



## REPORT 4

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

2011-2014

## ANNEX

Cross-country comparative data

February 2014

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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: Croatia that joined the EU on July 1, 2013, followed by the five candidate countries and the three 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 became the EU's 28 <sup>th</sup> member state on July 1, 2013.
Iceland	IS	As of September 2013, Iceland has suspended EU accession talks indefinitely.
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 Nations: "the Former Yugoslav Republic of Macedonia". This does not prejudice the outcome of the negotiations on the name of the country that are underway. A short term 'Macedonia' is frequently used in this report without prejudice to positions on the official name of the country.
Montenegro	ME	-
Serbia	RS	-
Turkey	TR	-
Albania	AL	-
Bosnia & Herzegovina	BA	<p>Bosnia &amp; Herzegovina (BiH) comprises two parts:</p> <ul style="list-style-type: none"> <li>• The Federation of Bosnia &amp; Herzegovina</li> <li>• Republika Srpska</li> </ul> <p>A separate federal district of Brčko belongs to both.</p> <p>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.</p> <p>The report treats separately the three incumbent operators that, while now operating nationally, were initially established in different parts of the entity:</p> <ul style="list-style-type: none"> <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	<p>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.</p> <p>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.</p>



## II. CROSS-COUNTRY DATA

### A. General economic background

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

The monitored indicators 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 is 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, market prices and other indicators between the monitored entities and with the EU 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	2012	Sep. 3, 2013
Croatia	Croatian Kuna	HRK	7.32	7.34	7.22	7.34	7.29	7.43	7.517	7.56
Iceland	Iceland Krona	ISK	87.71	87.60	127.45	172.66	161.89	161.42	160.734	159.04
FYR Macedonia	Macedonian Denar	MKD	61.19	61.17	61.26	61.40	61.17	61.70	61.530	61.51
Montenegro	Euro	EUR	1.00	1.00	1.00	1.00	1.00	1.00	1.000	1.00
Serbia	Serbian Dinar	RSD	85.00	78.67	81.91	94.12	103.40	101.95	113.009	114.35
Turkey	New Turkish Lira	TRY	1.81	1.79	1.91	2.16	2.00	2.34	2.286	2.69
Albania	Albanian Leke	ALL	123.27	122.20	122.80	132.06	137.77	140.34	139.014	139.89
Bosnia & Herzegovina	Bosnian Marka	BAM	1.96	1.96	1.96	1.96	1.96	1.96	1.956	1.96
Kosovo*	Euro	EUR	1.00	1.00	1.00	1.00	1.00	1.00	1.000	1.00

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

<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/sites/default/internet/latinica/80/ino\\_ekonomski\\_odnosi/SBEOI11.xls](http://www.nbs.rs/export/sites/default/internet/latinica/80/ino_ekonomski_odnosi/SBEOI11.xls)  
[http://www.bankofalbania.org/web/pub/kursi\\_2008\\_2349\\_1.xls](http://www.bankofalbania.org/web/pub/kursi_2008_2349_1.xls)  
<http://www.nbmr.gov.mk/default-en.asp?pmenu=kurslistENIKL>  
<http://www.sedlabanki.is/?PageID=183>

Currency fluctuations can have a significant effect when comparing prices, spending patterns and operator revenues. The economic crisis and recession of 2008-09 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 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 below).

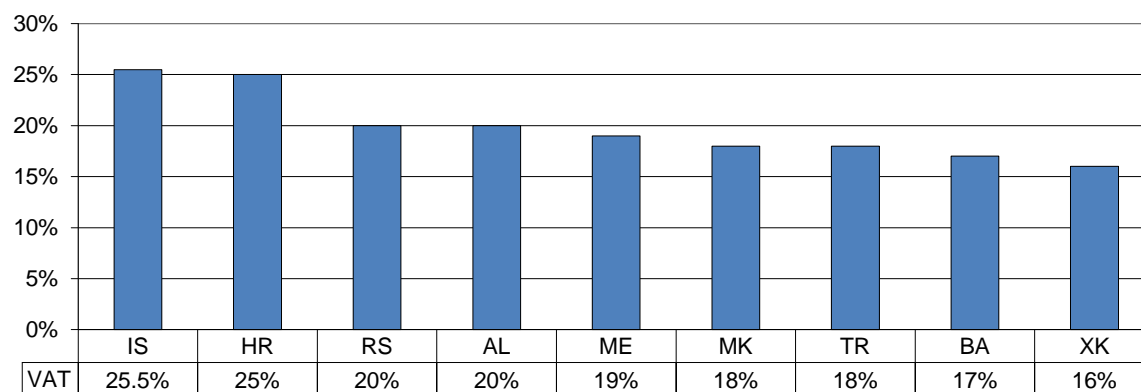


Figure A.1 – Rates of Value Added Tax (VAT)

Some additional retail taxes have been applied in recent years. In Turkey, there is a Special Communications Tax (SCT) of 25% on mobile network services, 15% on fixed voice telephony services and 5% on Internet services. The tax was introduced as part of a series of taxes levied to finance public works required to respond to earthquakes that struck the Marmara region of Turkey in 1999. It cannot be reclaimed by businesses and so must be included in retail charges.

In Serbia, from June 1, 2009 a temporary additional 10% tax on mobile communications services was introduced by the 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. However, the rate of VAT in Serbia increased from 18% to 20% on October 1, 2012.

In Croatia, a set of anti-recession measures also took effect on August 1, 2009. This included an increase in the 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 then applied it again from February 1, 2012 until July 1, 2012. From March 1, 2012 the VAT rate in Croatia was further increased to 25%.

In Montenegro a special tax of €1 per month on active mobile SIM cards and cable TV connections, as well as on access to certain other services of public interest, was introduced by a special law on taxes in July 2012 and remained in force until January 1, 2014. The tax was [withdrawn](#) following [amendments](#) to the law adopted on December 30, 2013 (Official Gazette No. 62/13 dated December 31, 2013). The VAT rate in Montenegro was also increased from 17% to 19% on June 30, 2013.

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	-	-	-	-	-
Iceland	-	-	-	-	-
FYR Macedonia	-	-	-	-	-
Montenegro	Special tax, introduced in July 2012 ( <a href="#">Official Gazette No. 28/12 dated June 5, 2012</a> ), remained in force until Jan. 1, 2014. Withdrawn following <a href="#">amendments</a> adopted on Dec. 30, 2013 (Official Gazette No. 62/13 dated Dec. 31, 2013)	The tax was collected by mobile operators and cable TV operators and paid to the state budget on a monthly basis. 10% of the total amount collected by an operator within a given month could be claimed as an expense.	Mobile SIM cards Cable TV connections (also a wide range of other products and services, including tobacco products and electricity meters)	€1 per month per active SIM card (defined as a SIM card with at least one outgoing voice call registered within a given month). €1 per month per cable connection.	>€1m per month from mobile services Approx €19,500 per month from cable TV services
Serbia	-	-	-	-	-
Turkey	Special Communication Tax (determined in the tax legislation and collected by the relevant authority for issues on taxes)	Operators are responsible for declaring the amount to be paid and collecting it from end users on a monthly basis (calculated as a percentage of the user's monthly bill) in order to pay it to the Ministry of Finance.	Mobile services: 25% Cable and satellite TV services: 15% Internet services (fixed and mobile): 5% Fixed voice and other electronic communication services: 15%	The tax base for calculating the Special Communication Tax is the same as the tax base for calculating VAT.	No information available Some estimates were provided in a <a href="#">report</a> released by the 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 nine countries together had a population of 97.8 million people, or almost 20% of the EU-27 population in 2012 (see Table A.3). The greatest part of that population is represented by Turkey, which is more than ten times the size of Serbia, the next largest country. Montenegro and Iceland have much the smallest populations. The population figures for Albania and Kosovo dropped considerably in 2011, following publication of new census data.

Country	Population (millions)						Percentage of EU-27 (2012)	Inhabitants per sq km (2007)	Households (millions) (2011)	Persons per household (2009)
	2007	2008	2009	2010	2011	2012				
Croatia	4.441	4.436	4.435	4.426	4.412	4.398	0.87%	78.5	1.639	3.0
Iceland	0.3076	0.315	0.319	0.317	0.318	0.320	0.06%	3.0	0.123	2.7
FYR Macedonia	2.042	2.045	2.048	2.053	2.057	2.060	0.41%	79.4	0.548	3.6
Montenegro	0.625	0.627	0.630	0.618	0.620	0.621	0.12%	45.2	0.195	3.4
Serbia	7.382	7.366	7.335	7.307	7.252	7.217	1.44%	95.3	2.497	2.9
Turkey	69.689	70.586	71.517	72.561	73.723	74.724	14.84%	90.1	19.607	3.9
Albania	3.153	3.170	3.185	n/a	2.832	2.832	0.56%	109.7	0.740	4.2
Bosnia & Herzegovina	3.844	3.843	3.844	3.844	3.843	3.839	0.76%	75.1	1.055	3.7
Kosovo*	2.127	2.153	2.181	2.208	1.794	1.800	0.36%	195.3	0.297	7.0
Total	93.303	94.148	95.526	n/a	96.851	97.811	19.42%	-	26.701	3.8
EU-27	495.090	497.444	499.700	501.120	502.405	503.679	100.00%	-	205,023	2.4

Table A.3 – Populations and households (millions)

Notes:

Source: Eurostat website for population totals: [http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=demo\\_gind&lang=en](http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=demo_gind&lang=en)

Data on number of households in 2011 is from Eurostat, unless stated below.

Iceland: Data on the number of households in 2011 is as found in ArcticStat, [www.arcticstat.org](http://www.arcticstat.org), on March 14, 2013.

Montenegro: For 2012 no population data is available so the 2011 figure is used. Source for number of households is the 2011 census:

<http://www.monstat.org/userfiles/file/popis2011/saopstenje/saopstenje.pdf>

Serbia: Source for number of households is the 2011 census: <http://popis2011.stat.rs/?lang=eng>

Albania: For 2012 no population data is available so the 2011 figure is used. Source for number of households is the 2011 census: <http://census.al/Census2011/Temp.aspx>

Bosnia & Herzegovina: Data for the number of households is from 2007.

Kosovo\*: The total population figure for 2011 shown in the table above is sourced from Eurostat. For Report 2, a population figure for 2011 of 1.734m was used, taken from preliminary census data. The census data has now been updated to show a 2011 total of 1.740m (source: <http://esk.rks-gov.net/>) but excludes data for the northern municipalities. The figure for the number of households in 2011 is taken from the census data.

The population of the EU-27 and of Turkey has been increasing over the past five years. Although the EU-27 population grew by approximately 1.7% from 2007 – 2012, Turkey's population grew more than four times as fast, by 7.2%. 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, Albania and Kosovo, where the 2009 average per household was respectively 3.9, 4.2 and 7 members. 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.

### 3. 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>2</sup> There is long-standing evidence that GDP and GDP growth correlate with telecommunications and telecommunications network growth.

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 reflect the very different sizes of the enlargement economies.

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Croatia	25,538	28,112	30,011	32,759	35,725	39,102	42,833	47,370	45,379	45,917	44,992
Iceland	8,830	9,474	9,709	10,660	13,124	13,311	14,851	10,265	8,692	9,495	10,075
FYR Macedonia	3,893	3,839	4,001	4,105	4,325	4,676	5,081	5,791	6,676	6,905	7,504
Montenegro	1,295	1,360	1,510	1,67	1,815	2,149	2,808	2,808	2,981	3,104	3,234
Serbia	12,821	16,034	17,416	19,075	20,358	23,521	29,543	29,543	29,963	28,006	31,143
Turkey	219,816	243,570	269,322	314,304	387,655	419,013	472,879	501,133	441,600	550,506	555,249
Albania	3,945	4,541	4,705	5,048	5,881	6,561	7,168	7858	8,500	8,716	n/a
Bosnia & Herzegovina	5,977	6,424	7,067	7,416	8,757	9,843	11,126	12,637	12,268	12,570	13,024
Kosovo*	1,624	1,735	1,797	3,007	3,068	3,192	3,434	3,434	3,902	4,216	n/a
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	12,642,729

Table A.4 – Gross domestic product (€ million)<sup>3</sup>

Source for 2011: Eurostat Compact Guide on Enlargement countries, economic developments, 2013 edition  
[http://epp.eurostat.ec.europa.eu/cache/ITY\\_OFFPUB/KS-30-12-129/EN/KS-30-12-129-EN.PDF](http://epp.eurostat.ec.europa.eu/cache/ITY_OFFPUB/KS-30-12-129/EN/KS-30-12-129-EN.PDF)

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](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](http://epp.eurostat.ec.europa.eu/portal/page/portal/product_details/publication?p_product_code=KS-31-11-154)

Source for 2008: Eurostat Pocketbook on candidate and potential candidate countries 2010 edition. KS-PF-10-001-EN (Table 5.1).  
[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-PF-10-001/EN/KS-PF-10-001-EN.PDF)

<sup>2</sup> <http://circa.europa.eu/irc/dsis/nfaccount/info/data/ESA95/ESA95-new.htm>

<sup>3</sup> <http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&init=1&language=en&pcode=tds00028&plugin=0>

Macedonia: State Statistical office, [http://www.stat.gov.mk/english/glavna\\_eng.asp](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>  
 Bosnia & Herzegovina: Bulletin of Agency for statistics of BiH (Thematic Bulletin - TB 10, Gross Domestic 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 2011, GDP per inhabitant in Iceland, expressed in purchasing power standards (PPS), was 12% 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 2011 but has risen steadily over recent years by between three and seven percentage points in all cases.

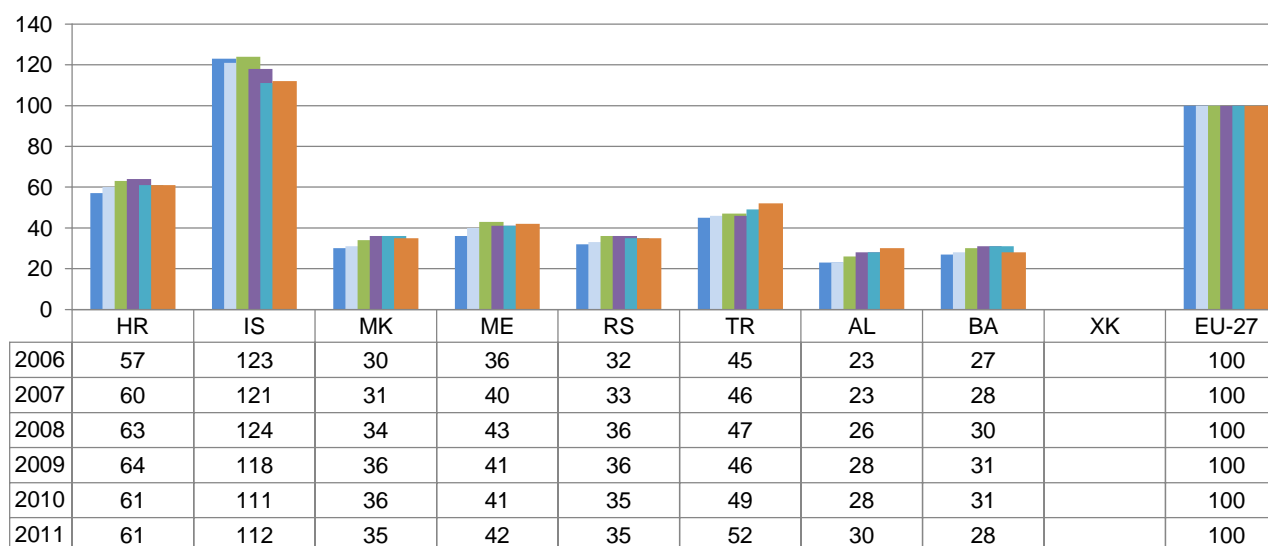


Figure A.2 – Volume index of GDP per capita in PPPs<sup>4</sup>

The unprecedented economic crisis which gathered pace in autumn 2008 affected the EU-27 and all enlargement countries. In 2009, gross domestic product (GDP) decreased by 4.2% in the EU-27, before returning to growth of 2.0% in 2010. In 2012, GDP growth was again negative and the recovery in 2013 has been slow.

The impact of the crisis on the enlargement countries varied depending on each country's economic structure (see **Error! Reference source not found.**). Croatia, Iceland, Serbia and Turkey, which are more integrated into the global market, were heavily affected and Iceland was especially hard hit due to the collapse of the

<sup>4</sup> <http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&init=1&plugin=1&language=en&pcode=tec00114>

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%. High GDP growth of 8.8% was sustained in 2011 but it dropped to 2.2% in 2012 and is forecast to be 3.5% in 2013. Serbia also returned to growth in 2010 but, mirroring the trend in the EU-27, experienced negative growth in 2012. Croatia and Iceland recorded smaller declines in GDP growth in 2010 than in 2009, with rates of -1.2% and -4.0% respectively. While Iceland has since sustained a slow recovery, however, Croatia's economy contracted again in the winter of 2011/2012 and Croatia's GDP growth is forecast to remain negative until 2014.

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 and 1.3% in 2011. Albania and the Former Yugoslav Republic of 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 but falling again in 2012 as the economy stagnated. Albania stood out with a growth rate of 3.3% in 2009 and 3% in 2010.

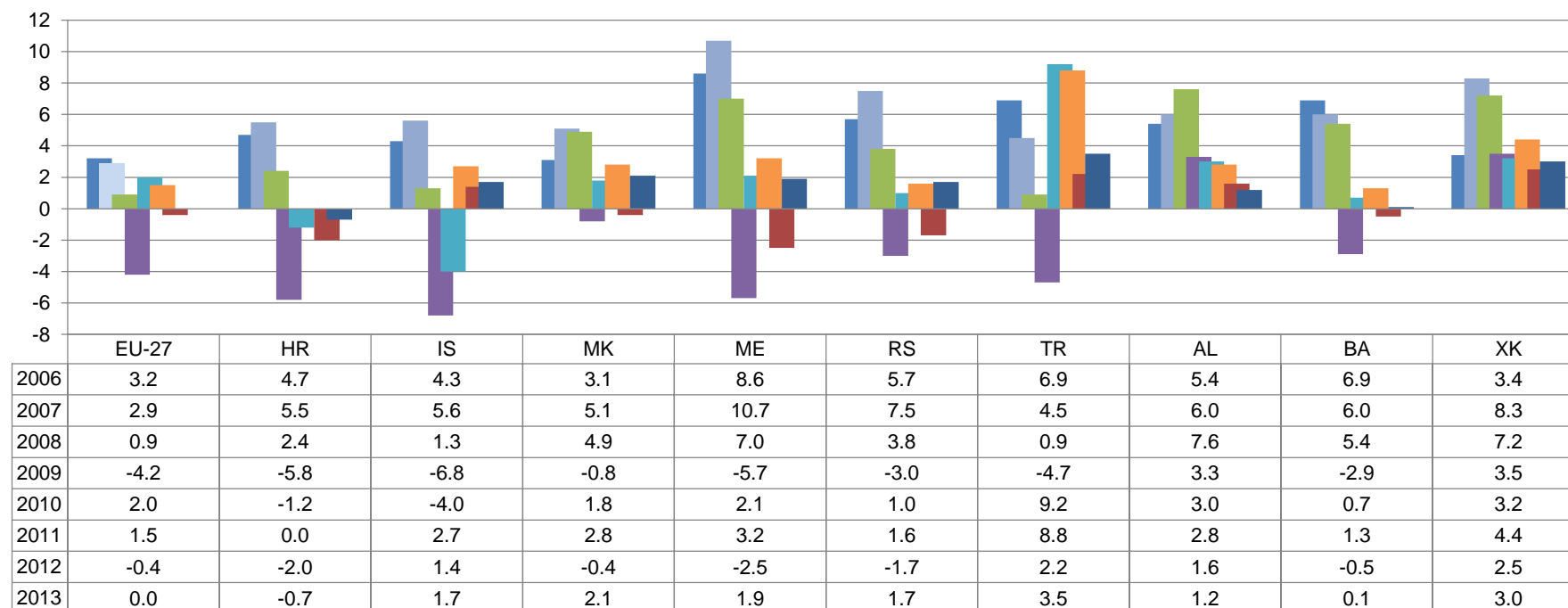


Figure A.3 – GDP growth rates (2013 rates are forecasts), in %<sup>5</sup>

<sup>5</sup> Source for 2011 and 2012, and forecasts for 2013 (except AL and BA): European Commission's European Economic Forecast Autumn 2013 edition:

[http://ec.europa.eu/economy\\_finance/eu/forecasts/2013\\_autumn\\_forecast\\_en.htm](http://ec.europa.eu/economy_finance/eu/forecasts/2013_autumn_forecast_en.htm)

Source for Kosovo: Kosovo Agency of Statistics, National Account Statistics 2006-2012

<http://esk.rks-gov.net/ENG/national-account/tables>

Source for 2011 and forecasts for 2012-2013 for AL and BA: EBRD Regional Economic Prospects Report, November 2013 edition:

<http://www.ebrd.com/downloads/research/REP/rep-1311.pdf>

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](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/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)



## 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 shows the degree of control of major electronic communications companies by foreign investors and their key financial ratios.

### 1. Electronic communications market value

The total value of the electronic communications market in the nine enlargement countries in 2012 was calculated as €17.15bn. This represents an increase year on year of 4.2%, sustaining the trend seen in 2011.

The table below shows the sector revenue in 2007 – 2012 for all enlargement countries (Iceland is included only for 2009, 2010, 2011 and 2012).

Service category	2007*	2008*	2009	2010	2011	2012	2011-12 growth
Fixed voice telephony	5,411,329,200	4,565,475,200	4,183,524,600	4,076,763,763	3,943,707,295	3,383,333,743	-14.2%
Internet services	965,443,300	1,272,911,900	1,531,031,400	1,639,126,245	2,124,833,951	2,538,278,523	19.5%
Mobile telecommunications	9,013,465,400	9,964,334,200	9,126,823,000	9,142,852,083	9,677,229,387	10,351,461,062	7.0%
Data communications	384,632,700	440,934,500	448,902,100	409,233,079	404,610,822	545,536,215	34.8%
Cable TV (excl. internet)	113,333,300	144,899,500	181,364,900	225,346,894	300,687,575	327,499,631	8.9%
Total	15,888,203,900	16,388,555,300	15,471,646,000	15,493,322,063	16,451,069,030	17,146,109,174	4.2%

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

Notes:

All categories

\*Figures for 2007 and 2008 do not include Iceland. 2011 figures for Iceland have been revised upwards compared with Report 3.

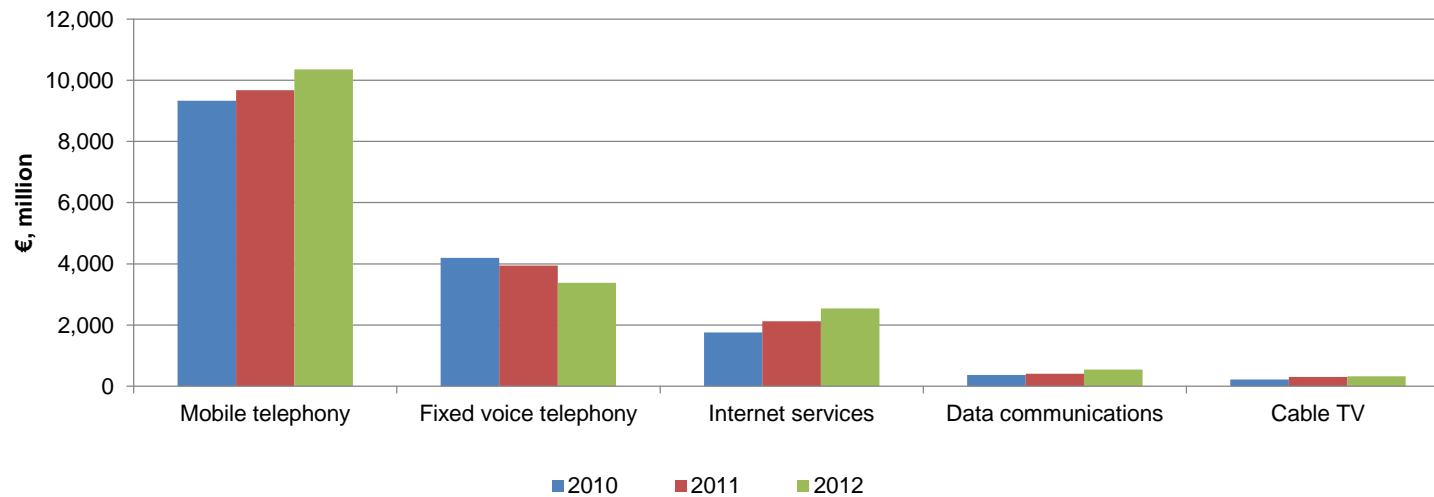


Figure B.1 – Electronic communications market revenue in the nine countries by service category, 2010-2012

Mobile telecommunications represents 60% of the market (see Figure B.2). Fixed voice telephony now represents less than 20% of the market, followed by internet services, which now comprise almost 15%. The market shares for data communications and cable television are much smaller.

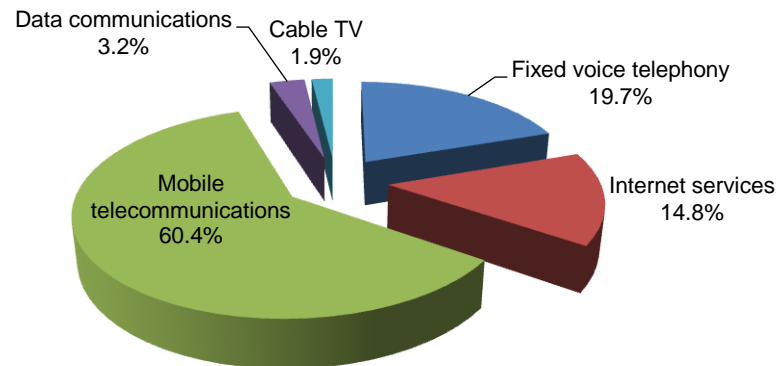


Figure B.2 – Electronic communications market revenue share by service category in 2012

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 2012, as in 2011, there was steady growth in the mobile sector, where growth had stagnated in 2010. In line with trends elsewhere in Europe, growth in revenue from mobile voice services is expected to slow or even decline, however, as markets reach maturity in the enlargement countries.

The cable television sector, in the countries where it operates, also recorded steady growth in 2012 of 8.9%.

Revenues from data communications (which includes data transmission services over fixed networks based on leased lines, IP-VPN, Frame Relay and ATM technology) increased strongly in Turkey.

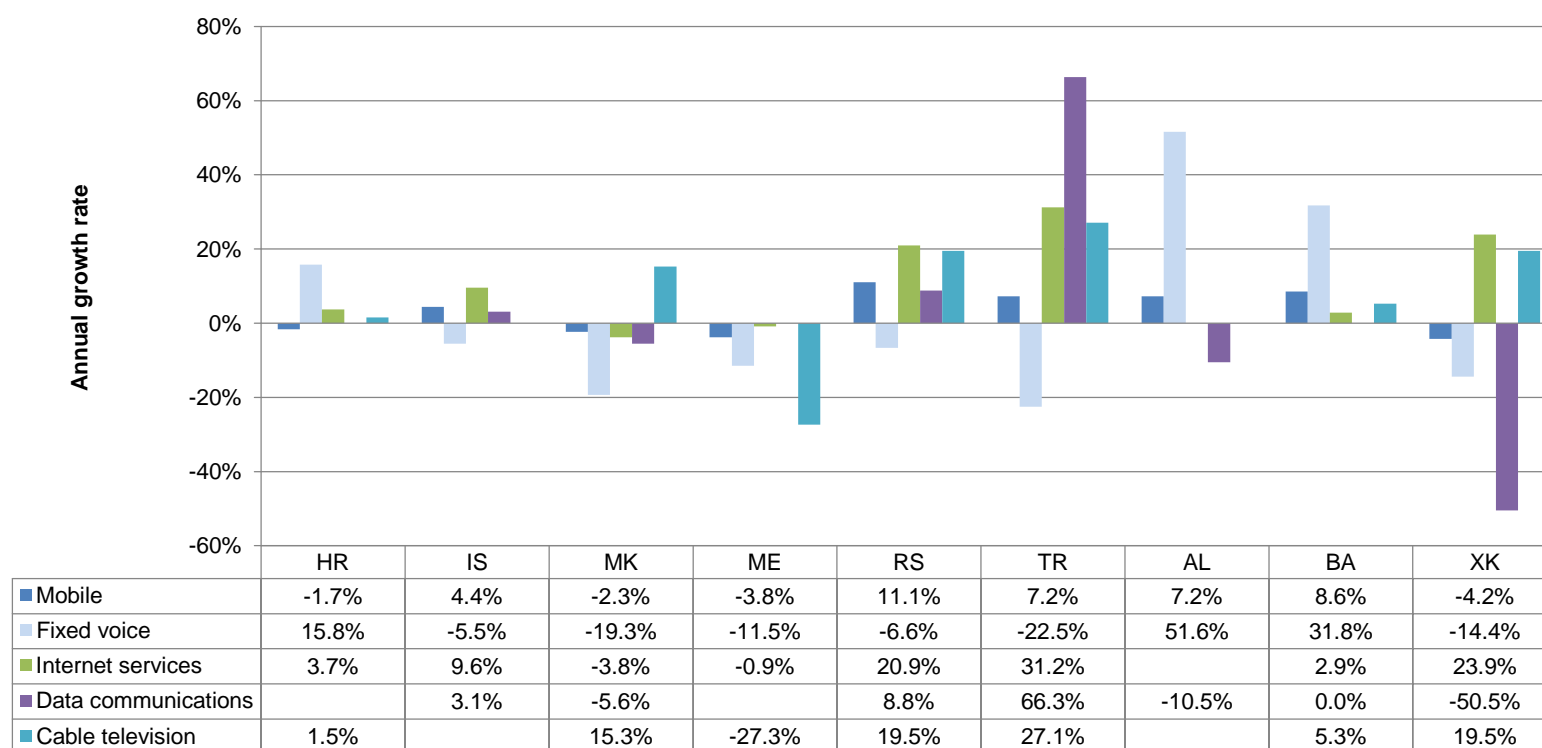


Figure B.3 – Sector revenue growth by country in 2012 (local currencies)

Note:  
 Croatia: The revenue figure of €221,088,843 (HRK 1.662bn) shown for Internet services in Croatia in 2012 in figure B.4 excludes mobile data revenues, which are counted under 'Mobile'. In the previous report the 2011 figure for Internet services revenue of €291,985,995 (HRK 2,170,683,455) included mobile data revenues. In order to calculate the change in internet services revenue in 2012 compared with 2011, a figure for 2011 of HRK1.603bn, which excludes mobile data revenue, was used. The revenue figure for cable TV in Croatia of €61,457,909 (HRK 462m) shown in figure B.4 below includes IPTV revenue. The comparable figure for 2011 of HRK 455m (which includes IPTV) was used to calculate the revenue growth shown in this figure.  
 Albania: Internet revenues for 2012 are shown under 'Fixed voice, which explains the apparently large increase in fixed voice revenues in Albania.

Electronic communications represents quite different proportions of the various economies (see Figure B.4). 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.

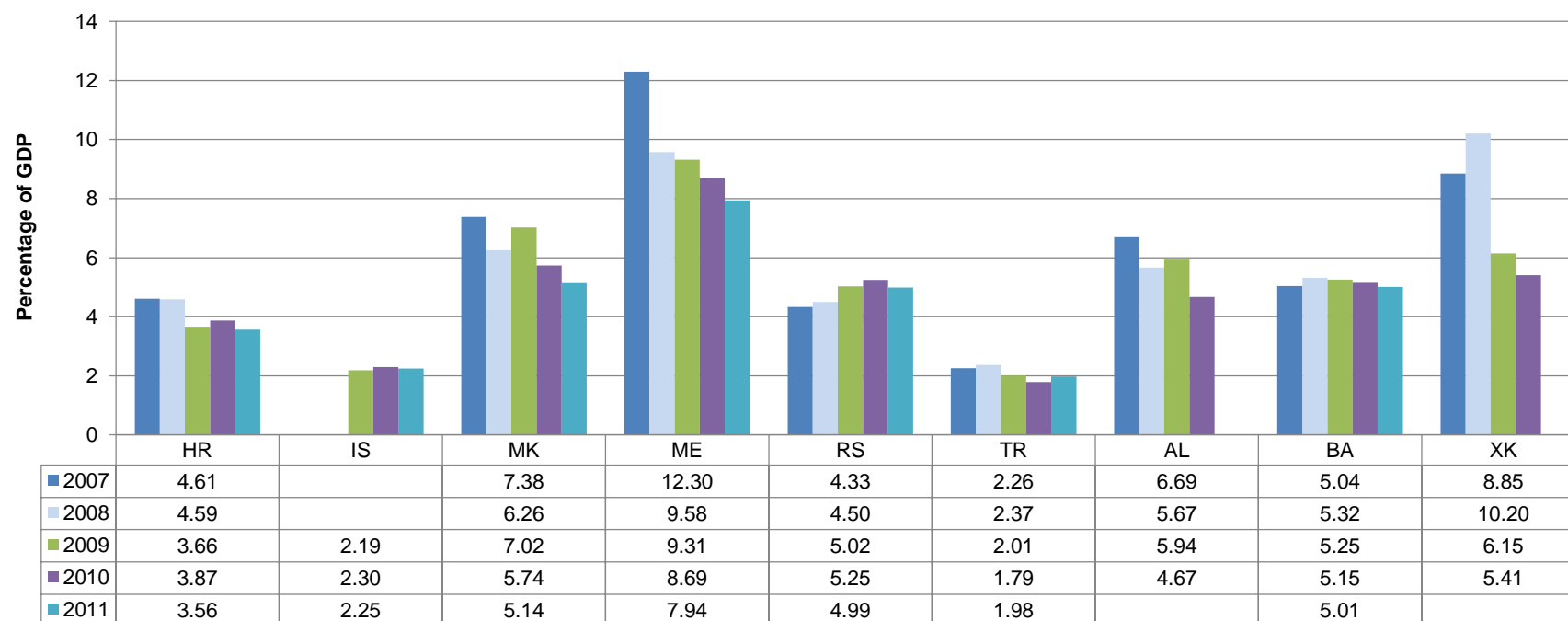


Figure B.4 – Electronic communications as a percentage of GDP

Breaking down total revenue by countries and sectors, the patterns are inevitably dominated by the size of the Turkish markets (see Figure B.5). In order to be able to compare countries, the same data are presented as percentages in Figure B.6.

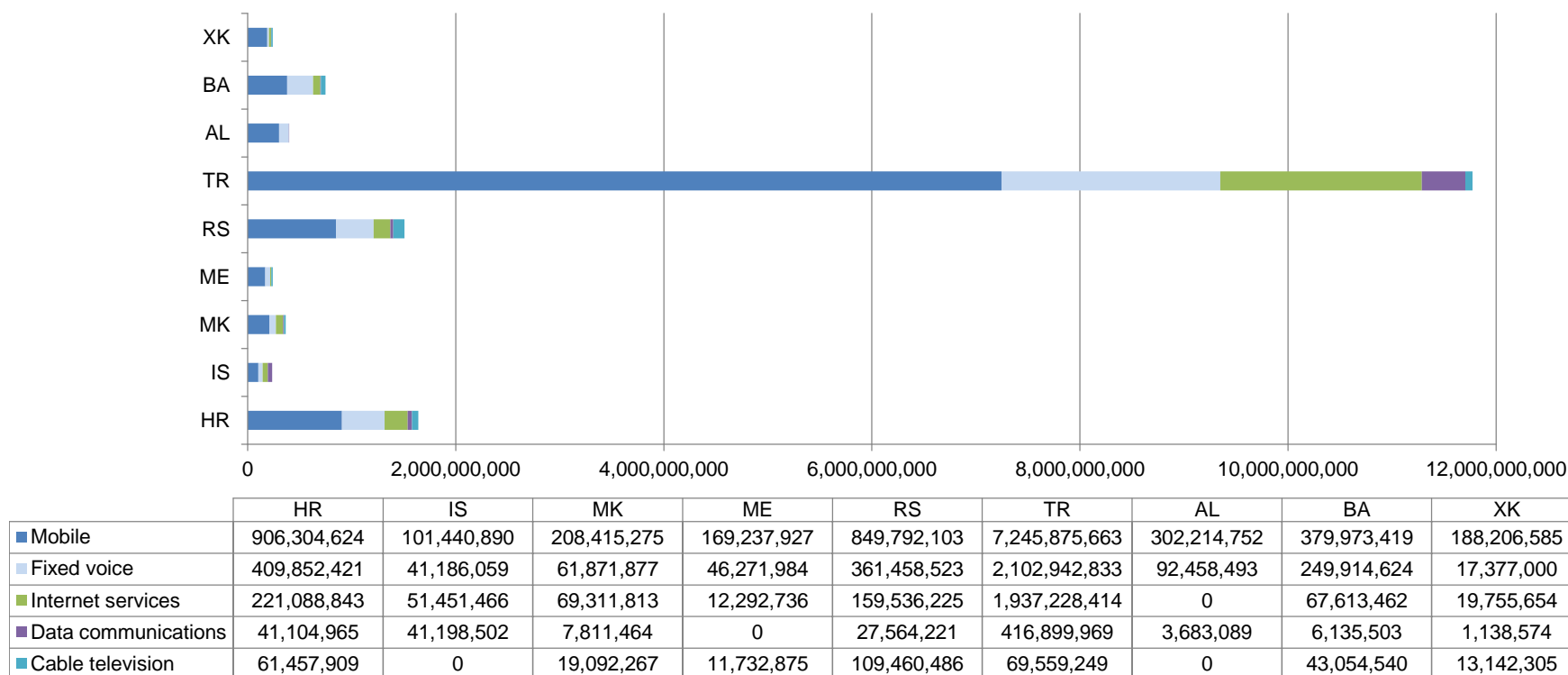


Figure B.5 – Electronic communications market revenues by service category by country in 2012 (€)

Notes:

Croatia: The figure of €221,088,843 for Internet services excludes mobile data revenues, which are counted under 'Mobile'. IPTV revenue is included together with the cable TV revenue figures.

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

Macedonia: The regulator AEC collects data for electronic communications revenue on the basis of notifications from operators, which means that operators report figures according to the service categories that they notify. That is because operators pay a monitoring fee, which is calculated as a percentage of revenues according to the services that they provide on the market. Revenues categorised as 'other' have been attributed in this table to Internet services. Revenues categorised as 'inter-operator services for

transmission and routing' have been attributed 50% to fixed voice and 50% to mobile. Revenues categorised as 'cable television' also include TV via IPTV, DVB-T and satellite.

Montenegro: MTel did not separate its fixed voice and internet revenues – both are included under fixed voice. No information is available on the share of revenue from data services (i.e. data transmission services over fixed networks based on leased lines, IP-VPN, Frame Relay and ATM technology).

Turkey: The strong growth in revenue from data communications in Turkey in 2012 can be attributed to the fibre network expansion of alternative operators, and in particular their investment in trunk lines connecting the major cities.

Albania: Separate data for fixed voice and fixed internet revenues is not available – both are shown together under fixed voice. 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.

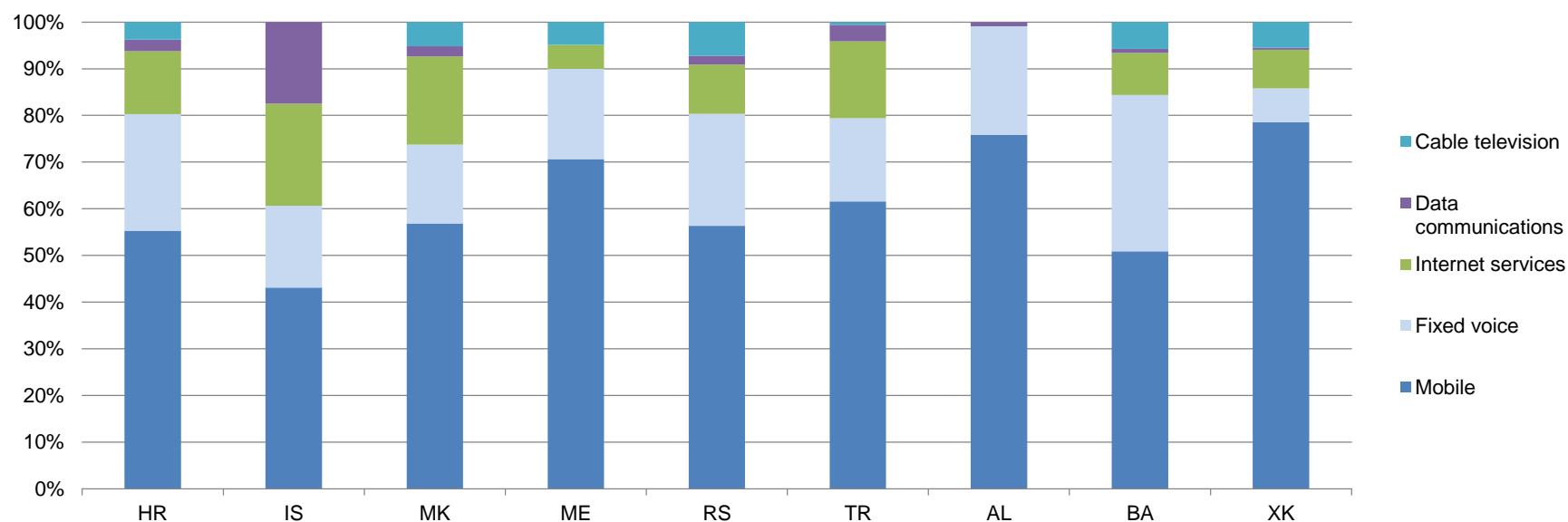


Figure B.6 – Electronic communications as percentage of revenue by service category by country in 2012

## 2. Investment in electronic communications

Overall investment in electronic communications in the nine countries was €3.23bn in 2012. This represents a 27% increase from 2011, when the total was €2.54bn, driven mainly by fibre investments in Turkey.

Country	Fixed voice and internet		Mobile telephony		Cable TV		Support services		Total investment	
	2011	2012	2011	2012	2011	2012	2011	2012	2011	2012
Croatia	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	211,186,026	299,441,026
Iceland	17,768,823	15,728,876	6,510,281	14,686,573	0	0	6,738,458	6,369,042	31,017,562	36,784,490
FYR Macedonia	n/a	11,820,886	25,075,338	13,527,908	19,634,977	22,591,990	n/a	n/a	53,945,594*	47,940,784
Montenegro	6,935,827	7,543,028	5,835,876	7,084,259	2,934,009	2,104,713	1,515,141	3,616,147	17,220,853	20,348,147
Serbia	68,260,290	74,887,962	138,904,147	112,292,124	35,135,559	44,350,522	8,622,043	20,954,117	250,922,039	252,484,725
Turkey	654,644,809	1,318,154,014	1,052,907,275	1,002,427,719	39,574,795	43,970,116	n/a	n/a	1,747,126,879	2,364,551,849
Albania	23,186,580	18,062,964	48,674,717	40,111,146	n/a	n/a	n/a	n/a	71,861,297	58,174,110
Bosnia & Herzegovina	58,871,170	59,122,482	47,434,082	38,667,441	974,011	766,938	9,989,621	14,485,697	117,268,884	113,042,558
Kosovo*	7,770,000	4,836,700	27,270,000	20,275,911	3,200,000	10,823,367	n/a	n/a	38,240,000	35,935,978

Table B.2 – Investment in electronic communications by country by service category, 2011 and 2012 (€)

### Notes:

- Croatia: Details of investments by service category are not available. The total annual investment for the year 2011 was HRK 1,569m (€211m) and for the year 2012 – HRK 2,251m (€299m).
- Iceland: Figures as reported by PTA statistics on Icelandic electronic communications market 2010-2012. There are no Cable TV networks.
- Macedonia: Total annual investment for the year 2012: MKD 2,949,816,616 (€47,940,784). The total includes MKD 727,344,090 (€11,820,886) of investment in public combined networks, which is here categorised as investment in fixed voice and internet, even though some of this investment may be for services such as mobile telephony and DVB-T. \*The 2011 total investment includes MKD 10,797,396 (€174,998) of investment in public satellite networks, which is not included in any of the other columns.
- Serbia: The figure of €20,954,117 (RSD 2.368bn) for support services is as reported by the operators to RATEL – no explanation for the increase in the figure compared with 2011 is given.
- Turkey: Mobile telecom market investment data for 2011 and 2012 is calculated based on the quarterly data. Cable TV investment may include both cable TV and internet investments.
- Kosovo: Cable TV investments in Kosovo appeared to increase in 2012 compared with 2011 because, in accordance with the Law on Electronic Communications No 04/L-109, cable TV networks are now considered as electronic communications networks and investment data for these operators is collected accordingly. Previously, not all cable TV operators provided periodical statistical reports.

In Kosovo, there was a significant decrease in investment in fixed voice telephony for 2011 and 2012, due to the government's decision to freeze most of the capital and investment projects at the incumbent operator because of the privatisation process.

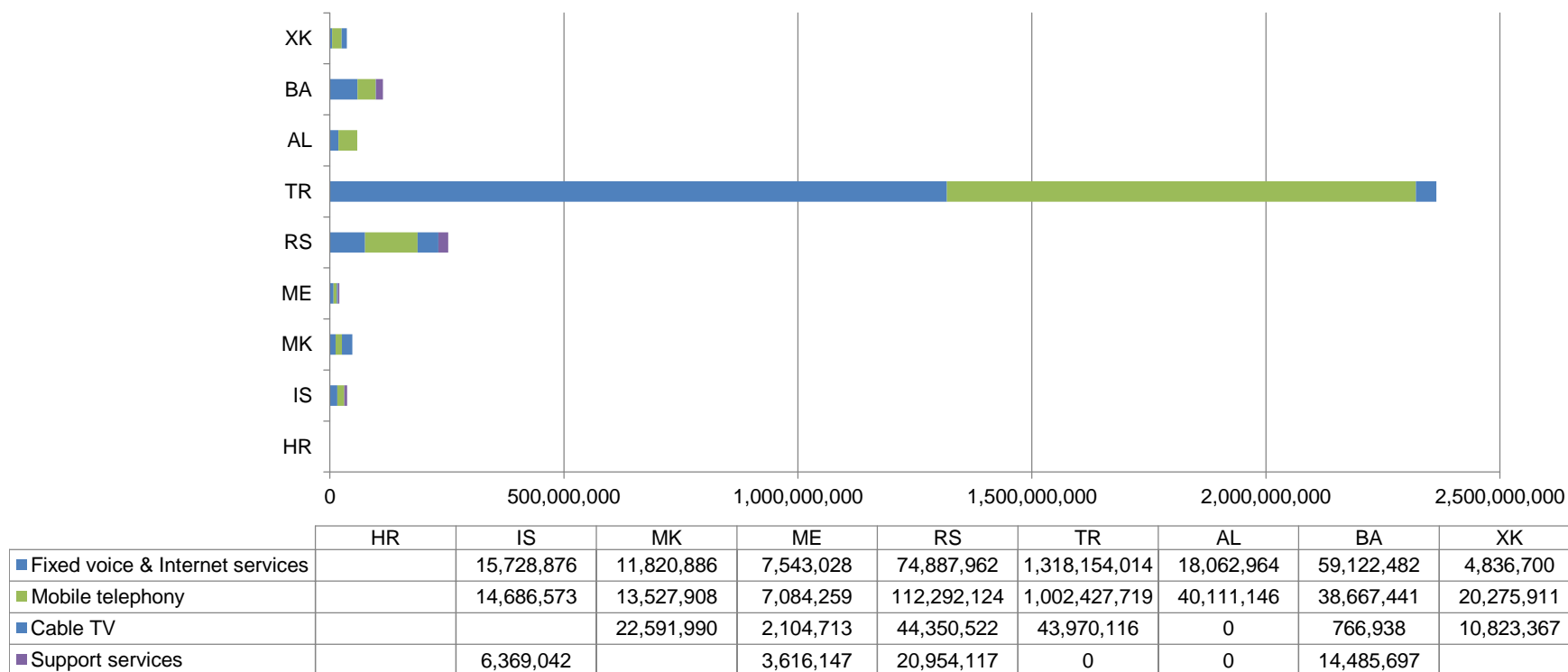


Figure B.7 - Investment in electronic communications by country by service category, 2012 (€)

Note: See notes under Table B.2 above.



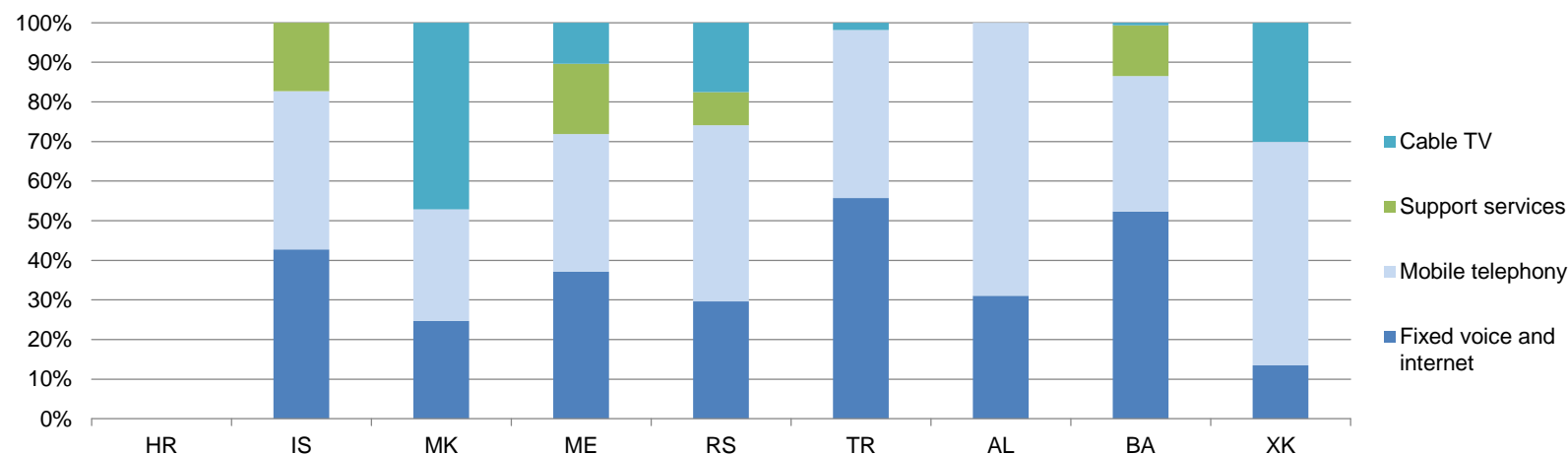


Figure B.8 – Investment in electronic communications by country by service category, year 2012 (€)

Notes:

Croatia: A breakdown by service category is not available.

Macedonia: Total annual investment for the year 2011 was MKD 3,328,443,158 (€53,945,594). This includes MKD 10.797.396 (€174,998) invested in public satellite networks.

### 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.9.

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>6</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>7</sup>.

Country	Total number of fixed lines	By technology			By user category	
		PSTN	ISDN	VoIP and other	Residential	Business
Croatia	1,633,457	1,127,684	54,301	451,472	1,399,546	233,911
Iceland	152,202	124,171	8,728	19,303	111,152	41,050
FYR Macedonia	408,318	279,488	9,856	118,974	364,598	43,720
Montenegro	169,803	161,928	4,713	3,162	147,417	22,386
Serbia	2,836,446	2,643,510	75,119	117,817	2,560,068	270,783
Turkey	13,859,672	13,844,806	14,866	*	11,736,664	2,123,008
Albania	311,661	271,922	2,964	36,775	287,203	24,458
Bosnia & Herzegovina	886,313	781,846	25,587	78,880	787,213	99,100
Kosovo*	81,603	75,199	435	5,969	64,632	16,971
Total	20,339,475	19,347,329	196,569	795,577	17,458,493	2,875,387

Table B.3 – Fixed network lines by technology and by user category, Dec. 31, 2012

Notes:

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

Iceland: Data is for June 2012.

Macedonia: VoIP includes CaTV, WiMAX, Wi-Fi and FTTH lines. Also included in this column are 34,736 FGSM lines.

Montenegro: PSTN includes 3,161 rural connections. The number shown in the column for 'VoIP and other' is WIMAX subscriptions at MTel.

Serbia: The total number of fixed lines reported by RATEL is broken down as follows:

2,643,510 PSTN lines

9,576 WLL lines,

87,483 CDMA lines,

9,051 public payphones,

215,522 ISDN voice channel equivalents (which represents 75,119 ISDN subscriptions).

11,707 lines in IP technology (not VoIP).

Turkey: \*No accurate data on the number of VoIP subscriptions was available at the time of publication. The authorisation regime is technology neutral and therefore the Turkish regulator does not collect separate data on VoIP subscriptions. The split between residential and business subscribers is estimated.

Bosnia & Herzegovina: The ISDN total includes 25,092 ISDN BA and 495 ISDN PA. The 'VoIP and other' column includes cellular local loop (CLL) subscriptions (also included in the total number of fixed lines).

<sup>6</sup> [http://www.oecd-ilibrary.org/science-and-technology/oecd-communications-outlook-2011\\_comms\\_outlook-2011-en](http://www.oecd-ilibrary.org/science-and-technology/oecd-communications-outlook-2011_comms_outlook-2011-en)

<sup>7</sup> [http://www.itu.int/dms\\_pub/itu-d/opb/ind/D-IND-ITC\\_IND\\_HBK-2011-PDF-E.pdf](http://www.itu.int/dms_pub/itu-d/opb/ind/D-IND-ITC_IND_HBK-2011-PDF-E.pdf)

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

VOIP: VOIP represents the number of Voice over Internet Protocol (VoIP) fixed line subscriptions. This refers 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: 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'

A decline in fixed lines per 100 population was recorded in most countries, notably Turkey, in part due to fixed-to-mobile substitution. The decline was mainly in the residential user-segment, while the number of business lines remained almost unchanged year-on-year. The average fixed-line penetration for the nine enlargement countries was 20.7% as of December 2012, down almost two percentage points from 22.6% at end 2011.

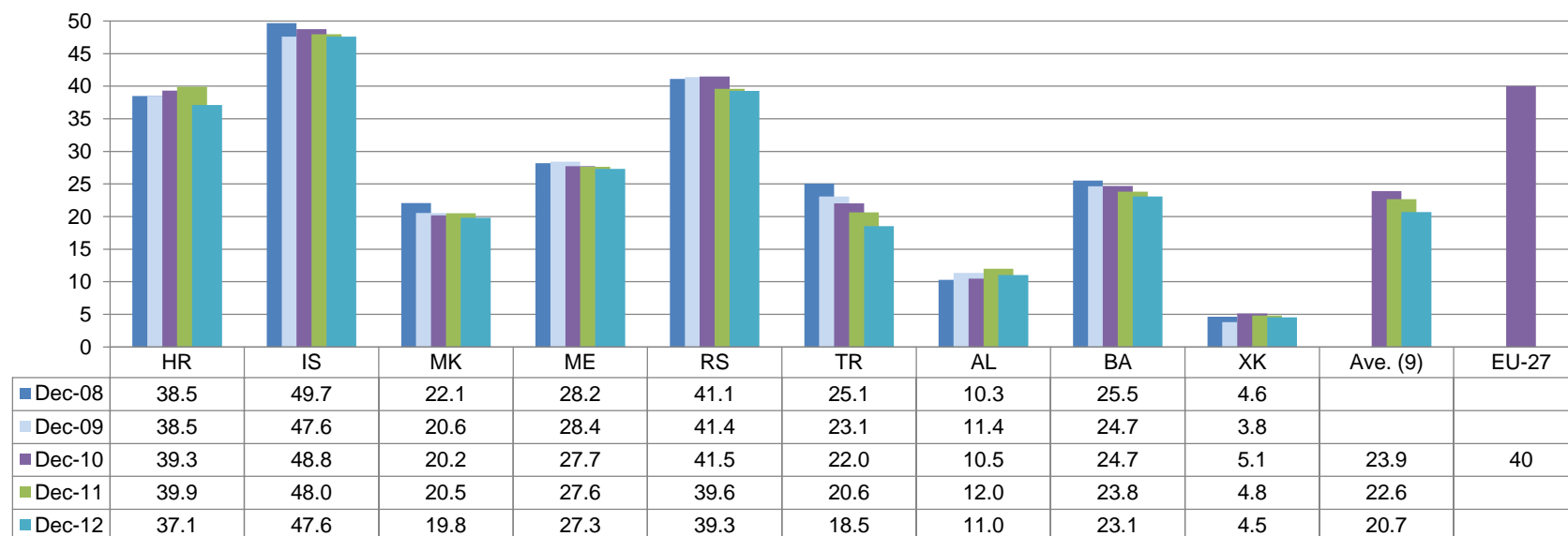


Figure B.9 – Fixed lines per 100 population

Note:

Ave. (9): The average for the nine countries is weighted by population (i.e. it is the total number of fixed lines divided by the total population).

Serbia: Calculated based on ISDN subscriptions, rather than ISDN channels – see note under Table B.3 above.

Figure B.10, showing fixed network lines by technology, shows the significant uptake of VoIP in Croatia and Macedonia, where in both cases VoIP subscriptions have exceeded 20% of total fixed-line connections.

