: lceland: Turkey:

Decision on market analysis planned to be published by mid-2012. Technology currently in use includes ADSL / VDSL / PON and active FTTH networks. For the purpose of encouraging investments to this emerging infrastructure by the operators, ICTA has decided to exclude fibre from market analysis for the next five years or till the percentage of fibre subscriptions reaches the 25% of the whole fixed broadband subscriptions by its decision dated October 03, 2011 and numbered 2011/DK-10/511. On the other hand the same decision also asks Turk Telekom to comply with its own commitment sent by Turk Telekom to ICTA in August 2010, in which Turk Telekom pledged to provide wholesale resale and bitstream services over its fibre network in a non-discriminatory manner and to notify ICTA of the tariffs for these services before they become operational. Terms, conditions and charges for facility sharing (access to ducts and poles) has been approved in Turk Telekom Reference Co-location and Facility Sharing Offer. As stated in TT RUO, Alternative operators have the ability to demand for SLU on case by case basis. In accordance with the reference offer, Turk Telekom replies the demand in 30 days. Then the project is expected to be established by Türk Telekom and alternative operators. However, there has been no practice of SLU until now.

Duct access: In accordance to Ordinance on Access and Interconnection, access to physical infrastructure including buildings, ducts and poles is regarded among mandatory infrastructure access types for an SMP operator. In 2008 Turk Telekom has been obliged to share its ducts/poles and submit reference offer by a Board Decision of ICTA. Turk Telekom's Reference Offer on access to ducts/poles for Interconnection, BSA and LLU backhaul purposes has been approved first in February 2009. As a result of the market analysis completed late 2009, Turk Telekom is obliged to offer duct/pole access with regard to interconnection, BSA and LLU services. Turk Telekom Reference Offer for duct/pole sharing has been revised by ICTA on July 28, 2010. And finally, new Communiqué On Principles and Procedures Regarding Co-Location And Facility Sharing has been put into force on December, 2010.

Country	NGA included in scope	SMP	Act	Included in reference offer?		
	of wholesale broadband access market (M5/2007)?	operator(s)	Bitstream access over FTTH	FTTC/VDSL Bitstream	Wavelength division multiplexing	
Croatia	Yes HAKOM decision on M5/2007 of July 2009	НТ	Yes, on IP level and OLT level.	Yes HT must offer BSA on IP level six months before its retail offer based on FTTC/VDSL. BSA at Ethernet and DSLAM level on reasonable request.	No	BSA over FTTH on IP level was included in HT BSA reference offer, on June 30, 2011. BSA reference offer was amended by HAKOM decision on Dec. 15, 2011. BSA over FTTH on OLT level was included in HT BSA reference offer, on Dec. 27, 2011 on reasonable request.
Iceland	Yes (under consideration) PTA analysis of M5/2007 is under way	-	-	-	-	-
FYR Macedonia	Yes AEC decision on M12/2003 of Oct. 28, 2010 Also included in the scope of the new analysis of M5/2007 – to be completed by June 2012.	Makedonski Telekom	No	No	No	No
Montenegro	No EKIP decision on M5/2007 of November 2010	-	-	-	-	-
Serbia	No But Decision on wholesale (physical) access to network elements and associated facilities (including shared and fully unbundled local loop access), November 2011, mandates access to ducts as an SMP obligation.	_	-	-	-	-

Country NGA included in sco		SMP	Act	ive infrastructure access of	obligations	Included in reference offer?	
	of wholesale broadband access market (M5/2007)?	operator(s)	Bitstream access over FTTH	FTTC/VDSL Bitstream	Wavelength division multiplexing		
Turkey	Yes FTTC/VDSL included in the "Wholesale Broadband Market including Bit Stream Access".	No	Yes, According to Board Decision 03 October 2011 and numbered 2011/DK-10/511	Yes,	No	Current Turk Telekom Reference BSA Offer is approved based on the market analysis on "Wholesale Broadband Market including Bit Stream Access". Hence, Reference Offer includes FTTC/VDSL services.	
Albania	No	-	-	-	-	-	
Bosnia & Herzegovina	No	-	-	-	-	-	
Kosovo*	No	-	-	-	-	-	

Table H.12 – Active infrastructure access obligations imposed on SMP operators

Notes: Iceland:

Decision on market analysis planned to be published by middle of 2012. Technology currently in use includes ADSL / VDSL / PON and active FTTH networks.

### b) Symmetric infrastructure sharing obligations

In order to facilitate NGA deployments, regulatory authorities may decide, outside market analyses, to impose the sharing of certain facilities, including symmetric obligations related to access to ducts, or sharing of in-house wiring infrastructure.

Article 12 of the Framework Directive calls NRAs to encourage the sharing of facilities and access to properties by electronic communications network operators. In particular, where undertakings are deprived of access to viable alternatives because of the need to protect the environment, public health, public security or to meet town and country planning objectives, the sharing of facilities or property (including physical co-location) or specific measures to facilitate the coordination of public works can be mandated subject to a prior public consultation. Such sharing or coordination arrangements may include rules for apportioning the costs of facility or property sharing. The same article also gives NRAs the power to impose obligations in relation to the sharing of wiring inside buildings where this is justified on the grounds that duplication of such infrastructure would be economically inefficient or physically impracticable.

Country	Duct sharing (specify legal basis)	In-building wiring infrastructure sharing (specify legal basis)
Croatia	Art. 24, Electronic Communications Act - ZEK Ordinance on Manner and Conditions of Access and Shared Use of Electronic Communications Infrastructure and Associated Facilities (Official Gazette 154/08 of 29.12.2008) with amendments.	Art. 30, Electronic Communications Act - ZEK Symmetric obligation that applies to all operators based on Ordinance on technical conditions of electronic communications network for business and residential buildings (Dec. 16, 2009) Infrastructure operators have to enable access and share their electronic communications infrastructure and associated facilities for other operators, according with mutual rent contracts.
Iceland	Article 25 of the Electronic Communications Act	No specific obligations
FYR Macedonia	Law on Electronic Communications ("Official Gazette of RM" No.13/05,14/07,55/07 and 98/08), Article 27 paragraph 1, Article 28 paragraph 1, Article 29, Article 88, Article 89, Article 90, Article 92 and Article 93:  Law on Expropriation ("Official Gazette of the RM" No.33/95, 20/98, 40/99, 31/03, 46/05 and 10/08), Article 3 and 4, Article 5, Article 13 and 19.  Law on Ownership and other Rail Rights ("Official Gazette of RM", No.18/2001), Article 4, Article 16, Article 25, Article 117, Article 195 and Article 200.  Law on Construction ("Official Gazette of RM", No.51/05 and 82/08), Article 50 and Article 52.  Law on urban land ("Official Gazette of RM", No.82/08 and 143/08), Article 12, Article 13 paragraph 6, Article 28, Article 45 paragraph 1, Article 46, paragraph 1, 5 and 6.  Law on Spatial and Urban Planning ("Official Gazette of RM", No.24/88), Article 5 paragraph 1 line 8, Article 50 and Article 52.	No specific obligations
Montenegro	Article 33 of the Law on Electronic Communications	No specific obligations
Serbia	RATEL's decisions:  Principles for terms and conditions for shared use of cable ducts, December 2006  Decision on determining the tariff for lease of cable ducts, May 2011	No specific obligations
Turkey	Article 15(b) of Electronic Communications Act Communiqué On Principles and Procedures Regarding Co-Location and Facility Sharing of Dec. 2010.	No specific obligations
Albania	No specific obligations	No specific obligations
Bosnia & Herzegovina	No specific obligations	No specific obligations
Kosovo*	No specific obligations	No specific obligations

Table H.13 – Symmetric infrastructure sharing obligations

Notes: Iceland:

NRA has legal basis for imposing duct sharing obligation, the network demarcation point is at the outside wall of the building or in the basement, in-house cabling is owned by the building owner.

# 9. National roaming, mobile access and call origination

The table below shows the commercial and mandated offers of access to mobile networks.

Country	Legal obliç	gation to offer	Commercial reality	
	Mobile access and call origination for MVNOs and service providers	National roaming		
Croatia	There is no legal obligation to offer access since the market for wholesale access and call origination on mobile networks has been found competitive and deregulated.	No obligation National roaming is offered based on commercial agreement.	Commercial agreements on national roaming: Tele2 on VIPnet (from Oct. 2005 until July 2008) Tele2 on T-Mobile (HT) (from July 2008)	
Iceland	No All regulatory obligations imposed on Siminn were removed after PTA concluded that M15/2003 no longer meets the three criteria test (PTA decision of March 30, 2012)	Article 35 of the Electronic Communications Act contains an obligation for all mobile operators to provide national roaming to other operators where the establishment of the mobile network is not practicable or difficult, for example due to natural conditions.      According to PTA decision on market analysis of wholesale mobile access and call origination services, February 5, 2007, Siminn, designated as SMP, has to provide access to national roaming services.	Agreements on national roaming: IMC/Alterna on Siminn TAL is roaming on both networks (Siminn & Vodafone). It started on Vodafone then moved its customers over to Siminn.	
FYR Macedonia	Yes, only for MVNO services According to AEC decision on M15/2003, July 29, 2010, T-Mobile designated as SMP has to provide access and call origination services for MVNOs.	Yes According to AEC decision on M15/2003, July 29, 2010, T-Mobile designated as SMP has to provide access to national roaming services	Commercial agreements on national roaming: VIP on T-Mobile (from Sep. 2007) SMP Operator T-Mobile submitted to the Agency updated Reference Offer for access and call origination for approval.	
Montenegro	Yes Following EKIP decision on M15/2003 of December 30, 2011, access obligation applies to Telenor, Crnogorski Telekom and M:Tel	Yes, Following EKIP decision on M15/2003 of December 30, 2011, access obligation applies to Telenor, Crnogorski Telekom and M:Tel	-	
Serbia	No obligation	No obligation	Commercial agreements on national roaming: VIP – Telekom Srbija (2007-2010) VIP – Telenor (since 2010)	

Country	Legal obliç	Commercial reality		
	Mobile access and call origination for MVNOs and service providers	National roaming		
Turkey	Yes According to ICTA decision on analysis of the market for wholesale mobile access and call origination services of Dec. 2009, Turkcell designated as SMP has to provide wholesale access and call origination for MVNOs at cost-oriented prices.	Yes According to ICTA decision on analysis of the market for wholesale mobile access and call origination services of Dec. 2009, Turkcell designated as SMP has to provide access to national roaming services	One commercial agreement between an SMS-based MVNO and an MNO	
Albania	Yes According to AKEP decision on market analysis of wholesale mobile access and call origination services, AMC and Vodafone Albania, designated as SMP, have to provide access to:  Calling cards operators and calls to 0800 numbers under regulated terms and conditions, including RIO and cost orientation  MVNO services, on commercial terms	Yes According to AKEP decision on market analysis of wholesale mobile access and call origination services, AMC and Vodafone Albania, designated as SMP, have to provide access to national roaming services, on commercial terms.	No Vodafone and AMC RIOs include call origination for Calling cards operators and calls to 0800 numbers	
Bosnia & Herzegovina	Yes In accordance with the Telecom sector policy, BH Telecom, HT Mostar and Telekom Srpske were required to publish reference offers enabling access and interconnection services for 'full MVNOs'.	National roaming between the three mobile operators has been mandated by RAK in order in order to ensure full national coverage (RAK decision of May 28, 20007)	One operator applied for licence for provision of mobile telephony services (full MVNO licence). Licence not yet awarded. Reference offers for MVNO access and interconnection (valid from April 2011), available at RAK website:  BH Telecom HT Mostar Telekom Srpske	
Kosovo*	No obligation The NRA issued an MVNO framework in February 2008 (amended in May 2008) that clarifies licensing, numbering, interconnection and other service provision aspects for MVNO operations. MVNO activities can be launched subject to a commercial agreement.	No obligation	Commercial agreements on MVNO services:  Dardafone on Vala, (since June 2008)  Dukagjini on IPKO (since June 2008)	

Table H.14 – National roaming, mobile access and call origination

### 10. Price control and regulatory cost accounting for wholesale services

Where an operator is designated as having SMP in a wholesale market, NRAs are entitled under article 13 of Access Directive to impose a cost accounting obligation to ensure that operators subject to price regulation follow fair, objective and transparent criteria when allocating their costs to services.

However, the directive does not prescribe which cost accounting methodology must be used.

The table below shows:

- in which wholesale markets/activities a price control obligation has been imposed on fixed and mobile operators with SMP;
- whether a pricing rule has been set by NRA (benchmarking, retail-minus, cost orientation);
- where a specific cost accounting system (CAS) has been imposed:
  - the cost base (historic, current or forward-looking);
  - the cost standard (LRAIC, LRIC, FDC or EDC) mandated by the NRA:

**LRAIC:** Long Run Average Incremental Costs

LRIC: Long Run Incremental Costs

FDC: Fully Distributed Costs

EDC: Embedded Direct Costs

- where the LRIC cost standard is used, whether the costs have been calculated by using:
  - a top-down model (starting from the SMP operator's accounting data);
  - a bottom-up model of an efficient network; or
  - reconciliation of the two models.
- whether a description of the CAS and an annual statement concerning compliance have been published (as required by article 13(4) of the Access Directive).

Country	Regulated wholesale	Pricing rule set by NRA?		Methodology mandated by	NRA	Legal basis	
	markets/activities		Cost base	Cost standard	BU, TD or reconciliation		
Croatia	Fixed interconnection	Benchmarking (EU-27 average without outliers)	-	-	-	NRA decision on M2/2007 and M3/2007	
	LLU	Cost orientation	HCA	FDC TD		NRA decision from 23 March 2011 on amendment of decision on M4/2007	
	1. BSA at IP level (copper) 2. BSA at Ethernet level (copper) 3. BSA at IP level (FTTH) 4. BSA at OLT level (FTTH)	1. Retail minus 60% 2. Retail minus 68% 3. Retail minus 60% for data usage; Retail minus on connection speed depends on volume contract* 4. Retail minus 76% for data usage; Retail minus on connection speed depends on volume contract*	-	-	-	NRA decision on M5/2007 Volume discounts: *single line: retail minus 5% on connection speed; 100 lines: retail minus 30%; 500 lines: retail minus 35%; 2000 lines: retail minus 40% All fixed and mobile wholesale prices will be calculated based on NRA's cost model by the end of Q3 2012.	
	Mobile call termination	Benchmarking (EU-27 average without outliers)	-	-	-	NRA decision on M7/2007	
	WLR	Retail minus 15% additional discount of 8.47% is applied to residential monthly rental for POTS				NRA decision on M1/2007	
Iceland	Fixed interconnection and LLU	Cost orientation	Historic cost	FDC	TD	Electronic Communications Act No. 81, 26 March 2003, Art. 32 & Regulation 960/2001 Current legislative work on Accounting Separation and Cost Analysis is underway	
	WLR	Retail minus 20%	-	-	-	NRA decision on M1-2/2003	
	Mobile call termination	Cost orientation	Historic cost	LRAIC+	TD	NRA decision on M16/2003	

Country	Regulated wholesale	Pricing rule set by NRA?		Methodology mandated	Legal basis	
	markets/activities		Cost base	Cost standard	BU, TD or reconciliation	
FYR Macedonia	Fixed interconnection and LLU	Cost orientation	Current cost	LRIC	BU	AEC market analysis decisions of 2010 Bylaw of Rules on establishing the
	WLR	Retail minus: 20%-35%	-	-	-	level of information detail to be published in the referent
	BSA	Retail minus: 30%-80%	-	-	-	interconnection offers and the manner
	Wholesale mobile access and call origination services	Cost orientation	Current cost	LRIC	BU	of their publication ("Official Gazette" No.154/2008) Bylaw of Rules on the level of
	Mobile call termination	Cost orientation	Current	LRIC	BU	information detail to be published in the referent offer for unbundled access to local loop and the manner of their publication ("Official Gazette" No.112/2008)
						Bylaw on separate accounting statements ("Official Gazette" No.112/2008)
Montenegro	Fixed interconnection, LLU, leased line, mobile call termination	Benchmarking (EU-27 average)	-	-	-	EKIP final decision on market analyses adopted in Nov. 2010
	WLR	Retail minus 5%	-	-	-	
	BSA	Retail minus 42%	-	-	-	
Serbia	Wholesale call origination on public telephone network	Cost orientation	Historic cost	FDC	Top-down (TD)	RATEL decision from Nov. 2011
	Wholesale call termination on public telephone networks					RATEL decision from Nov. 2011
	Wholesale (physical) access to network elements and associated facilities (including shared and fully unbundled local loop access)					RATEL decision from Nov. 2011
	Wholesale broadband access					RATEL decision from Nov. 2011
	Wholesale leased lines					RATEL decision from Nov. 2011

Country	Regulated wholesale	Pricing rule set by NRA?		Methodology mandated	by NRA	Legal basis		
	markets/activities		Cost base	Cost standard	BU, TD or reconciliation			
	Wholesale call termination on mobile telephone networks	Price control using benchmark	-	-	-	RATEL decision from Nov. 2011		
Turkey	Fixed Interconnection and LLU	Cost oriented	Current Costs	Forward looking LRIC	BU. ICTA may also decide to use different types of LRIC standard.	Article 20 of Electronic Communications Law No. 5809 NRA decisions on market analysis 2009-2010		
	Mobile Interconnection	Cost oriented	Current Costs	Forward looking LRIC	BU. ICTA may also decide to use different types of LRIC standard.	Access and Interconnection Ordinance of Sep. 8, 2009, article 12 states that cost-based price for access services is determined as the sum of forward		
	Leased Lines (including "end-to-end" and "partial" circuits)	Cost oriented	Current Costs	Forward looking LRIC	BU. But. ICTA may also decide to use different types of LRIC standard.	looking long-run incremental cost of efficient service provision including an appropriate return on capital employed for the provision of service and the total of the common costs that can be		
	WLR	Cost oriented	Current Costs	Forward looking LRIC	BU. But. ICTA may also decide to use different types of LRIC standard.	attributed to the service.		
Albania	Fixed interconnection, LLU and leased lines	Cost orientation	Forward looking	LRAIC	BU	SMP decisions and with references to Law 9918, which provides obligations		
	Mobile call termination/origination	Cost orientation	Forward looking	LRAIC	BU	for cost orientation (article 45) and use of efficient cost methodologies for BU LRAIC (article 59).		
Bosnia & Herzegovina	Fixed Interconnection	Benchmarking (EU-27 and SEE)	-	-	-	RAK regulation on interconnection of March 11, 2002 envisages obligation of		
	LLU	Benchmarking (EU-27 and SEE)	-	-	-	accounting separation and cost analysis  Communications Law of 2002, article		
	Mobile Interconnection	Benchmarking (EU-27 and SEE)	-	-	-	21 (1) requires that the principle of cost orientation shall be applied to determine the level of the tariffs charged by companies having SMP.		

Country	Regulated wholesale	Pricing rule set by NRA?		Methodology mandated by NRA		Legal basis
	markets/activities		Cost base	Cost standard	BU, TD or reconciliation	
Kosovo*	Fixed Interconnection	Cost orientation		FDC	-	Based on Article 6.4, 53, 57 of the Law on Telecommunications (No 2002/7), as amended by Law (No. 03/L-085.) TRA decision of 2011 on designation of SMP operator on Call Termination on public telephone network at fixed location
	WLR	Cost orientation	-	-	-	TRA decision of 2011 on the designation of SMP operator on Access to public telephone network at fixed location
	Mobile call termination	Benchmarking	-	-	-	TRA decision No 33 (No. Prot. 89/1/10) on MTRs between PTK /Vala and IPKO

Table H.15 – Price control and regulatory cost accounting for fixed and mobile wholesale prices

Notes:

Macedonia: Starting from September 2011 AEC have started to develop BU LRIC model for calculation of cost based prices for terminating and trunk segments of leased lines,

dark fibre and duct and another BU LRIC model for bitstream access and resale of bitstream services. Public hearing and implementation is pending. Final results and

implementation is expected in June 2012.

Serbia: Current cost accounting – CCA as the cost base is planned to be implemented in 2013.

# I. Universal service and end-user rights

### 1. Scope of universal service and provider designation mechanism

Universal Service Directive 2002/22/EC requires any designation of a universal service (US) provider to be carried out by "an efficient, objective, transparent and non-discriminatory designation mechanism, whereby no undertaking is a priori excluded from being designated". These rules allow the designation of one or more undertakings to guarantee the provision of universal service and may also designate different undertakings or sets of undertakings to provide different elements of universal service and/or to cover different parts of the national territory. Furthermore, according to Article 8 and Recital 8 in the Universal Service Directive, mobile networks may be used for the provision of universal service. This could reduce the cost of universal service provision.

The table below shows the designation of the universal service providers in the monitored countries.

Country	Scope of US (specify individual elements)	Universal Service providers Designation period	Designation mechanism for the US provider(s)	Technology neutral?
Croatia	National:  Access to the public voice telephone services through a connection at a fixed location able to support voice services and data communications at a minimum speed of 33.6 kbps  Provision of public payphones  Access to emergency services to all subscribers free of charge  Special measures enabling equivalent access to telephone services to disabled end users  Lower tariffs for services provided to socially sensitive categories	HT d.d.(from Nov. 29, 2010) – 5 years term	Public tender On Oct. 27, 2010 HAKOM designated HT as US provider for 5 years, following a public tender procedure. HAKOM also approved HT prices for US by its decisions from Nov. 17, 2010 and Feb. 23, 2011	Yes
	National: Comprehensive subscriber directory and directory enquiry services Special measures for disabled people for accessing the subscriber directory	Imenik d.o.o. (from Nov. 29, 2010) – 5 years term	Public tender On Oct. 1, 2010 HAKOM designated Imenik as US provider for the period of 5 years, as the only bidder in a public tender procedure. HAKOM approved the prices of the service by its decision from Nov. 17, 2010. HAKOM also determined by its decision from Dec. 22, 2010 the cost oriented price for the access to the subscriber data in order to provide the service of comprehensive subscriber directory.	Yes
Iceland	National:  Access to the public voice telephone services through a connection at a fixed location able to support voice and fax services and data communications at a minimum speed of 128 kbps  If the estimated cost of access request exceeds ISK 650,000 (€4,000) − the US provider must also comply with the request if the end user agrees to pay costs in excess of ISK 650,000.	Míla ehf (from Jan. 1, 2008) – 3 years term (with extension for 1 year, i.e. until Dec. 31, 2011)  PTA decision no. 32/2011 extends designation for a period Jan. 1 – Dec. 31, 2012 with a possibility of 1 year extension.	Public consultation PTA decision Nr. 25/2007 of Dec. 6, 2007	Yes
	National: Access to data transmission services with minimum 128 kbps speed	Síminn hf (from Jan. 1, 2008) – 3 years term (with extension for 1 year, i.e. until Dec. 31, 2011)  PTA decision no. 32/2011 extends designation for a period Jan. 1 – Dec. 31, 2012 with a possibility of 1 year extension.	Public consultation PTA decision Nr. 25/2007 of Dec. 6, 2007	

Country	Scope of US (specify individual elements)	Universal Service providers Designation period	Designation mechanism for the US provider(s)	Technology neutral?
	National: Provision of public payphones	Síminn hf (from Jan. 1, 2008) – 3 years term (with extension for 1 year, i.e. until Dec. 31, 2011)  PTA decision no. 32/2011 extends designation for a period Jan. 1 – Dec. 31, 2012 with a possibility of 1 year extension.	Public consultation PTA decision Nr. 25/2007 of Dec. 6, 2007	
	National: Access to emergency services to all subscribers free of charge	Neyðarlínan ohf. Contract with no time limit	Public consultation Law on Electronic Communications No. 81, 26 March 2003, Chapter X. Art. 49	
	National     Comprehensive subscriber directory and directory enquiry services     Special measures for disabled people for accessing the subscriber directory	Já Upplýsingarveitur ehf. (from July 1, 2011) – 3 years term (with possible extension until Feb. 10, 2016)	Public consultation PTA decision Nr. 22/2011 of June 28, 2011	
FYR Macedonia	National:  Access at a fixed location to the public voice telephony services and data communications at a minimum speed of 9600 bps at affordable price  public payphones  equivalent access to publicly available telephone services for disabled end users, on equal terms, including access to emergency call services and directory enquiry services	Makedonski Telekom from Jan. 1, 2012 until Dec. 31, 2016 – 5 years term	Public tender Tender for US providers designation- prequalification phase was held in Feb. 2011. Second phase started in April 2011. On June 29, 2011 AEC designated Makedonski Telekom as US provider.	Yes
	National:  • comprehensive subscriber directory and directory enquiry services	R3 Infomedia from Jan. 1, 2012 until Dec. 31, 2016 – 5 years term	Public tender Tender for US providers designation- prequalification phase was held in Feb. 2011. Second phase started in April 2011. On June 29, 2011 AEC designated R3 Infomedia as US provider.	Yes

Country	Scope of US (specify individual elements)	Universal Service providers Designation period	Designation mechanism for the US provider(s)	Technology neutral?
Montenegro	National:  Access to the public voice telephone services through a connection to public telephone network at a fixed location  Access to local, national and international call services, telefax and data communications at speed suitable for functional internet access (min 144 kbps)  Adequate access for disabled end-users to publically available telephony eservices and its use including access to services for emergency calls, public pay phones, directory and directory enquiry service.	Telenor d.o.o. (from Jan. 25, 2011) – 5 years term	Public tender On Jan. 25, 2011 EKIP designated Telenor d.o.o. as US provider for 5 years, following a public tender procedure.	Yes
	National:     Access to comprehensive phone directory and directory enquiry service     Adequate access for disabled end-users to comprehensive phone directory and directory enquiry service	MCA Maribor d.o.o. (from Jan. 25, 2011) – 5 years term	Public tender On Jan. 25, 2011 EKIP designated MCA Maribor d.o.o. as US provider for 5 years, following a public tender procedure.	Yes
	National:      Access to public payphone services     Adequate access for disabled end-users to public payphone services	None EKIP did not select US operator for this service	Public tender EKIP twice announced a public tender for selection of the US provider for this service, but the first public tender the operator that replied did not fulfilled the required conditions, and the second time there were no applications.	Yes
Serbia	Access to a public fixed telephone service enabling functional Internet access (equivalent of a dial-up connection)     Special measures for disabled and socially disadvantaged users     Free access to emergency services     Public payphones     Access to telephone directory and directory enquiry services.	<ul> <li>Telekom Serbia</li> <li>Telenor</li> <li>VIP mobile</li> <li>Orion Telecom</li> </ul>	By NRA decision, based on the prior analysis of the provision of the US obligation.  On March 12, 2010 RATEL designated the four operators as US providers based on article 50, Law on Telecommunications. The designation applies to all licensed providers of public fixed and mobile telephony services and fixed wireless access services.	Yes

Country	Scope of US (specify individual elements)	Universal Service providers Designation period	Designation mechanism for the US provider(s)	Technology neutral?
Turkey	Access to emergency services to all subscribers free of charge	Türk Telekom For an indefinite period	No designation mechanism – the requirement is set out in the Concession Agreement of Türk Telekom	No
	Telephone directory services to be provided in the printed or electronic media	Türk Telekom For an indefinite period	No designation mechanism – the requirement is set out in the Concession Agreement of Türk Telekom	No
	Provision of public payphones	Türk Telekom For an indefinite period	No designation mechanism – the requirement is set out in the Concession Agreement of Türk Telekom	No
	Access to fixed telephony services	Türk Telekom For an indefinite period	Türk Telekom is assigned for provision of this service	No
	Provision of satellite services to Turkish Red Crescent Society	Türksat 3 years (01.01.2011-31.12.2013)	Türksat is assigned for provision of this service (voice and data via satellite)	No
	Digital broadcasting (DVB-T services)	None	No designation mechanism - the technical and legal studies are under way	No
	Access to internet services	Türksat, Türk Telekom 3 years (01.01.2011-31.12.2013)	Türk Telekom and Türksat are assigned to establish the infrastructure of the basic internet services for training associations located in rural, high cost areas. Project studies continue.	No
	Passenger transportation services of the places to which transportation is supplied by only seaway	Gestaş Joint Stock Company 3 years (01.01.2011-31.12.2013)	Gestaş is assigned for provision of these services.	Yes
	Services of marine communication and communication of cruise security	Directorate General of Coastal Safety 3 years (01.01.2011-31.12.2013)	Directorate General of Coastal Safety is obliged provide this service. Ministry is subsidizing this service.	No
Albania	<ul> <li>Access to the telephone service available to the public from a defined geographic location, enabling the user to make and receive local, national and international calls, facsimile communications and data communication at a minimum speed of 32 kbps</li> <li>Telephone directory</li> <li>Public payphones</li> <li>Equivalent access to and use of telephone service for disabled end-users, including access to emergency calls services and information in telephone directory.</li> </ul>	None	Public tender According to the Article 26 of the Law on Electronic Communications, AKEP may designate one or several universal service providers, following a public tender procedure and subject to approval by the Minister.  If tender procedure fails, AKEP may to designate the provider of the Universal Service, after a consultation process with interested parties and subject to approval by the Minister.	Yes

Country	Scope of US (specify individual elements)	Universal Service providers Designation period	Designation mechanism for the US provider(s)	Technology neutral?
Bosnia & Herzegovina	Access to emergency services to all subscribers free of charge	All operators	No designation mechanism – the requirement is set out in the license terms.	
	<ul> <li>Provision of public payphones</li> <li>Lower tariffs for services provided to disabled and persons with special social needs</li> <li>Connections to the fixed public telephone network at a fixed location and access to fixed public telephone services at affordable prices, allowing users to make and receive national and international calls, supporting speech, facsimile and/or data communications</li> <li>Provision of directories and directory enquiry services</li> </ul>	<ul><li>BH Telecom</li><li>Telekom Srpske</li><li>HT Mostar</li></ul>	No designation mechanism – the requirement is set out in the licence terms of the three fixed incumbent operators.	
Kosovo*	<ul> <li>Quality of services should be offered with reasonable prices</li> <li>Access to the public voice telephone services through a connection at a fixed location including rural areas.</li> <li>Provision of public payphones in the licensed areas</li> <li>Access to emergency services to all subscribers free of charge</li> <li>Directory services</li> </ul>	None	Not decided	Yes

Table I.1 – Scope of universal service and provider designation mechanism

#### Notes:

Bosnia & Herzegovina: Obligation on provision of USO has been set out in the Licences awarded to incumbent operators. Council of Ministers B&H needs to adopt decisions on scope of USO services and financing mechanism.

Montenegro: EKIP approved the functional internet access rate of 144 kbps, taking into consideration that the operators have covered 99% of the territory with EDGE signal therefore no significant investment would be required to achieve this rate within the scope of US.

### 2. Universal service funding

Article 12 of the Universal Service Directive requires NRAs to calculate the net cost of universal service provision where they consider that it may represent an unfair burden on the provider. According to Article 13, NRAs may either introduce a public funding mechanism for compensation or share the net cost between operators.

The table below shows the legal basis for any calculations and reimbursement of costs for the universal service, the method of funding (if any) and the status of implementation.