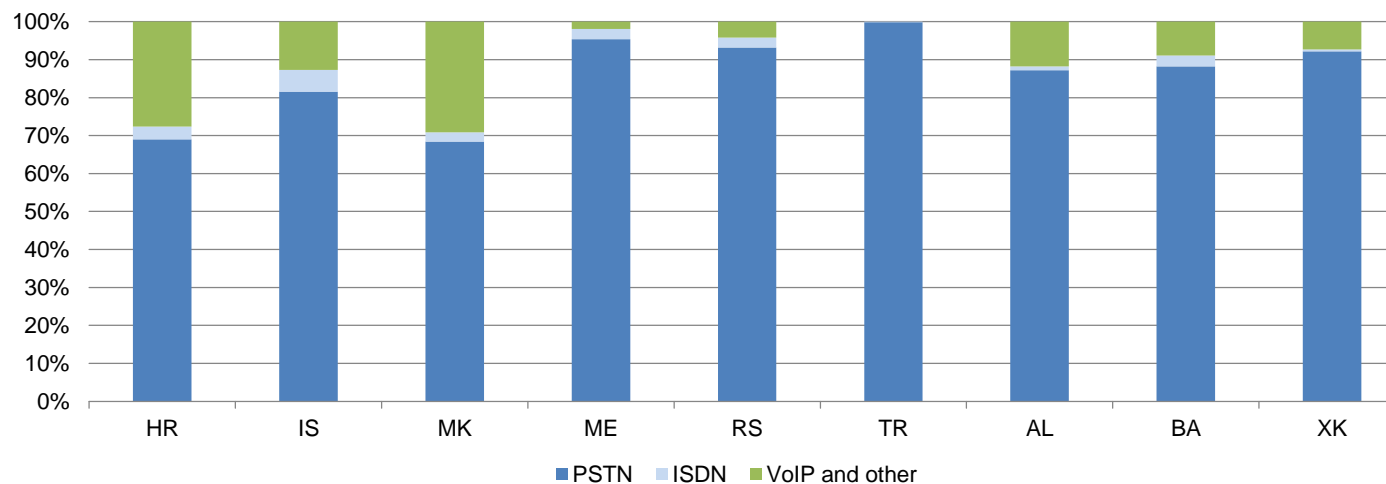


Figure B.10 – Fixed network lines by technology, Dec. 31, 2012

Note: For Turkey, no data on the number of VoIP subscriptions is available.

Figure B.11 shows the fixed network digitalisation rate at the end of 2012. Six of the nine countries have achieved full digitalisation.

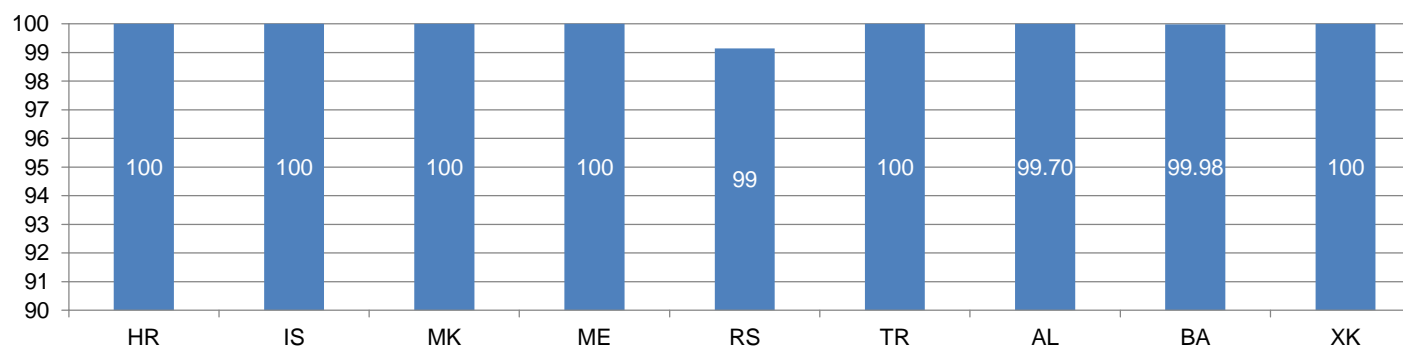


Figure B.11 – Fixed network digitalisation rate, Dec.31, 2012 (%)

## 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 telephony network operators		Public fixed voice telephony service providers	
	Authorised operators	Operators active in the market	Authorised providers	Providers active in the market
Croatia	18	14	249	n/a
Iceland	2	2	5	5
FYR Macedonia	11	8	31	25
Montenegro	2	2	10	5
Serbia	5	4	46	46
Turkey	1*	1*	191	67
Albania	82	76	6	6
Bosnia & Herzegovina	16	15	16	15
Kosovo*	3	2	3	2

Table B.4 – Competition in fixed telephony – network operators and service providers, Dec. 31, 2012

## Notes:

Croatia: The total number of authorised operators refers to those that have been authorised in the last three years (the time period for which the market analysis is conducted).

FYR Macedonia: Reference date March 31, 2013

Serbia: There were five authorised public fixed telephony network operators on December 31, 2012. (Three additional operators have been authorised in 2013.)

Turkey: \*There is no separation between PATS and Electronic Communication Service providers in Turkish legislation. There are a few operators that have their own infrastructure and may be acting as fixed telephony service operators but information on the exact number is not collected by the Turkish regulator. Therefore, only the fixed incumbent operator Turk Telekom is counted here.

Bosnia & Herzegovina: Reference date July 31, 2013

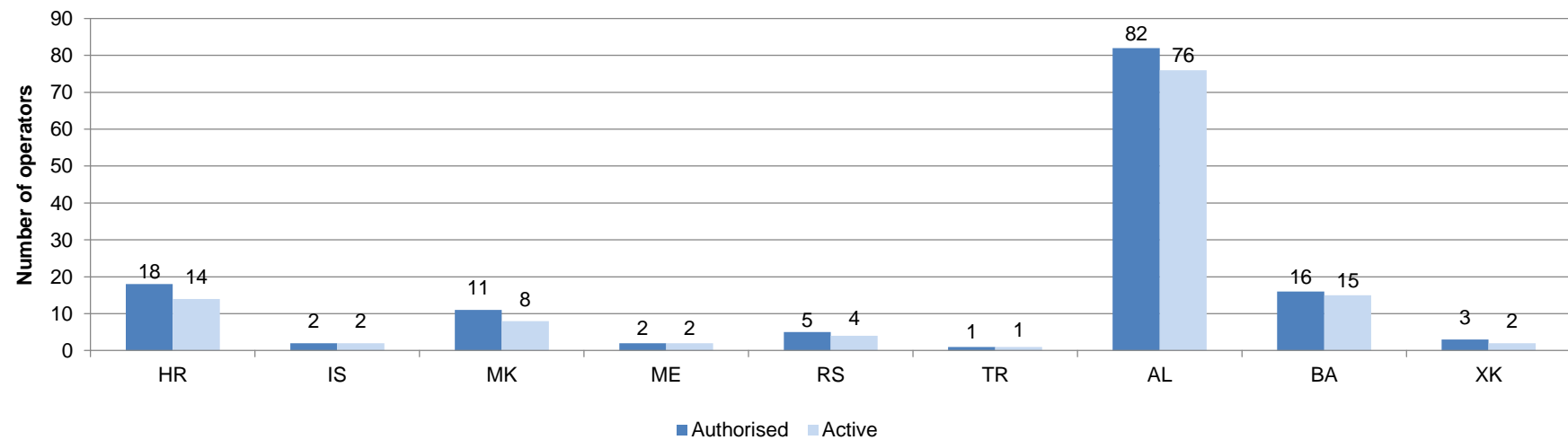


Figure B.12 – Public fixed telephone network operators, Dec. 31, 2012

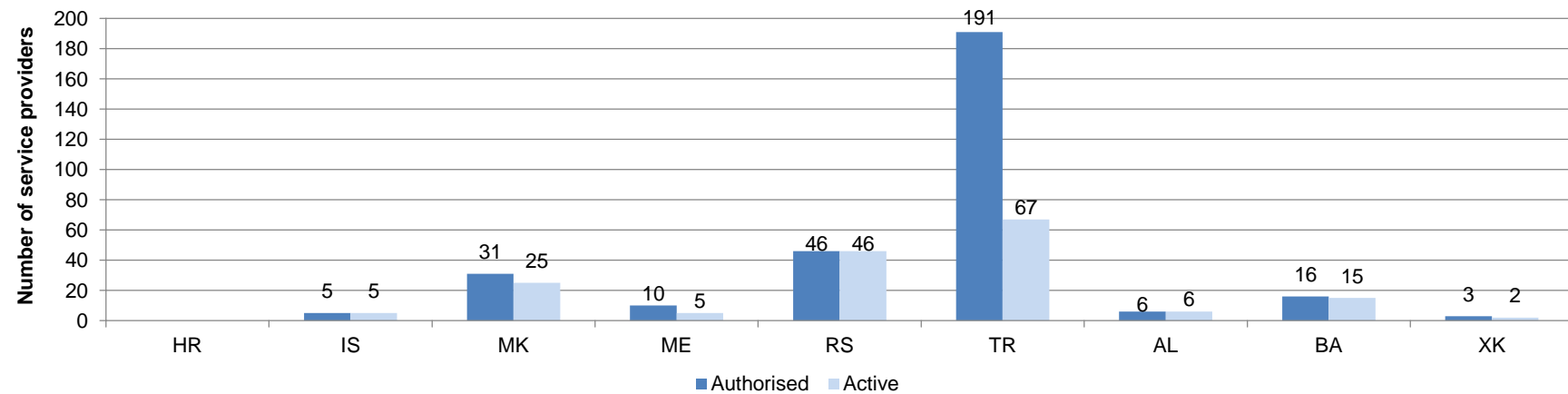


Figure B.13 – Public fixed voice telephony service providers, Dec. 31, 2012

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.

Country	Overall market share		National calls		International calls	
	By retail revenue	By minutes of traffic	By retail revenue	By minutes of traffic	By retail revenue	By minutes of traffic
Croatia	69.15%	65.27%	64.95%	59.52%	70.91%	69.70%
Iceland	62.40%	56.40%	61.70%	60.10%	65.90%	53.40%
FYR Macedonia	70.92%	70.23%	68.22%	70.41%	78.84%	63.99%
Montenegro	99.00%	99.50%	99.00%	99.00%	99.50%	99.50%
Serbia	99.43%	96.72%	99.64%	99.51%	99.52%	91.27%
Turkey	67%	82.1%	67.1%	82.8%	65.1%	60.1%
Albania	76%	89%	n/a	93%	n/a	55.00%
Bosnia & Herzegovina	94.18%	96.11%	96.34%	96.96%	86.84%	78.72%
Kosovo*	91.73%	96.27%	93.74%	96.97%	87.44%	87.07%
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, full year 2012 (%)

Notes:

EU data:

Source: Digital Agenda Scoreboard 2011 and 2012

Croatia:

The data shown in Table B.5 above is for HT+Iskon, as Iskon is 100% owned by HT d.d. The data for HT alone (excluding Iskon) is as shown below:

<b>Data for HT alone (2012)</b>	<b>Overall market share</b>	<b>National call market</b>	<b>International call market</b>
<b>By retail revenue (%)</b>	64.38%	63.86%	66.46%
<b>By minutes of traffic (%)</b>	59.52%	59.52%	59.29%

Iceland:

Data is for June 2012.

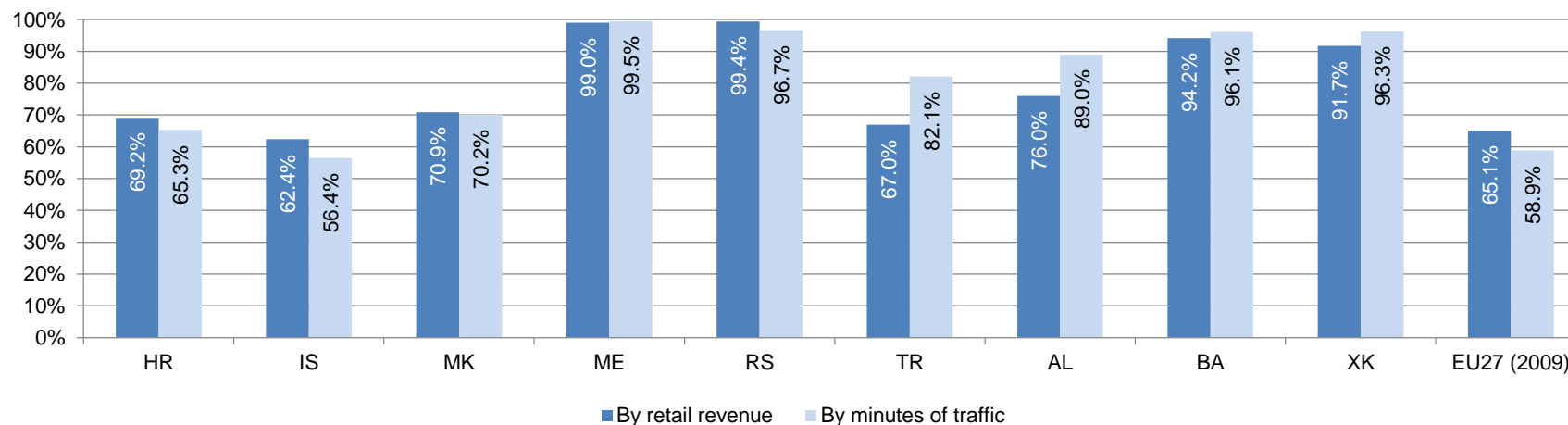


Figure B.14 – Incumbent operators' overall market shares in fixed voice telephony, full year 2012 (%)

Figure B.15 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.

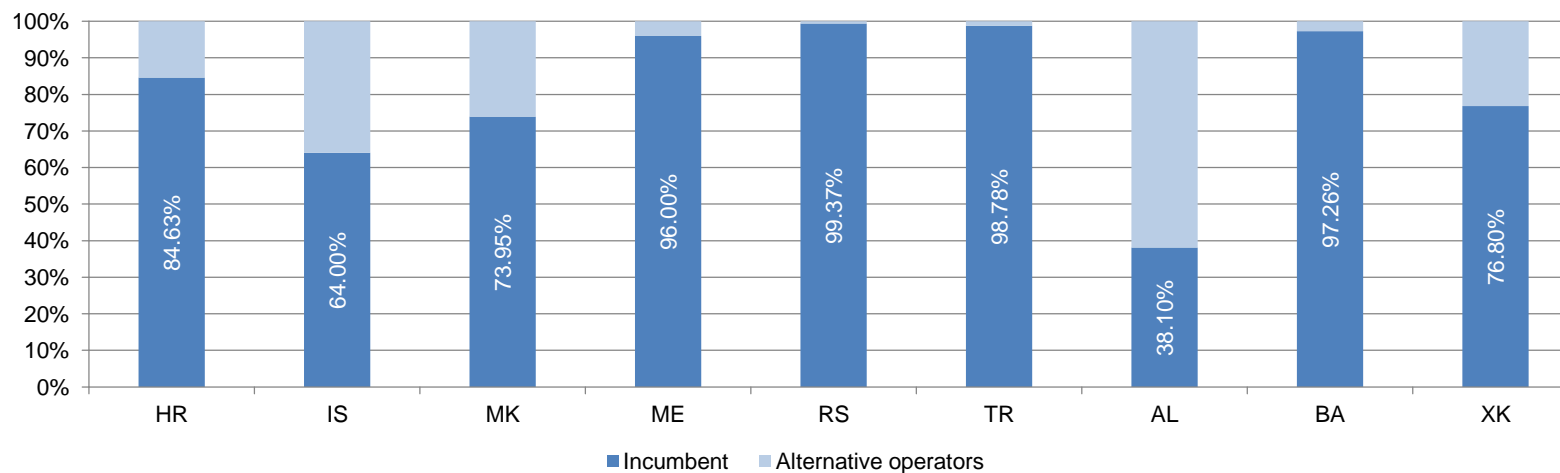


Figure B.15 – Fixed numbers allocated to incumbent and to alternative operators, Sep. 1, 2013



## Notes:

Iceland:

Data for December 31, 2011

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 approximately one third of total fixed numbers. Numbers allocated to alternative fixed-line operators account for more than a quarter of total fixed numbers.

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.

Country	December 31, 2009	December 31, 2010	December 31, 2011	December 31, 2012
Croatia	500,331	587,522	680,227	515,165
Iceland	35,781	34,861	39,014	33,828
FYR Macedonia	71,085	102,618	127,567	140,713
Montenegro	N/A	3,850	5,034	4,631
Serbia	0	4,667	6,461	18,217
Turkey	509,635	901,029	940,151	1,242,354
Albania	N/A	99,522	115,290	106,776
Bosnia & Herzegovina	41,489	45,783	56,242	67,365
Kosovo*	8,700	5,503	4,804	5,969

Table B.6 – Subscribers using alternative providers for fixed voice telephony services, Dec. 2009 – Dec. 2012

## Notes:

Croatia:

The apparent decline in the number of subscribers using alternative providers for fixed voice telephony services in Croatia is mainly caused by a change in the methodology by which one of the alternative operators calculates the number of business subscribers. Previously it counted lines, whereas now it counts subscribers – meaning that if one subscriber has several hundred lines the totals are significantly different.

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  
 June 2012: Residential both national and international – 1,959 / Business both national and international – 2,341 / PSTN/ISDN – 29,528

Macedonia:

December 2012: the total of 140,713 subscribers is the sum of CS/CPS subscribers, WLR subscribers, FGSM (excluding incumbent), and subscribers using voice services over FWA and cable networks (25,469 WLR, 985 CPS, 2,820 LLU, 60,307 CaTV, 16,109 WiMAX, 34,736 FGSM, and 287 Wi-Fi).

Montenegro:

As of Dec. 31, 2012 there were 1,469 CS subscriptions and 3,162 direct access subscriptions (there are no CPS or WLR subscriptions). This is slightly down from the totals for Dec. 2011 of 1,515 CS subscriptions and 3,519 direct access subscriptions.

Albania:

The figures refer to Albtelecom subscribers using prepaid calling cards of alternative operators (25,512 in Dec. 2012) and the subscribers of alternative operators using their own network (81,264 in Dec. 2012).

Kosovo\*:

The apparent drop in 2010 was caused by a change in the definition of an 'active subscriber'.

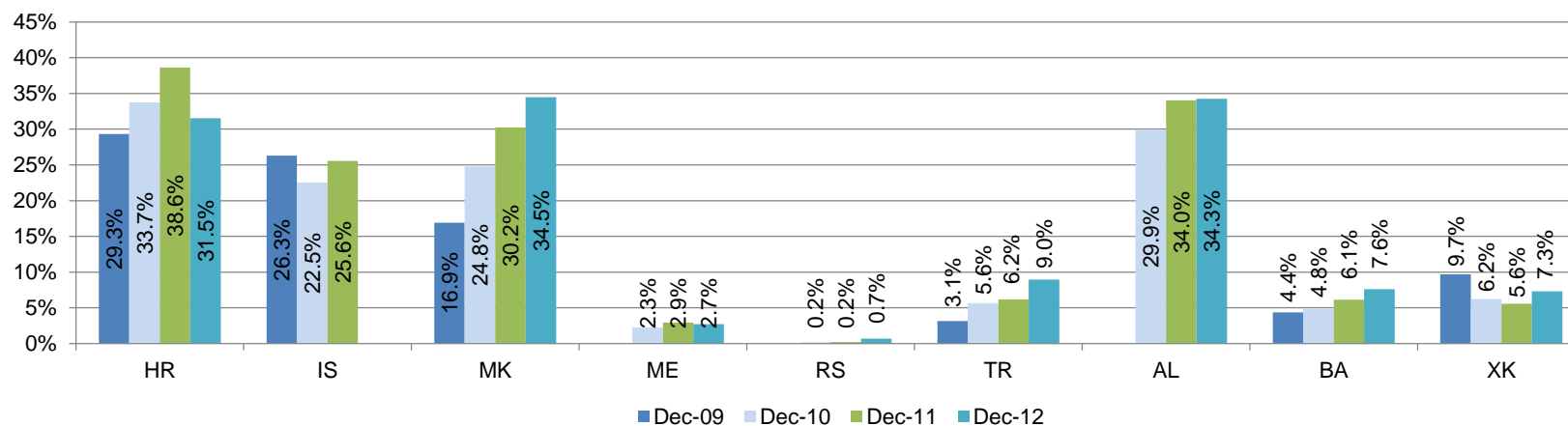


Figure B.16 – Subscribers using alternative providers for fixed voice telephony, as percentage of total number of fixed lines

#### 4. Mobile market

##### a) Mobile voice subscriptions

Country	Total number of active subscriptions December 31, 2011	Penetration rate (%) December 31, 2011	Total number of active subscriptions June 30, 2012	Penetration rate (%) June 30, 2012	Total number of active subscriptions December 31, 2012	Penetration rate (%) December 31, 2012
Croatia	5,115,140	115.9%	5,088,840	115.7%	4,971,351	113.0%
Iceland	344,085	108.2%	345,402	107.9%	352,114	110.0%
FYR Macedonia	2,213,223	107.6%	2,210,954	107.3%	2,235,460	108.5%
Montenegro	1,159,112	187.6%	1,021,572	165.3%	990,869	159.5%
Serbia	10,182,023	139.9%	9,532,297	131.6%	9,137,890	126.2%
Turkey	65,321,745	88.6%	66,140,078	88.5%	67,680,547	90.6%
Albania	5,236,349	184.9%	3,238,369	114.3%	3,537,285	125%
Bosnia & Herzegovina	3,171,283	82.5%	3,173,652	82.7%	3,357,541	87.5%
Kosovo*	1,478,944	82.4%	1,522,841	84.6%	1,663,844	92.4%

Table B.7 – Mobile voice subscriptions, Dec. 31, 2011, June 30, 2012 and Dec. 31, 2012

Notes:

Penetration rates are calculated by Cullen International as per the population figures shown in Table A.3.

Iceland: Prepaid phone cards active last three months. Total number excludes mobile data-only subscriptions.

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.

Serbia: In 2012 the Serbian regulator RATEL modified its methodology for counting mobile subscriptions such that it now counts only the postpaid subscribers and prepaid subscriptions that have been active in the preceding three months.

Albania: Numbers reported for 2011 referred to the total number of subscriptions based on the operators' own definitions for active SIMs (credited at least once in the last 12 months etc.). As of June 2012 the figures shown are only for active subscriptions, defined as those that have made or received at least a call or SMS in the last three months. (For December 2012 AKEP reported two sets of figures: 3,537,285 active subscriptions and 5,619,607 active SIMs. These translate into penetration rates of 125% and 198% respectively.)

Kosovo: According to ARKEP's Decision No. 22 - "Definition of active subscribers of the telecommunications services", an active prepaid subscriber is defined as a subscriber who has used one of the paid telecommunications services or charged a SIM card within a period of three months, while a postpaid subscriber is defined as a subscriber who has a valid contract with the mobile telephony service provider.

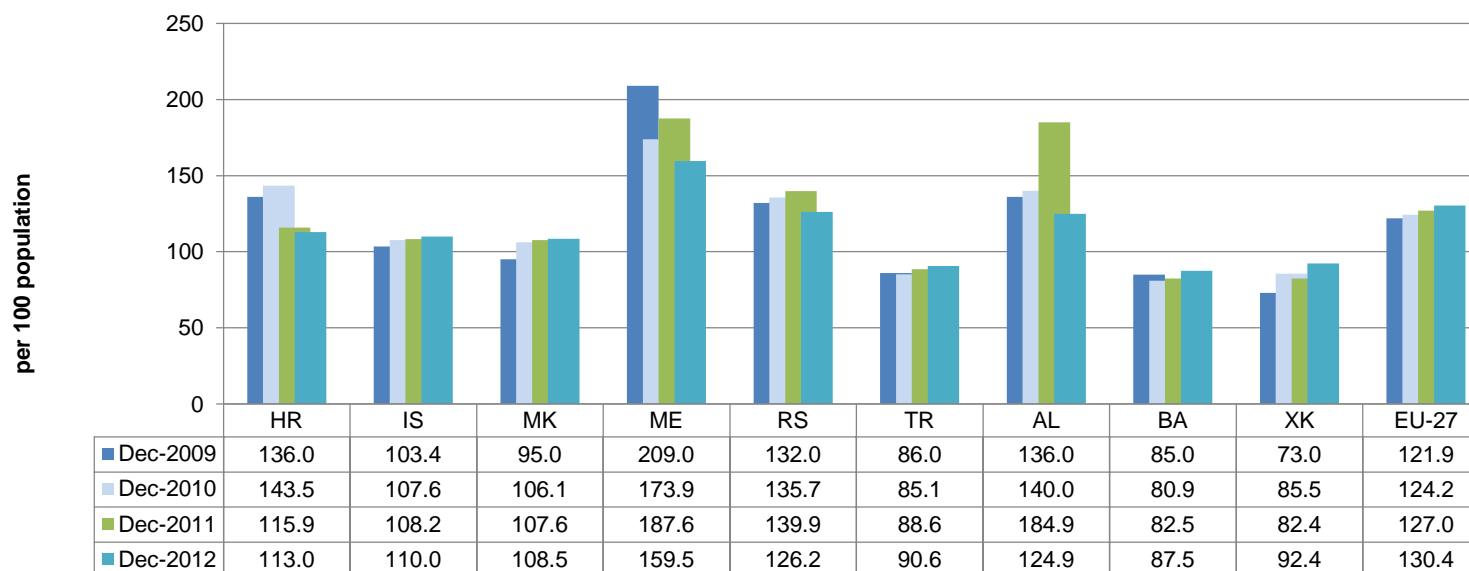


Figure B.17 – Mobile subscriptions per 100 population by country, Dec. 2009 – Dec. 2012

Note: EU data for 2012 refers to October 2012

Albania: Numbers reported for 2011 and earlier referred to the total number of subscriptions based on the operators' own definitions for active SIMs (credited at least once in the last 12 months etc.). As of 2012 the figures shown are only for active subscriptions, defined as those that have made or received at least a call or SMS in the last three months.

Country	Prepaid mobile subscriptions (%) December 31, 2011	Postpaid (monthly paid) mobile subscriptions (%) December 31, 2011	Prepaid mobile subscriptions (%) June 30, 2012	Postpaid (monthly paid) mobile subscriptions (%) June 30, 2012	Prepaid mobile subscriptions (%) December 31, 2012	Postpaid (monthly paid) mobile subscriptions (%) December 31, 2012
Croatia	61.1%	38.9%	58.8%	41.2%	57.6%	42.4%
Iceland	46.2%	53.8%	45.5%	54.5%	46.7%	53.3%
FYR Macedonia	62.7%	37.3%	62.5%	37.5%	61.4%	38.6%
Montenegro	72.6%	27.4%	68.7%	31.3%	68.1%	31.9%
Serbia	64.0%	36.0%	64.0%	36.0%	59.0%	41.0%
Turkey	64.7%	35.3%	62.6%	37.4%	61.6%	38.4%
Albania	91.3%	8.7%	90.4%	9.6%	84.0%	16.0%
Bosnia & Herzegovina	83.7%	16.3%	82.5%	17.5%	83.0%	17.0%
Kosovo*	95.8%	4.2%	94.9%	5.1%	94.9%	5.1%

Table B.8 – Mobile subscriptions – share of prepaid and postpaid, Dec. 31, 2011 and Dec. 31, 2012 (%)

**Notes**  
 Croatia: The splits shown are for total mobile subscriptions, including business customers. For private mobile subscriptions the split between prepaid and postpaid as of December 31, 2012 was 70.43% prepaid and 29.57% postpaid.  
 Iceland: Mobile data-only subscriptions excluded.  
 FYR Macedonia: Data is for March 31, 2013, rather than December 31, 2012.  
 Serbia: In 2012 the Serbian regulator RATEL modified its methodology for counting mobile subscriptions to include only postpaid subscribers and prepaid subscriptions that have been active in the preceding three months. This resulted in a fall in the proportion of prepaid subscriptions counted relative to postpaid subscriptions.  
 Albania: From 2012, the figures have been calculated based on the number of active subscriptions (defined as those that have made or received at least a call or SMS in the last three months). This stricter definition has resulted in a fall in the proportion of prepaid subscriptions counted relative to postpaid subscriptions.  
 Bosnia & Herzegovina: Based on the following totals: prepaid 2,776,899, postpaid 580,642.

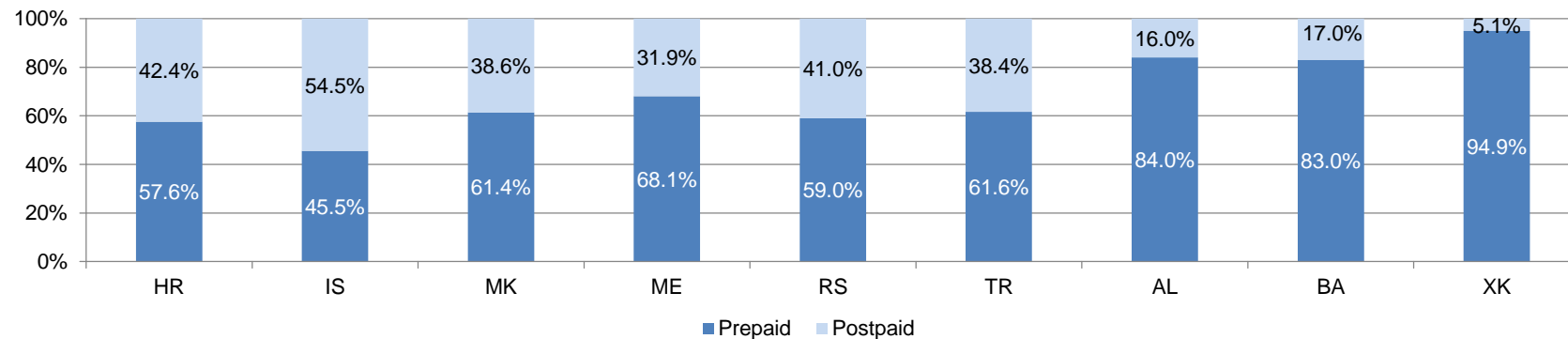


Figure B.18 – Mobile subscriptions – share of prepaid and postpaid, Dec. 31, 2012 (%)

## b) Competition

Country	Operator	Mobile operator market shares (%)			
		Based on revenues (full year 2011)	Based on subscriptions (Dec. 2011)	Based on revenues (full year 2012)	Based on subscriptions (Dec. 2012)
Croatia	Hrvatski Telekom (HT)	49.36%	47.28%	45.37%	46.78%
	VIPnet	36.21%	39.45%	37.99%	38.64%
	Tele2	14.44%	13.27%	16.64%	14.58%
Iceland	Siminn	*	39.10%	*	36.5%
	Vodafone	*	29.40%	*	28.8%
	Nova	*	25.80%	*	29.2%
	Tal	*	5.30%	*	5.0%
	Others	*	0.30%	*	0.5%
FYR Macedonia	T-mobile	67.66%	52.04%	54.16%	47.95%
	ONE	16.29%	22.36%	21.27%	23.81%
	VIP	16.05%	25.60%	24.57%	28.24%
Montenegro	Telenor	45.61%	40.57%	45.99%	40.01%
	Crnogorski Telekom	30.58%	34.68%	30.11%	34.32%
	Mtel	23.81%	24.75%	23.90%	25.67%
Serbia	Telekom Srbija	38.84%	53.10%	38.10%	45.76%
	Telenor Srbija	43.58%	30.80%	42.40%	33.89%
	VIP mobile	17.58%	16.10%	19.50%	20.35%
Turkey	Turkcell	51.35%	53.27%	53.30%	51.90%
	Vodafone	28.50%	27.80%	26.45%	28.17%
	Avea	20.15%	18.93%	20.25%	19.93%
Albania	Albanian Mobile Communications	34.00%	37.00%	29.00%	40.00%
	Vodafone Albania	52.00%	35.00%	56.00%	42.00%
	Eagle Mobile	12.00%	20.00%	10.00%	12.00%
	Plus Communication	2.00%	8.00%	5.00%	6.00%
Bosnia & Herzegovina	BH Telecom (BH Mobile)	37.86%	42.93%	41.23%	44.47%
	Telekom Srpske (m:tel)	38.66%	43.45%	36.05%	42.03%
	HT Mostar (HT Eronet)	23.48%	13.62%	22.72%	13.50%

Country	Operator	Mobile operator market shares (%)			
		Based on revenues (full year 2011)	Based on subscriptions (Dec. 2011)	Based on revenues (full year 2012)	Based on subscriptions (Dec. 2012)
Kosovo*	Vala	69.62%	67.14%	68.10%	64.02%
	IPKO	26.35%	25.28%	27.12%	26.09%
	Z mobile (MVNO)	3.56%	6.97%	4.75%	9.00%
	D3 Mobile (MVNO)	0.45%	0.60%	0.03%	0.90%

Table B.9 – Market shares of mobile operators, by revenues and by subscriptions

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.  
 Market share is based on standard mobile subscriptions and excluding data only subscriptions.  
 Albania: Subscription market shares for 2012 are calculated based on the number of active subscriptions, and are may not therefore be fully comparable with the previously reported data.

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  $33.33^2 + 33.33^2 + 33.33^2 = 3333$ , which is the lowest value possible for all the entities.

Figure B.19 shows the HHIs for the enlargement countries based on market share by subscriptions and market share by revenues.

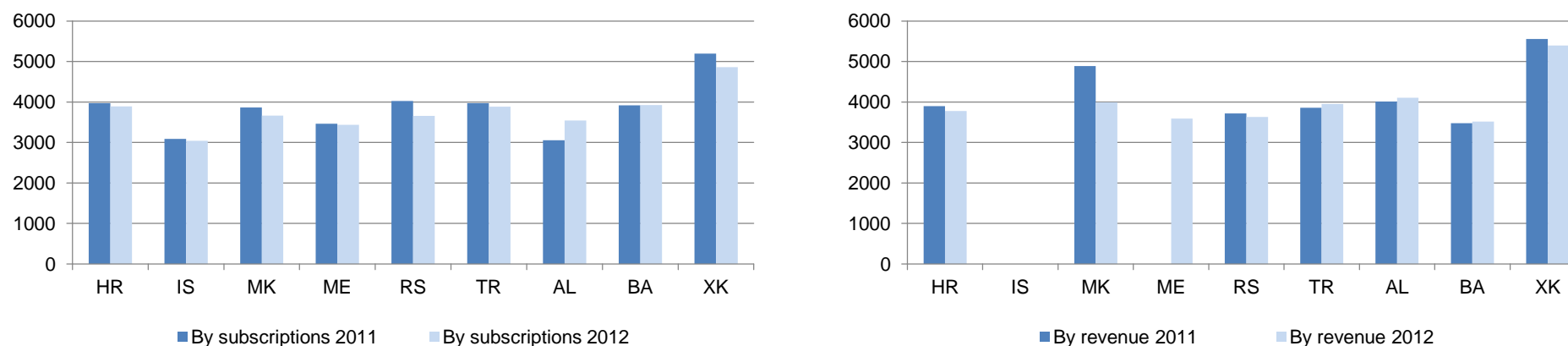


Figure B.19 – Mobile market concentration levels, HHI

The data shows a large increase in the market concentration level in Albania, measured by subscriptions. This is because subscription market shares for 2012 have been calculated based on the new, more stringent definition of an 'active' subscription (at least one call or SMS made or received in the last three months). The smaller operators have been most affected by this change, as they have significantly lower market shares based on active subscriptions than on total SIM cards.

## 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) <a href="http://www.cix.hr/">www.cix.hr/</a>	55.1 Gbps (December 2008)
Iceland	RIX (Reykjavik Internet Exchange) <a href="http://www.rix.is/">www.rix.is/</a>	88.5 Gbps (December 2011)
FYR Macedonia	No*	14.2 Gbps (October 2009)
Montenegro	No	21.5 Gbps (June 2012)
Serbia	SOX (Serbian Open Exchange) <a href="http://www.sox.rs/">www.sox.rs/</a>	354 Gbps (May 2013)
Turkey	No (Turk Telekom provides about 95% of Turkey's international internet bandwidth)	1,315 Gbps
Albania	ALB-IX (Albtelecom)	30 Gbps
Bosnia & Herzegovina	No	55.1 Gbps (December 2011)
Kosovo*	KOSIX <a href="http://www.kosix.net/">www.kosix.net/</a>	38.2 Gbps (4Q 2012)

Table B.10 – Internet backbone infrastructure

Notes:

Macedonia: \*Several local ISPs are connected to the Macedonian Academic Research Network (MARNet).

Kosovo\*: Currently, there are four ISP members participating in KOSIX: PTK, Ipko, KujtesaNet, and Artmotion. In July 2013 KOSIX enrolled as a member with full rights at the association of European Internet Exchanges (EURO-IX).

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	December 31, 2011			December 31, 2012		
	Number of ISPs active on the market Dec. 31, 2011	Incumbent ISP's overall market share		Number of ISPs active on the market Dec. 31, 2012	Incumbent ISP's overall market share	
		By revenue Full year 2011	By number of connections Dec. 31, 2011		By revenue Full year 2012	By number of connections Dec. 31, 2012
Croatia	35	74.38%	68.17%	38	69.33%	61.53%
Iceland	14	48.00%	50.60%	n/a	n/a	51.20%
FYR Macedonia	100	48.75%	47.56%	113	50.79%	44.35%
Montenegro	7	N/A	81.10%	7	90.00%	83.20%
Serbia	232	49.87%	47.70%	222	52.64%	45.60%
Turkey	65	85.01%	85.13%	50	81.72%	81.34%
Albania	45	52.00%	43.00%	73	45.00%	42.00%
Bosnia & Herzegovina	80	60.14%	64.36%	73	57.24%	61.81%
Kosovo*	35	24.54%	25.43%	44	19.69%	25.16%

Table B.11 – ISPs active on the market and incumbent ISP's market share, by country, Dec. 31, 2011 and Dec. 31, 2012

Notes:  
Croatia: There are 67 registered ISPs (VoIP, broadband, narrowband). The figures shown for the incumbent ISP's market share include data for Iskon (an operator that is 100% owned by HT).



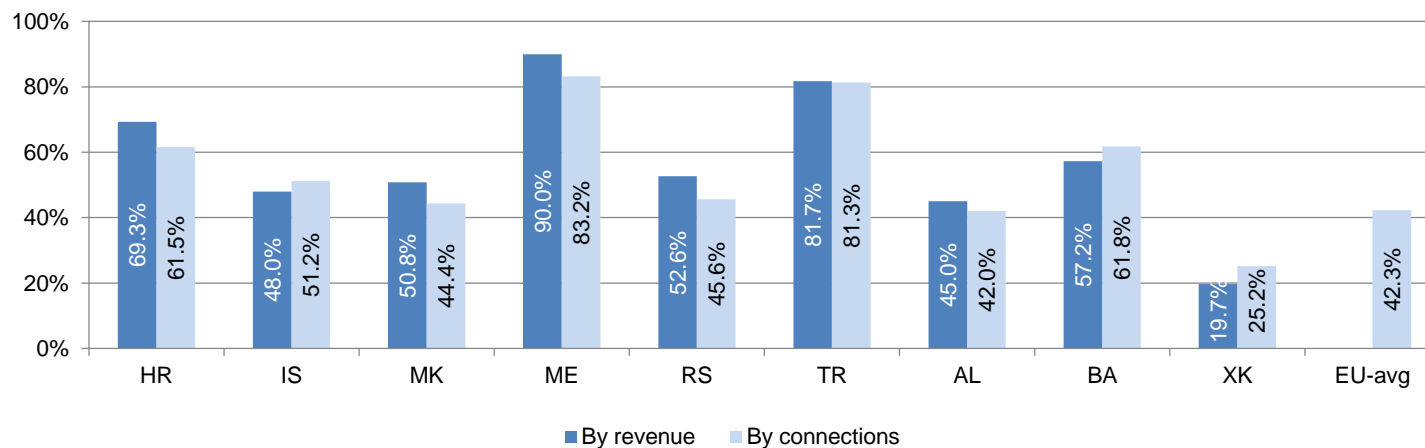


Figure B.20 – Incumbent ISP's market share, by revenue and by connections, Dec. 2012

Notes:

Croatia: The incumbent's market share by number of connections includes data for Iskon, an operator that is 100% owned by incumbent HT.

Iceland: Data for market share by revenues is for 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	638,596	630,703	0	880	7,006	7	-
	Alternative operators	251,728	130,966	84,948	460	6,463	28,883	8
Iceland	Incumbent	58,043	57,343	0	0	660	0	-
	Alternative operators	55,377	31,780	0	0	21,861	1,701	75
FYR Macedonia	Incumbent	138,517	130,453	0	322	7,742	-	-
	Alternative operators	173,755	26,269	106,927	568	138	22,976	16,877

Country	Operator	Total number of fixed broadband connections (all technologies)	xDSL connections	Cable modem	Leased lines	FTTx	FWA	Other
Montenegro	Incumbent	73,028	66,562	0	299	3,046	3,118	3
	Alternative operators	14,740	0	3,638	112	1,699	9,146	145
Serbia	Incumbent	529,008	522,267	0	3,794	1,239	636	1,072
	Alternative operators	546,864	137,611	331,281	317	6,545	61,377	9,733
Turkey	Incumbent	6,017,388	5,794,021	0	-	218,772	-	4,595
	Alternative operators	1,799,083	822,445	500,658	-	426,320	0	49,660
Albania	Incumbent	66,757	31,962	0	841	33,954	-	-
	Alternative operators	93,331	52,725	34,413	567	5,626	0	0
Bosnia & Herzegovina	Incumbent	273,321	256,854	0	1,187	15,280	-	-
	Alternative operators	196,076	5,164	127,424	202	312	62,621	353
Kosovo*	Incumbent	37,560	37,548	0	-	2	-	10
	Alternative operators	114,134	0	104,957	0	1,012	7,327	838

Table B.12 – Fixed broadband connections with breakdown by incumbent and ANOs, and by technology, Dec. 2012

Notes:

Croatia: Incumbent operator's broadband connections represent connections by HT d.d. and Iskon Internet d.d., which is 100% owned by HT.

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. 'Other' includes MPLS and satellite connections (for alternative operators, 63 satellite connections and 82 MPLS).

Serbia: 'Other' for the incumbent operator includes Ethernet LAN.

Turkey: Alternative operators report a total of 849,278 xDSL lines, while a lower total for these operators of 822,445 is reported by Turk Telekom, when providing the splits between access types. The number shown in the table is therefore derived from the splits reported by Turk Telekom, with the 3% excess reported by alternative operators assumed to be inactive lines.

Albania: FTTx for incumbent refers mainly to xDSL connections connected via MSANS.

Bosnia & Herzegovina: BH Telecom had 15,277 xDSL connections over FTTC as of Nov. 1, 2013 (no data is available for Dec. 2012) and these are shown in the FTTx column of the table. There are also 3 FTTH connections.

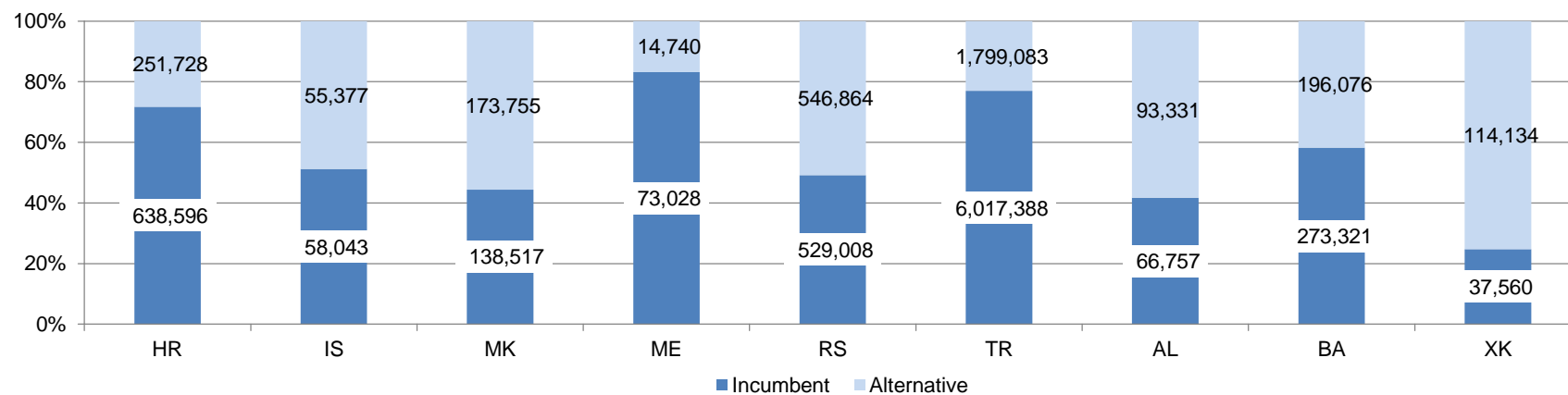


Figure B.21 – Fixed retail broadband connections by incumbent and alternative operators, Dec. 31, 2012

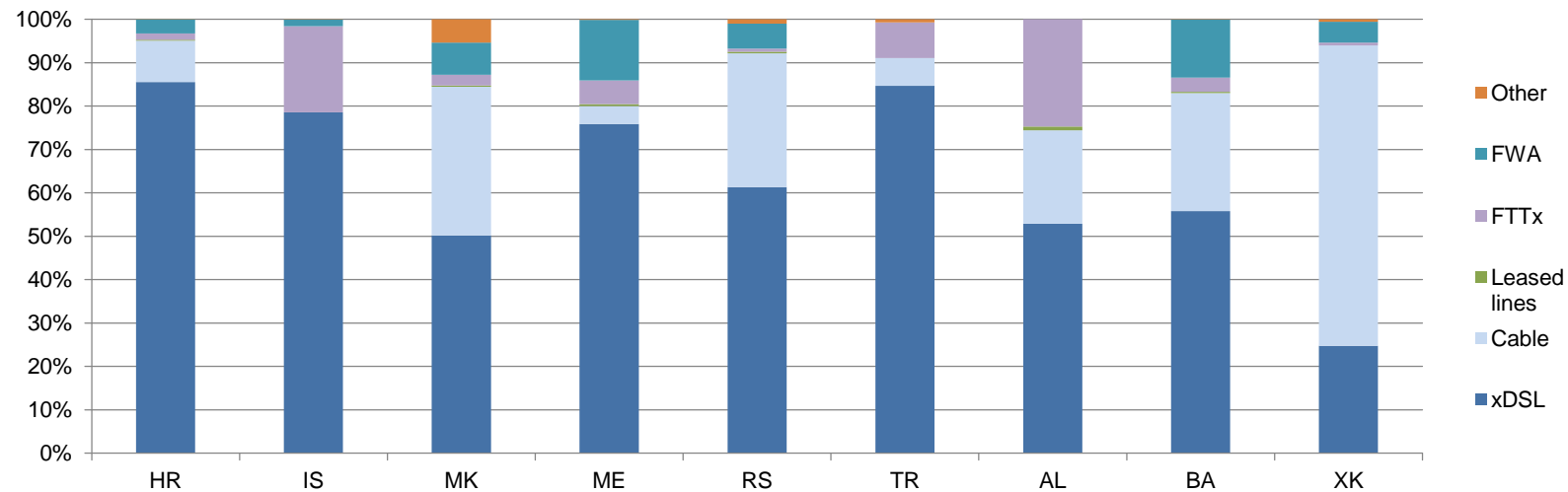


Figure B.22 – Fixed retail broadband connections by technology, Dec. 31, 2012

The fixed broadband penetration rate, measured as the overall number of fixed broadband lines divided by the national population, averaged 11.3% in the nine enlargement countries at end 2012, well below the EU-27 average of 28.8%. Croatia, which joined the EU in July 2013, had a fixed broadband penetration level of 20.2% at end-2012, above the level of Romania and Bulgaria, which joined the EU in 2007.

The Former Yugoslav Republic of Macedonia, Serbia and Bosnia & Herzegovina all recorded a strong increase in 2012 of at least one percentage point in their fixed broadband penetration rate.

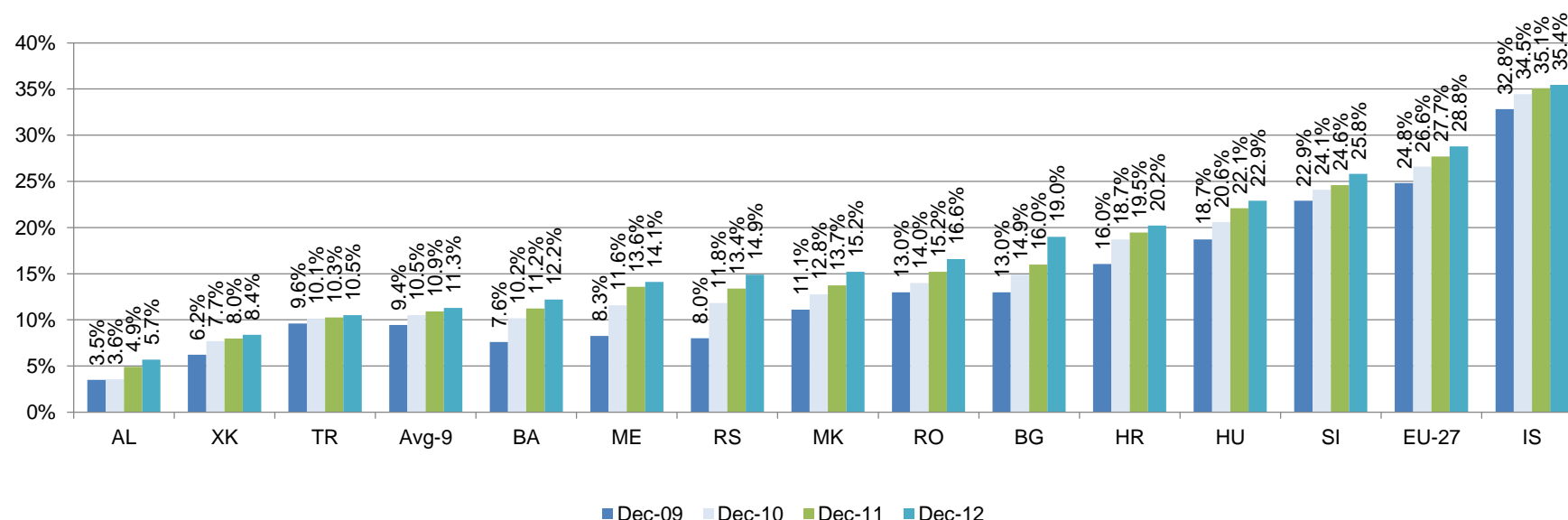


Figure B.23 – Fixed broadband penetration rate per population, Dec. 2009 – Dec. 2012

Note:  
 EU broadband data: Digital Agenda Scoreboard 2013 (for Dec. 2012 data), Digital Agenda Scoreboard 2012 (for Dec. 2011 data), Digital Agenda Scoreboard 2011 (for Dec. 2010 data); and EC 15<sup>th</sup> Implementation Report  
 Iceland: 2009 figure is based on OECD broadband data, Dec. 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 alternative operators' own networks.

In Macedonia, starting from June 2012 alternative operator One modified its contract with the incumbent to move its end-users from layer 4 (resale) to layer 3 (bitstream access) services. Previously, no alternative operators were using bitstream in Macedonia.

Country	Incumbent operator's retail xDSL lines	Retail xDSL lines by alternative operators	Breakdown of alternative operators' xDSL lines by the type of access				
			Full LLU access	Shared access	Bitstream access	Resale	Own network
Croatia	630,703	130,966	103,378	0	25,549	0	2,039
Iceland	55,858	32,473	7,805	21,397	3,271	0	0
FYR Macedonia	130,453	26,269	2,781	0	23,328	160	0
Montenegro	66,562	0	0	0	0	0	0
Serbia	522,267	137,611	0	0	137,611	0	0
Turkey	5,794,021	822,445	1,541	4,104	807,111	9,689	0
Albania	31,962	52,725	0	0	0	0	52,725
Bosnia & Herzegovina	272,131	5,164	0	29	0	0	5,135
Kosovo*	37,548	0	0	0	0	0	0

Table B.13 – Competition in retail xDSL: incumbent lines and ANO lines by type of access, Dec. 31, 2012

Notes:  
 Croatia: Incumbent operator's retail xDSL lines represent lines by HT d.d. and Iskon Internet d.d., which is 100% owned by HT.  
 Iceland: Data is for June 2012.  
 Turkey: Alternative operators report a total of 849,278 xDSL lines, while a lower total for these operators of 822,445 is reported by Turk Telekom, when providing the splits between access types. The numbers shown in the table are therefore the splits reported by Turk Telekom, with the 3% excess reported by alternative operators assumed to be inactive lines.  
 Bosnia & Herzegovina: The total of 272,131 shown for incumbent retail xDSL lines includes BH Telecom's 15,277 xDSL connections over FTTC, which are counted under FTTx in Table B.12.

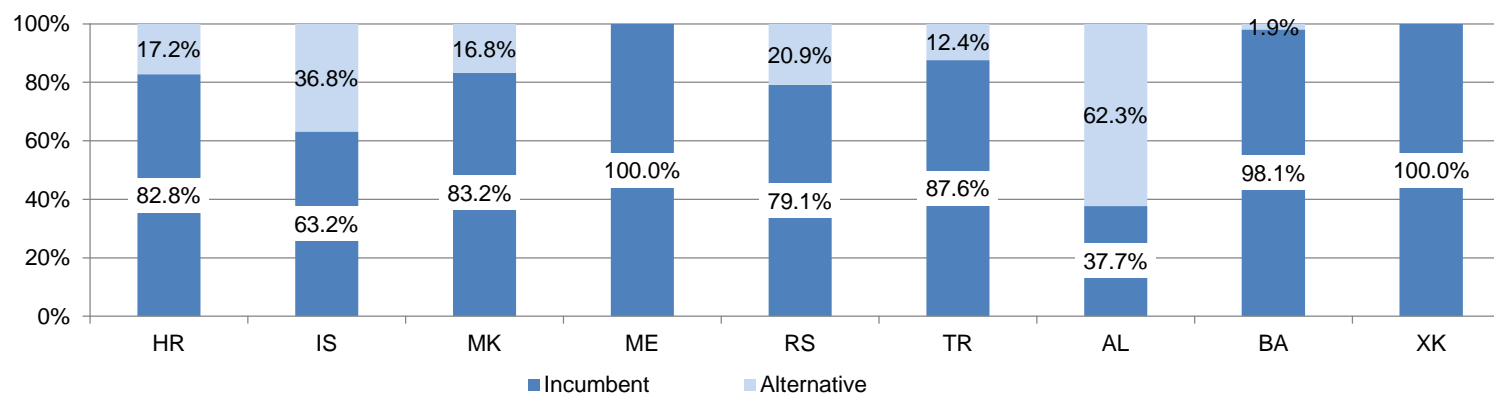


Figure B.24 – Competition in retail xDSL: share of lines for incumbent and ANOs, Dec. 31, 2012 (%)

The figure below shows the type of xDSL wholesale access offers used by alternative operators in each of the enlargement countries. In Albania, where alternative operators have a significant share of the xDSL market, they rely on their own networks, as is also mostly the case in Bosnia & Herzegovina. In Croatia, 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.

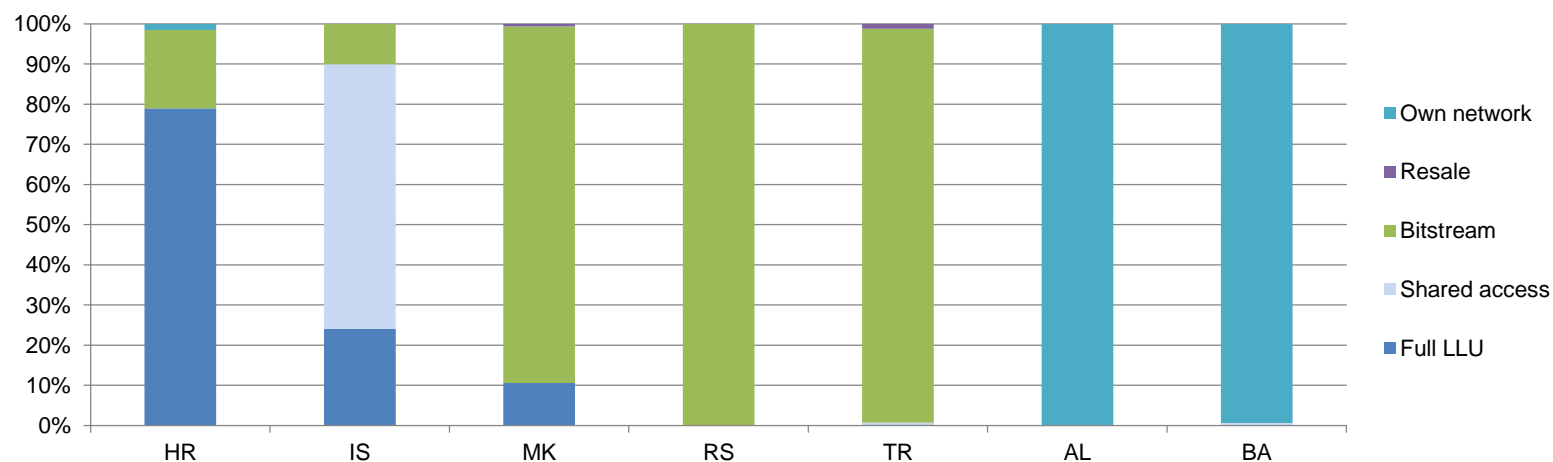


Figure B.25 – ANOs' xDSL lines by type of access, Dec. 31, 2012 (%)

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

## d) Fixed broadband speeds

Table B.14 shows the distribution of retail broadband lines by advertised download speeds. In Kosovo there has been a significant increase in the numbers of users on higher-speed packages in 2012 compared with 2011, thanks to the fact that all operators have increased their capacities while prices have remained unchanged.

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	32,141	48,256	744,222	41,044	20,566	4,095
Iceland	1,780	0	0	0	70,000	37,579
FYR Macedonia	883	6,175	21,943	104,013	170,186	9,072
Montenegro	7,760	28,327	31,457	10,073	4,095	3,640
Serbia	N/A	391,187	660,585		24,100	N/A
Turkey	35,050	1,012,307	76,694	5,958,308	760,945	
Albania	6,139	32,179	62,420	52,456	6,510	384
Bosnia & Herzegovina	6,033	145,371	185,000	125,339	7,600	54
Kosovo*	862	11,181	47,853	64,525	19,630	7,643

Table B.14 – Distribution of retail broadband lines by download speeds, Dec. 31, 2012

## Notes:

- Croatia: Operators' retail offers now have to comply with the "Ordinance on the methods and the conditions for the provision of electronic communications networks and services", which defines stricter conditions regarding the advertised and actual speed provided. As a result, the data for December 2012 appears to show an increase in the number of users on lower-speed packages (up to 4 Mbps) compared with data for previous years shown in previous reports. The figures are calculated on the basis of a total of 890,324 retail broadband lines and the originally supplied percentage splits as follows: <1 Mbps: 3.61%, 1 Mbps - <2 Mbps: 5.42%, 2 Mbps - <4 Mbps: 83.59%, 4 Mbps - <8 Mbps: 4.61%, 8 Mbps - <20 Mbps: 2.31% and >20 Mbps: 0.46%.
- Iceland: The figures are for June 2012 for ADSL, VDSL and FTTx subscriptions but exclude FWA and 'other' subscriptions. ADSL is advertised as offering speeds up to 12 Mbps and is therefore shown under the category 8 Mbps - < 20 Mbps. VDSL and fibre are both advertised as offering speeds up to 50 Mbps and are therefore shown in the category >20 Mbps.
- Montenegro: KDS and WiFi users are not included in this table.
- Serbia: Figures calculated on the basis of a total of 1,075,872 retail broadband lines and the originally supplied percentage splits as follows: 1 Mbps - <2 Mbps: 36.36%, 2 Mbps - <10 Mbps: 61.4% and >10 Mbps: 2.24%.
- Turkey: Subscriptions offering 'up to 8 Mbps', which represent the majority of subscriptions in Turkey, are shown in the column '4 Mbps - < 8 Mbps'. (The total of 5,958,308 consists of 85,008 connections on speeds of 4 Mbps - < 8 Mbps and 5,873,300 connections on speeds advertised as offering 8 Mbps.)