Country	Legal basis for	Method of funding	USO net cost established by	Sharing of USO net cost?	
	calculation and reimbursement of USO costs		NRA?	Yes/No By whom?	Methodology and legal basis
Croatia	Art. 39-40 Law on Electronic Communications(Official Gazette 73/2008 and 90/2011)	Cost sharing  To be financed by all operators of publicly available telephone services with share in total revenue on national retail markets for publicly available telephone services exceeding 2%. The amount of contribution by any individual operator must be proportionate to the share of its annual revenue in relation to the total annual revenue of all operators who are under the obligation to make contributions. The recovery of net costs may not be requested by the universal service operator with more than 70% share in the total revenue earned on the market of these services	Not implemented	-	-
Iceland	Art. 21-22 Law on Electronic Communications No. 81, 26 March 2003 (with amendments) Regulation on US no. 1356/2007	Cost sharing Art. 22, Sec. 3, Item 2 Law on Electronic Communications deals with the financing and sharing of the US net cost, the percentage levied on the operators and the accounting responsibilities of (PTA). The sharing of the USO net cost should be 0.10% of the accounting revenue of the operator for the year 2010 (reduced from 0.65% rule applied in 2009)	Two US providers have so far received payments from the fund:  • Siminn – one-time payment of €757,117 (ISK 127m) in 2009 covering roll-out of ISDN services in 2000-2005  • Neyðarlínan (112, emergency service): 2008 - €189k (ISK 30.10m) 2009 - €209k (ISK 33.37m) 2010 - €240k (ISK 38.23m) 2011 - €250k (ISK 42.00m)	By market players The largest contributors are:  Siminn – 43% Vodafone – 27% MILA -13% NOVA - 5% TAL – 4%	Net cost methodology Art. 22. Law on Electronic Communications No. 81, March 26, 2003 (with amendments) and in Regulation on US No. 1356/2007

Country	Legal basis for	Method of funding	USO net cost established by	Sharing of US	O net cost?
	calculation and reimbursement of USO costs		NRA?	Yes/No By whom?	Methodology and legal basis
FYR Macedonia	Art. 38 Law on Electronic Communications Rules for providing services within US scope (Official Gazette No. 139/2010)	Bylaw on Universal Service provisioning defines the rules for determining the net costs of universal service provisioning. All operators owning public communication networks and all public communication service providers with revenues of at least €100.000 per year will be obliged to contribute the assets for real costs compensation to the universal service provider(s). The amount may not be higher than 0.35% of the total revenues from ensuring public communication networks and providing communication services.	Not implemented	-	-
Montenegro	Art. 57-58 of the Law on Electronic Communications of August 19, 2008 (Official Gazette of Montenegro No.50/2008)	Cost sharing The reimbursement of net costs for universal service provision is to be financed by all operators of publicly available telephone services with revenue exceeding 1% of the total revenue in this market. The amount of contributions to be paid by individual operators is to be set in proportion to their market shares.	Not implemented	-	Methodology of calculation of net cost of providing, the amount and manner of payment of the universal service fund (Official Gazette No. 35/10) adopted by EKIP Council
Serbia	Art. 57 of the Law on Electronic Communications	Cost sharing Contributions will be required from other public telecommunications operators in proportion to their market shares. The amounts and timing of such payments have to be set out in a separate regulation to be adopted by the NRA.	Not implemented	-	-

Country	Legal basis for	Method of funding	USO net cost established by	Sharing of USO net cost?	
	calculation and reimbursement of USO costs		NRA?	Yes/No By whom?	Methodology and legal basis
Turkey	Law No. 5369 on the Provision of Universal Services and Making Changes on Some Laws (Official Gazette No. 25856, June 25, 2005)  Ordinance on Principles and Procedures for the Collection of Universal Service Revenues and Execution of Expenditures (Official Gazette No. 26213, June 29, 2006).	According to article 6 of the Universal Service Law No. 5369 of June 2005, contributions to the universal service fund consist of the following:  2% of the authorisation fees collected by the NRA  1% of net sales revenues of all operators except for GSM operators  10% of payments by GSM operators to the Treasury  20% of administrative fines collected by the NRA  20% of what remains in the budget of the NRA after all expenditures are deducted  Percentages can be increased by up to 20% by the Council of Ministers.	Not implemented USO net cost is to be established by the Ministry of Maritime, Transport and Communications. The usage of fund is decided by Ministry of Finance and Ministry of Maritime, Transport and Communications in cooperation. No USO costs compensation payments have been made so far (see note).	Yes The biggest contributor is Türk Telekom with 95%.	
Albania	Art. 29 and 30 Law on Electronic Communications.  NRA shall define the methodology for calculating the real costs and intangible benefits that should be taken into consideration in the calculation of real costs of universal service provision and in doing so it shall take into account the EU recommendation on universal service.	Cost sharing Universal service fund is to be financed by the undertakings that own public electronic communication networks and provide electronic communication services, and the public electronic communications services providers, in accordance with the regulations to be adopted by the NRA.  The contribution may not exceed 1% of the operator's gross revenue received from the provision of public electronic communications networks and services.	Not implemented	-	-
Bosnia & Herzegovina	No financing mechanism has been established yet.	Cost sharing (proposal) RAK proposed that contributions are required from all participants in the sector. The amount of contribution should be dependent of participants' revenues. Funds shall be allocated to undertakings designated as USO providers.	Not implemented	-	-

Country	Legal basis for			Sharing of USO	net cost?
	calculation and reimbursement of USO costs		NRA?	Yes/No By whom?	Methodology and legal basis
Kosovo*	Article 49.3 of the Law on Telecommunications	Cost sharing The law foresees equitable and non-discriminatory contributions from all providers, but specific principles have not been defined.	Not implemented	-	-

Table I.2 – Universal service funding

Notes:

Turkey:

These amounts shall be transferred to the Ministry Central Accounting Office's account within the same period and record into the budget under "universal service revenues" title. Rules and procedures to govern the collection of revenues and making of expenditure for the universal service shall be set out in a regulation to be drafted jointly by the Ministry and the Ministry of Finance. Net cost of the universal service shall be calculated on the basis of the difference between the net cost when the incumbent operator does not provide services within the scope of universal services and when it provides such service as an incumbent universal service provider. However, in calculation of the universal service net cost, the evaluation must be carried out considering the other revenues that the operators will earn from being the Universal Service Provider. Every year, appropriations as much as the universal service revenues estimated shall be appropriated to the Ministry budget to cover the net cost of the universal service incurred due to operators' obligation to provide the universal service and to meet other spending to be made under this Law.

### Subscriber directories

According to article 5 of the Universal Service Directive, at least one comprehensive directory (printed or in electronic form) and at least one comprehensive telephone directory enquiry service shall be available to end-users. These directories shall comprise all subscribers of publicly available telephone services. Article 25 (1) Universal Service Directive gives all subscribers the right to have a directory entry.

Two types of activities can be distinguished in relation to subscriber directories and directory enquiry services:

- collecting directory information from different providers of publicly available telephone services, aggregating this information into a single database and maintaining this database;
- providing access to such aggregated directory information, in particular by printing directories and providing directory enquiry services which are accessible via phone or online.

Country	Is a comprehensive directory or directory enquiry service available in practice? Form (printed, telephone enquiry, online)	If yes, who is the provider?	Obligations for operators to provide access to subscriber data for providers of directory services? Free/Payment
Croatia	Yes, telephone enquiry, online Comprehensive directory and enquiry service are available in practice (telephone enquiry, online). Comprehensive directory will be also available in printed form	HT d.d.	Art. 47 Sec. 8 to 10 Law on Electronic Communications obliges all operators of publicly available telephone services to grant publishers of directories and providers of directory enquiry services access to their subscriber data on the basis of the principles of non-discrimination and cost orientation.

Country	Is a comprehensive directory or directory enquiry service available in practice? Form (printed, telephone enquiry, online)	If yes, who is the provider?	Obligations for operators to provide access to subscriber data for providers of directory services? Free/Payment
Iceland	Yes, both in printed version and online Directory service is a part of the USO	já www.ja.is	Art. 45 Law on Electronic Communications No. 81, 26 March 2003 requires all electronic communications undertakings assigning telephone numbers to their subscribers to agree to requests to provide the subscriber information on terms which are fair and based on cost plus a reasonable premium.
			PTA has issued a preliminary decision on wholesale access price based on FAC historical cost.
			This preliminary decision of PTA is now being challenged by the company JÁ before the appellate committee on telecommunications and also addressed by the Competition Authority. The controversy is the access price.
FYR Macedonia	On June 29, 2011 AEC designated R3 Infomedia as US provider for directory and directory enquiry services.  Available in printed version and online and a phone enquiry.	R3 Infomedia	Art. 34 Sect. 6 of the Law on Electronic Communications, operators of public telephone services are obliged to grant their subscriber data to universal service provider(s) designed by the NRA on the basis of the principles of non-discrimination and cost orientation.
Montenegro	On Jan. 25, 2011 EKIP designated MCA Maribor d.o.o. (Teleinfo.me) as US provider for 5 years, following a public tender procedure.  Available in printed and electronic (CD) format and	TELEINFO (subsidiary of MCA)	Art. 5 Regulation on minimum set of services within Universal Service scope requires all operators to provide their subscriber data to universal service providers.
Serbia	as a telephone enquiry.  Only Telekom Srbija's PSTN user directory is currently available (printed, telephone enquiry, online). According to the Rules on terms and conditions for the access to and the usage of the public directory data, adopted on October 21, 2011, all operators have the obligation to publish their user directory.	At the moment, Telekom Srbija for fixed network users. The activities of other fixed and mobile networks operators related to publishing their user directories are underway.	According to the Rules on terms and conditions for the access to and the usage of the public directory data, the operators of publicly available telephone service have the obligation to provide access to their directory data, to a comprehensive directory service provider, under non-discriminatory terms and condition. The access is provided under commercial terms.
Turkey	DQ providers have right to access all subscriber data of all operators.	There are 14 directory service providers.	According to Definition, Scope And Periods of Electronic Communication Service, Network And Infrastructure at section 2.5 which is based on Bylaw on Authorization For Electronic Communications Sector, phone operators providing the similar services shall also provide conditions and opportunities they use in a fair, cost basis and non-distinctive manner for Directory Information Service operators and also according to concession agreements.

Country	Is a comprehensive directory or directory enquiry service available in practice?  Form (printed, telephone enquiry, online)	If yes, who is the provider?	Obligations for operators to provide access to subscriber data for providers of directory services? Free/Payment		
Albania	No comprehensive directory available in practice	None	Art. 25 Item 3 Law on Electronic Communications obliges providers of public telephone services to submit subscriber data to providers of universal services – subject to a commercial agreement.		
			The Law sets the obligation for operators to provide access to subscriber data for providers of directory services and if the operator fails to submit the data to the US provider, AKEP shall oblige the provider of telephone service to submit those data within a certain period of time.		
Bosnia & Herzegovina	No comprehensive directory available in practice No legal obligation to provide a comprehensive directory or directory enquiry service.	None	Art. 9 Sec. 1. d) Law on Communications obliges operators of public voice telephone services to make their subscriber directory available or request to other providers for an appropriate payment in electronic form or on-line for the purpose of providing information or publishing directories.		
			Regarding obligation of operators to provide access to subscriber data for providers of directory services, there are no rules on price setting for access to such data. Any such agreement on access to directory information is to be made on commercial terms and conditions.		
Kosovo*	No comprehensive directory available in practice	None	Art. 76 Law on Telecommunications: Limitations on Collection and Use of Subscriber Information of Law		
			Service providers are required to provide subscriber data to third parties at reasonable prices and under non-discriminatory conditions.		

Table I.3 – Availability of comprehensive directories

### 4. 112 emergency number

Article 12 of the Universal Service Directive requires that all end-users of the electronic communications service for originating national calls to a number or numbers in a national telephone numbering plan, including users of public pay telephones, are able to call the emergency services free of charge and without having to use any means of payment, by using the single European emergency call number "112". Furthermore, caller location information must be made available free of charge to the authority handling emergency calls as soon as the call reaches that authority.

Country	Is the single European emergency number 112		Is the emergency number free of	Is the caller location	If available please spo	ecify if the obli service is b		er emergency
	available? (Yes/No)	available?	charge for the caller? (Yes/No)	information provided? (Yes/No)	Fixed incumbent operator (Yes/No)	Alternative operators (Yes/No)	Mobile operators (Yes/No)	Public payphones (Yes/No)
Croatia	Yes	Yes 192 Police 93 Fire brigade 94 Ambulance 9155 - Rescue at sea 1987- Croatian Auto club HAK – road assistance	Yes	Yes	Yes	Yes	Yes	Yes
Iceland	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes
FYR Macedonia	No	Yes 192 Police 193 Fire brigade 194 Ambulance	Yes	Yes	Yes	Yes	Yes	Yes
Montenegro	Yes	Yes 122 Police 123 Fire brigade 124 Ambulance	Yes	No	Yes	Yes	Yes	Yes
Serbia	No	Yes 192 Police; 193 Fire; 194 Ambulance; 1976 Military hospital ambulance; 1985 Alert and information service; 1987 Road and traffic information and assistance; 19860 Military police	Yes	Yes	Yes	Yes	Yes	Yes

Country	Is the single European emergency number 112	Are there any other national emergency numbers	Is the emergency number free of	Is the caller location	If available please spe	ecify if the obli service is b		er emergency
	available? (Yes/No)	available?	charge for the caller? (Yes/No)	information provided? (Yes/No)	Fixed incumbent operator (Yes/No)	Alternative operators (Yes/No)	Mobile operators (Yes/No)	Public payphones (Yes/No)
Turkey	Yes	Yes 110 Fire 151 Coastal Safety 155 Police 156 Gendarmerie 157 Helpline for victims of human trafficking 158 Coast Guard 159 Road emergency 168 Turkish red crescent 177 Forest Fire	Yes	Yes	Yes	Yes	Yes	Yes
Albania	No	Yes 126 Road accident 127 Ambulance 128 Fire Brigade 129 Police	Yes	No	Yes	Yes	Yes	Yes
Bosnia & Herzegovina	No	Yes 122 Police 123 fire brigade 124 ambulance service	Yes	Yes	Yes	Yes	Yes	Yes
Kosovo*	Yes	Yes 192 Police 193 Fire Brigade 194 Ambulance	Yes	No	Yes	Yes	Yes	Yes

Table I.4 – 112 emergency number

Notes:

Iceland: Emergency call is free of charge for end-user. 112 i the only emergency call number in use

Electronic Communications Act , No. 81, 26 March 2003

Macedonia: The introduction of the single emergency call number E-112 pursuant to Universal service Directive (2002/22/EC) is regulated by the Crisis Management Law and the

Law on Electronic Communications. The government in 2009 established a Supervisory board for the feasibility study on the E-112 system for emergency calls by representatives from the Crisis Management Centre, Ministry of Interior, Ministry of Health, Ministry of Transport and Communications, AEC and representatives from the Rescue and Protection Directorate. According to Article 114 of the Electronic communications Law paragraph (6), operators shall be obliged to supply the location data referring to emergency call numbers to the competent body responding to emergency calls on appropriate technical manner.

Montenegro: Article 88 of the Electronic Communications Aug. 2010; Regulation on the procedure, conditions and dynamics of introducing the single European emergency number

112 for emergency calls as well as quality of service calls to that number and Regulations on the parameters of quality of service, limits and methods of measurement

parameters for the use of the single Europe number 112 for emergency from 2009.

Serbia: Starting from 22.05.2012, the new emergency numbers will be valid: 192 Police, 193 Fire brigade, 194 Ambulance. These numbers shall be kept even after the single

emergency service with the number 112 is established. In the transition period (until 22.05.2012.) old 92, 93, 94, 976, 985,987, 9860 and new 192,193,194,1976,

1985, 1987, 19860 emergency numbers will be used. Location information is available for more than 96% subscribers of the fixed network.

It is currently connected only to medical emergency service. Project ongoing for combining other emergency services under 112

Location data is provided for the following numbers: 110,112, 155, 156.

Bosnia & Herzegovina: In Article 9 of Communication Law (Obligations of Telecommunications Operators Providing Public Voice Telephony Services) is defined: that telecommunications

operators providing a public voice telephony service shall: (c) provide access free of charge to emergency services.

### 5. Quality of service

Turkey:

Article 11 of the Universal Service Directive (2002/22/EC) provides that NRAs may set specific performance targets for the designated universal service providers. The standards are set out in Annex III to the Directive. Article 22 of the Universal Service Directive also provides that NRAs should be able to require undertakings that provide publicly available electronic communications networks and/or services to publish comparable, adequate and up-to-date information for end-users on the quality of their services and on measures taken to ensure equivalence in access for disabled end-users.

	Service		Obligation to publish service quality indicators?	Measurement audited?	Targets set?	Do specific penalties apply when targets not met?	Legal basis
Croatia	Telephony	Fixed	Yes	Yes	Yes (USO only)	No	Ordinance on the manner and conditions for provision of
		Mobile	Yes	Yes	No	No	electronic communications, Official Gazette 154/11
	Broadband	Fixed	Yes	Yes	No	No	Sazono 10 // 11
		Mobile	Yes	Yes	No	No	
Iceland	Telephony	Fixed	Yes (USO only)	Yes (USO only)	Yes (USO only)	No	Minimum requirements for US
		Mobile	Yes	Yes	No	No	21/10 2011
	Broadband	Fixed	Yes	Yes	No	No	Rules by PTA 1221/1222/1223 / 2007
	Біоацрапц	Mobile	Yes	Yes	No	No	
FYR Macedonia	Tolonbony	Fixed	Published annually	Yes	Yes	No	AEC Rulebook on the type and content of data that must be published by the public
	Telephony	Mobile	Published annually	Yes	Yes	No	communication network operators and/or service providers, related to the conditions for access
	Broadband	Fixed	Published annually	Yes	No	No	and use, the prices and tariffs, and the parameters regarding the

	Servic	e	Obligation to publish service quality indicators?	Measurement audited?	Targets set?	Do specific penalties apply when targets not met?	Legal basis
		Mobile	Published annually	Yes	No	No	quality of the communications services, from March 18, 2011. Targets are set according ETSI EG 202 057
Montenegro	Telephony	Fixed	Yes	Yes	Yes (USO only)	No	Ministry for Information Society and Telecommunications - Rulebook for quality of electronic
	Тетерпопу	Mobile	Yes	Yes	No	No	communications services (Official Gazette of Montenegro 09/2012)
	Broadband	Fixed	Yes	Yes	No	No	All Montenegrin fixed operators have a duty to publish a specific set of QoS data since January 2013.
		Mobile	No	Yes	No	No	EKIP or authorised entity have possibility to audit operator's measurements
Serbia	Telephony	Fixed	Yes	No	Yes	No	All Serbian fixed operators have a duty to publish a specific set of QoS data since October, 2011
		Mobile	Yes	No	Yes	No	900/1800/2100 MHz mobile licenses MTS, Telenor, VIP
	Broadband	Fixed	Yes	No	Yes	No	All Serbian fixed operators have a duty to publish a specific set of QoS data since October, 2011
		Mobile	Yes	No	Yes	No	900/1800/2100 MHz mobile licenses MTS, Telenor, VIP
Turkey	Tolophony	Fixed	No (NRA may request operator to publish)	Yes	Yes	Yes	Bylaw on Quality of Service in the Electronic Communication Sector and Regulation of Quality of Service on Fixed Telephony Service
	Telephony	Mobile	No (NRA may request operator to publish)	Yes	Yes	Yes	Bylaw on Quality of Service in the Electronic Communication Sector and Regulation of Quality of Service on Mobile Telephony Service

	Servio	e	Obligation to publish service quality indicators?	Measurement audited?	Targets set?	Do specific penalties apply when targets not met?	Legal basis
	Broadband	Fixed	No (NRA may force operator to publish)	Yes	Yes	Yes	Bylaw on Quality of Service in the Electronic Communication Sector and Regulation of Quality of Service on ISP Service
	Broadbarid	Mobile	No (NRA may force operator to publish)	Yes	Yes	Yes	Bylaw on Quality of Service in the Electronic Communication Sector and Regulation of Quality of Service on ISP Service
Albania	Telephony	Fixed	Yes	No	No	No	AKEP is preparing a regulation
	тетернопу	Mobile	Yes	No	No	No	which requires among others publication of a set of QoS fro
	Broadband	Fixed	Yes	No	No	No	operators for fixed and mobile
	Broadbarid	Mobile	Yes	No	No	No	telephony and access to Internet.
Bosnia & Herzegovina	Talanhaan	Fixed	Yes	Yes	No	No	Instruction on methodology of quality of service measurements in fixed public telecommunication networks, June 2011
	Telephony	Mobile	Yes	Yes	Yes	Yes	Decision on measurement of quality of GSM services, May 2007 QoS targets for telephony services set in GSM and UMTS licences.
	Broadband	Fixed	Yes	Yes	No	No	Instruction on methodology of quality of service measurements in fixed public telecommunication networks, June 2011
		Mobile	Yes	Yes	No	No	Decision on measurement of quality of GSM services, May 2007
Kosovo*	Telephony	Fixed	No	-	-	-	-
	Гетерпопу	Mobile	No	-	-	-	
	Broadband	Fixed	No	-	-	-	
	Diodabaila	Mobile	No	-	-	-	

Table I.5 – Quality of service

Notes:

Iceland: According to Paragraph 5. Art. 19 of the Electronic Communications Act, No. 81, 26 March 2003the Post and Telecom Administration can determine certain minimum

US quality indicators for the operator that has been nominated to have to fulfil those obligations. The technical parameters and measuring methods are in accordance

with standards from ETSI EG 201 769-1 (2000-04). (http://pfs.is/upload/files/PFS Gæðaviðmið alþjónusta fjarskipti 21.10.2010.pdf)

Serbia: According to the new Rule, which came into force in October 2011, obligations for US operators are the same as for fixed operators. RATEL has started monitoring the

QoS on October 2011.

Turkey: According to Bylaw on Quality of Service in the Electronic Communication Sector which came into force by 31.12.2011, ICTA may force all relevant operators (fixed,

mobile, USO etc.) to publish their QoS indicators or publish in its web site but there has not been any obligation yet.

Bosnia & Herzegovina: Instruction on QoS measurement in fixed networks adopted in 2011. Public reports shall be available in August 2012.

Mobile operators have an obligation to measure QoS and to report to the Agency. Publication procedure not specifically defined.

### 6. Contract regulation

The ease with which a customer can switch between telecommunications service providers (churn) is an important factor in the level of competition in a market. Operators have an incentive to lock customers to their network in order to recuperate their investments (connection costs, promotion etc.) by proposing fixed-term contracts with penalties for cancellation before the end of the fixed term.

Article 30 of the Universal Service Directive says:

- Contracts [shall] not mandate an initial commitment period that exceeds 24 months. Undertakings [shall] offer users the possibility to subscribe to a contract
  with a maximum duration of 12 months; and
- Subscribers have a right to withdraw from their contract without penalty upon notice of modification to the contractual conditions. Subscribers shall be given
  adequate notice, not shorter than one month, of any such modification.

This table gives an overview of contract regulation specific to electronic communications. This comes on top of any horizontal regulation to protect consumers against unfair contract terms.

Country		Fixed term contract regular	tion		Cancellation without penalty upon changes	
	Limit to initial commitment period	Penalties for early cancellation	Notice period	Automatic (tacit) renewal?	to general conditions	
Croatia	Max. 2 years Operators must also offer the contracts with initial commitment period of 12 months (Art. 41, Law on Electronic Communications)	Yes A subscriber is entitled to terminate the subscription at any time. The contract may specify that the subscriber who terminates the contract before the expiry of the period of mandatory contract duration, must pay the fee corresponding to the monthly fees for the remainder of the period of mandatory contract duration or the fee corresponding to the received benefits (Article 41, Law on Electronic Communications)	Not regulated, but subscriber has a right to set the date of terminating the contract in advance.	No	Yes Private subscribers are entitled to withdraw from their contracts without notice and without penalty upon notification of proposed modifications in the contractual conditions. Private subscribers shall be given at least one month to withdraw from their contracts before the changes take effect and shall be informed at the same time of their right to withdraw, without penalty, from such contracts if they do not accept the new conditions.	

Country		Fixed term contract regula	tion		Cancellation without penalty upon changes	
	Limit to initial commitment period	Penalties for early cancellation	Notice period	Automatic (tacit) renewal?	to general conditions	
Iceland	Max. 6 months	No	Not regulated	No	Yes Private subscribers shall be entitled to withdraw from their contracts without notice and without penalty upon notification of proposed modifications in the contractual conditions. Private subscribers shall be given at least one month to withdraw from their contracts before the changes take effect and shall be informed at the same time of their right to withdraw, without penalty, from such contracts if they do not accept the new conditions.	
FYR Macedonia	Max 24 months	The penalties differ from one provider to another and they depend of the tariff model and on the duration of the initial commitment period.	15 days	The contract may not be automatically renewed. The provider shall inform the consumer no later than 15 days before the expiry date, and also if there are changes in the tariff model or if the consumer will be disconnected from the service.	Yes (Art. 96 of the Law on electronic communications)	
Montenegro	Not regulated The law has not defined that period. EKIP suggested that the minimum period should not be longer than a year. In practice there have been offers with a minimum duration of 2 years.	Not defined According to Art. 104 of the Law on Electronic Communications, the contract shall contain provision on the duration of subscriber agreement, conditions for its extension, amendments and termination. EKIP shall give approval on subscriber agreements. It may also launch an infringement procedure against the operator if the latter does not respect the above- mentioned provisions of the agreement.	A subscriber agreement signed for a period longer than 5 years shall contain provision on the subscriber's right to terminate the agreement, with a notice period which cannot be longer than 3 months.	Yes According to the Law on Electronic Communications, the operator shall not be obliged to inform a subscriber about the deadline for the agreement expiry, which means that there is an automatic renewal of the agreement.	Yes An operator shall be obliged to inform the subscribers at least 30 days before the proposed modifications of terms defined in the subscriber agreement come into effect. Within that notice period, subscribers may terminate the Subscriber Agreement should they not agree with such changes, without any sanctions.	

Country		Fixed term contract regulat	ion		Cancellation without penalty upon changes
	Limit to initial commitment period	Penalties for early cancellation	Notice period	Automatic (tacit) renewal?	to general conditions
Serbia	Max. 2 years	Yes	1 month	Yes	An operator is required to inform the subscriber, at least one month in advance and in an adequate manner, on the intention to unilaterally change the terms and conditions of the agreement, as well as on the right of the subscriber to cancel the agreement before the agreed period expires.  Upon receiving the notification, the subscriber has the right to cancel the agreement without paying any cancelation-related costs, in case that the unilateral modifications bring considerable changes to the terms and conditions under which the agreement was closed, in the way that is unfavourable to the user, in particular in terms of specified services (service package) and terms and conditions for the usage of services related the promotional advantages offered.
Turkey	Not regulated	No Conditions that enable the operator to execute penalty clause against consumers demanding to terminate the subscription contract are deemed unfair. (Appendix (I), Bylaw on Consumer Rights In Electronic Communications Sector). Hence, it is forbidden by the law to execute penalty clause. In that respect, according to ICTA board decision dated 13.04.2010 No. 2010/DK – 10/233, in order to prevent exploitation of consumers and establish effective competition by strengthening consumers, it is prohibited to determine penalty clause that exceed total amount of discounts, rebates and other gains that provided by operators to consumers in standard consumer agreements.	Max. 30 days (Appendix (e) Bylaw on Consumer Rights In Electronic Communications Sector)	Not regulated However, subscriber contracts must include provisions on renewal modalities. (Art 50/(1) Law on Electronic Communication)	Yes Subscribers have the right to terminate the contract without paying any compensation, subsequent to the information given by the operator that the contract conditions are changed to disadvantage of the subscriber. Subscriber should be informed about the changes in the contract terms and conditions at least 30 days before their entry into force.
Albania	Max. 24 months	Yes Monthly fee of the remaining duration.	30 days	Yes If the customer doesn't notify the operator on termination of the contract, the contract is prolonged for undetermined period.	Yes The operator shall notify for any changes at least 30 days in advance.

Country		Fixed term contract regular	tion		Cancellation without penalty upon changes
	Limit to initial commitment period	Penalties for early cancellation	Notice period	Automatic (tacit) renewal?	to general conditions
Bosnia & Herzegovina	Not regulated Max. 2 years in practice.	Yes Operators charge rest subscription fees, no penalty charged.	30 days	No	Yes Changes to the conditions and tariffs shall be published in a suitable format at least one month prior to the effective date thereof. Any change to the content of a contract shall entitle the other contracting party to terminate the contract with the telecommunications operator within four weeks of the publication of the change.
Kosovo*	Not regulated	-	-	-	Not regulated

Table I.6 – Contract regulation

Notes:

Iceland: Electronic Communications Act. No. 81, 26 March 2003, Art. 37 (www.pfs.is/upload/files/Electronic%20Communications%20Act%202003.pdf)

Electronic communications undertakings shall, prior to the entry into force of new or altered terms or tariffs, send NRA the terms or tariffs for information purposes in such format as the NRA prescribes. The NRA may require modifications to an undertaking's terms or prices if their substance is considered to violate this Act. Electronic communications undertakings shall publish the terms and tariffs for all their services in an accessible manner.

### 7. Resolution of disputes between service providers and end users

Article 34 of the Universal Service Directive on out-of-court dispute resolution says that:

Member States shall ensure that transparent, non-discriminatory, simple and inexpensive out-of-court procedures are available for dealing with unresolved disputes between consumers and undertakings providing electronic communications networks and/or services.

Member states shall adopt measures to ensure that such procedures enable disputes to be settled fairly and promptly and may, where warranted, adopt a system of reimbursement and/or compensation.

Country	Alternative dispute resolution mechanism (e.g. ombudsman) imposed by law or regulation?		Who org	anises?		Compensation	Number of	Average resolution time
		NRA	Ministry	Industry	Other	mechanism foreseen?	complaints handled in 2011	
Croatia	Yes In case of an unresolved dispute between the operator and the enduser, the end-user can file a complaint to NRA (HAKOM).	Yes	No	No	No	HAKOM has a power to impose to the operator to return amount charged for provided service or to terminate the contract, but other compensation can only be imposed by a court.	1,082 in 2011	2-3 months on average

Country	Alternative dispute resolution		Who org	anises?		Compensation	Number of	Average resolution time
	mechanism (e.g. ombudsman) imposed by law or regulation?	NRA	Ministry	Industry	Other	mechanism foreseen?	complaints handled in 2011	
Iceland	Yes Consumer complaints, disputes between operators and end-users are handled by PTA. It is also a venue for complaints on frequency interruptions. Neytendastofa - the Consumer Agency of Iceland (see note)	Yes	No	No	No	No Compensation can only be imposed by a court.	2010 Enquiries / advice requests: 14 Formal complaints: 95 Total: 109	-
FYR Macedonia	Yes According to Art. 102 Law on Electronic Communications, end-user can submit appeals first to operators/service providers. After 15 days if the appeal is solved negatively, end-users can submit appeal to AEC.	Yes NRA has its own inspection department and customer care service with free of charge phone number "190", to which end-users and companies can address questions.	Yes Second- instance authority	No	No	No	687 in 2011	36 days
Montenegro	Yes EKIP is the first-instance authority in the consumer appeal procedure.	Yes	Yes Ministry as the second instance authority	No	No	Yes Users shall have the right to request from operators, providers of communications services to be reimbursed for any direct or indirect loss incurred due to faults in operator or service provider's performance (Art. 117 Law on Electronic Communications).	176 in 2011	30 days

Country	Alternative dispute resolution mechanism (e.g. ombudsman) imposed by law or regulation?	Who organises?				Compensation	Number of	Average
		NRA	Ministry	Industry	Other	mechanism foreseen?	complaints handled in 2011	resolution time
Serbia	Yes. The subscriber whose complaint has been unsolved by the operator can request from RATEL or a court of general jurisdiction to serve as an intermediary in the out-of-court settlement. Alternatively, the subscriber can initiate legal action before court, no later than 15 days upon receiving the operators' reply to the complaint and/or no later than 15 days following the deadline for the operator to respond to the complaint.	Yes	No	No	Court of general jurisdiction	Compensation for damage can be awarded only by court in a lawsuit.	700 in 2011	1.5 months
Turkey	Yes In case of an unresolved dispute between the operator and the enduser, the end-user can file a complaint with ICTA.	Yes	No	No	Arbitration Committee for Consumer Complaints is responsible for all types of consumer complaints including electronic communications and Consumer Courts	No compensation can be imposed by ICTA but refund can be ordered in a binding decision. Decisions are final in the administrative procedure, and can only be appealed to the Administrative Court.	6,911 in 2010	20 days
Albania	No AKEP handles consumer complaints but has no power for dispute resolution between end-user and operators. Nevertheless AKEP issues recommendations for parties (non binding) and if the dispute concerns many consumers, AKEP deals with the problem by making necessary binding regulations to remedy the problem.	No	No	No	No	No	N/A	N/A

Country	Alternative dispute resolution mechanism (e.g. ombudsman) imposed by law or regulation?	Who organises?				Compensation	Number of	Average
		NRA	Ministry	Industry	Other	mechanism foreseen?	complaints handled in 2011	resolution time
Bosnia & Herzegovina	Yes RAK handles consumer complaints particularly related to discrimination, transparency and quality of service. Bodies for alternative resolution procedures yet need to be established in accordance with Consumer Protection Law.	Yes	No	No	No	Compensation may be imposed by the court.	15 in 2011	30 days
Kosovo*	Yes According to Art. 11 and 73 of the Law on Telecommunications, if the service provider fails to resolve the complaint or objection during the fifteen (15) day period, the complaining or objecting party may to file an appeal with the TRA within fifteen (15) days. TRA Regulation on dispute resolution (183/07) addresses all procedures with regards to consumer and inter- operator disputes including mediation.	Yes	No	No	No	No	-	Within the 30 days from the date of the decision to proceed with the request, unless exceptional circumstances

Table I.7 – Resolution of disputes between service providers and end-users and mediation

Notes:

Turkey:

Iceland: Act on the Post and Telecom Administration, No. 69, 24 March 2003

Neytendastofa is an independent government agency which was formed by the merger of The State Electrical Inspection and the Agency for Legal Metrology in 1996. Furthermore in 2005 the Consumer Affairs Division of the Icelandic Competition Authority was also merged to this government agency and as of July 1, 2005 the Consumer Agency took over all tasks previously handled by these entities according to the new Act No 62/2005 the Consumer Agency and Consumer Spokesman.

Montenegro: Before complaining to the NRA, users of public communications services shall have the right to object to the access and quality of services provided by operators, and in relation with the bill for the access and quality of services provided. Objection to the access and quality of services provided by operators, and

in relation with the bill for the services provided. Objection to the issues of access and quality, a user shall report to the operator immediately upon identifying such circumstances, and the objection to a bill, a user shall submit 8 days from the reception thereof, in writing. If an operator rejects the objection of the user, or does not make a decision within 15 days from the day of the receipt of the objection, the user has the right to submit the complaint to the NRA within the following 15 days.

EU Directive 2002/22/EC Art. 34 is taken as base while preparing the draft regulation relating to Consumer Dispute Resolution Mechanism. New ADR mechanism will be free of charge, transparent and non-discriminatory as determined by 2002/22/EC art. 34. With new ADR mechanism it will be much easier to understand the types

of problems and decrease/increase in these problem types.

Bosnia & Herzegovina: Public consultation on Draft Rule on types and resolution procedure of customer complaints handled by the Agency held in March 2012. Quoted number of complaints

includes only complaints that have been handled by RAK in formal procedure.

# J. Retail telephony tariffs – regulation

# 1. Regulation of retail tariffs

Country	Operator	Retail services covered	Advance notification requirements and notification period	Assessment method	Legal basis
Croatia	Hrvatski Telekom d.d.	publicly available local and/or national telephone services provided at a fixed location for residential and non-residential customers	Yes – to submit to the NRA (tacit approval):  • for notification:  • retail prices (45 days before proposed service launch) and  • information about promotional offers (15 days before promotional publication)	price squeeze test	SMP obligations in retail fixed telephony markets (markets 1 - European Commission Recommendation 2007 and markets 3 and 5 - European Commission Recommendation 2003)
		access to the public telephone network at fixed location for residential and non-residential customers	Yes – to submit to the NRA (tacit approval):  for notification:  retail prices (30 days before proposed service launch) and  information about promotional offers (15 days before promotional publication)		
		retail broadband access (including bundles comprising broadband access and pay TV services)	Yes – to submit to the NRA (tacit approval):  • for notification:  • retail prices (45 days before proposed service launch) and  • information about promotional offers (15 days before promotional publication)	price squeeze test	SMP obligations in the retail broadband access market
	Iskon Internet d.d.	publicly available local and/or national telephone services provided at a fixed location for residential and non-residential customers	Yes – to submit to the NRA (tacit approval):  • for notification:  • retail prices (45 days before proposed service launch) and  • information about promotional offers (15 days before promotional publication)	price squeeze test	SMP obligations in retail fixed telephony markets (markets 1 - European Commission Recommendation 2007 and markets 3 and 5 - European Commission Recommendation 2003)
		access to the public telephone network at fixed location for residential and non-residential customers	Yes – to submit to the NRA(tacit approval):  • for notification:  • retail prices (30 days before proposed service launch) and  • information about promotional offers (15 days before promotional publication)	price squeeze test	

Country	Operator	Retail services covered	Advance notification requirements and notification period	Assessment method	Legal basis
		retail broadband access (including bundles comprising broadband access and pay TV services)	Yes – to submit to the NRA (tacit approval):  • for notification:  • retail prices (45 days before proposed service launch) and  • information about promotional offers (15 days before promotional publication)	Price squeeze test	SMP in the retail broadband access market
Iceland	No retail price control	-	-	-	-
FYR Macedonia	Makedonski Telekom	One time fees, monthly fees and discounts for all retail services, including services for:	Yes – to the NRA for formal approval 30 days before proposed service launch	Margin squeeze tests	SMP obligations in retail fixed telephony markets (markets 1/2007 and 3-6/2003)
Montenegro	Crnogorski Telekom	Fixed voice telephony (calls and access).	Yes – to the NRA for formal approval 30 days before proposed service launch	Benchmarking	SMP obligations in retail fixed telephony markets
Serbia	Telekom Srbija	Fixed voice telephony (access and calls)	Yes – to the NRA for formal approval Notification period has not been defined	Cost based model	SMP on Market 1/2007- Access to the public telephone network provided at a fixed location SMP on Market 9 - Publicly available telephone services provided at a fixed location (markets 3-6/2003)
	SBB (Serbia Broadband)	Cable TV and DTH	Yes – to the NRA for formal approval Notification period has not been defined	Cost based model (benchmarking applied in practice)	SMP on Market 8 - Media contents distribution

Country	Operator	Retail services covered	Advance notification requirements and notification period	Assessment method	Legal basis
Turkey	Turk Telekom	Fixed telephony: access and calls	Yes – 7 days before proposed service launch	Service replicability by competitors. There is no pre- defined assessment method. The tariffs are evaluated case by case.	SMP obligations in the retail fixed telephony markets (access and calls) based on the Electronic Communication Law and the Tariff Ordinance.
Albania	Albtelecom	Fixed telephony: access and calls	No, with one exception (see footnote). In that case 15 days in advance.	Maximum Prices/Price ceilings	SMP obligations in retail fixed telephony markets (markets 1/2007 and 3-6/2003)
Bosnia & Herzegovina	BH Telecom Sarajevo	Connection charge     connection charge     monthly fee     national and international calls     Leased line     national leased lines     Mobile telephony services     monthly fee     national and international calls	Yes – to the RAK for formal approval  1 month prior to the effective date	Benchmarking/Price cap	Law on Communications Rule on the Model for Tariff Rebalancing of Voice Telephony Services Rule on determining price-caps for leased lines
	Telekom Srpske Banja Luka	Fixed voice telephony services     connection charge     monthly fee national and international calls     Leased line     national leased lines     Mobile telephony services     monthly fee     national and international calls	Yes – to the RAK for formal approval 1 month prior to the effective date	Benchmarking/Price cap	Law on Communications Rule on the Model of Tariff Rebalance of Voice Telephone Services Rule on determining price-caps for leased lines

Country	Operator	Retail services covered	Advance notification requirements and notification period	Assessment method	Legal basis
	HT dd Mostar	Fixed voice telephony services     connection charge     monthly fee     national and international calls     Leased line     national leased line     Mobile telephony services     monthly fee     national and international calls	Yes – to the RAK for formal approval 1 month prior to the effective date	Benchmarking/Price cap	Law on Communications Rule on the Model of Tariff Rebalance of Voice Telephone Services Rule on determining price-caps for leased lines
Kosovo*	PTK	Fixed voice telephony (access and calls)	Yes	Cost oriented (FDC)	SMP obligations in retail fixed telephony markets

Table J.1 - Retail tariff regulation

Notes:

Macedonia: AEC prepared a price-squeeze test manual. After the market analysis of the retail markets, AEC defined the 3 relevant retail markets reported in the table and

designated Makedonski Telekom as SMP operator on the retail markets and imposed obligations, including price control. AEC is currently finalising the work on the margin squeeze methodology for access and publicly available calls on fixed location and cost based prices for minimum set of leased lines. Following public

consultation until May 21, 2012 the methodology is expected to enter into force in June 2012. AEC is also consulting until May 18, 2012 on a new procedure for the

approval of retail prices (tariff changes and promotions). It is expected to enter into force in June 2012.

Serbia: RATEL has adopted the new bylaw regarding the cost based model in July 2011

Montenegro: EKIP has adopted Rulebook on the regulation on the retail prices in October 2011. After the first financial accounting report, which is expected in July 2012 from

Crnogorski Telekom it shall proceed with the price cap regulation.

Albania: Based on AKEP Decision nr.1348 of July 7, 2010, retail tariffs for residential and business customers are regulated, and AKEP imposed maximum tariffs to be applied

by Albtelecom, starting from Sep. 1, 2010. The decision allows Albtelecom to increase tariffs for off-net calls (including international calls), when the termination rate in

other networks increases. In these cases Albtelcom should notify AKEP 15 days in advance.

Kosovo\*: TRA analysed fixed telephony markets and designated PTK as having SMP in all fixed retail and wholesale markets.

## 2. Retail price caps

Under Article 17 of the Universal Service Directive (2002/22/EC), NRAs are empowered to impose regulatory obligations to control individual tariffs (*inter alia*, by price caps) on undertakings with SMP in a given retail market if they have concluded, following a market analysis, that:

- the given market is not competitive; and
- obligations imposed on the wholesale market under the Access Directive (2002/19/EC) and the obligation to offer carrier selection and/or carrier preselection under Article 19 of the Universal Service Directive have failed to address competition concerns.

This table shows where retail price caps have been imposed on fixed and mobile network operators and the period of their validity.

Country	Status of rebalancing	Validity of current price cap	Price cap (or sub caps)				
Croatia	Completed	None	-				
Iceland	Completed	None	-				
FYR Macedonia	Completed	None	-				
Montenegro	Ongoing	None	-				
Serbia	Ongoing	None	-				
Turkey	Ongoing	All mobile operators & Turk Telekom:	Retail price caps (per minute)	Until March 31, 2010	From April 1, 2010	From April 1, 2011	From Sep. 1, 2011
		Caps on retail tariffs for the following types of calls:  mobile-to-mobile	Mobile to mobile calls*	TRY 0.65 (27.90 €cent)	TRY 0.40 (17.17 €cent)	TRY 0.4154 (17.83 €cent)	No change
		<ul><li>mobile-to-fixed</li><li>fixed-to-mobile</li></ul>	Mobile to fixed calls*	TRY 0.65 (27.90 €cent)	TRY 0.40 (17.17 €cent)	TRY 0.4154 (17.83 €cent)	No change
		ICTA decision of Feb. 12, 2010 (effective from April 1, 2010) reduced caps for M-M and M-F	Fixed to mobile calls**	-	TRY 0.37 (15.88 €cent)	No change	No change
		calls by 38% (from earlier decision of Sep. 16, 2009).	Fixed to fixed calls** (only Turk Telekom's)	-	-	-	TRY 0.1459 (6.26 €cents)
		ICTA decision of March 2011 (effective from April 1, 2011) raises the cap for all three operators by 3.9%.	* including 18% VAT and 25% private communications tax  ** including 18% VAT and 15% private communications tax				
		Turkcell:  The weighted average call price in each of Turkcell's retail on-net tariff packages must not be lower than the average MTR charged by Turkcell to other operators.  Turk Telekom  ICTA published a decision on Aug.10, 2011 imposing a cap on the retail calls (both local and national) from Turk Telekom to the networks of other fixed telephony services operators. It set the cap at TRY 0.1459/min (6.26 €cents/min).					

Country	Status of rebalancing	Validity of current price cap		Price cap (or sub caps)			
Albania	Ongoing	Based on AKEP Decision nr.1348 of 26.07.2010, retail tariffs for residential and business users are regulated. AKEP imposed maximum tariffs to be applied by Albtelecom, starting from Sep. 1, 2010.	Individual ceilings apply to specific retail tariffs of Albtelecom within defined tariff plans, according to AKEP Decision nr.1348 of 26.07.2010.				
Bosnia & Herzegovina	Ongoing The second phase of tariff	Jan. 1, 2012-Dec. 31, 2012	Retail price caps	From Jan. 1, 2010	From Jan. 1, 2011	From Jan. 1, 2012	
	rebalancing will be completed by		Connection charge *	BAM 93.6 (€47.75)	BAM 81.9 (€41.78)	BAM 70.2 (€35.81)	
	Dec. 2012.		Monthly rental residential subscribers *	BAM 11.46 (€5.85)	BAM 13.22 (€6.74)	BAM 15.21 (€7.76)	
			Business subscribers	BAM 16.4 (€8.36)	BAM 16.4 (€8.36)	BAM 16.4 (€8.36)	
			Local call *	BAM 0.046 (€0.023)	BAM 0.051 (€0.026)	BAM 0.056 (€0.028)	
			Long distance call *	BAM 0.085 (€0.043)	BAM 0.069 (€0.035)	BAM 0.056 (€0.028)	
			Fixed to mobile call *	BAM 0.19 (€0.101)	BAM 0.22 (€0.113)	BAM 0.24 (€0.125)	
			Mobile to fixed call *	BAM 0.22 (€0.119)	BAM 0.24 (€0.125)	BAM 0.25 (€0.131)	
			International call Zone 1 * Neighbouring countries	BAM 0.58 (€0.298)	BAM 0.52 (€0.268)	BAM 0.47 (€0.241)	
			International Zone 2 * European countries	BAM 1.36 (€0.698)	BAM 1.23 (€0.628)	BAM 1.10 (€0.565)	
			International Zone 3 * World countries	BAM 1.89 (€0.967)	BAM 1.70 (€0.870)	BAM 1.53 (€0.783)	
			* Including VAT 17%				
Kosovo*	-	None	-				

#### Table J.2 – Retail price caps

Notes:

Montenegro: Agency has adopted Rulebook on the regulation on the retail prices in October 2011, but, after the first financial accounting reports, which is expected in July from CT,

shell proceed with price cap regulation of prices.

Macedonia: AECs believes use of margin squeeze tests will remove price distortion on the retail markets. No plans for implementation of price cap.

Bosnia & Herzegovina: Maximum prices are also imposed on retail leased lines. The last review took place in 2005. See Section N on leased lines for more details

Kosovo\*: Imposed obligation of price control according to the market analysis results and determination of cost oriented price based on FDC model regulates tariff rebalancing

## K. Retail fixed voice telephony tariffs

In this section, EU-27 average statistics on tariffs and prices are based on the latest EC report in which these data are available: the Digital Agenda Scoreboard (DAS) of 2011. Although the 2012 DAS has been published at the time of finalising this report, no recent EU statistics on retail tariffs have been published yet. Therefore, in this report average EU prices refer to end 2010; prices for the enlargement countries refer to March 2012.

### 1. Call charging system

The charges for public fixed voice telephony services can comprise two components: an initial or set-up charge applied at the beginning of a call and a charge for the remainder of the call, that may not depend on the type of initial charge used.

The table below presents call charging systems used by the fixed incumbent operators.

Country	Type of call	Init	ial charges	Charging during the call		
		Type of charge	Nominal value (in euro, VAT incl.)	Minimum charging unit	Nominal value (in euro, VAT incl.)	
Croatia	Local and long distance	Call set-up charge (first indivisible minute)	0.132	60 seconds; 1 second*	0.038/min (peak) 0.020/min (off peak)	
	Fixed to mobile call	Call set-up charge (first indivisible minute)		15 seconds; 1 second*	0.264/min (peak) 0.132/min (off peak) 0.239/min (peak) 0.120/min (off peak)	
	International call	Call set-up charge (first indivisible minute)		15 seconds 1 second*	0.305/min	
Iceland	Local	Call set-up charge	0.053	60 seconds	0.023	
	Long distance	no national long distance calls in Iceland				
	Fixed to mobile call	Call set-up charge	0.053	60 seconds	0.107	
	International call	Call set-up charge	0.053	60 seconds	0.119 (DK and US)	
FYR	Local	None		60 seconds	0.022	
Macedonia	Long distance	None		60 seconds	0.058	
	Fixed to mobile call	None	_	60 seconds	0.192	
	International call	None		60 seconds	0.190 – 1.036 (0 – 10 tariff group)	

Country	Type of call	Ir	nitial charges	Charging du	ring the call
		Type of charge	Nominal value (in euro, VAT incl.)	Minimum charging unit	Nominal value (in euro, VAT incl.)
Montenegro	Local	None		60 seconds	0.0222
	Long distance	None		60 seconds	0.059
	Fixed to mobile call	None		60 seconds	0.222
	International call	None		60 seconds	Depends on international zone
Serbia	Local	None		Pulse (26.367 sec peak, 52.735 sec off peak)	0.0098/min (peak) 0.0049/min (off peak)
	Long distance	None		Pulse (17.20 sec peak, 34.41 sec off peak)	0.0150/min peak 0.00747/min off peak
	Fixed to mobile call	None		Pulse (2.66 sec peak, 4 sec off peak)	0.0972/min peak 0.0648/min off peak
	International call	None		Pulse (1.727 sec to 0.545 sec)	0.14992/min peak 0.47495/min off peak
Turkey	Local	None		60 seconds	0.065 (incl.STC tax 15%)
	Long distance	None		60 seconds	0.065 (incl.STC tax 15%)
	Fixed to mobile call	None		60 seconds	0.065 (incl.STC tax 15%)
	International call	None		60 seconds	0.065 (incl.STC tax 15%)
Albania	Local	Set up	0.007	1 second	0.0004 (0.021/min)
	Long distance	Set up	0.007	1 second	0.0009 (0.055/min)
	Fixed to mobile call	Set up	0.007	1 second	0.004 (0.224/min)
	International call	Set up	0.007	1 second	0.0022 (0.132/min)
Bosnia &	Local	None		1 second	0.00033 (0.0197/min)
Herzegovina	Long distance	None		1 second	0.00048 (0.0287/min)
BH Telecom	Fixed to mobile call	None		1 second	0.0017 (0.102/min)
Dir rolcoom	International call	None		1 second	Depends on international zone 0.0085 (0.51/min) to UK

Country	Type of call	I	nitial charges	Charging d	uring the call
		Type of charge	Nominal value (in euro, VAT incl.)	Minimum charging unit	Nominal value (in euro, VAT incl.)
Bosnia &	Local	None		1 second	0.00030 (0.0179/min)
Herzegovina	Long distance	None		1 second	0.00048 (0.0287/min)
Telekom Srpske	Fixed to mobile call	None		1 second	0.0021 (0.126/min)
·	International call	None		1 second	Depends on international zone 0.0070 (0.419/min) to UK
Bosnia &	Local	None		1 second	0.00027 (0.0162/min)
Herzegovina	Long distance	None		1 second	0.00048 (0.0287/min)
HT Mostar	Fixed to mobile call	None		1 second	0.00190 (0.114/min)
	International call	None		1 second	Depends on international zone 0.0095 (0.567/min) to UK
Kosovo*	Local	Unit	0.01 peak 0.01 off peak	4 minutes	0.04 (0.01/min)
	Long distance	Unit	0.01 peak 0.01 off peak	4 minutes	0.04 (0.01/min)
	Fixed to mobile call	Unit	€0.1 peak €0.08 off peak	24 seconds peak 30 seconds off peak	0.04 (0.10/min)
	International call	Unit	€0.26 peak €0.13 off peak	9.2 seconds peak 10.8 seconds off peak	0.04 (0.26/min)

Table K.1 – Call charging system

Notes:

Croatia: Reference date – March 2012. There are two call charging systems. In the first case the minimum charging unit is one minute or 60 seconds for the calls in the

national network, but for calls to mobile networks and the international calls the minimum charging unit is 15 seconds.

In the second case the minimum charging unit is one second (although the first 60 seconds of the call are always charged as 1 minute) with the call set-up charge at the amount of 0.08 HRK for all calls in the national network, the same charging unit of one second is also applied to calls to mobile networks and the international calls

without the call set-up charge.

Charging mechanism is the initial charge + billing of the first 60 seconds at answer. Afterwards, charging units of 60 seconds. Iceland:

No national long distance calls. The country is one local tariff zone for fixed networks.

International charges vary depending on countries (countries in zone 10 being the most expensive) and on termination of call (fixed or mobile network). Macedonia: Montenegro:

Crnogorski Telekom's EN PACKAGE offer has pricing is per second, and set-up charge of €0.022. Calls to Serbia-F-F=€0.11, F-M=€0.19;

F-F within the region= $\in$  0.11 F-M within the region = $\in$ 0.27,

F-F for Europe = €0.15; F-M for Europe=€0.38,

F-F for USA and Canada = 0.085 F-M for USA&Canada=0.85

Serbia: Price of international calls varies depending on country

Turkey: Ev Avantaj 100 tariffs, considered as the entry level, base tariff option for customers.

The prices reflect the prices after the usage exceeds the free calls included in the package (100 minutes).

### 2. Monthly subscription fees for residential and business users

### a) Residential

The table below shows the monthly rental prices for PSTN lines in the fixed network for residential subscribers in nominal euro with value added tax included. It shows the prices for the standard tariff plans and where available, also the prices for low usage tariff plan. For the low usage tariff plan, also the basis for its offering is shown (e.g. legal requirement such as a universal service obligation or commercial offer) and any restrictions that apply to its usage (e.g. no possibility to use CS/CPS etc.).

Country Standard mont rental with VAT				Low usage package available?	Restrictions applicable to	Low usage monthly rental	Call units included in lo	_
		Number of call units included	Nominal value of each call unit (€)	Basis for its offering ?	low usage package	(€)	Number of call units included	Nominal value of each call unit (€)
Croatia	9.901	60 minutes	0.038 per minute	50% discount on Halo Super 60; Halo Super 60 P	Only for disabled people and the immediate families of fallen Croatian soldiers.	4.951	60	0.038 per minute
Iceland	11.528	0	-	None	-	-	-	-
FYR Macedonia	7.655	0	-	Social tariff model	-	2.067	0	2.067
Montenegro	5.967	100 minutes of local off-peak calls	0.022 (19-07h)	Yes (mini package)	Residential users only	3.042	0	-
Serbia	4.588	300 pulses	0.004	Yes. Commercial offer	Fully disabled customers	50% off the regular price	300 pulses	0.004
Turkey	9.403	100 minutes	0.065	Yes. Commercial offer	-	5.195	0	-
Albania	3.788	0	-	None	-	-	-	-
Bosnia & Herzegovina BH Telecom Telekom Srpske HT Mostar	<ul><li>5.862</li><li>6.55</li><li>7.777</li></ul>	120 minutes of local calls in peak time	<ul><li>0.020/min</li><li>0.018/min</li><li>0.016/min</li></ul>	Yes	families of soldiers died in the war, disabled veterans, people with disabilities	2.147	100 minutes of local calls in peak time	<ul><li>0.020/min</li><li>0.018/min</li><li>0.016/min</li></ul>
Kosovo*	9.361	2,500	0.046	Yes	No restrictions	4.99	75	0.046

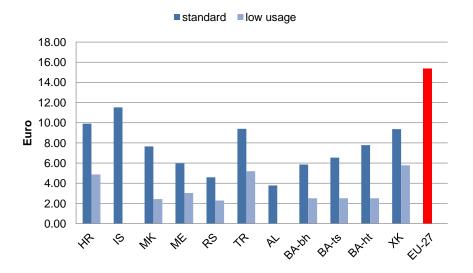
Table K.2 – Residential monthly subscription fees

Notes: Macedonia:

From Jan. 1, 2012 Makedonski Telekom has introduced social tariff package as a part of the universal service obligation. It is a pre paid access rental plan including a voucher of calls with a validity of 12 months, at €2.067 (127.11 MKD) (excluding VAT). The whole amount can be used for calls. Prices for calls above €2.067 (MKD 127.11) are charged in accordance with the standard price list.

Serbia: Turkey: Offer for low usage customers refers to fully disabled customers, and it is a commercial offer.

Standard package: Ev Avantaj 100 tariffs, Excl. all taxes; Low usage package: SadeHatt, Excl. all taxes



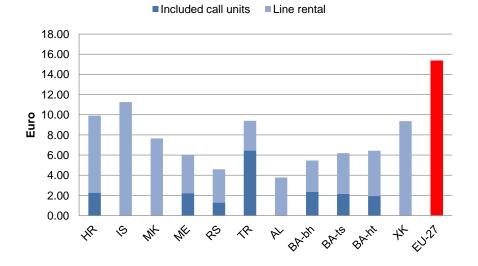
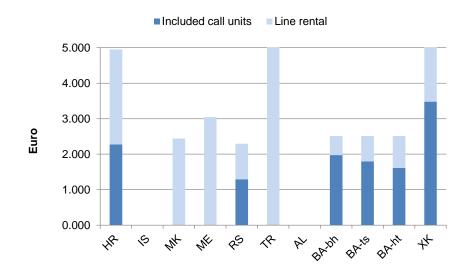


Figure K.1 – Standard and low usage residential monthly rental including VAT

Figure K.2 – Standard residential monthly line rental with included call units, including VAT



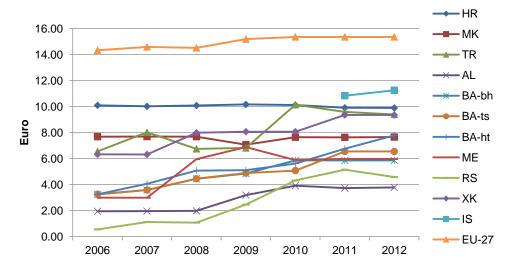


Figure K.3 – Low usage residential monthly line rental with included call units

Figure K.4 – Residential line rentals by incumbent including VAT, 2006 – 2012

Notes:

EU-27: Weighted average, Sep. 2010. Source: Telingen, Telecom Price Developments 1998-2010

Serbia: RATEL approved new retail fixed telephony tariffs for Telekom Srbija applicable from August 1, 2011. The new monthly rental rate is 10% higher but it also includes a double

value for the calls included in the package.

Turkey: The charges include the 15% Special Communications Tax

### b) Business

The table below shows the monthly rental prices for PSTN lines in the fixed network for business subscribers in nominal euro without value added tax.

Country	Standard monthly rental (€)	Value of call units included in standard monthly rental		
		Number of call units included	Nominal value of each call unit (€)	
Croatia	9.24	0	-	
Iceland	11.35	0	-	
FYR Macedonia	11.38	0	-	
Montenegro	5.10	0	-	

Country	Standard monthly rental (€)	Value of call units included	in standard monthly rental
		Number of call units included	Nominal value of each call unit (€)
Serbia	3.89	0	-
Turkey	8.50	100 minutes	0.055
Albania	11.43	0	-
Bosnia & Herzegovina:		120 minutes of local calls in peak time	
BH Telecom	• 8.39		• 0.017
Telekom Srpske	• 8.39		• 0.015
HT Mostar	• 8.39		• 0.014
Kosovo*	17.99	Unlimited on net calls from + 60 min on mobile network (PTV Vala network)	0.046

Table K.3 – Business monthly subscription fees for residential and business users

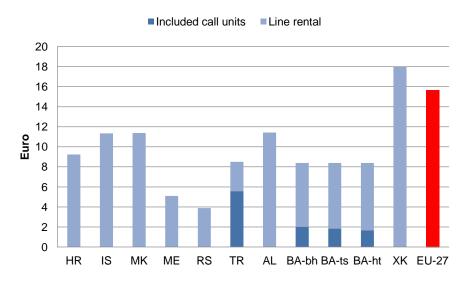


Figure K.5 – Business monthly line rental with included call units

Notes: EU-27:

Weighted average, Sep. 2010. Source: Telingen, Telecom Price Developments 1998-2010

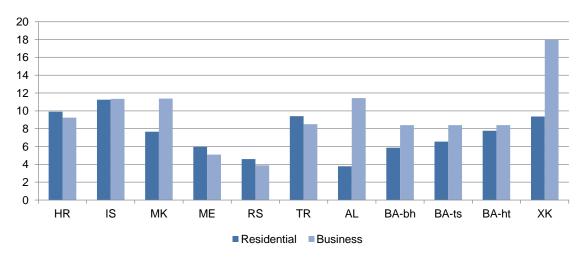


Figure K.6 – Residential and business line rental with included call units

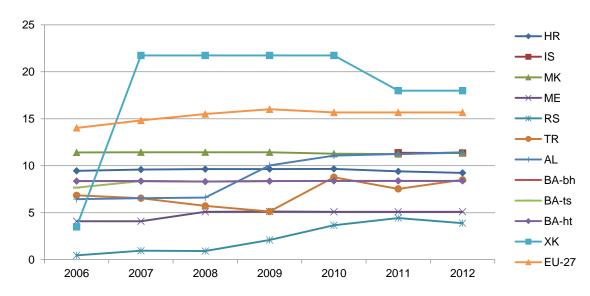


Figure K.7 – Business line rentals by incumbents (excl. VAT), 2006 – 2012

### 3. One-off connection charges

Table K.4 shows the initial costs for the installation and connection of residential and business subscriptions. All prices are in euro. The installation costs represent the cost of a new installation in a location that has not been connected before. The connection cost is the cost for the connection of an existing subscriber line to a new subscriber, for example, when a new family takes over an apartment where the previous occupant was already connected.