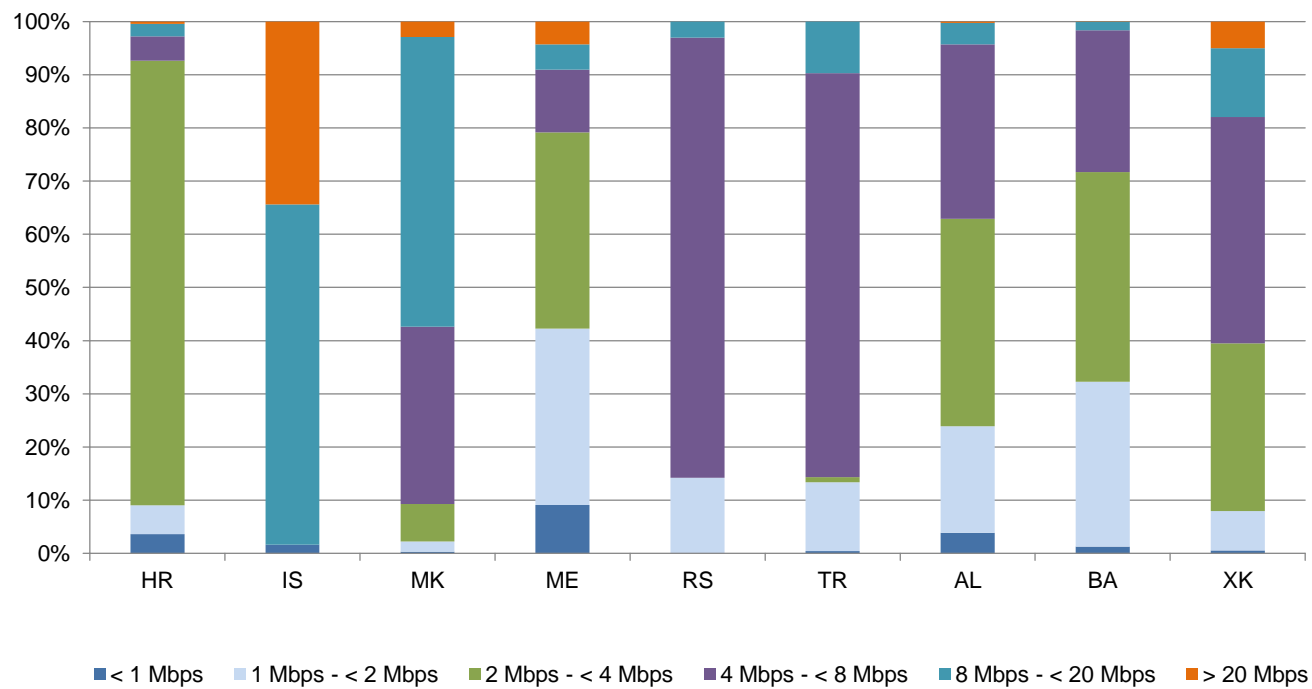


Figure B.26 – Distribution of retail broadband lines by download speeds, Dec. 31, 2012



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 operator over DSL		Largest alternative operator over DSL		Cable operator		FWA operator		FTTH operator	
		downstream	upstream	Downstream	upstream	downstream	upstream	downstream	upstream	downstream	upstream
Croatia	Operator	HT- Hrvatski Telekom		OT-Optima Telekom		B.net Hrvatska		Vipnet		-	
	max	20 Mbps	768 kbps	10 Mbps	640 kbps	60 Mbps	5 Mbps	7.2 Mbps	N/A	N/A	N/A
	min	2 Mbps	256 kbps	2 Mbps	256 kbps	3 Mbps	256 kbps	1 Mbps	N/A	N/A	N/A
Iceland	Operator	Síminn		Vodafone		-		eMax		Vodafone	
	max	50 Mbps	N/A	12 Mbps	N/A	N/A	N/A	6 Mbps	2 Mbps	50 Mbps	50 Mbps
	min	12 Mbps	N/A	12 Mbps	N/A	N/A	N/A	2 Mbps	512 kbps	50 Mbps	50 Mbps
FYR Macedonia	Operator	Makedonski Telekom		ONE		Blizoo		SunWireless		Makedonski Telekom	
	max	16 Mbps	1 Mbps	16 Mbps	1 Mbps	50 Mbps	1 Mbps	10 Mbps	768 kbps	90 Mbps	90 Mbps
	min	4 Mbps	768 kbps	6 Mbps	768 kbps	10 Mbps	1 Mbps	2 Mbps	128 kbps	40 Mbps	40 Mbps
Montenegro	Operator	Crnogorski Telekom		-		M-Kabl		M:tel		Crnogorski Telekom	
	max	10 Mbps	1 Mbps	N/A	N/A	16 Mbps	1 Mbps	25 Mbps	2 Mbps	45 Mbps	4 Mbps
	min	1 Mbps	128 kbps	N/A	N/A	2 Mbps	256 kbps	512 kbps	512 kbps	1 Mbps	128 kbps
Serbia	Operator	Telekom Srbija		OrionTelekom		SBB		Orion Telekom Tim		Targo Telekom	
	max	100 Mbps	2 Mbps	20 Mbps	1 Mbps	100 Mbps	4 Mbps	7 Mbps	1 Mbps	43 Mbps	21 Mbps
	min	5 Mbps	1 Mbps	3 Mbps	1 Mbps	10 Mbps	1 Mbps	3 Mbps	1 Mbps	24 Mbps	12 Mbps
Turkey	Operator	TTNet		Smile		Turksat		-		Superonline	
	max	100 Mbps	2 Mbps	16 Mbps	1 Mbps	100 Mbps	4 Mbps	N/A	N/A	1000 Mbps	20 Mbps
	min	1 Mbps	256 kbps	1 Mbps	256 kbps	10 Mbps	1 Mbps	N/A	N/A	25 Mbps	5 Mbps
Albania	Operator	Albtelecom		Abissnet		Abcom		-		-	
	max	16 Mbps	1 Mbps	24 Mbps	1 Mbps	100 Mbps	4 Mbps	N/A	N/A	N/A	N/A
	min	1 Mbps	128 kbps	6 Mbps	1 Mbps	1 Mbps	128 kbps	N/A	N/A	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
Bosnia & Herzegovina	Operator	BH Telecom		Logosoft		Telemach		Dasto Semtel		-	
	max	50 Mbps	2 Mbps	40 Mbps	4 Mbps	90 Mbps	3 Mbps	7 Mbps	1 Mbps	N/A	N/A
	min	2 Mbps	256 kbps	6 Mbps	512 kbps	6 Mbps	512 kbps	1 Mbps	64 kbps	N/A	N/A
Kosovo*	Operator	PTK-TiK		-		Ipko		Kujtesa		-	
	max	12 Mbps	1 Mbps	N/A	N/A	80 Mbps	2 Mbps	60 Mbps	2 Mbps	N/A	N/A
	min	2 Mbps	512 kbps	N/A	N/A	5 Mbps	1 Mbps	5 Mbps	384 kbps	N/A	N/A

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

Notes:

Iceland: Data is for June 2012.

Bosnia & Herzegovina: Reference date is July 31, 2013. There is no operator with advertised FTTH services.

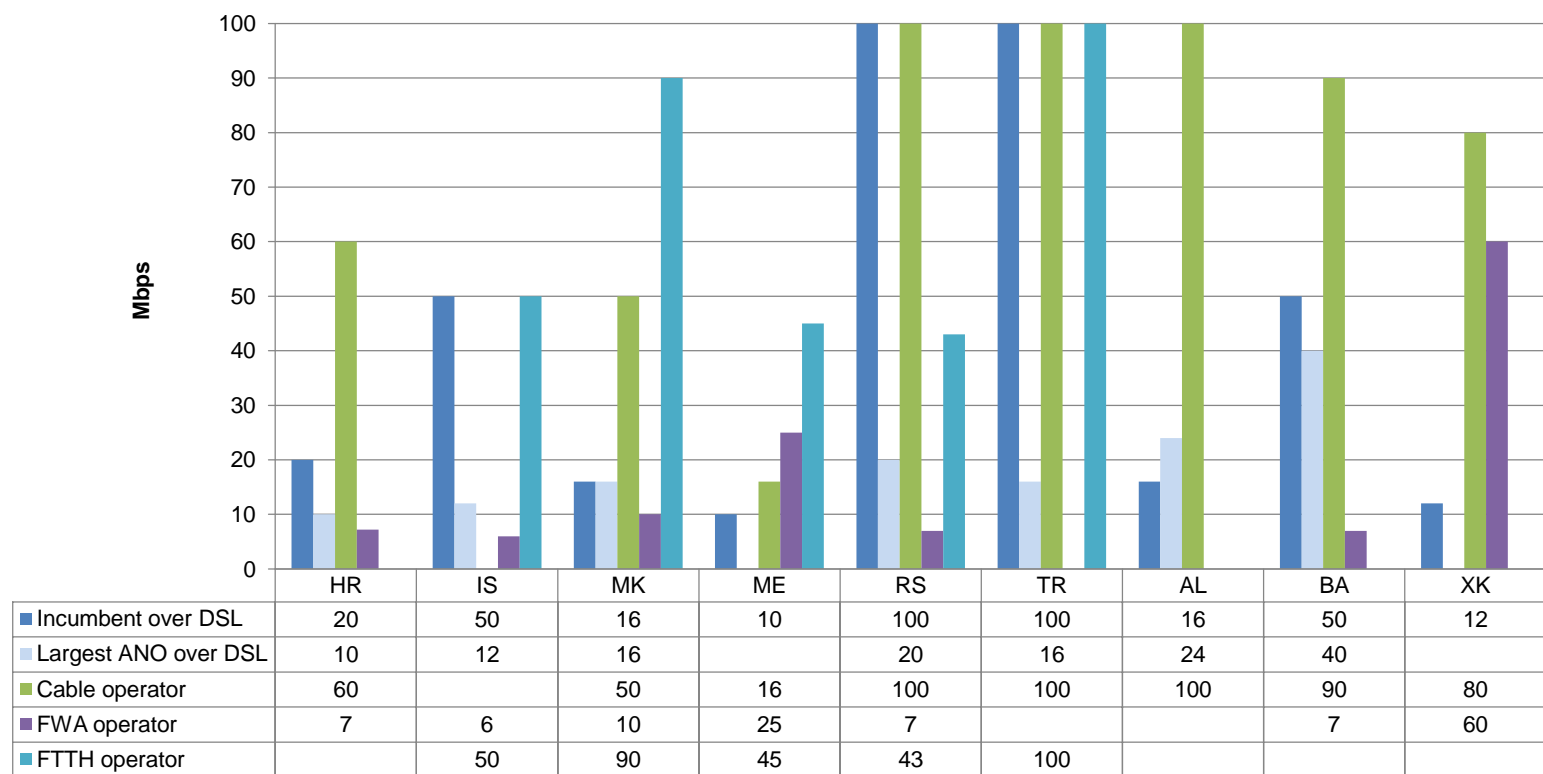


Figure B.27 – Fastest advertised retail broadband connection (Mbps), by country

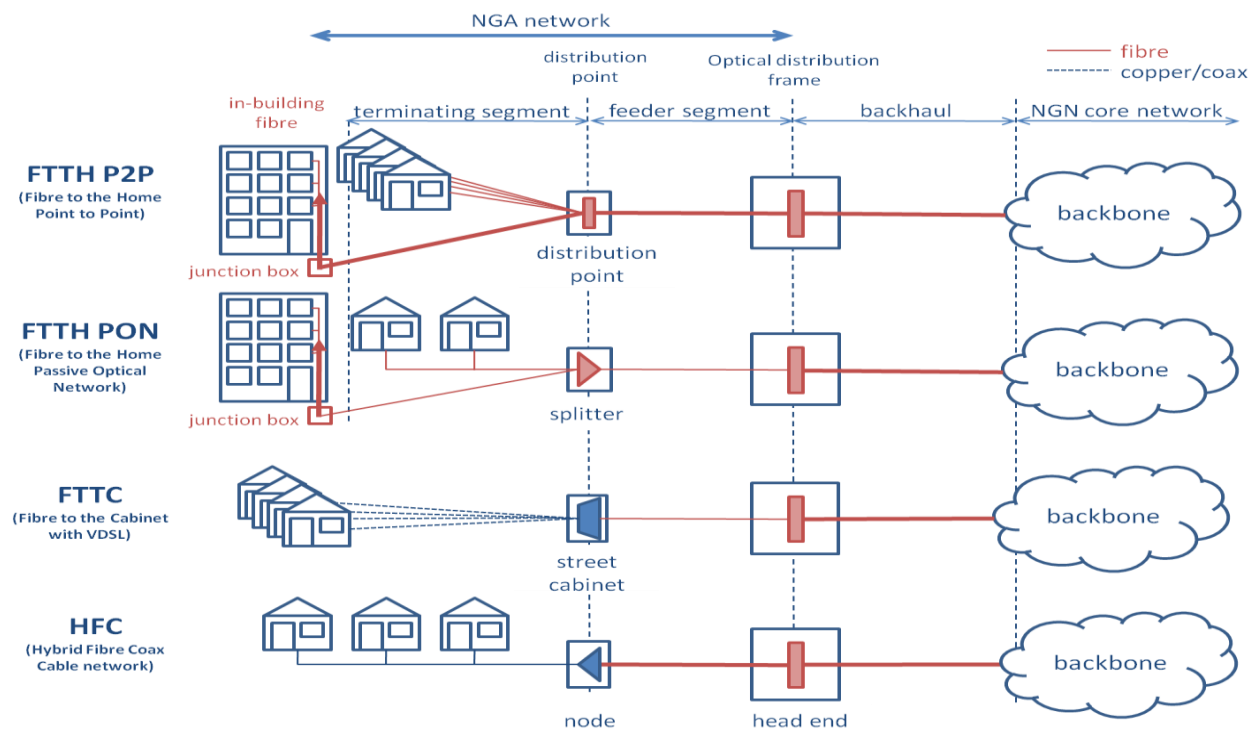
Notes:

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

Bosnia & Herzegovina: Reference date is July 31, 2013. There is no operator with advertised FTTH services.

e) NGA deployment plans

This section addresses deployments of NGA infrastructure by incumbent telecom operators and by other players with significant geographic coverage. It shows 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: Cullen International research

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Country	Operator	NGA network topology (FTTH/FTTB/ FTTC/ DOCSIS 3.0)	NGA Retail service			NGA network coverage (% HH passed) Dec. 31, 2012
			Availability (geographic areas)	Bandwidth	Take-up (% HH connected) Dec. 31, 2012	
Croatia	Hrvatski Telekom (HT)	FTTH PON test network	HT was allowed based on the 2009 market analysis, to launch 1,000 test connections per county (there are 20 counties in Croatia plus the city of Zagreb).	-	0.42% (7,006 test connections)	-
Iceland	Gagnaveita Reykjavíkur (power company offering wholesale services)	FTTH P2P	Greater Reykjavík area	100 Mbps	30% (June 30, 2012)	74% (June 30, 2012)
	Síminn	FTTC (VDSL)	Greater Reykjavík area	50 Mbps	24% (June 30, 2012)	74% (June 30, 2012)
FYR Macedonia	Makedonski Telekom	FTTH PON	Skopje, Kumanovo, Tetovo, Veles, Bitola, Kicevo, Stip, Ohrid, Kavadarci, Strumica and Gostivar	60 Mbps (residential customers)	2.85%	30.26%
	Blizoo	HFC DOCSIS 3.0	Skopje	50 Mbps (residential customers)	0.10%	15.13%
	Robi	HFC DOCSIS 3.0	Skopje	150 Mbps	n/a	0.51%
Montenegro	Crnogorski Telekom	FTTH, FTTB	Podgorica, Hercewg Novi, Budva, Bar, Danilovgrad, Tivat, Kotor	-	2.74% (5,344 HH connected)	13.76%
	Cabling	FTTH, FTTB, FTTC	Budva, Podgorica	-	0.45% (886 HH connected)	n/a
	MediaNet	FTTC	Berane	-	0.06% (112 HH connected)	n/a
Serbia	SBB	HFC DOCSIS 3.0	Belgrade, Novi Sad, Kragujevac, Nis	100 Mbps	n/a	60%
Turkey	Türk Telekom	FTTH/FTTB/FTTC	Throughout the whole country	100 Mbps	1.09% Türk Telekom provides broadband access services only at wholesale level. Its 100%-owned retail subsidiary TNet had 218,772 fibre subscriptions at end-2012 (1.09% of HH).	19.8% (assuming 4m HH passed) Türk Telekom reports 1.9m FTTH/B HH passed and >4m FTTC HH passed
	Türksat	HFC DOCSIS 3.0	Türksat is able to provide services in 22 major provinces.	60 Mbps	2.48% (485,531 connections) as of June 30, 2012	16.1% (3,151,392) HH as of June 30, 2012

Country	Operator	NGA network topology (FTTH/FTTB/ FTTC/ DOCSIS 3.0)	NGA Retail service			NGA network coverage (% HH passed) Dec. 31, 2012
			Availability (geographic areas)	Bandwidth	Take-up (% HH connected) Dec. 31, 2012	
	Superonline	FTTH/FTTB	Superonline is able to provide FTTH/FTTB services in 11 cities: Istanbul, Adana, Ankara, Izmir, Kocaeli, Gaziantep, Antalya, Bursa, Mersin, Samsun and Trabzon	1000 Mbps	2.1% (424,940 connections) as of Dec. 31, 2012	6.4% (1.3m) HH as of Dec. 31, 2012
Albania	Albtelecom	FTTC	Urban areas		4.6% (33,881 HH) connected via MSANs	-
Bosnia & Herzegovina	BH Telecom	FTTC	Bihać, Goražde, Mostar, Sarajevo, Travnik, Tuzla, Zenica, TC Brčko	50 Mbps	0.56%	19.37%
	Logosoft	FTTC	Sarajevo	40 Mbps		
	Others (including Telekom Srpske, Telemach and Elta-Kabel)	FTTH, FTTC, HFC	Srednjobosanski kanton, Kanton Sarajevo, Banja Luka	>10 Mbps		
Kosovo*	IPKO	HFC DOCSIS 3.0	Deçani, Dragash, Drenasi, Ferizaji, Fushë Kosova, Hani i Elezit, Gjakova, Gjilani, Graçanica, Istogu, Kaçaniku, Kamenica, Klina, Lipjani, Malishevë, Mitrovica, Obiliqi, Peja, Podujeva, Prishtina, Prizreni, Rahoveci, Skenderaji, Suhareka, Shtërpçë, Vitia, Vushtrria	Downstream – 8ch x 50 = 400Mbps per user Upstream – 4ch x 10 = 40Mbps per user	18.74%	25.74%
	Kujtesa	HFC DOCSIS 3.0	Drenasi, Dragashi, Ferizaji, Fushë Kosova, Gjakova, Gjilani, Hani i Elezit, Istogu, Lipjani, Malishevë, Mitrovica, Peja, Podujeva, Prishtina, Prizreni, Obiliqi, Rahoveci, Shtime, Suhareka, Vushtrria	N/A	7%	

Table B.16 – NGA coverage and take-up, Dec. 31, 2012

## f) Mobile broadband

This section measures mobile broadband penetration both in terms of dedicated devices and in terms of all active mobile broadband subscriptions (including those accessing services from smartphones).

Dedicated 3G mobile datacards/modems offer a substitute, as well as a supplement, to fixed broadband connections. In 2010 their penetration rate doubled in most enlargement countries, having started from a very low base, but by the first half of 2012 growth had slowed, as the market matured and smartphones and tablets offered an alternative.

Country	Mobile operator	Number of 3G mobile broadband subscriptions, December 31, 2012	
		Dedicated data service cards/modems/keys only (i.e. laptops/PC mobile broadband users)	All mobile broadband subscriptions (i.e. including dedicated data service cards and handheld devices/smartphones)
Croatia	T-HT	115,781	862,183
	VIPNet	181,138	1,026,991
	Tele2	29,416	403,688
Iceland	Síminn	20,963	80,068
	Vodafone	14,079	53,289
	Nova	11,454	63,626
	Tal	1,201	7,209
	Others	-	460
FYR Macedonia	T-Mobile	9,373	333,111
	ONE	8,626	90,558
	VIP	443	81,927
Montenegro	Telenor	38,897	71,608
	Crnogorski Telekom	24,593	87,121
	Mtel	8,887	61,334
Serbia	Telekom Srbija	102,163	1,775,372
	Telenor	109,996	2,179,135
	VIP Mobile	79,729	79,429
Turkey	Turkcell	1,008,079	5,849,406
	Avea	770,941	2,799,245
	Vodafone	130,510	3,513,249

Country	Mobile operator	Number of 3G mobile broadband subscriptions, December 31, 2012	
		Dedicated data service cards/modems/keys only (i.e. laptops/PC mobile broadband users)	All mobile broadband subscriptions (i.e. including dedicated data service cards and handheld devices/smartphones)
Albania	Vodafone Albania	17,833	240,715
	Albanian Mobile Communications	37,572	408,998
	Eagle Mobile	0*	0*
Bosnia & Herzegovina	BH Telecom (BH mobile)	56,585	260,940
	Telekom Srpske (m:tel)	54,889	258,385
	HT Mostar (HT Eronet)	476	(total 2G+3G) 130,218
Kosovo*	N/A (no 3G licences awarded)	-	-

Table B.17 – 3G mobile broadband subscriptions (dedicated datacards/wireless modems and all 3G mobile broadband subscriptions), Dec. 31, 2012

## Notes:

- Croatia: Definition of active mobile broadband user: A subscription that has used mobile broadband at least once in the last 90 days. This definition applies to all operators
- Iceland: Data is for June 2012.
- Macedonia: VIP is using the T-Mobile 3G network, as well as its own network, to provide mobile broadband services.
- Montenegro: Although MTel does not sell dedicated datacards/modems, the figure of 8,887 represents the number of MTel SIM cards used only for data traffic. For all three operators, the figures in the column on the right include users accessing the internet through both 2G and 3G connections.
- Albania: \*Eagle Mobile received a 3G authorisation in December 2012 and started to provide 3G services in January 2013.
- Bosnia & Herzegovina: Reference date June 30, 2013



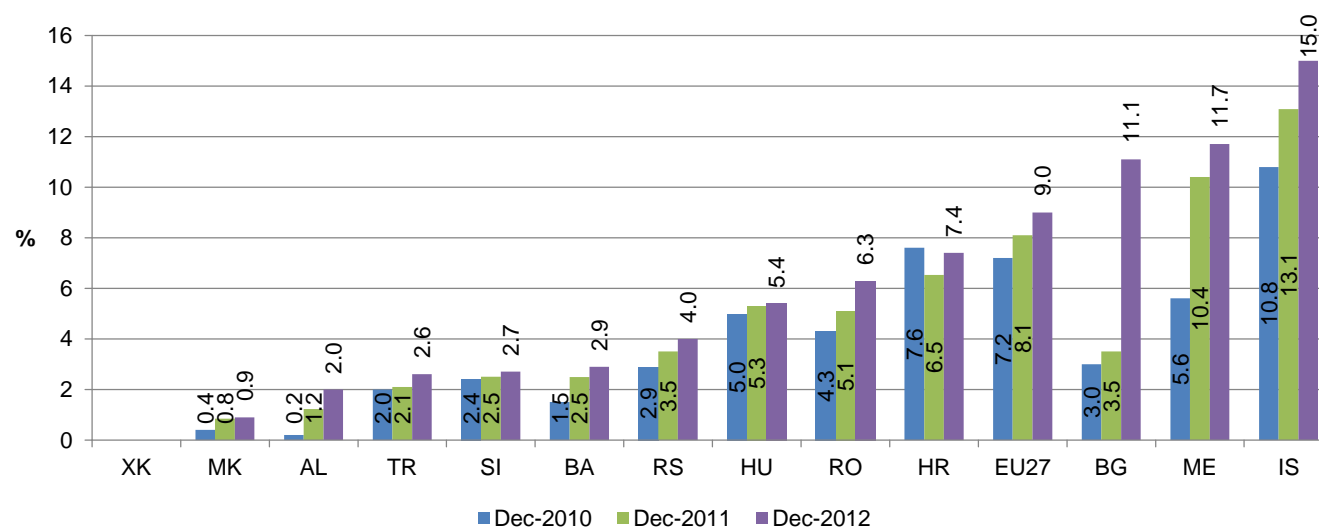


Figure B.28 – Dedicated data cards/ wireless modems per 100 population, Dec. 2010, Dec. 2011 and Dec. 2012

Notes:

Croatia:

Montenegro:

Turkey:

The total number of mobile broadband lines as of Dec. 2011 dropped compared with 2010 because of changes in the definition of what is considered an active user. The figure of 10.4% for December 2011 was reported directly by Montenegrin regulator EKIP and is lower than the penetration rate that would have been calculated from the figures supplied by the operators. The figure of 11.7% for December 2012 is reported by EKIP and includes the SIM cards of MTel that are used only for data traffic.

The figure of 2.1% penetration for Turkey in December 2011 is based on a total of 1,547,421 dedicated datacards and wireless modems and a population figure for 2011 of 73.723m. (The total for December 2011 including all mobile broadband subscriptions was 4,907,380.)

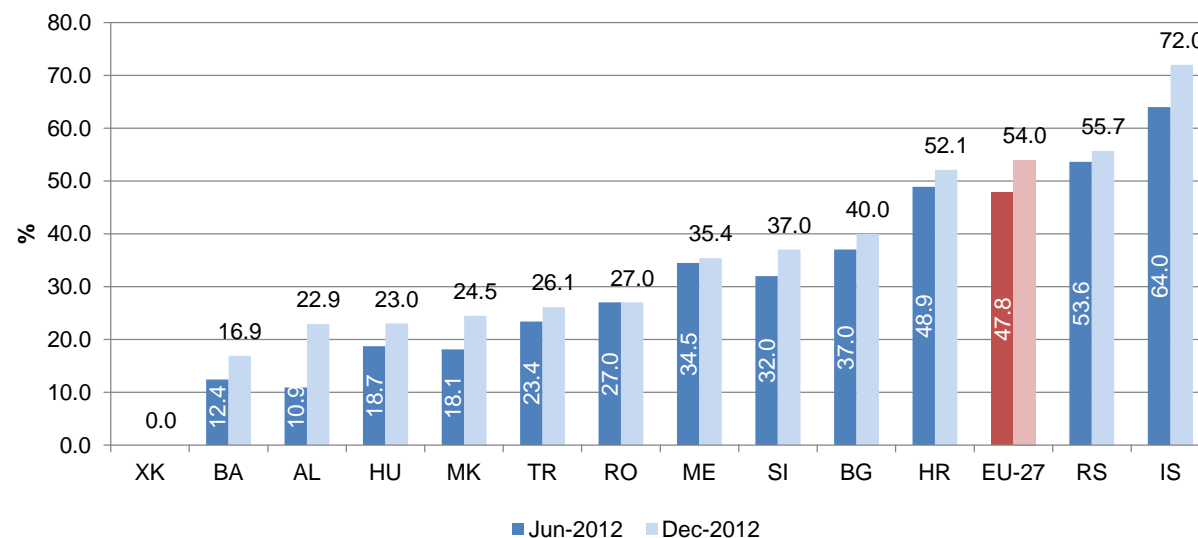


Figure B.29 - Mobile broadband penetration (all devices, including handhelds), June 30, 2012 and Dec. 31, 2012

## 6. National broadband targets

Country	Broadband targets			Name of the national broadband plan, any comments and link	Public funding assigned
	Speed	Coverage	Year		
Croatia	> 2 Mbps	75% population Fixed broadband	2013	<a href="#">Strategy for Broadband access development in the Republic of Croatia 2012 – 2015</a>	<a href="#">Draft national framework programme for broadband infrastructure development in commercially unattractive areas</a> (published for consultation in December 2013) proposes €712m required financing for 2014-2020, of which €253m envisaged from the EU funds and €44.6 from national public funds (the rest to be funded by private partners)
	> 2 Mbps	90% population Fixed & Mobile broadband	2013		
	> 30 Mbps	35% population Fixed broadband	2015		
	> 30 Mbps	50% population Fixed & Mobile broadband	2015		
Iceland	30 Mbps	90% of homes and workplaces	2014	Two Telecom Policy Statements have been approved by the Parliament as of Nov. 29, 2012: <a href="#">Telecom Policy Statement 2011-2022</a> <a href="#">Telecom policy Statement 2011-2014</a>	One off fee for spectrum licences will be used to finance these targets. For the period 2012-2013 this is estimated to be around €2m.
	30 Mbps	100% of homes and workplaces	2022		
	100 Mbps	50% of homes and workplaces	2014		
	100 Mbps	99.9% of population	2022		

Country	Broadband targets			Name of the national broadband plan, any comments and link	Public funding assigned
	Speed	Coverage	Year		
FYR Macedonia	-	-	-	There is no national broadband plan	-
Montenegro	10 Mbps	50% of the population	2014	<a href="#">Strategy for the development of information society 2012 – 2016</a>	No
	10 Mbps	100% of the population	2016		
	30 Mbps	50% of the population	2016		
Serbia	100 Mbps	100% population	2020	<a href="#">Strategy for the development of an information society in the Republic of Serbia until 2020</a>	Not defined
Turkey	-	12m connections	2013	10 <sup>th</sup> Transportation Forum Report (2009)	US\$ 300m (estimated)
	-	30m connections	2023	<a href="#">Vision 2023 Transport and Communications Strategy</a> , p.157	
Albania	1-2 Mbps	100% of Households directly or indirectly through anchor institutions (see comment in notes below)	2017	National broadband plan, Council of Ministers Decision no. 467 dated 30.5.2013	No
	30 Mbps	100% of Households	2020		
	100 Mbps	50% of Households	2020		
Bosnia & Herzegovina	-	-	-	There is no national broadband plan	-
Kosovo*	30 Mbps	70% of the population	2016	Policy for Electronic Communications Sector-Digital Agenda for Kosovo 2013-2020	-
	30 Mbps	100% of the population	2020		

Table B.18 – National broadband targets

Notes:

Croatia and Montenegro: There are also broadband coverage targets included in the universal service obligation (USO): Montenegro – 144 kbps (from Jan. 2011); Croatia – 144 kbps (from March 2013); 1 Mbps (from Jan. 2015). See Section on the “Scope of universal service and provider designation mechanism”.

Iceland: 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. Half of all homes and workplaces or 50% 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.

Albania: The figures provided are taken from the Draft National Broadband Plan, published by MITIK for public consultation.

The 2017 target includes:

- doubling of the number of households and companies having access to a broadband connection;
- 100% of schools with at least one broadband internet connection in every class;
- 100% of universities connected (details not specified);
- 100% of post offices offering at least one broadband internet connection to citizens in all villages with more than a specified population;
- 100% of hospitals/medical centres with at least one broadband internet connection.

Bosnia & Herzegovina: There is no national broadband plan or strategy.

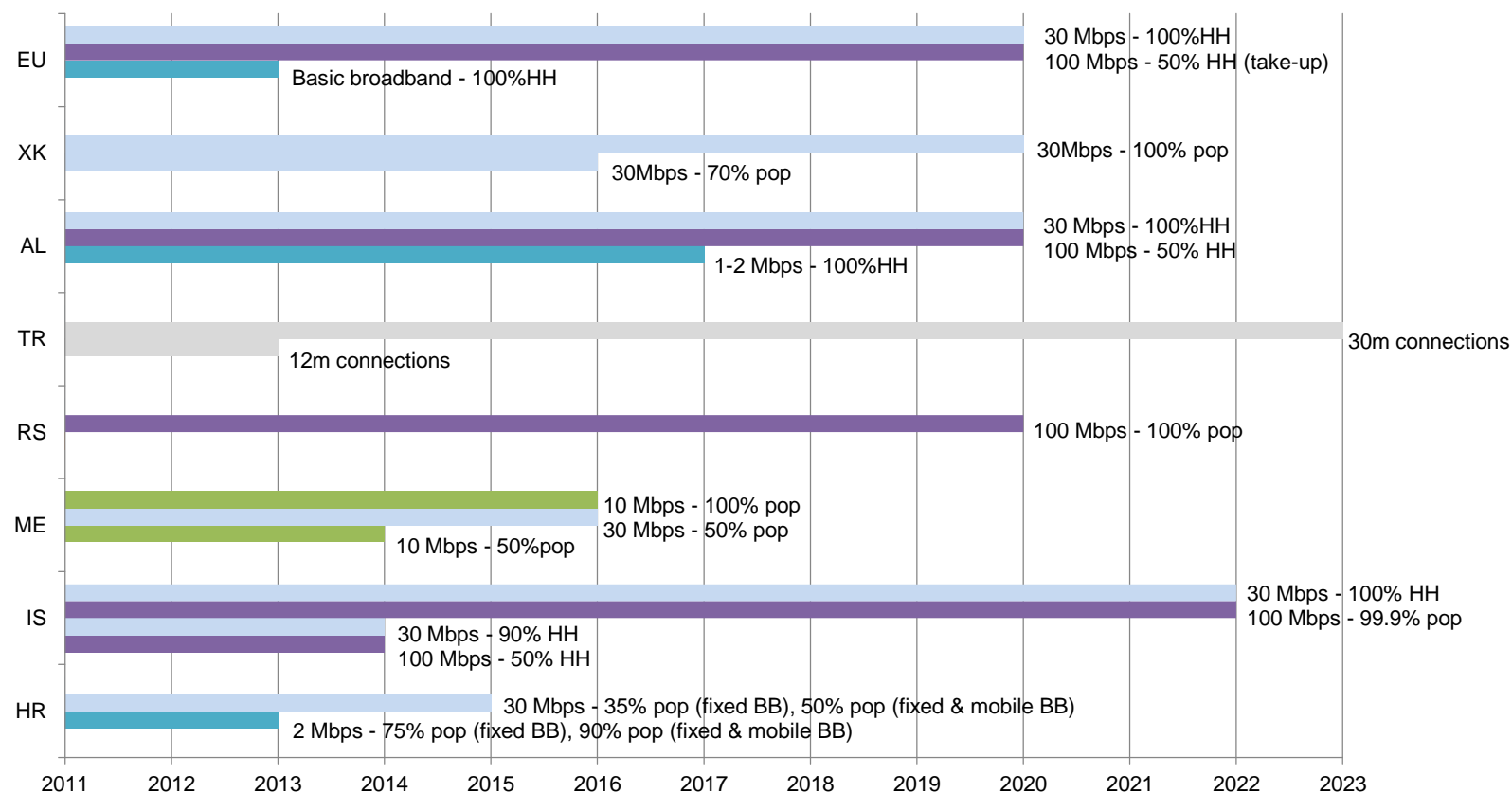


Figure B.30 – National broadband targets

Note: No national broadband targets are specified for Macedonia or Bosnia & Herzegovina. In Croatia and Montenegro there are also broadband coverage targets included in the universal service obligation (USO): Montenegro – 144 kbps (from Jan. 2011); Croatia – 144 kbps (from March 2013); 1 Mbps (from Jan. 2015). See Section on the “Scope of universal service and provider designation mechanism”.

## 7. 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.

Country	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 – 30.2% (51% owned by Magyar Telekom, which is 59.2% owned by Deutsche Telekom)	T-Mobile Macedonia – 30.2% (100% owned by Makedonski Telekom)	-
	Telekom Austria	-	VIP - 100%	-
	Telekom Slovenia	ONE - 100%	ONE – 100%	-
Montenegro	Deutsche Telekom	Crnogorski Telekom – 45.31% (76.53% owned by Magyar Telekom, which is 59.2% owned by Deutsche Telekom)	T-Mobile Montenegro – 45.31% (76.53% owned by Magyar Telekom, which is 59.2% 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 in m:tel owned by Telekom Republika Srpska, which is in turn 65% owned by Telekom Srbija)	-
Serbia	Telenor	-	Telenor – 100%	-
	Telekom Austria	-	VIPmobile – 100%	-
	Kohlberg Kravis Roberts & EBRD	SBB (Serbia Broadband) 100%	-	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 – 49.498% (Avea is 89.997% 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.)	-
	Alfa Telekom Turkey Limited		Turkcell – 13.22%	
	Vodafone Group	-	Vodafone Turkey – 100%	-
Albania	Cosmote (OTE)	-	AMC – 100%	-
	Vodafone Group	-	Vodafone Albania – 100%	-
	Calik Enerji Telecommunications (consortium of Calik Enerji and Türk Telekom)	Albtelecom – 76%	Eagle Mobile – 76%	-
	Telecom Slovenia	PRIMO – 75%	-	-
	American broadband	Abcom – 100%	-	Abcom – 100%
Bosnia & Herzegovina	Telekom Srbije (Serbia)	Telekom Srpske – 65%	m:tel – 65% (100% owned by Telekom Srpske)	-
	T- Hrvatski Telekom (Croatia)	HT Mostar – 39.1%	HT Mostar - 39.10%	-
	Hrvatska pošta (Croatia)	HT Mostar - 5.23%	HT Mostar - 5.23%	-
	Telecom Slovenia	Aneks – 70%	-	Aneks – 70%
Kosovo*	Telekom Slovenia	IPKO – 93.113%	IPKO – 93.113%	IPKO – 93.113%
	Kujtesa Max S.a.R.L			Kujtesa.net LLC 100%

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.

## 8. 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 Amortisation (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.

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Country	Operator	Key financial ratios and performance indicators (2012)		
		ROCE	EBITDA margin (%)	EBIT margin (%)
Croatia	Hrvatski Telekom (HT)	17.69%	45.56%	28.43%
	VIPNet	21.55%	28.05%	14.19%
	Tele2	-32.22%	-8.92%	-16.83%
Iceland	Síminn	6.60%	19.70%	13.80%
	Vodafone	7.40%	16.90%	7.40%
	Nova	9.30%	13.50%	3.90%
FYR Macedonia	T-Mobile*	24.37%	47.85%	20.13%
	ONE	-5.30%	13.60%	-7.30%
	VIP	1.90%	20.10%	-0.70%
Montenegro	Crnogorski Telekom	16.39%	37.20%	18.46%
	Telenor	15.74%	42.89%	38.24%
	Mtel	9.75%	35.65%	10.40%
Serbia	Telekom Srbija	15.68%	45.60%	26.28%
	Telenor	42.05%	40.87%	31.20%
	VIP*	n/a	n/a	n/a
Turkey	Turk Telekom AŞ	n/a	40.1%	27%
	Avea	n/a	14%	-4%
	Vodafone	n/a	n/a	n/a
	Turkcell	n/a	30.9%	n/a
Albania	Albtelecom	n/a	n/a	n/a
	Vodafone Albania	n/a	n/a	n/a
	AMC	n/a	n/a	n/a



Country	Operator	Key financial ratios and performance indicators (2012)		
		ROCE	EBITDA margin (%)	EBIT margin (%)
Bosnia & Herzegovina	BH Telecom fixed	1.52%	27.45%	6.87%
	BH Telecom mobile	8.01%	46.05%	28.05%
	Telekom Srpske fixed	9.97%	45.08%	19.95%
	Telekom Srpske mobile	23.12%	49.35%	28.16%
	HT Mostar fixed	7.00%	48.00%	26.00%
	HT Mostar mobile	8.00%	38.00%	15.00%
Kosovo*	Posta dhe Telekomunikacioni i Kosoves (PTK)	-30.88%	8.75%	-20.83%
	Vala	11.45%	57.37%	47.99%
	IPKO	5.00%	35.00%	8.00%

Table B.20 – Key financial ratios of the fixed incumbent and major mobile operators for the year 2012

## Notes:

Iceland: Data is for 2011.

Macedonia: T-Mobile and Makedonski Telekom are in the process of merging – the key financial ratios shown are for the two operators together. From 2014 they will work as a single combined operator.

Serbia: VIP reported total loss and loss from operations for 2012.

Turkey: Figures for Turk Telekom AS and for Avea are taken from Turk Telekom's 2012 [year-end investor presentation](#). The figure shown for Turkcell is for the whole Turkcell Group.

## C. Information society legislation and policy

### 1. Electronic communications law

The following table shows the main electronic communications law as well as its amendments. More detailed information on other information society sector legislation is available in previous reports delivered under this project (see Annex II of Report 2, July 2012).

Country	Title of the electronic communications law (original language) Link to full text, if available online	Title of the electronic communications law (in English) Link to full text of translation, if available	Official gazette numbers of original version and all amendments Link to official gazette, if available	Has the constitutional court repealed articles of the law?
Croatia	Zakon o elektroničkim komunikacijama	Electronic communications act ( <a href="#">original</a> , <a href="#">amendment</a> )	<a href="#">73/2008</a> , <a href="#">90/2011</a> , <a href="#">133/2012</a> , <a href="#">80/2013</a>	No
Iceland	Lög um fjarskipti nr. 81/2003	Electronic communications act <a href="http://eng.innanrikisraduneyti.is/laws-and-regulations/english/electronic-communications/">http://eng.innanrikisraduneyti.is/laws-and-regulations/english/electronic-communications/</a>	<a href="#">81/2003</a> , <a href="#">162/2010</a> , <a href="#">62/2012</a>	Information not available
FYR Macedonia	Zakon za elektronski komunikacii <a href="http://www.aek.mk/index.php?option=com_content&amp;view=category&amp;id=48&amp;Itemid=91&amp;lang=mk">http://www.aek.mk/index.php?option=com_content&amp;view=category&amp;id=48&amp;Itemid=91&amp;lang=mk</a>	Law on electronic communications <a href="http://www.aek.mk/index.php?option=com_content&amp;view=article&amp;id=278%3A2011-07-15-08-26-09&amp;catid=48%3Azakoni&amp;Itemid=91&amp;lang=en">http://www.aek.mk/index.php?option=com_content&amp;view=article&amp;id=278%3A2011-07-15-08-26-09&amp;catid=48%3Azakoni&amp;Itemid=91&amp;lang=en</a>	<a href="#">13/2005</a> , <a href="#">14/2007</a> , <a href="#">55/2007</a> , <a href="#">98/2008</a> , <a href="#">83/2010</a> , <a href="#">13/2012</a> , <a href="#">59/2012</a> , <a href="#">123/2012</a>	Yes Judgments of the Constitutional Court of April 15, 2009 (official gazette 56/2009) and Dec. 12, 2010 (official gazette 171/2010)
Montenegro	Zakon o elektronskim komunikacijama <a href="http://www.mid.gov.me/biblioteka/zakoni">http://www.mid.gov.me/biblioteka/zakoni</a>	Law on electronic communications <a href="http://www.mid.gov.me/en/library/zakoni">http://www.mid.gov.me/en/library/zakoni</a>	40/2013	No
Serbia	Zakon o elektronskim komunikacijama	Law on electronic communications	44/2010, 60/2013 (constitutional court)	Yes On June 13, 2013 the Constitutional Court of Serbia decided that articles 128.1, 128.5 and 129.4 of the Law on electronic communications are not in accordance with the constitution. These articles are referring to the possibility to retain the data in accordance with specifics provided in other laws, to demand retained data based on the decision of “authorised bodies” and that requirements for data retention can be specified by the secondary legislation.

Country	Title of the electronic communications law (original language) Link to full text, if available online	Title of the electronic communications law (in English) Link to full text of translation, if available	Official gazette numbers of original version and all amendments Link to official gazette, if available	Has the constitutional court repealed articles of the law?
Turkey	Elektronik Haberleşme Kanunu <a href="http://mevzuat.basbakanlik.gov.tr/Metin.Aspx?MevzuatKod=1.5.5809&amp;MevzuatIliSKI=0&amp;sourceXmlSearch=elektronik">http://mevzuat.basbakanlik.gov.tr/Metin.Aspx?MevzuatKod=1.5.5809&amp;MevzuatIliSKI=0&amp;sourceXmlSearch=elektronik</a>	Electronic Communication Law, Law No: 5809	27050, 05.11.2008	No
Albania	Ligj nr. 9918 datë 19.5.2008 Për komunikimet elektronike në Republikën e Shqipërisë, ndryshuar me Ligjin 102/2012	Law 9918 dated 19.5.2008 on electronic communications, amended by Law no 102/2012	<a href="#">84/2008</a> , <a href="#">145/2012</a>	No
Bosnia & Herzegovina	Zakon o komunikacijama <a href="http://www.mkt.gov.ba/bos/dokumenti/zakoni/?id=265">http://www.mkt.gov.ba/bos/dokumenti/zakoni/?id=265</a>	Law on communications	31/2003, 75/2006, 32/2010, 98/2012	No
Kosovo	Ligji nr. 04/L-109 për komunikimet elektronike	Law no. 04/L-109 on electronic communications	30/2012 ( <a href="#">Albanian</a> , <a href="#">English</a> )	No

Table C.1 – Electronic communications law

## 2. Recent and 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;
- recently adopted new primary and secondary legislation;
- which part of the EU *acquis* the planned legislation will transpose or has transposed;
- current status and planned next steps; and
- which body or bodies are/were responsible for drafting.

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Country	Description of draft legislation or recently adopted legislation	Relevant EU <i>acquis</i>	Current status of preparations and schedule for the next steps For adopted legislation: Publication	Body responsible for drafting
Croatia	Law on amendments of the Law on electronic media	Audiovisual Media Services Directive	Adopted by parliament in July 2013 (OG 94/2013)	Ministry of culture
	Ordinance on radio frequency spectrum allocation	EU spectrum policy	Adopted (OG 107/2013)	Ministry of maritime affairs, transport and infrastructure
	Law on amendments of the Law on electronic communications Proposal to integrate the Agency for regulation of railway services market (ARTZU) into the Agency for postal and electronic communications (HAKOM).	-	Draft amendments <a href="#">published</a> for consultation on February 5, 2014	Ministry of maritime affairs, transport and infrastructure
Iceland	No information available	-	-	-
FYR Macedonia	Law on media		Adopted by parliament in December 2013	Ministry of information society and administration
	Law on audio and audiovisual media services	Audiovisual Media Services Directive	Adopted by parliament in December 2013	Ministry of information society and administration
	New law on electronic communications	EU 2009 regulatory framework	Working group established in October 2012. <a href="#">Draft published</a> for consultation on Nov. 6, 2013. Revised draft <a href="#">published</a> on January 11, 2014. Adoption planned for 1Q 2014.	Ministry of information society and administration
Montenegro	Law on electronic communications	EU 2009 regulatory framework	Adopted by parliament in July 2013	Ministry for Information Society and Telecommunications
	Law on e-Governance		Preparation stage	Ministry for Information Society and Telecommunications
	Law on amendments of Law on electronic commerce	Directive 2000/31/EC	Parliamentary procedure	Ministry for Information Society and Telecommunications
	Law on amendments of Law on electronic media	Directive 2010/13/EU	Preparation stage	Ministry of Culture
	Bylaws based on the Information Security Law (five rulebooks)		Adopted in by parliament in July 2013, published in August 2013 ( <a href="#">Official Gazette No. 40/13 dated August 13, 2013</a> )	Ministry for Information Society and Telecommunications

Country	Description of draft legislation or recently adopted legislation	Relevant EU <i>acquis</i>	Current status of preparations and schedule for the next steps For adopted legislation: Publication	Body responsible for drafting
Serbia	Law on information security	Planned EU Directive concerning measures to ensure a high common level of network and information security across the Union	A working group has been established and aims to draft a law that will be aligned with the upcoming EU directive	Ministry of Foreign and Internal Trade and Telecommunications
	Amendments to the Law on electronic commerce	Directive 2000/31/EC	The proposal was adopted by government and sent to parliamentary procedure on May 20, 2013. Adopted in October 2013.	Ministry of Foreign and Internal Trade and Telecommunications
	Amendments to the Law on electronic communications	-	Draft amendments <a href="#">published</a> for consultation on November 29, 2013. Amendments address institutional changes merging RATEL with the postal regulator (RAPUS) and changes to data retention provisions that have been repealed by the constitutional court. These amendments do not yet include alignment with the EU 2009 regulatory framework. Work on this will start after the chapter 10 screening.	Ministry of Foreign and Internal Trade and Telecommunications
	Rulebook on allotment plan of the frequencies/locations/allotments for digital terrestrial broadcasting stations in UHF band on territory of Republic of Serbia (Official Gazette of RS, no. 73/2013)	The European table of frequency allocations and utilisations in the frequency range 9 kHz to 3000 GHz	Adopted and entered into force in August 2013	Ministry of Foreign and Internal Trade and Telecommunications
	Amendments to the Numbering Plan (Official Gazette of RS, no. 32/11, 35/12 and 64/13).	Directives 2002/21/EC, 2002/20/EC, 2002/22/EC	Adopted and entered into force in April 2013	Republic Agency for Electronic Communications
	Amendments to the Rulebook on the manner of monitoring the radio frequency spectrum usage, technical inspection procedure and protection from harmful interference (Official Gazette of RS, no. 60/11 and 35/13).	Directive 2002/21/EC	Adopted and entered into force in May 2013	Republic Agency for Electronic Communications
	Rulebook on the manner of use of radio frequencies based on the general authorisation regime (Official Gazette of RS, no. 28/13)	Directives 2002/21/EC, 2002/20/EC	Adopted and entered into force in March 2013	Republic Agency for Electronic Communications

Country	Description of draft legislation or recently adopted legislation	Relevant EU <i>acquis</i>	Current status of preparations and schedule for the next steps For adopted legislation: Publication	Body responsible for drafting
	Rulebook on Radio and Telecommunication Terminal Equipment (Official Gazette of RS, no.11/2012)	Directive 1999/5/EC	The working group prepared the changes to the current Rulebook on Radio and Telecommunication Terminal Equipment (Official gazette of RS, no. 67/11, 11/12) with the aim to expedite and simplify the process of conformity assessment for R&TT equipment. Public consultations on the draft amendments have been concluded and it is expected that the Rulebook will be adopted by the Ministry after receiving opinions from other relevant institutions.	Ministry of Foreign and Internal Trade and Telecommunications
	Rulebook on amendments of rulebook on determination of allotment plan of the frequencies/locations for terrestrial analogue FM and TV broadcasting stations (Official Gazette of RS, no. 93/13)	EU policies on digital switch-over	Adopted in October 2013	Ministry of Foreign and Internal Trade and Telecommunications
	Digital Switchover Plan	Final Acts of the Regional Conference on Radio Communications for the Planning of Digital Terrestrial Broadcasting Service in parts Regions 1 and 3, in the Frequency Bands 174-230 MHz and 470-862 MHz (RRC-06)	On July 11, 2013, the Ministry formed a working group tasked with drafting the Digital Switchover Plan that will define the timetable for the switchover from analogue to digital terrestrial broadcasting of the television programme per regions. The working group consists of the representatives of the Ministry, RATEL and ETV. Adoption by government pending.	Ministry of Foreign and Internal Trade and Telecommunications
	Amendments to the rulebook on frequency assignment plan for GSM/DCS 1800 systems	Directive 2009/114/EC amending the 'GSM Directive' 87/372/EEC Commission decision 2009/766/EC, as amended by 2011/251/EC	Draft amendments <a href="#">published</a> for consultation by RATEL in Sep. 2013 propose to assign additional spectrum in the 900 MHz and 1800 MHz to the three mobile operators and to ensure that they all have been assigned equal amount of spectrum in both bands. The amendments, however, do not remove the requirement to use these bands for GSM/DCS 1800 services. Ministry formed a working group tasked with drafting plan for reshuffling other services from the 900/1800 MHz band.	Republic Agency for Electronic Communications Ministry of Foreign and Internal Trade and Telecommunications

Country	Description of draft legislation or recently adopted legislation	Relevant EU <i>acquis</i>	Current status of preparations and schedule for the next steps For adopted legislation: Publication	Body responsible for drafting
Turkey	Law on electronic commerce	Directive 2000/31/EC	<a href="#">Draft law</a> 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 Pending before the Parliament	Ministry of Justice
	Law on data protection	Directive 95/46/EC	<a href="#">Draft law</a> pending at the Office of Prime Ministry	Ministry of Justice
	Bylaw concerning the processing of personal data and the protection of privacy in the electronic communications sector	E-Privacy Directive 2002/58/EC Data Retention Directive 2006/24/EC	Published in the official gazette on July 24, 2012, no. 28363 Amended (before it came into force) by official gazette Feb. 15, 2013, no. 28560 and July 11, 2013, 28704 Entered into force on July 24, 2013, except one article that will enter into force on Jan. 1, 2014	
	<a href="#">Bylaw</a> on rights of way for fixed and mobile communications infrastructure and cable networks	Framework Directive 2002/21/EC	Published in the official gazette on December 27, 2012	Ministry of Transport, Maritime Affairs and Communications
	Amendments to law 5651 on the regulation of publications on internet and suppression of crimes committed by means of such publications	-	Adopted by parliament as <a href="#">Law no. 6518</a> on Feb. 5, 2014 At the time of finalising this report still awaiting the approval by the president.	Introduced by a member of parliament
Albania	Amendments to law no. 10128 on electronic commerce	E-Commerce Directive 2000/31/EC	Adopted on April 29, 2013 and published in the official gazette as law no. 135/2013	Ministry for Innovation and ICT (now: Ministry for Innovation and Public Administration)
Bosnia & Herzegovina	Law on electronic communications	EU regulatory frameworks 2003 and 2009	An <a href="#">initial draft of the law</a> has been prepared with <a href="#">TAIEX</a> support and published for consultation. The consultation ended on Oct. 24, 2013.	Ministry of Communication and Transport of B&H
Kosovo	Law on digitalisation of terrestrial broadcasting transmissions		Draft law has been prepared by the ministry and submitted for approval to the government on July 2, 2013	Ministry of Economic Development

Table C.2 – Recent and ongoing legislative work

### 3. 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	Information society policy documents Period of time covered	Policy areas covered							
			Information society in general	Electronic communications	Broadband	Digital TV	Network security	Cybercrime	E-Government	E-Business
Croatia	Ministry of Maritime Affairs, Transport and Infrastructure	<a href="#">Strategy</a> for the development of broadband access in the Republic of Croatia 2012–2015			✓	✓				
Iceland	Prime Minister's Office	Iceland the e-Nation. Icelandic Government <a href="#">Policy</a> on the Information Society 2008–2012	✓						✓	✓
	Ministry of the Interior	<a href="#">Telecom policy statement</a> 2011–2022 Adopted by parliament on Nov. 29, 2012.		✓	✓	✓	✓	✓		
FYR Macedonia	Ministry of Information Society and Administration	Government programme 2011–2015	✓			✓			✓	✓
		Strategy for public administration reform (2010–2015)							✓	
		National strategy for e-inclusion (2010–2013)	✓						✓	
	AEC	Five years regulatory <a href="#">strategy</a> of AEC (2012–2016)		✓	✓					
Montenegro	Ministry for Information Society and Telecommunications	<a href="#">Strategy</a> for Information Society Development of Montenegro 2012–2016	✓	✓	✓	✓			✓	
Serbia	<a href="#">Ministry</a> of Foreign and Internal Trade and Telecommunications	Strategy for information society development up to 2020 (Official gazette of RS, no. 51/10) with Action Plan for the implementation of the Strategy for Development of Information Society in Serbia (2013–2014) adopted in August 2013.	✓				✓	✓	✓	✓
		Strategy for e-Government development in period of 2009 to 2013 (Official gazette of RS, no. 83/09, 5/10)							✓	



Country	Responsible body for information society policy	Information society policy documents Period of time covered	Policy areas covered							
			Information society in general	Electronic communications	Broadband	Digital TV	Network security	Cybercrime	E-Government	E-Business
		Strategy for switchover from analogue to digital broadcasting of radio and television programme in the Republic of Serbia with a decision on amendments of the strategy (Official gazette of RS, no. 26/13)				✓				
		Strategy for development of electronic communications up to 2020 adopted by the Government on Sep. 2, 2010 with an Action plan for development of electronic communications (2013–2014) (Official gazette of RS, no. 68/10)		✓	✓		✓			
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.	✓	✓	✓		✓	✓	✓	✓
		9 <sup>th</sup> Development Plan (2007–2013)	✓	✓	✓				✓	✓
		Medium Term Program (2013–2015)	✓	✓	✓				✓	✓
		Annual Program (2013)	✓	✓	✓				✓	✓
	Ministry of Transport, Maritime Affairs and Communications	Transport and Communication Strategy (Target 2023) (2011–2023)	✓	✓	✓				✓	
		10 <sup>th</sup> Transportation Forum Report (2009–2023)	✓	✓	✓				✓	
		Decision of Council of Ministers on network security					✓			
		Ministry of Transport, Maritime Affairs and Communications Strategic Plan (2009–2013)	✓	✓	✓				✓	
Albania	Minister for Innovation and Public Administration (until Sep. 2013: Minister for Innovation and ICT)	Inter-sector <a href="#">strategy</a> 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.	✓		✓				✓	✓
		Policy paper on electronic communications, Council of Ministers Decision no 322 dated 5.5.2010		✓						