Some operators have special reconnection tariffs that apply after a subscriber has been disconnected for failure to pay accounts. These are not included in the table.

Country	Residential (ii	ncluding VAT)	Business (excluding VAT)		
	New line connection charge (€)	Reconnection charge (€)	New line connection charge (€)	Reconnection charge (€)	
Croatia	82.51	9.90	66.01	7.92	
Iceland	17.90	9.76	14.26	7.78	
FYR Macedonia	23.73	0.00	20.16	0.00	
		The amount of a monthly fee for relevant tariff package		The amount of a monthly fee for relevant tariff package	
Montenegro	19.91	12.50	17.02	10.68	
Serbia	53.35	3.97	90.43	3.37	
Turkey	3.21	3.21	2.42	2.42	
Albania	34.28	34.28	28.57	28.57	
Bosnia & Herzegovina					
BH Telecom	29.91	5.11	25.56	4.37	
Telekom Srpske	17.35	4.19	14.83	3.58	
HT Mostar	35.89	11.96	30.68	10.23	
Kosovo*	10.00	2.02	8.62	1.74	

Table K.4 – One-off connection charges

Figure K.8 below shows the trends in connection charges for residential customers since 2008. Some of these have dropped quite dramatically, notably Albania and Bosnia and Herzegovina. The level in Albania, previously much above the monitored countries' average, has now reached the level of the other countries. A considerable decrease from 2011 was observed in Montenegro. In Bosnia and Herzegovina connection charges also decreases, in particular as regards the rates of Telekom Srpske. Connection charges in Croatia are the highest among the monitored countries.

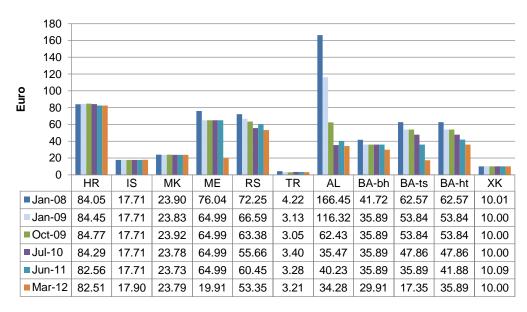


Figure K.8 - Incumbent operator connection charges for residential customers including VAT

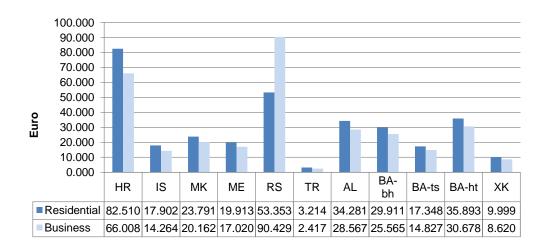


Figure K.9 – Incumbent operator connection charges for residential (incl. VAT) and business customers (ex VAT)

# 4. Alternative operators chosen for comparison of fixed telephony retail tariffs

Country	Alternative operator	Technologies used
Croatia	OT-Optima Telekom	PSTN and VoIP
Iceland	Vodafone	PSTN, ISDN, VoIP
FYR Macedonia	"ONE" - Skopje	Fixed GSM
		WLR
	Blizoo - Skopje	Cable
Montenegro	m:tel	WiMax
Serbia	Orion Telekom	CDMA technology
Turkey	Millenicom	Packet / Cable switched technology
Albania	Abcom (Albanian Broadband Communication)	Cable
Bosnia & Herzegovina	ANEKS	Cable-HFC
Kosovo*	IPKO Telecommunications	VoIP (HFC)

Table K.5 – Alternative operators chosen for comparison of retail fixed voice telephony tariffs

# 5. Local fixed telephony tariffs of the incumbent and an alternative operator

# • Comparison of prices for a 10-minute local call

Country	Incumbent (on-net)	Alternative operator (off-net)
	10 minutes, €	10 minutes, €
Croatia	0.380	0.363
Iceland	0.287	0.166
FYR Macedonia	0.192	0.173
Montenegro	0.222	0.433
Serbia	0.098	0.082
Turkey	0.645	0.275
Albania	0.221	0.249

Coun	itry	Incumbent (on-net)	Alternative operator (off-net)
		10 minutes, €	10 minutes, €
Bosnia & Herzegovina	BH Telecom	0.197	0.167
	Telekom Srpske	0.179	
	HT Mostar	0.162	
Kosovo*		0.116	0.696

Table K.6 – Local calls for residential customers (including VAT)

Notes:

Montenegro: Basic rates have no setup. EN packet of Crnogorski Telekom has call setup of €0.019 without VAT. For alternative operators, M-Tel has TEL ONE packet, and price

for call setup is €0.025. Turkey: The per-minute values for incumbent local call charges are the prices applied after the 100 minutes included in the package

Kosovo\*: Same charges for local and national calls. Alternative operator IPKO charges the indicated amount for the first minute; the following minutes are charged €0.01

The figure below shows the cost of a ten-minute local call in Eurocents on the network of the incumbent operator, including VAT for residential consumers. There is considerable variation in the prices, with Turkey and Croatia more expensive, while Serbia, Montenegro and Kosovo the cheapest. The EU-27 average is indicated by the red line. Prices in the enlargement are considerably below the EU-27 average, with the only exception of Turkey (above the EU-27 average) and Croatia (at levels comparable with the EU-27 average).

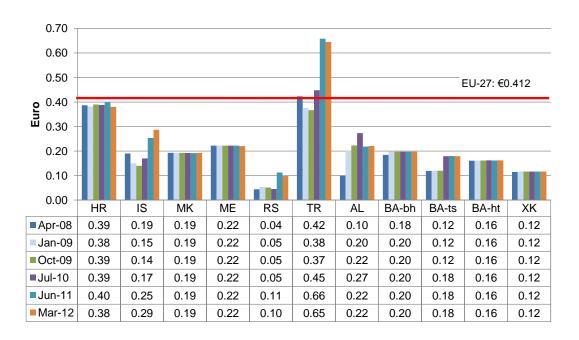


Figure K.10 – Cost of a ten-minute local call (incumbent) in nominal value

#### Notes:

EU-27 weighted average 2010. Source: European Commission, Digital Agenda Scoreboard 2011.

Turkey: Includes Special Communications Tax

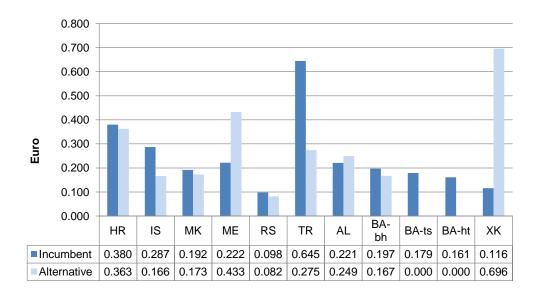


Figure K.11 – Cost of a ten-minute local call in nominal value, incumbent and alternative operator

### 6. Long distance fixed telephony tariffs of the incumbent and an alternative operator

### Prices for a 10-minute long-distance call

Country		Incumbent (on-net)	Alternative operator (off-net)	
		10 minutes, €	10 minutes, €	
Croatia		0.380	0.363	
Iceland		0.287	0.166	
FYR Macedonia		0.576	0.173	
Montenegro		0.585	0.427	
Serbia		0.150	0.213	
Turkey		0.645	0.275	
Albania		0.554	0.536	
Bosnia & Herzegovina	BH Telecom	0.287	0.287	
	Telekom Srpske	0.287	0.287	
	HT Mostar	0.287	0.287	
Kosovo*		0.116	0.580	

Table K.7 – Long-distance calls for residential customers (including VAT)

Notes:

Iceland: No long distance within country – the whole country is one local tariff zone.

Montenegro: Basic rates indicated in the table have no setup. EN packet of Crnogorski Telekom has call setup of €0.005 without VAT. For alternative operator in TEL

ONE package price for call setup is €0.025.

Kosovo\*: Same charges for local and national calls. Alternative operator IPKO charges the indicated amount for the first minute; the following minutes are charged €0.01

The Figure below presents the price developments for a 10-minute residential long distance call from April 2008. The most dramatic decreases since 2008 are observed in Albania and, more recently, also in Bosnia and Herzegovina. In Serbia there has been a gradual decrease since 2009. In Turkey there have been price increases in 2010 1nd 2011, while all other countries, long distance call prices have been stable.

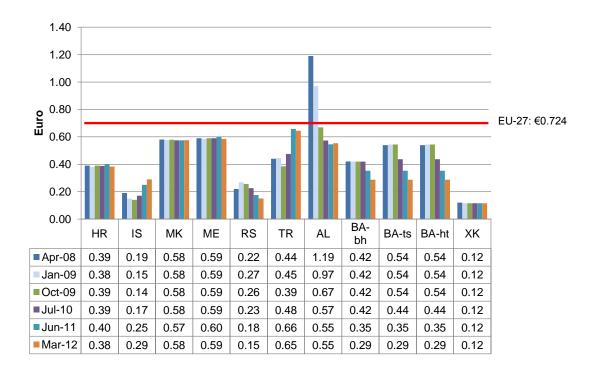


Figure K.12 – Residential long distance charges for 10-minute call (incumbent)

#### Notes:

EU-27 weighted average 2010. Source: European Commission, Digital Agenda Scoreboard 2011.

Iceland and Kosovo\*: No long distance rates – (one local tariff zone).

Turkey: Includes Special Communications Tax

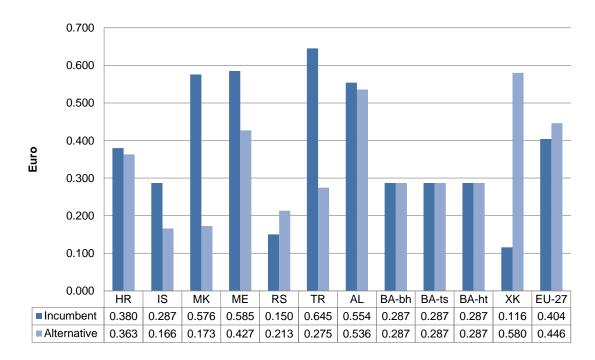


Figure K.13 – Residential long distance charges for 10-minute call (incumbent and alternative operator)

### 7. Fixed-to-mobile tariffs of the incumbent and an alternative operator

Table K.8 below presents the prices from the fixed network of the incumbent operator and for an alternative operator to a mobile network terminating on the largest mobile operator's network.

Country	Incumbent	Alternative operator	
	10 minutes, €	10 minutes, €	
Croatia	2.640	2.327	
Iceland	1.125	1.364	
FYR Macedonia	1.631	1.324	
Montenegro	2.223	1.229	
Serbia	0.972	0.960	

Country		Incumbent	Alternative operator
		10 minutes, €	10 minutes, €
Turkey		0.645	1.209
Albania		2.243	1.614
Bosnia & Herzegovina	BH Telecom	1.017	1.184
	Telekom Srpske	1.256	
HT Mostar		1.137	
Kosovo*		1.160	1.740

Table K.8 – Fixed-to-mobile calls for residential customers (including VAT)

Notes:

Montenegro: the data presented in the table, both for the incumbent and the alternative operator, are the ones of the classic packages, without set-up charge. En packet of

Crnogorski Telecom has call setup of 0.19 without VAT. Price to all mobile networks in CG is 0.19 without VAT. M-Tel has TEL ONE packet, and price for call setup is

0.025. The price for call to M-Tel (068) is €0.083 without VAT, and to other mobile networks in Montenegro the price is 0.156, without VAT.

Turkey: Includes Special Communications Tax 15%.

Kosovo\*: Calls PRK to Vala; €0.1/min. Calls IPKO to Vala: €0.15/min

Figure K.14 below presents the price developments for fixed to mobile calls for the incumbent operator since April 2008.

The lowest rates are in Turkey, which from 2011 shows a dramatic decrease for the incumbent (-65%) which might be due to a combined effect of the lower MTRs and the price control obligations imposed on the Turk Telecom. Decreasing trends since July 2010 are also observed in Serbia and Albania. In Kosovo rates decreased by over 37% in 2009 but after then have been stable.

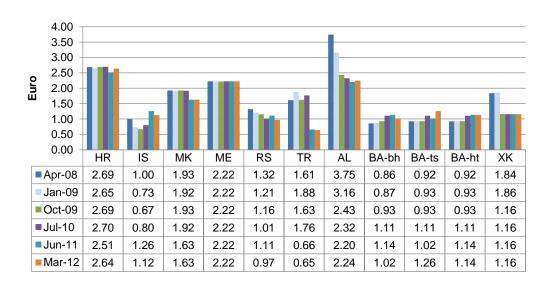


Figure K.14 – Residential charges for 10-minute fixed to mobile calls (incumbent)

Table K.9 presents the tariffs for fixed to mobile calls for business customers. The table includes tariffs from an alternative operator.

Country		Incumbent	Alternative operator
		10 minutes, €	10 minutes, €
Croatia		2.112	1.861
Iceland		0.896	1.087
FYR Macedonia		1.382	1.122
Montenegro		1.900	1.050
Serbia		0.824	0.814
Turkey		0.558	1.045
Albania		3.220	1.345
Bosnia & Herzegovina	BH Telecom	0.869	1.012
Telekom Srpske		1.074	
	HT Mostar	0.971	
Kosovo*		1.000	1.500

Table K.9 – Fixed-to-mobile calls for business customers of the incumbent and alternative operator (excluding VAT)

Notes:

Turkey: Includes Special Communications Tax 15%.

### 8. International tariffs of the incumbent and an alternative operator

Table K.10 presents the long distance call tariffs to the UK for a ten-minute call from residential as well as business subscribers. The main difference between these tariffs is due to the fact that the residential tariffs include VAT. Tariffs are shown both for the incumbent operator and a major alternative operator.

Country		Res	sidential	Business		
		Incumbent, €	Alternative operator, €	Incumbent, €	Alternative operator, €	
Croatia		3.713	3.053	2.970	2.442	
Iceland		1.191	1.298	0.949	1.034	
FYR Macedonia		1.899	0.806	1.610	0.683	
Montenegro		1.755	2.995	1.500	2.560	
Serbia		2.179	0.416	1.847	0.353	
Turkey		0.645	0.337	0.558	0.291	
Albania		1.325	0.572	1.434	0.476	
Bosnia & Herzegovina	BH Telecom	5.085	2.991	4.346	2.556	
	Telekom Srpske	4.187		3.579		
	HT Mostar	5.671		4.847		
Kosovo*		3.712	1.160	3.200	1.000	

Table K.10 - Ten-minute call to the UK

Notes:

Turkey: Includes Special Communications Tax.

Figure K.15 below shows the price developments since April 2008 for the international tariffs of the incumbent operator for residential users.

Table K.11 and Figure K.16 provide the corresponding tariff information for long distance calls to the United States.

Country		Res	sidential	Business		
		Incumbent, €	Alternative operator, €	Incumbent, €	Alternative operator, €	
Croatia		5.776	4.703	4.621	3.762	
Iceland		1.191	1.298	0.949	1.034	
FYR Macedonia		1.899	0.806	1.610	0.683	
Montenegro		0.995	3.978	0.850	3.400	
Serbia		3.958	0.416	3.354	0.353	
Turkey		0.645	0.337	0.558	0.291	
Albania		1.325	0.572	1.434	0.476	
Bosnia & Herzegovina	BH Telecom	7.179	2.991	6.136	2.556	
	Telekom Srpske	5.982		5.113		
	HT Mostar	7.849		6.708		
Kosovo*		4.408	1.160	3.800	1.000	

Table K.11 – Ten-minute call to the USA

Notes:

Turkey: Includes Special Communications Tax.

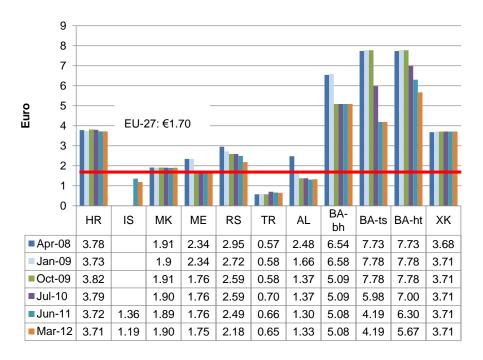


Figure K.15 – 10-minute call to UK by incumbent operator for residential users

#### Notes:

EU-27 weighted average 2010. Source: Telingen Report on Telecom price developments 1998-2010 produced for the European Commission.

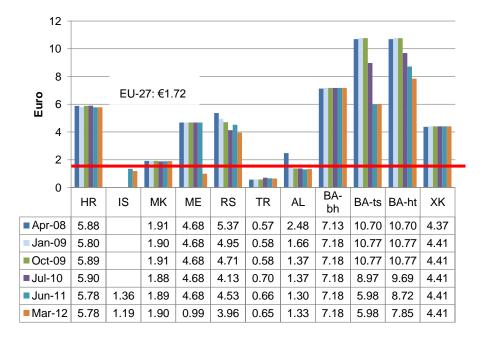


Figure K.16 – 10-minute call to USA by incumbent operator for residential users

# L. Mobile retail tariffs

The analysis of national mobile tariffs is based on the OECD 2006 baskets for digital mobile services

	Calls	SMS	MMS	Fixed	Fixed calls Mobile calls		e calls	Voicemail		Time of day	
				Local	National	On-net	Off-net		Peak	Off-peak	Weekend
Low user	30	33	0.67	15%	7%	48%	22%	8%	48%	25%	27%
Medium user	65	50	0.67	14%	7%	48%	24%	7%	50%	24%	26%
High user	140	55	1.00	13%	7%	47%	26%	7%	60%	19%	21%

Table L.1 – Composition of OECD 2006 mobile baskets

The table below shows the results for each usage basket, including both postpaid and prepaid offers.

Country	Operator	Low-user, €	Medium-user, €	High-user, €
Croatia	HT	6.88	10.20	20.59
	VIPnet	7.65	13.20	20.42
	Tele2	6.31	8.05	10.63
Iceland	Siminn hf	9.69	20.98	24.77
	Vodafone	10.74	12.16	23.01
FYR Macedonia	T-Mobile	4.88	10.21	18.65
	ONE	4.54	7.78	21.90
	Vip	7.35	8.70	13.65
Montenegro	M:Tel	5.64	10.96	21.08
	Telenor	5.80	12.83	23.62
	T-Mobile	5.81	11.95	22.28
Serbia	m:ts	3.97	6.12	8.82
	Telenor	4.23	7.43	12.21
	VIP	4.16	6.29	8.05
Turkey	Avea	10.56	20.57	34.77
	Turkcell	10.32	20.15	33.91
	Vodafone	10.28	20.13	33.99

Country	Operator	Low-user, €	Medium-user, €	High-user, €
Albania	Vodafone Albania	6.04	23.05	30.00
	AMC	6.12	17.14	28.56
	Eagle Mobile	6.02	12.86	21.43
	Plus Communication	5.50	17.29	27.06
Bosnia &	BH Telecom	9.18	18.31	30.82
Herzegovina	Telekom Srpske	10.79	15.41	33.53
	HT Mostar	9.41	16.17	31.14
Kosovo*	Vala	6.24	15.02	29.66
	IPKO	5.96	17.21	27.46
	Daradafon.net	5.09	14.34	28.26
	Dukagjini Telekommunication	6.14	14.27	29.00

Table L.2 – OECD 2006 mobile tariff baskets, March 2012

Notes:

Iceland: No data available for Nova

Turkey: Includes Special Communications Tax 25%

The three following figures show the prices in the low, medium and high user baskets from 2010 to 2012 in the monitored countries. For comparison, the EU 27 average values from the Digital Agenda Scoreboard 2011 of the European Commission have been used.

The regional results for low users show that most countries have offerings that are aligned or cheaper than the average of EU operators (€9.07 per month). Prices in Turkey, Albania and in Bosnia and Herzegovina were higher than the EU average and decreased considerably over the last two years.

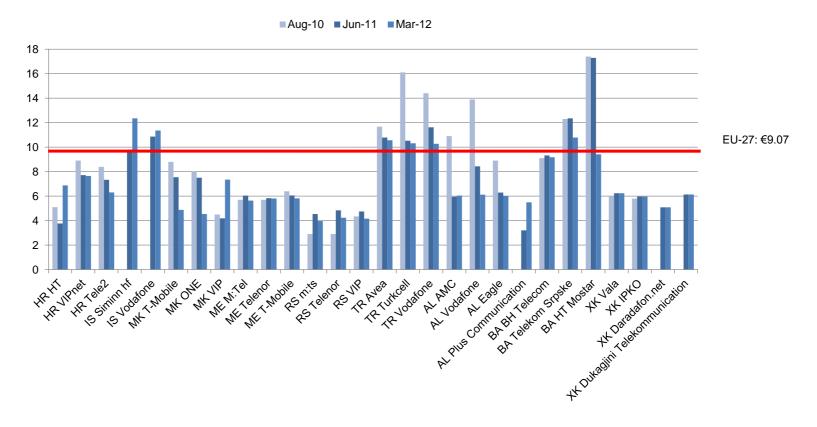


Figure L.1 - Low usage OECD (2006) mobile basket

For medium users, the average price in the EU was €15.31 (a 20% decrease from the previous year). Average prices in Bosnia & Herzegovina and Turkey remain higher, while in most countries average prices tend to be aligned with, or even lower than the EU average.

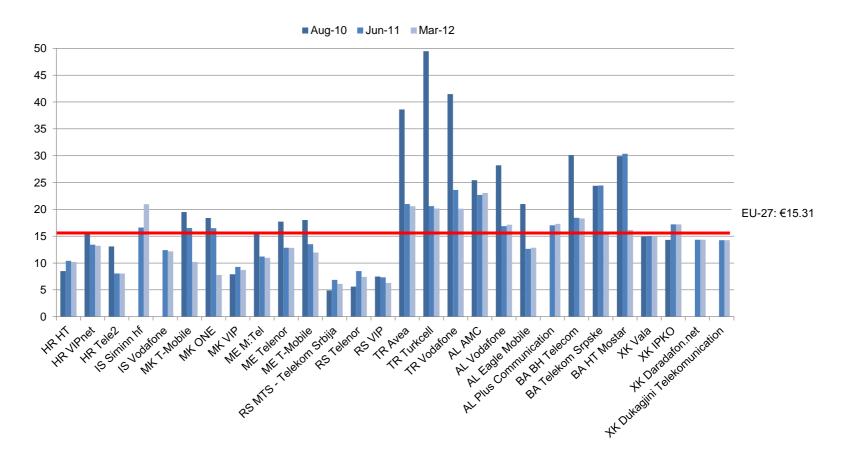


Figure L.2 - Medium usage OECD (2006) mobile basket

For high users, Bosnia and Herzegovina and Turkey are the only country with prices remaining above the EU average of €24.22 while other countries offer prices aligned or below the EU average. Prices remained relatively stable since July 2010, with the main decreases observed in Albania, also thanks to increased competition, in Montenegro and in Macedonia. Prices of virtual operators in Kosovo are aligned with those of the two incumbent operators.

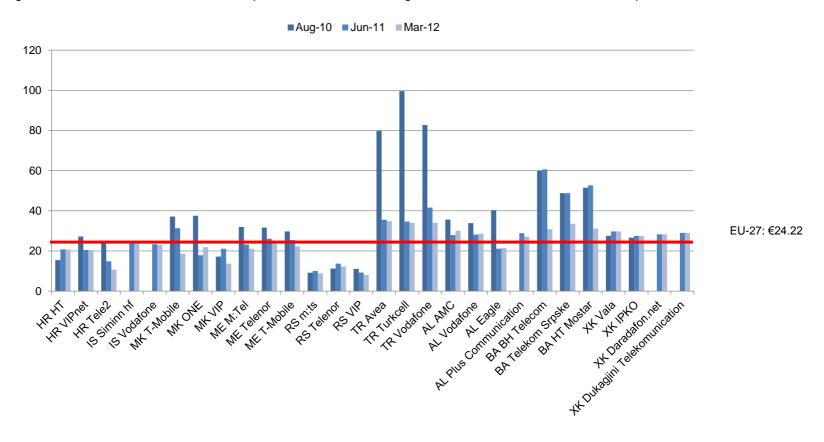


Figure L.3 – High usage OECD (2006) mobile basket

Notes:

EU-27 weighted average 2010. Source: European Commission, Digital Agenda Scoreboard 2011

Iceland: No data available for Nova

Turkey: Includes Special Communications Tax 25%

# Average revenue per minute of voice communications

Country	Operator	Total revenue from mobile voice communications, €	Total outgoing minutes of voice communications	Revenue per minute of outgoing traffic, €
Croatia	HT	282,649,905	3,136,378,340	0.090
	VIPnet	218,372,505	2,242,276,289	0.097
	Tele2	79,964,023	766,141,654	0.104
Iceland	Siminn hf	not available	303,870,498	-
	Vodafone		213,505,262	-
	Nova		222,951,412	-
FYR Macedonia	T-Mobile	Not available	3,430,446,070	-
	ONE			
	Vip			
Montenegro	M:Tel	not available	337,354,598	-
	Telenor		575,521,103	-
	Crnogorski Telekom		568,777,768	-
Serbia	Telekom Srbija	275,805,732	10,146,652,321	0.027
	Telenor	1		
	VIP			
Turkey	Avea	5,190,769,742		0.035
	Turkcell	1	147,822,794,150	
	Vodafone			
Albania	Vodafone Albania	91,386,945	2,473,842,370	0.037
	AMC	67,026,139	1,817,141,114	0.037
	Eagle Mobile	24,325,096	464,645,522	0.052
	Plus Communication	3,378,089	119,218,557	0.028
Bosnia & Herzegovina	BH Telecom	105,991,700	810,773,855	0.131
	Telekom Srpske	91,521,572	713,779,391	0.128
	HT Mostar	43,108,714	468,560,927	0.092

Country	Operator	Total revenue from mobile voice communications, €	Total outgoing minutes of voice communications	Revenue per minute of outgoing traffic, €
Kosovo*	Vala	90,675,000	954,492,000	0.095
	IPKO	28,543,510	520,654,399	0.055
	Daradafon.net	136,490	623,00	0.219
	Dukagjini Telekommunication	4,711,390	66,795,358	0.071

Table L.3 – Average revenue per minute of outgoing voice traffic

Notes:

Croatia: Total outgoing minutes of voice communications include: national (M2F, M2M) and international outgoing minutes and outgoing calls to VAS numbers.

Total revenues include: mobile voice telephony revenue, SMS and MMS revenue and monthly subscription revenues.

Iceland: Revenue data are sensitive and are not disclosed.

Macedonia: Revenue data are submitted as confidential. Not publicly available.

Serbia: These are the total values of 3 mobile operators.

Turkey: These values are the total values of 3 mobile operators.

Albania: Revenues refer to total retail revenues.

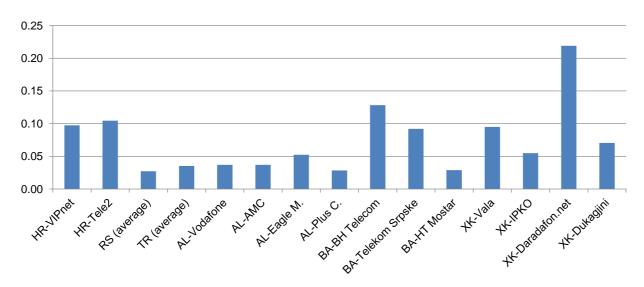


Figure L.4 – Average revenue per minute of outgoing traffic

Notes:

Macedonia, Turkey and Serbia: average for all mobile operators. No data available for Iceland and Montenegro.

# M. Broadband retail prices

# 1. Broadband access cost

• Monthly subscription charges, by incumbent and by the largest alternative provider (regardless of technology) – unlimited (flat rate) data traffic.

Country	Operator	Download speeds range					
		< 1 Mbps (€)	1 Mbps - < 2 Mbps (including 1 Mbps and above) (€)	2 Mbps - < 4 Mbps (including 2 Mbps and above) (€)	4 Mbps - < 8 Mbps (including 4 Mbps and above) (€)	8 Mbps - < 20 Mbps (including 8 Mbps and above) (€)	20 Mbps and above (€)
Croatia	Incumbent operator	-	-	10.68	-	24.21	-
	Largest alternative operator	-	5.14	9.20	13.26	17.31	-
Iceland	Incumbent operator	-	-	-	-	27.48	25.09
	Largest alternative operator	-	-	-	-	26.41	17.06
FYR Macedonia	Incumbent operator	-	-	-	9.73	19.49	27.63
	Largest alternative operator	-	-	-	-	11.36	29.24
Montenegro	Incumbent operator	-	13.99	19.98	24.98	19.98	24.98
	Largest alternative operator	-	15.00	20.00	28.00	49.99	-
Serbia	Incumbent operator	-	13.86	19.20	34.47	40.82	-
	Largest alternative operator	-	-	-	-	19.35	33.82
Turkey	Incumbent operator	-	11.50	29.61	25.32	46.87	63.95
	Largest alternative operator ( DSL)	-	11.59	27.47	23.61	46.78	-
	Largest alternative internet operator (fibre)	-	-	-	-		42.49
Albania	Incumbent operator		-	17.13	25.70	34.27	-
	Largest alternative operator	10.70	12.13	15.70	17.84	-	35.70

Country	Operator		Download speeds range					
		< 1 Mbps (€)	1 Mbps - < 2 Mbps (including 1 Mbps and above) (€)	2 Mbps - < 4 Mbps (including 2 Mbps and above) (€)	4 Mbps - < 8 Mbps (including 4 Mbps and above) (€)	8 Mbps - < 20 Mbps (including 8 Mbps and above) (€)	20 Mbps and above (€)	
Bosnia &	BH Telecom	-	10.17	14.96	32.90	41.87	-	
Herzegovina	Telekom Srpske	-	14.96	20.94	29.91	-	-	
	HT-Mostar	-	12.56	20.94	59.22	-	-	
	Largest alternative operator	-	-	-	13.16	26.92	32.90	
Kosovo*	Incumbent operator	-	16.23	16.23	20.87	26.67	30.15	
	Largest alternative operator	-	-	-	17.34	23.14	46.34	

Table M.1 – Monthly subscription charges, by incumbent and by the largest alternative provider

Notes:

Iceland: All operators' offers are with speeds above 12Mbps on ADSL lines. Incumbent offers 50 Mbps VDSL in limited areas. Alternative operators offer 50 - 100 Mbps FTTH in

limited areas. Speed is not a relevant factor for pricing. The amount of data downloaded from abroad is the main factor affecting prices. Uploaded data to abroad are not

measured, as well as data transfers within the country. In this table we report the lowest comparable prices for each category.

Macedonia: The alternative operator name is TRD-KTV Cabletel
Serbia: Telekom Srbija - minimum contract period of 12 months

SBB - different download speeds depending on period of agreement. In this table the price for the 12 month contract is presented.