Country	Responsible body for information society policy	Information society policy documents Period of time covered	Policy areas covered							
			Information society in general	Electronic communications	Broadband	Digital TV	Network security	Cybercrime	E-Government	E-Business
Bosnia & Herzegovina		Strategy on analogue to digital switchover, Council of Ministers Decision no 292 dated 2.5.2012				✓				
		National broadband plan, Council of Ministers Decision no. 467 dated 30.5.2013			✓					
	Ministry of Communication and Transport of B&H	<a href="#">Policy</a> , <a href="#">Strategy</a> and <a href="#">Action Plan</a> of Information Society Development in B&H (2004-2010) Council of Ministers, Nov. 2004	✓	✓	✓		✓	✓	✓	✓
		<a href="#">Decision</a> on adoption of Policy of Telecommunications Sector in Bosnia and Herzegovina for period 2008–2012, Dec. 18, 2008		✓	✓		✓			
		<a href="#">Decision</a> on adoption of Policy broadcasting sectors in Bosnia and Herzegovina, Nov. 28, 2006				✓				
	Ministry of Communication and Transport of B&H Communications Regulatory Agency of B&H and DTT Forum of B&H	<a href="#">Strategy</a> 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				✓				
Kosovo*	<a href="#">Ministry of Economic Development</a>	Electronic Communications Sector Policy – Digital Agenda for Kosovo 2013–2020, approved by the government on March 13, 2013 Electronic communications and broadband sectors are major parts of this document.		✓	✓		✓			
	Ministry of Public Administration	E-government strategy 2009–2015 and action plan approved by the Government on Dec. 12, 2008							✓	
	Independent Media Commission	Draft strategy for Transition from Analogue to Digital Broadcasting. It is expected that government will approve the strategy in due course.				✓				

Country	Responsible body for information society policy	Information society policy documents Period of time covered	Policy areas covered							
			Information society in general	Electronic communications	Broadband	Digital TV	Network security	Cybercrime	E-Government	E-Business
		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 ( <a href="#">DGHL/2010/2467</a> ), from which project will result a strategy in the field of combating cybercrime						✓		

Table C.3 – Information society policy

#### 4. 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 <a href="http://www.uprava.hr">www.uprava.hr</a>	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 <a href="http://www.mppi.hr">www.mppi.hr</a>	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 <a href="http://www.hakom.hr">www.hakom.hr</a>	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 <a href="http://www.aztn.hr">www.aztn.hr</a>	Croatian Competition Agency	National competition authority (NCA)
	Ministarstvo kulture <a href="http://www.min-kulture.hr">www.min-kulture.hr</a>	Ministry of Culture	Audio-visual media regulator (or broadcasting authority)
	Državni zavod za statistiku <a href="http://www.dzs.hr">www.dzs.hr</a>	Croatian Bureau of Statistics	Body responsible for information society statistics
	Ministarstvo gospodarstva <a href="http://www.mingo.hr">www.mingo.hr</a>	Ministry of Economy	Electronic Commerce Directive: body (bodies) responsible for supervision and national contact point Electronic Signatures Directive: body responsible for supervision
	Hrvatska akreditacijska agencija <a href="http://www.akreditacija.hr">www.akreditacija.hr</a>	Croatian Accreditation Agency	Electronic Signatures Directive: body responsible for accreditation
	Agencija za zaštitu osobnih podataka <a href="http://www.azop.hr">www.azop.hr</a>	Croatian Personal Data Protection Agency	Data protection authority
	Ministarstvo unutarnjih poslova <a href="http://www.mup.hr">www.mup.hr</a>	Ministry of Interior	Body (bodies) responsible for cybercrime

Country	Name of the body (in original language) Link to website, if available	Name of the body (in English)	Responsibilities (see list below)
	Državni zavod za intelektualno vlasništvo <a href="http://www.dziv.hr">www.dziv.hr</a>	State Intellectual Property Office	Body (bodies) responsible for the enforcement of intellectual property rights
	Hrvatska akademska i istraživačka mreža – CARNet <a href="http://www.cert.hr">www.cert.hr</a> <a href="http://www.dns.hr">www.dns.hr</a>	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 <a href="http://www.zsis.hr">www.zsis.hr</a>	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 <a href="http://www.uvns.hr">www.uvns.hr</a>	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 <a href="http://www.innanrikisraduneyti.is/">http://www.innanrikisraduneyti.is/</a>	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) <a href="http://www.pfs.is/">http://www.pfs.is/</a>	Post and Telecom Administration	National regulatory authority for electronic communications regulation (NRA) Body responsible for the implementation of the R&TTE Directive 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 <a href="http://www.samkeppni.is/">http://www.samkeppni.is/</a>	National competition authority	National competition authority (NCA)
	Fjölmiðlanefnd <a href="http://www.fjolmidlanefnd.is/">http://www.fjolmidlanefnd.is/</a>	The Media Committee	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)
	Hagstofa Íslands <a href="http://hagstofan.is/">http://hagstofan.is/</a>	Statistics Iceland	Body responsible for information society statistics
	Efnahags- og viðskiptaráðuneyti <a href="http://www.efnahagsraduneyti.is/">http://www.efnahagsraduneyti.is/</a>	Ministry of Economic Affairs	Electronic Commerce Directive: body (bodies) responsible for supervision and national contact point
	Neytendastofa <a href="http://www.neytendastofa.is/">http://www.neytendastofa.is/</a>	The Consumer Agency	Electronic Signatures Directive: body (bodies) responsible for supervision
	Persónuvernd <a href="http://www.personuvernd.is/">http://www.personuvernd.is/</a>	The Data Protection Authority	Data protection authority Body responsible for personal data security (Art. 4 e-Privacy Directive)
	Menntamálaráðuneytið <a href="http://www.menntamalaraduneyti.is/">http://www.menntamalaraduneyti.is/</a>	Ministry of Education, Science and Culture	Body responsible for the enforcement of intellectual property rights
	ISNIC – Internet á Íslandi hf. <a href="http://www.isnic.is/en/">http://www.isnic.is/en/</a>	ISNIC – Internet á Íslandi hf.	Body responsible for domain name policy making, and national domain name registry
	Rannsókn og háskólanet Íslands (RHnet) <a href="http://www.rhnet.is/">http://www.rhnet.is/</a>	Icelandic University Research Network (RHnet)	Computer emergency response team (CERT)
FYR Macedonia	Ministerstvo za informaticko opstestvo I administracija <a href="http://www.mio.gov.mk/">http://www.mio.gov.mk/</a>	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 <a href="http://www.aek.mk/">http://www.aek.mk/</a>	Agency for electronic communications	National regulatory authority for electronic communications regulation (NRA)
	Sovet za radiodifuzija na Republika Makedonija <a href="http://www.srd.org.mk/">http://www.srd.org.mk/</a>	Broadcasting Council of the Republic of Macedonia	Audio-visual media regulator (or broadcasting authority)
	Drzaven zavod za statistika <a href="http://www.stat.gov.mk/">http://www.stat.gov.mk/</a>	State statistical office	Body responsible for information society statistics
	Ministerstvo za vnatesni raboti <a href="http://www.mvr.gov.mk/">http://www.mvr.gov.mk/</a>	Ministry of interior	Body responsible for network security (Art. 13a, 13b Framework Directive) Body responsible for cybercrime
	Ministerstvo za ekonomija <a href="http://www.economy.gov.mk/">http://www.economy.gov.mk/</a>	Ministry of economy	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 <a href="http://www.finance.gov.mk/">http://www.finance.gov.mk/</a>	Ministry of finance	Electronic Signatures Directive: body (bodies) responsible for supervision and/or accreditation

Country	Name of the body (in original language) Link to website, if available	Name of the body (in English)	Responsibilities (see list below)
	Direkcija za zaštita na licni podatoci <a href="http://www.dzlp.mk/">http://www.dzlp.mk/</a>	Directorate for personal data protection	Data protection authority; Body responsible for personal data security (Art. 4 e-Privacy Directive)
	Komisija za zaštita na konkurencijata <a href="http://kzk.gov.mk/">http://kzk.gov.mk/</a>	Commission for protection of competition	National competition authority (NCA)
	MARNet <a href="http://marnet.mk/">http://marnet.mk/</a>	MARNet	Body responsible for domain name policy making, and national domain name registry.
	Nacionalen CIRT (to be established, ongoing)	National CIRT (to be established, ongoing)	Body responsible for network security (Art. 13a, 13b Framework Directive); Computer emergency response team (CERT); body responsible for cyber attacks, national alert platforms and harmful content alert hotlines
	Koordinativno telo za intelektualna sopstvenost <a href="http://www.ippo.gov.mk/IPPOWEBNew.nsf/koordinativnotelo.xsp">http://www.ippo.gov.mk/IPPOWEBNew.nsf/koordinativnotelo.xsp</a>	Coordinative body for intellectual property rights	Body responsible for the enforcement of intellectual property rights
Montenegro	Ministarstvo za informaciono društvo i telekomunikacije <a href="http://www.mid.gov.me/">http://www.mid.gov.me/</a>	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 Body responsible for domain name policy making, and national domain name registry Computer emergency response team (CERT): Crnogorski CIRT / Montenegro CIRT ( <a href="http://www.cirt.me">www.cirt.me</a> )
	Agencija za elektronske komunikacije i poštansku djelatnost <a href="http://www.ekip.me/">http://www.ekip.me/</a>	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 <a href="http://www.uzzk.gov.me/">http://www.uzzk.gov.me/</a>	Administration for Protection of Competition	National competition authority (NCA)
	Agencija za elektronske medije <a href="http://www.ardcg.org/">http://www.ardcg.org/</a>	Agency for Electronic Media	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)
	Uprava za inspekcijske poslove <a href="http://www.uip.gov.me/">http://www.uip.gov.me/</a>	Inspection Directorate	Electronic Signatures Directive: body (bodies) responsible for supervision and/or accreditation
	Zavod za intelektualnu svojinu <a href="http://www.ziscg.me/">http://www.ziscg.me/</a>	Intellectual Property Office	Body responsible for the enforcement of intellectual property rights
	Radio difuzni centar Crne Gore <a href="http://www.rdc.co.me/">http://www.rdc.co.me/</a>	Broadcast Center of Montenegro	Body responsible for the implementation of the R&TTE Directive
	Zavod za statistiku Crne Gore – MONSTAT <a href="http://www.monstat.org/cg/">http://www.monstat.org/cg/</a>	Statistical Office of Montenegro	Body responsible for information society statistics
	Agencija za zaštitu ličnih podataka <a href="http://azlp.me/">http://azlp.me/</a>	Agency for Personal Data Protection	Data protection authority Body responsible for personal data security (Art. 4 e-Privacy Directive)
	.ME Register (doMEEn) <a href="http://www.domen.me/">http://www.domen.me/</a>	.ME Register (doMEEn)	National domain name registry
Serbia	Ministarstvo spoljne i unutrašnje trgovine i telekomunikacija <a href="http://www.mtt.gov.rs">www.mtt.gov.rs</a>	Ministry of Foreign and Internal Trade and Telecommunications	Ministry responsible for information society policy making in general Ministry responsible for electronic communications legislation and policy making Electronic Commerce Directive: body responsible for supervision and national contact point
	Uprava za digitalnu agendu <a href="http://www.digitalnaagenda.gov.rs">www.digitalnaagenda.gov.rs</a>	Digital Agenda Administration	Administrative body responsible for information society regulation within the ministry Electronic Signatures Directive: body responsible for supervision
	Republička agencija za elektronske komunikacije (RATEL) <a href="http://www.ratel.rs">www.ratel.rs</a>	Republic Agency for Electronic Communications	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) (together with the data protection authority)
	Komisija za zaštitu konkurencije <a href="http://www.kzk.org.rs">www.kzk.org.rs</a>	Commission for Protection of Competition	National competition authority (NCA)
	Poverenik za informacije od javnog značaja i zaštitu podataka o ličnosti <a href="http://www.poverenik.rs">www.poverenik.rs</a>	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)



Country	Name of the body (in original language) Link to website, if available	Name of the body (in English)	Responsibilities (see list below)
	Zavod za intelektualnu svojinu <a href="http://www.zis.gov.rs">www.zis.gov.rs</a>	Intellectual Property Office	Body responsible for the enforcement of intellectual property rights
	Republička radiodifuzna agencija <a href="http://www.rra.org.rs">www.rra.org.rs</a>	Republic Broadcasting Agency	Audio-visual media regulator (or broadcasting authority)
	Republički zavod za statistiku <a href="http://webzs.stat.gov.rs">webzs.stat.gov.rs</a>	Statistical Office of the Republic of Serbia	Body responsible for information society statistics
	Registar nacionalnog internet domena Srbije (RNIDS) <a href="http://rnids.rs">rnids.rs</a> <a href="http://pнидс.срб">pнидс.срб</a>	Register of National Internet Domain of Serbia (RNIDS)	Body responsible for domain name policy making and national domain name registry
	Racunarski centar Univerziteta u Beogradu AMRES-CSIRT <a href="http://csirt.amres.ac.rs">csirt.amres.ac.rs</a>	Serbian Academic Network AMRES-CSIRT	Computer emergency response team (CERT) It is planned to establish a state CERT by the new law on information security.
Turkey	Kalkınma Bakanlığı– Bilgi Toplumu Daire Başkanlığı <a href="http://www.bilgitoplumu.gov.tr/">http://www.bilgitoplumu.gov.tr/</a>	Ministry of Development – Information Society Department	Responsible for information society policy making in general
	Ulaştırma, Denizcilik ve Haberleşme Bakanlığı <a href="http://www.ubak.gov.tr/">http://www.ubak.gov.tr/</a>	Ministry of Transport, Maritime Affairs and Communications	Ministry responsible for electronic communications legislation and policy making, e-government, cyber security
	Bilgi Teknolojileri ve İletişim Kurumu (BTK) <a href="http://www.tk.gov.tr/">http://www.tk.gov.tr/</a>	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 Body responsible for secondary legislation on domain names Body responsible for data protection in the field of electronic communications
	Telekomünikasyon İletişim Başkanlığı (TİB) <a href="http://www.tib.gov.tr/">http://www.tib.gov.tr/</a>	Telecommunication Communication Presidency (TCP)	A body within ICTA, in particular responsible for the Law no. 5651, dated May 4, 2007 on “Regulation of publications on the internet and combating crimes committed by means of such publications”

Country	Name of the body (in original language) Link to website, if available	Name of the body (in English)	Responsibilities (see list below)
	Rekabet Kurumu <a href="http://www.rekabet.gov.tr/">http://www.rekabet.gov.tr/</a>	Competition Authority	National competition authority (NCA)
	Radio ve Televizyon Üst Kurumu (RTÜK) <a href="http://www.rtuk.org.tr/">http://www.rtuk.org.tr/</a>	Radio and Television Supreme Council	Broadcasting authority
	Türkiye İstatistik Kurumu <a href="http://www.tuik.gov.tr/">http://www.tuik.gov.tr/</a>	Turkish Statistical Institute <a href="http://www.turkstat.gov.tr/">http://www.turkstat.gov.tr/</a>	Body responsible for information society statistics
	Kültür ve Turizm Bakanlığı <a href="http://www.kultur.gov.tr/">http://www.kultur.gov.tr/</a>	Ministry of Culture and Tourism	Body responsible for the enforcement of intellectual property rights
	Orta Doğu Teknik Üniversitesi Nic.tr <a href="https://www.nic.tr/">https://www.nic.tr/</a>	Middle East Technical University Nic.tr	National domain name registry
	TR CERT <a href="http://www.tr-cert.gov.tr/">http://www.tr-cert.gov.tr/</a>	TR CERT	Computer emergency response team (CERT)
Albania	Ministri për Inovacionin dhe Administratën Publike (until Sep. 2013: Ministri për Inovacionin Teknologjine e Informacionit dhe Komunikimit, <a href="http://www.mitik.gov.al">www.mitik.gov.al</a> )	Minister for Innovation and Public Administration (until Sep. 2013: Minister for Innovation and ICT)	Policy making on electronic communication and postal services. Leading information society development process
	Autoriteti i Komunikimeve Elektronike dhe Postare <a href="http://www.akep.al">www.akep.al</a>	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 546 dated June 13, 2013)
	Ajencia Kombetare për Shoqërinë e Informacionit <a href="http://www.akshi.gov.al">www.akshi.gov.al</a>	National Agency on Information Society	Government Agency for development of e-government and information society
	Autoriteti i Konkurrencës <a href="http://www.caa.gov.al">www.caa.gov.al</a>	Competition Authority	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)
	Autoriteti per Median Audiovizive <a href="http://www.ama.gov.al">www.ama.gov.al</a>	Authority on Audio Visual Media	National regulatory authority for audio visual media
	Autoriteti Kombëtar për Çertifikimin Elektronik <a href="http://www.akce.gov.al">www.akce.gov.al</a>	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 <a href="http://www.zshda.gov.al">www.zshda.gov.al</a>	Albanian Office for the Rights of Authors	Government Agency responsible for rights of authors
	Komisioneri për Mbrojtjen e të dhënave personale <a href="http://www.kmdp.al">www.kmdp.al</a>	Data Commissioner Office	Independent body responsible for protection of personal data
	Komisioni i Mbrojtjes së Konsumatorit <a href="http://www.kmk.al">www.kmk.al</a>	Consumer Protection Commission	Electronic Commerce Directive: body responsible for supervision and national contact point
	Agjencia Kombëtare për Sigurinë Kompjuterike	National Cyber Security Agency (ALCIRT)	Government agency responsible for cyber attacks.
Bosnia & Herzegovina	Ministarsto komunikacija i transporta BiH <a href="http://www.mkt.gov.ba">www.mkt.gov.ba</a>	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 <a href="http://www.rak.ba">www.rak.ba</a>	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 <a href="http://www.bihkonk.gov.ba">www.bihkonk.gov.ba</a>	Competition Council B&H	National competition authority (NCA)
	Agencija za statistiku BiH <a href="http://www.bhas.ba">www.bhas.ba</a>	Agency for Statistics B&H	Body responsible for information society statistics****
	Agencija za zaštitu ličnih podataka u BiH <a href="http://www.azlp.gov.ba">www.azlp.gov.ba</a>	Personal Data Protection Agency in B&H	Data protection authority Body responsible for personal data security (Art. 4 e-Privacy Directive)

Country	Name of the body (in original language) Link to website, if available	Name of the body (in English)	Responsibilities (see list below)
	Institut za intelektualno vlasništvo BiH <a href="http://www.ipr.gov.ba">www.ipr.gov.ba</a>	Institute for Intellectual Property of B&H	Body responsible for the enforcement of intellectual property rights
	Univerzitetski tele-informatički centar (UTIC) <a href="http://www.utic.ba">www.utic.ba</a>	University tele-informatic centre (UTIC)	Body responsible for domain name policy making and national domain name registry
	<p>* Council of Ministers of B&amp;H is responsible for adopting policies for communications and information society. The Ministry of Communication and Transport of B&amp;H is in charge of information society until the Agency for Information Society of B&amp;H will be established.</p> <p>** Ministry of Foreign Trade and Economic Relations of B&amp;H is responsible for administratively-technical activities regarding the development of technical regulations by adopting the directives of new EU approach into domestic legislation.</p> <p>*** Office for supervision and accreditation should be established within Ministry of Communications and Transport of B&amp;H.</p> <p>**** From 2014 Agency for Statistics of B&amp;H will start issuing statistics based on the Eurostat methodology that will cover the domain of ICT Benchmarking.</p>		
Kosovo*	Autoriteti Rregullativ i Komunikimeve Elektronike dhe Postare <a href="http://www.arkep-ks.org">www.arkep-ks.org</a>	Regulatory Authority of Electronic and Postal Communications	<p>National regulatory authority for electronic communications regulation (NRA)</p> <p>Body responsible for network security (Art. 13a, 13b Framework Directive)</p> <p>Body responsible for personal data security (Art. 4 e-Privacy Directive)</p> <p>Body responsible for the implementation of the R&amp;TTE Directive</p> <p>Responsible to operate a CERT under the new Law on electronic communications</p>
	Ministria e Zhvillimit Ekonomik <a href="http://mzhe.rks-gov.net">mzhe.rks-gov.net</a>	Ministry of Economic Development	<p>Responsible for electronic communications legislation and policy making</p> <p>Responsible for information society policy making in general</p> <p>Electronic Commerce Directive: body (bodies) responsible for supervision and national contact point</p>
	Komisioni Kosovar i Konkurrencës <a href="http://ak.rks-gov.net">ak.rks-gov.net</a>	Kosovo Competition Commission	National competition authority (NCA)
	Komisioni I Pavarur për Media <a href="http://www.kpm-ks.org">www.kpm-ks.org</a>	Independent Media Commission	Audio-visual media regulator (or broadcasting authority)
	Agjencia Shtetërore për Mbrojtjen e të Dhënave Personale <a href="http://www.amdp-rks.org">www.amdp-rks.org</a>	National Agency for Personal Data Protection	Data protection authority
	Agjencia e Statistikave të Kosovës <a href="http://esk.rks-gov.net">esk.rks-gov.net</a>	Kosovo Agency of Statistics	Body responsible for information society statistics

Country	Name of the body (in original language) Link to website, if available	Name of the body (in English)	Responsibilities (see list below)
	Ministria e Kulturës, Rinisë dhe Sportit <a href="http://www.mkrs-ks.org/?page=1,102">http://www.mkrs-ks.org/?page=1,102</a>	Ministry of Culture, Youth and Sports	Bodies responsible for the enforcement of intellectual property rights
	Task Forca Kundër Piratëris dhe Falsifikimit <a href="http://www.mkrs-ks.org/?page=1,6,589">http://www.mkrs-ks.org/?page=1,6,589</a>	Task Force against Piracy and Forgery	

Table C.4 – Bodies responsible for electronic communications and information society topics

## D. National regulatory authorities

This section examines the institutional framework in the electronic communications sector. In addition to the scope of NRA powers and responsibilities, this section addresses 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	28.10%		Ministry of Finance
FYR Macedonia	A.D. Makedonski Telekom	34.81%	Yes	Ministry of Finance
Montenegro	-	-	-	-
Serbia	Telekom Srbija a.d.	58.11%	Yes	Ministry of Finance
Turkey	Türk Telekomünikasyon A.Ş.	31.68%	Yes	Undersecretariat of Treasury
	Avea İletişim Hizmetleri A.Ş.	28.50%	-	Undersecretariat of Treasury Ownership functions are exercised by Treasury through its 31.68% share in Türk Telekomünikasyon AŞ which has 89.99% shares of Avea.
	Türksat A.Ş.	100.00%	-	Undersecretariat of Treasury
Albania	Albtelecom sh.a (with Eagle Mobile)	24.00%	-	Ministry of Economy, Trade and Energy

Country	Name of operator	State shareholding	Golden share	Government unit responsible for ownership functions
Bosnia & Herzegovina	BH Telecom d.d. Sarajevo	90.00%	-	Federation of B&H
	Hrvatske telekomunikacije d.d. Mostar	50.10%	-	Federation of B&H
Kosovo*	PTK (Post and Telecommunications Enterprise of Kosovo)	100.00%	-	Ministry of Economic Development

Table D.1 – State ownership of telecommunications operators

Notes:

Croatia: Croatian State divested remaining shares in the incumbent Hrvatski Telekom d.d. (HT) in December 2010. Deutsche Telekom is the majority shareholder with a 51% holding, the Croatian War Veterans' Fund owns 7%, State Retirement Fund holds 3.5% and Institutional and private investors own the remaining 38.5%.

Iceland: Farice ehf operates submarine fibre optic cables from Iceland to Denmark and the UK. Another 26.7% of shares in Farice is owned by Landsvirkjun, an energy company owned by the Icelandic State. The remaining shares are held by Arion bank.

Serbia: Of the remaining share capital in Telekom Srbija, 20% is owned by Telekom Srbija, 6.94% by its former employees and 14.95% - by citizens of the Republic of Serbia.

Kosovo\*: The privatisation process of the PTK initially launched in late 2010 was cancelled in October 2011, but re-launched again in 2012. In April 2013 the government approved the €277m bid of Germany's Axos Capital for the privatisation of 75% of PTK, but the deal failed to received parliamentary approval and the privatisation process was stopped in December 2013.

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

The table below shows whether certain NRA decisions are subject to approval by the relevant ministry or the government (e.g. US provider designation, relevant markets to be analysed by the NRA, timing of market analyses) and the ministry or the government may 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)	<p>Under Article 4 LEC the Ministry:</p> <ul style="list-style-type: none"> <li>may give guidelines 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> </ul> <p>While carrying out of regulatory tasks, HAKOM shall not seek or take instructions from any other body (Article 5 LEC).</p> <p>Any type of influence on HAKOM work that might jeopardise its autonomy and independence is prohibited (Article 7 LEC).</p>

Country	Government (ministry) approval required for adopting certain regulatory decisions?	Government (ministry) powers to give instructions to NRA?
Iceland	<p>The Minister competent for the electronic communications (the Minister of Interior):</p> <ul style="list-style-type: none"> <li>• gives approval for PTA to appeal decisions of the appellate committee to the courts</li> <li>• determines 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 methodology for calculating the financial contributions needed for universal service that are reviewed annually by PTA (Article 22 ECA)</li> <li>• adopts bylaws foreseen under ECA.</li> </ul>	<p>Article 1 of the Law on Post and Telecom Administration:</p> <p>PTA is an independent institution under the ultimate administration of the Minister of Interior. The meaning of the ultimate administration in this context includes policy making and budgetary issues</p> <p>PTA is independent in regards to all administrative decisions.</p>
FYR Macedonia	<ul style="list-style-type: none"> <li>• Government issues to AEC its prior consent for the amount of 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 the contract between the universal service provider and AEC (Article 6(2), LEC)</li> </ul>	<ul style="list-style-type: none"> <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>
Montenegro	<p>The government:</p> <ul style="list-style-type: none"> <li>• approves the plan for allocation of radio frequency spectrum following EKIP's proposal (Article 5 of the Law on Electronic Communications – LEC)</li> <li>• decides on the scope of universal service based on proposal made by EKIP to the Ministry (Article 5 LEC)</li> <li>• defines the terms for use of electronic communications networks in the event of emergency</li> </ul> <p>The Ministry:</p> <ul style="list-style-type: none"> <li>• adopts bylaws for which the inputs are prepared by EKIP</li> <li>• approves following EKIP's proposal the minimum transmission speed for functional internet access within the scope of USO (Article 83 LEC) and QoS parameters for USO (Article 91 LEC)</li> <li>• decides on the minimum reserve price in spectrum auctions (Article 106 LEC)</li> <li>• prescribes criteria and methodology that EKIP shall comply with when determining the amount of fees paid by operators of electronic communications networks and service providers for the use of limited resources – frequencies and numbers (Article 124, 138 LEC)</li> </ul>	<ul style="list-style-type: none"> <li>• EKIP is an independent regulatory body that in carrying out its regulatory tasks shall not seek or take instructions from state bodies or any other bodies and organisations (Article 8 LEC)</li> <li>• LEC foresees two types of supervisory powers in electronic communications: inspection supervision performed by Market Inspectorate under the Ministry of Economy and expert supervision performed by EKIP</li> <li>• Government provides an opinion to Parliament regarding EKIP business plan with a financial plan and to EKIP regarding the financial statement.</li> </ul>

Country	Government (ministry) approval required for adopting certain regulatory decisions?	Government (ministry) powers to give instructions to NRA?
Serbia	<ul style="list-style-type: none"> <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>• The government approves the Frequency Allocation Plan on a proposal made by the ministry that was prepared by RATEL (Article 83, Law on Electronic Communications – LEC).</li> <li>• The ministry adopts the Frequency Assignment Plan on a proposal made by RATEL (Article 84, LEC).</li> <li>• The ministry adopts the Act on a switchover from analogue to digital broadcasting of television programs on a proposal made by RATEL (Article 104, LEC).</li> <li>• On a proposal made by RATEL, the ministry determines universal service geographic scope, the quality of service as well as the necessary requirements for the accessibility for disabled persons (Article 55, LEC)</li> </ul>	<ul style="list-style-type: none"> <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>• 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 (Article 23, LEC).</li> <li>• The Ministry is authorised to perform inspection supervision of electronic communication activities (Articles 132-135, LEC).</li> </ul>
Turkey	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <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 ICTA).</li> <li>• However according to the article 45 of the Decree Law No. 649 of August 17, 2011, the minister is entitled to audit performance and activities of national regulatory authorities in all aspects.</li> </ul>
Albania	<ul style="list-style-type: none"> <li>• 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).</li> <li>• The government approves, upon proposal of the Minister, the regulations related to the designation of the universal service providers (Article 5, 26 LEC).</li> <li>• The government adopts the National Radio Frequency Plan, upon the proposal of the Minister (Article 63, LEC).</li> </ul>	<ul style="list-style-type: none"> <li>• 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).</li> <li>• 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).</li> <li>• 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).</li> <li>• 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).</li> </ul>



Country	Government (ministry) approval required for adopting certain regulatory decisions?	Government (ministry) powers to give instructions to NRA?
Bosnia & Herzegovina	<p>Council of Ministers, based on a proposal of RAK:</p> <ul style="list-style-type: none"> <li>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)</li> <li>adopts the schedule of infractions and resulting penalties that may be imposed by RAK (Article 46 of the LC).</li> </ul>	<ul style="list-style-type: none"> <li>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).</li> <li>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.</li> </ul>
Kosovo*	<p>The government:</p> <ul style="list-style-type: none"> <li>adopts the National Radio-Frequencies Plan, prepared by the NRA in cooperation with the ministry, and proposes it to parliament for approval (Article 6(2), Law No. 04/L-109 on electronic communications)</li> <li>may set the price caps for the universal services if deemed necessary as well as the procedure, conditions, cases and sources for compensation of losses incurred in connection with the provision of services (Article 28(4), Law No. 04/L-109 on electronic communications)</li> </ul>	<p>The NRA is chaired by the Board, which is independent in the decision making and functions based on the NRA Statute and Internal Regulation, adopted by the Board (Article 78(1), Law No. 04/L-109 on electronic communications)</p> <p>The ministry may request the NRA to establish universal service quality requirements and the rules for publishing information on the quality of services, also to adopt legal acts implementing the rules for provision of universal service (Article 28(6), Law No. 04/L-109 on electronic communications)</p>

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 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 Parliament in July 2003 and amended in Dec. 2006 by an Act No. 172, which entered into force on Jan. 1, 2007. PTA has the duty to inform the Ministry if it 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.

### 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.

Country	NRA management	Bodies involved in appointment	Duration of office term (and reappointment possibility)	Bodies involved in dismissal	Grounds for dismissal
Croatia	Council (reduced from 7 to 5 members)	Parliament, based on the proposal of the government	5 years Possibility of reappointment without limitation	Parliament, based on the proposal of the government	<ul style="list-style-type: none"> <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 programme</li> <li>• Conflict of interest</li> </ul> <p>Based on an <a href="#">amendment</a> to LEC adopted on Nov. 28, 2012 that reduces the number of HAKOM Council members from seven to five, the entire Council of HAKOM was dismissed and a new Council was appointed on Feb. 22, 2013.</p>
	Director	Council, after the public recruitment procedure	4 years Possibility of reappointment without limitation	Council	Same as for the Council members (see above)
Iceland	Managing director	Appointed by the Minister of Interior	5 years Possibility of reappointments without limitation	Minister	<p>General Law on rights and duties of public officials and employees of the State, no. 70-1996, Chapter VI, Paragraph 26-37</p> <ul style="list-style-type: none"> <li>• Resignation upon own request</li> <li>• Repeated or gross negligence at work</li> <li>• Failure to comply with the budget requirements</li> <li>• Failure to achieve satisfactory results</li> <li>• Conflict of interest</li> <li>• Conviction for a criminal act</li> <li>• Inability to perform duties for reasons of illness or injury</li> </ul>

Country	NRA management	Bodies involved in appointment	Duration of office term (and reappointment possibility)	Bodies involved in dismissal	Grounds for dismissal
FYR Macedonia	Commission (5 members)	National Assembly	5 years 2 consecutive term limitation	National Assembly	<ul style="list-style-type: none"> <li>• Upon own request</li> <li>• Conviction for a crime by a prison sentence 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>
	Director	Commission, after the public recruitment procedure	5 years 2 consecutive term limitation	Commission	<ul style="list-style-type: none"> <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 (conflict of interest)</li> <li>• Conviction 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 defined in the auditing report</li> <li>• Abuse of the position</li> </ul>
Montenegro	Council (5 members)	Parliament, after the public recruitment procedure	5 years 2 consecutive term limitation	Parliament	<ul style="list-style-type: none"> <li>• Candidate provided incorrect information in the process of applying for appointment or failed to provide information that was relevant to the appointment</li> <li>• Conviction of a crime, or an act making them discreditable for performing duties</li> <li>• Violations of the Law or the provisions there under</li> <li>• Performing duties incompetently or negligently</li> <li>• If their performance or conduct damages the reputation and independence of EKIP</li> <li>• Permanent loss of ability to perform duties</li> <li>• Conflict of interest</li> <li>• Collective dismissal in case of the failure to receive approval of the NRA annual and financial report by Parliament</li> </ul>

Country	NRA management	Bodies involved in appointment	Duration of office term (and reappointment possibility)	Bodies involved in dismissal	Grounds for dismissal
	Executive Director	Council, after the public recruitment procedure	4 years 2 consecutive term limitation	Council	<ul style="list-style-type: none"> <li>• Candidate provided incorrect information in the process of applying for appointment or failed to provide information that was relevant to the appointment</li> <li>• Conviction of a crime, or an act making them discreditable for performing duties</li> <li>• Violations of the Law or the provisions there under</li> <li>• Performing duties incompetently or negligently</li> <li>• If performance or conduct damages the reputation and independence of EKIP</li> <li>• Permanent loss of ability to perform duties</li> <li>• Conflict of interest</li> </ul>
Serbia	Managing board (5 members)	National Assembly based on the proposal of the government following a public recruitment procedure	5 years 2 consecutive term limitation	National Assembly, at its own initiative or based on the proposal of the government	<ul style="list-style-type: none"> <li>• Candidate provided incorrect information in the process of applying for appointment or failed to provide information that was relevant to the appointment</li> <li>• Violation of rules on conflict of interest</li> <li>• Inability to exercise professional duties for more than 6 consecutive months</li> <li>• Refusal or failure to perform the duties 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 following a public recruitment procedure	5 years Possibility of reappointment without limitation	Managing Board	<ul style="list-style-type: none"> <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 consecutive 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>

Country	NRA management	Bodies involved in appointment	Duration of office term (and reappointment possibility)	Bodies involved in dismissal	Grounds for dismissal
Turkey	Board (7 members)	<ul style="list-style-type: none"> <li>Two members that represent the telecommunications sector are nominated by operators having at least 10% market share</li> <li>one member that represents the consumers nominated by the Ministry of Customs and Trade with Turkish Union of Chambers and Commodity Exchanges</li> <li>three members of whom one represents 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.</li> </ul>	5 years Possibility of reappointment without limitation	Council of Ministers	<ul style="list-style-type: none"> <li>Inability to work due to serious illness</li> <li>Failure to comply with the requirements for being appointed</li> </ul>
Albania	Governing Council (5 members)	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 style="list-style-type: none"> <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>

Country	NRA management	Bodies involved in appointment	Duration of office term (and reappointment possibility)	Bodies involved in dismissal	Grounds for dismissal
Bosnia & Herzegovina	Council (7 members)	Parliamentary Assembly, based on the proposal by the Council of Ministers, following an initial selection procedure by an ad hoc commission appointed by Parliamentary Assembly	4 years 2 consecutive term limitation	Parliamentary Assembly	<ul style="list-style-type: none"> <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, 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 by RAK Council	4 years 2 consecutive term limitation	Council of Ministers	<ul style="list-style-type: none"> <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, 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>
Kosovo*	Board (5 members)	National Assembly, based on the proposal of the government, following a recommendation by the Minister	5 years 2 consecutive terms limitation	National Assembly	<ul style="list-style-type: none"> <li>• Physical or mental incapability of carrying on assigned tasks</li> <li>• Conviction of a crime by a final court judgment</li> <li>• Appointment as a member of Parliament or a local government body</li> <li>• Refusal to carry on assigned tasks without cause or inability to exercise the duties for 6 months or more</li> <li>• Conflict of interest</li> <li>• Acting in contradiction with the provisions of the law</li> <li>• Reaching retirement age</li> <li>• Own request</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 2010-2013 (including capital investments, e.g. real estate).

Country	2010	2011	2012	2013 (estimate)
Croatia	10,953	13,898	12,820	12,458
Iceland	1,947	1,961	2,046	n/a
FYR Macedonia	3,343	4,642	13,964	10,500
Montenegro	5,182	4,691	4,616	4,242
Serbia	6,462	7,202	6,383	6,200
Turkey	67,308	89,652	70,864	n/a
Albania	1,669	1,639	1,223	1,952
Bosnia & Herzegovina	4,334	2,906	3,677	4,010
Kosovo*	772	804	690	1,090

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

**Notes:**

FYR Macedonia: The 2012 figure refers to the realised budget, which includes capital investments financed through transfers from the NRA reserves.

The next table shows NRA revenue in 2012 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 revenue	Revenue sources					Funds allocation			
		Revenue-based fees	Authorisation/ registration fees	Spectrum fees	Numbering fees	Other	NRA operational expenses (incl. capital investments)	State budget	Transfers to US fund	Transfers to/from NRA reserves
Croatia	14,624,183	4,225,139		8,096,874	904,245	1,397,925	12,820,233			1,803,951
Iceland	1,961	890	0.4	750	231	89	1,961	-	232	-
FYR Macedonia	8,666,092	969,428		6,404,920	859,914	431,851	13,964,212			-5,298,120
Montenegro	4,616,536	2,578,000	10,000	1,388,536	475,000	165,000	4,396,701			219,835
Serbia	12,435,056	4,362,491		5,194,285	1,964,448	911,433	6,382,635	6,052,422		
Turkey	667,072,505			591,366,973		75,705,531	70,864,049	355,626,092	122,040,626	118,541,739
Albania	2,080,740			1,855,932	172,645	52,163	1,222,901	857,839		
Bosnia & Herzegovina	5,259,074	2,467,128		159,030	2,543,951	88,965	3,677,185			1,581,889
Kosovo*	5,749,363	723,280	39,500	4,248,425	324,780	413,378	690,188	5,059,175		

Table D.5 – NRA revenue and allocation of funds in 2012, in euro

Notes:

Bosnia & Herzegovina: Fund surplus of €1,581,889 reserved for digitalisation project, but not allocated yet. The allocation shall be done upon the formal decision of the Council of Ministers.

## 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 2013 (2012)			Restrictions to the NRA ability to recruit new staff and/or to set salary level
	Total	Handling electronic communications regulatory tasks	Handling frequency monitoring tasks	
Croatia	170 (171)	69 (70)	20 (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 Financial Plan. Both the Annual Activity Programme and the Annual Financial Plan are subject to the prior approval by the government.
Iceland	22 (27)	9 (11)	5 (5)	No legal restrictions
FYR Macedonia	134 (126)	39 (47)	26 (28)	No legal restrictions
Montenegro	69 (65)	22 (22)	14 (13)	No legal restrictions The number of staff and salaries are set according to the financial plan approved by parliament. 7% reduction in salaries of the top NRA management was implemented in 2013.
Serbia	105 (106)	46 (42)	18 (29)	Number of employees is defined in the financial plan approved by the government. From Sep. 29, 2012 the salaries of RATEL staff must be set in accordance with the Law on the determination of the maximum level of the salaries in the public sector (Official Gazette of the Republic of Serbia No. 93/2012). As a result, the salary level of the NRA staff has been decreased by the 40% and it is significantly below the salaries paid for the similar jobs in the telecommunications companies. Amendments to the Budget System Law passed by the Serbian parliament in December 2013 introduce a ban on recruiting new employees in the public sector until 2016, so that RATEL has been restricted from employing new staff, except in exceptional circumstances and subject to government consent.
Turkey	805 (763)	474 (374)	53 (35)	Until Nov. 2011, the salary level of ICTA staff was set according to an internal system of grades. The upper limit to 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. According to the Decree Law No. 666 of Nov. 2, 2011, ICTA may no longer set the salary of its newly recruited staff independently. The salary level of all newly recruited experts is based on the same financial and social rights as experts employed in other ministries and regulatory authorities. The salaries of the staff recruited before Nov. 2011 continue to be set according to the internal grade system.
Albania	60 (60)	32 (32)	8 (8)	The structure and the level of salaries are determined in accordance with the Law No. 9584 of July 17, 2006 that links the salary levels of independent institutions to the salary levels of civil service positions.
Bosnia & Herzegovina	118 (118)	32 (32)	29 (30)	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.

Country	Employees of the NRA in 2013 (2012)			Restrictions to the NRA ability to recruit new staff and/or to set salary level
	Total	Handling electronic communications regulatory tasks	Handling frequency monitoring tasks	
Kosovo*	37 (33)	8 (8)	8 (8)	<p>The number of employees and the recruitment is restricted by parliament.</p> <p>The structure and the level of salaries of ARKEP staff correspond to the civil servant salaries.</p> <p>The Members of the Board do not have civil servant status and are paid according to the salary schedule applicable to members of Independent Boards approved by parliament every year with the Law on annual budget.</p>

Table D.6 – NRA staffing and salary level

## 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	Annual activity report and financial report are submitted to the government and Parliament 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 under the Electronic 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. In 2011 the amount was ISK 32.4m (€190k) and in 2012 it is ISK 7m (€40k).
FYR Macedonia	National Assembly approves the financial and operational plan of AEC for the next year. Publication on AEC website	Annual report is approved by the National Assembly. The report for has to be submitted not later than by March 31 and has to contain: <ul style="list-style-type: none"> <li>a report on AEC activities in the previous year</li> <li>a report on the electronic communications market in the</li> </ul>	Annual financial plan is approved by National Assembly	Financial report has to be submitted for approval to the National Assembly together with the annual activity report. Financial report is audited by an independent commercial audit company. Another audit can be conducted by the State audit body	According to the amended Article 26(6) of the Law of electronic communications, AEC transfers unrealised funds the previous year budget into the next year. It may decide to use the funds fully or partially for development of electronic communications and information society in accordance with its approved financial plan.

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
		previous year <ul style="list-style-type: none"> <li>• a report on the status of assets in the US fund</li> <li>• a report on executing the annual financial plan</li> <li>• an audit report prepared by an independent commercial auditor</li> </ul>			
Montenegro	Work program is delivered to Parliament for adoption. The government provides opinion to Parliament regarding the business plan with a financial plan. Publication on Ekip website	Ekip prepares Annual Activity Report for previous year (Article 26 of LEC). Parliament adopts the Annual Activity Report of Ekip. Reports are published on Ekip website.	Ekip delivers its Financial Plan for next calendar year to Parliament for adoption. The government provides opinion to Parliament regarding the business plan with a financial plan.	The audit of the Financial Report is performed by independent auditors appointed by Ekip Council. The government provides opinion to Ekip regarding the financial statement.	If the total revenue is higher than total expenses, the surplus in funds shall be transferred to the state budget. This provision will be in force until January 1, 2016 (article 27 of LEC).
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.	<ul style="list-style-type: none"> <li>• According to the 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.</li> <li>• 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</li> </ul>

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
					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 Parliament once a year by submitting the annual report. Parliament issues a resolution, which provides an assessment of AKEP work for the previous year and also the main objectives/plans for the next year. Based on the resolution, AKEP board approves its action plan.	Results of AKEP work are presented in the annual report, submitted to Parliament.	Not later than three 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.	Financial report has to be submitted for approval to parliament as part of the annual report. AKEP shall keep full and accurate accounts of actual expenses, in compliance with the Albanian legislation on accounting.	Any amount exceeding the expenses of AKEP has to be transferred to the state budget.
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. Council of Ministers may not reduce the proposed budget by more than 20%.	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.

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
Kosovo*	Assembly approves the activity programme of ARKEP for the next year. Publication on ARKEP website	At the end of each year, ARKEP shall submit to the Assembly within the first half of the following year an annual report on its activities of the previous year. The report shall include: <ul style="list-style-type: none"> <li>• reporting on ARKEP work during the previous year</li> <li>• annual work programme for the coming year</li> <li>• reporting on the status of universal service</li> <li>• reporting on the implementation of the financial plan</li> <li>• data on the status of the electronic communications market.</li> </ul>	ARKEP has no independent budget and is funded from the state budget of Kosovo through the income collected by ARKEP. ARKEP shall prepare the draft financial plan and submit it to the Assembly for review and approval, in accordance with the Law on Public Financial Management and Accountability.	ARKEP shall report to the Assembly regarding the budgetary expenditures by annual report, at latest until 30 March of coming calendar year and special reporting whenever it is required by the Assembly. Financial statements are audited by independent auditor .	All funds collected by ARKEP are kept within the state budget. Transfers of the surplus from the collected funds for ARKEP next calendar year usage are not allowed.

Table D.7 – NRA accountability

## 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 to impose fines		Applied in practice (recent examples)
	Directly or only by referring to a court	Maximum amount of fine	
Croatia	HAKOM may impose fines directly but if a defendant lodges a complaint, the execution would be suspended until the outcome of the court proceedings. Following amendments to the Electronic Communications Act adopted in 2011, HAKOM inspectors may impose fines directly by issuing a misdemeanour order in accordance with the provisions of the Misdemeanour Act, specifying any fine and/or safeguard measure prescribed by the provisions of the Electronic Communications Act (Articles 118-121). Alternatively, a fine could be imposed 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 last year for which annual financial statements have been concluded.	Several proceedings 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 day for the failure to comply with the obligations by the set deadline	No
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	Several proceedings pending before the courts.
Montenegro	By referring case to a competent court	10% 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 pending before the courts
Serbia	By referring case to a competent court	€19,618 (RSD 2m)	No
Turkey	ICTA may impose fines directly	3% of the total annual revenue	No
Albania	AKEP may impose fines directly	€715k (ALL 100m)	No

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)	No
Kosovo*	ARKEP may impose fines directly	7% of the annual gross income from activities associated with electronic communications, and if it is difficult or impossible to calculate the volume of such activity – ARKEP may impose a fine in the amount not exceeding €86,000.  In case of a repeated or serious infringement, ARKEP may impose a fine of up to 10% of the annual gross income from activities associated with electronic communications, and if it is difficult or impossible to calculate the volume of such activity – ARKEP imposes a fine to the entrepreneur in the amount of not more than €150,000.	Three administrative final decisions which have imposed fines to KujtesaNet LLC and IPKO LLC are; <ul style="list-style-type: none"> <li>• Decision No. 358 on €97,500.00 fine for unauthorized usage of radio frequency resources - the frequency bands 3.4-3.6 MHz &amp; 3.6-3.8 MHz</li> <li>• Decision No. 359 on of €45,000.00 fine for unauthorised usage of radio frequency resources - the frequency bands 3.4 - 3.6 MHz</li> <li>• Decision No. 360 on €8,900.00 fine for unauthorised usage of PTP microwave links in the frequency channels 10 GHz for provision of internet services for KFOR commercial needs</li> </ul> All fines are executed and the same have not been appealed by the operator

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.



## 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 style="list-style-type: none"> <li>Disputes between electronic communications network operators.</li> <li>Disputes between electronic communications network operators and providers of value added services.</li> </ul>	<ul style="list-style-type: none"> <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 shall become enforceable upon delivery to the party. When a HAKOM decision specifies that an action is to be carried out within the specified time limit, the time limit for the performance of an action may not be less than 15 days.</li> </ul>	HAKOM decisions must be published on its website, taking into account the confidentiality of business information.
Iceland	<ul style="list-style-type: none"> <li>Disputes between electronic communications network operators</li> </ul>	<ul style="list-style-type: none"> <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 website, taking into account the confidentiality of business information.
FYR Macedonia	<ul style="list-style-type: none"> <li>Disputes between operators of electronic communications networks and service providers</li> </ul>	<ul style="list-style-type: none"> <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 website, taking into account the confidentiality of business information.
Montenegro	<ul style="list-style-type: none"> <li>Disputes among entities in the market of electronic communications.</li> </ul>	<ul style="list-style-type: none"> <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 90 days upon submitting a request for settling a dispute. Exceptionally, in the event that the administrative procedure is initiated at the request of the petitioner, the enforcement of EKIP's decision can be postponed until the court decision is made final.</li> </ul>	On EKIP website, taking into account the confidentiality of business information.
Serbia	<ul style="list-style-type: none"> <li>Disputes between electronic communications network operators.</li> </ul>	<ul style="list-style-type: none"> <li>RATEL intervenes after 60 days of unsuccessful negotiations on request of the involved operators</li> <li>RATEL issues binding decision within shortest time possible or maximum 60 days from receiving the request</li> </ul>	On RATEL 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.	<p>Bylaw on Access and Interconnection, article 18:</p> <ul style="list-style-type: none"> <li>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.</li> <li>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.</li> <li>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.</li> <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>	On ICTA website, taking into account the confidentiality of business information.
Albania	<ul style="list-style-type: none"> <li>Disputes between providers of electronic communications networks and services</li> </ul>	<ul style="list-style-type: none"> <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 website.
Bosnia & Herzegovina	<ul style="list-style-type: none"> <li>Disputes between providers of electronic communications networks and services: e.g. failure to reach an interconnection agreement</li> </ul>	<ul style="list-style-type: none"> <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.
Kosovo*	<ul style="list-style-type: none"> <li>Disputes involving service providers and owners of land and facilities</li> </ul>	<ul style="list-style-type: none"> <li>ARKEP 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.</li> <li>Upon receipt of a request by party to commence dispute resolution procedures, ARKEP shall have not longer than six (6) weeks to collect information for the purpose of accepting or rejecting such request.</li> <li>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.</li> </ul>	On ARKEP website

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	1-2 years
Iceland	<ul style="list-style-type: none"> <li>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.</li> <li>Second instance: District Court</li> </ul>	No	Yes	Yes, if it can prove that it has a legitimate interest in the case	<ul style="list-style-type: none"> <li>First instance: 8 weeks. An appeal must be received by the Rulings Committee within four weeks of the party learning of PTA's decision.</li> <li>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</li> </ul>
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 on correct application of the law, applicable bylaws and the procedure.	No	2 years The procedure is regulated by the <a href="#">Law on Administrative Disputes of May 19, 2006</a> A party can appeal the NRA decision within 30 days from the date of receipt of the decision.
Montenegro	Administrative Court	No Upon request of the prosecutor, the execution of the Ekip's decision may be deferred until the final court decision (Article 32, paragraph 6 of the LEC).	Yes	Yes, if it can prove that it has a legitimate interest in the case pursuant to the Law on general administrative procedure	No legal time limit within which the court must reach a decision.
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.

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
Turkey	<ul style="list-style-type: none"> <li>Council of State for appeals against ICTA decisions related to the sector</li> <li>Administrative Court appeals against the decisions of ICTA on the administrative fines</li> <li>Licence Coordination Council for the disputes on concession agreements</li> </ul>	No Only upon complainant's request, the court may suspend the appealed ICTA decision	Yes	Yes, if it can prove that it has a legitimate interest in the case.	There is no time limit for appeal procedure. A party can appeal the NRA decision within 60 days from the date of announcement of the decision or proceeding.
Albania	<ul style="list-style-type: none"> <li>First instance: Governing Council of AKEP for administrative appeal</li> <li>Second instance: First instance court</li> </ul>	Yes, in the case of administrative appeals, the AKEP decision is suspended until a decision is taken by the Governing Council of AKEP. No, when the appeal is presented to the First instance court	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	<ul style="list-style-type: none"> <li>First instance: Council of RAK</li> <li>Second instance: State Court of Bosnia &amp; Herzegovina</li> </ul>	No	Yes	Yes, if it can prove that it may be directly harmed by an annulment of the disputed decision.	<ul style="list-style-type: none"> <li>Council of RAK decides on an appeal within 30-60 days, depending on its scheduled sessions.</li> <li>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.</li> </ul>
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 ARKEP decisions may be appealed to the relevant Court within thirty (30) days from the date of adoption.

Table D.10 – Appeal procedures

## Notes:

Iceland: According to the 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.

Turkey: Licence Coordination Council is established separately for each agreement and composed of the representatives of the NRA and the operator concerned. The decisions of the Licence 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	15-45 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 style="list-style-type: none"> <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 conducting a consultation process in all other cases subject to the NRA's decision</li> </ul>	<ul style="list-style-type: none"> <li>Minimum 30 days for market analyses decisions covering market definitions, SMP designations and regulatory obligations.</li> <li>Minimum 15 days in other cases</li> </ul>	Yes, on the NRA's website
Serbia	<ul style="list-style-type: none"> <li>Public consultation on the draft bylaws</li> <li>Public consultation in cases where it is necessary to permanently regulate or additionally extend the effect of temporary measures prescribed by bylaws.</li> </ul>	<ul style="list-style-type: none"> <li>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</li> <li>Minimum 10 days in other cases</li> </ul>	Yes, on the NRA's website
Turkey	Draft legislation and documents on issues that have an effect on the electronic communications sector.	The time is determined by ICTA but usually is 30 days.	Yes, on the NRA's website
Albania	<ul style="list-style-type: none"> <li>In the preparation process of regulatory documents for the electronic communications market, and prior to taking decisions that will significantly influence the market.</li> <li>Regarding the conclusions reached on market analysis, SMP designation and remedies</li> </ul>	<ul style="list-style-type: none"> <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	Draft documents are published for consultation before issuing regulatory rules	Minimum 14 days	Yes, in Official Gazette of Bosnia and Herzegovina
Kosovo*	Draft legal acts on the basis of Electronic Communications Law or implementing legal acts which are expected to have a significant impact on the electronic communications market.	Usually 30 days Depending on the issue ARKEP may decide on time interval for public consultation. ARKEP usually practices 30 days for public consultation, unless stated otherwise depending from the issue.	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 national competition authorities (NCAs).

Country	Competition authority	Formal agreement between NRA and NCA	Any recent telecom-related cases investigated by NCA
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	<ul style="list-style-type: none"> <li>Investigation regarding possible abuse of significant market power by Hrvatski Telekom relating to exclusive right for sports content by providing the IPTV programme „Champions League“.</li> <li><b>Refusal to supply wholesale inputs – Hrvatski Telekom</b></li> <li><b>Concentration - Hrvatski Telekom / Optima</b></li> </ul>
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.	<p>In April 2012 the NCA issued a verdict that Siminn had abused its dominance through anti-competitive behaviour towards its competitors and a “price squeeze” in the market for mobile telecommunications. On August 24 the Competition Appellate Committee <a href="#">confirmed</a> the decision. In the period during 2001-2007 Siminn was found guilty of charging higher mobile termination rates on its network to other unrelated entities than to its own wholesale division. This violation by Siminn was considered serious in the light of its SMP status and by the way it forced its competitors and their customers to pay higher prices and at the same time allowing Siminn to increase its own revenue base and maintaining its dominant market position with lower prices to its own customers. For this reason the verdict of the NCA was confirmed and Siminn fined for ISK 390m (€2.26m).</p> <p>On March 26, 2013 a <a href="#">regulatory settlement</a> was reached between Skipti group and the NCA. As a result of this settlement, Skipti has made commitments to implement substantial organisational and structural changes aimed at achieving stronger separation of the wholesale subsidiary Mila from Síminn and other group companies and also ensuring that Síminn’s competitors would have equal access to wholesale inputs sold by Mila. Skipti also accepted to pay €1.9m in settlement to the government.</p>
FYR Macedonia	Commission for Protection of Competition	Yes In February 2007, AEC and the Competition Authority signed a Memorandum of Cooperation.	<ul style="list-style-type: none"> <li>Decision No. 08-77 of 09.04.2012 on concentration between NEOTEL DOO import-export, Skopje on one side and KOMBO 2003 DOO import-export Kumanovo on the other. The participants in the concentration are active on the market for telecommunication services;</li> <li>Decision No. 08-80 of 09.04.2012 on concentration between NEOTEL DOO import-export, Skopje on one side and Fikab DOOE import-export Tetovo on the other. The participants in the concentration are active on the market for telecommunication services;</li> <li>Decision No. 09-19 of 03.10.2012 – <i>CPC against Neotel DOO import-export Skopje</i> by which CPC fined Neotel with MKD 92,000 (€1,500) for a committed misdemeanor – not submitted notification for concentration between Neotel and FIKAB DOOEL import-export Skopje;</li> <li>Decision No. 09-20 of 03.10.2012 – <i>CPC against Neotel DOO import-export Skopje</i> by which CPC fined Neotel with MKD 92,000 (€1,500) for a committed misdemeanor – not submitted notification for concentration between Neotel and Company for telecommunications and serviced KOMBO 2003 DOO import-export</li> </ul>

Country	Competition authority	Formal agreement between NRA and NCA	Any recent telecom-related cases investigated by NCA
			<p>Kumanovo</p> <ul style="list-style-type: none"> <li>Decision No. 08-1 of 09.01.2012 - <i>CPC against Digi Plus Multimedia DOOEL Skopje and DISCOVERY COMMUNICATIONS EUROPE LIMITED United Kingdom</i>, that determined that the aforementioned subjects concluded a prohibited agreement on 09.11.2009. Namely the agreement they had signed, contained a provision by which the parties to the agreements apply different conditions for the same or similar legal transactions with other trading partners, by which the latter are placed at unfavourable position on the market of documentary/educational channels with Macedonian translation broadcasted in the territory of the Republic of Macedonia.</li> </ul>
Montenegro	Administration for Protection of Competition	<p>Yes</p> <p>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.</p>	None
Serbia	Commission for Protection of Competition (CPC)	<p>Yes</p> <p>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.</p>	<p>No</p> <p>The most recent case is <a href="#">Telekom Srbija - Opened investigation into alleged abuse of dominant position in DSL market</a> ("margin squeeze") – October 2011</p>
Turkey	Competition Authority	<p>Yes</p> <p>ICTA and the Turkish Competition Authority (TCA) signed a protocol of cooperation on November 2, 2011.</p>	<ul style="list-style-type: none"> <li>In March 2012 TCA adopted a decision No.12-10/328-98 whereby Türk Telekom was found dominant in the market that comprised the necessary infrastructure for the provision of Internet access services. TCA also found that Türk Telekom infringed Article 6 of the Competition Law no 4054 by setting the charges of services provided under the name of TTNNet to its users below the charges which it applied to competing undertakings in the same market.</li> <li>Another similar case was investigated by the TCA in 2013 – decision No.13-71/992-423, concluding that there has been no abuse of the dominant position.</li> <li>In May 2013 TCA opened investigation into Türk Telekom over the alleged sale of telephone charge cards to its dealers at prices below production costs.</li> </ul>
Albania	Competition Authority of Albania (CAA)	<p>Yes</p> <p>AKEP and CAA 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.</p>	<p>On March 25, 2013 CAA decided to start the procedure of in-depth investigation against Vodafone Albania for abuse of dominance in the retail mobile market. The decision was taken after a 3-month preliminary investigation carried out by CAA. The focus of investigation is the difference between on-net and off-net tariffs and the club effects.</p>



Country	Competition authority	Formal agreement between NRA and NCA	Any recent telecom-related cases investigated by NCA
Bosnia & Herzegovina	Competition Council of Bosnia and Herzegovina	No formal agreement between RAK and Competition Council	Several investigations on possible concentration in case of operators' mergers – no concentration found.
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).	No

Table D.12 – Cooperation between NRA and competition authority

## E. Market access conditions in electronic communications

### 1. 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: individual licence, class licence, general authorisation with/without notification to the NRA	Networks/services covered by the authorisation type	Authorisation charges/administrative fees	
			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 (in 2013) For 2014, the annual fees have been reduced to 0.20%, undertakings with annual turnover of HRK 1m (€131,000) or less are exempted from paying annual fees.
Iceland	General authorisation with notification to the NRA	All publicly available electronic communications networks and services	None	0.38% of annual revenue (increased from 0.30% in 2012)
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 may not exceed €250,000 per year. According to the total annual revenues, there are 5 categories of network operators and service providers: <ul style="list-style-type: none"> <li>• Less than €16,207 (MKD 1m) - 0.07%</li> <li>• €16,207 - €162,075 (MKD 1m to MKD 10m) - 0.14%</li> <li>• €162,075 - €1,620,746 (MKD 10m to MKD 100m) - 0.21%</li> <li>• €1,620,746 - €8,103,728 (MKD 100m to MKD 500m) - 0.28%</li> <li>• Above €8,103,728 (MKD 500m) - 0.35%</li> </ul>
Montenegro	General authorisation, with notification to the NRA	All publicly available electronic communications networks and services	None	<ul style="list-style-type: none"> <li>• 1.01% of 2010 annual revenue in 2011</li> <li>• 1.058% of 2011 annual revenue in 2012</li> </ul> Under Article 51 of the Law on Electronic Communications, annual fees may not exceed 1.5% of annual gross revenue of the previous year.
Serbia	General authorisation with notification to the NRA	All publicly available electronic communications networks and services	None	Up to 0.4% of annual revenue but not less than RSD 10,000 (€98) per year
Turkey	General authorisation with notification to the NRA	All publicly available electronic communications networks and services	None	0.35% of annual revenue
	<p>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 expiry, annulment or termination:</p> <ul style="list-style-type: none"> <li>• One authorisation agreement in force: Turksat (satellite operator)</li> <li>• Seven concession agreements in force: Turk Telekom, three for GSM services (valid until 2023) and three for UMTS/IMT-2000 services (valid until 2029).</li> </ul>			
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.