Turkey: DSL technology is used in all the tariffs above. For tariff above 20 Mbps, VDSL tariffs of TTNet and FTTB/H tariffs of Superonline have been compared.

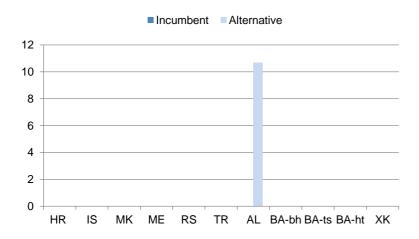


Figure M.1 – Monthly retail broadband subscription prices – up to 1 Mbps speed, in Euro (incl. VAT)

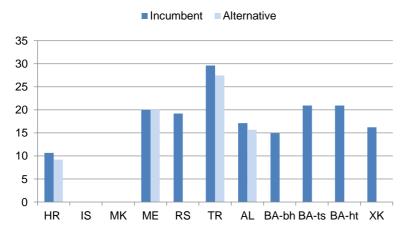


Figure M.3 – Monthly retail broadband subscription prices – 2 Mbps up to 4 Mbps, in Euro (incl. VAT)

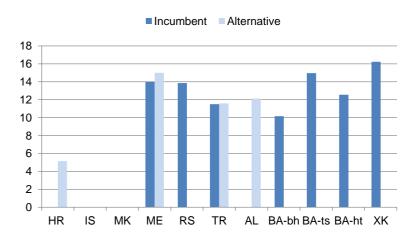


Figure M.2 – Monthly retail broadband subscription prices – 1 Mbps up to 2 Mbps, in Euro (incl. VAT)

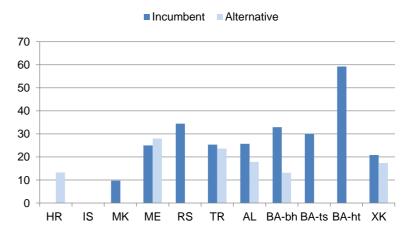


Figure M.4 – retail broadband subscription prices – 4 Mbps up to 8 Mbps, in Euro (incl. VAT)

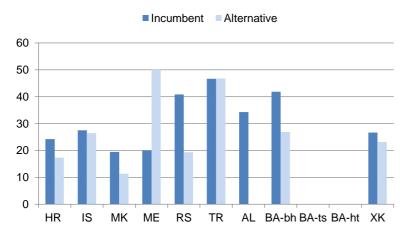


Figure M.5 – Monthly retail broadband subscription prices – 8 Mbps up to 20 Mbps, in Euro (incl. VAT)

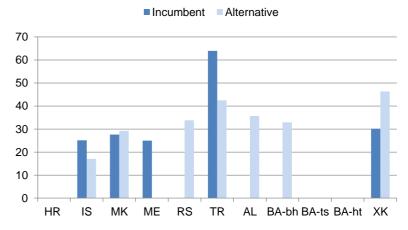


Figure M.6 – Monthly retail broadband subscription prices – 20 Mbps and above, in Euro (incl. VAT)

### N. Leased lines retail tariffs

#### National leased lines

The annual prices (excluding VAT) are presented for:

- 2 km 2 Mbps
- 2 km 34 Mbps

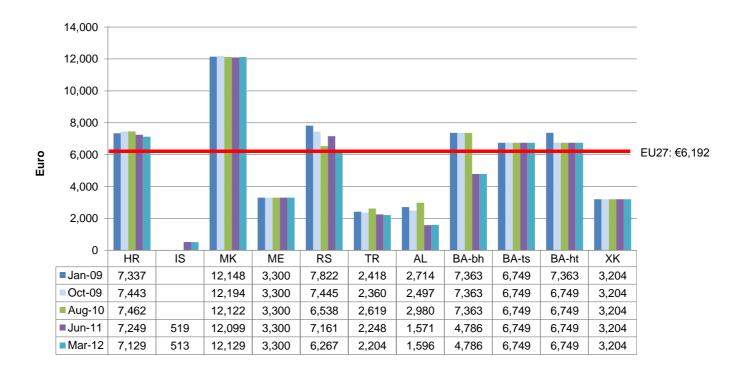


Figure N.1 – Annual prices for a 2 km 2 Mbps leased line

Notes: EU-27: Macedonia: Turkey:

Simple average (based on Telingen data. No 2010 data for France and Finland)

Cost based prices model development in progress. Implementation expected in July 2012.

There are four different categories of national leased lines in Turkey; same exchange, different exchange, inner-city and inter-city. Tariffs shown above are from the same exchange level

Figure N.2 shows the prices for higher speed leased lines at 34 Mbps.

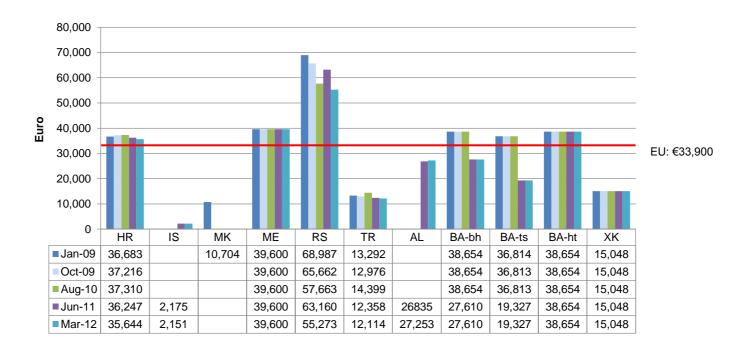


Figure N.2 – Annual prices for a 2 km 34 Mbps leased line

Notes:

EU-27: Simple average (based on Telingen, Telecom Price Developments 1998-2010. No 2010 data for Bulgaria, Czech Republic, France, Ireland, Malta, Netherlands, Romania, Slovakia and Finland)

Macedonia:

The 2 km circuits at 34 Mbps are not included in the minimum set of leased lines offer of Makedonski Telecom. Price for a 2 km 34 Mbps leased line is €164,000 including VAT

#### 2. International leased lines

International leased lines are provided in the form of half-circuits, which are connected to another half-circuit or a transit circuit near the border. For a complete leased line, it is necessary to have at least two half-circuits, one from each of two neighbouring countries. Prices are presented for all monitored countries, except for Iceland, where half-circuits prices are defined commercially and are confidential.

The annual prices (excluding VAT) for international half-circuits are presented for:

- 2 Mbps to near country
- 2 Mbps to the UK
- 34 Mbps to near country
- 34 Mbps to the UK.

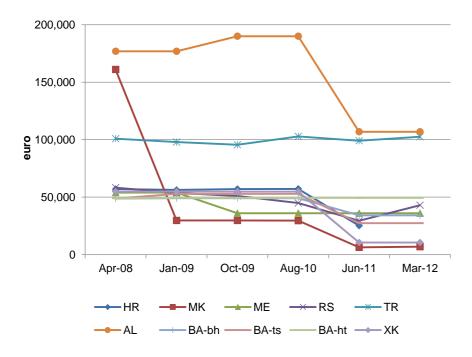


Figure N.3 – Annual prices for international half circuits 2 Mbps to near country (2008-2012)

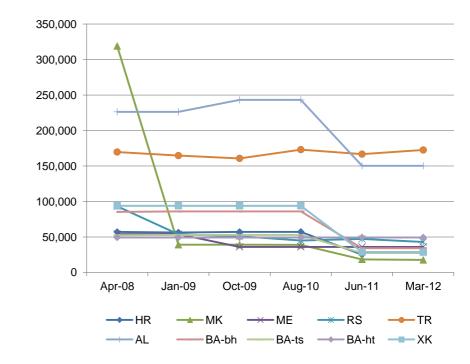


Figure N.4 – Annual prices for a 2 Mbps international half-circuit to the UK (2008-2012)

Notes:

Iceland and Croatia: International half-circuit prices are defined commercially and are confidential.

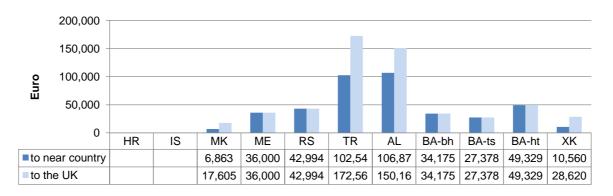


Figure N.5 – Annual prices for a 2 Mbps international half-circuit, March 2012

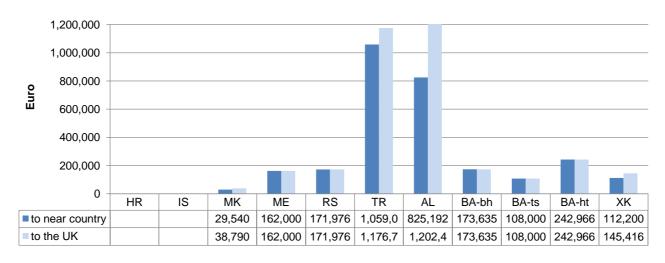


Figure N.6 – Annual prices for a 34 Mbps international half-circuit, March 2012

### O. Wholesale tariffs

#### 1. Call termination on incumbent's and alternative operator's fixed network

Table O.1 and Table O.2 show the interconnection tariffs on the fixed networks of the incumbent and major alternative operators, respectively. This information for alternative networks is not available for all of the monitored countries, either because it is confidential or simply because there are no alternative fixed networks. Termination rates are the same either whether originated from a fixed or a mobile network. As for calls originated from abroad, termination rates are not regulated in Croatia, Montenegro, Albania, Macedonia and Bosnia & Herzegovina and are defined by commercial agreement (confidential).

Country			Local	, €			Single t	ransit, €			Double t	transit, €	
		ı	Peak	Off-	peak	Po	eak	Off-	peak	P	eak	Off-	-peak
		Setup	Per min.	Setup	Per min.	Setup	Per min.	Setup	Per min.	Setup	Per min.	Setup	Per min.
Croatia		0.0000	0.0055	0.0000	0.0028	0.0000	0.0071	0.0000	0.0036	0.0000	0.0136	0.0000	0.0068
Iceland		0.0037	0.0038	0.0037	0.0038	-	-	-	-	-	-	-	-
FYR Macedonia		0.0000	0.0055	0.0000	0.0020	0.0000	0.0073	0.0000	0.0033	0.0000	0.0089	0.0000	0.0037
Montenegro		0.0000	0.0093	0.0000	0.0093	0.0000	0.0107	0.0000	0.0107	-	-	-	-
Serbia		0.0000	0.0062	0.0000	0.0062	0.0000	0.0081	0.0000	0.0081	0.0000	0.0084	0.0000	0.0084
Turkey		0.0000	0.0060	0.0000	0.0060	0.0000	0.0073	0.0000	0.0073	0.0000	0.0096	0.0000	0.0096
Albania		0.0059	0.0107	0.0059	0.0107	0.0059	0.0179	0.0059	0.0179	0.0059	0.0250	0.0059	0.0250
Bosnia & Herzegovina	BH Telecom	0.0000	0.0089	0.0000	0.0089	0.0000	0.0134	0.0000	0.0134	0.0000	0.0179	0.0000	0.0179
	Telekom Srpske	0.0000	0.0089	0.0000	0.0089	0.0000	0.0134	0.0000	0.0134	0.0000	0.0179	0.0000	0.0179
	HT Mostar	0.0000	0.0089	0.0000	0.0067	0.0000	0.0134	0.0000	0.0101	0.0000	0.0179	0.0000	0.0134
Kosovo*		-	-	-	-	0.0000	0.0400	0.0000	0.0240	-	-	-	-

Table O.1 – Call termination on the incumbent operator's fixed network

Notes:

Croatia: Reference date Jan. 1, 2012

Iceland: Country is one local zone for fixed network termination. Transit from one operator through the incumbent network to a third operator is billed at €0.0020 setup, €0.009 per

minute

Macedonia: Approved by AEC in April 2012. In force in RIO from May 2012Turkey: In the current situation there is no price differentiation regarding origination of the call whether it is

abroad or national.

Montenegro: No double transit network termination. Prices from abroad are subject to commercial agreement between operators.

Serbia: RATEL decision of June 2011

Albania: Prices from abroad are subject to commercial agreement between operators. Bosnia and Herzegovina: Prices from abroad are subject to commercial agreement between operators.

Kosovo\*: Country is one local zone for fixed network termination. Interconnection takes place at the single transit level

Country			Local	, €			Single t	ransit, €					
		Pe	ak	Of	f-peak	1	Peak	Of	f-peak	Po	eak	Off-	-peak
		Setup	Per min.	Setup	Per min.	Setup	Per min.	Setup	Per min.	Setup	Per min.	Setup	Per min.
Croatia		-	-	-	-	0.0000	0.0094	0.0000	0.0047	-	-	-	-
Iceland		0.0041	0.0044	0.0041	0.0044	-	-	-	-	-	-	-	-
FYR Macedonia		-	-	-	-	-	-	-	-	0.0000	0.0089	0.0000	0.0037
Montenegro		-	-	-	-	0.0000	0.0142	0.0000	0.0142	-	-	-	-
Serbia		0.0000	0.0062	0.0000	0.0062	0.0000	0.0081	0.0000	0.0081	0.0000	0.0084	0.0000	0.0084
Turkey		0.0000	0.0137	0.0000	0.0137	0.0000	0.0137	0.0000	0.0137	0.0000	0.0137	0.0000	0.0137
Albania		0.0059	0.0139	0.0059	0.0139	0.0059	0.0232	0.0059	0.0232	0.0059	0.0232	0.0059	0.0232
Bosnia & Herzegovina	BH Telecom	0.0000	0.0089	0.0000	0.0067	0.0000	0.0134	0.0000	0.0101	0.0000	0.0179	0.0000	0.0134
	Telekom Srpske	0.0000	0.0089	0.0000	0.0089	0.0000	0.0134	0.0000	0.0134	0.0000	0.0179	0.0000	0.0179
	HT Mostar	0.0000	0.0089	0.0000	0.0067	0.0000	0.0134	0.0000	0.0101	0.0000	0.0179	0.0000	0.0134
Kosovo*						0.0000	0.0400	0.0000	0.0240	-	-	-	

Table O.2 – Call termination on the largest alternative network

Notes:

Croatia: Reference date Jan. 1. 2012. Alternative operator: OT-Optima Telekom d.d., Peak time (07.00-19.00)

Iceland: Country is one local zone for fixed network termination. – Glide path is in effect - 4 Dec. 2012 largest alternative will lower prices to the same level of incumbent

Macedonia: Symmetrical termination rates with incumbent operator Makedonski Telekom. Above prices are in force from June 2012.

Serbia: Orion Telecom. Prices valid from April 1, 2012.

Turkey: In the current situation there is no price differentiation regarding origination of the call whether it is abroad or national.

Bosnia & Herzegovina: Alternative operator: ANEKS d.o.o. Banja Luka Different prices for calls originating from abroad.

Kosovo\*: Calls to IPKO fixed network. Country is one local zone for fixed network termination.

Figure O.1, Figure O.2 and Figure O.3 show the fixed call termination rates on the incumbent and alternative networks at local, single transit and double transit level, respectively, in comparison with the EU-27 average values for incumbent operators as of January 1, 2012.

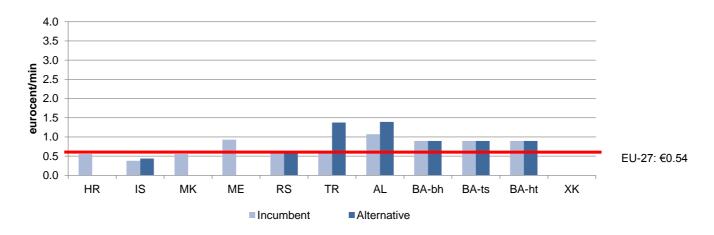


Figure O.1 – Local call termination on the fixed incumbent and alternative network (peak hours)

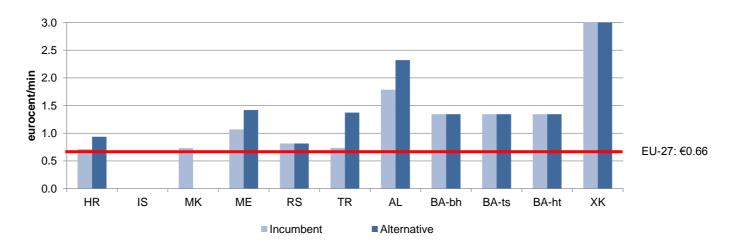


Figure O.2 - Single transit call termination on the fixed incumbent and alternative network (peak hours)

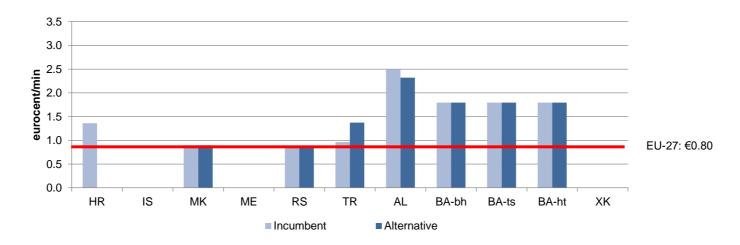


Figure O.3 – Double transit call termination on the fixed incumbent and alternative network (peak hours)

Notes:

EU-27 weighted average as of January 2012.

Source: Body of European Regulators for Electronic Communications (BEREC) 'Termination Rates Benchmark Snapshot (January 2012)' http://erg.eu.int/doc/bor\_12\_56\_tr\_integrated\_snapshot\_final.pdf

#### 2. Call termination on mobile networks

Table O.3 below presents the termination rates of the mobile operators for all countries where this information is available.

Mobile termination rates are usually the same whether the call is originated from a mobile or a fixed network, with the only exception of Bosnia & Herzegovina (see Figure O.4). As for calls originated from abroad, termination rates are not regulated in most countries (Croatia, Montenegro, Albania, Macedonia, Turkey Serbia and Kosovo), and are defined by commercial agreement (confidential). In Bosnia & Herzegovina termination rates for calls originated from a broad are 72% higher than the rates for calls originated from a mobile network in the same country.

Country	Operator	Peak, €		Off-peak, €		
		Setup	Per min	Setup	Per min	
Croatia	T-Mobile Hrvatska	0.0000	0.0397	0.0000	0.0397	
	VIPnet	0.0000	0.0397	0.0000	0.0397	
	Tele2	0.0000	0.0437	0.0000	0.0437	
Iceland	Siminn	0.0000	0.0269	0.0000	0.0269	
	Vodafone	0.0000	0.0269	0.0000	0.0269	

Country	Operator	Pe	ak, €	Off-p	eak, €
		Setup	Per min	Setup	Per min
	Nova	0.0000	0.0269	0.0000	0.0269
	IMC/Alterna	0.0000	0.0269	0.0000	0.0269
FYR Macedonia	T-Mobile	0.0000	0.0486	0.0000	0.0486
	ONE	0.0000	0.0648	0.0000	0.0648
	VIP Operator	0.0000	0.0648	0.0000	0.0648
Montenegro	Telenor	0.0000	0.0706	0.0000	0.0706
	T-Mobile	0.0000	0.0706	0.0000	0.0706
	m:tel	0.0000	0.0706	0.0000	0.0706
Serbia	m:ts	0.0000	0.0434	0.0000	0.0434
	Telenor	0.0000	0.0434	0.0000	0.0434
	VIP mobile	0.0000	0.0434	0.0000	0.0434
Turkey	Turkcell	0.0000	0.0134	0.0000	0.0134
	Vodafone	0.0000	0.0139	0.0000	0.0139
	Avea	0.0000	0.0159	0.0000	0.0159
Albania	AMC	0.0000	0.0541	0.0000	0.0541
	Vodafone Albania	0.0000	0.0541	0.0000	0.0541
	Eagle Mobile	0.0000	0.0632	0.0000	0.0632
	Plus Communication	0.0040	0.1350	0.0040	0.1350
Bosnia & Herzegovina	BH Telecom	0.0000	0.0920	0.0000	0.0920
	Telekom Srpske	0.0000	0.0920	0.0000	0.0920
	HT Mostar (Eronet)	0.0000	0.0920	0.0000	0.0920
Kosovo*	Vala	0.0000	0.063	0.0000	0.063
	Ipko	0.0000	0.063	0.0000	0.063

Table O.3 – Call termination on mobile networks

Notes:

Croatia: Reference date January 1, 2012

Iceland: Prices are on a glide path to symmetry at €cents2.40 on Jan. 1, 2013.

Macedonia: Prices are based on BU LRIC+ model and are implemented from Sep. 1, 2010 with glide path to 2013. Prices in table are valid from June 2012 to until Sep. 2013. From

Sep. 2013 all three operators will have symmetrical MTRs at €0.0194 per minute, and from Sep. 2014 pure LRIC-based MTRs at €0.0145 per minute.

Turkey: With the regulation on interconnection charges N. 2011/DK-07/501 of Sep. 27, 2011 mobile termination rates for calls originated abroad and terminated in Turkey have

been excluded from the scope of tariff control regulation

Kosovo\*: The interconnection agreement expired in April 2011, the negotiations are ongoing. The revised price will be applied retroactively from date of expiry of last rates

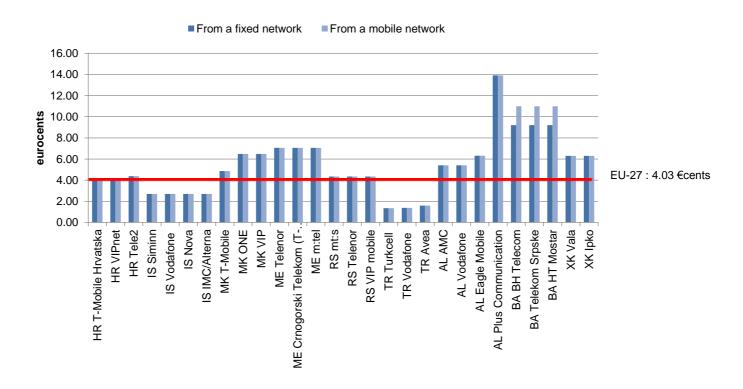


Figure O.4 – Mobile termination rates, peak time

#### Notes:

EU-27 simple average as of January 2012.

Source: Body of European Regulators for Electronic Communications (BEREC) 'Termination Rates Benchmark Snapshot (January 2012)' http://erg.eu.int/doc/bor\_12\_56\_tr\_integrated\_snapshot\_final.pdf

# 3. LLU tariffs

- Full and shared access
- Connection fees and monthly rental

		Prices per fully	Shared unbund	lled loops:		
Country	Tariff	unbundled local loop (€)	Price per shared loop (incl. splitter) (€)	Splitter installed and operated by	Validity period of current tariffs	Source and comments
Croatia	Monthly fee	5.76	2.23	Incumbent	Oct. 1, 2011 for shared loop.	RUO
	Activation fee	4.11	21.27		Full LLU: validity period unspecified	
Iceland	Monthly fee	7.64	5.74 (lower band) 1.90 (higher band)	Incumbent	Until PTA accepts a request for price changes.	MILA RUO
	Activation fee	18.96	18.96			
FYR	Monthly fee	3.41	1.61	Incumbent	From May 2012	Makedonski Telecom RUO
Macedonia	Activation fee	18.03	21.17			
Montenegro	Monthly fee	3.88	1.16	Unspecified	2 years until cost model is adopted.	The prices are from proposal RUO which will
	Activation fee	41.66	61.11			be subject of Agency consideration.
Serbia	Monthly fee	6.28	2.49	Incumbent	not specified	RATEL decision of June 2010
	Activation fee	38.20	38.20			
Turkey	Monthly fee	6.28	2.36	Incumbent	Current tariffs are valid until the	TT RUO of Aug. 8, 2011
	Activation fee	15.21	16.55		new LLU tariffs are determined in the scope of following reference offer.	
Albania	Monthly fee	5.72	3.34	Unspecified	April 13, 2011 until superseded by	AKEP decision nr. 1565, 13.04.2011
	Activation fee	12.04	17.51		new decision	designating Albtelecom as SMP on M11/2003 Charges are based on the BU-LRAIC
Bosnia & Herzegovina	Monthly fee	7.13	2.85	Incumbent	Until amended by the operator	RUO
BH Telecom	Activation fee	46.02	55.22			
Bosnia & Herzegovina	Monthly fee	7.13	2.85	Incumbent	Until amended by the operator	RUO
Telekom Srpske	Activation fee	46.02	55.22			

		Drices per fully	Shared unbund	led loops:		
Country	Tariff	Prices per fully unbundled local loop (€)	Price per shared loop (incl. splitter) (€)	Splitter installed and operated by	Validity period of current tariffs	Source and comments
Bosnia & Herzegovina	Monthly fee	7.13	2.85	Incumbent	Until amended by the operator	RUO
HT dd	Activation fee	46.02	55.22			
Kosovo*	Monthly fee	-	-	-	-	LLU is not available
	Activation fee	-	-			

Table O.4 – LLU tariffs

Figure O.5 and Figure O.6 below compare the one-off connection charges and monthly rental prices for full and shared LLU access in the monitored countries where LLU is available and the EU-27 averages as of October 2011, according to the European Commission's Digital Agenda Scoreboard 2012.

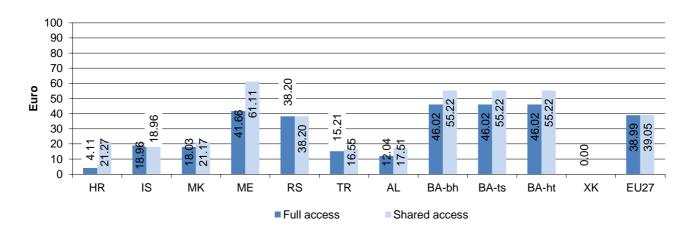


Figure O.5 – Connection prices for fully unbundled loop and shared access

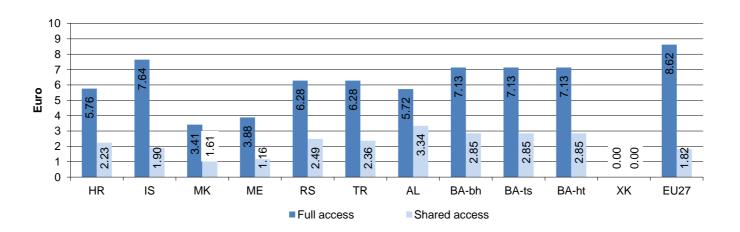


Figure O.6 – Monthly rental prices for fully unbundled loop and shared access

#### Notes:

EU-27 averages as of October 2011.

http://ec.europa.eu/information\_society/digital-agenda/scoreboard/docs/pillar/electronic\_communications.pdf Iceland:

Price for shared access is for higher band.

## P. Fundamental rights and freedoms

The adoption of the EU 2009 regulatory framework raised a new discussion on fundamental rights and freedoms in the information society. A controversy between European Parliament and the Council on amendment 138 (renumbered 46 in second reading) delayed adoption of the package. The text, which was finally agreed in the conciliation procedure, became law as new article 1 para. 3a of the Framework Directive: "Measures taken by Member States regarding end-users' access to, or use of, services and applications through electronic communications networks shall respect the fundamental rights and freedoms of natural persons as guaranteed by the European Convention for the Protection of Human Rights and Fundamental Freedoms and general principles of Community law." In particular, measures that would restrict end-users access to services and applications may only be imposed if they are "appropriate, proportionate and necessary within a democratic society" and duly respect "the principle of the presumption of innocence and the right to privacy".

Issues which have been controversial in several EU member states include the following:

- Laws or proposed bills that would restrict certain end-users' rights to access the internet, in particular end-users who repeatedly infringed copyright laws.
  - In this context it is being discussed whether such laws interfere with fundamental rights, in particular whether the law puts the burden of proof on the end-user and whether the applied procedure respects the rights of innocent end-users who might suffer the consequences of misconduct carried out by other users of the same account.
  - According to the new provision in the Framework Directive, the procedure before blocking a person is not necessarily to be taken by a judge, but it must be fair and impartial and must include the right to be heard of the persons concerned (except in urgent cases). After the decision, the right to effective and timely judicial review shall be guaranteed.
- Laws or proposed bills that would restrict end-users' rights to access certain websites, in particular if these websites contain illegal content.
  - In this context it is being discussed how the applied procedures differentiate between legitimate and illegal content, how to supervise the administration of the blacklist of blocked websites and how blocked users and content providers can appeal decisions. It is particularly problematic to deal with websites that contain a large amount of legitimate content and only singular illegal files (for example the popular video portals), because any decision to block access to the illegal content can interfere with many innocent users' fundamental rights.

### 1. Constitutional rights

The following table addresses which fundamental rights and freedoms are guaranteed by the constitution of the participating countries.

Country	Freedom of expression	Right to respect for private and family life	Relevant case law
Croatia	Art. 38 of the Constitution	Art. 35 of the Constitution	No relevant case law
Iceland	Art. 73 of the Constitution	Art. 71 of the Constitution	No relevant case law
FYR Macedonia	Art. 16 of the Constitution	Art. 17, 18, 25, 26 and amendment XIX of the Constitution	The Constitutional Court repealed several articles in the Law on electronic communications (judgment 139/2010 of Dec. 15, 2010), in particular on access to traffic data under data the data retention rules that were introduced in 2010.

Country	Freedom of expression	Right to respect for private and family life	Relevant case law
Montenegro	Art. 47 of the Constitution	Art. 40, 42, 43 of the Constitution	No relevant case law
Serbia	Art. 46 of the Constitution	Art. 42 of the Constitution	The provisions on data retention in the new Law on Electronic Communications have been challenged at the Constitutional Court of Serbia. Although the Constitutional Court has not decided yet on the constitutionality of the Law on Electronic Communications, it found that certain provisions of Law of the Military Security and Intelligence Agency are unconstitutional. (IUz-1218/2010, April 19, 2012, published in the Official Gazette of the Republic of Serbia no. 55/2012)
			These provisions prescribe that secret electronic surveillance of telecommunications and information systems in order for collect data on telecommunications traffic and the location of the user without access to their content (access to retained data) could be executed by order of the Director of Military Security Agency or a person authorised by him. The same applies to the surveillance with access to content of communication. The Constitutional Court ruled that the surveillance of electronic communication is possible only on the court order. The disputed article 128 paragraph 1 of the Law on Electronic Communications was potentially unconstitutional because it obliges operators to retain data on electronic communications for purposes of investigating, detecting crime and criminal proceedings, in accordance with the law governing criminal procedure, as well as for protection national and public security of the Republic of Serbia, in accordance with the laws governing the operation of the Serbian security services. The Law on Military Security and Intelligence Agency is one of those laws. As the court decided that provisions of the other law were unconstitutional, the provisions of article 128 paragraph 1 are no longer unconstitutional. At the moment there are a few initiatives regarding the potential unconstitutionality of the Law on criminal proceedings, but there is no indication that the constitutionality of the Law on Electronic Communications will be separately examined.
			The court also repealed a provision on interception in the former Law on Telecommunications (IUz-149/2008, published in the Official Gazette of the Republic of Serbia no. 50/2009).
Turkey	Art. 26 of the Constitution	Art. 26 of the Constitution	Art. 26 of the Constitution guarantees freedom of expression and dissemination of thought. According to this provision; everyone has the right to express and disseminate his thoughts and opinion by speech, in writing or through other media, individually or collectively. This right includes the freedom to receive and impart information and ideas without interference from official authorities.  The Turkish Constitutional Court has adopted several judgments protecting freedom of expression, published on the court's website.

Country	Freedom of expression	Right to respect for private and family life	Relevant case law		
Albania	Art. 22 of the Constitution Art. 23 of the Constitution	Art. 35, 36, 37 of the Constitution	No relevant case law		
Bosnia & Herzegovina	Art. 2 g) and h) of the Constitution	Art. 2 f) of the Constitution	No relevant case law		
	According the Constitution of Bosnia & Herzegovina the European Convention on Human Rights with its all protocols and the International Pact on Citizens and Political Rights with optional protocols are directly applied.				
Kosovo*	Art. 40 of the Constitution	Art. 36 of the Constitution	No relevant case law		

Table P.1 – Constitutional rights

### 2. Mechanisms to restrict the freedom of expression and information

The following table addresses whether there are laws or other mechanisms that could potentially restrict the freedom of expression and information in the internet and which safeguards these laws or mechanism foresee. In particular, the table contains:

- laws which block access to certain websites or certain content on websites, for example by obliging internet access providers to implement filters or blocking mechanisms, or
- laws which restrict certain users from accessing the internet, for example persons who have been found guilty to infringe copyrights.

The table includes only mechanisms that are applied at network level (blocking, filtering, disconnection). It does not cover penalties imposed under libel and slander legislation. The table also does not include restrictions of internet access imposed on persons in jails.

Country	Legal source	Description of the mechanism Responsible (judicial?) authorities Technical implementation Measures addressed to internet service providers or to end-users?	Safeguards Appeal procedures? Compensation for ISPs? Protection of innocent users which use the same service?
Croatia	No such regulation	No such mechanism	-
Iceland	No such regulation	No such mechanism	-
FYR Macedonia	No such regulation	No such mechanism	-
Montenegro	No such regulation	No such mechanism	-
Serbia	No such regulation	No such mechanism	-

Country	Legal source	Description of the mechanism Responsible (judicial?) authorities Technical implementation Measures addressed to internet service providers or to end-users?	Safeguards Appeal procedures? Compensation for ISPs? Protection of innocent users which use the same service?
Turkey	Art. 13 of the Constitution on "Restriction of fundamental rights and freedoms": According to this article; fundamental rights and freedoms may be restricted only by law.  Law on the Regulation of Publications on Internet and Suppression of Crimes Committed by means of Such Publications, Law no. 5651, dated May 4, 2007	Law no. 5651 fights an exhaustive list of catalogue crimes committed on the internet, namely: committing suicide, sexual exploitation of children, facilitating the use of narcotics or psychotropic substances, procurement of hazardous material for health, prostitution, pornography, providing a place and possibilities for gambling and crimes against the Atatürk-Law no. 5816.  Content providers or hosting providers can be ordered to remove content which constitutes one of the catalogue crimes within 48 hours ('notice and take down' procedure). In case of non-compliance, access providers can be ordered to block access to infringing websites.  Responsible authorities  a) Judicial authorities: The decision on blocking the access to websites shall be made by the judge during the investigation stage and by the court during the prosecution stage.  During the stage of investigation, the Public Prosecutor may also decide on blocking the access if there is a case not to be delayed. In such cases, the Public Prosecutor shall submit his/her decision to the approval of the judge within 24 hours and the judge shall decide not later than in 24 hours.  b) Telecommunication Communication  Presidency (TCP) of ICTA: If the content provider or hosting provider is located abroad, ICTA can order to block access to content that constitutes one of the catalogue crimes.  'Notice and take down' procedure is used as the principle methodology.  Technical implementation  Decisions taken by the judge, the court or the public prosecutor are sent to ICTA for implementation.  ICTA notifies access providers in electronic form	Content providers or hosting providers can appeal access blocking decisions of judges or courts within the court hierarchy, or access blocking decisions of TCP to the administrative courts.  ISPs must implement the access blocking decisions without compensation.  Within law no. 5651 the 'notice and take down' procedure is adopted as principle methodology. The basic purpose of this regulation is to correct the problematic content without the necessity of blocking the website.  Within the context of article 9 of law no. 5651, cases of violation of personal rights are subject to enabling removal of the content and the right of reply.

Country	Legal source	Description of the mechanism Responsible (judicial?) authorities Technical implementation Measures addressed to internet service providers or to end-users?	Safeguards Appeal procedures? Compensation for ISPs? Protection of innocent users which use the same service?
		about all decisions to block access to websites. ISPs have to save the access provider traffic data for one year. Access providers shall not be liable for controlling whether the content of the information accessed via them is unlawful or requires responsibility or not.	
Albania	No such regulation	No such mechanism	-
Bosnia & Herzegovina	No such regulation	No such mechanism	-
Kosovo*	No such regulation	No such mechanism	-

Table P.2 – Mechanisms to restrict the freedom of expression and information in the internet

## Q. Information society statistics

### 1. Information society statistics

As of May 2012, the Eurostat website 10 shows information society statistics including Croatia, Macedonia, Iceland and Turkey. In Serbia the Statistical Office collects data based on the same methodology and integrated with Eurostat, but not published on the Eurostat website. Similarly, the Statistical Office of Montenegro (MONSTAT) has started regular enquiries based on Eurostat methodology in 2011, also not published on the Eurostat website. The following table shows the available key performance indicators (t\_isoc\_b) and 2011–2015 indicators (t\_isoc\_i), with links to the respective pages on the Eurostat website.

Most of the indicators collected by Eurostat are also published on the Digital Agenda for Europe scoreboard. 11 The scoreboard also includes broadband data based on COCOM reports, which is not covered in this chapter but in other parts the report.

Key performance targets of the Digital Agenda for Europe include<sup>12</sup>:

- to increase regular internet usage from 60 to 75% by 2015, and from 41% to 60% among disadvantaged people;
- to halve the proportion of population that has never used the internet from 30% to 15% by 2015;

<sup>&</sup>lt;sup>10</sup> See http://epp.eurostat.ec.europa.eu/portal/page/portal/information\_society/data/main\_tables and the links behind the respective indicators.

<sup>&</sup>lt;sup>11</sup> See http://scoreboard.lod2.eu/ and http://scoreboard.lod2.eu/index.php?page=indicators.

<sup>12</sup> See the Commission staff working paper on the Digital Agenda Scoreboard, May 2011, http://ec.europa.eu/information\_society/digital-agenda/scoreboard/docs/scoreboard.pdf

- 50% of citizens to use eGovernment by 2015, with more than half of them returning filled-in forms;
- 50% of the population to buy online by 2015;
- 20% of the population to buy online cross-border by 2015;
- 33% of SMEs to conduct online purchases/sales by 2015.

The following table shows the available information, with links to the respective pages on the Eurostat website. Indicators marked with an asterisk\* have been added or corrected by the participating authorities. The data for Montenegro and Serbia has been provided by the respective statistical offices.

		HR			IS			MK		ME*		RS*			TR	
	2009	2010	2011	2009	2010	2011	2009	2010	2011	2011*	2009*	2010*	2011*	2009	2010	2011
		Benchma	arking Di	gital Euro	pe: <b>Key</b>	perform	ance ind	icators (	t_isoc_b)							
Individuals using the internet for ordering goods or services (tin00096) (percentage of individuals)	10	14	17	44	45	49	3	4	4	7	11	11	14	3	5	7
Individuals using the internet for ordering goods or services from other EU countries (tin00003) (percentage of individuals)	3	3		20	18		1	1	1	2				0	0	
Enterprises having purchased on-line (at least 1%) (tin00112) (All enterprises, without financial sector, 10 employees or more)	22	23			22			4		21					11	
Enterprises having received orders on-line (at least 1%) (tin00111) (All enterprises, without financial sector, 10 employees or more)	22	22	18		16			4	3	24					8	
Individuals regularly using the internet (tin00091) (all individuals)	44	51	55	90	92	94	47	50	54	37	38	41	42	30	33	36
Individuals never having used the internet (tin00011) (all individuals)	47	42	39	6	5	4	47	44	40	50	56	54	53	62	58	55
Individuals using the internet for interaction with public authorities (tin00012) (percentage of individuals)	17	19	17	80	82	84	13	14	13		13	13			11	17
Individuals using the internet for interaction with public authorities, by type of interaction (tin00013) (obtaining information from public authorities web sites)	14	14	12	73	74	68	12	13	11						10	15
Individuals using the internet for interaction with public authorities, by type of interaction (tin00013) (downloading official forms)	12	13	11	60	61	54	5	5	7						5	4
Individuals using the internet for interaction with public authorities, by type of interaction (tin00013) (sending filled forms)	8	7	6	57	58	70	3	3	4						5	6

		HR			IS			MK		ME*		RS*			TR	
	2009	2010	2011	2009	2010	2011	2009	2010	2011	2011*	2009*	2010*	2011*	2009	2010	2011
		Bend	hmarkin	g Digital I	Europe: 2	2011–201	5 indica	tors (t_i	soc_i)						ı	•
					Interne	t usage										
Households with internet access at home (tin00088) (Total)	50	56	61	90	92	93	42	46	55	51	37	39	41	30	42	43
Households with broadband access (tin00089) (Percentage of households)	39	49	56	87	87	93	34	37	42		23	28	31	26	34	39
Enterprises with fixed broadband access (tin00090)	72	76	80		95			76	80		66	74	75		89	91*
Individuals using selected mobile devices to access the internet (tin00083) (Percentage of individuals)		21			43			14						5*	5	8*
Individuals using selected mobile devices to access the internet (tin00083) (Percentage of individuals who used internet in the last 3 months)		39			46			27						14*	14	21*
Individuals using a mobile phone via UMTS (3G) to access the internet (tin00117) (All indiviuals)	1	7		9	23		0	2		4	2	4	6		1	3*
Individuals using a laptop via wireless connection to access the internet (tin00118) (All indiviuals)	6	13		28	29		4	6		13	4	4	6	3	2	2*
Internet use by individuals (tin00028) (Last internet use: in the last 3 months)	47	54	58	93	93	95	50	52	57	47	49	51	54	34	38	40
Internet use by individuals (tin00028) (Last internet use: in the last 12 months)	51	57	60	93		95	52	54	59	49	42	44	44	36	40	43
Internet use by individuals (tin00028) (Individuals who have ever used the internet)	53	58	61	94		96	53	56	60	50	44	46	47	38	42	45
Internet use by individuals (tin00028) (Internet use: never)	47	42	39	6	5	4	47	44	40	50	45	43	40	62	58	55
Individuals frequently using the internet (tin00092) (All individuals)	37	40	44	82	85	88	37	39	43	36				20	22	26
				Take	-up of int	ernet ser	vices									
Individuals using the internet for finding information about goods and services (tin00095) (All individuals)	33	43	43	80	84	81	26	30	27	21	57	50	59	18	21	19
Individuals using the internet for downloading software (tin00029) (All individuals)	16	25	24	29	31	34	14	15	11	9	24	17	26	5	6	6
Individuals using the internet for uploading selfcreated content (tin00030) (All individuals)	21	11		43	41		14	16		12				8	11	

		HR			IS			MK		ME*		RS*			TR	
	2009	2010	2011	2009	2010	2011	2009	2010	2011	2011*	2009*	2010*	2011*	2009	2010	2011
Individuals using the internet for posting messages to social media sites or instant messaging (tin00084) (All individuals)	21	23		57	43		20	20		27				20	24	
Individuals using the internet for reading / downloading online newspapers / news magazines (tin00097) (All individuals)	36	38	44	72	88	85	30	26	37	26	42	41	64	24	22	29
Individuals using the internet for listening to webradio/watching web television (tin00100) (All individuals)	16	21		60	65		22	19		13				15	15	
Individuals using the internet for internet banking (tin00099) (All individuals)	16	20		72	77		4	4	6	2				5	6	
Individuals using the internet for playing or downloading games, images, films or music (tin00032) (All individuals)	22	17		42	39		30	30		24				19	19	
Individuals using the internet for looking for a job or sending a job application (tin00102) (All individuals)	14	17	20	17	21	26	9	11	11	6	16		24	4	4	4
Individuals using the internet for doing an online course (tin00103) (All individuals)	2	1	2	10	9	10	5	4	4	1	1			2	2	2
Individuals using the internet for training and education (tin00034) (All individuals)	26	28		72	75		20	17		11			46	15	18	
				e-gove	rnment a	nd e-con	nmerce									
Individuals using the internet for interaction with public authorities (tin00079) (All individuals)	17	19	17	80	82	84	13	14	13						11	17
Enterprises using the internet for interaction with public authorities (tin00107)	61	63			90			56		60	69	70	80		66	77*
Enterprises using the internet for returning filled in forms to public authorities (tin00108)	37	43			86			21					30		42	49*
Enterprises using the internet for submitting a proposal in a public electronic tender system to public authorities (tin00109)	13	16			14			10							4	12*
Individuals using the internet for selling goods or services (tin00098) (All individuals)	6	5		13	16		1	2	4					1	2	3*
Individuals using the internet to buy or order online content (tin00080) (All individuals)	3	3		19	19				1					0	1	
Share of enterprises' turnover on e-commerce (tin00110)	14	9	12		18			1								

		HR			IS			MK		ME*		RS*			TR	
	2009	2010	2011	2009	2010	2011	2009	2010	2011	2011*	2009*	2010*	2011*	2009	2010	2011
Enterprises sharing electronically information on sales or on purchases with the software used for any internal function (tin00113) (All enterprises, without financial sector, 10 persons employed or more)	39	44	51		43			36	41						35	34*
Enterprises using automated data exchange with customers or suppliers (tin00124)	28	25			23			20		32					18	
Enterprises sending and/or receiving e-invoices (tin00114)	23	23			25			9							13	
Enterprises whose business processes are automatically linked to those of their suppliers and/or customers (tin00115)	42	53			7										16	
Enterprises using software solutions, like CRM to analyse information about clients for marketing purposes (tin00116)	8	11			15			11							21	

Table Q.1 – Information society statistics

Sources: Eurostat, Statistical Office of the Republic of Serbia, Statistical Office of Montenegro (MONSTAT), \* participating authorities

The status of information society statistics and implementation of Eurostat methodology is shown in the table below.

Country	Status of information society statistics	Available statistical data
Croatia	Eurostat methodology implemented and data published on Eurostat website	See detailed table above
Iceland	Eurostat methodology implemented and data published on Eurostat website	See detailed table above
FYR Macedonia	Eurostat methodology implemented and data published on Eurostat website	See detailed table above
Montenegro	The Statistical Office of Montenegro (MONSTAT) has started regular research based on Eurostat methodology in October 2011.  The data is not yet published on the Eurostat website.	See detailed table above 2ß11 survey of the Statistical Office of Montenegro http://www.monstat.org/eng/page.php?id=318&pageid=155
Serbia	The Statistical Office of the Republic of Serbia conducts regular surveys based on Eurostat methodology, but the data is not published on the Eurostat website.	See detailed table above 2011 survey of the statistical office: http://webrzs.stat.gov.rs/WebSite/Public/PageView.aspx?pKey=204 RATEL produces annual statistics on telecommunications markets and broadband. http://www.ratel.rs/market/overviews_of_telecom_market.129.html

Country	Status of information society statistics	Available statistical data
Turkey	Eurostat methodology implemented and data published on Eurostat website	See detailed table above
Albania	The Institute of Statistics (INSTAT) will include in the business survey in 2012 more questions in line with Eurostat methodology, and in the Living Standards Measurement Study 2012 questions on internet usage. The results will be available at the beginning of 2013.	Based on AKEP data for 2011 about 22% of households have internet access at home and >90% of them have broadband access.  Based on INSTAT survey for 2011, 19% of enterprises (a high percentage of enterprises in Albania are small up to 5 employees) have internet connection and 34.3% of them use internet for e-commerce.  Considering all types of connection the estimated value for total internet users is 60%:  number of household connections (avg. users per family: 2.7)  number of enterprises with connection (avg. users per enterprise: 10)  individual users from mobile phones  users from public access points in post offices  users in wifi and schools  Note: the Albanian population based on last Census is 2.83m.
Bosnia & Herzegovina	Beginning with 2013, the Agency for Statistics of Bosnia & Herzegovina will start issuing statistics based on the Eurostat methodology that will cover the mentioned ICT benchmarking domain.	522.364 total number of internet subscribers 2.000.000 total number of internet users; internet usage rate is 52% 390.722 (74.8%) total number of broadband internet access subscribers, 10.2% broadband penetration. Source: Survey for 2010, published in May 2011 at http://www.rak.ba/bih/index.php?uid=1272548201
Kosovo*	No detailed surveys available	48.48% of households have internet access at home 48.48% of households have broadband access Source: TRA Official data for enterprises with broadband access, for individuals regularly using internet or using internet for interaction with public authorities not yet available.

Table Q.2 – Status of information society statistics

# R. Network and information security

### 1. Network security obligations

The following table shows:

- legal provisions obliging operators to safeguard the network security, in particular the continuity of supply of services over networks (see articles 13a, 13b Framework Directive);
- how the law describes the security level required (for example as "appropriate to the risk presented", taking into account the state of the art of technical and organisational measures);
- whether operators are obliged to report security breaches to the NRA; and
- whether the NRA is entitled to ask operators for information on their security measures or to submit operators to a security audit carried out by a qualified independent body.

Country	Legal provisions on network security	Level of security measures required	Obligation to notify the NRA in case of security breach	Is the NRA entitled to audit operators' security measures?					
Croatia	Art. 99 Electronic communications act, as amended in 2011	Appropriate technical and organisational measures, corresponding to the current level of threat to network security, taking account of available technical and technological solutions and the costs of these measures	Yes	Yes					
Iceland	Art. 47 Electronic communications act Rules on the protection of information in public communications networks Rules on protection, functionality, and quality of IP communications services	Appropriate technical and organisational measures, suitable for the existing risks Detailed requirements on security measures in secondary legislation	Yes Obligation to report security incidents to Computer Security Incidents Response Teams (CSIRTs), which are coordinated by the NRA	Yes					
FYR Macedonia	Art. 106 and 107 Law on electronic communications	Appropriate technical and organisational plan and measures in case of emergency	No	No explicit provision on auditing operators' security measures					
Montenegro	Art. 112 Law on electronic communication	Appropriate technical and organisational measures	Yes	No explicit provision on auditing operators' security measures					
	The scope of art. 112 includes protection of users from malicious activities, electronic sabotage, fraud or abuse. It does not include, for example, service continuity.								

Country	Legal provisions on network security	Level of security measures required	Obligation to notify the NRA in case of security breach	Is the NRA entitled to audit operators' security measures?				
Serbia	Art. 124 and 125 Law on Electronic Communications	Appropriate technical and organisational measures, suitable for the existing risks	Yes	Yes. According to art. 131 of the Law on Electronic Communications, RATEL is in charge of supervising obligations that operators have under this law.				
Turkey	Bylaw on security of electronic communications	Conformance to ISO/IEC 27001 standard	Yes	Yes				
	The bylaw came into force on July 20, 2008. This bylaw covers all the operators providing public telecommunications services and requires them to provide conformance to ISO/IEC 27001 standard and also specifies the measures which must be taken in order to avoid or decrease the risks caused by threats and weaknesses regarding physical area security, data security, hardware/software security and personnel reliability. Operators are obliged to send annual reports to the NRA (ICTA) about security of electronic communications and ICTA has the power to audit the operators whether they meet the requirements of the bylaw.							
Albania	Art. 122 Law on electronic communications	Appropriate technical and organisational measures	No	No explicit provision on auditing operators' security measures				
	Draft law on amending the law on electronic communications NRA to submit operators to a security audit.	s includes the provision of obligation of	operators to notify the NRA in case of s	security breach, and would entitle the				
Bosnia & Herzegovina	Art. 5 and 8 Law on communications	"recognised state of the art" with regard to safety of network operators and network integrity	Yes	No explicit provision on auditing operators security measures				
Kosovo*	Art. 43 Law on telecommunications	"a level of security and protection which is proportional to the anticipated risk and costs, and which is commensurate with the level of technical development of the system"	No	Yes TRA may request providers to submit details about security measures and a declaration that these measures have been implemented (art. 43 para. 4). TRA also may oblige providers to remove deficiencies (art. 43 para. 5).				
	The draft law on electronic communications includes the properators to a security audit (art. 85 of the draft).	vision of obligation of operators to notify	the NRA in case of security breach, a	nd will entitle the NRA to submit				

Table R.1 – Network security obligations

## 2. Security of processing personal data

#### The table shows:

- legal provisions obliging operators to safeguard the security of processing personal data (see article 4 e-Privacy Directive);
- how the law describes the security level required, in particular whether it only requires "appropriate" measures (like article 4 e-Privacy Directive in its original version) or also sets up some minimum requirements (like article 4 paragraph 1a of the e-Privacy Directive, for example that the operator must ensure that personal data can be accessed only by authorised personnel for legally authorised purposes);
- whether operators are obliged to report personal data breaches to the competent authority and whether operators also must notify the subscribers and individuals who are affected by the personal data breach (see the new paragraphs 3 to 5 of article 4 e-Privacy Directive);
- whether a national authority is entitled to audit the measures taken by the providers; and
- which authority has been designated by national law as competent for supervising the security of processing personal data by operators (the NRA or the data protection authority).

Country	Legal provisions on security of processing personal data	Level of security measures required	Obligation to notify the competent authority and/or the affected subscribers in case of personal data breaches	Is the competent authority entitled to audit operators' security measures?	Competent national authority
Croatia	Art. 99, 99.a and 100 Electronic communications act	Appropriate technical and organisational measures, corresponding to the current level of threat to network security, taking account of available technical and technological solutions and the costs of these measures	Obligation to notify the competent authority and the affected subscribers	Yes	NRA and data protection authority
Iceland	Art. 47 Electronic communications act Rules on the protection of information in public communications networks Rules on protection, functionality, and quality of IP communications services	Appropriate technical and organisational measures, suitable for the existing risks Detailed requirements on security measures in secondary legislation	Obligation to inform customers, if confidentiality is seriously jeopardised Obligation to report security incidents to Computer Security Incidents Response Teams (CSIRTs), which are coordinated by the NRA	Yes	NRA

Country	Legal provisions on security of processing personal data	Level of security measures required	Obligation to notify the competent authority and/or the affected subscribers in case of personal data breaches	Is the competent authority entitled to audit operators' security measures?	Competent national authority
FYR Macedonia	Art. 23 Law on personal data protection Rulebook for technical and organisational measures for providing secrecy and protection of personal data processing	Appropriate technical and organisational measures	No explicit obligation to notify the competent authority and/or the affected subscribers	Yes The personal data protection inspectors of the Directorate are entitled to audit operators' security measures (art. 44 and 44-c of the Law on personal data protection)	Directorate for Personal Data Protection
Montenegro	Art. 112 Law on electronic communication Art 24 Law on personal data protection	Appropriate technical and organisational measures	Obligation to notify the NRA and the user in case of "a possibility of influencing security of communication" but the provision does not refer to a personal data breach, for example it would probably not cover a case of accidentally published billing data.	No explicit provision on auditing operators' security measures	Agency for Personal Data Protection
Serbia	Art. 122 and 123 Law on Electronic Communications Law on Personal Data Protection	Appropriate technical and organisational measures, special provisions for ensuring security of the retained data (art. 130)	Operators are obliged to notify personal data breaches to the NRA and, under conditions, also to the subscribers and individuals affected by the personal data breach	Yes.  NRA with regard to provisions of the Law on electronic communications (art. 131)  Commissioner for Information of Public Importance and Personal Data Protection with regard to data retention (art. 130) and with regard to the Law on personal data protection	NRA Commissioner for Information of Public Importance and Personal Data Protection
Turkey	Art. 4, 6 and 51 of Electronic Communications Law  Art. 6 and 7 Bylaw on Personal Information Processing and Protection of privacy in the telecommunications sector	Appropriate technical and organisational measures	Operators are obliged to notify a "possibility of violation in the security of the network" to the subscribers, but the provisions do not explicitly refer to personal data breaches Operators are also obliged to notify the NRA about technical and administrative measures	Operators are obliged to propound technical and organisational measures to NRA for approval.	NRA

Country	Legal provisions on security of processing personal data	Level of security measures required	Obligation to notify the competent authority and/or the affected subscribers in case of personal data breaches	Is the competent authority entitled to audit operators' security measures?	Competent national authority
Albania	Art.121 Law on electronic communications	Appropriate technical and organisational measures	No explicit obligation to notify the competent authority and/or the affected subscribers	No explicit provision on auditing operators' security measures NRA has the right to impose fines to operators breaking law requirements regarding art.121	NRA
	Draft amendments to the law on el	ectronic communications foresee the	e obligation to notify the competent a	uthority and subscribers affected by	the personal data breach.
Bosnia & Herzegovina	Art 11 and 12 Law on protection of personal data in B&H	Appropriate technical and organisational measures	No explicit obligation to notify the competent authority and/or the affected subscribers	No explicit provision on auditing operators' security measures	Personal Data Protection Agency in B&H
Kosovo*	Art. 14 Law on the protection of personal data	Art. 14: detailed requirements. The measures must be "adequate and kept up to date taking into account the nature of the personal data to be protected and the risks represented by the processing of such data" Art. 7 (2) When sensitive personal data are transmitted over telecommunications networks they shall be considered as suitably protected if they are encrypted to ensure their illegibility and non- recognition.	No explicit obligation to notify the competent authority and/or the affected subscribers	Yes National Agency for the Protection of Personal Data is competent to carry out inspections and audits, see art. 29 (2.3).	National Agency for the Protection of Personal Data

Table R.2 – Security of processing personal data

# 3. Cybercrime

This section analyses:

- whether the country has ratified and transposed into national legislation the Council of Europe Convention on Cybercrime;
- whether national legislation considers attacks against information systems as criminal offences; and
- whether national legislation considers other computer related acts as criminal offences.

Country	Ratification of Council of Europe Convention on Cybercrime	Are the following attacks against information systems considered as criminal offences?  Illegal access?  Illegal interception?  Data interference?  System interference?	Are the following computer-related acts considered criminal offences?  Computer-related forgery?  Computer-related fraud?  Offences related to child pornography?  Offences related to infringements of copyright and related rights
Croatia	Yes, on July 8, 2002 (Official Gazette 9/2002). Ratification of the Protocol to the Convention on cyber crime concerning the criminalization of acts of racist and xenophobic nature committed through computer systems on May 9, 2008 (Official Gazette 4/2008)	Yes, in the Criminal Code:  illegal access and interception (art. 223 para. 1)  systems interference (art. 223 para. 2)  data interference (art. 223 para. 3)  A new Criminal Code will come into force on Jan. 1, 2013.	Yes, in the Criminal Code:  child pornography (art. 196)  computer forgery (art. 223a)  computer fraud (art. 224a)  The provisions on copyright do not explicitly refer to computer related acts but include all forms of communicating works to the public (art. 229ff).
Iceland	Yes, on Jan. 29, 2007	Yes, in the General Penal Code:  • illegal access (art. 228 para. 1)  • data interference (art. 257)  Illegal interception is an offence under art. 47 and 74  Electronic Communications Act.  System interference is not addressed in the General Penal Code	Yes, in the General Penal Code:  computer-related forgery (art. 155, 157, 158)  computer-related fraud (art. 249a)  child pornography (art. 210 para. 4)  Copyright infringements are offences under the Act on copyright.
FYR Macedonia	Yes, on June 16, 2004 Ratification of the Protocol to the Convention on cyber crime concerning the criminalization of acts of racist and xenophobic nature committed through computer systems on July 5, 2005.	Yes, in the Criminal Code:  damage and illegal entrance into a computer system (art. 251)  creation and input of computer viruses (art. 251a)  illegal access to computer resources (art. 251b)  unauthorised use of computer data (art. 379a, 251b)  illegal use and multiplication of computer data (art. 379a)  illegal manipulation with computer data (art. 379a)  changing, damaging of data or programs (art. 379a)  abuse of passwords (art. 251b).	<ul> <li>Yes, in the Criminal Code:</li> <li>violation of copyright and similar rights (art. 157)</li> <li>production and distribution of child's pornography through a computer system (art. 193a)</li> <li>internet communication with minor under 14 for abuse, child pornography or other abuse (art. 193b)</li> <li>computer fraud (art. 251b)</li> <li>producing and obtaining of means for forgery of credit cards (art. 271)</li> <li>forgery and abuse of credit cards. (Article 274b)</li> </ul>

Country	Ratification of Council of Europe Convention on Cybercrime	Are the following attacks against information systems considered as criminal offences?  Illegal access?  Illegal interception?  Data interference?  System interference?	Are the following computer-related acts considered criminal offences?  Computer-related forgery?  Computer-related fraud?  Offences related to child pornography?  Offences related to infringements of copyright and related rights
Montenegro	Yes, in 2010	Yes, in the Criminal Code:  data interference (art. 349)  computer sabotage (art. 350)  distribution of viruses (art. 351)  unauthorised use (art. 353)  disturbing electronic processing (art. 354)  illegal access (art. 355)  preventing access to networks (art. 356)	Yes, in the Criminal Code:  criminal offences against copyright (art. 234)  computer fraud (art. 352)  electronic distribution of child pornography covered by art. 211
Serbia	Yes, on March 19, 2009	Yes, in the Criminal Code:  damaging computer data and programs (art. 298)  computer sabotage (art. 299)  creating and introducing computer viruses (art. 300)  unauthorised access (art. 302)  preventing or restricting access to a public computer network (art. 303)  unauthorised use of a computer (art. 304)	Yes, in the Criminal Code:  computer fraud (art. 301)  child pornography (art. 185)  criminal offences against intellectual property (art. 198 to 202)
Turkey	Not ratified but signed on Nov. 10, 2010	Yes, in the Turkish Criminal Code (5237/2005)  illegal access (art. 243 par. 1)  illegal interception (art. 243 par. 1)  data interference (art.244 par. 2)  system interference (art. 244 par.1)  gravating circumstance according to the Turkish Criminal Co	Yes, in the Turkish Criminal Code (5237/2005):  computer related forgery (art. 244 par.2)  computer related fraud (art.158 par. 1 subpar. f)  offences related to child pornography (art. 226 par. 3-5)  In the Turkish Law on Intellectual and Artistic Works (5846/1951 rev.2006)  offences related to infringements of copyright and related rights (art. 1/B, 2, 71-75)

Country	Ratification of Council of Europe Convention on Cybercrime	Are the following attacks against information systems considered as criminal offences?  Illegal access?  Illegal interception?  Data interference?  System interference?	Are the following computer-related acts considered criminal offences?  Computer-related forgery?  Computer-related fraud?  Offences related to child pornography?  Offences related to infringements of copyright and related rights
Albania	Yes Law no. 8888 dated April 25, 2002	Yes, in the Criminal Code  Unauthorised access (art. 192/b)  Illegal interception of computer data (art. 293/a)  Data interference (art. 293/b)  System interference (art. 293/c)  Misuse of computer devices (art. 293/ç)	Yes, in the Criminal Code:  Offences related to child pornography (art. 117)  Computer-related fraud (art. 143/b)  Computer-related forgery (art. 186/a)  Offences related to infringements of copyright and related rights are regulated by law 9380 date 28.4.2005 on copyright.
Bosnia & Herzegovina	Yes, in 2006	No provisions in the Criminal Code	No provisions in the Criminal Code
Kosovo*	No Law no. 03/L–166 on prevention and fight of the cyber crime was approved by the Assembly in June 2010.	Intrusion into computer systems, data interference (art. 264, Criminal Code)     Illegal access to information systems (art. 98, Law on information society services)     Illegal interference with information systems (art. 99, Law on information society services)     Illegal access (art. 9, Law on prevention and fight of the cyber crime)     Illegal interception (art. 10, Law on prevention and fight of the cyber crime)	Computer-related forgery and computer-related fraud (art. 14, Law on prevention and fight of the cyber crime)     Offences related to child pornography (art. 16, Law on prevention and fight of the cyber crime)     Offences related to infringements of copyright and related rights (Law on copyrights and related rights)

Table R.3 – Cybercrime

## S. Electronic commerce and electronic signatures

### Market access and liability

The following table shows whether certain provisions of the Electronic Commerce Directive (2000/31/EC) have been transposed.