Country	Authorisation type: individual licence, class licence, general authorisation with/without notification to the NRA	Networks/services covered by the authorisation type	Authorisation charges/administrative fees	
			One-off fees	Annual fees
Bosnia & Herzegovina	Individual licence	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 style="list-style-type: none"> <li>community: € 511 (BAM 1,000)</li> <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>
		Internet services	€51 (BAM 100)	€511 (BAM 1,000)
Kosovo*	General authorisation with notification to ARKEP	ARKEP is finalising the Regulation on General Authorisation. As a result, currently notification confirmations are provided only for ISP and VAS providers. After the approval of the General Authorisation Regulation, the registration will be provided to all the publicly available communications networks and services.	None	According to Article 27 of Law on Electronic Communications, the annual payment may not exceed 0.5% of the annual gross revenue of the previous calendar year. Undertakings with annual turnover of €100,000 or less are exempted from paying annual fees.

Table E.1 – Authorisation regime for electronic communications services

Notes:  
 Serbia: All services that require the use of radio frequencies are subject to an individual licence issued following a public tender procedure, with a one-off fee defined by the ministry and annual fees set at 0.5% of annual revenue plus applicable frequency usage fees.

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	<ul style="list-style-type: none"> <li>General authorisation with notification to NRA</li> <li>Registration of the broadcasting retransmission activities with the Broadcasting Council is required according to the Broadcasting Law</li> </ul>	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	<ul style="list-style-type: none"> <li>General authorisation with notification to NRA</li> <li>An approval from the Republic Broadcasting Agency (RBA) for content transmission according to article 40 of the Broadcasting Law</li> </ul> <p>Authorisations (class licence) issued under the Telecommunications Law of 2003 are valid until expiration</p>	General authorisation with notification from the NRA for additional services
Turkey	<ul style="list-style-type: none"> <li>General authorisation with notification to NRA</li> <li>A separate broadcasting licence from the Turkish Radio and Television Supreme Council. Same licence is required for provision of IPTV or similar broadcasting services</li> <li>Furthermore, Turksat Satellite Communications &amp; Cable TV Operations Corp. is an authorized cable TV and satellite operator till 2030 that has signed an authorisation agreement with ICTA (the NRA)</li> </ul>	General authorisation with notification to NRA for additional services
Albania	<ul style="list-style-type: none"> <li>General authorisation with notification to NRA</li> <li>General authorisation with notification to the Authority on Audiovisual Media (as defined by the new Law on Audio Visual Media Services adopted in March 2013)</li> </ul>	General authorisation with notification to NRA for additional services
Bosnia & Herzegovina	<p>Individual licences:</p> <ul style="list-style-type: none"> <li>for a public network operator (network licence)</li> <li>for provision of cable distribution services of radio and TV programmes (service licence)</li> </ul>	<p>Additional individual service licences:</p> <ul style="list-style-type: none"> <li>for provision of fixed public telephone services or</li> <li>for provision of internet services</li> </ul>
Kosovo*	An approval from the Independent Media Commission (IMC) subject to demonstrating established commercial agreements with content providers for redistribution	General authorisation with notification to NRA for additional services

Table E.2 – Authorisation requirements for Cable TV networks

## 2. 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 out 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
- timescales for granting permits.

Country	Legal basis for granting rights of way and construction permits	Relevant authorities and their role	Timescales for granting permits
Croatia	<ul style="list-style-type: none"> <li>Articles 26 - 29 of the Law on Electronic Communications (Official Gazette 90/11, 133/12 and 80/13), 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 76/07,38/09, 55/11, 90/11 &amp; 50/12)</li> </ul>	<p>Depending on the administration of the public property for which right of way is requested:</p> <ul style="list-style-type: none"> <li>HAKOM</li> <li>relevant municipality</li> <li>Ministry of construction and physical planning</li> <li>Institution for protection of historical monuments</li> <li>Institution for protection of natural resources.</li> </ul> <p>For private property, the operator must have permission from the land owner.</p> <p>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.</p> <p>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.</p>	<p>Article 27 (3) 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.</p>

Country	Legal basis for granting rights of way and construction 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 of April 6, 1973.	A special valuation committee appointed by the Minister opens a procedure on any specific case within two months from the request.
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 style="list-style-type: none"> <li>LEC provides 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 style="list-style-type: none"> <li>The relevant bodies for issuing urban-technical requirements, building and operating permits are the Ministry of Economy and municipalities, depending on whether the facility is included in a 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, location, etc.</li> <li>LEC has defined construction, development, maintenance and utilisation 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>	<ul style="list-style-type: none"> <li>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.</li> <li>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.</li> </ul>

Country	Legal basis for granting rights of way and construction permits	Relevant authorities and their role	Timescales for granting permits
Serbia	<ul style="list-style-type: none"> <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>	<p>Relevant authorities include Ministry of Construction and Urbanism, municipalities.</p> <p>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.</p> <p>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.</p>	<p>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.</p> <p>The Law on spatial planning and construction sets deadlines for authorities to issue permits.</p> <p>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).</p>
Turkey	<ul style="list-style-type: none"> <li>Part 4 Article 22-30 of Law 5809/2008 on Electronic Communications</li> <li>Part 3 Article 13 of Decree Law 655/2011 on Governance and Mission of Ministry of Transport, Maritime Affairs and Communications</li> <li>Bylaw Related to Passing Through of Every Kind of Cable and Such Equipments That Used in Fixed or Mobile Communications Infrastructure or Network From Properties (Official Gazette 28510 dated Dec. 27, 2012)</li> </ul>	<ul style="list-style-type: none"> <li>Ministry of Transport, Maritime Affairs and Communications: Determining of Policy; Directorate General of Communications: Giving approvals of using rights of way and construction</li> <li>ICTA: Regulating of facility sharing, determining standards of construction and equipment</li> <li>Providers of Right of Way: Giving permits of using rights of way and construction</li> </ul>	<ul style="list-style-type: none"> <li>Directorate General of Communications must reply to application for taking approval of using rights of way within 30 days.</li> <li>For private properties, granting permit depends on the agreement freely made by the parties.</li> <li>For properties subject to the public foundation or institution, provider of right of way must reply to application of granting permit within 60 days.</li> </ul>
Albania	<ul style="list-style-type: none"> <li>Article 93 of Law 9918/2008 on Electronic Communications (right of using public and private properties)</li> <li>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.</li> </ul>	<p>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:</p> <ul style="list-style-type: none"> <li>for cities - municipality KRRT</li> <li>for communes - district KRRT</li> </ul>	<p>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.</p>
Bosnia & Herzegovina	<ul style="list-style-type: none"> <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>	<p>Municipal authorities are relevant authorities where applicant will be advised on further procedures.</p>	<p>The general terms are 30 and 60 days, but applicants typically need more time to collect necessary documentation and different approvals.</p>

Country	Legal basis for granting rights of way and construction permits	Relevant authorities and their role	Timescales for granting permits
Kosovo*	<ul style="list-style-type: none"> <li>Articles 22-25 of the Law on Electronic Communications</li> <li>Regulation on the 'Rights of Way and Common use of Infrastructure Sharing' approved by ARKEP on March 20, 2012</li> <li>Law on Territorial Planning</li> <li>Law on Construction</li> <li>Law on Protected Territories</li> <li>Law on Environmental Impact Assessment of Planned Economic Activity</li> <li>Law on Roads</li> <li>The rules for the installation and use of electronic communications networks approved by the Ministry</li> </ul>	<p>Public land may be used by public operators upon application to municipal authorities. In coordination with state or municipal institutions, operators may use the lanes of state and municipal roads, squares, pipelines, water bodies and their shores, bridges, viaducts, tunnels and other structures for the construction of public communications networks free or minimum charge to cover the administrative costs of respective Institutions.</p> <p>A 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.</p> <p>The NRA has the power to resolve disputes between the owner of the electronic communications infrastructure and operator with regard to the use of infrastructure.</p>	According to Article 17 of the Law on Construction No. 04/L – 110, the timescale for the general procedures of the construction permits fall between 30 and 45 days from the request.

Table E.3 – Rights of way

## 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 Maritime Affairs, Transport and Infrastructure (on the basis of a proposal by the NRA)	Croatian Post and Electronic Communications Agency (HAKOM, the NRA)	Articles 81-82, Electronic Communications Act of June 19, 2008 (Official Gazette 73/2008, 90/2011, 133/2012, 80/2013)
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 No. 13/2005, 17/2007, 55/2007, 98/2008, 83/2010, 13/2012, 59/12, 123/12, 23/13)



Country	Frequency allocation	Frequency assignment	Legal basis
Montenegro	Government (on the basis of a proposal by EKIP, the NRA)	Agency for Electronic Communications and Postal Services (EKIP, the NRA)	Articles 5 and 97, Law on Electronic Communications (Official Gazette, No. 40/2013, August 13, 2013)
Serbia	Government (on the basis of a proposal by RATEL, the NRA to the ministry responsible for the electronic communications)	Republic Agency for Electronic Communication of the Republic of Serbia (RATEL, the NRA)	Articles 81-99, Law on Electronic Communications (Official Gazette No. 44/10, 60/13)
Turkey	Information and Communication Technologies Authority (ICTA, the NRA)	Information and Communication Technologies Authority (ICTA, the NRA) – for electronic communications services ICTA also allocates frequency blocks for broadcasting to Radio and Television Supreme Council (RTUK). RTUK assigns spectrum to individual broadcasters.	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) AKEP also allocates the block of broadcasting frequencies to National Radio and Television Council (KKRT). KKRT assigns broadcasting spectrum to individual broadcasters.	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*	The government adopts the National Radio-Frequencies Plan, prepared by ARKEP, the NRA in cooperation with the ministry, and proposes it to the Assembly for approval	Telecommunications Regulatory Authority (TRA, the NRA) Broadcasting spectrum is assigned to individual broadcasters by the Independent Media Commission.	Article 6, 13 and chapter VII, Law on Electronic Communications, No. 04/L-109

Table F.1 – Frequency management

## 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.

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Country	Operator	Spectrum band (MHz)	System	How much spectrum assigned?	Award method	How much paid?		Licence awarded	Expiry year
						One-off/auction	Annual		
Croatia	Hrvatski Telekom	800	Neutral licence, frequency plan allows LTE	2 x 10 MHz	G	HRK 150m (€20m) fixed one-off price per licence	To state budget: <ul style="list-style-type: none"> <li>0.5% annual revenue</li> <li>€110k (HRK 800k) per 1 MHz</li> <li>€8.00 (HRK 60) per mobile terminal (levied on post-paid end-users)</li> </ul> To HAKOM: <ul style="list-style-type: none"> <li>€19.2k per 1 MHz</li> </ul>	2012	2024
				2 x 5 MHz	A	HRK 105.7m (€13.8m)	To state budget: <ul style="list-style-type: none"> <li>HRK 8m (€1.05m) per year</li> </ul> To HAKOM: <ul style="list-style-type: none"> <li>€19.2k per 1 MHz</li> </ul>	2013	2024
		900	Neutral licence, 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	To state budget: <ul style="list-style-type: none"> <li>0.5% annual revenue</li> <li>€110k (HRK 800k) per 1 MHz</li> <li>€8.00 (HRK 60) per mobile terminal (levied on post-paid end-users)</li> </ul> To HAKOM: <ul style="list-style-type: none"> <li>€19.2k per 1 MHz</li> </ul>	1999 (commercially available since mid-1995 without formal licence), renewed in 2009	2024
		1800	Neutral licence, frequency plan allows GSM, UMTS & LTE	2 x 20 MHz	G	See above	To state budget: <ul style="list-style-type: none"> <li>0.5% annual revenue</li> <li>€55k (HRK 400k) per 1 MHz</li> <li>€8.00 (HRK 60) per mobile terminal (levied on post-paid end-users)</li> </ul> To HAKOM: <ul style="list-style-type: none"> <li>€19.2k per 1 MHz</li> </ul>	2007 for 2x8.4 MHz, renewed in 2009, 2011 additional 2x11.6 MHz	2024

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Country	Operator	Spectrum band (MHz)	System	How much spectrum assigned?	Award method	How much paid?		Licence awarded	Expiry year
						One-off/auction	Annual		
		2100	Neutral licence, frequency plan allows UMTS	2 x 15 MHz (FDD) 5 MHz (TDD)	G	HRK 132m (€18.2m) one-off fee for UMTS	To state budget: <ul style="list-style-type: none"> <li>0.5% annual revenue</li> <li>€55k (HRK 400k) per 1 MHz</li> <li>€8.00 (HRK 60) per mobile terminal (levied on post-paid end-users)</li> </ul> To HAKOM: <ul style="list-style-type: none"> <li>€19.2k per 1 MHz</li> </ul>	Oct. 2004	2024
	VIPnet	800	Neutral licence, frequency plan allows LTE	2 x 10 MHz	G	HRK 150m (€20m) fixed one-off price per licence	To state budget: <ul style="list-style-type: none"> <li>0.5% annual revenue</li> <li>€110k (HRK 800k) per 1 MHz</li> <li>€8.00 (HRK 60) per mobile terminal (levied on post-paid end-users)</li> </ul> To HAKOM: <ul style="list-style-type: none"> <li>€19.2k per 1 MHz</li> </ul>	2012	2024
				2 x 5 MHz	A	HRK 110m (€14.4m)	To state budget: <ul style="list-style-type: none"> <li>HRK 65m (€8.5m) (to be paid as one-off fee upon the licence award)</li> </ul> To HAKOM: <ul style="list-style-type: none"> <li>€19.2k per 1 MHz</li> </ul>	2013	2024
		900	Neutral licence, 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	To state budget: <ul style="list-style-type: none"> <li>0.5% annual revenue</li> <li>€110k (HRK 800k) per 1 MHz</li> <li>€8.00 (HRK 60) per mobile terminal (levied on post-paid end-users)</li> </ul> To HAKOM: <ul style="list-style-type: none"> <li>€19.2k per 1 MHz</li> </ul>	Sep. 1998, <a href="#">renewed</a> in 2009	2024

Country	Operator	Spectrum band (MHz)	System	How much spectrum assigned?	Award method	How much paid?		Licence awarded	Expiry year
						One-off/auction	Annual		
		1800	Neutral licence, frequency plan allows GSM, UMTS & LTE	2 x 10 MHz	G	See above	To state budget: <ul style="list-style-type: none"> <li>0.5% annual revenue</li> <li>€55k (HRK 400k) per 1 MHz</li> <li>€8.00 (HRK 60) per mobile terminal (levied on post-paid end-users)</li> </ul> To HAKOM: <ul style="list-style-type: none"> <li>€19.2k per 1 MHz</li> </ul>	July 1, 2011	2024
		2100	Neutral licence, frequency plan allows UMTS	2 x 15 MHz (FDD) 1 x 5 MHz (TDD)	G	€18.2m (HRK 132m ) one-off fee for UMTS	To state budget: <ul style="list-style-type: none"> <li>0.5% annual revenue</li> <li>€55k (HRK 400k) per 1 MHz</li> <li>€8.00 (HRK 60) per mobile terminal (levied on post-paid end-users)</li> </ul> To HAKOM: <ul style="list-style-type: none"> <li>€19.2k per 1 MHz</li> </ul>	Oct. 2004	2024
	Tele 2	900	Neutral licence, frequency plan allows GSM, UMTS & LTE	2 x 5 MHz (E-GSM)	BC	€23.5m (HRK 172m) joint one-off fee for GSM/UMTS	To state budget: <ul style="list-style-type: none"> <li>0.5% annual revenue</li> <li>€110k (HRK 800k) per 1 MHz</li> <li>€8.00 (HRK 60) per mobile terminal (levied on post-paid end-users)</li> </ul> To HAKOM: <ul style="list-style-type: none"> <li>€19.2k per 1 MHz</li> </ul>	2007	2024

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Country	Operator	Spectrum band (MHz)	System	How much spectrum assigned?	Award method	How much paid?		Licence awarded	Expiry year
						One-off/auction	Annual		
		1800	Neutral licence, frequency plan allows GSM, UMTS & LTE	2 x 12 MHz	BC		To state budget: <ul style="list-style-type: none"> <li>0.5% annual revenue</li> <li>€55k (HRK 400k) per 1 MHz</li> <li>€8.00 (HRK 60) per mobile terminal (levied on post-paid end-users)</li> </ul> To HAKOM: <ul style="list-style-type: none"> <li>€19.2k per 1 MHz</li> </ul>	Oct. 2004 <a href="#">renewed</a> in 2009	2024
		2100	Neutral licence, frequency plan allows UMTS	2 x 15 MHz (FDD) 1 x 5 MHz (TDD)	BC		To state budget: <ul style="list-style-type: none"> <li>0.5% annual revenue</li> <li>€55k (HRK 400k) per 1 MHz</li> <li>€8.00 (HRK 60) per mobile terminal (levied on post-paid end-users)</li> </ul> To HAKOM: <ul style="list-style-type: none"> <li>€19.2k per 1 MHz</li> </ul>	2004	2024
Iceland	Síminn	900	GSM/UMTS	2 x 10 MHz 2 x 5 MHz	BC	Renewal fee paid in 2012: €323k (ISK 52.5m)	<ul style="list-style-type: none"> <li>€1,551 (ISK 256k) per 1 MHz</li> <li>0.5% annual revenue</li> </ul>	1996 <a href="#">renewed</a> in Feb. 2012	2022 (2 x 10 MHz) 2017 (2 x 5 MHz)
		1800	GSM/UMTS /LTE	2 x 15 MHz	BC	Renewal fee paid in 2012: €92k (ISK 15m)	<ul style="list-style-type: none"> <li>€1,551 (ISK 256k) per 1 MHz</li> <li>0.5% annual revenue</li> </ul>	2000 <a href="#">renewed</a> in Feb. 2012	2022
				2 x 15 MHz	A	ISK 28.97m (€182k)		April 2013	2023
		2100	3G/UMTS	2 x 15 (FDD) 1 x 5 MHz (TDD)	BC	-	<ul style="list-style-type: none"> <li>€1,551 (ISK 256k) per 1 MHz</li> <li>0.5% annual revenue</li> </ul>	2007	2022

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Country	Operator	Spectrum band (MHz)	System	How much spectrum assigned?	Award method	How much paid?		Licence awarded	Expiry year
						One-off/auction	Annual		
	Fjarskipt ehf /Vodafone	800	LTE	2 x 10 MHz	A	ISK 41m (€257k)	<ul style="list-style-type: none"> <li>€1,551 (ISK 256k) per 1 MHz</li> <li>0.5% annual revenue</li> </ul>	April 2013	2023
		900	GSM/UMTS	2 x 10 MHz 2 x 5 MHz	BC	Renewal fee paid in 2012: €323k (ISK 52.5m)	<ul style="list-style-type: none"> <li>€1,551 (ISK 256k) per 1 MHz</li> <li>0.5% annual revenue</li> </ul>	1998 renewed in 2000 and in <a href="#">Feb. 2012</a>	2022 (2 x 10 MHz) 2017 (2 x 5 MHz)
		1800	GSM/UMTS /LTE	2 x 15 MHz	BC	Renewal fee paid in 2012: €92k (ISK 15m)	<ul style="list-style-type: none"> <li>€1,551 (ISK 256k) per 1 MHz</li> <li>0.5% annual revenue</li> </ul>	2000 renewed in 2011 and in <a href="#">Feb. 2012</a>	2022
				2 x 5 MHz	A	ISK 5m (€31k)			
		2100	3G/UMTS	2 x 15 (FDD) 1 x 5 MHz (TDD)	BC	-	<ul style="list-style-type: none"> <li>€1,551 (ISK 256k) per 1 MHz</li> <li>0.5% annual revenue</li> </ul>	2007	2022
	Nova ehf	800	LTE	2 x 5 MHz	A	ISK 20m (€125k)	<ul style="list-style-type: none"> <li>€1,551 (ISK 256k) per 1 MHz</li> <li>0.5% annual revenue</li> </ul>	April 2013	2023
		900	GSM/UMTS	2 x 5 MHz	G	-	<ul style="list-style-type: none"> <li>€1,551 (ISK 256k) per 1 MHz</li> <li>0.5% annual revenue</li> </ul>	2007	2022
		1800	GSM/UMTS /LTE	2 x 15 MHz	BC	Renewal fee paid in 2012: €47k (ISK 7.6m)	<ul style="list-style-type: none"> <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 <a href="#">Feb. 2012</a>	2022
				2 x 5 MHz	A	ISK 10.15m (€64k)			
		2100	3G/UMTS	2 x 15 (FDD) 1 x 5 MHz (TDD)	BC	-	<ul style="list-style-type: none"> <li>€1,551 (ISK 256k) per 1 MHz</li> <li>0.5% annual revenue</li> </ul>	2007	2022
	IMC	1800	GSM/UMTS /LTE	2 x 5 MHz	BC	Renewal fee paid in 2012: €21k (ISK 3.4m)	<ul style="list-style-type: none"> <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 <a href="#">Feb. 2012</a>	2022

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Country	Operator	Spectrum band (MHz)	System	How much spectrum assigned?	Award method	How much paid?		Licence awarded	Expiry year
						One-off/auction	Annual		
FYR Macedonia	365 Media	800	LTE	2 x 10 MHz	A	ISK 100m (€627k)	<ul style="list-style-type: none"> <li>€1,551 (ISK 256k) per 1 MHz</li> <li>0.5% annual revenue</li> </ul>	April 2013	2038
				2 x 5 MHz		ISK 20m (€125k)		April 2013	2023
	T-Mobile	800	LTE	2 x 10 MHz	A	€10.3m for 2x10 MHz in 800 MHz and 2x15 MHz in 1800 MHz	€14,350 per 1 MHz to AEC	Aug. 1, 2013	Nov. 30, 2033
		900	GSM/UMTS /LTE	2 x 12.5 MHz	G	- Concession issued to a state-owned company	€28,700 per 1 MHz to AEC	1996 commercially available without formal licence, 2001 concession), renewed on Sep. 5, 2008	Sep. 5, 2018
		1800	GSM/UMTS /LTE	2 x 10 MHz	BC	€2m	€21,000 per 1 MHz to AEC	June 9, 2009	June 9, 2019
				2 x 15 MHz	A	€10.3m for 2x10 MHz in 800 MHz and 2x15 MHz in 1800 MHz		Aug. 1, 2013	Nov. 30, 2033
		2100	UMTS	2 x 15 MHz (FDD) 1 x 5 MHz (TDD)	BC	€10m	€21,000 per 1 MHz to AEC	Dec. 17, 2008	Dec. 17, 2018
	ONE	800	LTE	2 x 10 MHz	A	€10.3m for 2x10 MHz in 800 MHz and 2x15 MHz in 1800 MHz	€14,350 per 1 MHz to AEC	Aug. 1, 2013	Nov. 30, 2033
		900	GSM/UMTS /LTE	2 x 12.5 MHz	G	Concession €19m (US\$ 25m)	€28,700 per 1 MHz to AEC	2001 concession, renewed on Sep. 5, 2008	Sep. 5, 2023
		1800	GSM/UMTS /LTE	2 x 15 MHz	A	€10.3m for 2x10 MHz in 800 MHz and 2x15 MHz in 1800 MHz	€21,000 per 1 MHz to AEC	Aug. 1, 2013	Nov. 30, 2033
		2100	UMTS	2 x 10 MHz (FDD)	BC	€10m	€21,000 per 1 MHz to AEC	Dec. 17, 2008	Dec. 17, 2018

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Country	Operator	Spectrum band (MHz)	System	How much spectrum assigned?	Award method	How much paid?		Licence awarded	Expiry year
						One-off/auktion	Annual		
	VIP	800	LTE	2 x 10 MHz	A	€10.3m for 2x10 MHz in 800 MHz and 2x15 MHz in 1800 MHz	€14,350 per 1 MHz to AEC	Aug. 1, 2013	Nov. 30, 2033
		900	GSM/UMTS /LTE	2 x 10 MHz (E-GSM)	BC	€10m	€28,700 per 1 MHz to AEC	March 23, 2007	March 23, 2017
		1800	GSM/UMTS /LTE	2 x 10 MHz	BC		€21,000 per 1 MHz to AEC	March 23, 2007	March 23, 2017
		1800	GSM/UMTS /LTE	2 x 10 MHz	BC	€5.1m	€21,000 per 1 MHz to AEC	Aug. 13, 2012	Aug. 13, 2022
		1800	GSM/UMTS /LTE	2 x 15 MHz	A	€10.3m for 2x10 MHz in 800 MHz and 2x15 MHz in 1800 MHz	€21,000 per 1 MHz to AEC	Aug. 1, 2013	Nov. 30, 2033
Montenegro	Telenor	900	GSM/UMTS /LTE	2 x 9.6 MHz	G	€4.34m (DEM 8.5m) one-off fee for GSM/DCS1800 paid in 2002	<ul style="list-style-type: none"> <li>up to 1.5% of annual revenue depending on NRA's annual financial plan (1.058% in 2012)</li> <li>€60,720 to EKIP (in 2012)</li> <li>€6,072 to state budget (in 2012)</li> </ul>	Jan. 1, 2002 (commercially available since mid-1996 without formal licence)	Dec. 31, 2016
				2 x 3.6 MHz	BC	€1.1m paid in 2012 for additional 900 MHz, 1800 MHz and 2100 MHz spectrum		Jan. 31, 2012	Jan. 31, 2017
		1800	GSM/UMTS /LTE	2 x 20 MHz	G	€4.34m (DEM 8.5m) one-off fee for GSM/DCS1800 paid in 2002	<ul style="list-style-type: none"> <li>up to 1.5% of annual revenue depending on NRA's annual financial plan (1.058% in 2012)</li> <li>€54,464 to EKIP (in 2012)</li> <li>€5,446 to state budget (in 2012)</li> </ul>	Jan. 1, 2002 (commercially available since mid-1996 without formal licence)	Dec. 31, 2016
				2 x 9.6 MHz	BC	€1.1m paid in 2012 for additional 900 MHz, 1800 MHz and 2100 MHz spectrum		Jan. 31, 2012	Jan. 31, 2017



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Country	Operator	Spectrum band (MHz)	System	How much spectrum assigned?	Award method	How much paid?		Licence awarded	Expiry year
						One-off/auction	Annual		
		2100	UMTS	2 x 15 MHz (FDD) 1 x 5 MHz (TDD)	BC	€4m one-off fee	<ul style="list-style-type: none"> <li>up to 1.5% of annual revenue depending on NRA's annual financial plan (1.058% in 2012)</li> <li>€31,626 to EKIP (in 2012)</li> <li>€3,162 to state budget (in 2012)</li> </ul>	April 12, 2007	April 12, 2022
				2 x 10 MHz	BC	€1.1m paid in 2012 for additional 900 MHz, 1800 MHz and 2100 MHz spectrum		Jan. 31, 2012	Jan. 31, 2017
	Crnogorski Telekom	900	GSM/UMTS /LTE	2 x 9.6 MHz	G	€4.34m (DEM 8.5m) one-off fee for GSM/DCS1800 paid in 2002	<ul style="list-style-type: none"> <li>up to 1.5% of annual revenue depending on NRA's annual financial plan (1.058% in 2012)</li> <li>€52,440 to EKIP (in 2012)</li> <li>€5,244 to state budget (in 2012)</li> </ul>	Jan. 1, 2002 (commercially available since mid-2000 without formal licence)	Dec. 31, 2016
				2 x 1.8 MHz	G	€ 0.55m paid in 2012 for additional 900 MHz, 1800 MHz and 2100 MHz spectrum		Jan. 31, 2012	Jan. 31, 2017
		1800	GSM/UMTS /LTE	2 x 20 MHz	G	€4.34m (DEM 8.5m) one-off fee for GSM/DCS1800 paid in 2002	<ul style="list-style-type: none"> <li>up to 1.5% of annual revenue depending on NRA's annual financial plan (1.058% in 2012)</li> <li>€45,632 to EKIP (in 2012)</li> <li>€4,563 to state budget (in 2012)</li> </ul>	Jan. 1, 2002 (commercially available since mid-2000 without formal licence)	Dec. 31, 2016
				2 x 4.8 MHz	G	€ 0.55m paid in 2012 for additional 900 MHz, 1800 MHz and 2100 MHz spectrum		Jan. 31, 2012	Jan. 31, 2017
		2100	UMTS	2 x 15 MHz (FDD) 1 x 5 MHz (TDD)	BC	€2.4m one-off fee paid in 2007	<ul style="list-style-type: none"> <li>up to 1.5% of annual revenue depending on NRA's annual financial plan (1.058% in 2012)</li> <li>€25,875 to EKIP (in 2012)</li> <li>€2,587 to state budget (in 2012)</li> </ul>	April 10, 2007	April 10, 2022
				2 x 5 MHz	G	See above		Jan. 31, 2012	Jan. 31, 2017

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Country	Operator	Spectrum band (MHz)	System	How much spectrum assigned?	Award method	How much paid?		Licence awarded	Expiry year
						One-off/auction	Annual		
	Mtel	900	GSM/UMTS /LTE	2 x 9.6 MHz	BC	€16m joint one-off fee for GSM/DCS1800/UMTS bands paid in 2007	<ul style="list-style-type: none"> <li>up to 1.5% of annual revenue depending on NRA's annual financial plan (1.058% in 2012)</li> <li>€45,080 to EKIP (in 2012)</li> <li>€4,508 to state budget (in 2012)</li> </ul>	April 20, 2007	April 20, 2022
				2 x 0.2 MHz	G			March 1, 2012	March 1, 2017
		1800	GSM/UMTS /LTE	2 x 20 MHz	BC		<ul style="list-style-type: none"> <li>up to 1.5% of annual revenue depending on NRA's annual financial plan (1.058% in 2012)</li> <li>€36,800 to EKIP (in 2012)</li> <li>€3,680 to state budget (in 2012)</li> </ul>	April 20, 2007	April 20, 2022
		2100	UMTS	2 x 15 MHz (FDD) 1 x 5 MHz (TDD)	BC		<ul style="list-style-type: none"> <li>up to 1.5% of annual revenue depending on NRA's annual financial plan (1.058% in 2012)</li> <li>€20,125 to EKIP (in 2012)</li> <li>€2,012 to state budget (in 2012)</li> </ul>	April 20, 2007	April 20, 2022
Serbia	Telekom Srbija	900	GSM	2 x 9.6 MHz	G	0 (replacement of previous licence)	RSD 21,600,000 (€211,873)	Aug. 15, 2006	Aug. 15, 2026
		1800	GSM	2 x 9.8 MHz	G		RSD 11,052,000 (€108,408)	Aug. 15, 2006	Aug. 15, 2026
		2100	UMTS	2 x 15 MHz (FDD) 1 x 5 MHz (TDD)	G		RSD 4,500,000 (€44,140)	Aug. 15, 2006	Aug. 15, 2026
	Telenor	900	GSM	2 x 9.6 MHz	A	€320m	RSD 17,280,000 (€169,498)	Aug. 31, 2006	Aug. 31, 2026
		1800	GSM	2 x 10 MHz	A		RSD 9,000,000 (€88,280)	Aug. 31, 2006	Aug. 31, 2026
		2100	UMTS	2 x 15 MHz (FDD) 1 x 5 MHz (TDD)	A		RSD 2,250,000 (€22,070)	Aug. 31, 2006	Aug. 31, 2026

Country	Operator	Spectrum band (MHz)	System	How much spectrum assigned?	Award method	How much paid?		Licence awarded	Expiry year
						One-off/auction	Annual		
	VIP Mobile	900	GSM	2 x 4.2 MHz	A	€320m	RSD 3,780,000 (€37,078)	Dec. 1, 2006	Dec. 1, 2026
		1800	GSM	2 x 20 MHz	A		RSD 9,000,000 (€88,280)	Dec. 1, 2006	Dec. 1, 2026
		2100	UMTS	2 x 15 MHz (FDD) 1 x 5 MHz (TDD)	A		RSD 2,250,000 (€22,070)	Dec. 1, 2006	Dec. 1, 2026
Turkey	Avea İletişim Hizmetleri A.Ş.	900	GSM	2 x 1.1 MHz	A	€5.55m (+18% VAT)	<ul style="list-style-type: none"><li>0.35% annual gross revenue (paid to ICTA)</li><li>15% annual gross sales (Treasury share)</li></ul>	Feb. 2009	2026
				2 x 1.3 MHz	A	€1.74bn (+17% VAT)		Jan. 2001	
		1800	GSM	2 x 15 MHz	A	€214m (+18% VAT)		April 2009	2029
		2100	UMTS	2 x 15 MHz	A				
	Turkcell İletişim Hizmetleri A.Ş.	900	GSM	2 x 1 MHz	A	€9.8m (+18% VAT)	<ul style="list-style-type: none"><li>0.35% annual gross revenue (paid to ICTA)</li><li>15% annual gross sales (Treasury share)</li></ul>	Feb. 2009	2023
				2 x 10 MHz	A	€347m (+15% VAT)		April 1998	
		2100	UMTS	2 x 20 MHz FDD	A	€358m (+18% VAT)		April 2009	2029
	Vodafone Telekomünikasyon A.Ş.	900	GSM	2 x 1 MHz	A	€4.5m (+18% VAT)	<ul style="list-style-type: none"><li>0.35% annual gross revenue (paid to ICTA)</li><li>15% annual gross sales (Treasury share)</li></ul>	Feb. 2009	2023
2 x 10 MHz				A	€347m (+15% VAT)	April 1998			
2100		UMTS	2 x 15 MHz (FDD) 1 x 5 MHz (TDD)	A	€250m (+18% VAT)	April 2009		2029	

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Country	Operator	Spectrum band (MHz)	System	How much spectrum assigned?	Award method	How much paid?		Licence awarded	Expiry year
						One-off/auction	Annual		
Albania	Albanian Mobile Communications	900	GSM	2 x 8 MHz	H	€62m (US\$ 80m) (privatisation of 76% of state owned AMC)	€71,142 (ALL 9,984,000)	Aug. 19, 1999	2014
		1800	GSM	2 x 9 MHz	H		€64,027 (ALL 8,985,600)		
		2100	UMTS	2x15 MHz (FDD) 1 x 5 MHz (TDD)	H	€15.1m	€142,511 (ALL 20,000,000)	Sep. 28, 2011	2026
	Vodafone Albania	900	GSM	2 x 8 MHz	H	€29m (US\$ 38m)	€71,142 (ALL 9,984,000)	June 9, 2001	2016
		1800	GSM	2 x 9 MHz	H		€64,027 (ALL 8,985,600)		
		2100	UMTS	2 x 15 MHz (FDD) 1 x 5 MHz (TDD)	H	€31.4m	€142,511 (ALL 20,000,000)	Dec. 12, 2010	2025
	Eagle Mobile	900	GSM	2 x 8 MHz	H	No separate fee (licence was part of privatisation package of fixed incumbent)	€71,142 (ALL 9,984,000)	March 1, 2004	2019
		1800	GSM	2 x 9 MHz	H		€64,027 (ALL 8,985,600)		
		2100	UMTS	2 x 15 MHz (FDD) 1 x 5 MHz (TDD)	H	€4m	€142,511 (ALL 20,000,000)	Dec. 17, 2012	2027
	Plus Communication	900	GSM	2 x 8 MHz	H	€7.2m joint one-off fee for 900&1800 MHz	€71,142 (ALL 9,984,000)	June 26, 2009	2024
		1800	GSM	2 x 9 MHz	H		€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 900&1800 MHz	€15,339 (BAM 30,000)/ channel	Oct. 2004	2019
		1800	GSM & UMTS	2 x 12 MHz	G		€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 900 & 1800 MHz	€15,339 (BAM 30,000)/ channel	Oct. 2004	2019
		1800	GSM & UMTS	2 x 12 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

Country	Operator	Spectrum band (MHz)	System	How much spectrum assigned?	Award method	How much paid?		Licence awarded	Expiry year
						One-off/auction	Annual		
	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
				2 x 4 MHz	G			April 2012	
		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 10 MHz	G	€6.5m	0.3% of annual revenue	2004	2019
		1800 MHz		2 x 10 MHz		€14m		2011	2019
	Ipko Telecommunications	900 MHz	GSM	2 x 10 MHz	H	€75m	0.3% of annual revenue	2007	2022
		1800 MHz		2 x 10 MHz				2007	2022

Table F.2 – Spectrum licences issued to mobile operators

## Notes:

FYR Macedonia: On May 10, 2013 AEC announced an auction for the 800 MHz and 1800 MHz spectrum inviting bids by June 24, 2013. The existing three mobile operators participated in the auction. Spectrum licences awarded on Aug. 1, 2013: 2x10 MHz in 800 MHz and 2x15 MHz in 1800 MHz per each licence.

Bosnia & Herzegovina: Licences to mobile operators were awarded based on decision of the BH Council of Ministers. Duration of licences may be extended for a period of ten years. In April 2012 the license of HT Mostar was amended and this operator was given additional 2 X 4 MHz in 1800 MHz. This equalised all three mobile operators in quantity of spectrum assigned.

Kosovo\*: The block of 2x3.6 MHz in 900 MHz was released by PTK at the end of 2012 (TRA Decision No.226 No.Prot.046/B/12).

### 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	Spectrum refarming status in 900 and 1800 MHz bands	Technologies permitted by current licences in 900 and 1800 MHz bands	Redistribution of existing spectrum assignments in 900 and 1800 MHz bands
Croatia	In 2009 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. HAKOM amended the existing spectrum licences in 900 MHz, 1800 MHz and 2100 MHz extending them until 2024 on a technology neutral basis: on June 19, 2009 for VIPnet and Tele2 and on Aug. 31, 2009 for	GSM, UMTS and LTE	No

Country	Spectrum refarming status in 900 and 1800 MHz bands	Technologies permitted by current licences in 900 and 1800 MHz bands	Redistribution of existing spectrum assignments in 900 and 1800 MHz bands
	T-Mobile. On February 29, 2012 the spectrum assignment plan was further amended to allow LTE in the 900 MHz and 1800 MHz bands.		
Iceland	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. LTE in the 1800 MHz was allowed after the 800/1800 MHz spectrum auction completed in March 2013.	GSM and UMTS – in the 900 MHz GSM, UMTS and LTE – in the 1800 MHz	Yes Spectrum assignments were re-distributed in February 2012 to allow contiguous blocks of 5 MHz.
FYR Macedonia	National frequency allocation plan of radio was amended on July 18, 2013, to allow the use of GSM, UMTS, WiMAX and LTE technologies in these bands	GSM, UMTS, LTE and WiMAX	No However, each operator was awarded an additional block of 2x15 MHz spectrum in the 1800 MHz band, following an auction completed in August 2013.
Montenegro	National radio frequency allocation table adopted in 2010 allows IMT technologies in the 900 MHz and 1800 MHz bands.	GSM, UMTS and LTE	No
Serbia	On October 2012 the new Radio Frequency Allocation Plan was adopted that allows the usage of the 900 MHz and 1800 MHz bands for MFCN (mobile/fixed communications networks) on technology neutral basis. However, the rulebook on frequency assignment plan for GSM/DCS 1800 systems still restricts the use of these bands to GSM and also mandates the 200 kHz channel width (not compatible with LTE).	GSM	No Draft amendments to the rulebook on frequency assignment plan for GSM/DCS 1800 systems <a href="#">published</a> for consultation by RATEL in September 2013 propose to assign additional spectrum in the 900 MHz and 1800 MHz band to the three mobile operators and to ensure that they all are assigned equal amounts of spectrum in both bands.
Turkey	The strategy decision about usage of UMTS services in 900/1800 MHz bands was taken by the Ministry of Transport, Maritime Affairs and Communications in September 2011. According to this decision, the usage of UMTS services in 900/1800 MHz bands will be allowed after refarming of these bands among operators.	GSM	No
Albania	Following the amendment of the National Frequency Plan, approved by the Council of Ministers with decision No. 466, dated 27.02.2013, the 900 MHz and 1800 MHz bands can be used for both GSM and TRA-ECS (IMT is considered part of TRA-ECS) technologies in these bands. On Jan. 27, 2014 AKEP <a href="#">published</a> for consultation a draft proposal to amend the current spectrum authorisations of the four mobile operators by allowing the use of 3G and 4G technologies in the 900 MHz and 1800 MHz bands.	GSM	No

Country	Spectrum refarming status in 900 and 1800 MHz bands	Technologies permitted by current licences in 900 and 1800 MHz bands	Redistribution of existing spectrum assignments in 900 and 1800 MHz bands
Bosnia & Herzegovina	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*	Government decision No.04/88 of October 24, 2012 requires enabling the use of frequency resources assigned to the two mobile operators, for the next generations of mobile communications on a technology neutral basis. The new national spectrum allocation plan was approved in June 2013. On October 4, 2013 ARKEP adopted a Decision No.400 on further liberalisation of mobile broadband services by allowing the use of new technologies that enable advanced mobile services. The decision allows the two mobile operators to use UMTS, LTE and WiMAX within the scope of their existing 900 MHz and 1800 MHz licences, from December 1, 2013 and subject to an administrative payment set in proportion to their market shares.	UMTS, LTE and WiMAX	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 two licences on a national level.	2x21 MHz 2x14 MHz	2011-2019 2012-2020	No
	10-10.3 GHz	One operator has a license on a national level.	300 MHz	2011-2023	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.	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) (2 licences) 50 MHz (TDD) (2 licences) 40 MHz (TDD) (1 licence) 2 x 25 MHz (FDD/TDD) (1 licence)	2012-2017 2013-2018 2010-2015 2013-2018	No
Serbia	3.4-3.6 GHz	There are 51 radio stations permits for specific locations, mostly within Belgrade and Novi Sad that were issued under the previous law.	2x21 FDD (subject to change)	10 years	No
	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 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*	3.4-3.8 GHz	No FWA license issued. ARKEP prepared the criteria for the auction of the 3.4 – 3.6 GHz and 3.6 – 3.8 GHz frequency bands. Following a public consultation, the auction was <a href="#">launched</a> on Nov. 18, 2013. According to the results announced by ARKEP, 20 MHz block will be assigned in the 3.6-3.8 MHz band. ARKEP plans to launch another procedure in 1H 2014.	4 blocks of 2x20 MHz (3400 – 3600 MHz) 20 blocks of 10 MHz (3600 – 3800 MHz)	15 years	No

Table F.4 – Broadband wireless access – spectrum licences



## 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 / award procedure	Any restrictions to bidders)
Croatia	800 MHz (791-821/832-862)	Technology neutral Public electronic communications services in mobile networks	On Aug. 28, 2013, HAKOM adopted <a href="#">decision</a> on launching auction for the remaining spectrum in 800 MHz. Two licences awarded to VIPnet and HT on Nov. 6, 2013.	Two national licences	2 x 5 MHz	Until Oct. 18, 2024	A Sealed bid auction Minimum price for one 2x5 MHz block set at HRK 105m (€14m). VIPnet offered HRK 110m and HT HRK 105.7m. VIPnet also committed to pay the annual fees one-off, i.e. a total of HRK 65m, while HT opted for the payment of annual fees in equal yearly instalments of HRK 8m until the expiry of the licence.	No

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 / award procedure	Any restrictions to bidders)
Iceland	800 MHz Requirement to offer minimum speeds of 2 Mbps by 2014, 10 Mbps by 2016 and 30 Mbps by 2020	Technology neutral	Auction launched in Feb. 2013. On March 14, 2013 PTA <a href="#">announced</a> the results of the auction. Licences issued in April 2013.	Up to 5 national licences	One licence of 2x10 MHz and four licences of 2x5 MHz	One 25-year licence and four 10-year licences	The minimum reserve price set at ISK 100m (€627k) for 2x10 MHz block and ISK 20m (€125k) for each 2x5 MHz block. 365 Media had the highest bid for the 2x10 MHz licence – ISK 100m (€627k) and one 2x5 MHz licence - ISK 20m (€125k). Fjarskipti won two blocks of 2x5 MHz with the total bid of ISK 41m (€257k). Nova won the remaining 2x5 MHz block with the bid of ISK 20m (€125k).	Spectrum caps apply: <ul style="list-style-type: none"> <li>2x20 MHz in the 800 MHz band and 2x15 MHz in the 1800 MHz band – for bidders without 3G spectrum</li> <li>2x20 MHz overall cap – for bidders holding 3G spectrum</li> </ul>
	1800 MHz	Technology neutral	Auction launched in Feb. 2013. On March 14, 2013 PTA <a href="#">announced</a> the results of the auction. Licences will be issued by mid-April 2013.	Up to 5 national licences	Five licences of 2x5 MHz	10 years	The minimum reserve price set at ISK 5m (€31k) for each 2x5 MHz licence. Three blocks in the 1800 MHz were won by Síminn with the total bid of ISK 28.97m (€182k), one by Fjarskipti with the ISK 5m (€31k) bid and one by Nova with ISK 10.15m (€64k) bid.	

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 / award procedure	Any restrictions to bidders)
FYR Macedonia	800 MHz 1800 MHz	800 MHz: LTE 1800 MHz: GSM/UMTS/LTE /WiMAX	On May 10, 2013 AEC <a href="#">announced</a> an auction for the 800 MHz and 1800 MHz spectrum inviting bids by June 24, 2013. The existing three mobile operators participated in the auction. Spectrum licences awarded on Aug. 1, 2013.	Three national licences	2x10 MHz in 800 MHz and 2x15 MHz in 1800 MHz per each licence	20 years	Auction- Min. reserve price: €10m Each operator paid €10.3m per licence	No
Montenegro	-							
Serbia	-	-	-	-	-	-	-	-
Turkey	-	-	-	-	-	-	-	-
Albania	-							
Bosnia & Herzegovina	-							
Kosovo*	3.4-3.6 GHz	Technology neutral broadband services	The auction was <a href="#">launched</a> on Nov. 18, 2013. Applications invited by Dec. 9, 2013. On Dec. 18, 2013 ARKEP <a href="#">announced</a> that a 20 MHz block will be assigned to the winner at the price of €110,200. The remaining blocks will be auctioned in 2014.	National	4 blocks of 2x20 MHz in the 3.4-3.6 GHz 10 blocks of 10 MHz in the 3.6-3.8 MHz	15 years	Auction Min. reserve price: €5,400 per 1 MHz (€1.944m per total of 360 MHz)	No

Table F.5 – Spectrum awards- recent and in progress

## 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 for two licences of 2x10 MHz completed in Oct. 2012. The remaining available spectrum awarded in November 2013.
Iceland	Jan. 1, 2012	The frequency band of 792-862 MHz was free for reallocation from January 2012.	Undecided	72 MHz	Auction for one block of 2x10 MHz and four blocks of 2x5 MHz completed in March 2013.
FYR Macedonia	June 1, 2013	Strategy and action plan for the switchover from analogue to digital terrestrial broadcasting was approved by government on Nov. 24, 2008. National Plan for assignment of radiofrequencies was amended in Oct. 2011. 790-862 MHz is allocated to LTE. The switch-off is completed and spectrum became available from June 1, 2013.	Undecided	72 MHz	Award procedure completed in August 2013. Three licences of 2x10 MHz awarded.
Montenegro	June 17, 2015	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. An amendment of Digital Switchover Law, endorsed by Parliament of Montenegro in July 2012 (Official Gazette of Montenegro, No. 31/2012), postponed the switch-off date for June 17, 2015.	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 RS No. 12/11) was postponed by the government decision amending the strategy (Official Gazette RS No. 18/12). According to this decision and Rulebook on transition from analogue to digital emission of TV programs and access to the multiplex in terrestrial digital broadcasting (Official Gazette RS No. 55/12) transition process will be done region by region in accordance with Transition Plan defined by Rulebook on Allotment Plan of the Frequencies/Locations/Allotments for Digital Terrestrial Broadcasting Stations in UHF Band on Territory of Republic of Serbia (Official Gazette RS No. 73/2013) and Rulebook on amendments to Rulebook about determination of allotment plan of the frequencies/locations for terrestrial analogue FM and TV broadcasting stations (Official Gazette RS No. 93/13).	Undecided	Undecided	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
Turkey	March 2015	The Law No.6112 of Feb. 15, 2011, requires completing analogue switch-off by March 2015 at the latest. Radio and Television Supreme Council has adopted a <a href="#">digital switch-over plan</a> according to the deadline. 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 Jan. 2015, with the ultimate deadline of June 17, 2015.	Undecided	72 MHz	Undecided
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. On May 10, 2012 a revised action plan was approved by the Council of Ministers with 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.6 – 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 its territory. The rest is to be covered by the neighbouring country on the north. Beyond the technical problems, 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 for the markets outside the recommendation (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) According to the Article 16 (6c) of Framework Directive 2002/21/EC, HAKOM must carry out an analysis of the relevant markets and notify the corresponding draft measures within two years from the accession of Croatia to the EU.
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	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	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	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 within a reasonable time frame, 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

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
	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 provision of data and information for market analysis purposes adopted by the NRA on a quarterly basis.	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 networks was added to the list in the analysis process.	market if it has market share of over 40%, combined with assessment of other factors.		requirement to review markets on a yearly basis.
Montenegro	No restrictions (Article 30 of the Law on Electronic Communications of August 2013)	Discretionary definition by the NRA, in cooperation with the NCA and taking into account the EU practices (Article 66 of the Law on Electronic Communications of August 2013)	Competition law principles, taking into account market shares and other relevant criteria (Article 67-68 of the Law on Electronic Communications of August 2013)	Remedies are discretionary imposed by the NRA (listed in Articles 70-75, of the Law on Electronic Communications of August 13, 2013)	At least once every three years (Article 64 of the Law on Electronic Communications of August 2013)
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)
Turkey	No restrictions (Article 6(i) of the Electronic Communications Law)	The NRA has the discretion to define relevant markets by applying the three criteria test set out in the relevant secondary legislation within the context of market analysis (Article 7(3) of the Electronic Communications Act, Article 7 of the By-Law on Market Analysis).	SMP operators in relevant markets are determined by considering market share and the other criteria set out in the relevant secondary legislation and by taking competition law principles into account (Article 9 of the By-Law on Market Analysis).	Remedies can be imposed by the NRA (listed in Article 10 of the By-Law on Market Analysis) provided that the remedies to be imposed are appropriate and proportionate to the identified competition problems.	At least once every three years (Article 5 of the By-Law on Market Analysis).

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
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). On July 31, 2013 AKEP amended the Market Analysis Regulation of July 17, 2009. The list of relevant markets to be analysed by AKEP is now based on 7 markets of the 2007 EC recommendation, instead of 16 of 2003 EC recommendation. AKEP may analyse other markets that are not included in the list, or in the list of the EC recommendation in force, after applying the 3 criteria test.	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 at least once every two years (Article 34 of the Law on Electronic Communications)
Bosnia & Herzegovina	No restrictions. Licence conditions of all licensed operators and service providers contain an obligation to provide to the Agency any requested information and on time.	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*	No restrictions (Article 5 of the Law on Electronic Communications No. 04/L-109). The requested information, however, must be proportionate and objectively justified for the purposes of market analysis.	The NRA has discretion to define relevant markets applying competition law principles and taking into consideration the EC recommendations on relevant markets. If the market definition proposed by the NRA differs from the EC recommendation, the NRA must obtain the NCA opinion (Article 31 of the Law on Electronic Communications No. 04/L-109).	Dominance concept is based on competition law principles (Article 30 of the Law on Electronic Communications No. 04/L-109).	Discretionary remedies can be imposed by the NRA (listed in Articles 32-40 of the Law on Electronic Communications No. 04/L-109).	At least once every three years. May be extended for up to 3 additional years subject to an NRA order. (Article 31, Law on Electronic Communications No. 04/L-109).