- According to Art. 4 of the E-Commerce Directive Member States shall ensure that the taking up and pursuit of the activity of an information society service provider may not be made subject to prior authorisation or any other requirement having equivalent effect.
- Art. 12 to 14 of the E-Commerce Directive exempt certain activities of internet service providers ('mere conduit', caching and hosting) from criminal and civil liability under certain conditions.
- According to art. 15 Member States shall neither impose on providers a general obligation to monitor the information they transmit or store nor a general obligation to actively seek facts or circumstances indicating illegal activity.

Country	Does a law explicitly state that information society services do not need prior authorisation?	Have the provisions on liability of intermediary service providers been transposed into national law?				
		mere conduit Art. 12 E-Commerce Directive	caching Art. 13 E-Commerce Directive	hosting Art. 14 E-Commerce Directive	no general obligation to monitor Art. 15 E-Commerce Directive	
Croatia	Yes	Yes	Yes	Yes	Yes	
	Art. 5 Electronic commerce act	Art. 16, 20 Electronic commerce act	Art. 17, 20 Electronic commerce act	Art. 18, 20 Electronic commerce act	Art. 21 Electronic commerce act	
Iceland	Yes Art. 3 Act on electronic commerce and other electronic services	Yes Art. 12 Act on electronic commerce and other electronic services	Yes Art. 13 Act on electronic commerce and other electronic services	Yes Art. 14 Act on electronic commerce and other electronic services	Not explicitly stated in the law. However, the law also does not oblige providers to monitor.	
FYR Macedonia	Yes	Yes	Yes	Yes	Yes	
	Art. 6 Law on electronic commerce	Art. 15 Law on electronic commerce	Art. 16 Law on electronic commerce	Art. 17 Law on electronic commerce	Art. 20 Law on electronic commerce	
Montenegro	Yes	Yes	Yes	Yes	Yes	
_	Art. 6 Law on e-Commerce	Art. 18 Law on e-Commerce	Art. 19 Law on e-Commerce	Art. 20 Law on e-Commerce	Art. 21 Law on e-Commerce	
Serbia	Yes	Yes	Yes	Yes	Yes	
	Art. 5 Law on electronic commerce	Art. 16 Law on electronic commerce	Art. 17 Law on electronic commerce	Art. 18 Law on electronic commerce	Art. 20 Law on electronic commerce	
Turkey	No	No	No	No	No	
	A draft law on regulation of electronic commerce has been sent to Parliament. According to this draft law the Ministry of Trade and Industry (after reorganisation of some ministries in 2011 it will be Ministry of Customs and Trade) will be responsible for the execution of this law.					

Country	Does a law explicitly state that	Have the provisions on liability of intermediary service providers been transposed into national law?			
	information society services do not need prior authorisation?	mere conduit Art. 12 E-Commerce Directive	caching Art. 13 E-Commerce Directive	hosting Art. 14 E-Commerce Directive	no general obligation to monitor Art. 15 E-Commerce Directive
Albania	Yes Art. 6 Law on electronic commerce	Yes Art. 15 Law on electronic commerce	Yes Art. 16 Law on electronic commerce	Yes Art. 17 Law on electronic commerce	Yes Art. 20 Law on electronic commerce
Bosnia & Herzegovina	Yes Art. 14 Law on electronic legal and business transactions	Yes Art. 24 Law on electronic legal and business transactions	Yes Art. 25 Law on electronic legal and business transactions	Yes Art. 26 Law on electronic legal and business transactions	Yes Art. 28 Law on electronic legal and business transactions
Kosovo*	Yes Art. 15.3 of the new Law on the information society services (2012)	Yes Art. 24 of the new Law on the information society services (2012)	Yes Art. 25 of the new Law on the information society services (2012)	Yes Art. 26 of the new Law on the information society services (2012)	Yes Art. 28 of the new Law on the information society services (2012)

Table S.1 - Market access and liability

### 2. Market access, supervision and accreditation

According to article 3 of the Electronic Signatures Directive, member states

- shall not make the provision of certification services subject to prior authorisation;
- may introduce voluntary accreditation schemes aiming on enhanced levels certification-service provision; and
- shall ensure the establishment of a supervision scheme for certification-service providers issuing qualified certificates.

The table shows whether prior authorisation, a voluntary accreditation scheme and/or supervision have been established and which institutions are responsible.

Country	Are providers required to notify?	Is prior authorisation required?	Voluntary accreditation scheme established?	Supervision established?
Croatia	Certification-service providers must notify to the ministry at least 8 days in advance.	No prior authorisation required. Art. 13, 15 and 16 Electronic signature act	, ,	Yes Ministry of the Economy www.mingorp.hr State Inspectors' Office www.inspektorat.hr

Country	Are providers required to notify?	Is prior authorisation required?	Voluntary accreditation scheme established?	Supervision established?
Iceland	Certification-service providers offering qualified certificates are obliged to notify their activities to Neytendastofa Art. 19 Act on electronic signatures	No prior authorisation required. Certification-service providers are not obliged to wait for registration before being allowed to begin their activities. Art. 19 Act on electronic signatures	No	Yes Neytendastofa (The Consumer Agency) www.neytendastofa.is
FYR Macedonia	Certification-service provider is obligated to register its activity with the Ministry of Finance in the register of CAs at least 30 days prior beginning of its operation.  Art. 16 Law on data in electronic form and electronic signatures	In practice, prior authorisation required by secondary legislation on the registration process: Providers must be registered in the register of CAs before starting provision of certification services.	No Art. 43 to 46 Law on data in electronic form and electronic signatures provide a legal basis for accreditation by the Ministry of Finance, but no voluntary accreditation scheme has been established yet.	Yes Ministry of Finance www.finance.gov.mk
Montenegro	Providers of non-qualified certificates must notify to the supervision body at least 8 days in advance.  Art. 19 Law on electronic signature  Providers of qualified certificates must apply to the supervision body. The supervision body must issue the decree within 15 days after the date on which a complete request is submitted.  Art. 22 Law on electronic signature	No prior authorisation required. Certification-service providers are not obliged to wait for registration before being allowed to begin their activities. Art. 18 Law on electronic signature	No	Yes Ministry of Information Society and Telecommunication www.mid.gov.me
Serbia	Providers of qualified certificates must notify to the Ministry at least 15 days before beginning their activity.  Art. 15 Law on Electronic Signature	No prior authorisation required for non- qualified certificates. Providers of qualified certificates must apply for registration. Art. 20 para. 4 Law on Electronic Signature	No	Yes Ministry of Culture, Media and Information Society, Digital Agenda Administration www.digitalnaagenda.gov.rs
Turkey	Certification service providers of qualified certificates must notify to the NRA two months in advance.  Art. 8 Electronic signature law	No prior authorisation required. Certification-service providers are not obliged to wait for registration before being allowed to begin their activities.	No	Yes Information and Communication Technologies Authority www.btk.gov.tr Art. 15 Electronic signature law
Albania	Certification-service providers must notify to the authority no later than the date of commencement of service.  Art. 11 Law on electronic signature	No prior authorisation required. Certification-service providers are not obliged to wait for registration before being allowed to begin their activities. Art. 11 Law on electronic signature	No	Yes National Authority for Electronic Certification akce.gov.al

Country	Are providers required to notify?	Is prior authorisation required?	Voluntary accreditation scheme established?	Supervision established?	
Bosnia & Herzegovina	document "Impact Analysis (IA)" on the im	No prior authorisation required. Certification-service providers are not obliged to wait for registration before being allowed to begin their activities Art. 7 Law on electronic signature modern regulatory reforms tool to support in plementation of the law. The purpose is to electronic signature			
Kosovo*	identify the most favourable option(s).  No obligation to notify. Certification	No prior authorisation required.	No	No	
1.05000	service providers may request registration on a trusted list that is maintained by the ministry.  Art. 58 of the new Law on the	Art. 58 of the new Law on the information society services (2012)		However, according to article 59 of the new Law on the information society services the ministry can determine a supervisory authority.	
	information society services (2012)			Supervisory dutilonty.	

Table S.2 – Market access, supervision and accreditation

# 3. Electronic signature market data

The following table shows:

- Certification service providers, which issue qualified certificates in the respective country;
- Available market data on usage of electronic signatures, in particular: number of valid qualified certificates.

Country	Certification service provider(s) issuing qualified certificates	Data on usage of electronic signatures
Croatia	Financial agency (Fina)	December 31, 2011
	http://www.fina.hr	39,300 valid normal certificates
		37,700 valid qualified certificates
Iceland	Skilríki.is	100,000 issued electronic certificates approximately half of which are active (as of June
	http://skilriki.is/	2011).
FYR	KIBS AD Skopje	No data available
Macedonia	http://ca.kibs.com.mk/	
	Makedonski Telekom	
	http://ca.mt.net.mk/	
Montenegro	Post of Montenegro	2,418 issued digital certificates (March 2012)
	http://www.postacg-ca.me/	

Country	Certification service provider(s) issuing qualified certificates	Data on usage of electronic signatures
Serbia	PTT Communications "Serbia" http://www.ca.posta.rs/ Serbian Chamber of Commerce http://ca.pks.rs/ Ministry of Interior Error! Hyperlink reference not valid.http://ca.mup.gov.rs/ HALCOM BG CA http://www.halcom.rs/	PTT Communications "Serbia": 5000 valid certificates Serbian Chamber of Commerce: 2000 valid certificates Ministry of Interior: 1100 valid certificates Halcom Bg: 1900 valid certificates
Turkey	Electronic Information Security Corp. (e – Güven Corp.) http://www.e-guven.com/ The National Research Institute of Electronics and Cryptology (NRIEC) - Government Certification Authority (TUBITAK UEKAE)) http://www.kamusm.gov.tr/ TürkTrust Information, Communication and Informatic Security Services Corp (TurkTrust Corp.) http://www.turktrust.com.tr/ EBG Informatic Technologies and Services Corp. (e – Tuğra Corp.) http://www.e-tugra.com.tr/	299,850 total traditional qualified electronic certificates 151,730 total mobile qualified electronic certificates (as of December 2011) Totally 451,580 qualified electronic certificates
Albania	Posta Shqiptare http://postashqiptare.al/	No data available
Bosnia & Herzegovina	No such providers	Electronic signatures are used in closed systems such as banks, High Judicial and Prosecutorial Council, Agency for identification documents, registers and data exchange etc.
Kosovo*	No such providers	Not applicable

Table S.3 – Electronic signature market data

# T. Data protection

#### 1. Protection of confidentiality of communications

According to Article 5 of the e-Privacy Directive, member states shall ensure the confidentiality of communications and the related traffic data through national legislation. In particular, they shall prohibit listening, tapping, storage or other kinds of interception or surveillance of communications and the related traffic data by persons other than users, without the consent of the users concerned, with the exception of lawful interception.

The following table shows:

- legal provisions for the protection of confidentiality of communications;
- the scope of the protected communications: content of the communications and/or related traffic and location data;
- whether the provisions only refer to interception by an operator and its staff or also to interception by third parties;
- which penalties are prescribed by the provision; and is interception considered a criminal offence, a misdemeanour or can intercepted persons only enforce the provision by a lawsuit under civil law.

Country	Legal provisions on confidentiality	Scope of protected communications: content and/or traffic data	Protection against illegitimate interception by operator and/or against illegitimate interception by third parties	Penalties
Croatia	Art. 100 Electronic communications act	All data in telecommunication traffic	Protection against interception by operator and interception by third parties	Misdemeanour (art. 119 Electronic communications act)  A responsible person of a legal entity will be fined with an amount from €2,757 to €13,784.  A natural person who broke the law will be fined with an amount from €1,378 to €6,892.  It is possible to penalise the legal entity with the protective measure of prohibiting practice for three months to one year and for the natural person or responsible person in the legal entity the same measure for one to six months.

Country	Legal provisions on confidentiality	Scope of protected communications: content and/or traffic data	Protection against illegitimate interception by operator and/or against illegitimate interception by third parties	Penalties
	Art. 269 Criminal Code (A new Criminal Code will come into force on Jan. 1, 2013.)	All data in telecommunication traffic	Protection against interception by anyone	Criminal offence The penalty can vary between a monetary fine and one year in prison. If the offence is done during performing official duties, the offender can be penalised with a sentence between one year and three years in prison.
Iceland	Art. 47 Electronic communications act	Content and traffic data	Protection against interception by operator and interception by third parties	Art. 74 Electronic communications act: Fines or imprisonment of up to two years in the case of serious or repeated violations Violations due to negligence shall only be liable to fines. Violation of privacy carried out for material advantage may be punished by imprisonment of up to three years
FYR Macedonia	Art. 111 Law on electronic communications	Content of communications     Traffic data and location data relating to communications     Unsuccessful attempts to establish a connection	Protection against interception by operator	Misdemeanour fines (Law on electronic communications):  A fine in the amount of  • 7 to 10% for the legal entity which undertakes surveillance, tapping, interruption, recording, storage and diverting of communications and data in instances forbidden by the law; or  • 4 to 7% for the legal entity which fails to protect the confidentiality of electronic communications of the total annual revenue acquired during the commercial year prior the year when the misdemeanour was performed or of the total revenue acquired for a shorter period of the year preceding the misdemeanour.

Country	Legal provisions on confidentiality	Scope of protected communications: content and/or traffic data	Protection against illegitimate interception by operator and/or against illegitimate interception by third parties	Penalties
	Art. 151 Criminal Code	This provision does not explicitly refer to communications data, it applies to everyone who taps or records <i>on audio</i> conversation or statement that was not intended for him.	Protection against interception by anyone	Criminal offence  Imprisonment up to one year or a pecuniary fine  Imprisonment up to three years, if the crime was committed by an official while performing his duty  Pecuniary fine, if the crime was committed by a firm
Montenegro	Art. 119 Law on electronic communications	<ul> <li>Content of communications</li> <li>Data of user</li> <li>Traffic data and location data relating to communications</li> <li>Unsuccessful attempts to establish a connection</li> </ul>	Protection against interception by operator and interception by third parties	Misdemeanour, with a fine from the tenfold to the 250-fold of the minimal income in the country Art. 138, premise 1, point 38 Law on electronic communications
Serbia	Art. 126 Law on electronic communications	Content data and traffic data	Protection against interception by operator and interception by third parties	Misdemeanour, with a fine of RSD 1m– 2m (€9,400–€18,800) Art. 137 Law on electronic communications
	Art. 142, 143, 144, 146 Criminal Code	Content data and traffic data	Protection against interception by operator and interception by third parties	Criminal offence Imprisonment of three months to five years or pecuniary fine
Turkey	Art. 132, 135, 136 of Turkish Criminal Code	Content of communications     Traffic data and location data relating to communications	Protection against interception by operator and interception by third parties	Criminal offence Imprisonment from 6 months to 2 years (Art. 132) Imprisonment from 6 months to 3 years (Art. 135) Imprisonment from 1 year to 4 years (Art. 136)
	Art. 6 of Law on the Regulation of Publications on Internet and Suppression of Crimes Committed by means of Such Publications, Law No:5651	Traffic data	Protection against interception by operator and interception by third parties	Misdemeanour Fine up to 10,000 TRL to 50,000 TRL (approximately 5,000 – 25,000 Euros)

Country	Legal provisions on confidentiality	Scope of protected communications: content and/or traffic data	Protection against illegitimate interception by operator and/or against illegitimate interception by third parties	Penalties
	Art. 8 of Bylaw on personal information processing and protection of privacy in the telecommunications sector	Content data and traffic data	Protection against interception by operator and interception by third parties	Misdemeanour  A fine in the amount of up to 3% of the total annual revenue acquired during the commercial year prior to the current year Art. 12(c) Bylaw on administrative monetary penalties to be imposed by telecommunication authority on operators and other sanctions and measures
Albania	Criminal Code Art. 123 (Obstruction or break of privacy on correspondence) and art. 293/a (Illegal interception of computer data)	Privacy of communications in general, not restricted to electronic communications data	Protection against interception by anyone	Criminal offences  pecuniary fine or up to two years of imprisonment (art. 123, violation of privacy)  3 to 7 years of imprisonment (art. 293/a, public computer system interception)  7 to 15 years of imprisonment (art. 293/a, state computer system interception)
	Art. 123 Law on electronic communications	Content data and traffic data	Protection against interception by operator and interception by third parties	Misdemeanour with a fine from 7% to 10% of annual revenue
Bosnia & Herzegovina	No explicit legislation, but operators and se	operators and service providers ensure confidentiality (content data and traffic data) according to their licences.		
Kosovo*	Art. 74 Law on telecommunications (Art. 86 of draft Law on electronic communications)	Content data and traffic data	Protection against interception by operator and interception by third parties	Misdemeanour TRA may impose fines according to the general provision in art. 15 Law on telecommunications. This provision does not specify the amount.

Table T.1 – Protection of confidentiality of communications

#### Traffic and location data

According to Article 6 e-Privacy Directive, traffic data relating to subscribers and users must be erased or made anonymous when it is no longer needed for the purpose of a communication, for billing and interconnection payments, or for lawful interception.

The table below shows:

- how the member state defines the maximum period for storage and processing of traffic data for purposes of the operator, e.g. billing (regardless of eventually longer periods defined in data retention legislation);
- whether informed consent is required before traffic data can be used for marketing purposes or for provision of value-added services;
- whether there are any regulatory burdens that prevent transfer of personal data to other countries which have an adequate level of data protection;
- whether informed consent is required before location data can be used; and
- whether the user/subscriber can, even after giving consent, temporarily refuse the processing of location data.

Country	Traffic data			Location	on data
	Maximum storage period	Informed consent required for marketing?	Any regulatory burdens that prevent transfer of personal data to countries with adequate level of data protection?	Informed consent required?	Possibility to temporarily refuse?
Croatia	As long as needed for billing (period of statute of limitation – 1 year)  Art. 102 Electronic communications act	Yes	No	Yes Art. 104 Electronic communications act	Yes
	Taking into account the DG INFSO's consideration as to possible contradiction to the single market principle, that the provisions of the Article 99, paragraph 2 (transferring the data traffic within the Republic of Croatia) and Article 102, paragraph 6 (the billing services on the territory of the Republic of Croatia) in the draft text of the ECA 2011 Amendments might have raised, these provisions have been entirely deleted from the final text of the ECA Amendments.				
Iceland	Traffic data relating to users processed and stored by electronic communications undertakings must be destroyed or made anonymous once it is no longer needed for the purpose of transmission of a communication.  Traffic data necessary for the purposes of subscriber billing	Yes Art. 42 Electronic communications act	No Art. 29 of the Data Protection Act permits transfer of data to countries with adequate level of protection, in particular EU countries.	Yes Art. 43 Electronic communications act	No

	Traffic data	Location data		
Maximum storage period	Informed consent required for marketing?	Any regulatory burdens that prevent transfer of personal data to countries with adequate level of data protection?	Informed consent required?	Possibility to temporarily refuse?
and interconnection payments may be stored until the end of the period during which the bill may be challenged or until it becomes obsolete.  Art. 42 Electronic communications act				
Under Art. 112 of Law on electronic communications, operators of public communications networks and providers of public communications services are obliged to keep the raw traffic data for last 24 months.	Yes	Yes Art. 112 (6) Law on electronic communications (as amended in 2010): traffic data must be stored in Macedonia	Yes Art. 114 Law on electronic communications	Yes
All personal data must be deleted or made anonymous as soon after five years or as it is not anymore needed.	Yes. Art. 121 Law on electronic communication	No	Yes. Art. 123 Law on electronic communication	Yes. Art. 123 Law on electronic communication
As long as needed for billing. Art. 122 Law on Electronic Communications In addition, art. 128 of the law provides a maximum data retention period of 12 months.	Yes	No Art. 44 and 45 Law on personal data protection permits transfer of data to countries with adequate level of protection	Yes Art. 123 Law on Electronic Communications	Yes
year – Draft bylaw on processing of personal data and protection of privacy in the telecommunications sector See comments below.  The bylaw on personal informations.	Yes Art. 9 Bylaw on personal information processing and protection of privacy in the telecommunications sector	No the telecommunications costs, p	Yes Art. 15 Bylaw on personal information processing and protection of privacy in the telecommunications sector	Yes Art. 16 Bylaw on personal information processing and protection of privacy in the telecommunications sector
	and interconnection payments may be stored until the end of the period during which the bill may be challenged or until it becomes obsolete.  Art. 42 Electronic communications act  Under Art. 112 of Law on electronic communications networks and providers of public communications services are obliged to keep the raw traffic data for last 24 months.  All personal data must be deleted or made anonymous as soon after five years or as it is not anymore needed.  As long as needed for billing.  Art. 122 Law on Electronic Communications In addition, art. 128 of the law provides a maximum data retention period of 12 months.  1 year – Draft bylaw on processing of personal data and protection of privacy in the telecommunications sector See comments below.  The bylaw on personal informatio	and interconnection payments may be stored until the end of the period during which the bill may be challenged or until it becomes obsolete.  Art. 42 Electronic communications act  Under Art. 112 of Law on electronic communications networks and providers of public communications services are obliged to keep the raw traffic data for last 24 months.  All personal data must be deleted or made anonymous as soon after five years or as it is not anymore needed.  As long as needed for billing. Art. 122 Law on Electronic Communications In addition, art. 128 of the law provides a maximum data retention period of 12 months.  1 year – Draft bylaw on processing of personal data and protection of privacy in the telecommunications sector See comments below.  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Art. 42 Electronic communications act  Under Art. 112 of Law on electronic communications networks and providers of public communications services are obliged to keep the raw traffic data for last 24 months.  All personal data must be deleted or made anonymous as soon after five years or as it is not anymore needed.  As long as needed for billing. Art. 122 Law on Electronic Communications  As long as needed for billing. Art. 128 of the law provides a maximum data retention period of 12 months.  1 year – Draft bylaw on processing of personal data and protection of privacy in the telecommunications sector. Processing and protection of privacy in the telecommunications sector, pi	and interconnection payments may be stored until the end of the period during which the bill may be challenged or until it becomes obsolete.  Art. 42 Electronic communications act  Under Art. 112 of Law on electronic communications of public communications the works and providers of public communications services are obliged to keep the raw traffic data for last 24 months.  All personal data must be deleted or made anonymous as soon after five years or as it is not anymore needed.  As long as needed for billing.  Art. 121 Law on electronic communications  Art. 121 Law on electronic communications  No  Yes.  Art. 123 Law on electronic communication  communication  Yes.  Art. 121 Law on electronic communication  communication  No  Yes.  Art. 123 Law on electronic communication  communication  Yes  Art. 124 Law on personal data protection permits transfer of data to countries with adequate level of protection  Yes  Art. 125 Law on personal information processing of personal data and protection of privacy in the telecommunications processing and protection of privacy in the intelecommunications processing and protection of privacy in the intelecommunications  Art. 9 Bylaw on personal information processing and protection of privacy in the intelecommunications processing and protection of privacy in the intelecommunications processing and protection of privacy in the intelecommunications processing and protection of privacy in the intelecommunications processing and protection of privacy in the intelecommunications processing and protection of privacy in the intelecommunications processing and protection of privacy in the intelecommunications processing and protection of privacy in the intelecommunications processing and protection of privacy in the intelecommunications processing and protection of privacy in the intelecommunications processing and protection of privacy in the intelecommunications processing and protection of privacy in the intelecommunications processing and protection of privacy in the intelecommu

Country		Traffic data		Location	on data
	Maximum storage period	Informed consent required for marketing?	Any regulatory burdens that prevent transfer of personal data to countries with adequate level of data protection?	Informed consent required?	Possibility to temporarily refuse?
Albania	As long as needed for billing Art. 124 Law on electronic communications	Yes	No	Yes Art. 126 Law on electronic communications	Yes
Bosnia & Herzegovina	Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
Kosovo*	As long as needed for billing.	Yes	No	(Yes)	(Yes)
	Art. 75 and 76 Law on telecommunications Art. 87 Draft Law on electronic communications			Location data was regulated in an information society services (2002 regulated, because in 2012 this la one, which does no longer transpibe addressed again with the adop communications (art. 89 of the dra	2). At the moment it is not whas been replaced by a new ose the e-Privacy Directive. It will be on the new Law on electronic

Table T.2 - Traffic and location data

## 3. Unsolicited communications (spam)

Art. 13 of the e-Privacy Directive requires unsolicited commercial communications by e-mail to be subject to the individual's prior consent (opt-in), except for the sending of direct marketing emails to existing customers. For companies, Member States are free to require an opt-in or an opt-out.

This section shows whether spam is authorised or prohibited in the countries and whether there is a dedicated public authority to fight the phenomenon.

Country	Is spam prohibited or allowed?		Responsible authority to fight spam (+link)	
	Spam to companies	Spam to individuals	Legal basis	
Croatia	Prohibited	Prohibited	Art. 107 Electronic communications act	HAKOM – NRA (www.hakom.hr) CARNet – National CERT (www.cert.hr)
Iceland	Prohibited	Prohibited	Art. 46 Electronic communications act	PTA – Post and Telecom Administration of Iceland (www.pfs.is) The Data Protection Authority (www.personuvernd.is) The Consumer Agency (www.neytendastofa.is)
FYR Macedonia	Prohibited	Prohibited	Art. 117 Law on electronic communications Art. 17 Law on personal data protection	No dedicated public authority Directorate for personal data protection is responsible for individuals (www.dzlp.mk)

Country		Is spam prohibited or allowed	?	Responsible authority to fight spam (+link)
	Spam to companies	Spam to individuals	Legal basis	
	However, an amendment in for mobile network operators messages (SMS) to roaming tourism agency.		Art. 29 (7) Law on electronic communications, as amended in 2012	Agency for electronic communications for network operators and service providers (www.aec.mk)
Montenegro	Prohibited	Prohibited	Art. 124 of Law on electronic communications	No dedicated public authority.
Serbia	Prohibited	Prohibited	Art. 9 Law on Advertising Art. 118 Law on Electronic Communications	No dedicated public authority
Turkey	Prohibited (except the permission to send spam to companies by Draft Law on Electronic Commerce.)  Article 50 of Electronic Com	Prohibited to the users of electronic communications by Electronic Communications Law.  Prohibited to the individuals by Draft Law on Electronic Commerce.	Article 50 of Electronic Communications  Art. 20 Bylaw on personal information processing and protection of privacy in the telecommunications sector  Draft Law on Electronic Commerce	Information and Communication Technologies Authority (ICTA) is responsible to fight spam sent by authorised electronic communication operators according to the Article 50 of Electronic Communications Law www.btk.gov.tr  Ministry of Trade and Industry (or recently reorganised as Ministry of Customs and Trade) is responsible to fight spam sent by commercial entities according to the Draft Law on Electronic Commerce. The draft law is currently in the Parliament and estimated to be published soon.  TUBİTAK-UEKAE (NRIEC) designs and implements awareness raising activities against security threats including spam. www.uekae.tubitak.gov.tr/ Turkish anti-spam organisation (TASO) also fights against spam.  www.spam.org.tr
	time, the 5th clause of this a used for direct marketing, poincoming message are provided and control of "Bylaw on person provisions regarding spam wadopts opt-out method and control of the other hand, the draft	rticle states that "in situations whe blitical propaganda purposes, or in ided in an easy way and free of ch onal information processing and p which takes into account the provis determines only the obligations of	ere electronic communications so n case of sexual content, such as narge." rotection of privacy in the teleco sions of the E-Commerce Direct electronic communications open ne provisions addressing spam in	uch as automatic dialling machines, faxes, electronic mail, text message, are sithe transmission of unsolicited communications, users right to refuse each mmunications sector" which depends on Article 50(5) of Law no.5809 includes ive. Nevertheless, this provision is considered as unsatisfactory because it rators regarding spam, but omits the roles and responsibilities of other parties. In line with the E-Commerce Directive. The secondary regulations regarding
Albania	Prohibited	Prohibited	Art. 128 Law on electronic communications, Article 9, Law on e-commerce Guideline of Data Protection Commissioner No 6 dated 28.05.2010 "On correct use of SMS-s for purpose of promotion, advertising,	AKEP is responsible for supervision of electronic communication service providers based on Law 9918 dated 19.5.2008 and supervision of electronic commerce intermediary service providers based on law on e-commerce.

Country		Is spam prohibited or allowed	?	Responsible authority to fight spam (+link)
	Spam to companies	Spam to individuals	Legal basis	
			information , direct trading through mobile telephony"	
Bosnia & Herzegovina	Not regulated	Not regulated	Not regulated	No dedicated public authority
Kosovo*	Prohibited	Prohibited	Art. 18 of the new Law on the information society services (2012) (Art. 92 of the draft law on electronic communications)	No dedicated public authority

Table T.3 – Unsolicited communications (spam)

### U. Lawful interception and data retention

### 1. Lawful interception for criminal proceedings

This section analyses:

- the legal framework obliging operators to assist authorities by providing legal interception;
- which operators are obliged to assist (telephony providers, electronic communications service providers in general and/or information society providers);
- which authorities are entitled to request interception (police, public prosecution service, etc.);
- if a court order is required;
- whether requests for legal interception are limited to criminal procedures in cases of serious crime (or if it is possible for all crimes); and
- whether operators are obliged to install interception equipment with certain minimum requirements (or if they are solely obliged to use the equipment they happen to have to the best of their abilities).

Country	Legal basis for lawful interception	Which operators are obliged to assist?	Which authorities are entitled to request interception?	Is a court order needed?	Is interception limited to criminal procedures in cases of serious crime?	Are operators obliged to install interception equipment?
Croatia	Art. 108 Electronic Communications Act Art. 332 Criminal Procedure Act Regulation on the obligations in the area of national security of the Republic of Croatia for legal and physical persons in telecommunications	Providers of public communications networks or services	Public prosecutor	Yes Interception needs prior approval by a court order, except in urgent cases when there is a need for immediate interception considering the circumstances of the case, the order can be issued by the public prosecutor for a period of 24 hours before the beginning of the inquiry	Yes Interception is only allowed for prosecution of crimes defined in article 334 Criminal Procedure Act (exhaustive liste of crimes)	Yes Providers of public communications networks or services are required to install and maintain technical equipment and program support into their telecommunication system for the purpose of lawful interception (Article 5 of the regulation and Article 19 Law on Security-Information System of RH)
Iceland	Art. 47 Electronic communications act Chapter XI. Criminal proceedings act no. 88/2008	Providers of public communications networks or services	Police	Yes	Yes Interception of content is only allowed for prosecution of crimes punishable by eight years of prison or if necessary due to public or private interest of great importance Art. 83 Criminal proceedings act	Yes Dominant operators are obliged to provide access to lawful interception equipment Art. 6 Electronic communications act
FYR Macedonia	- No legal basis in Law of electronic communications	- since the judgement of t	- ha Capetitutional Court on F	-	-	-

Country	Legal basis for lawful interception	Which operators are obliged to assist?	Which authorities are entitled to request interception?	Is a court order needed?	Is interception limited to criminal procedures in cases of serious crime?	Are operators obliged to install interception equipment?
Montenegro	Art. 125 – Law on electronic communication Art. 237 and 238 Criminal procedure code	Providers of public communications networks or services	State prosecutor	Yes	Criminal offences for which a prison sentence of ten years or more may be imposed     Organised crime     Criminal offences committed by using the telephone line or telecommunication device	Yes
Serbia	Art. 126 and 127 of the Law on Electronic Communications Art. 504e of the Criminal Procedure Code Law on Security-Information Agency Law on Military-Intelligence and Military-Security Agency	Providers of public communications networks or services	Public prosecution service (for cases of criminal investigations) Security-Information Agency (for cases of protection the state security)	Yes Interception needs prior approval by a court order, if necessary for criminal proceedings or the protection of security of the Republic of Serbia, in a manner prescribed by law.	Yes, under the Criminal Procedure Code Interception is only allowed for prosecution of crimes such as organised crime, corruption and serious crimes. (Article 504a of the Criminal Procedure Code)	Yes Operator is obliged, at its own expense, to provide necessary technical and organisational conditions (devices and program support) in order to enable lawful interception of electronic communications. (Article 127 of the Law on Electronic Communications) Installation costs are not compensated.

Country	Legal basis for lawful interception	Which operators are obliged to assist?	Which authorities are entitled to request interception?	Is a court order needed?	Is interception limited to criminal procedures in cases of serious crime?	Are operators obliged to install interception equipment?
Turkey	Law no 5397 on Amendments to Certain Laws Turkish Criminal Procedure Code (Law no 5271 dated Dec. 17, 2004)	Operators which have the right to provide electronic communications services and/or to provide electronic communications network and to operate the infrastructure within the framework of authorisation	See comment below	Yes, see comment below	Yes Both the Law On Amendments to Certain Laws and the Turkish Criminal Procedure Code contain lists of serious crimes	No
	1- According to the Law On Amendments to Certai a) The communication which is performed via b) The authorities which are stated in Law On 2- According to the Turkish Criminal Procedure Co Interception of correspondence through telecommunication, may decide to locate, listen to or recordification or prosecution conducted possibility to obtain evidence. The public prosecutor cases where the duration expires or the judge decidence.	telecommunications can be Amendments to Some Lande (Law No: 5271) unication location, listening the correspondence through relation to a crime there in shall submit his decision	ws are entitled to request in g and recording of correspor ough telecommunication or t e are strong grounds of susp n immediately to the judge for	terception upon a court dendence Article 135 – (1) To evaluate the information picion indicating that the cort his approval and the jud	ecision  The judge or, in cases of parabout the signals of the strime has been committed dge shall make a decision	eril in delay, the public suspect or the accused, and there is no other
Albania	Art. 131 Law on electronic communication  Art. 221 to 226 Criminal Procedure Code  Law no. 9157, date 4.12.2003, on "Telecommunication interception" amended by law no 9885 date 3.3.2008, and law no. 10172 date 22.10.2009	Providers of networks and electronic communication services	Court decides on request of state prosecutor or private prosecutor (injured party)	Yes Interception needs prior approval by a court authorization, except in urgent cases, where the court evaluates the prosecutor decision within two working days at the latest	Yes Art. 221 of Criminal Procedure Code Interception is only allowed for prosecution of crimes that can be punished with imprisonment of maximum of seven years, and interception in public areas is allowed for prosecution of crimes that can be punished with imprisonment of max two years.	Yes Telecommunication interception law art. 21 Operators are obliged to install interception equipment. Installation costs are not compensated by state.

Country	Legal basis for lawful interception	Which operators are obliged to assist?	Which authorities are entitled to request interception?	Is a court order needed?	Is interception limited to criminal procedures in cases of serious crime?	Are operators obliged to install interception equipment?
Bosnia & Herzegovina	Law on amendment of the Law on communication (related to the legal interception) www.mkt.gov.ba/bos/dokumenti/zakoni/?id=1465 Decisions of the Council of Ministers of B&H on legal interception and data retention (Official gazette of B&H 104/06 and 58/07) www.mkt.gov.ba/bos/dokumenti/zakoni/?id=2056 www.mkt.gov.ba/bos/dokumenti/zakoni/?id=2057 Law on the Intelligence and security agency of Bosnia and Herzegovina (Official gazette of B&H 12/04 and 56/06) www.osa-oba.gov.ba/zakoneng.htm Criminal Procedure Code of B&H	Providers of public or private communications networks or services	Public prosecution services	Yes, a court order needs to be issued	Yes Definition in art. 117 of the Criminal Procedure Code	Yes Operators are obliged to install interception equipment that will be attached to the interface of the Public prosecution services The installation costs are not compensated
Kosovo*	Chapter XXIX: Covert and Technical Measures of Surveillance and Investigation Article 256 and beyond of Provisional Criminal Procedure Code Of Kosovo	Providers of public communications networks or services	Public prosecution service	Interception needs prior approval by a court order, except in urgent cases, where the court must decide within 24 hours at the latest.	Yes Definition in art. 257 of the Provisional Criminal Procedure Code	It is expected that the new Law on electronic communications will oblige operators to install equipment.

Table U.1 – Lawful interception for criminal proceedings

# 2. Lawful interception for other purposes

This section shows:

- whether lawful interception is allowed for other purposes than criminal proceedings, on which legal basis and by which authorities;
  - According to article 15 e-Privacy Directive member states may restrict privacy rights when such restriction is necessary, appropriate and proportionate in a democratic society to safeguard national security (i.e. state security), defence or public security. The directive also refers to unauthorised use of the electronic communications system.
- safeguards, which are required by EU law, international human rights agreements or constitutional law, such as the requirement of prior approval by an independent court, the obligation to inform the intercepted persons ex post and judicial remedies to appeal unlawful interception.

Country		ception allowed for other basis? Which authorities	•	•	Is a court order needed?	Does the law foresee to inform persons after their communications have been intercepted?	Can persons who have been intercepted appeal the measure at court?
	National security/public security?	Defence/military purposes?	Administrative misdemeanours?	Other?			
Croatia	Yes Law on Security- Information System of RH	Yes Security Agency Military Security Agency (only for members of Ministry of Defence and military forces)	No	No	Yes Interception of content needs prior approval of Supreme Court judge, except in urgent cases, where the head of the Security/Military Security Agency issues the order. The order for the interception of traffic is issued by the head of the Security/Military Security Agency (Article 36-37 Law on Security-Information System of RH)	No However, Security Agency/Military Security Agency are obligated to send written answer in 15 days time if the citizen requests the information about taken measures regarding lawful interception	No
Iceland	Yes Police	No	No	No	Yes Interception needs prior approval by a court order Art. 83 Criminal Proceedings Act	Yes	No
FYR Macedonia	No information available						
Montenegro	No information available						

Country		ception allowed for other basis? Which authorities	•	Is a court order needed?	Does the law foresee to inform persons	Can persons who have been	
	National security/public security?	Defence/military purposes?	Administrative misdemeanours?	Other?		after their communications have been intercepted?	intercepted appeal the measure at court?
Serbia	Yes Law on Security- Information Agency, for the elimination and prevention activities aimed at undermining or overthrowing the constitutional order of Serbia and endangering the security of the country (Article 9)	Yes Law on Military- Intelligence and Military-Security Agency, for security and counter- intelligence protection of the Ministry of Defence and the Army of Serbia, and other reasons related to the defence of the Republic of Serbia (Article 5)	No	No	Yes Interception needs prior approval by a court order, except in urgent cases, where the court must decide within two working days at the latest	No	Yes According to the general rules, a person who has been intercepted can appeal the measure at the administrative court regarding its legality (Art. 3 Law on administrative courts) Also, citizens who believe that an individual act or action of the Military- Intelligence and Military-Security Agency, injured or deprived of human rights or freedom, to protect their rights, may apply to the Inspector General of the Ministry of defence, or the organs and institutions of the Republic of Serbia (Art. 61 Law on Military-Intelligence and Military-Security Agency)

Country		ception allowed for other pasis? Which authorities	•	Is a court order needed?	Does the law foresee to inform persons after their	Can persons who have been	
	National security/public security?	Defence/military purposes?	Administrative misdemeanours?	Other?		communications have been intercepted?	intercepted appeal the measure at court?
Turkey	National Intelligence Organization Law no. 2973 on Public Intelligence Services and Establishing Public Intelligence Organization, art. 6 Central Police Department Law no. 2559 on Law on Duties and Authorities of Police Organization, art. 7 Gendarmerie Law no. 2803 on Duties and Authorities of Gendarmerie	No	No	No	Yes Law On Amendments to Certain Laws (Law no. 5397)	Not foreseen in Law no. 5397	Not foreseen in Law no. 5397 However, the designates authorities which are in charge of supervising the lawfulness of interceptions which have been conducted based on the law, overseen by a person or commission privately authorised by the Prime Minister.
Albania	Yes State Information Service, the intelligence services / police of the Ministry of Interior, Ministry of Finance and the Ministry of Justice and any other information / police, created by law	Yes Intelligence services / police of the Ministry of Defence	No	No	Decision by the General Prosecutor is needed	See comment below	Not foreseen in law no. 9157
	Basic principles for the in have the value of proof in	nterception of telecommun n a criminal proceeding, ex	ications are to respect the scept those taken under th	ed by law no 9885 date 3.3 e freedom and fundamenta ne Code of Criminal Proce e General Prosecutor dete	ll human rights. Results of dure. The process of tappi	surveillance, taken on the	nstitutes a state secret,

Country		•	r purposes than crimina s are entitled to request	Is a court order needed?	Does the law foresee to inform persons	Can persons who have been	
	National security/public security?	Defence/military purposes?	Administrative misdemeanours?	Other?		after their communications have been intercepted?	intercepted appeal the measure at court?
Bosnia & Herzegovina	Yes Law on the Intelligence and Security Agency of Bosnia and Herzegovina State Investigation and Protection Agency	No	No	No	Yes Interception needs prior approval by a court order, except in urgent cases, where the court must decide within two working days at the latest.	Yes, within 30 days after completion of the procedure.	Yes Law on Administrative Disputes
Kosovo*	Yes Law on the Kosovo Intelligence Agency	No	No	No	Yes Interception needs prior approval by a court order, except in urgent cases, where the court must decide within 48 hours at the latest.	Yes Article 263 of Provisional Criminal Procedure Code Of Kosovo	Yes Article 263 of Provisional Criminal Procedure Code Of Kosovo

Table U.2 – Lawful interception for other purposes

#### 3. Data retention

Directive 2006/24/EC on Data Retention harmonises Member States' laws on the retention of traffic, location and identification data to ensure the investigation, detection and prosecution of 'serious crimes'.

This section analyses:

- the legal basis for an obligation to systematically retain traffic data;
- the types of data covered, in particular telephony data and/or internet data (internet access, internet mail and/or internet telephony);
- whether access to retained data is limited to criminal procedures in cases of serious crime (or if it is possible for all crimes, or also for other purposes such as general police competencies, national security, secret service, administrative misdemeanours etc.);
- the retention periods (minimum and/or maximum); and
- whether the law requires special data security provisions to protect retained data, in addition to the requirements applying to all personal data stored by the operator.

Country	Legal basis for data retention	Types of data covered (telephony data and/or internet data)	Is access to retained data limited to criminal procedures in cases of serious crime?	Retention period	Special data security provisions?
Croatia	Art. 109 and 110 Electronic communications act	Telephony data and internet data	No Access to retained data is foreseen for prosecution of criminal offences, for defence and for national security	12 months	Yes Art. 109 para. 5 Electronic Communications Act
Iceland	Art. 42 Electronic communications act no. 81/2003, as amended by law no. 78/2005	Telephony data and internet data Iceland has not transposed the Data retention directive 2006/24/EC, as it has not been incorporated into the EEA Agreement.  Art. 42 Electronic communications act obliges providers to retain data for six months, but the catalogue of data to be retained is narrower than in the directive.	Access to data that has been retained on grounds of Art. 42 of the Electronic communications act cannot be accessed, unless the same requirements have been fulfilled as regarding lawful interception, that is a prior court order, which can only be permitted in case of serious crime, or if nececcary due to public or private interest of great importance, as per art. 83. of the Criminal proceedings act no. 88/2008.	6 months	No General data security provisions of art. 47 Electronic communications act apply, which are further defined in PTA rules no. 1221/2007.
FYR Macedonia	Art. 112 Law on electronic communications, as amended in June 2010	The law obliges all operators of public communications networks and providers of public communications services to retain "raw traffic data", but does not clearly determine the types of data to be retained.	No Art. 112 (7) Law on electronic communications (repealed by the Constitutional Court) did not refer to serious crimes, but to criminal proceedings, security and defence purposes.	24 months	No specific provisions on the security of retained data, but the interception equipment must be authorised by a state body and the data on implementing the measures must be treated as classified information (art. 115a and 115b Law on electronic communications).
Montenegro	Art. 126 to 128 Law on electronic communication	Telephony data and internet data	No reference to serious crime in Law on electronic communications.	6 months - minimum 2 years - maximum	Yes Art. 128 Law on electronic communications

Country	Legal basis for data retention	Types of data covered (telephony data and/or internet data)	Is access to retained data limited to criminal procedures in cases of serious crime?	Retention period	Special data security provisions?
Serbia		According to Article 129, law on electronic communications, retained data cover:  tracing and identifying the source of a communication  identifying the destination of a communication  determining the beginning, duration and end of a communication  identifying the type of communication  identifying users' terminal equipment  identifying the location of the users' mobile terminal equipment.  the Law on Electronic Communication		12 months max.	Yes Access to retained data limited to specially authorised staff. Art. 130 Law on electronic communications
Turkey	Art. 6 of Law no. 5651 Draft bylaw on personal information processing and protection of privacy in the telecommunications sector	Art. 6 of Law no. 5651: internet data Draft bylaw: Telephony data and internet data	Draft bylaw: There is no definition of serious crime in draft regulation but data retained and any other necessary information relating to such data can be transmitted upon request to the competent authorities without undue delay.	Draft by-law: 12 months	Yes Access to retained data limited to specially trained staff. There must be appropriate technical and organisational measures to protect the data against illegal or unauthorised access, processing, storage or disclosure.
Albania	Art. 101 Law on electronic communications	Telephony data. Although art. 101 of law oblige all providers of public electronic communications networks and services to retain data on communication. The list of retained data refers mainly to telephony data; there is no specific requirement for internet data.	No reference to serious crime in Law on electronic communications.	Maximum 2 years	No
	Draft amendments for article 101 a including data for internet services.	nd some additional provisions on da	ta retention are on-going. The aim of	f amendments to better adoption of c	lata retention directive such as

Country	Legal basis for data retention	Types of data covered (telephony data and/or internet data)	Is access to retained data limited to criminal procedures in cases of serious crime?	Retention period	Special data security provisions?
Bosnia & Herzegovina	Art. 1 Law on amendment of the Law on communication Decisions of the Council of Ministers of B&H on legal interception and data retention (Official gazette of B&H 104/06 and 58/07)	Telephony data and internet data	No The decisions of the Council of Ministers apply in the same way to policy authorities and the Intelligence-Security Agency of B&H	12 months	Retained data must be kept separate from other personal data Access to retained data limited to specially trained staff
	Draft law on electronic communications, art. 68	Telephony data and internet data (draft law)	No (draft law)	1 year (draft law)	No (draft law)
	No legal provisions on data retention	on in the legislation in force.			

Table U.3 – Data retention

### V. Management of internet domains

#### 1. National domain name registry

This section analyses:

- The name and website of the national registry in charge of the country codes Top Level Domains (ccTLD). The registry is the body which manages the central database and the domain name servers.
- The legal basis of to the registry in the national legislation, for example a body could be given the responsibility to act as the national registry by law, by an ordinance, by a contract with the government, or it could not have a formal legal basis.
- The legal basis of the national domain name policy, in particular the rules on who can register a domain name, rules on accrediting registrars and dispute settlement provisions. For example, such rules could be defined by an ordinance of a minister or the registry could have the legal power to adopt such rules.

Country	Name and website of the national registry	Legal basis of the national registry	Legal basis of the national domain name policy
Croatia	Croatian Academic and Research Network - CARNet http://www.dns.hr/	Contract with Internet Assigned Number Authority (IANA), Art. 79 Electronic communications act	Ordinance on organisation and management of national internet top-level domain, enacted by the Minister of Science, Education and Sports, on the proposal by CARNet, and approved by the Minister of the Sea, Transport and Infrastructure and the State Secretary of the Central State Administrative Office for e-Croatia, based on Art. 79 Electronic communications act.

Country	Name and website of the national registry	Legal basis of the national registry	Legal basis of the national domain name policy
Iceland	ISNIC – Internet á Íslandi hf. http://www.isnic.is/en/	Parliament is expected to adopt an Act on the top level domain (ccTLD) in the spring session of 2012.  This new law will bring the responsibility and decision making power to the government (Ministry of Interior).  PTA will issue an operational licence to the entity responsible for the top level domain registry according to the new law.	Currently: domain registration rules adopted by ISNIC In future: Act on the top level domain
	Still in discussion within parliamentary committees, should	d thereafter be proposed as a new law under consideration	by the legislature (2012 spring Parliament),
FYR Macedonia	Macedonian Academic and Research Network (MARNet) http://dns.marnet.net.mk/	On the basis of article 5 of the Macedonian academic research network law, which was adopted by Macedonian's parliament in 2010, MARnet manages Macedonia's ccTLD .MK.	Statute on the organisation and management of the national top level domain in the area of internet '.mk' and the subdomains within. This Statute was adopted by the new MARNet Management Board and published in the national official gazette. It has no formal recognition as a national law.
Montenegro	.ME Register (doMEn) http://www.domen.me/	On the basis of article 7(1) of the Law on the property of the Republic of Montenegro the government adopted a decision establishing the Council for ".me" domain.  This council announced a public invitation for selection of the Agent for domain registration. GoDaddy.com won this public tender.	Decision of the Council for ".me" domain of July 14, 2007.
Serbia	Register of National Internet Domain of Serbia (RNIDS) http://rnids.rs/ http://рнидс.cpб/	RNIDS is a non-governmental and non-profit association of internet service providers and university institutions, established as a fund in July 2006.  On Sep. 25, 2007 ICANN decided to delegate the .rs domain registry to RNIDS and also designated RNIDS as temporary caretaker of the .yu registry until its closure.  Registration of .rs started on March 10, 2008. Operation of .yu ended in March 2010.  In Jan. 2010 the Government appointed the Ministry of Telecommunications and Information Society in cooperation with RNIDS to ensure the conditions for introducing a Cyrillic country code top-level domain.  In Nov. 2010 ICANN assigned .cp6 as new national IDN ccTLD. The domain became operational in May 2011. Public registration has begun on January 27, 2012.  No explicit legislation on domain name management. However, on Dec. 23, 2010 MTID and RNIDS signed Memorandum of Understanding establishing the framework for cooperation and laying out key benchmarks regarding management of the national	General Terms and Conditions for Registration of .rs Domain Names, as adopted by the General Assembly of RNIDS on May 29, 2010 General Terms and Conditions for Registration of .cp6 Domain Names, as adopted by the General Assembly of RNIDS on May 28, 2011

Country	Name and website of the national registry	Legal basis of the national registry	Legal basis of the national domain name policy
		domain name registry (text of the MoU in English is available upon request).	
Turkey	Middle East Technical University Nic.tr https://www.nic.tr/	Article 35 of Electronic Communications Law (No:5809) 3 <sup>rd</sup> clause of provisional article 1 of Bylaw on Internet Domain Names	Bylaw on Internet Domain Names
	Names. Article 35 of Electronic Communications Law and	name registration processes temporarily with respect to 3 <sup>rd</sup> or related secondary legislations empowers Information and 0 lies for re-delegation according to the ICANN procedures are	Communication Technologies Authority to act as registry.
Albania	Electronic and Postal Communications Authority (AKEP) http://akep.al/	Art. 8, letter k, of the law no 9918 dated 19.5.2008, on electronic communications, AKEP is administrator of ccTLD.al and subdomains of .al	Regulation "On the registration and administration of the domain names under .al and sub-domains .gov.al, .mil.al, .edu.al, .com.al, .org.al and .net.al", adopted by AKEP's predecessor TRE on February 21, 2008, amended by Decision of Governing Council of AKEP no. 1299 on June 11, 2010
Bosnia & Herzegovina	.BA Register (University tele-informatic centre UTIC) http://www.utic.ba/	From 1996 UTIC has been authorised by IANA. Also in 1996 the government of Bosnia & Herzegovina authorised UTIC. No explicit legislation on domain name management.	Regulations regarding the registration and use of the domain name under the Bosnia & Herzegovina country internet .BA domain, adopted by UTIC.  The Ministry of Communications and Transport intends to adopt a policy on management and usage of the .BA top level domain.
Kosovo*	-	-	-

Table V.1 – National domain name registry

# 2. Registrars of domain names

This section shows:

- whether the registry itself is the only registrar or competition between registrars has been established;
- whether foreign registrars become accredited and, if yes, if accreditation of foreign registrars is restricted to certain countries;
- whether registrars are accredited by the registry or by a different body;
- whether an electronic interface between registrars and registry exists; and
- the number of active registrars.

Country	Competition between registrars exists?	Can foreign registrars become accredited?	Who accredits registrars?	Electronic interface exists?	Number of active registrars
Croatia	Yes	No	The registry	Yes	14 (February 2012)
Iceland	Yes	Yes, but foreign registrars must appoint a local representative in Iceland	The registry	Yes	61
FYR Macedonia	No	No	-	No	1
Montenegro	Yes	Yes	The registry	Yes	155 registrars (March 2012)
Serbia	Yes	Yes, but local legal presence is required (e.g. local company 100% owned by foreign company)	The registry	Yes	35 (April 2012)
Turkey	Yes	No	The registry	Yes	11 (March 2012)
	Although the detailed statistics are not available, it is known that 90% of domain names had been registered by METU. So it is clear that METU has a significant dominance and the Turkish domain name market is still far away from competition. The requirements for registrars were defined and published by METU unofficially. Especially the financial requirements are so tough and the procedures include a huge amount of red tape operations. Additionally, the requirements had not been updated since 2008. ICT/ is preparing a draft communiqué on registrars and aiming to liberalise the .tr domain name market after re-delegation of ".tr".				
Albania	No	No	-	-	1
	AKEP is the only registrar for ccTLD.al. AKEP act as Registry and as Registrar at the same time. AKEP is in the process of upgrading its technical system and will in future be able to support competition between registrars.				
Bosnia & Herzegovina	Yes	No	NIC (www.nic.ba)	Yes	19 (March 2012)
Kosovo*	-	-	-	-	-

Table V.2 – Registrars of domain names

#### 3. Cyber squatting and dispute resolution

Cybersquatting is registering, trafficking in, or using a domain name with intent to profit from the goodwill of a trademark belonging to someone else. The cybersquatter then offers to sell the domain to the person or company who owns a trademark contained within the name at an inflated price.

This section describes the national policies against cyber squatting, including the availability of alternative dispute resolution mechanisms.

Country	Policies against cybersquatting	Dispute resolution mechanism
Croatia	The regulations for .hr limit the number of second level domains per holder to one for natural persons and up to nine for legal persons. For third level domains under .com.hr the number is not limited.  The registration of one second level domain that corresponds to the registrants name is free of charge.	Domain name disputes are resolved according to arbitration rules based on ICANN's Uniform Domain Name Dispute Resolution Policy. The arbitration rules are published on CARNet's website and are included in the new Ordinance on organisation and management of national internet top-level domain.

Country	Policies against cybersquatting	Dispute resolution mechanism	
	According to the Ordinance on organisation and management of national internet top-level domain, the holder must not register a domain name if it violates the rights of a third party like trademarks and names of products or services that third parties offer.  A domain name cannot be sold or transferred.		
Iceland	No official policy, but the Board of Appeals (see right column) decides against cybersquatting in practice.  The following examples indicate that an application for a domain was not been made in good faith of the applicant's right to the domain:  i) a domain was registered with the purpose of selling, leasing or allowing a third party access to the domain for a price that is demonstrably higher than the registration and renewal costs or  ii) a domain has been registered for the sole purpose of preventing a competitor from registering the same domain.	A Board of Appeals handles disputes regarding the delegation of domains. The Board of Appeals is autonomous and independent. ISNIC carries out decisions of the Board within 10 days after they have been passed or on the next business day thereafter. ISNIC will not carry out the Board of Appeal's judgements if legal proceedings have been instigated in respect of the same issue or an injunction been placed on the use of the domain in question before the Board of Appeals has reached a decision. Cases involving the registration of domains or refusal to register domains may be referred to the Board of Appeals. https://www.isnic.is/en/domain/rules.php#9	
FYR Macedonia	There are certain general statements in the registry's Statute that the registrants shall not use the domain names for impersonating third party identity and use the domain name in bad faith but there are no instruments for enforcing such policy apart from the dispute resolution policy.	A dispute resolution policy has been stipulated in the Statute that offers three mechanisms for resolution of disputes:  by mutual negotiation and resolution between the affected parties;  by means of an independent Arbitrage Committee; or  by means of an of authoritative court resolution.	
Montenegro	As given in Rulebook, art. 27 In case of any litigation regarding the right to use the name of the domain between the user of a domain registered according to this Rulebook and third person, international standards, usual rules, and Uniform Domain-Name Dispute-Resolution Policy (UDRP) will be applied.	Further, according to .ME UDRP Policies and Rules, World Intellectual Property Organization (WIPO) is assigned as dispute resolution provider. All claims have to be filled with WIPO.	
Serbia	No explicit legislation on cyber squatting or domain name disputes.	Rules on Alternative Dispute Resolution Procedure for Settling Disputes Arising out of Registration of National Domains, as approved by the General Assembly of RNIDS on December 18, 2010 and adopted by the Board of Serbian Chamber of Commerce on April 19, 2011 (Official Gazette No 31/11)  Each registrant must in advance give his consent to participate in arbitration proceedings and to comply by the final decision (Art. 18 of the General Terms and Conditions).  Domain name disputes can be resolved by alternative dispute resolution procedure or in court proceedings.	
Turkey	New policies will apply after the re-delegation of ".tr":  Bylaw on Internet Domain Names  Draft Communiqué on Operation of Dispute Resolution Mechanism Regarding Internet Domain Names and Dispute Resolution Service Providers		
Albania	Regulation on the registration and administration of domain names under .al (article 4 point 2 and 3, article 18 point 2/d, article 34 point 3)	Domain name disputes can be resolved in court proceedings or by arbitration.	

Country	Policies against cybersquatting	Dispute resolution mechanism	
Bosnia & Herzegovina	WIPO's ccTLD best practices for the prevention and resolution of intellectual property disputes  No explicit legislation on cybersquatting or domain name disputes	ICANN's Uniform Domain Name Dispute Resolution Policy	
Kosovo*	Kosovo does not have a ccTLD, so for the moment is not facing any domain name disputes.	TRA has approved a regulation on procedures for dispute resolution based on Art. 4 and 11 of the Law on telecommunications, This also applies to domain name disputes.	

Table V.3 – Cybersquatting and dispute resolution

#### 4. Domain market data

This section shows:

- the number of registered sub domains of the relevant ccTLD;
- the price charged by the registry per sub domain and year, excluding VAT;
- whether this price covers solely the registry functions (for countries with separated functions of registry and registrars) or if it also includes registrar

Country	Number of domains	Price per domain and year (excl. VAT)	Services covered by this price
Croatia	86,407 (February 2012)	<ul> <li>Second level domains for virtual identity of the registrant:</li> <li>one per registrant (for legal persons and persons that offer registered services, e.g. craftsmen, artists)</li> <li>must correspond to the registrants name</li> <li>free of charge</li> <li>Second level domains:</li> <li>up to 9 for legal entities</li> <li>one for natural persons</li> <li>€50 per year (fee of the registry)</li> <li>Third level domains under .com.hr:</li> <li>number is not limited</li> <li>€3 per year (fee of the registry)</li> <li>About 80% of all registered domains are free of charge.</li> </ul>	Annual registration and transfer of the domain (transfer includes one year renewal).  Registrar functions not included.
Iceland	37,000 http://www.isnic.is/tolur/index-en.html	Annual fee for a domain: €39 http://www.isnic.is/en/payments/tariff	Registry services

Country	Number of domains	Price per domain and year (excl. VAT)	Services covered by this price
FYR Macedonia	28,000 (April 2012)	€8.58 for the first year, half that price yearly subscription afterwards for local registrants.  Doubled price for foreign registrants.	Registration and 3 free of charge updates within the subscription period. Further changes are charged €2.62 per change.  Registrar functions included.
Montenegro	616,219 (March 2012)	Open Registrations €10 per year, minimum term 1 year. €5.99 for domains of third level for Montenegrin registrars.	Registry services
Serbia	71,726 .rs domains (April 11, 2012) 3,218 .cpб domains (April 11, 2012)	Wholesale (registry) prices (excluding VAT):  ~€13.5 for .rs  ~€2.5 for .in.rs  ~€4.5 for .co.rs, .edu.rs, .org.rs  ~€5 for .cp6*  ~€2.5 for second-level .cp6 domains  Data as of April 11, 2012  * €0.01 (1 RSD) promotional price in the first year of registration for current .rs domain owners	Annual registration for .rs and .cpб domains by the registry. Registrar functions not included.
Turkey	301,864 (January 2012)	1-year registration fee (excl. VAT) ranges from 5 to 25 TRY (€2.18 to €10.88)  Some domain names (gov.tr, edu.tr, pol.tr, tsk.tr) are free of charge.  Discounts apply for 2- to 5-year registrations.	Annual registration and some other operations such as contact changes, DNS server changes, domain name information update etc.  Registrar functions not included
Albania	7387 (by the end of 2011)	2-year registration fee ALL 2,000 (€14, incl.VAT)	Other services are included in the registration fee
Bosnia & Herzegovina	13,337 (March 2012)	First year: €40.82 (BAM 80) Next four of five years: €15.31 (BAM 30)	.ba domain name registration by the registry (includes yearly maintenance for the first year).  Registrar functions not included
Kosovo*	-	-	-

Table V.4 – Domain market data