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	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.)	<b>HT (wholesale level)</b> <ul style="list-style-type: none"> <li>Access, including CS/CPS and WLR (PSTN and ISDN)</li> <li>Price control and cost orientation</li> <li>Non discrimination</li> <li>Accounting separation</li> <li>Transparency (WLR RO)</li> </ul> <b>HT (retail level)</b> <ul style="list-style-type: none"> <li>Retail price control</li> <li>Cost orientation</li> <li>Prohibition to charge excessive prices</li> <li>Prohibition to unreasonably bundle certain types of services</li> </ul> <b>Iskon Internet (retail level)</b> <ul style="list-style-type: none"> <li>Retail price control</li> <li>Cost orientation</li> <li>Prohibition to show undue preference to specific end-users</li> </ul>	HAKOM decision of April 6, 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.)	<b>HT and Iskon Internet</b> <ul style="list-style-type: none"> <li>Retail price control</li> <li>Cost orientation</li> </ul>	HAKOM decision of July 20, 2011
	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

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 style="list-style-type: none"> <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 May 28, 2013
	Wholesale call termination on individual public telephone networks provided at fixed location (M3/2007)	National	<ul style="list-style-type: none"> <li>• HT d.d.</li> <li>• All other (12) alternative operators</li> </ul>	<b>HT</b> <ul style="list-style-type: none"> <li>• Transparency (RIO)</li> <li>• Access and interconnection</li> <li>• Price control and cost orientation</li> <li>• Non discrimination</li> <li>• Accounting separation</li> </ul> <b>Other operators</b> <ul style="list-style-type: none"> <li>• Access and interconnection</li> <li>• Price control</li> <li>• Non discrimination</li> <li>• Transparency (minimal offer)</li> </ul>	HAKOM decision of May 28, 2013
	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 style="list-style-type: none"> <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 June 28, 2013
	Wholesale broadband access (M5/2007)	National	HT d.d.	<ul style="list-style-type: none"> <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 June 28, 2013

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, irrespective of the technology used to provide leased or dedicated capacity (M6/2007)	National	HT d.d.	<ul style="list-style-type: none"> <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 only, i.e. the routes where only incumbent or its subsidiary are providing trunk segments of leased lines	HT d.d.	<ul style="list-style-type: none"> <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 voice call termination on individual mobile networks (M7/2007)	National	<ul style="list-style-type: none"> <li>• HT d.d.</li> <li>• VIPnet d.o.o.</li> <li>• Tele2 d.o.o.</li> </ul>	<b>HT, VIPnet and Tele 2</b> <ul style="list-style-type: none"> <li>• Transparency (RIO)</li> <li>• Access and interconnection</li> <li>• Price control and cost orientation</li> <li>• Non discrimination</li> </ul>	HAKOM decision of June 10, 2013
	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
	Wholesale access to the network for the value added services operators	-	No SMP Three criteria test is not fulfilled.	None	HAKOM decision of Sep. 19, 2012
	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.	None	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
	Retail broadband internet access (and <b>closely related market of transmission of TV channels with monthly payment (PayTV)</b> )	National	HT d.d. and its subsidiary (Iskon Internet d.d.) also designated as having SMP in the <b>closely related market of transmission of TV channels with monthly payment (PayTV)</b> in accordance with Article 55 (5) of the Electronic Communications Act	<b>HT and Iskon Internet</b> <ul style="list-style-type: none"> <li>Retail price control</li> <li>Cost-orientation</li> <li>Prohibition to inhibit market entry or restrict competition by setting predatory prices</li> <li>Prohibition to show undue preference to specific end-users</li> <li>Prohibition to unreasonably bundle certain types services</li> </ul>	HAKOM decision of March 21, 2012 (amended on June 28, 2013)
Iceland	Retail access to the public telephone network at fixed location (M1-2/2003)	National	Síminn hf.	Wholesale level <ul style="list-style-type: none"> <li>CS/CPS</li> <li>WLR (CPS + single billing)</li> <li>Non-discrimination</li> <li>Transparency (including publication of reference offer)</li> <li>Accounting separation</li> <li>Regulatory cost accounting</li> <li>Price control and cost orientation</li> </ul>	PTA 2 <sup>nd</sup> round <a href="#">decision</a> no. 8/2013 of June 18, 2013
	Retail publicly available telephone calls at fixed location (M3-6/2003)	-	No SMP Three criteria test is not fulfilled.	Deregulated	PTA 2 <sup>nd</sup> round <a href="#">decision</a> No. 9/2013 of June 18, 2013
	Minimum set of leased lines, comprising specified types of leased lines up to and including 2Mb/sec) (M7/2003)	National	Síminn hf.	<ul style="list-style-type: none"> <li>Access to specified types of lines</li> <li>Non-discrimination</li> <li>Transparency</li> <li>Accounting separation</li> <li>Price control and cost orientation (HCA)</li> </ul>	PTA decision of Sep. 14, 2007 ( <a href="#">consultation</a> on draft 2 <sup>nd</sup> round analysis launched on November 27, 2013)
	Wholesale call origination on the public telephone network provided at a fixed location (M2/2007)	National	Síminn hf.	<ul style="list-style-type: none"> <li>Access (including resale)</li> <li>Non-discrimination</li> <li>Transparency (RIO)</li> <li>Accounting separation</li> <li>Price control (benchmarking)</li> </ul>	PTA decision No. 36/2012 of Dec. 14, 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 call termination to geographic numbers in public fixed networks (M3/2007)	National	<ul style="list-style-type: none"> <li>• Síminn hf.</li> <li>• Fjarskipti ehf (Vodafone)</li> <li>• Nova ehf</li> <li>• Símafélagið</li> <li>• Hringdu</li> </ul>	<ul style="list-style-type: none"> <li>• Access</li> <li>• Non-discrimination</li> <li>• Transparency (RIO)</li> <li>• Accounting separation</li> <li>• Price control – fully symmetrical FTRs based on benchmarking against countries with “pure” LRIC</li> </ul>	PTA decision No. 36/2012 of Dec. 14, 2012
	National transit services in the public telephone network provided at fixed locations (M10/2003)	National	No SMP Three criteria test is not fulfilled	Deregulated	PTA decision No. 37/2012 of Dec. 14, 2012
	Wholesale unbundled access (M11/2003)	National	Míla ehf.	<ul style="list-style-type: none"> <li>• Access to copper local loops and related infrastructure</li> <li>• Non-discrimination</li> <li>• Transparency (RUO)</li> <li>• Accounting separation</li> <li>• Price control and cost orientation (HCA)</li> </ul>	PTA decision of Dec. 21, 2007 (initial <a href="#">consultation</a> on draft 2 <sup>nd</sup> round analysis completed in May 2013, additional consultation <a href="#">launched</a> on Dec. 20, 2013)
	Wholesale broadband access (M12/2003)	National	Síminn hf.	<ul style="list-style-type: none"> <li>• Access to BSA over copper local loops and related infrastructure</li> <li>• Non-discrimination</li> <li>• Transparency</li> <li>• Accounting separation</li> <li>• Price control</li> </ul>	PTA decision of April 18, 2008 (initial <a href="#">consultation</a> on draft 2 <sup>nd</sup> round analysis completed in May 2013, additional consultation <a href="#">launched</a> on Dec. 20, 2013)
	Wholesale terminating segments of leased lines (M13/2003)	National	<ul style="list-style-type: none"> <li>• Míla ehf.</li> <li>• Síminn hf.</li> </ul>	<ul style="list-style-type: none"> <li>• Access on reasonable request</li> <li>• Non-discrimination</li> <li>• Transparency (RO)</li> <li>• Accounting separation</li> <li>• Price control and cost orientation (HCA)</li> </ul>	PTA decision of Sep. 14, 2007 ( <a href="#">consultation</a> on draft 2 <sup>nd</sup> round analysis launched on Nov. 27, 2013)

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 trunk segments of leased lines (M14/2003)	National	Míla ehf.	<ul style="list-style-type: none"> <li>• Access on reasonable request</li> <li>• Non-discrimination</li> <li>• Transparency (RO)</li> <li>• Accounting separation</li> <li>• Price control and cost orientation (HCA)</li> </ul>	PTA decision of Sep. 14, 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 style="list-style-type: none"> <li>• Síminn hf.</li> <li>• Fjarskipti ehf (Vodafone)</li> <li>• IMC Island hf.</li> <li>• Nova hf.</li> <li>• Tal ehf. (IP-fjarskipti)</li> </ul>	<ul style="list-style-type: none"> <li>• Access</li> <li>• Non-discrimination</li> <li>• Price control and monitoring of tariffs – from July 1, 2013 fully symmetrical MTRs based on benchmarking against countries with “pure” LRIC</li> <li>• Accounting separation (Síminn &amp; Fjarskipti)</li> </ul>	PTA decision of Jan. 13, 2012 (third round) PTA decision No. 32/2012 of Nov. 1, 2012 on MTRs: MTRs applicable to all operators will be €0.025 (ISK 4) per minute as of Jan. 1, 2013. On July 1, 2013 these benchmarked rates will be lowered to €0.010 (ISK1.66) per minute.

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 (M1/2007)	National	AD Makedonski Telekom	<ul style="list-style-type: none"> <li>• CS and CPS</li> <li>• WLR, based on retail minus</li> <li>• Non discrimination</li> <li>• Ex ante price control</li> <li>• Transparency obligation (publication of charges, terms and conditions)</li> <li>• Accounting separation</li> <li>• Prohibition of anti competitive behaviour</li> <li>• Prohibition for unreasonable bundling of services (allow customers to buy unbundled elements of any service elements)</li> </ul>	AEC decision of Oct. 28, 2010
	Publicly available telephone services at a fixed location (M3-6/2003)	National	AD Makedonski Telekom	<ul style="list-style-type: none"> <li>• CS and CPS</li> <li>• WLR, based on retail minus</li> <li>• Non discrimination</li> <li>• Ex ante price control</li> <li>• Transparency obligation (publication of charges, terms and conditions)</li> <li>• Accounting separation</li> <li>• Prohibition of anti competitive behaviour</li> <li>• Prohibition for unreasonable bundling of services (allow customers to buy unbundled elements of any service elements)</li> </ul>	AEC decision of Oct. 28, 2010
	Minimum set of leased lines (M7/2003)	National	AD Makedonski Telekom	<ul style="list-style-type: none"> <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 (M2/2007)	National	AD Makedonski Telekom	<ul style="list-style-type: none"> <li>• Interconnection and access</li> <li>• Non discrimination</li> <li>• Price control (based on LRIC)</li> <li>• Transparency obligation (publication of RIO)</li> <li>• Accounting separation</li> <li>• Carrier selection and pre selection</li> <li>• Access and use of specific network elements (WLR)</li> </ul>	AEC 2 <sup>nd</sup> round decision, Sep. 2013 <a href="#">Market analysis document</a> , Aug. 2013 Maintains same SMP designation and obligations as AEC 1 <sup>st</sup> round decision of Oct. 28, 2010
	Call termination services in the public telephone network at a fixed location (M3/2007)	National	AD Makedonski Telekom and 7 alternative fixed operators: <ul style="list-style-type: none"> <li>• ONE-Skopje</li> <li>• On Net-Skopje</li> <li>• Neotel-Skopje</li> <li>• Aikol-Stip</li> <li>• Cabletel-Skopje</li> <li>• Anutel-Skopje</li> <li>• Infel Net Plus-Ohrid</li> </ul>	<b>AD Makedonski Telekom:</b> <ul style="list-style-type: none"> <li>• Interconnection and access (obligation for interconnection and access and RIO)</li> <li>• Non discrimination</li> <li>• Price control (based on LRIC)</li> <li>• Transparency obligation (publication of RIO)</li> <li>• Accounting separation</li> </ul> <b>Alternative operators:</b> <ul style="list-style-type: none"> <li>• Interconnection and access</li> <li>• Non discrimination</li> <li>• Transparency obligation</li> <li>• Price control</li> </ul>	AEC 2 <sup>nd</sup> round decision, Sep. 2013 <a href="#">Market analysis document</a> , Aug. 2013 Maintains same SMP designation and obligations as AEC 1 <sup>st</sup> round decision of Oct. 28, 2010
	Transit services in the public fixed telephone network (M10/2003)	National	AD Makedonski Telekom	<ul style="list-style-type: none"> <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 2 <sup>nd</sup> round decision, Sep. 2013 <a href="#">Market analysis document</a> , Aug. 2013 Maintains same SMP designation and obligations as AEC 1 <sup>st</sup> round 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 (M4/2007)	National	AD Makedonski Telekom	<ul style="list-style-type: none"> <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>	Final document on 2 <sup>nd</sup> round market analysis published on Oct. 16, 2012 Maintains same SMP designation and obligations as AEC 1 <sup>st</sup> round decision of Oct. 28, 2010
	Wholesale broadband access (M5/2007)	National	AD Makedonski Telekom	<ul style="list-style-type: none"> <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>	Final document on 2 <sup>nd</sup> round market analysis published on Oct. 16, 2012 Maintains same SMP designation and obligations as AEC 1 <sup>st</sup> round decision of Oct. 28, 2010
	Terminating segment of leased lines (M6/2007)	National	AD Makedonski Telekom	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <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	<ul style="list-style-type: none"> <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> <li>• Access and use of specific network elements</li> </ul>	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 (M7/2007)	National	<ul style="list-style-type: none"> <li>T-Mobile</li> <li>ONE Operator</li> <li>VIP Operator</li> </ul>	<ul style="list-style-type: none"> <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>	On May 30, 2012 AEC completed 3 <sup>rd</sup> round of analysis and adopted a Decision which sets the MTRs of the three operators in the period from June 1, 2012 to Sep. 1, 2014. Maintains same SMP designation and obligations as AEC 2 <sup>nd</sup> round decision of May 18, 2010
	Wholesale SMS termination in individual public mobile communications networks	National	<ul style="list-style-type: none"> <li>T-Mobile</li> <li>ONE Operator</li> <li>VIP Operator</li> </ul>	<ul style="list-style-type: none"> <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	Wholesale obligations: <ul style="list-style-type: none"> <li>CS/CPS</li> <li>WLR</li> <li>Price control</li> <li>Accounting separation</li> </ul> Retail obligations <ul style="list-style-type: none"> <li>Accounting separation</li> <li>Prohibition of excessive prices, too high or too low prices</li> <li>Non-discrimination</li> <li>Transparency</li> <li>Prohibition of unduly bundling</li> </ul>	EKIP 2 <sup>nd</sup> round <a href="#">decision</a> of Nov. 19, 2013
	Call origination on the public telephone network provided at a fixed location (M2/2007)	National	Crnogorski Telekom	<ul style="list-style-type: none"> <li>Access and interconnection</li> <li>Transparency (RIO)</li> <li>Non-discrimination</li> <li>Accounting separation</li> <li>Price control (HCA FAC) and cost accounting</li> </ul>	EKIP 2 <sup>nd</sup> round <a href="#">decision</a> of Nov. 19, 2013

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	<b>Crnogorski Telekom</b> <ul style="list-style-type: none"> <li>• Access and interconnection</li> <li>• Transparency (RIO)</li> <li>• Non-discrimination</li> <li>• Accounting separation</li> <li>• Price control and cost accounting (HCA FAC)</li> </ul> <b>M:Tel</b> <ul style="list-style-type: none"> <li>• Access and interconnection</li> <li>• Transparency (RIO)</li> <li>• Non-discrimination</li> <li>• Price control</li> </ul>	EKIP 2 <sup>nd</sup> round <a href="#">decision</a> of Nov. 19, 2013
	Network infrastructure access (including shared or fully unbundled access) at a fixed location (M4/2007)	National	Crnogorski Telekom	<ul style="list-style-type: none"> <li>• Access</li> <li>• Transparency (RUO)</li> <li>• Non-discrimination</li> <li>• Accounting separation</li> <li>• Price control (Retail minus/ benchmarking) and cost accounting (HCA FAC)</li> </ul>	EKIP 2 <sup>nd</sup> round <a href="#">decision</a> of Nov. 19, 2013
	Wholesale broadband access (M5/2007)	National	Crnogorski Telekom	<ul style="list-style-type: none"> <li>• Access</li> <li>• Transparency (RO)</li> <li>• Non-discrimination</li> <li>• Accounting separation</li> <li>• Price control and cost accounting (HCA FAC)</li> </ul>	EKIP 2 <sup>nd</sup> round <a href="#">decision</a> of Nov. 19, 2013
	Terminating or trunk segments of leased lines, irrespective of the technology used to provide leased or dedicated capacity (M6/2007)	National	Crnogorski Telekom	<ul style="list-style-type: none"> <li>• Access</li> <li>• Transparency (RO)</li> <li>• Non-discrimination</li> <li>• Accounting separation</li> <li>• Price control (benchmarking/retail minus) and cost accounting</li> </ul>	EKIP 2 <sup>nd</sup> round <a href="#">decision</a> of Nov. 19, 2013

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 style="list-style-type: none"> <li>• Access and interconnection</li> <li>• Transparency (RIO)</li> <li>• Non-discrimination</li> <li>• Price control and cost accounting (HCA FAC)</li> <li>• Accounting separation</li> </ul>	EKIP 2 <sup>nd</sup> round <a href="#">decision</a> of Nov. 19, 2013
	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: <ul style="list-style-type: none"> <li>• CS/CPS and WLR</li> </ul> Regulatory obligations imposed on retail level: <ul style="list-style-type: none"> <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 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: <ul style="list-style-type: none"> <li>• CS/CPS and WLR</li> </ul> Regulatory obligations imposed on retail level: <ul style="list-style-type: none"> <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 Dec. 30, 2011
	Wholesale trunk segments of leased lines (M14/2003)	National	Crnogorski Telekom	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <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 style="list-style-type: none"> <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
	Retail broadband internet access services	National	<i>Proposed:</i> Crnogorski Telekom	<i>Proposed:</i> <ul style="list-style-type: none"> <li>• Accounting separation</li> <li>• Price control</li> <li>• Transparency</li> <li>• Non-discrimination</li> </ul>	Draft EKIP decision <a href="#">published</a> for consultation on Dec. 5, 2013
Serbia	Retail access to the public telephone network (M1/2007)	National	Telekom Srbija a.d.	<ul style="list-style-type: none"> <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>	RATEL <a href="#">decision</a> , 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 origination on the public telephone network provided at a fixed location (M2/2007)	National	Telekom Srbija a.d.	<ul style="list-style-type: none"> <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>	RATEL <a href="#">decision</a> , Nov. 2011
	Wholesale call termination on individual public telephone networks provided at a fixed location (M3/2007)	National	Telekom Srbija a.d. Orion Telekom	<p>Telekom Srbija a.d.</p> <ul style="list-style-type: none"> <li>• Publication of reference interconnection offer</li> <li>• Non-discrimination</li> <li>• Accounting separation</li> <li>• Provision of access</li> <li>• Price control and cost accounting</li> </ul> <p>Orion Telekom</p> <ul style="list-style-type: none"> <li>• Publication of reference interconnection offer</li> <li>• Non-discrimination</li> <li>• Provision of access</li> <li>• Price control</li> </ul>	RATEL <a href="#">decision</a> , Nov. 2011
	Wholesale network infrastructure access (including shared or fully unbundled access) at a fixed location (M4/2007)	National	Telekom Srbija a.d.	<ul style="list-style-type: none"> <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>	RATEL <a href="#">decision</a> , Nov. 2011 RATEL <a href="#">revised decision</a> , April 2013
	Wholesale broadband access (M5/2007)	National	Telekom Srbija a.d.	<ul style="list-style-type: none"> <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>	RATEL <a href="#">decision</a> , Nov. 2011 Market analysis reassessed by RATEL in Oct. 2012 and new decision <a href="#">adopted</a> in Dec. 2012, maintaining the same conclusions. RATEL revised decision, May 2013

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 leased lines (M6/2007)	National	Telekom Srbija a.d.	<ul style="list-style-type: none"> <li>• Publication of reference offer</li> <li>• Non-discrimination</li> <li>• Accounting separation</li> <li>• Price control and cost accounting</li> <li>• Provision of minimum set of leased lines</li> </ul>	RATEL <a href="#">decision</a> , Nov. 2011 RATEL revised decision, April 2013
	Voice call termination on individual mobile networks (M7/2007)	National	Telekom Srbija a.d. Telenor Vip Mobile	<ul style="list-style-type: none"> <li>• Publication of reference interconnection offer</li> <li>• Non-discrimination</li> <li>• Provision of access</li> <li>• Price control</li> </ul>	RATEL <a href="#">decision</a> , Nov. 2011
	Retail distribution of media content	National	Serbia Broadband – Srpske kablovske mreze d.o.o. (SBB)	<ul style="list-style-type: none"> <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>	RATEL <a href="#">decision</a> , Nov. 2011 Market analysis reassessed by RATEL in Oct. 2012 and new decision <a href="#">adopted</a> in Dec. 2012, maintaining the same conclusions.

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 telephone services provided at a fixed location (M 3-6/2003)	National	Telekom Srbija a.d.	<ul style="list-style-type: none"> <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>	RATEL <a href="#">decision</a> , Nov. 2011 RATEL revised decision, April 2013
Turkey	Wholesale call termination in individual mobile networks (M16/2003)	National	<ul style="list-style-type: none"> <li>Turkcell</li> <li>Vodafone</li> <li>Avea</li> </ul> <p>Other mobile service providers (i.e. potential new entrants)</p>	<p><b>Turkcell, Vodafone, Avea</b></p> <ul style="list-style-type: none"> <li>Non-discrimination (including sending KPIs to the NRA quarterly)</li> <li>Cost accounting</li> <li>Accounting separation</li> <li>Transparency</li> <li>Publication of RIO (incl. SLAs)</li> <li>Price control (cost orientation)</li> <li>Access and interconnection</li> <li>Co-location</li> </ul> <p><b>Other mobile network operators</b></p> <ul style="list-style-type: none"> <li>Access and interconnection</li> <li>Non-discrimination</li> <li>Transparency</li> </ul>	Decision no. 2012.DK – 10.613 of Dec. 7, 2012 (3 <sup>rd</sup> 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
	Wholesale mobile access and call origination (M15/2003)	National	<ul style="list-style-type: none"> <li>Turkcell</li> </ul>	<ul style="list-style-type: none"> <li>Access and interconnection</li> <li>Non-discrimination (incl. sending KPIs to the NRA quarterly)</li> <li>Transparency (incl. publication of KPIs quarterly)</li> <li>Publication of reference offer (incl. SLAs)</li> <li>Cost accounting</li> <li>Accounting separation</li> <li>Price control (cost orientation)</li> <li>Co-location</li> </ul>	Decision no. 2013/DK -SRD.105 of Feb. 18, 2013 (3 <sup>rd</sup> round)
	Retail access to the public telephone network at fixed location for residential and business customers (M1-2/2003)	National	Türk Telekom	<ul style="list-style-type: none"> <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. With the Board Decision 2012/DK-10/633 dated Dec. 12, 2012, the validity period of market analysis has been extended until Dec. 12, 2013.
	Retail publicly available national, local and international telephone calls at fixed location (M3-6/2003)	National	Türk Telekom	<ul style="list-style-type: none"> <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. With the Board Decision 2012/DK-10/633 dated Dec. 12, 2012, the validity period of market analysis has been extended until Dec. 12, 2013.

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	<ul style="list-style-type: none"> <li>• Türk Telekom</li> <li>• Other fixed telephone network operators assigned subscriber numbers</li> </ul>	<b>Türk Telekom</b> <ul style="list-style-type: none"> <li>• Access and Interconnection</li> <li>• Non-discrimination</li> <li>• Co-location and facility sharing</li> <li>• Accounting separation and cost accounting</li> <li>• Transparency (including publication of KPIs quarterly)</li> <li>• Publication of RIO (incl. SLAs)</li> <li>• Price control (cost-orientation)</li> </ul> <b>Other operators</b> <ul style="list-style-type: none"> <li>• Interconnection</li> <li>• Non-discrimination</li> <li>• Transparency</li> </ul>	Decision no. 2013/DK – SRD/7 of Jan. 3, 2013 (3 <sup>rd</sup> round)
	Wholesale call origination on the public telephone network provided at a fixed location (M8/2003)	National	Türk Telekom	<ul style="list-style-type: none"> <li>• Access and Interconnection</li> <li>• CS/CPS</li> <li>• Non-discrimination (including sending KPIs to the BTK quarterly)</li> <li>• Cost accounting and accounting separation</li> <li>• Transparency (including publication of KPIs quarterly)</li> <li>• Publication of reference offer (incl. SLAs)</li> <li>• Price control (cost orientation)</li> <li>• Co-location and facility sharing</li> </ul>	Decision no. 2013/DK – SRD/6 of Jan. 3, 2013 (3 <sup>rd</sup> round)
	Transit services in the public telephone network provided at fixed locations (M10/2003)	-	No SMP Three criteria test is not fulfilled.	Deregulated	Decision no. 2013/DK – SRD/5 of Jan. 3, 2013 (3 <sup>rd</sup> 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
	Wholesale unbundled access (M11/2003)	National	Türk Telekom	<ul style="list-style-type: none"> <li>Access                             <ul style="list-style-type: none"> <li>Local loop unbundling access (copper loop only)</li> <li>Physical infrastructure access</li> </ul> </li> <li>Price control (cost orientation)</li> <li>Publication of reference access and interconnection offers (incl. SLAs)</li> <li>Non-discrimination (including sending KPIs to the BTK quarterly)</li> <li>Transparency (including publication of KPIs quarterly)</li> <li>Accounting separation and cost accounting</li> <li>Co-location and facility sharing</li> </ul>	Decision No. 20130/DK-SRD/188 of April 12, 2013 (3 <sup>rd</sup> round)
	Wholesale broadband access (M12/2003)	National	Türk Telekom	<ul style="list-style-type: none"> <li>Wholesale broadband access (xDSL resale, XDSL IP/ATM BSA, ATM, FR, ME resale and including naked DSL (IP BSA))</li> <li>Non-discrimination</li> <li>Cost accounting and accounting separation</li> <li>Transparency (including publication of KPIs quarterly)</li> <li>Publication of reference offer (incl. SLAs)</li> <li>Price control (cost orientation)</li> <li>Co-location and facility sharing</li> </ul>	Decision no. 2013/DK – SRD/29 of Jan. 11, 2013 (3 <sup>rd</sup> 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
	Wholesale and retail leased lines –trunk and termination segments- (M13-14-7/2003)	National	Türk Telekom	Wholesale level : <ul style="list-style-type: none"> <li>• Access</li> <li>• Non-discrimination (including sending KPIs to the BTK quarterly)</li> <li>• Transparency (including publication of KPIs quarterly)</li> <li>• Preparation and publication of reference offer (incl. SLAs)</li> <li>• Price control (Cost oriented tariffs)</li> <li>• Accounting separation and cost accounting</li> <li>• Co-location and facility sharing</li> </ul> Retail level: <ul style="list-style-type: none"> <li>• Price control</li> <li>• Accounting separation and cost accounting</li> </ul>	Decision No. 2013/DK-SRD/189 of April 12, 2013 (3 <sup>rd</sup> round)
Albania	Wholesale call termination on individual mobile networks (M16/2003)	National	<ul style="list-style-type: none"> <li>• Albanian Mobile Communications</li> <li>• Vodafone Albania</li> <li>• Eagle Mobile</li> <li>• Plus Communication</li> </ul>	<ul style="list-style-type: none"> <li>• Non-discrimination</li> <li>• Cost orientation</li> <li>• Transparency</li> <li>• Access and interconnection</li> <li>• Price control</li> <li>• RIO</li> <li>• Accounting separation and cost accounting</li> </ul>	AKEP decisions of July 4, 2012
	Wholesale access and call origination on mobile networks (M15/2003)	-	No SMP Three criteria test is not fulfilled	Deregulated	AKEP decisions of July 4, 2012
	Wholesale SMS termination on individual mobile networks	National	<ul style="list-style-type: none"> <li>• Albanian Mobile Communications</li> <li>• Vodafone Albania</li> <li>• Eagle Mobile</li> <li>• Plus Communication</li> </ul>	<ul style="list-style-type: none"> <li>• Non-discrimination</li> <li>• Cost orientation</li> <li>• Transparency</li> <li>• Access and interconnection</li> <li>• Price control</li> <li>• Accounting separation and cost accounting</li> </ul>	AKEP decisions of Oct. 31, 2011 <a href="#">AMC</a> , <a href="#">Vodafone</a> , <a href="#">Eagle Mobile</a> , <a href="#">Plus Communication</a> On November 1, 2013 AKEP published for public consultation (1.11.2013-1.01.2014) its 2 <sup>nd</sup> round market analysis of wholesale SMS termination market.

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 access to the public telephone network at fixed location (M1-2/2003)	National	Albtelecom	<ul style="list-style-type: none"> <li>Non-discrimination</li> <li>Transparency</li> <li>CS/CPS</li> </ul>	AKEP decision of July 30, 2013
	Retail publicly available telephone calls at fixed location (M3-6/2003)	National	Albtelecom		
	Wholesale call termination on individual public telephone networks provided at fixed location (M9/2003)	National	<ul style="list-style-type: none"> <li>Albtelecom</li> <li>AMC (mobile operator) for GSM Fixed</li> <li>All other (77) alternative operators</li> </ul>	<b>Albtelecom</b> <ul style="list-style-type: none"> <li>Non-discrimination</li> <li>Cost orientation</li> <li>Transparency (RIO)</li> <li>Access and interconnection</li> <li>Price control</li> <li>Accounting separation/cost accounting</li> </ul> <b>All other operators</b> <ul style="list-style-type: none"> <li>Non-discrimination</li> <li>Transparency (not RIO)</li> <li>Access and interconnection</li> <li>Price control</li> </ul>	<ul style="list-style-type: none"> <li>AKEP decision of July 30, 2013 (Albtelecom)</li> <li>AKEP decision of July 31, 2013 (AMC)</li> <li>AKEP decision of July 31, 2013 (77 ANOs)</li> </ul>
	Wholesale call origination on the public telephone network provided at a fixed location (M8/2003)	National	Albtelecom	<ul style="list-style-type: none"> <li>CS/CPS</li> <li>Non-discrimination</li> <li>Cost orientation</li> <li>Transparency (RIO)</li> <li>Access and interconnection</li> <li>Respect confidentiality</li> <li>Price control</li> <li>Accounting separation/cost accounting</li> </ul>	AKEP decision of July 30, 2013.
	National transit services in the public telephone network provided at fixed locations (M10/2003)	National	Albtelecom		
	Minimum set of leased lines, comprising specified types of leased lines up to and including 2Mb/sec (M7/2003)	-	No SMP Three criteria test is not fulfilled.	Deregulated – removal of regulatory obligations from Albtelecom	AKEP <a href="#">decision</a> of Feb. 4, 2014 on 2 <sup>nd</sup> round analysis of leased lines markets
	Wholesale trunk segments of leased lines (M14/2003)	-	No SMP Three criteria test is not fulfilled.		

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	Albtelecom	<ul style="list-style-type: none"> <li>• Non-discrimination</li> <li>• Transparency</li> <li>• Publication of reference offer plus SLA/KPI</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>	AKEP <a href="#">decision</a> of Feb. 4, 2014 on 2 <sup>nd</sup> round analysis of leased lines markets
	Wholesale broadband access (M5/2007)	National	Albtelecom	<ul style="list-style-type: none"> <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>• Tariff control (retail minus)</li> </ul>	AKEP <a href="#">decision</a> of Feb. 4, 2014 on 2 <sup>nd</sup> round analysis of wholesale broadband access and unbundled access markets
	Wholesale unbundled access (M4/2007)	National	Albtelecom	<ul style="list-style-type: none"> <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>	
Bosnia & Herzegovina	Fixed telephony services	National	<ul style="list-style-type: none"> <li>• BH Telecom d.d. Sarajevo</li> <li>• Telekom Srpske a.d. Banja Luka</li> <li>• Hrvatske Telekomunikacije d.d. Mostar</li> </ul>	<ul style="list-style-type: none"> <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 <a href="#">decision</a> of Aug. 8, 2012 (Official Gazette of BiH 73/2012)

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
	Mobile telephony services	National	<ul style="list-style-type: none"> <li>BH Telecom d.d. Sarajevo</li> <li>Telekom Srpske a.d. Banja Luka</li> <li>Hrvatske Telekomunikacije d.d. Mostar</li> </ul>	<ul style="list-style-type: none"> <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 <a href="#">decision</a> of Aug. 8, 2012 (Official Gazette of BiH 73/2012)
	Leased lines	National	<ul style="list-style-type: none"> <li>BH Telecom d.d. Sarajevo</li> <li>Telekom Srpske a.d. Banja Luka</li> <li>Hrvatske Telekomunikacije d.d. Mostar</li> </ul>	<ul style="list-style-type: none"> <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 <a href="#">decision</a> of Aug. 8, 2012 (Official Gazette of BiH 73/2012)
	Voice call termination on individual mobile networks (M7/2007)	National	<ul style="list-style-type: none"> <li>BH Telecom d.d. Sarajevo</li> <li>Telekom Srpske a.d. Banja Luka</li> <li>Hrvatske Telekomunikacije d.d. Mostar</li> </ul>	<ul style="list-style-type: none"> <li>Access and interconnection</li> <li>Non-discrimination</li> <li>Transparency (RIO)</li> <li>Price control</li> <li>Accounting separation and cost orientation</li> </ul>	RAK final decision, June 2013 <a href="#">Market analysis document</a> , April 2013
	Voice call termination on individual fixed networks (M3/2007)	<i>Proposed:</i> National	<i>Proposed</i> <ul style="list-style-type: none"> <li>BH Telecom d.d. Sarajevo</li> <li>Telekom Srpske a.d. Banja Luka</li> <li>Hrvatske Telekomunikacije d.d. Mostar</li> <li>12 alternative operators</li> </ul>	<i>Proposed</i> <b>All operators:</b> <ul style="list-style-type: none"> <li>Access and interconnection</li> <li>Non-discrimination</li> <li>Transparency (RIO)</li> <li>Price control</li> </ul> <b>BH Telecom, Telekom Srpske, HT Mostar:</b> <ul style="list-style-type: none"> <li>Accounting separation and cost orientation</li> </ul>	RAK <a href="#">draft decision</a> published for consultation between Sep. 27 and Nov. 8, 2013

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	<ul style="list-style-type: none"> <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 (now ARKEP) decision No 180 Feb. 29, 2012
	Publicly available local and/or national telephone services provided at a fixed location	National	PTK	<ul style="list-style-type: none"> <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 (now ARKEP) decision No 181 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
	Publicly available international telephone services provided at a fixed location	National	PTK	<ul style="list-style-type: none"> <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 (now ARKEP) decision No 182 Feb. 29, 2012
	Call origination on the public telephone network provided at a fixed location	National	PTK	<ul style="list-style-type: none"> <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 (now ARKEP) decision No 183 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 termination on individual public telephone networks provided at a fixed location	National	PTK, Ipko	<ul style="list-style-type: none"> <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 decisions No 184 for PTK No 185 for IPKO Feb. 29, 2012
	Transit services in the fixed public telephone network	National	PTK	<ul style="list-style-type: none"> <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 186 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	<ul style="list-style-type: none"> <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 No187 Feb. 29, 2012
	Wholesale and retail leased lines (markets 7, 13-14/2003)	National	No SMP	No obligations	ARKEP decision No 378, July 16, 2013

Table G.2 – Analysis of relevant markets by NRAs

## Notes:

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.

Kosovo\*: Currently ARKEP is in the process of analysis of mobile termination market.

## 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 for different type of calls				Which operators are required to provide CS?	Call origination for CS included in RIO?
	Local	National	International	Calls to mobile		
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, Feb. 2011, Section 2.4.1
	2012	2012	2012	2012	Mtel – mobile network	RIP MTEL, Aug. 2012, Section 2.3.1
	2012	2012	2012	2012	T - Mobile – mobile network	RIP T-Mobile, August 2012
	2012	2012	2012	2012	Telenor – mobile network	RIP Telenor, August 2012
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:

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 and include it in RIO.

## b) Carrier pre-selection

Country	CPS implementation for different type of calls				Which operators required to provide CPS?	Call origination for CPS included in RIO?
	Local	National	International	Calls to mobile		
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	Síminn	Síminn 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, Feb. 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 Telekom Srpske HT 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.2 – Carrier pre-selection

## Notes:

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 and include it in RIO.

## c) Implementation in practice

Country	CS implementation 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	6 (5)	165,679 (217,551)
Iceland	2	N/A	2	<4,000
FYR Macedonia	1	N/A	1	26,612 (24,766)
Montenegro	2	1,840 (3,878)	-	-
Serbia	-	-	-	-
Turkey	13	190,287 (174,338)	9	158,710 (402,966)

Country	CS implementation 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)
Albania	-	-	-	-
Bosnia & Herzegovina	7	47,182 (46,643)	1	1
Kosovo*	-	-	-	-

Table H.3 – CS/CPS implementation in practice

## 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	Implementation		Legal basis	Inter-operator charge per ported number	Technical solution	Duration of the porting process	NP database financing	Ported numbers statistics
	Geographic numbers	Non-geographic numbers						
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 73/08, 90/11, 133/12, 80/13). Ordinance on number portability of Sept. 2012. (Official Gazette 100/12)	None	Direct routing, QoR with centralised database	Max. 5 (five) working days from the acceptance of the porting request by the operator-donor through centralised database	Centralised database is operated by the NRA and funded from the NRA budget.	754,351, as of May 23, 2013
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 8,000 numbers during H1 2012
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	Direct routing, QoR with centralised database	2 (two) working days from the acceptance of the porting request by the donor operator	Centralised database is operated by the NRA and funded from the NRA budget	117,981, as of Aug. 18, 2013

Country	Implementation		Legal basis	Inter-operator charge per ported number	Technical solution	Duration of the porting process	NP database financing	Ported numbers statistics
	Geographic numbers	Non-geographic numbers						
				charged only to the operator recipient, the subscriber should only pay the administrative expenses.				
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	Max. 5 working days from subscribers request	Centralised database is operated by the NRA and funded from the NRA budget.	688, as of June 2013
Serbia	Initial deadline of Dec. 1, 2012, delayed until further notice (at least until April 2014)	Initial deadline of Dec. 1, 2012, delayed until further notice (at least until April 2014)	Art. 79 of the Law on Electronic Communications (Official Gazette RoS no. 44/10, 60/13); 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	Up to 6 working days (3 days for processing subscriber's request and 3 days for transferring the number) If the porting request 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	-



Country	Implementation		Legal basis	Inter-operator charge per ported number	Technical solution	Duration of the porting process	NP database financing	Ported numbers statistics
	Geographic numbers	Non-geographic numbers						
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	Max. 6 days from subscriber request for porting without LLU and naked DSL, Max. 7 working days and 2 calendar days for porting with LLU and naked DSL.	Centralised database is operated by the NRA and funded by the operators connected to the database.	439,600, as of July 2013
Albania	Sep. 2012	Not implemented	Law on Electronic Communications set the implementation deadline within 12 months from its entry into force.	Max. €4.28 (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.	1,400, as of Sep. 10, 2013
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. 62/12 (replacing RAK Rule on Number Portability No. 32/08)	Maximum charge for subscriber - €10.26 (BAM 20)	Direct routing, ACQ with centralized database	Within 1 day from the date agreed between recipient operator and subscriber	Centralised database operated by third party and financed by telecom operators	5,115, as of June 2013
Kosovo*	Not implemented	Not implemented	Deadline: not defined. Legal basis: Article 60 of the Law on Electronic Communications No.04/L-109	-	-	-	-	-

Table H.4 – Fixed number portability

## Notes:

FYR Macedonia: Non-geographic numbers are not used as subscriber numbers in fixed 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.

## b) Mobile number portability

Country	Implemented or not	Legal basis	Inter-operator charge per ported number	Technical solution	Duration of the porting process	NP database financing	Implementation	
							Ported numbers statistics	As % of total mobile numbers?
Croatia	October 1, 2006	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, 90/11, 133/12, 80/13). Ordinance on number portability of Sept. 2012. (Official Gazette no.: 100/12)	None	Direct routing, ACQ with centralised database	Max. 3 (three) working days from the acceptance of the porting request by the operator-donor though centralised database	Centralised database is operated by the NRA and funded from the NRA budget	482,589 as of May 25, 2013	8.7 %
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 18,000 during H1 2012	13%

Country	Implemented or not	Legal basis	Inter-operator charge per ported number	Technical solution	Duration of the porting process	NP database financing	Implementation	
							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 end-users) 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.	105,573 as Aug.18, 2013	4.74%
Montenegro	Dec. 2011	Dec. 2011, Articles 139, 140, 141 of the Law on Electronic Communications Rulebook on Number Portability	Max. one-off fee of €3.5 (applies both to operators and end-users), but is not applied in practice The fee set by EKIP	All calls query – ACQ	Max. 5 (five) working days from the subscriber request	Centralised database is operated by the NRA and funded from the NRA budget	6,272 as of June 2013	0.62%
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, 60/13)	€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	160,000 (as of July. 2013)	Approx. 1.77%

Country	Implemented or not	Legal basis	Inter-operator charge per ported number	Technical solution	Duration of the porting process	NP database financing	Implementation	
							Ported numbers statistics	As % of total mobile numbers?
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 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	Max. 6 days from subscriber request	Centralised database is operated by the NRA and funded by the operators connected to the database.	59,241,358 as of July 2013	87.24%
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	205,000 as of Sep. 10, 2013	6%
Bosnia & Herzegovina	Jan. 1, 2013	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. 62/12 (replacing RAK Rule on Number Portability No. 32/08)	Maximum charge for subscriber - €10.26 (BAM 20)	Direct routing, ACQ with centralised database	Within 1 day from the date agreed between recipient operator and subscriber	Centralised database is operated by a third party and funded from the NRA budget	2,006 as of June 2013	0.06%

Country	Implemented or not	Legal basis	Inter-operator charge per ported number	Technical solution	Duration of the porting process	NP database financing	Implementation	
							Ported numbers statistics	As % of total mobile numbers?
Kosovo*	Not implemented	Deadline: not defined. Legal basis: Article 60 of the Law on Electronic Communications No.04/L-109	-	-	-	-	-	-

Table H.5 – Mobile number portability

### 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	Status of RIO		Number of agreements		
	Fixed operators with SMP	Mobile operators with SMP	Fixed – Fixed	Fixed – Mobile	Mobile – Mobile
Croatia	HT RIO valid from August 1, 2013	HT RIO valid from July 1, 2013 Vipnet RIO valid from July 1, 2013 Tele2 RIO valid from July 1, 2013	43	23	3
Iceland	<a href="#">Síminn</a> , last updated on March 1, 2012	No obligation to publish RIO	4	5	1
FYR Macedonia	<a href="#">Makedonski Telekom</a> , last updated Jan. 2, 2013 <a href="#">Neotel</a> , valid from March 30, 2011 <a href="#">One</a> , valid from Jan. 2011 <a href="#">Aicall</a> , valid from Jan. 2011 <a href="#">Cabletel</a> , valid from Jan. 2011 Blizoo, valid from Jan. 2011	Call termination: <a href="#">T-Mobile</a> , valid from June 2012 <a href="#">ONE</a> , valid from June 2012 <a href="#">VIP operator</a> , valid from June 2012 Access and call origination: T-Mobile <a href="#">reference access offer</a> approved by AEC in Nov. 2010	14	11	6

Country	Status of RIO		Number of agreements		
	Fixed operators with SMP	Mobile operators with SMP	Fixed – Fixed	Fixed – Mobile	Mobile – Mobile
Montenegro	<a href="#">Crnogorski Telekom</a> <a href="#">Mtel</a> Valid from Feb. 2011	Call termination, call origination, CS and MVNO access: <a href="#">T-Mobile</a> , valid from Aug. 2012 <a href="#">Mtel</a> , valid from Dec. 2012 <a href="#">Telenor</a> - call termination, valid from Dec. 2012 <a href="#">Telenor</a> - MVNO access, valid from Aug. 2012	3	4	3
Serbia	Published RIOs for call termination on public telephone networks: <ul style="list-style-type: none"> <li><a href="#">Orion telekom</a>, valid from April 1, 2012 (amended Feb. 2013)</li> <li><a href="#">Telekom Srbija a.d.</a>, valid from June 1, 2012 (amended Jan. 2013)</li> </ul>	Published RIOs for call termination on mobile telephone networks for <ul style="list-style-type: none"> <li><a href="#">Telekom Srbija a.d.</a>, valid from April 1, 2012 (amended Dec. 2013)</li> <li><a href="#">Telenor</a>, valid from April 1, 2012 (amended Dec. 2013)</li> <li><a href="#">VIP mobile</a>, valid from April 1, 2012 (amended Dec. 2013)</li> </ul>	6	10	3
Turkey	<a href="#">Turk Telekom</a> , last revision was made in April 2013	<a href="#">Avea</a> , <a href="#">Turkcell</a> , <a href="#">Vodafone</a> , last revision was made in June 2013	142	132	3
Albania	<a href="#">Albtelecom</a> , Last updated on April 19, 2012	<a href="#">Vodafone Albania</a> , Last updated on Oct. 29, 2012 <a href="#">AMC</a> (inc. <a href="#">Annex</a> ), Last updated on Oct. 29, 2012 <a href="#">Eagle Mobile</a> , Last updated on Oct. 29, 2012 <a href="#">Plus Communications</a> , Valid from Oct. 29, 2012	67	22	6
Bosnia & Herzegovina	Reference interconnection offers (available at <a href="#">RAK website</a> ): <ul style="list-style-type: none"> <li><a href="#">BH Telecom</a>, valid from Oct. 21, 2013</li> <li><a href="#">HT Mostar</a>, valid from Oct. 11, 2013</li> <li><a href="#">Telekom Srpske</a>, valid from Oct. 11, 2013</li> </ul>	Reference interconnection offers (available at <a href="#">RAK website</a> ): <ul style="list-style-type: none"> <li><a href="#">BH Telecom</a>, valid from Oct. 21, 2013</li> <li><a href="#">HT Mostar</a>, valid from Oct. 11, 2013</li> <li><a href="#">Telekom Srpske</a>, valid from Oct. 11, 2013</li> </ul>	20	0	0
Kosovo*	The first RIO of PTK was approved by the NRA in Jan. 2007	No RIO published	1	1	1

Table H.6 – Reference interconnection offer

#### 4. Wholesale unbundled access

The table below shows availability of the reference unbundling offer and implementation: the number of LLU agreements and the number of unbundled loops.

Country	Status of RUO Legal basis	Implementation	
		Number of LLU agreements	Number of unbundled loops
Croatia	<a href="#">T-HT RUO</a> last amended in October 2013 According to the market of M4/2007 from June 28, 2013, HT was obliged to make amendments to the RUO by Sep. 1, 2013 which shall be valid from Oct. 1, 2013	6 (full access) 1 (shared access) Including Iskon (100% owned by HT)	167,178 (full access, of which 63.800 by Iskon) 433 (shared access, Iskon)

Country	Status of RUO Legal basis	Implementation	
		Number of LLU agreements	Number of unbundled loops
Iceland	<a href="#">MILA RUO</a> , valid from April 2009 Obligation on the operator <a href="#">MILA</a> , based on a decision by PTA nr. 26/2007 in accordance with regulation no. 199/2002	4 (full access) 6 (shared access) Including Síminn	91,754 (full access, of which 62,908 by Síminn) 45,685 (shared access, of which 34,969 by Síminn)
FYR Macedonia	<a href="#">Makedonski Telekom RUO</a> , valid from May 2012 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)	3,261 (Q1/2013)
Montenegro	<a href="#">Crnogorski Telekom RUO</a> is available from Feb. 2011. Final decision on market analysis of M4/2007 was adopted on Nov. 12, 2010.	-	-
Serbia	<a href="#">Telekom Srbija a.d</a> RUO, valid from June 1, 2012	1	-
Turkey	TT <a href="#">RUO</a> of July 31, 2012 The first Türk Telekom RUO was approved in Nov. 2006 and last revision to RUO was made in Aug. 2012. Based on the Communiqué on 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.	9 (full access) 9 (shared access) Data as of July 31, 2013	1,720 (full access) 1,703 (shared access) (Data as of July 31, 2013)
Albania	Albtelecom <a href="#">RUO</a> approved by AKEP on May 31, 2012. Legal basis to publish RUO: <a href="#">SMP decision no.1565, date April 13, 2011</a>	-	-
Bosnia & Herzegovina	RUOs of BH Telecom, Telekom Srpske and HT Mostar valid from Jan. 2013. RUOs available at <a href="#">RAK website</a>	1	29 (shared access)
Kosovo*	RUO is not available Based on ARKEP decision on SMP obligations adopted in Feb. 2012, PTK has presented to the NRA, RUO for approval.	-	-

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 BSA/resale offered on commercial basis if not mandated?	Pricing rule set by NRA?	Access options			Naked DSL	Multicast	Implementation	
			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% Cost orientation based on LRAIC+ to be implemented in 2014	Ethernet handover available, DSLAM on reasonable request	Yes	No (no obligation)	Yes	Yes	7 BSA agreements	51,985 (BSA lines)
Iceland	PTA decision on M12/2003, Oct. 2008	Cost orientation, after an initial period of retail minus	Yes	Yes	Yes	Yes	Yes	11 (BSA)	2,611 (BSA) 9,300 (resale)
FYR Macedonia	AEC decision on M12/2003, Oct. 28, 2010 <a href="#">AEC Ordinance on BSA and bitstream resale</a> , Oct. 26, 2012	From Oct. 2012, BU LRIC+ is used for BSA at levels 1, 2, 3 retail minus: from 30% to 40% for resale	Yes	Yes	Yes	Yes	No	3	180 (as of Q1/2013) Level 4 26,632 (as of Q1/2013) Level 3
Montenegro	NRA decision on M5/2007 is adopted on Nov. 12, 2010 Crnogorski Telekom reference offer for wholesale broadband access is available from Feb. 2011	Retail minus	Yes	Yes	No	Yes	No	0	0
Serbia	RATEL decision from May 2013	Cost orientation	No	Yes	No	No	No	12	147,126 (of which 128,096 are active)
Turkey	ICTA decision on M12/2003, Jan. 7, 2010	Not set specifically in market analysis decision. But in practice retail	Yes (ATM)	Yes	Yes	Yes	Not mentioned in the market analysis	62 resale agreements 17 BSA	14,275 (resale) 895,876 (IP)



Country	Legal basis BSA/resale offered on commercial basis if not mandated?	Pricing rule set by NRA?	Access options			Naked DSL	Multicast	Implementation	
			ATM/Ethernet handover	IP handover	End-to-end resale			Number of BSA/resale agreements	Number of broadband lines with BSA/resale
		minus is used.					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.	agreements	BSA) Turk Telekom's retail broadband subsidiary TTNet has 5,600,778 lines based on BSA (as of July 31, 2013)
Albania	AKEP decision of April 13, 2011 imposed obligation to provide BSA. AKEP <a href="#">decision</a> of Feb. 4, 2014 on 2 <sup>nd</sup> round analysis of wholesale broadband access and unbundled access markets defined priced control obligations for BSA.	IP level-retail minus 30% Ethernet-retail minus 50%	Yes	Yes	Yes	No	No	0 Reference offer implemented in Feb. 2013.	0
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.

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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 <a href="#">HT WLR reference offer</a>	5	105,185
Iceland	Available from July 1, 2012	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 based on HCA FAC, after an initial period of retail minus 20%	July 1, 2012 <a href="#">Síminn resale reference offer</a>	1	300
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 <a href="#">Makedonski Telekom WLR reference offer</a>	2	25,593 (as of Q1/2013)
Montenegro	Available from Feb. 2011	EKIP decision on M1/2007 of Nov. 12, 2010	Retail minus 5%	Feb. 2011 <a href="#">Crnogorski Telekom WLR reference offer</a>	0	0
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 Turk Telekom WLR Reference Offer (Annex-2 to RIO)	7	920,597 (as of July 2013)
Albania	No	-	-	-	-	-

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
Bosnia & Herzegovina	No	-	-	-	-	-
Kosovo*	No	PTK as SMP operator in the 'access to the public network at the fixed location'.	-	-	-	-

Table H.9 – Wholesale line rental

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

Country	Fully unbundled lines		Shared lines		Bitstream access		Broadband resale		Wholesale line rental	
	Number of agreements	Number of lines	Number of agreements	Number of lines	Number of agreements	Number of lines	Number of agreements	Number of lines	Number of agreements	Number of WLR lines
Croatia	6	167,178 (of which 63,800 by Iskon)	1	433 (Iskon)	7	51,985	-	-	5	105,185
Iceland	4	62,908 (Síminn) 28,846 (ANOs)	6	34,969 (Síminn) 10,716 (ANOs)	11	2,611	-	9,300	1	300
FYR Macedonia	1	3,261 (as of Q1 2013)	-	-	3	26,632 (level 3, as of Q1 2013)	3	180 (as of Q1 2013)	1	25,593 (as of Q1 2013)
Montenegro	-	-	-	-	-	-	-	-	-	-
Serbia	1	-	-	-	12	147,126 (of which 128,096 are active)	-	-	-	-
Turkey	9	1720	9	1,703	17	6,496,654 (of which 5,600,778 by TTNNet)	62	14,275	7	920,597 (as of July 2013)
Albania	-	-	-	-	-	-	-	-	-	-
Bosnia & Herzegovina	-	-	1	29	-	-	-	-	-	-
Kosovo*	-	-	-	-	-	-	-	-	-	-

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

## 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 of wholesale (physical) network infrastructure access market (M4/2007)?	SMP operator(s)	Passive infrastructure access obligations				Included in reference offer?
			Duct access	Dark fibre	SLU	Fibre unbundling	
Croatia	Yes <a href="#">HAKOM decision</a> on M4/2007 from June 28, 2013 <a href="#">HAKOM 2<sup>nd</sup> round analysis</a> of M4/2007, June 28, 2013	HT	Yes	Yes (on reasonable request)	Yes	ODF access for FTTH P2P (VULA for FTTH PON)	Yes
Iceland	No Proposed in initial <a href="#">consultation</a> on draft 2 <sup>nd</sup> round analysis completed in May 2013 PTA plans not to impose price control on Mila with respect to NGA, under certain conditions.	-	-	-	-	-	-
FYR Macedonia	Yes AEC decision on M11/2003 of Oct. 28, 2010. Also in the 2 <sup>nd</sup> round market analysis published on Oct. 16, 2012	Makedonski Telekom	Yes	Yes	No	No	Yes
Montenegro	Yes EKIP 2 <sup>nd</sup> round <a href="#">decision</a> on M4/2007 of Nov. 19, 2013	Crnogorski Telekom	Yes	No	Yes	Yes	Yes (duct access)
Serbia	No But RATEL <a href="#">decision</a> on wholesale (physical) access to network elements and associated facilities (including shared and fully unbundled local loop access), Nov. 2011, mandates access to ducts as an SMP obligation.	Telekom Srbija	Yes	No	No	No	Yes
Turkey	Limited to duct access and SLU See note below	Türk Telekom	Yes See note below	Yes See note below	Yes See note below	-	Yes

Country	NGA included in scope of wholesale (physical) network infrastructure access market (M4/2007)?	SMP operator(s)	Passive infrastructure access obligations				Included in reference offer?
			Duct access	Dark fibre	SLU	Fibre unbundling	
Albania	Yes AKEP <a href="#">decision</a> of Feb. 4, 2014 on 2 <sup>nd</sup> round analysis of wholesale broadband access and unbundled access markets	Albtelecom	Yes	Yes	Yes	No	Yes
Bosnia & Herzegovina	No	-	-	-	-	-	-
Kosovo*	No	-	-	-	-	-	-

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

## Notes:

## Turkey:

For the purpose of encouraging investments to this emerging infrastructure by the operators, ICTA has decided to exclude fibre (FTTH/FTTB) 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 3, 2011 and numbered 2011/DK-10/511. On the other hand the same decision also requests 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) have been approved in Turk Telekom Reference Co-location and Facility Sharing Offer. Alternative operators can install their cable (copper/fiber) into the ducts or onto the poles of Turk Telekom only for purpose of BSA, LLU and interconnection backhaul to connect their equipments in co-location rooms in Turk Telekom exchanges to their PoP.

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 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. In accordance with 3rd round market analysis, Turk Telekom is obliged to offer dark fibre in case of that access to physical infrastructure elements is not available and infrastructure of any other operator available for facility sharing does not exist in the requested route.

Country	NGA included in scope of wholesale broadband access market (M5/2007)?	SMP operator(s)	Active infrastructure access obligations			Pricing rule	Included in reference offer?
			Bitstream access over FTTH	FTTC/VDSL Bitstream	VULA		
Croatia	Yes HAKOM decision on M5/2007 of July 2009 and market review of June 28, 2013	T-HT	Yes, IP, Ethernet and OLT level.	Yes HT is obliged to amend the BSA offer with terms and conditions of FTTC/VDSL, by Sept. 1, 2013 which shall be valid from October 1, 2013.	Yes On reasonable request as remedy on market 4/2007 over FTTC/VDSL with vectoring and FTTH PON (market review of M4/2007 from June 28, 2013)	Retail minus For data usage – 60% (IP level), 76% (OLT level) For access speeds depends on volume lines: <ul style="list-style-type: none"> <li>for single line: 5%</li> <li>for volume of 100 lines: 30%</li> <li>for volume of 500 lines: 35%</li> <li>for volume of 2,000 lines: 40%</li> </ul> Cost orientation is foreseen	BSA over FTTH included in T-HT BSA offer from June 30, 2011. BSA over FTTC/VDSL will be included in T-HT BSA offer from October 2013.
Iceland	No Proposed in initial <a href="#">consultation</a> on draft 2 <sup>nd</sup> round analysis completed in May 2013 PTA plans not to impose price control on Síminn with respect to BSA over fibre, under certain conditions.	-	-	-	-		-
FYR Macedonia	No	-	-	-	-	-	-
Montenegro	Yes EKIP 2 <sup>nd</sup> round <a href="#">decision</a> on M5/2007 of Nov. 19, 2013	Crnogorski Telekom	Yes, IP, Ethernet and OLT level.	Yes	No	Cost orientation (HCA FAC)	Not yet – to be prepared within 90 days from receiving a reasonable access request
Serbia	No	-	-	-	-	-	-
Turkey	Yes Only FTTC/VDSL is included FTTH/FTTB is excluded	Türk Telekom	Yes, According to Board Decision Oct. 3, 2011 and numbered 2011/DK-10/511	Yes	No	FTTC/VDSL: Retail minus FTTH/FTTB: not regulated	Yes BSA over FTTC/VDSL services.

Country	NGA included in scope of wholesale broadband access market (M5/2007)?	SMP operator(s)	Active infrastructure access obligations			Pricing rule	Included in reference offer?
			Bitstream access over FTTH	FTTC/VDSL Bitstream	VULA		
Albania	Yes AKEP <a href="#">decision</a> of Feb. 4, 2014 on 2 <sup>nd</sup> round analysis of wholesale broadband access and unbundled access markets	Albtelecom	No	Yes (part of Albtelecom Wholesale Bitstream Offer)	No	Commercial negotiation	Yes Albtelecom Wholesale Bitstream Offer
Bosnia & Herzegovina	No	-	-	-	-		-
Kosovo*	No	-	-	-	-		-

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

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	Infrastructure register available?	Duct sharing (specify legal basis)	In-building wiring infrastructure sharing (specify legal basis)
Croatia	No Infrastructure register is in the phase of development. It is planned to have the register operational in 2014.	Article 24, Electronic Communications Act of 2008 state (Official Gazette 73/08, 90/11, 133/12, 80/13). Ordinance on Manner and Conditions of Access and Shared Use of Electronic Communications Infrastructure and other Associated Facilities (Official Gazette 136/11 by 16.11.2011) and Amendments to Ordinance on Manner and Conditions of Access and Shared Use of Electronic Communications Infrastructure and other Associated Facilities (Official Gazette 75/13 by 20.06.2013).	Amendments to Ordinance on Manner and Conditions of Access and Shared Use of Electronic Communications Infrastructure and other Associated Facilities (Official Gazette 75/13 by 20.06.2013) stipulate that owners or operators (building operators) of fibre wiring inside buildings are obliged to give access to these wiring at concentration point. If the building operator is the fibre distribution network operator at the same time, access can be given at distribution point of fibre distribution network.
Iceland	No	Article 25 of the Electronic Communications Act	No specific obligations
FYR Macedonia	Yes	<b>Law on Electronic Communications</b> (“Official Gazette of RM” No.13/05,14/07,55/07, 98/08, 83/2010,13/2012 and 59/2012), Article 27 paragraph 1, Article 28 paragraph 1, Article 29, 29-a and 29-b, Article 88, Article 89, Article 90, Article 92 and Article 93. In cases where the operators of public communication networks may not reach consent about the amount of the fee for joint use of communication buildings and facilities, AEC shall, within 30 days of the date of the submission of the request by one party, decide upon the amount of the fee. <b>Law on Expropriation</b> (“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. <b>Law on Ownership and other Rail Rights</b> (“Official Gazette of RM”, No.18/2001), Article 4, Article 16, Article 25, Article 117, Article 195 and Article 200. <b>Law on Construction</b> (“Official Gazette of RM”, No. 51/05 and 82/08), Article 50 and Article 52. <b>Law on urban land</b> (“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. <b>Law on Spatial and Urban Planning</b> (“Official Gazette of RM”, No.24/88), Article 5 paragraph 1 line 8, Article 50 and Article 52.	No specific obligations
Montenegro	No	Article 53 of Law on electronic communications (40/2013 from August 2013)	No specific obligations
Serbia	No	RATEL's decisions: <a href="#">Principles</a> for terms and conditions for shared use of cable ducts, December 2006 <a href="#">Decision</a> on determining the tariff for lease of cable ducts, May 2011 <a href="#">Decision</a> on wholesale (physical) access to network elements and associated facilities (including shared and fully unbundled local loop access), November 2011	No specific obligations
Turkey	No	ICTA took a decision dated April 12, 2013 and numbered 187 imposing facility sharing on all operators entitled to install their own infrastructure. The deadline for operators to open their facilities for sharing is September 2013.	No specific obligations

Country	Infrastructure register available?	Duct sharing (specify legal basis)	In-building wiring infrastructure sharing (specify legal basis)
Albania	No	<p>Article 32 of LEC, provides among others:</p> <ul style="list-style-type: none"> <li>In cases where the economic use of space, city planning and protection of environment requires so, operators of the public electronic communications networks that have the right to construct and install communication equipments in the private or public property shall construct or install them in such way as to enable their joint use.</li> <li>Undertakings of public communications networks shall be obliged to reach to conclude agreements for the joint use of facilities and assets in the terms provided in the Article 1 hereto.</li> <li>AKEP shall encourage the undertakings of the public communications networks to reach agreements for the joint use of the facilities and assets.</li> </ul> <p>AKEP has also powers to issue binding orders in case of disputes between operators</p>	Article 32 of LEC
Bosnia & Herzegovina	No	No specific obligations	No specific obligations
Kosovo*	No	Symmetric obligation applies to all operators based on Article 24 of Law on Electronic Communications, and Regulation on the Rights Of Way and Common Use of the Infrastructure.	No specific obligations

Table H.13 – Symmetric infrastructure sharing obligations

## 9. National roaming, mobile access and call origination

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

Country	Legal obligation to offer		Commercial reality
	Mobile access and call origination for MVNOs and service providers	National roaming	
Croatia	<p>No obligation</p> <p>The market for wholesale access and call origination on mobile networks has been found competitive.</p>	<p>No obligation</p> <p>National roaming is offered based on commercial agreement.</p>	<p>Commercial agreements on national roaming:</p> <p>Tele2 on VIPnet (from Oct. 2005 until July 2008)</p> <p>Tele2 on T-Mobile (HT) (from July 2008)</p>
Iceland	<p>No obligation</p> <p>All regulatory obligations imposed on Síminn were removed after PTA concluded that M15/2003 no longer meets the three criteria test (PTA decision of March 30, 2012)</p>	<p>Yes</p> <p>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.</p>	<p>Agreements on national roaming:</p> <p>IMC/Alterna on Siminn</p> <p>TAL is roaming on both networks (Siminn &amp; Vodafone). It started on Vodafone then moved its customers over to Siminn.</p>

Country	Legal obligation to offer		Commercial reality
	Mobile access and call origination for MVNOs and service providers	National roaming	
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 and to publish reference offer	Yes According to AEC decision on M15/2003, July 29, 2010, T-Mobile designated as SMP has to provide access to national roaming services and to publish reference offer	Commercial agreements on national roaming: VIP on T-Mobile (from Sep. 2007) Commercial MVNO agreement between ONE and Albaphone
Montenegro	Yes Following EKIP decision on M15/2003 of Dec. 30, 2011, access obligation applies to Telenor, Crnogorski Telekom and M:Tel, including an obligation to publish reference offer	Yes Following EKIP decision on M15/2003 of Dec. 30, 2011, access obligation applies to Telenor, Crnogorski Telekom and M:Tel, including an obligation to publish reference offer	No
Serbia	No obligation	No obligation	Commercial agreements on national roaming: VIP – Telekom Srbija (2007-2010) VIP – Telenor (since 2010) One commercial MVNO agreement between SBB and one of the MNOs
Turkey	Yes According to ICTA's decision on market analysis of wholesale mobile access and call origination services, Dec. 8, 2009, Turkcell was designated as SMP and has to provide access and interconnection to MVNOs at cost oriented prices.	No obligation National roaming no longer included as a remedy to be imposed on SMP operator Turkcell in the final decision on the <a href="#">third round analysis of the mobile access and call origination market</a> of Feb. 2013 (it had been imposed in the previous analysis in 2009). However, ICTA may impose national roaming access based on art. 6 of the <a href="#">Ordinance</a> on access and interconnection.	One MVNO has signed an agreement to offer SMS services with an MNO
Albania	No Wholesale market for mobile access and call origination services was deregulated, AKEP decision of July 4, 2012	No Wholesale market for mobile access and call origination services was deregulated, AKEP decision of July 4, 2012	No

Country	Legal obligation to offer		Commercial reality
	Mobile access and call origination for MVNOs and service providers	National roaming	
Bosnia & Herzegovina	<p>No</p> <p>In accordance with the Telecom sector policy 2008-2012, BH Telecom, HT Mostar and Telekom Srpske were required to publish reference offers enabling access and interconnection services for 'full MVNOs'. Offers available at <a href="#">RAK website</a>.</p> <p>In Sep. 2012 Council of Ministers amended the Telecom Sector Policy 2008-2012 to postpone introduction of full MVNOs until new Telecom Sector Policy is adopted. Process of MVNO licensing has been suspended. Market entry is however possible for service providers without own infrastructure.</p>	National roaming between the three mobile operators has been mandated by RAK in order to ensure full national coverage (RAK decision of May 28, 2007)	<p>One commercial service provider agreement between Telekom Srpske (m:tel) and IZI mobil (services launched in June 2012)</p> <p>Also in 2012 one operator applied for a licence for provision of mobile telephony services (full MVNO licence). However, a licence has not been awarded due to the decision of Council of Ministers that postponed introduction of MVNOs.</p>
Kosovo*	No obligation	No obligation	<p>Commercial agreements on MVNO services:</p> <ul style="list-style-type: none"> <li>• Dardafone on Vala, (since June 2008)</li> <li>• Dukagjini on IPKO (since June 2008)</li> </ul>

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 compliance statement have been published (as required by article 13(4) of the Access Directive).

Country	Regulated wholesale markets/activities	Pricing rule set by NRA?	Methodology mandated by NRA			Legal basis
			Cost base	Cost standard	BU, TD or reconciliation	
Croatia	Fixed interconnection	Cost orientation Implementation of "pure LRIC"-based FTRs is foreseen from Jan. 1, 2015.	CCA	LRIC	BU	HAKOM decision on M2/2007 and M3/2007. Between July 26 and Sep. 16, 2013 HAKOM <a href="#">consulted</a> on proposed cost oriented prices for fixed interconnection based on HAKOM's BU LRIC cost model. According to the proposal, "pure" LRIC would be applied for setting FTRs from Jan. 1, 2015.
	LLU	Cost orientation	HCA CCA (from 2014)	FDC LRIC (from 2014)	BU	HAKOM decision from March 23, 2011 on amendments to the decision on M4/2007 of July 2009. <a href="#">HAKOM 2<sup>nd</sup> round analysis</a> of M4/2007, June 28 2013 Between July 26 and Sep. 16, 2013 HAKOM <a href="#">consulted</a> on proposed cost oriented LLU prices based on HAKOM's LRIC cost model.
	1.BSA at IP, Ethernet and DSLAM level (copper) 2. BSA at IP level (FTTH) 3.BSA at Ethernet level (FTTH) 4.BSA at OLT level (FTTH)	1.Cost orientation 2. Retail minus 60% for data usage; Retail minus on connection speed depends on volume contract 3. Retail minus 68% for data usage; Retail minus on connection speed depends on volume contract	1. CCA	1. LRIC	1. BU	All fixed and mobile wholesale prices will be calculated based on NRA's cost model (decisions expected in the first half of 2014). Market analysis on M5/2007 and decision on cost oriented BSA copper prices based on HAKOM's BU LRIC cost model of June 28, 2013.

Country	Regulated wholesale markets/activities	Pricing rule set by NRA?	Methodology mandated by NRA			Legal basis
			Cost base	Cost standard	BU, TD or reconciliation	
		4. Retail minus 76% for data usage; Retail minus on connection speed depends on volume contract				
	Mobile call termination	From July 1, 2013 MTRs of three operators with SMP - HT, VIPnet and Tele2 - are set based on LRAIC+. Implementation of "pure LRIC"-based MTRs is foreseen from Jan. 1, 2015.	CCA	LRIC	BU	HAKOM 2 <sup>nd</sup> round <a href="#">analysis</a> of market 7/2007, June 2013
	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	Benchmarking (for FTRs based on countries with pure LRIC)	-	-	-	PTA decision on M2-3/2007, No. 36/2012 of Dec. 14, 2012 (2 <sup>nd</sup> round)
	LLU	Cost orientation	Historic cost	FDC	TD	PTA decision on M11/2003
	WLR	Retail minus 20%	-	-	-	PTA decision on M1-2/2003
	Mobile call termination	Benchmarking (for MTRs based on countries with pure LRIC)	Historic cost	-	-	PTA decision of Jan. 13, 2012 (3 <sup>rd</sup> round)
FYR Macedonia	Fixed interconnection and LLU	Cost orientation	Current cost	LRIC	BU	AEC market analysis decisions Bylaw of Rules on establishing the level of information detail to be published in the reference interconnection offers and the manner of their publication ("Official Gazette" No.40/2011 from March 29, 2011) Bylaw of Rules on the level of information detail to be published in the referent offer for unbundled access to local loop and the manner of their publication ("Official Gazette" No. 40/2011 from March 29, 2011)
	WLR	Retail minus: 20%-35%	-	-	-	
	BSA	Cost based prices (BSA) (Retail minus: 30%-40% used for resale)	Current cost	LRIC	BU	
	Terminating and trunk segments of leased lines, dark fibre and duct	Cost based prices	Current cost	LRIC	BU	

Country	Regulated wholesale markets/activities	Pricing rule set by NRA?	Methodology mandated by NRA			Legal basis
			Cost base	Cost standard	BU, TD or reconciliation	
	Wholesale mobile access and call origination services	Cost orientation	Current cost	LRIC	BU	Bylaw on separate accounting statements ("Official Gazette" No.40/2011 from March 29, 2011) Bylaw of Rules for provision of bitstream access and resale of bitstream services ("Official Gazette" No.132/2012 from Oct. 26, 2012) Bylaw of Rules for provision of terminating and trunk segments of leased lines ("Official Gazette" No.132/2012 from Oct. 26, 2012)
	Mobile call termination	Cost orientation	Current cost	LRIC	BU	
Montenegro	Fixed interconnection, LLU, leased line, mobile call termination	Cost orientation	HCA	FAC	-	EKIP 2 <sup>nd</sup> round decisions on market analyses adopted in Nov. 2013
	WLR	Retail minus 5%	-	-	-	
	BSA	Retail minus 42% (currently)	HCA (foreseen)	FAC (foreseen)	-	
Serbia	Wholesale call origination on public fixed telephone network	Cost orientation	Historic cost (until 2012) Current cost (from 2013)	FDC	Top-down (TD)	RATEL <a href="#">decision</a> from Nov. 2011
	Wholesale call termination on public fixed telephone networks					RATEL <a href="#">decision</a> from Nov. 2011
	Wholesale (physical) access to network elements and associated facilities (including shared and fully unbundled local loop access)					RATEL <a href="#">decision</a> from Nov. 2011 RATEL revised decision from April 2013
	Wholesale broadband access					RATEL <a href="#">decision</a> from Nov. 2011 RATEL revised decision from May 2013
	Wholesale leased lines					RATEL <a href="#">decision</a> from Nov. 2011 RATEL revised decision from April 2013
	Wholesale call termination on mobile telephone networks	Benchmarking	-	-	-	RATEL <a href="#">decision</a> from Nov. 2011

Country	Regulated wholesale markets/activities	Pricing rule set by NRA?	Methodology mandated by NRA			Legal basis
			Cost base	Cost standard	BU, TD or reconciliation	
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 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 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 attributed to the service.
	Mobile Interconnection	Cost oriented	Current Costs	Forward looking LRIC	BU. ICTA may also decide to use different types of LRIC standard.	
	Leased Lines (including “end-to-end” and “partial” circuits)	Cost oriented	Current Costs	Forward looking LRIC	BU. ICTA may also decide to use different types of LRIC standard.	
	WLR	Cost oriented	Current Costs	Forward looking LRIC	BU. ICTA may also decide to use different types of LRIC standard.	
	WBA (including BSA)	Not set specifically in market analysis decision. But in practice retail minus is used.	-	-	-	
Albania	Fixed interconnection, LLU and leased lines	Cost orientation	Forward looking	LRAIC	BU	SMP decisions and Law 9918, which provides obligations for cost orientation (article 45) and use of efficient cost methodologies for BU LRAIC (article 59).
	Mobile call termination	Cost orientation	Forward looking	LRAIC	BU	
	Wholesale broadband access	Retail minus: 30%-50%	-	-	-	AKEP <a href="#">decision</a> of Feb. 4, 2014 on 2 <sup>nd</sup> round analysis of wholesale broadband access and unbundled access markets
Bosnia & Herzegovina	Fixed Interconnection	Benchmarking (EU-27 and SEE)	-	-	-	RAK regulation on interconnection of March 11, 2002 envisages obligation of accounting separation and cost analysis Communications Law of 2002, article 21(1) requires that the principle of cost orientation shall be applied to determine the level of the tariffs charged by SMP operators.
	LLU	Benchmarking (EU-27 and SEE)	-	-	-	
	Mobile Interconnection	Benchmarking (EU-27 and SEE)	-	-	-	



Country	Regulated wholesale markets/activities	Pricing rule set by NRA?	Methodology mandated by NRA			Legal basis
			Cost base	Cost standard	BU, TD or reconciliation	
Kosovo*	Fixed Interconnection, WLR, LLU	Cost orientation	HCA	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 decisions No. 183, 184, and 185 of 2011 on designation of SMP operator on Origination, Transit, and Termination on public telephone network at fixed location TRA decision No.180 of 2011 on the designation of SMP operator on Access to public telephone network at fixed location TRA decision No.186, Regulation on LLU No.24/B/11, Regulation on Interconnection No.33/B/11 and Regulation for the provision of access No.12/B/11
	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

## 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	Universal Service providers Designation period	Designation mechanism for the US provider(s)	Technology neutral?
Croatia	National: <ul style="list-style-type: none"> <li>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:               <ul style="list-style-type: none"> <li>33.6 kbps (until March 2013)</li> <li>144 kbps (from March 2013)</li> <li>1 Mbps (from Jan. 1, 2015)</li> </ul> </li> <li>Provision of public payphones</li> <li>Provision of directory enquiry services</li> <li>Access to emergency services to all subscribers free of charge</li> <li>Special measures enabling equivalent access to telephone services to disabled end users</li> <li>Lower tariffs for services provided to socially sensitive categories</li> </ul>	HT d.d.(from Nov. 29, 2010) – 5 years term	Public tender On Oct. 27, 2010 HAKOM <a href="#">designated</a> HT as US provider for 5 years, following a public tender procedure. HAKOM also approved HT prices for US by its decisions from <a href="#">Nov. 17, 2010</a> and <a href="#">Feb. 23, 2011</a>	Yes
	National: <ul style="list-style-type: none"> <li>Comprehensive subscriber directory</li> <li>Special measures for disabled people for accessing the subscriber directory</li> </ul>	Imenik d.o.o. (from Nov. 29, 2010) – 5 years term	Public tender On Oct. 1, 2010 HAKOM <a href="#">designated</a> 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 <a href="#">decision</a> from Nov. 17, 2010. HAKOM also determined by its <a href="#">decision</a> 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

Country	Scope of US	Universal Service providers Designation period	Designation mechanism for the US provider(s)	Technology neutral?
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) <a href="#">PTA decision no. 32/2011</a> extends designation for a period Jan. 1 – Dec. 31, 2012 with a possibility of 1 year extension (extended until Dec. 31, 2013)	Public consultation <a href="#">PTA decision Nr. 25/2007</a> 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) <a href="#">PTA decision no. 32/2011</a> extends designation for a period Jan. 1 – Dec. 31, 2012 with a possibility of 1 year extension (extended until Dec. 31, 2013)	Public consultation <a href="#">PTA decision Nr. 25/2007</a> of Dec. 6, 2007	
	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) <a href="#">PTA decision no. 32/2011</a> extends designation for a period Jan. 1 – Dec. 31, 2012 with a possibility of 1 year extension (extended until Dec. 31, 2013)	Public consultation <a href="#">PTA decision Nr. 25/2007</a> 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 <ul style="list-style-type: none"> <li>Comprehensive subscriber directory and directory enquiry services</li> <li>Special measures for disabled people for accessing the subscriber directory</li> </ul>	Já Upplýsingarveitur ehf. (from July 1, 2011) – 3 years term (with possible extension until Feb. 10, 2016)	Public consultation <a href="#">PTA decision Nr. 22/2011</a> of June 28, 2011	

Country	Scope of US	Universal Service providers Designation period	Designation mechanism for the US provider(s)	Technology neutral?
FYR Macedonia	National: <ul style="list-style-type: none"> <li>Access at a fixed location to the public voice telephony services and data communications at a minimum speed of 9600 bps at affordable price</li> <li>public payphones</li> <li>equivalent access to publicly available telephone services for disabled end users, on equal terms, including access to emergency call services and directory enquiry services</li> </ul>	Makedonski Telekom from Jan. 1, 2012 until Dec. 31, 2016 – 5 years term	Public tender (article 35 of the Law for Electronic Communications) On June 29, 2011 AEC designated Makedonski Telekom as US provider.	Yes
	National: <ul style="list-style-type: none"> <li>comprehensive subscriber directory and directory enquiry services</li> </ul>	R3 Infomedia from Jan. 1, 2012 until Dec. 31, 2016 – 5 years term	Public tender (article 35 of the Law for Electronic Communications) On June 29, 2011 AEC designated R3 Infomedia as US provider.	Yes
Montenegro	National: <ul style="list-style-type: none"> <li>Access to the public voice telephone services through a connection to public telephone network at a fixed location</li> <li>Access to local, national and international call services, telefax and data communications at speed suitable for functional internet access (min 144 kbps)</li> <li>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.</li> </ul>	Telenor d.o.o. (from Jan. 25, 2011) – 5 years term	Public tender On Jan. 25, 2011 EKIP <a href="#">designated</a> Telenor d.o.o. as US provider for 5 years, following a public tender procedure.	Yes
	National: <ul style="list-style-type: none"> <li>Access to comprehensive phone directory and directory enquiry service</li> <li>Adequate access for disabled end-users to comprehensive phone directory and directory enquiry service</li> </ul>	Teleinfo (MCA Maribor d.o.o.) (from Jan. 25, 2011) – 5 years term	Public tender On Jan. 25, 2011 EKIP <a href="#">designated</a> MCA Maribor d.o.o. as US provider for 5 years, following a public tender procedure.	Yes

Country	Scope of US	Universal Service providers Designation period	Designation mechanism for the US provider(s)	Technology neutral?
	<ul style="list-style-type: none"> <li><b>Access to public payphone services removed from the scope of universal service</b></li> </ul> <p>On April 12, 2012 the government, at the suggestion of the Ministry of Telecommunications and Information Society adopted amendments to the Regulation on the minimum set of services that includes universal service (Official Gazette of Montenegro, no. 20/2012) removing payphones from the scope of US.</p>	-	-	-
Serbia	<ul style="list-style-type: none"> <li>Access to a public fixed telephone service enabling functional Internet access (equivalent of a dial-up connection)</li> <li>Special measures for disabled and socially disadvantaged users</li> <li>Free access to emergency services</li> <li>Public payphones</li> <li>Access to telephone directory and directory enquiry services</li> </ul>	<ul style="list-style-type: none"> <li>Telekom Serbia</li> <li>Telenor</li> <li>VIP mobile</li> <li>Orion Telecom</li> </ul>	<p>By NRA decision, based on the prior analysis of the provision of the US obligation.</p> <p>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.</p> <p>The list of locations for US provision as of April 1, 2013 – agreed among three MNOs and published in March 2013.</p>	Yes
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	Yes
	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	Yes
	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 (2011-2013)	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 (2011-2013)	Türk Telekom and Türksat are assigned to establish the infrastructure of the basic internet services for training associations located in rural, high cost areas.	No

Country	Scope of US	Universal Service providers Designation period	Designation mechanism for the US provider(s)	Technology neutral?
	Passenger transportation services of the places to which transportation is supplied by only seaway	Gestaş Joint Stock Company 3 years (2011-2013)	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 (2011-2013)	Directorate General of Coastal Safety is obliged provide this service. Ministry is subsidizing this service.	No
	Access to mobile telephony services in rural areas	Turkcell 3 years (2013-2016)	Public tender procedure	Yes
Albania	<ul style="list-style-type: none"> <li>Access to public telephone service at a fixed location, capable of allowing end user: <ul style="list-style-type: none"> <li>to make and receive local, national and international calls,</li> <li>facsimile communications,</li> <li>data services, at data rates that are sufficient to permit functional Internet access, taking into account prevailing technologies used by the majority of subscribers and technological feasibility;</li> </ul> </li> <li>telephone directory and directory enquiry services</li> <li>public payphones</li> <li>access to and affordability of publicly available telephone services for disabled end-users, including access to emergency services, directory inquiry services and directories equivalent to those enjoyed by other end-users.</li> </ul>	None	<p>According to ammenments of article 26: The rules for the designation of universal service provider/s are approved by Decision of Council of Ministers upon the proposal of the Minister.</p> <p>In the process of designating one or more universal service providers, AKEP complies with the principles of efficiency, objectivity, transparency and non-discrimination. No undertaking is a priori excluded from being designated.</p> <p>After completing the designation procedure and following the preliminary approval of the Minister, AKEP signs the relevant agreement with the universal service provider.</p>	Yes
Bosnia & Herzegovina	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <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.	Yes

Country	Scope of US	Universal Service providers Designation period	Designation mechanism for the US provider(s)	Technology neutral?
Kosovo*	<ul style="list-style-type: none"> <li>Access to public telephone service at a fixed location, enabling making and receiving local, national and international calls, facsimile communications and data communication</li> <li>Public payphones or other public voice telephony access points</li> <li>Directory enquiry services</li> <li>Equivalent access to and use of telephone service for disabled end-users, including access to emergency services and information in telephone directory.</li> </ul>	None	Not decided	Yes

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

## Notes:

Iceland:

Between Nov. 22 and Dec. 13, 2013 PTA consulted on the review of the universal service, proposing to remove USO obligations related to data transmission services and public payphones. PTA however, proposed to maintain temporarily the obligation to provide connection to public telephone network currently imposed on Mila.

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.

Public payphones: In 2011 EKIP twice announced a public tender for selection of the US provider for this service, but in the first public tender the only applicant did not fulfilled the required conditions, and in the second tender there were no applications.

Turkey:

On Jan. 17, 2013 Turkcell submitted the lowest bid of TRY 312m (€133m) in the tender held by the Ministry of Transport, Maritime Affairs and Communications to deploy 2G mobile communications infrastructure in 1,799 pre-determined rural locations, each with a population of less than 500, and to undertake operation of the network for three years. Avea was the other participant in the tender with a bid of TRY 516m (€219m). This is the first time a tender has been conducted to select a universal service provider. The fixed-line incumbent Turk Telekom provides fixed call and internet services, payphones, directories and emergency calls in accordance with universal service requirements that are set out in its concession agreement. The contract for US provision between the ministry and Turkcell was signed on Feb. 20, 2013.

The operator that wins the tender and builds the network will have its investment and operating expenses reimbursed from the universal service fund collected by the ministry. The amount to be reimbursed will be calculated as the net cost after any benefits derived by the operator from providing the service are deducted.

The mobile network deployed in the 1,799 rural locations will be open to subscribers of all operators under a RAN sharing agreement (limited to these areas).

Albania:

In Nov. 2012 AKEP held a public consultation on USO implementation. The preliminary conclusions of the consultation document are published on AKEP [website](#).

These are mainly the following:

- The scope of access to public telephone services at fixed location should also include fixed telephony services provided by fixed GSM; the market currently substantially meets user needs for this USO element (mainly due to high mobile coverage -99.8% of population) and therefore the requirement that access and service at a fixed location "be made available to all users in territory, at an affordable price" is met and it is not necessary to designate a US provider for this element. If appropriate, AKEP may require one or more operators to provide access in specific underserved locations outside any USO scheme. AKEP should review the status of this USO element by Dec. 31, 2015.

- Broadband access should not be part of US scope yet (low penetration and it doesn't meet the 50/80 rule;

- There is no comprehensive directory or directory enquiry service in Albania. AKEP should undertake regulatory measures to facilitate and promote a market solution for these USO element, and then review the status of this USO element by Dec. 31, 2015

- Public payphones: this USO element should not be designated because such a designation would not be proportionate given the declining use and importance of this element. If appropriate, AKEP may coordinate/encourage one or more operators to provide payphones in specific locations outside any USO scheme. AKEP should review the status of this USO element by Dec. 31, 2015

- Disabled users: The State provides ALL 1000 monthly subsidy to designated disabled users and there are a number of market-based measures aimed at providing equivalent access to the designated services to disabled users. The monthly subsidies in combination with the private sector initiatives currently substantially meet user needs for this USO element. AKEP should review the status of this USO element by Dec.31, 2015.

- Designation period for any USO element should be 5 years

These conclusions were confirmed in AKEP Decision no.2324, on June 28, 2013, approving the document on 'US Current Status and 2013-2016 Framework Plan'.

## 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 calculation and reimbursement of USO costs	Method of funding	USO net cost established by NRA?	Sharing of USO net cost?	
				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) In 2012 PTA rejected Siminn's application for compensation of over ISK 40m (€245k) for the period of 2007-2011.	Two US providers have so far received payments from the fund: <ul style="list-style-type: none"> <li>• Síminn – one-time payment of €757,117 (ISK 127m) in 2009 covering roll-out of ISDN services in 2000-2005</li> <li>• Neyðarlinan (112, emergency service): 2008 - €189k (ISK 30.10m) 2009 - €209k (ISK 33.37m) 2010 - €240k (ISK 38.23m)</li> </ul>	By market players The largest contributors are: <ul style="list-style-type: none"> <li>• Síminn – 43%</li> <li>• Vodafone – 27%</li> <li>• MILA -13%</li> <li>• NOVA - 5%</li> <li>• TAL – 4%</li> </ul>	<b>Industry fund</b> 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 calculation and reimbursement of USO costs	Method of funding	USO net cost established by NRA?	Sharing of USO net cost?	
				Yes/No By whom?	Methodology and legal basis
		PTA still has to decide on Mila's application for ISK 194.5m (€1.22m) compensation related to operation of its copper network in rural areas. On Dec. 17, PTA rejected Mila's application due to inconsistent cost calculations and requested to submit a revised application by July 1, 2014.	2011 - €250k (ISK 42.00m) 2012 - €280k (ISK 46.00m)		
FYR Macedonia	Art. 38 Law on Electronic Communications Rules for providing services within US scope (Official Gazette No. 139/2010)	Cost sharing 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 2 US providers have requested reimbursement of net US cost from the fund. R3 Infomedia failed to provide the requested accounting separation statements and its request has been rejected by AEC. The decision on the request from Makedonski Telekom is expected shortly.	-	-
Montenegro	Articles 94-95 of the Law on Electronic Communications of August 13, 2013 (Official Gazette of Montenegro No40/2013)	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 2% 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.	<ul style="list-style-type: none"> <li>On July 26, 2012 Ekip approved the net cost of US provision for 2011 related to comprehensive directory services by Teleinfo – in the amount of €125k.</li> <li>On July 18, 2013 Ekip approved the net cost of US provision for 2012 related to comprehensive directory services by Teleinfo – in the amount of €201k.</li> </ul>	By market players, in proportion to revenue-based market shares The largest contributors are: <ul style="list-style-type: none"> <li>Crnogorski Telekom – 45%</li> <li>Telenor – 31%</li> <li>Mtel – 17%</li> </ul>	<b>Industry fund</b> Methodology of calculation of net cost of providing, the amount and manner of payment of the universal service fund (Official Gazette No. 35/10)
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 calculation and reimbursement of USO costs	Method of funding	USO net cost established by NRA?	Sharing of USO net cost?	
				Yes/No By whom?	Methodology and legal basis
Turkey	<p><a href="#">Law No. 5369</a> on the Provision of Universal Services and Making Changes on Some Laws (Official Gazette No. 25856, June 25, 2005)</p> <p>Ordinance on Principles and Procedures for the Collection of Universal Service Revenues and Execution of Expenditures (Official Gazette No. 26213, June 29, 2006).</p>	<p>According to article 6 of the <a href="#">Universal Service Law</a> No. 5369 of June 2005, contributions to the universal service fund consist of the following:</p> <ul style="list-style-type: none"> <li>• 2% of the authorisation fees collected by the NRA</li> <li>• 1% of net sales revenues of all operators except for GSM operators</li> <li>• 10% of payments by GSM operators to the Treasury</li> <li>• 20% of administrative fines collected by the NRA</li> <li>• 20% of what remains in the budget of the NRA after all expenditures are deducted</li> </ul> <p>Collected funds are transferred to the Ministry Central Accounting Office's account and recorded into the budget under "universal service revenues" title.</p> <p>Percentages can be increased by up to 20% by the Council of Ministers.</p>	<p>Not implemented</p> <p>USO net cost is to be established by the Ministry of Maritime, Transport and Communications.</p> <p>The usage of fund is decided by Ministry of Finance and Ministry of Maritime, Transport and Communications in cooperation.</p> <p>No USO costs compensation payments have been made so far (see note).</p>	<p>Yes</p> <p>The biggest contributor is Türk Telekom with 95%.</p>	-
Albania	<p>Art. 29 and 30 Law on Electronic Communications.</p> <p>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.</p>	<p>Cost sharing</p> <p>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.</p> <p>The contribution may not exceed 1% of the operator's gross revenue received from the provision of public electronic communications networks and services.</p>	Not implemented	-	-

Country	Legal basis for calculation and reimbursement of USO costs	Method of funding	USO net cost established by NRA?	Sharing of USO net cost?	
				Yes/No By whom?	Methodology and legal basis
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	-	-
Kosovo*	Article 28 (10) of the Law on Electronic Communication	Not defined	Not implemented	-	-

Table I.2 – Universal service funding

Notes:

Turkey:

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.

### 3. 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	Imenik d.o.o. (USO) HT d.d.	Art. 47 ( 8 -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.
Iceland	Yes, both in printed version and online Directory service is a part of the USO	já <a href="http://www.ja.is">www.ja.is</a>	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 decision of PTA was challenged by the company JÁ before the appellate committee on telecommunications and also addressed by the Competition Authority. The appellate committee repealed the access obligation. The Competition Authority is still viewing the case.
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 format and as a telephone enquiry.	TELEINFO (subsidiary of MCA)	Art. 5 of the Law on Electronic Communications, Regulation on minimum set of services within Universal Service scope requires all operators to provide their subscriber data to universal service providers.
Serbia	<ul style="list-style-type: none"> <li>• Telekom Srbija fixed telephone directory (printed, telephone/sms enquiry, online)</li> <li>• Telenor fixed and mobile user directory (telephone or sms enquiry, online)</li> <li>• Vip mobile user directory (online)</li> </ul>	<ul style="list-style-type: none"> <li>• Telekom Srbija</li> <li>• Telenor</li> <li>• Vip mobile</li> </ul>	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	Yes, comprehensive directory enquiry service is available in Turkey. Enquiry via telephone must be provided by Directory Enquiry Service Operators. Offering the service by printing or online is also permitted.	There are 12 directory enquiry service providers by July, 2013.	Operator is entitled to compile data related to subscribers by accessing directory databases of all operators who allocate fixed, mobile and other phone numbers to their subscribers as on-line or off-line in exchange for a fee and operator is also entitled to make interconnection agreements with those operators.

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 on 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. 28 (12) Law on Electronic Communications Providers of public telephone services shall provide information on their subscribers to the designated provider of universal directory enquiry services on non-discriminatory conditions.  NRA has the right to impose obligations on entrepreneurs not designated to provide universal service that are necessary for the provision of universal service in an appropriate manner, including the obligation to provide directory enquiry services on terms which are fair, objective, cost oriented and non-discriminatory and the obligation to make such services available.

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". 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 available? (Yes/No)	Are there any other national emergency numbers available?	Is the emergency number free of charge for the caller? (Yes/No)	Is the caller location information provided? (Yes/No)	The obligation to offer emergency service applies to:			
					Fixed incumbent operator (Yes/No)	Alternative operators (Yes/No)	Mobile operators (Yes/No)	Public payphones (Yes/No)
Croatia	Yes (from 2005)	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 (from 2009)	Yes 122 Police 123 Fire brigade 124 Ambulance	Yes	No	Yes	Yes	Yes	Yes
Serbia	Yes (from 2012) All calls to 112 are diverted to 192 (Police)	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 available? (Yes/No)	Are there any other national emergency numbers available?	Is the emergency number free of charge for the caller? (Yes/No)	Is the caller location information provided? (Yes/No)	The obligation to offer emergency service applies to:			
					Fixed incumbent operator (Yes/No)	Alternative operators (Yes/No)	Mobile operators (Yes/No)	Public payphones (Yes/No)
Turkey	Yes (currently connected only to medical emergency service. Project which is coordinated by Ministry of Interior is ongoing for combining other emergency services under 112)	Yes 110 Fire 122 AFAD 131 TCDD EMERGENCY REPORT 136 SMUGGLING AT CUSTOMS 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 (from January 2008)	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 is 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.
Turkey:	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.

## 5. Quality of service

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.

Country	Service		Obligation to publish service quality indicators?	Measurement audited?	Targets set?	Penalties if targets are not met?	Legal basis
Croatia	Telephony	Fixed	Yes	Yes	Yes (USO only)	No	Ordinance on the manner and conditions for provision of electronic communications, Official Gazette 154/11 Ordinance on universal service in electronic communications, Official Gazette 23/09
		Mobile	Yes	Yes	No	No	
	Broadband	Fixed	Yes	Yes	No	No	
		Mobile	Yes	Yes	No	No	
Iceland	Telephony	Fixed	Yes (USO only)	Yes (USO only)	Yes (USO only)	No	Minimum requirements for US 21/10 2011 Rules by PTA 1221/1222/1223/2007
		Mobile	Yes	Yes	No	No	
	Broadband	Fixed	Yes	Yes	No	No	
		Mobile	Yes	Yes	No	No	
FYR Macedonia	Telephony	Fixed	Yes	Yes	Yes	No	AEC, Bylaw on the type and content of data that must be published by the public communication network operators and/or public communications services providers, related to the conditions for access and use, the prices and tariffs, and the parameters regarding the quality of the communication services (Official Gazette no. 124 from 05.10.2012).
		Mobile	Yes	Yes	Yes	Yes	
	Broadband	Fixed	Yes	Yes	Yes	Yes	
		Mobile	Yes	Yes	Yes	Yes	



Country	Service		Obligation to publish service quality indicators?	Measurement audited?	Targets set?	Penalties if targets are not met?	Legal basis
Montenegro	Telephony	Fixed	Yes	Yes	Yes (USO only)	No	Ministry for Information Society and Telecommunications - Rulebook for quality of electronic communications services (Official Gazette of Montenegro 09/2012) All Montenegrin fixed operators have a duty to publish a specific set of QoS data since Jan. 2013. EKIP or authorised entity have possibility to audit operator's measurements
		Mobile	Yes	Yes	No	No	
	Broadband	Fixed	Yes	Yes	No	No	
		Mobile	No	Yes	No	No	
Serbia	Telephony	Fixed	Yes	Yes	Yes	Yes	Electronic Communications Law (Official Gazette of the Republic of Serbia, no.44/10, 60/13) Rules on quality parameters for publicly available electronic communication services and monitoring of electronic communication activity (Official Gazette of RoS No. 73/11). GSM/GSM-1800 and UMTS/IMT-2000 mobile licenses Telekom Serbia, Telenor, VIP mobile.
		Mobile	Yes	Yes	Yes	Yes	
	Broadband	Fixed	Yes	Yes	Yes	Yes	
		Mobile	Yes	Yes	No	No	
Turkey	Telephony	Fixed	Yes	Yes	Yes	Yes	Bylaw on Quality of Service in the Electronic Communication Sector and Regulation of Quality of Service on Fixed Telephony Service
		Mobile	No (NRA may request operator to publish)	Yes	Yes	Yes	
	Broadband	Fixed	Yes	Yes	Yes	Yes	Bylaw on Quality of Service in the Electronic Communication Sector and Regulation of Quality of Service on ISP Service In 2013, public opinions were gathered regarding a draft annex to the By Law which included various quality of service criteria and targets for 3G mobile services. It is planned to enter into force soon. A communiqué –including the provisions regarding which data will be used to check whether the QoS targets are met, how those data will be gathered either from the networks or by field tests, the penalties for not meeting the targets etc. - will be available for public consultation soon.
		Mobile	No (NRA may force operator to publish)	Draft	Draft	Draft	

Country	Service		Obligation to publish service quality indicators?	Measurement audited?	Targets set?	Penalties if targets are not met?	Legal basis
Albania	Telephony	Fixed	Yes	No	No	No	QoS regulation, amended in Dec. 2012 to include QoS for UMTS.
		Mobile	Yes	No	No	No	
	Broadband	Fixed	Yes	No	No	No	
		Mobile	Yes	No	No	No	
Bosnia & Herzegovina	Telephony	Fixed	Yes	Yes	No	No	Instruction on methodology of quality of service measurements in fixed public telecommunication networks, June 2011
		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	Yes	No	No	No	Article 69 (1) of the Law on Electronic Communications ARKEP decision No. 424 of Dec. 9, 2013 on quality of electronic communications services All fixed and mobile operators have the duty to publish comparable, adequate and up-to-date information on the quality of their telephony services.
		Mobile	Yes	No	No	No	
	Broadband	Fixed	No	No	No	No	
		Mobile	No	No	No	No	

Table I.5 – Quality of service

Notes:

Croatia: QoS measurements are audited only when there is a doubt that the provided data is not correct.

Iceland: According to Paragraph 5. Art. 19 of the Electronic Communications Act, No. 81, 26 March 2003 PTA can determine certain minimum US quality indicators for the designated providers. The [technical parameters and measuring methods](#) are in accordance with standards from ETSI EG 201 769-1 (2000-04).

Turkey: According to Bylaw on Quality of Service in the Electronic Communication Sector which came into force on Dec. 31, 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.

## 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 regulation				Cancellation without penalty upon changes to general conditions
	Limit to initial commitment period	Penalties for early cancellation	Notice period	Automatic (tacit) renewal?	
Croatia	Max. 24 months Operators must also offer contracts with initial commitment period of 12 months (Art. 41, Law on Electronic Communications)	Yes 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.
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 provider to provider and they depend of the tariff model which is been used by the consumer and of the time when loyalty contract should be cancelled	15 days	The contract may not be automatically renewed. The provider should inform the consumer no later than 15 days before the date when the contract expires that the contract will expire and the applicable renewal conditions.	Yes An operator is 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 period, subscribers may terminate the agreement should they not agree with such changes, without any sanctions. (Art. 96 of the Law on electronic communications)

Country	Fixed term contract regulation				Cancellation without penalty upon changes to general conditions
	Limit to initial commitment period	Penalties for early cancellation	Notice period	Automatic (tacit) renewal?	
Montenegro	Max. 2 years Operators must also offer contracts with maximum duration of 1 year (Art. 152, Law on Electronic Communications).	Not regulated by law The subscriber who terminates the contract before the expiry of the period of mandatory contract duration, must an amount corresponding to the monthly fee for the remaining period for which the agreement is concluded or the fee in the amount of the discount for products and services it has become entitled to, if the payment of such fee is more favourable for the subscriber, except in the case when the operator is not able to fulfil its contractual obligations.	Subscriber has the right of cancelation of contract in any time.	Not regulated	Yes An operator is 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 period, subscribers may terminate the agreement should they not agree with such changes, without any sanctions.
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	Yes The amount of early termination fee (ETF) is limited by the ICTA Board Decision of Jan. 3, 2013 No. 2011/DK-THD/14 and shall not exceed the minimum of: <ul style="list-style-type: none"> <li>the total amount of discount values of discounted services and other benefits provided to subscriber by the operator;</li> <li>the total amount of the remainder of the contract.</li> </ul>	1 month (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 (Art. 50-(4) of Electronic Communications Law and Art. 17 and 18-(6) Bylaw on Consumer Rights in the Electronic Communications Sector).

Country	Fixed term contract regulation				Cancellation without penalty upon changes to general conditions
	Limit to initial commitment period	Penalties for early cancellation	Notice period	Automatic (tacit) renewal?	
Albania	Max. 24 months Operators must also offer contracts with initial commitment period of 12 months (Art. 99, Law on Electronic Communications)	Yes Monthly fees corresponding to the remaining contract duration period.	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.
Bosnia & Herzegovina	Max. 2 years Rule on conditions for provision of public telecommunications services and relations with end users, March 2013 (Official Gazette of B&H no:28/13 ).	Yes Operators charge remaining subscription fees, no other penalties 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*	Max. 24 months	No	1 month	No	Yes. The subscriber is individually and duly informed on time and at least one month in advance of such changes and of the right to terminate the contract without any penalty at the latest on the last day of the month following the entry into force of the changes if they do not agree with the new terms.

Table I.6 – Contract regulation

## Notes:

- Iceland: Electronic Communications Act. No. 81, 26 March 2003, Art. 37, Electronic communications undertakings shall, prior to the entry into force of new or altered terms or tariffs, send to the 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.
- Turkey: From July 1, 2013, during initial commitment period operators are not allowed to make any amendments -that are not clearly for the benefit of subscribers- on the conditions of fixed term contracts. (According to article 5 of ICTA Board Decision dated Jan.3, 2013 and numbered 2013/DK-THD-14).
- Kosovo: ARKEP has drafted the Regulation on contracts, transparency and publication of information and other end user protection measures for the provision of public electronic communication networks and services. The approval of the regulation is pending.

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

Article 34 of the Universal Service Directive requires that transparent, non-discriminatory, simple and inexpensive out-of-court procedures should be available for dealing with unresolved disputes between consumers and undertakings providing electronic communications networks and/or services. Such procedures should enable disputes to be settled fairly and promptly and may, where warranted, include a system of reimbursement and/or compensation.

Country	Alternative (i.e. out of court) dispute resolution mechanism imposed by law or regulation?	Who organises?				Compensation mechanism foreseen?	Number of complaints handled in 2011	Average resolution time
		NRA	Ministry	Industry	Other			
Croatia	Yes. In case of an unresolved dispute between the operator and the end-user, 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.	1786 in 2011 2339 in 2012	2-3 months on average
Iceland	Yes Consumer complaints, disputes between operators and end-users are handled by PTA. It is also a venue for complaints on frequency interruptions. <a href="#">Neytendastofa</a> - the Consumer Agency of Iceland (see note)	Yes	No	No	No	No Compensation can only be imposed by a court.	2011 Enquiries / advice requests: 4 Formal complaints: 101 Total: 105	PTA is required to answer enquiries within 4 months. The average time is much shorter.
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 phone number "190", to which end-users and companies can address questions.	No	No	No	No	687 in 2011 1284 in 2012 1021 until Aug. 30, 2013	36 days on average in 2011 27 days on average in 2012 30 days on average in 2013 up to Aug. 30, 2013
Montenegro	Yes EKIP is the first-instance authority in the consumer appeal procedure.	Yes	No	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. 167 Law on	223 in 2012	30 days

Country	Alternative (i.e. out of court) dispute resolution mechanism imposed by law or regulation?	Who organises?				Compensation mechanism foreseen?	Number of complaints handled in 2011	Average resolution time
		NRA	Ministry	Industry	Other			
						Electronic Communications).		
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 870 in 2012	1.5 months
Turkey	Yes Currently, consumers can send their complaints to the NRA and necessary actions (including binding Board Decisions) can be taken by the NRA. But by amendments on Article 13 of Bylaw on Consumer Rights in the Electronic Communications Sector (Official Journal 20/6/2013-28683), a more monitoring based approach is adopted. Operators are obliged to establish transparent, simple and inexpensive out-of-court consumer complaints handling mechanism to assess consumer complaints. And the NRA can monitor the trend of the complaints and take necessary actions when needed. From March 29, 2013 citizens can file their complaints about all administrative actions to The Ombudsman's Office. Arbitration Committees for consumer complaints are responsible for all types of consumer complaints including the ones in electronic communication sector.	Yes	No	No	Arbitration Committee for Consumer Complaints and The Ombudsman's Office	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. Arbitration committees for consumer complaints can also take decisions on compensation.	6,911 in 2010 17,730 in 2011 39,973 in 2012	15-20 days

Country	Alternative (i.e. out of court) dispute resolution mechanism imposed by law or regulation?	Who organises?				Compensation mechanism foreseen?	Number of complaints handled in 2011	Average resolution time
		NRA	Ministry	Industry	Other			
Albania	Yes Amendments to the Law on Electronic Communications adopted in Oct. 2012 include a new article 120/1 that enables AKEP to resolve disputes between subscribers and service providers. The subscriber must submit a written request to AKEP within 15 days from receiving a written answer from the service provider.	Yes	No	No	No	No Compensation can only be imposed by a court.	N/A	15 days from the receipt of subscriber request – a deadline set in article 120/1
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 50 in 2012 27 (01.01. – 31.07.2013)	30 days
Kosovo*	Yes According to Article 72 of the Law on Electronic Communication, in the event of a dispute arising between the provider of electronic communications services and the end user, the end user shall have the right to apply to ARKEP for resolving the dispute through a preliminary out-of-court procedure. The end user may also apply directly to court.	Yes	No	No	No	No	13 complaints in 2012	15 days

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

## Notes:

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 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.



## 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 (including service bundles)	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 (Test 1)	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 (including service bundles)	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 (Test 1)	
		Retail broadband access (including bundles comprising broadband access and pay TV services) (including service bundles)	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 (Test 1)	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 customers and non-residential customers (including service bundles)	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 (Test 1)	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 (including service bundles)	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 (Test 1)	

Country	Operator	Retail services covered	Advance notification requirements and notification period	Assessment method	Legal basis
		Retail broadband access (together with the transmission of TV channels with monthly payment (pay TV)) (including service bundles)	Yes – to submit to the NRA (tacit approval): <ul style="list-style-type: none"> <li>for notification: <ul style="list-style-type: none"> <li>retail prices (45 days before proposed service launch) and</li> </ul> </li> <li>information about promotional offers (15 days before promotional publication)</li> </ul>	Price squeeze test (Test 1)	SMP in the retail broadband access market
Iceland	All operators	Fixed Voice Telephony	Yes – all operators must give 30-day notice to the NRA on price changes	Retail prices not regulated	-
		Mobile Voice Telephony	All operators must give 30-day notice to the NRA on price changes	Retail prices not regulated	-
FYR Macedonia	Makedonski Telekom	One time fees, monthly fees and discounts for all retail services, including services for: <ul style="list-style-type: none"> <li>Access to the public telephone network at a fixed location for residential and business end users</li> <li>Publicly available local and/or national telephone services at a fixed location for residential and business end users</li> <li>Publicly available international telephone services at a fixed location for business and business end users</li> </ul>	Yes – to the NRA for formal approval 30 days before proposed service launch	Margin squeeze tests	SMP obligations in retail fixed telephony markets (markets 1-6)
Montenegro	Crnogorski Telekom	Fixed voice telephony (calls and access)	Yes – to the NRA for formal approval 30 days before proposed service launch	Still in force application 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- 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	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	There is not any pre-defined assessment method. Tariffs are evaluated case by case considering economical replicability by competitors.  In addition, compliance with upper limit: €0.16 (TRY 0.37) for fixed to mobile calls €0.063 (TRY 0.1459) for fixed to fixed calls	SMP obligations in retail fixed telephony markets
	<ul style="list-style-type: none"> <li>Turkcell</li> <li>Vodafone</li> <li>Avea</li> </ul>	Mobile telephony	Yes, 7 days before proposed service launch	Compliance with upper limit: €0.16 (TRY 0.4389) per minute for mobile to mobile calls and for mobile to fixed calls €0.15 (TRY 0.4154) for SMS	Concession agreements
Albania	Albtelecom	Fixed telephony: access and calls	No, with one exception (see footnote). In that case 15 days in advance.	Maximum Prices/Price ceilings	Decision 1348, date 26.07.2010 on SMP obligations in retail fixed telephony markets (markets 1-6)

Country	Operator	Retail services covered	Advance notification requirements and notification period	Assessment method	Legal basis
Bosnia & Herzegovina	<ul style="list-style-type: none"> <li>BH Telecom Sarajevo</li> <li>Telekom Srpske Banja Luka</li> <li>HT dd Mostar</li> </ul>	1. Fixed voice telephony services <ul style="list-style-type: none"> <li>connection charge</li> <li>monthly fee</li> <li>national and international calls</li> </ul> 2. Leased line <ul style="list-style-type: none"> <li>national leased lines</li> </ul> 3. Mobile telephony services <ul style="list-style-type: none"> <li>monthly fee</li> <li>national and international calls</li> </ul>	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
Kosovo*	PTK JSC	Fixed voice telephony (access and calls)	Yes	Cost oriented (FDC)	SMP obligations in retail fixed telephony markets

Table J.1 – Retail tariff regulation

## Notes:

- Iceland: Notification of retail prices is stipulated by telecom law, lowering of prices may be exempt from the 30 day notice period, but must be reported to NRA as soon as possible.
- Macedonia: AEC prepared manual for price-squeeze test. After the market analysis of the retail markets AEC defined 3 relevant retail markets (access to public network on fixed location, voice in public network on fixed location and minimum set of leased lines) and designated Makedonski Telekom as SMP operator on the retail markets. Also, AEC imposed obligation on Makedonski Telekom for regulation of the retail prices. AEC developed margin squeeze methodology for access and publicly available calls on fixed location and cost based prices for minimum set of leased lines. The new methodology is in force since July 2012. Also, new bylaw for regulation of retail prices in force since July 2012. The new bylaw includes a procedure for approval of new prices, change of tariffs since. Margin squeeze model is developed to support an EEO and REO tests. AEC uses Test 1 (EEO) with a possibility to use Test 2 (REO) with explanation to the interested parties the purpose of its decision. Implementation of the margin squeeze tests to all retail offers of MKT between August and September 2012. Historical data were received in February and April 2013.
- Serbia: RATEL has adopted the [new bylaw](#) regarding the cost based model in July 2011.
- Turkey: \* including 18% VAT and 25% private communications tax  
\*\* including 18% VAT and 15% private communications tax
- Albania: [AKEP Decision](#) on 30.07.2013, removed the obligation for retail fixed telephony tariff control, imposed on Albtelecom through Decision 1348, on 26.07.2010. The effective date for removal of this obligation is 1.01.2014.
- Kosovo: ARKEP 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), including carrier selection and/or carrier pre-selection obligations, have failed to address competition concerns.

There may be several reasons for imposing price caps. The most common is tariff rebalancing, but other reasons may exist as well, as in the case of Turkey, for instance. This table shows where retail price caps have been imposed on fixed and mobile network operators and the period of their validity.

Country	Validity of current price cap	Price cap (or sub caps)			
Croatia	None	-			
Iceland	None	-			
FYR Macedonia	None	-			
Montenegro	None	-			
Serbia	None	-			
Turkey	<b>Turk Telekom</b> ICTA <a href="#">decision</a> of Aug.10, 2011 sets tariff ceilings on the retail local and national calls to other fixed networks – effective from Sep. 1, 2011 ICTA decision of Feb. 12, 2010 sets the price cap for calls to mobile networks – effective from April 1, 2010	F2F (local and national)	TRY 0.1459 (6.30 €cents)/min		
		F2M	TRY 0.37 (13.74 €cents)/min, including 18% VAT and 15% private communications tax		
	<b>Turkcell, Vodafone, Avea</b> On in March 2013 and in September 2013, ICTA published decisions renewing caps on mobile retail tariffs, which applies to all three mobile operators, respectively to calls and SMS.	<b>All MNOs</b>	<b>From April 1, 2011</b>	<b>From April 1, 2013</b>	<b>From Jan. 1, 2014</b>
		M2F / M2M calls	TRY 0.4154 (15.9 €cents)/min	TRY 0.4389/min (16.8 €cents)/min	Unchanged
		International calls	TRY 4.38 (€1.68)/min	TRY 4.63 (€1.77)/min	Unchanged
		Domestic SMS	TRY 0.4154 (15.9 €cents)/SMS	Unchanged	TRY 0.3325 (12.7 €cents)/SMS

Country	Validity of current price cap	Price cap (or sub caps)		
	<b>Turkcell</b> (SMP for mobile access and call origination) - ICTA <a href="#">decision</a> of March 13, 2013 (revising a decision from <a href="#">March 2009</a> ) - effective from July 1, 2013	The weighted average call price and SMS price in each of Turkcell's retail on-net tariff packages must not be lower than the weighted average wholesale on-net price for calls and SMS applied to other operators within the scope of the RAO. Turkcell shall calculate the wholesale on-net call price by applying a multiplier of 1.71 to its weighted average mobile call termination price, which is to be calculated by dividing total call termination revenue by total terminated traffic on its network. Turkcell shall calculate the wholesale on-net SMS price by applying a multiplier of 1.71 to its weighted average SMS termination price, which is to be calculated by dividing the SMS termination revenue by the total number of terminated SMS on its network.		
Albania	Based on <a href="#">AKEP Decision nr.1348 of 26.07.2010</a> , retail tariffs for residential and business users are regulated. AKEP imposed maximum tariffs to be applied by Albtelecom, starting from Sep. 1, 2010 and valid until Dec. 31, 2013.	<b>Service</b>	<b>Residential</b>	<b>Business</b>
		Monthly fee (ALL/month)	442 (3.1596 €)	1600 (11.4375 €)
		Installation (ALL)	4000 (28.5938 €)	4000 (28.5938 €)
		On net Local calls		
		Peak	2.5 (0.178 €)	3.9 (0.278 €)
		Off-peak	1.6 (0.114 €)	3.25 (0.232 €)
		On net regional calls		
		Peak	3.00 (0.214 €)	3.9 (0.278 €)
		Off-peak	2.5 (0.178 €)	3.25 (0.232 €)
		On net national (long distance) calls		
		Peak	6.38 (0.456 €)	9.75 (0.696 €)
		Off-peak	5.13 (0.366 €)	8.22 (0.587 €)
		Off net local calls		
		Peak	3.00 (0.214 €)	3.9 (0.278 €)
		Off-peak	2.5 (0.178 €)	3.25 (0.232 €)
		Off net regional calls		
		Peak	4.48 (0.320 €)	6.5 (0.464 €)
		Off-peak	3.9 (0.278 €)	5.2 (0.371 €)
		Off net national (long distance) calls		
		Peak	8.45 (0.604 €)	14.44 (0.1032 €)
		Off-peak	6.74 (0.481 €)	10.4 (0.743 €)
		Calls to mobile		
		Peak	26.09 (0.1865 €)	45.00 (0.3216 €)
		Off-peak	20.00 (0.1429 €)	35.00 (0.2501 €)
		International calls		
		Zone 1		
		Peak	15.38 (0.1099 €)	19.99 (0.1428 €)
		Off-peak	11.78 (0.842 €)	15.31 (0.1094 €)
		Zone 2		
		Peak	37.58 (0.2686 €)	48.85 (0.3492 €)
		Off-peak	28.57 (0.2042 €)	37.14 (0.2654 €)
		Excluding VAT		

Country	Validity of current price cap	Price cap (or sub caps)			
		Retail price caps	From Jan. 1, 2013	From Jan. 1, 2014	From Jan. 1, 2015
Bosnia & Herzegovina	Jan. 1, 2013-Dec. 31, 2015	Connection charge	BAM 46.8 (€23.87)	BAM 35.1 (€19.91)	BAM 23.4 (€11.94)
		Monthly rental - residential subscribers	BAM 15.21 (€7.76)	BAM 15.97 (€8.15)	BAM 15.97 (€8.15)
		Monthly rental - business subscribers	BAM 16.4 (€8.36)	BAM 16.4 (€8.36)	BAM 16.4 (€8.36)
		Local call	BAM 0.056 (€0.028)	BAM 0.056 (€0.028)	BAM 0.061 (€0.031)
		Long distance call	BAM 0.056 (€0.028)	BAM 0.056 (€0.028)	BAM 0.061 (€0.031)
		Fixed to mobile call	BAM 0.24 (€0.125)	BAM 0.22 (€0.113)	BAM 0.20 (€0.101)
		Mobile to fixed call	BAM 0.24 (€0.125)	BAM 0.22 (€0.113)	BAM 0.20 (€0.101)
		International call Zone 1 Neighbouring countries	BAM 0.51 (€0.262)	BAM 0.51 (€0.262)	BAM 0.51 (€0.262)
		International Zone 2 European countries	BAM 1.00 (€0.51)	BAM 0.90 (€0.46)	BAM 0.81 (€0.41)
		International Zone 3 World countries	BAM 1.35 (€0.689)	BAM 1.19 (€0.606)	BAM 1.05 (€0.533)
		Excluding VAT 17%			
Kosovo*	None	-			

Table J.2 – Retail price caps

## Notes:

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

Montenegro: In July 2013 the Agency adopted a decision on cost accounting and accounting separation for Telenor and Mtel, while Telecom is expected to deliver by Sep. 15, 2013 their regulatory financial statements. After that, retail regulation will start.

Turkey: Rates from April 2013 and (for SMS) from September 2013.

Kosovo: Since the telecommunications market is already liberalised, the tariff rebalancing is not appropriate any longer.

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

### 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	Initial 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) In case of per second billing set up charge:	0.013	60 seconds 1 second*	0.038/min (peak) 0.020/min (off-peak)
	Fixed to mobile call	Call set-up charge (first indivisible 15 seconds)		15 seconds	0.240/min (peak) 0.121/min (off-peak)
	International call	Call set-up charge (first indivisible 15 seconds)		15 seconds	0.306/min
Iceland	Local	Call set-up charge	0.056	60 seconds	0.024
	Long distance	no national long distance calls in Iceland			
	Fixed to mobile call	Call set-up charge	0.056	60 seconds	0.112
	International call	Call set-up charge	0.056	60 seconds	0.125 (Europe and US)
FYR Macedonia	Local	None		60 seconds	0.019
	Long distance	None		60 seconds	0.058
	Fixed to mobile call	None		60 seconds	0.163
	International call	None		60 seconds	0.190
Montenegro	Local	yes	0.023	60 seconds	0.023
	Long distance	yes	0.060	60 seconds	0.060
	Fixed to mobile call	yes	0.226	60 seconds	0.226
	International call	yes	Depends on international zone	60 seconds	Depends on international zone
Serbia	Local	None		Pulse 26.367 seconds (peak) 52.735 sec (off-peak)	0.010/min (peak) 0.0048/min (off-peak)
	Long distance	None		Pulse 17.204 seconds (peak) 34.409 sec (off-peak)	0.0150/min (peak) 0.0074/min (off-peak)
	Fixed to mobile call	None		Pulse 2.663 seconds (peak) 4 sec (off-peak)	0.096/min (peak) 0.064/min (off-peak)



Country	Type of call	Initial charges		Charging during the call	
		Type of charge	Nominal value (in euro, VAT incl.)	Minimum charging unit	Nominal value (in euro, VAT incl.)
	International call	None		Pulse (1.727 seconds to 0.545 seconds)	0.147/min
Turkey	Local	None		60 seconds	0.035/min (incl.STC tax 15%)
	Long distance	None		60 seconds	0.044/min (incl.STC tax 15%)
	Fixed to mobile call	None		20 seconds	0.0415/min (incl.STC tax 15%)
	International call	None		60 seconds	0.054/min (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	0.0037 (0.224/min)
	International call	Set up	0.007	1 second	0.0022 (0.132/min)
Bosnia & Herzegovina BH Telecom	Local	None		1 second	0.00033 (0.0197/min)
	Long distance	None		1 second	0.00048 (0.0287/min)
	Fixed to mobile call	None		1 second	0.0016 (0.1014/min)
	International call	None		1 second	Depends on international zone 0.0085 (0.5097/min) to UK
Bosnia & Herzegovina Telekom Srpske	Local	None		1 second	0.00040 (0.0240/min)
	Long distance	None		1 second	0.00048 (0.0287/min)
	Fixed to mobile call	None		1 second	0.0021 (0.1256/min)
	International call	None		1 second	Depends on international zone 0.0070 (0.4199/min) to UK
Bosnia & Herzegovina HT Mostar	Local	None		1 second	0.00035 (0.0208/min)
	Long distance	None		1 second	0.00048 (0.0287/min)
	Fixed to mobile call	None		1 second	0.00190 (0.1138/min)
	International call	None		1 second	Depends on international zone 0.0095 (0.5097/min) to UK

Country	Type of call	Initial charges		Charging during the call	
		Type of charge	Nominal value (in euro, VAT incl.)	Minimum charging unit	Nominal value (in euro, VAT incl.)
Kosovo*	Local	Unit	€0.016 peak €0.016 off peak	4 minutes	€0.04 (0.012/min)
	Long distance	Unit	€0.016 peak €0.016 off peak	4 minutes	€0.04 (0.012/min)
	Fixed to mobile call	Unit	€0.113 peak €0.093 off peak	24 seconds peak 30 seconds off peak	€0.116/min
	International call	Unit	€0.302 peak €0.151 off peak	9.2 seconds peak 18.4 seconds off peak	€0.303/min

Table K.1 – Call charging system

## Notes:

Croatia: 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) without the call set-up charge for all calls in the national network.

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

Macedonia: Abolition of different price to other mobile networks. Now there is equal price for calls to mobile networks of 8.47 MKD during peak hours and 3.97 for off-peak hours

Montenegro: Serbia F-F = €0.11 / F-M = €0.19  
F-F within the region = €0.11 / F-M within the region = €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 and Canada = €0.85

Serbia: Prices for international calls vary by country

Turkey: SadeHatt tariff (this tariff is considered as the entry level, base tariff option for the customers).  
It includes 3000 minutes of on-net calls which can be used between 19:00-07:00.  
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 monthly rental with VAT (€)	Value of call units included in standard monthly rental		Low usage package available? Basis for its offering?	Restrictions applicable to low usage package	Low usage monthly rental with VAT (€)	Call units included in low usage monthly rental	
		Number of call units included	Nominal value of each call unit (€)				Number of call units included	Nominal value of each call unit (€)
Croatia	9.92	60 minutes	0.039 per minute	Super 30	Only for private users who receive social welfare	4.96	-	-
Iceland	12.44	-	-	None	-	-	-	-
FYR Macedonia	7.65	-	-	As part of Universal service obligation there are 4 tariff models available: 1. Minimum tariff 2. Tariff for persons with disabilities 3. Social prepaid tariff model 4. Pensioner tariff	-	4.96	0	2.439
Montenegro	6.07	100 minutes of local off-peak calls	0.022 (19-07h)	Yes (mini package)	Residential users only	3.094	0	-
Serbia	4.51	300 pulses	0.004	Yes. Commercial offer	Fully disabled customers	50% off the regular price	300 pulses	0.004
Turkey	6.44	3,000 minutes of on-net call	-	Yes. Commercial offer	-	5.548	3,000 minutes of on-net call	-
Albania	3.79	-	-	None	-	-	-	-
Bosnia & Herzegovina BH Telecom Telekom Srpske HT Mostar	• 5.85 • 6.55 • 7.78	100 minutes of local calls in peak time	• 0.020/min • 0.018/min • 0.016/min	Yes	families of soldiers died in the war, disabled veterans, people with disabilities	2.512	100 minutes of local calls in peak time	• 0.020/min • 0.018/min • 0.016/min
Kosovo*	9.36	2,500	0.046	Yes	-	5.788	75	0.046

Table K.2 – Residential monthly subscription fees

Notes:

Macedonia: Starting January 1, 2012 USO obligations in force. Low usage rate in this table is the minimum rate. Other special packages apply for certain categories of disadvantaged users.

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

Turkey: 3,000 minutes can be used between 19:00-07:00.

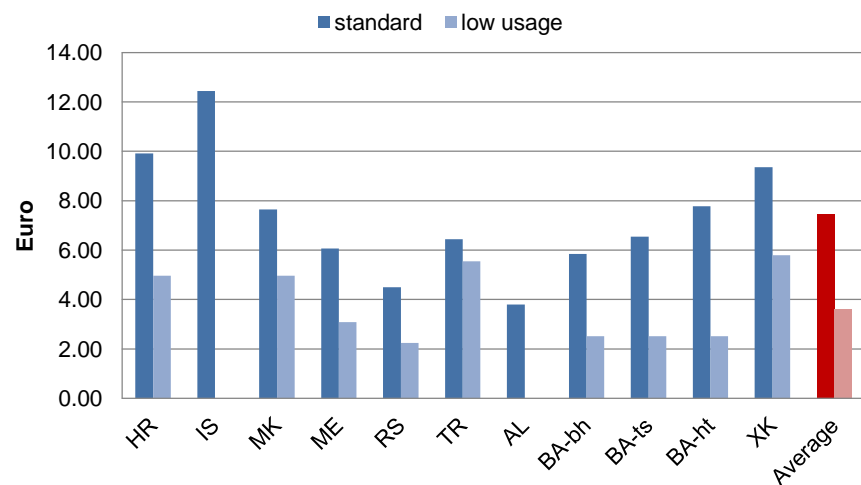


Figure K.1 – Standard and low usage residential monthly rental, incl. VAT

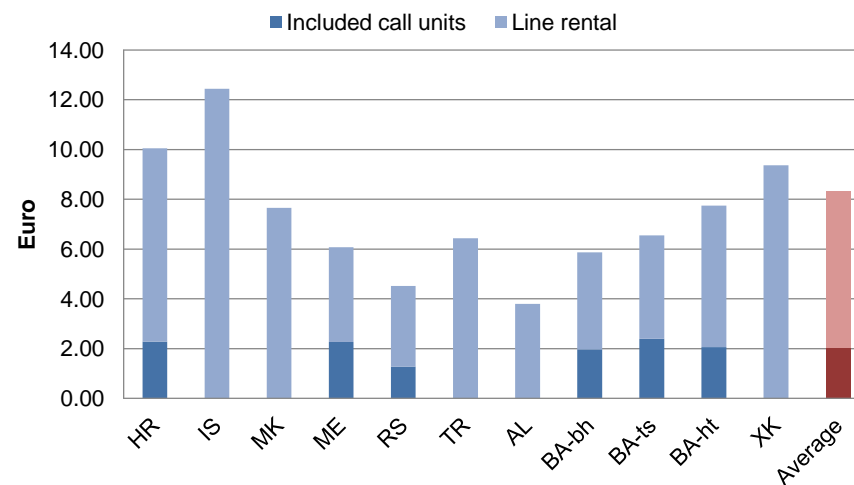


Figure K.2 – Standard residential monthly line rental with included call units, incl. VAT

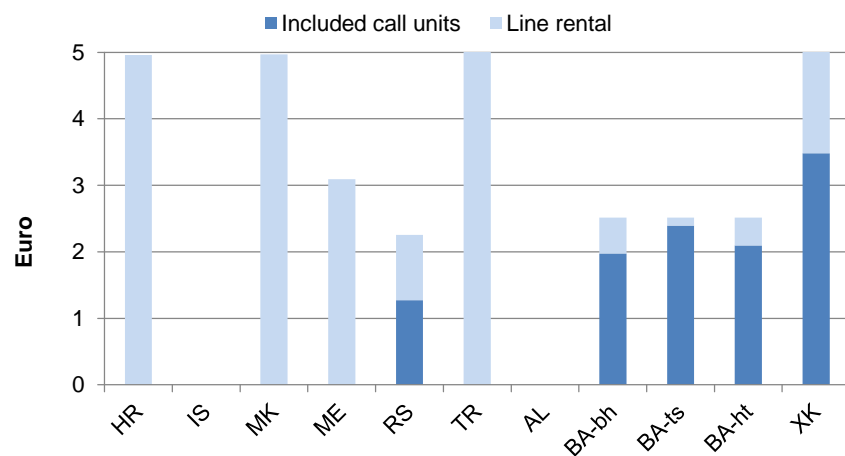


Figure K.3 – Low usage residential monthly line rental with included call units

Notes:

Turkey: The charges include the 15% Special Communications Tax

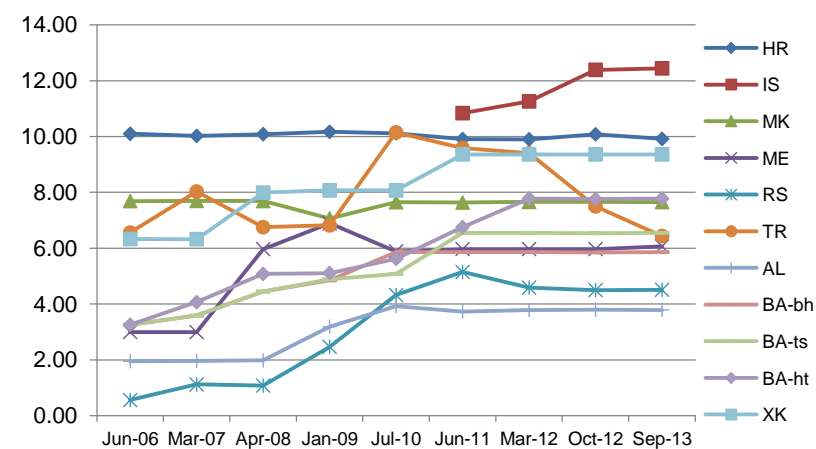


Figure K.4 – Residential line rentals by incumbent incl. VAT, 2006 – 2013

## 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	9.255	0	-
Iceland	11.922	0	-
FYR Macedonia	6.487	0	-
Montenegro	5.10	0	-
Serbia	3.760	0	-
Turkey	7.357	100 minutes on-net and international calls	
Albania	11.438	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 (€)
Bosnia & Herzegovina:		100 minutes of local calls in peak time	
• BH Telecom	• 8.385		• 0.017
• Telekom Srpske	• 8.385		• 0.015
• HT Mostar	• 8.385		• 0.014
Kosovo*	17.99	Unlimited on net calls from + 60 min on mobile network (PTV Vala network)	0.040

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

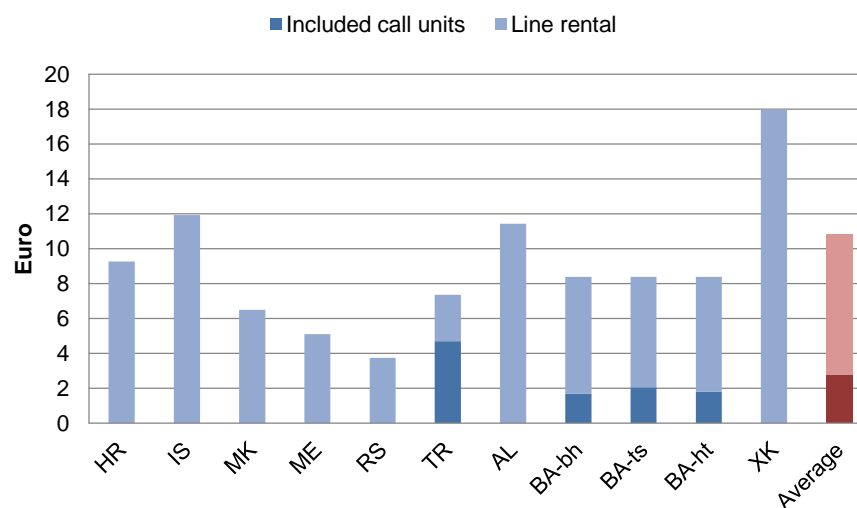


Figure K.5 – Business monthly line rental with included call units

Notes:

FYR Macedonia: Equal monthly rental for basic residential and business subscription, from 399 MKD (€6.49)

Turkey: İş Avantaj Biz 100 tariff

Kosovo: Number of call units: unlimited on net calls + 60 min on Mobile network (on PTK Vala network)

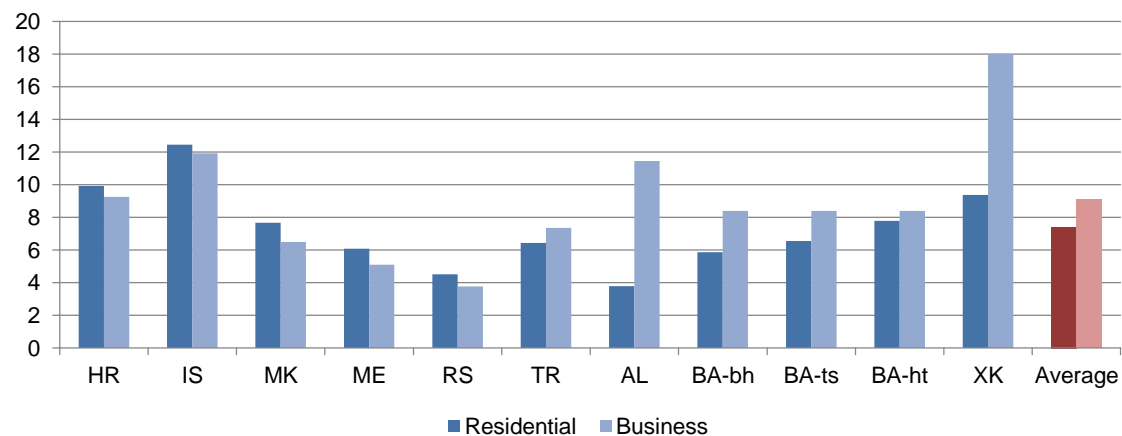


Figure K.6 – Residential and business line rental with included call units

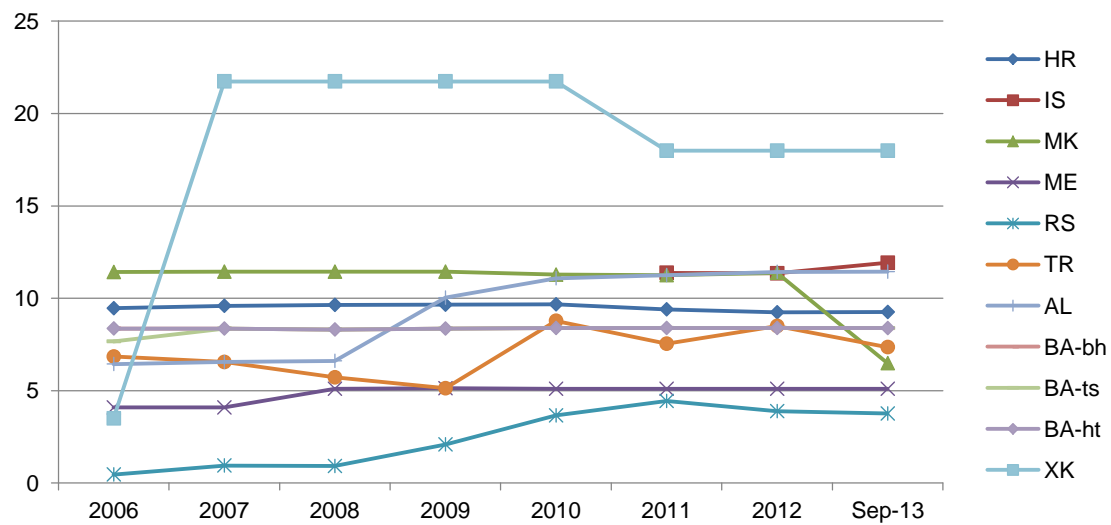


Figure K.7 – Business line rentals by incumbents (excl. VAT), 2006 – 2013

## 2. 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 connection at 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 (including VAT)		Business (excluding VAT)	
	New line connection charge (€)	Reconnection charge (€)	New line connection charge (€)	Reconnection charge (€)
Croatia	82.63	9.92	66.11	9.26
Iceland	18.39	18.39	14.65	14.65
FYR Macedonia	23.79	0.00 The amount of a monthly fee for relevant tariff package	20.16	0.00 The amount of a monthly fee for relevant tariff package
Montenegro	20.25	12.71	17.02	10.68
Serbia	52.47	10.49	87.45	8.75
Turkey	2.78	2.78	2.41	2.09
Albania	34.31	34.31	28.59	28.59
Bosnia & Herzegovina				
• BH Telecom	23.93	5.11	20.45	4.37
• Telekom Srpske	17.35	4.19	14.83	3.58
• HT Mostar	23.93	11.96	20.45	10.23
Kosovo*	10.00	2.02	8.62	1.74

Table K.4 – One-off connection charges

### Notes:

FYR Macedonia: For contract duration of 1 year one off charge is €19.19 incl. VAT, and for 2 years there is no charge.

Figure K.8 below shows the trends in connection charges for residential customers since 2008. Some of these have dropped quite dramatically, notably in Albania, Montenegro and Bosnia and Herzegovina.



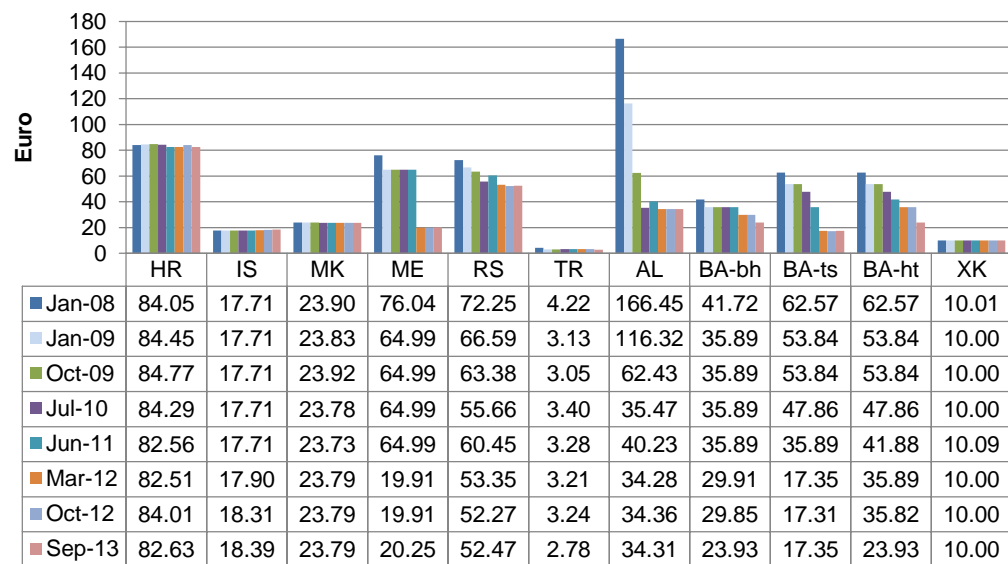


Figure K.8 – Incumbent operator connection charges for residential customers, incl. VAT

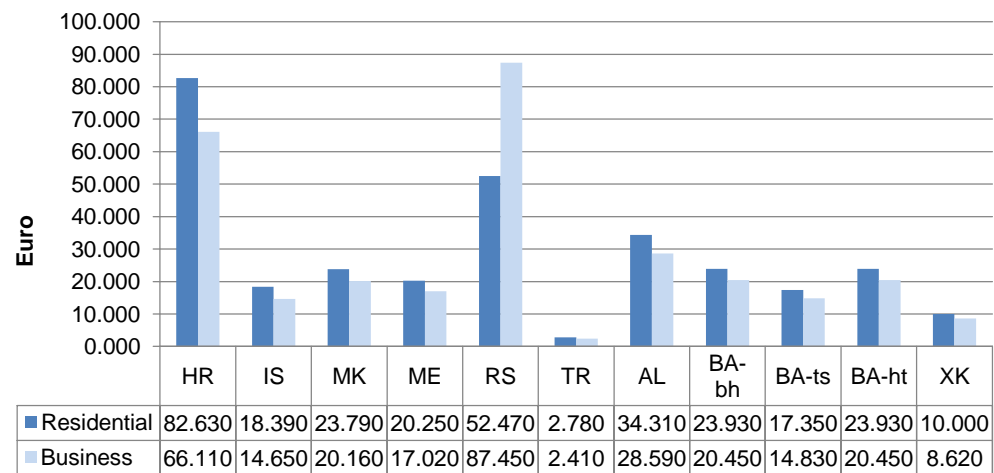


Figure K.9 – Incumbent operator connection charges for residential (incl. VAT) and business customers (excl. VAT)

## 3. 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	Telemach d.o.o. Sarajevo	Cable
Kosovo*	IPKO Telecommunications	VoIP (HFC)

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

## Notes:

Bosnia & Herzegovina: Company Telemach d.o.o. Sarajevo is the largest alternative operator in BiH. See <http://www.tlemach.ba>

## 4. 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	0.374
Iceland		0.301	0.175
FYR Macedonia		0.192	0.173
Montenegro		0.226	0.440
Serbia		0.097	0.081
Turkey		0.594	0.238
Albania		0.222	0.250
Bosnia & Herzegovina	BH Telecom	0.197	0.179
	Telekom Srpske	0.239	
	HT Mostar	0.209	
Kosovo*		0.116	0.600

Table K.6 – Local calls for residential customers, incl. VAT

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.

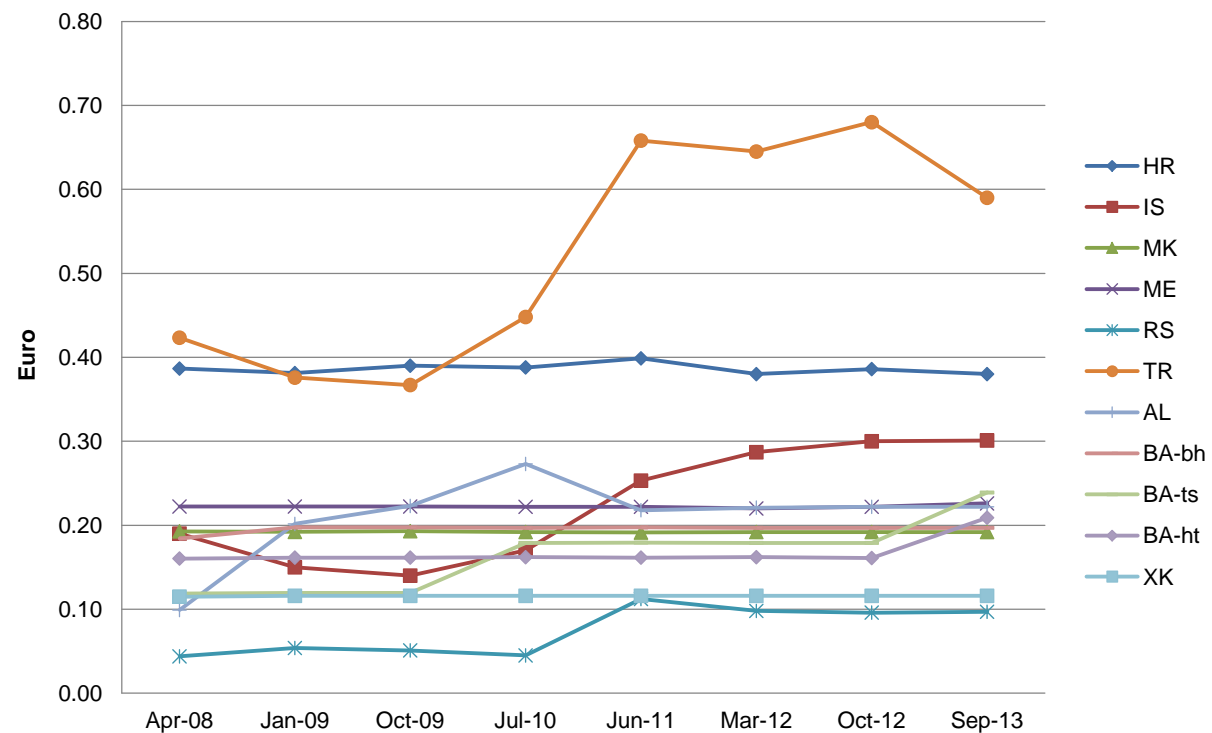


Figure K.10 – Cost of a ten-minute local call (incumbent) in nominal value

Notes:

Turkey: SadeHATT tariff plan. Including all taxes

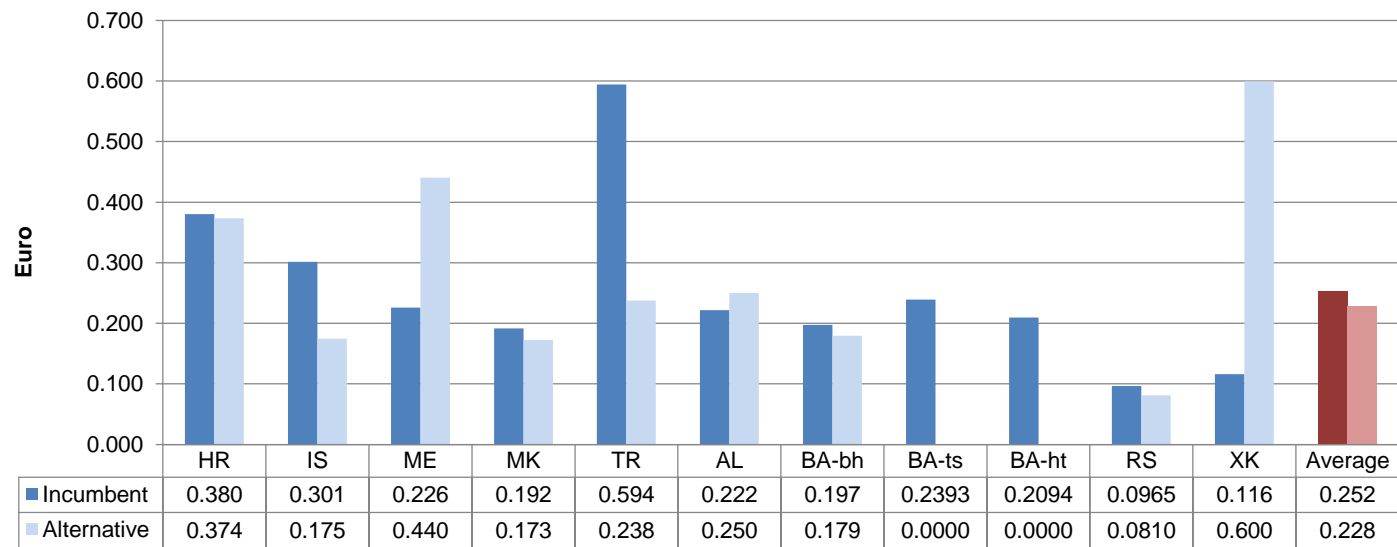


Figure K.11 – Cost of a ten-minute local call in nominal value, incumbent and alternative operator

## 5. 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	0.374
Iceland		-	-
FYR Macedonia		0.576	0.173
Montenegro		0.595	0.450
Serbia		0.148	0.210
Turkey		0.594	0.293
Albania		0.554	0.536
Bosnia & Herzegovina	BH Telecom	0.287	0.419
	Telekom Srpske	0.287	0.419
	HT Mostar	0.287	0.419
Kosovo*		0.116	0.600

Table K.7 – Long-distance calls for residential customers, incl. VAT

## Notes:

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

Turkey: SadeHatt Tariff plan. Includes Special Communications Tax

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. During 2011-2013, long distance call prices have been relatively stable.

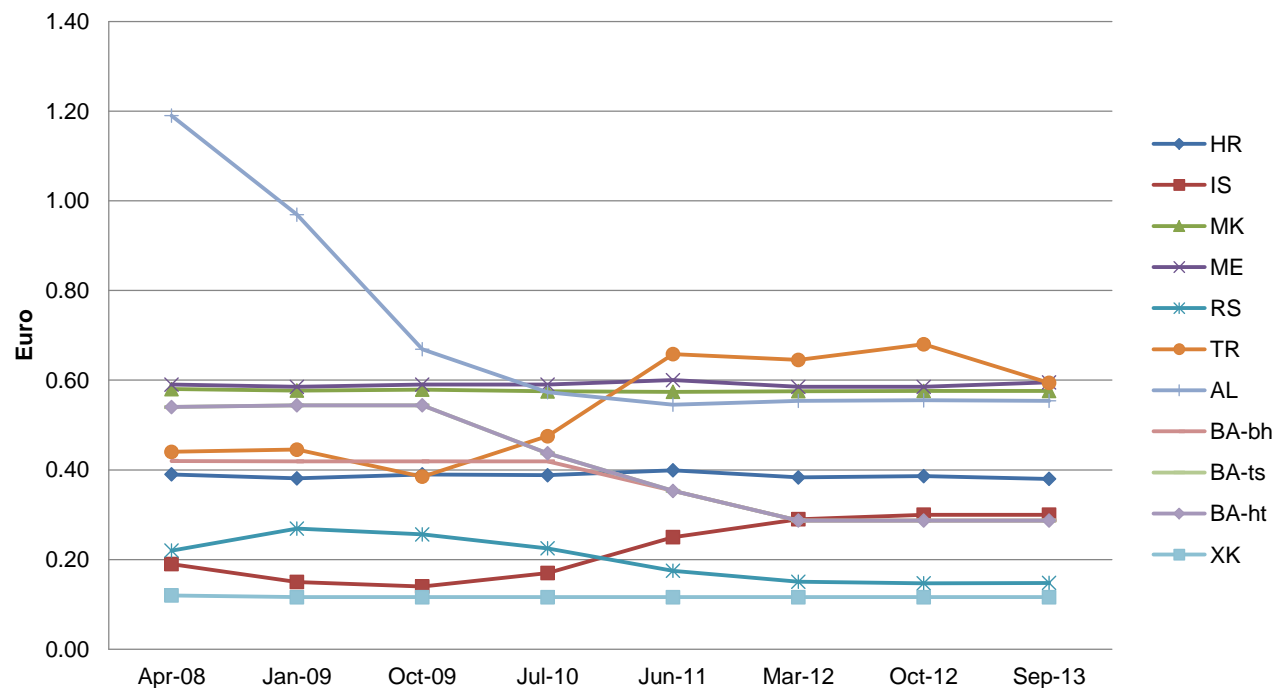


Figure K.12 – Residential long distance charges for 10-minute call (incumbent)

Notes:

Iceland and Kosovo:

No long distance rates – (one local tariff zone). The prices indicated in this chart are the one applicable for the local tariff zone.

Turkey:

SadeHatt Tariff plan. Includes Special Communications Tax

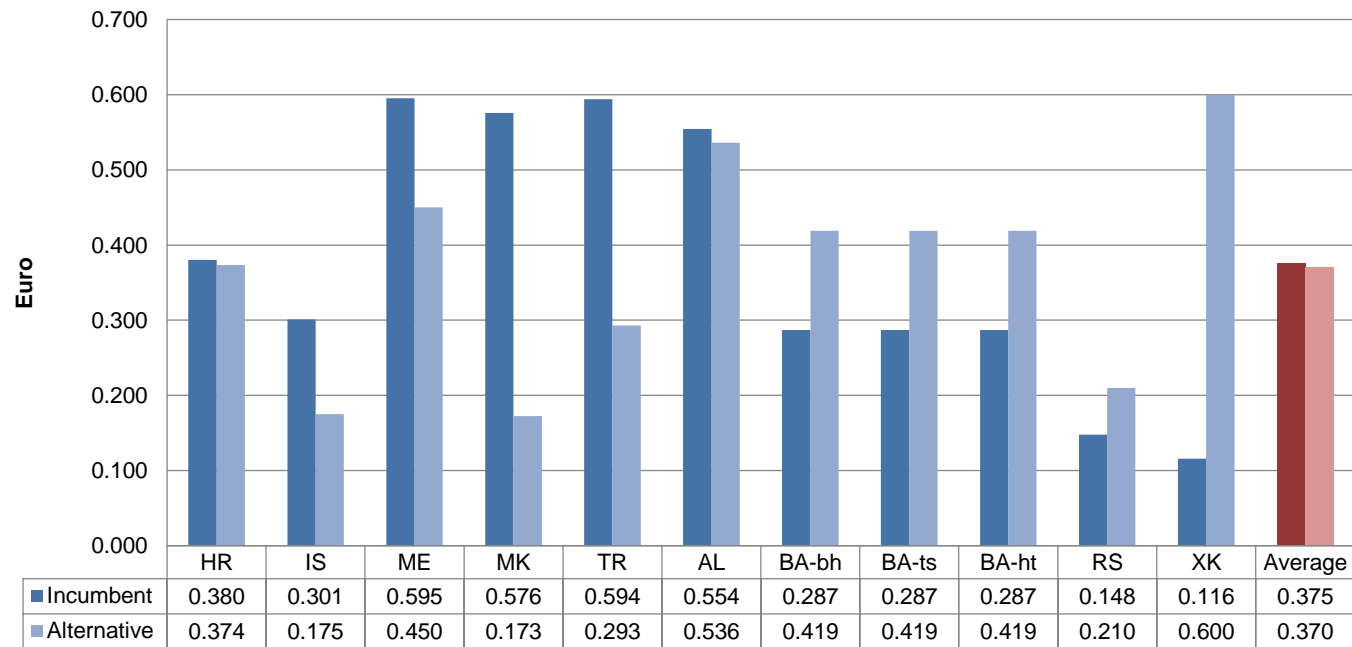


Figure K.13 – Residential long distance charges for 10-minute call (incumbent and alternative operator)



## 6. 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. In Kosovo, the rate decreased by 14% in 2012 and 9.3% in 2013: this is mainly due to the incumbent operators' decrease of the on-net tariffs fixed-to-mobile.

Country		Incumbent	Alternative operator
		10 minutes, €	10 minutes, €
Croatia		2.396	1.663
Iceland		1.181	1.306
FYR Macedonia		1.625	1.324
Montenegro		2.261	1.250
Serbia		0.956	0.944
Turkey		0.594	1.046
Albania		2.245	1.572
Bosnia & Herzegovina	BH Telecom	1.077	1.196
	Telekom Srpske	1.256	
	HT Mostar	1.137	
Kosovo*		0.900	1.500

Table K.8 – Fixed-to-mobile calls for residential customers, incl. VAT

## Notes:

Turkey: SadeHatt Tariff plan. Includes Special Communications Tax 15%.

Kosovo: Calls PRK to Vala.

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

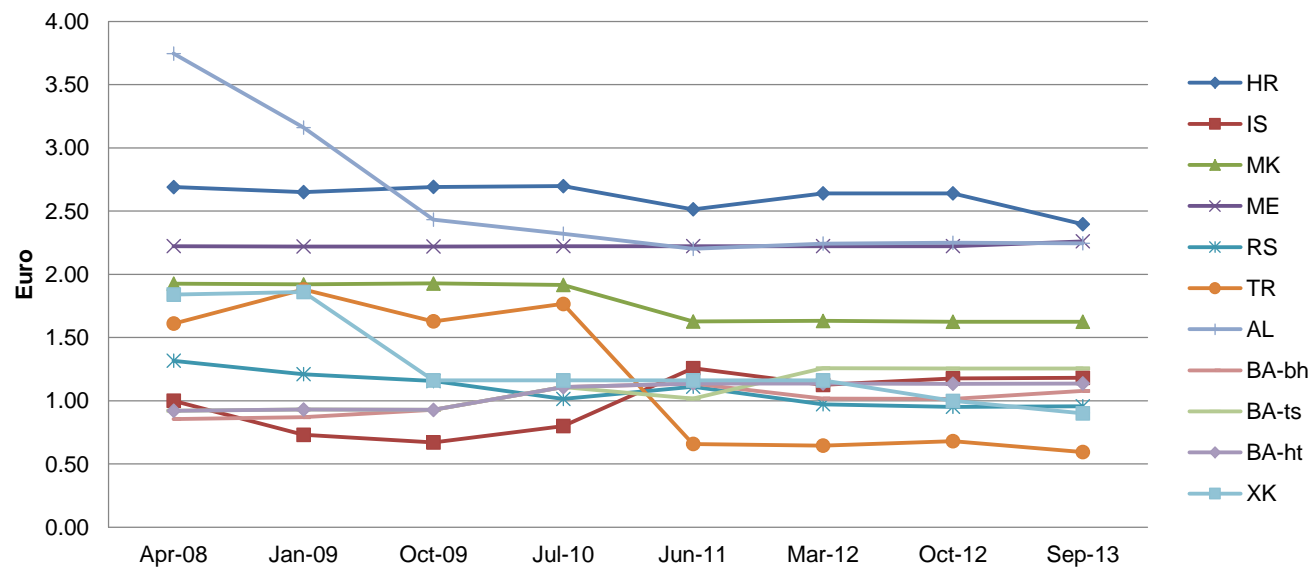


Figure K.14 – Residential charges for 10-minute fixed to mobile calls (incumbent)

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

Table K.9 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. From November 2012 to August 2013 the residential rate offered by HT Mostar decreased by 10%.

Country		Residential		Business	
		Incumbent, €	Alternative operator, €	Incumbent, €	Alternative operator, €
Croatia		3.719	2.985	2.975	2.308
Iceland		1.307	1.363	1.042	1.086
FYR Macedonia		1.899	0.806	1.610	0.683
Montenegro		1.785	3.046	1.500	2.560
Serbia		2.143	0.409	1.786	0.405
Turkey		0.543	0.292	0.470	0.252
Albania		1.326	0.572	1.435	0.477
Bosnia & Herzegovina	BH Telecom	5.103	1.316	4.361	1.125
	Telekom Srpske	4.187		3.579	
	HT Mostar	5.103		4.361	
Kosovo*		3.712	1.160	3.200	1.000

Table K.9 – 10-minute call to the UK

Notes:

Turkey: Includes Special Communications Tax.

Table K.10 provides the corresponding tariff information for long distance calls to the United States. The highest rates are still observed in Croatia and in Bosnia and Herzegovina. High prices are also observed in Serbia, Montenegro and Kosovo. In these countries prices offered by alternative operators are also very high. From November 2012 to August 2013 the residential rate offered by Telekom Srpske decreased by 12% but the cost of a 10 minutes call to the USA remains of approximately €7.

Figure K.15 and Figure K.16 below show the price developments since April 2008 for the international tariffs of the incumbent operator for residential users.

Country		Residential		Business	
		Incumbent, €	Alternative operator, €	Incumbent, €	Alternative operator, €
Croatia		5.784	4.637	4.628	3.155
Iceland		1.307	1.363	1.042	1.086
FYR Macedonia		1.899	0.806	1.610	0.683
Montenegro		1.012	4.070	0.850	3.420
Serbia		3.892	0.409	3.244	0.516
Turkey		0.543	0.292	0.470	0.252
Albania		1.326	0.572	1.435	0.477
Bosnia & Herzegovina	BH Telecom	6.909	1.316	5.905	1.125
	Telekom Srpske	5.982		5.113	
	HT Mostar	6.909		5.905	
Kosovo*		4.408	1.160	3.800	1.000

Table K.10 – 10-minute call to the USA

Notes:

Turkey: Includes Special Communications Tax.

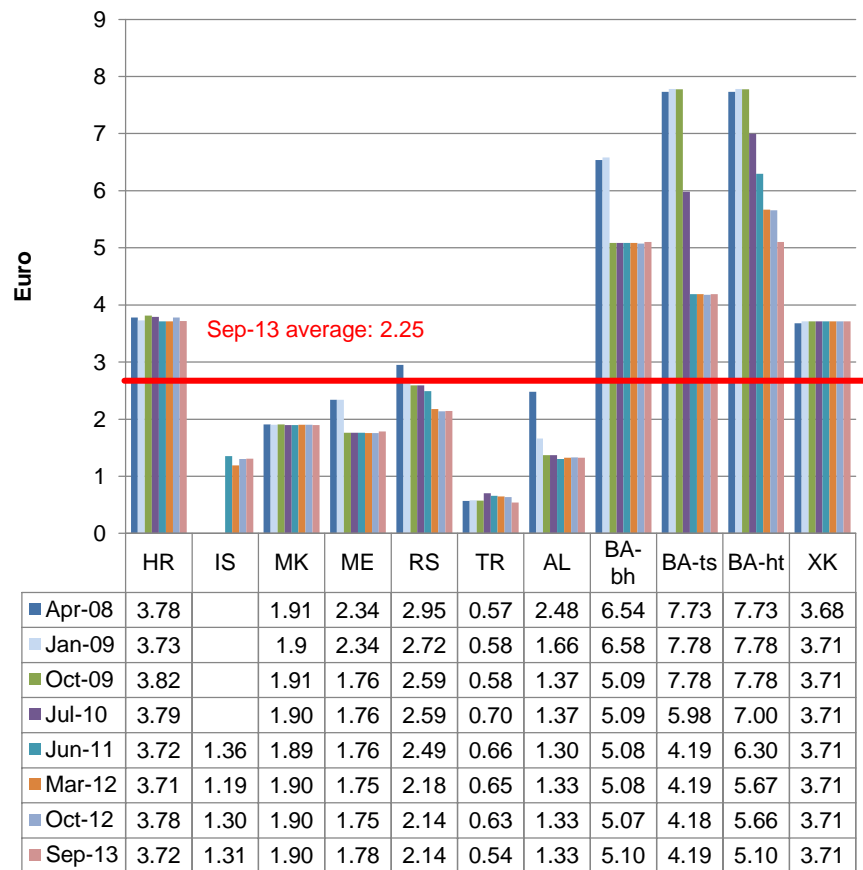


Figure K.15 – 10-minute call to UK by incumbent operator for residential users

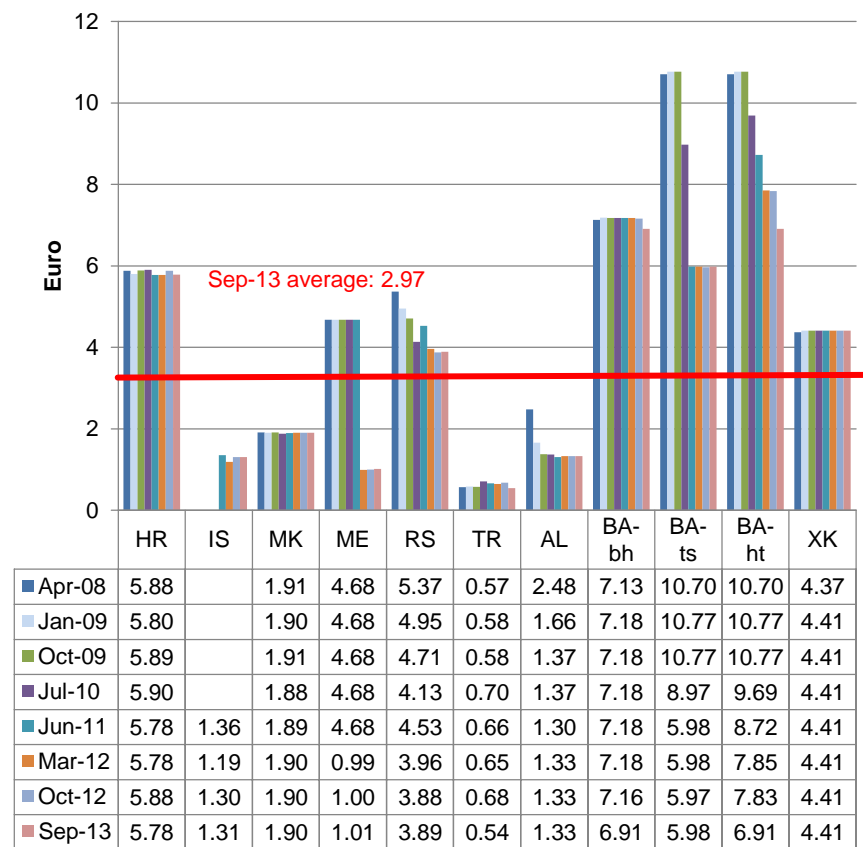


Figure K.16 – 10-minute call to USA by incumbent operator for residential users

## 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 calls		Mobile 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. From October 2012, the sharpest price decreases were observed in Croatia (Tele2) with an €3.31 offer available for each of the three baskets which in practice means a decrease of 58% and 68% respectively for medium user and the high user baskets. A considerable decrease of prices for all operators was observed in the high-user basket for Albania. Prices have been relatively stable from November 2012 in Serbia and in Bosnia and Herzegovina. Prices of MVNO Dukagjini Telekomunikacion, in Kosovo, decreased for all baskets.

Country	Operator	Low-user, €	Medium-user, €	High-user, €
Croatia	HT	6.23	9.56	12.40
	VIPnet	7.31	9.18	15.68
	Tele2	3.31	3.31	3.31
Iceland	Siminn hf	12.98	22.03	38.85
	Vodafone	11.93	12.99	18.81
FYR Macedonia	T-Mobile	11.43	13.07	13.64
	ONE	13.45	14.50	15.58
	Vip	9.30	10.67	15.48
Montenegro	M:Tel	5.74	11.15	21.44
	Telenor	5.90	13.05	24.03
	T-Mobile	5.91	12.15	22.66
Serbia	m:ts	4.27	6.14	8.82
	Telenor	5.32	6.02	10.26
	VIP	4.37	5.68	8.66

Country	Operator	Low-user, €	Medium-user, €	High-user, €
Turkey	Avea	5.66	7.43	9.68
	Turkcell	11.07	11.07	11.07
	Vodafone	11.44	11.44	11.84
Albania	Vodafone Albania	6.04	16.25	21.63
	AMC	6.69	8.66	17.28
	Eagle Mobile	5.70	10.72	17.87
	Plus Communication	4.52	12.00	21.22
Bosnia & Herzegovina	BH Telecom	8.97	17.95	29.91
	Telekom Srpske	9.01	13.58	22.91
	HT Mostar	8.97	14.96	29.91
Kosovo*	Vala	5.32	12.90	27.02
	IPKO	4.66	12.66	23.99
	Daradafon.net	5.68	12.67	24.45
	Dukagjini Telekommunication	3.75	8.50	16.98

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

Notes:  
 Iceland: No data available for Nova  
 FYR Macedonia: Changes from Report 3: change of some tariffs in the same retail offers  
 Serbia: Includes prepaid and only new postpaid packages (that are available to all postpaid subscribers (existing and new). Old postpaid packages that can be used only by those subscribers that are already using them are not considered  
 Turkey: Includes Special Communications Tax 25%

The three following figures show the prices in the low, medium and high user baskets from 2011 to 2012 in the monitored countries. As of October 2012, the highest prices for the low user basket were observed in Iceland, FYR Macedonia and Turkey. In Macedonia prices increased considerably, with offers by the two largest operators more than doubled from March 2012.

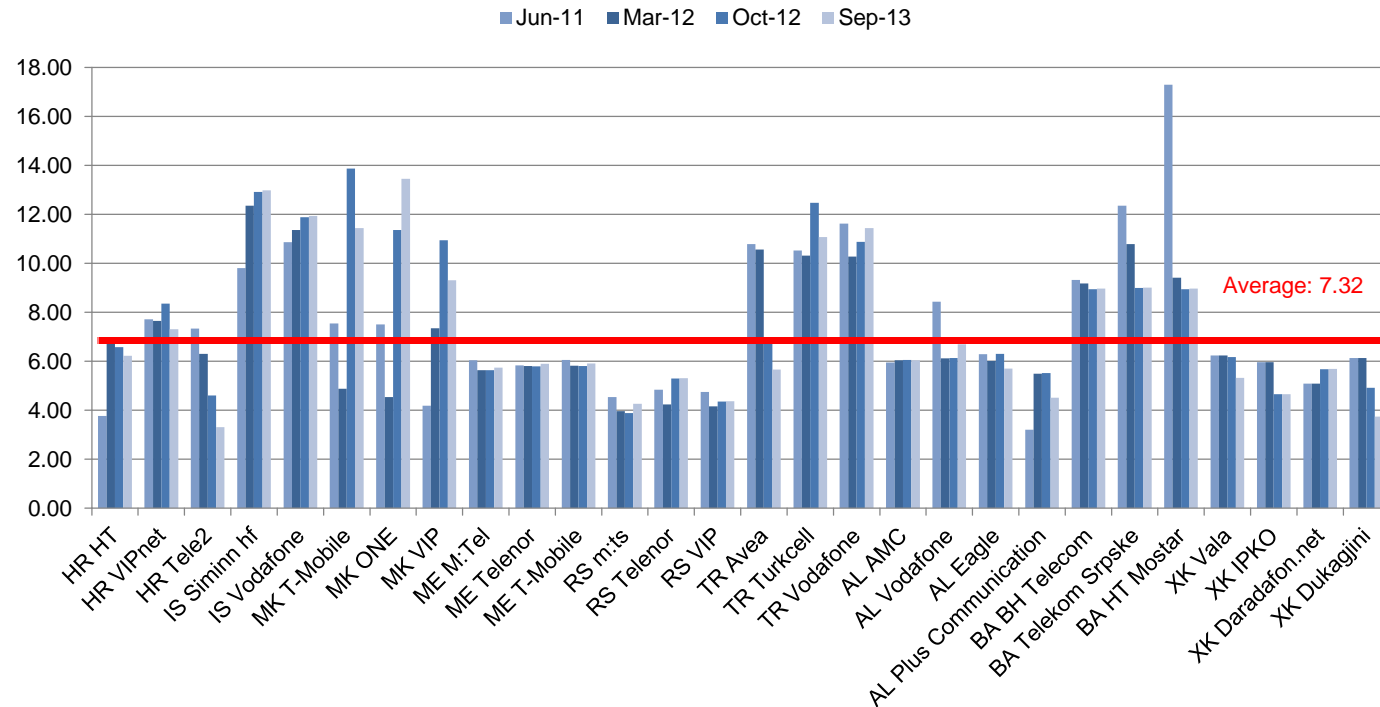


Figure L.1 – Low usage OECD (2006) mobile basket



For medium users, from March to October 2012 prices increased only in FYR Macedonia, on average by 44%. In most other countries prices decreased, including in Turkey (on average, by 46%), Albania, Serbia and Kosovo.

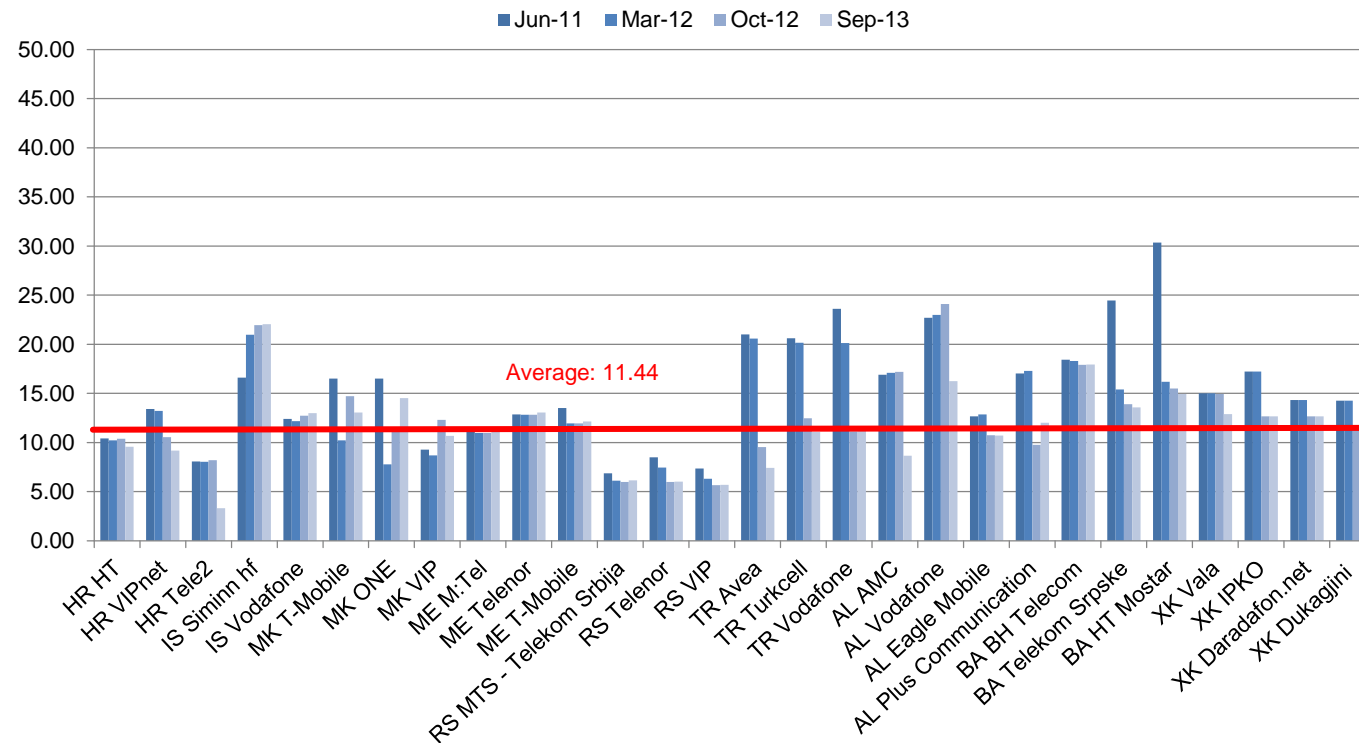


Figure L.2 – Medium usage OECD (2006) mobile basket

For high users, prices decreased in most countries, with the only exception of the Icelandic incumbent, which increased prices from March 2012 by 52%. In the same period in Turkey prices decreased on average by 68%. Prices of virtual operators in Kosovo are now lower than the prices offered by the largest mobile operator Vala.

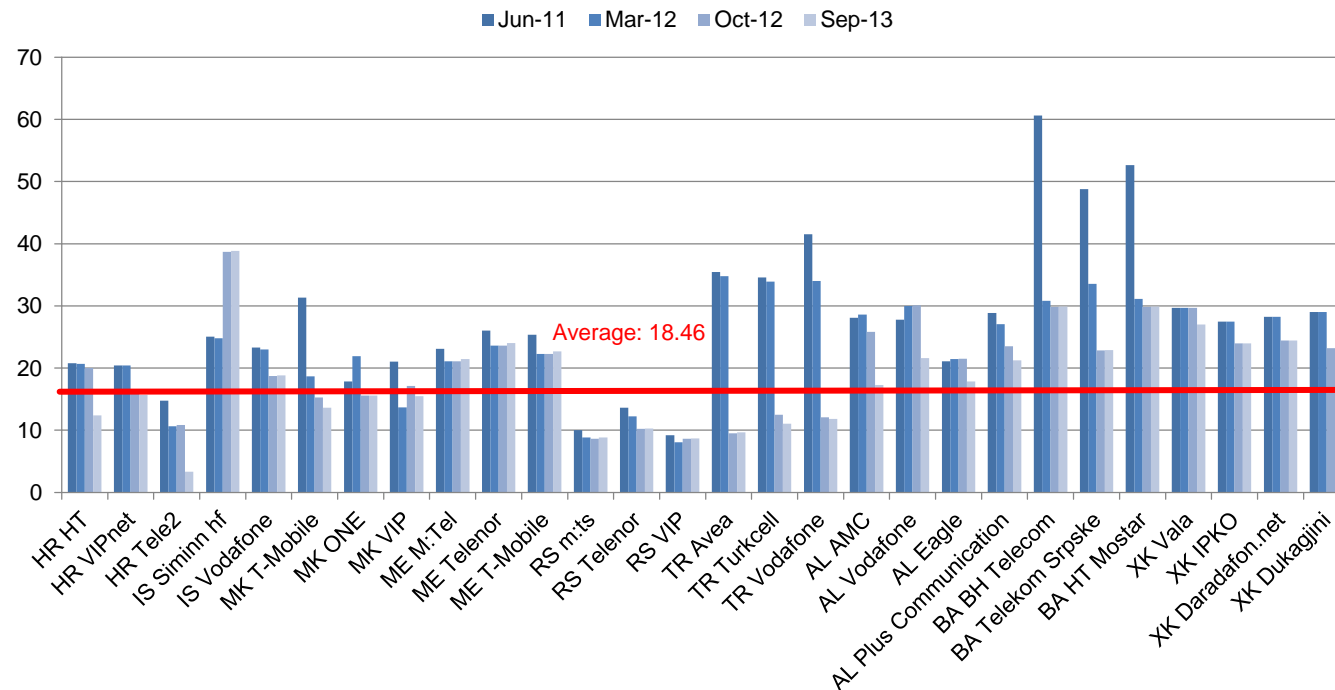


Figure L.3 – High usage OECD (2006) mobile basket

Notes:  
 Iceland: No data available for Nova  
 Turkey: Includes Special Communications Tax 25%

Average revenue per minute (ARPM) in 2011 in the nine monitored countries was on average of € 0.088, against 0.11 in the EU according to the Digital Agenda Scoreboard.

Country	Operator	Total revenue from mobile voice communications, €	Total outgoing minutes of voice communications	Revenue per minute of outgoing traffic, €
Croatia	HT	255,683,041	3,296,771,884	0.078
	VIPnet	183,495,762	2,461,156,119	0.075
	Tele2	56,102,500	1,186,046,121	0.047
Iceland	Siminn hf	Not available		0.000
	Vodafone			0.000
	Nova			0.000
FYR Macedonia	T-Mobile	121,262,995	4,032,889,250	0.030
	ONE			
	Vip			
Montenegro	M:Tel	42,198,491	345,129,970	0.122
	Telenor	78,067,252	639,025,664	0.122
	Crnogorski Telekom	50,953,125	644,612,082	0.079
Serbia	Telekom Srbija	144,663,646	11,718,716,595	0.012
	Telenor			
	VIP			
Turkey	Avea	4,376,091,237	169,780,000,000	0.026
	Turkcell			
	Vodafone			
Albania	Vodafone Albania	83,537,065	3,040,794,455	0.027
	AMC	54,793,052	2,320,168,880	0.024
	Eagle Mobile	20,623,347	494,795,564	0.042
	Plus Communication	8,106,369	197,330,365	0.041
Bosnia & Herzegovina	BH Telecom	91,833,976	946,387,931	0.097
	Telekom Srpske	74,699,060	788,790,080	0.095
	HT Mostar	35,766,343	611,800,500	0.058

Country	Operator	Total revenue from mobile voice communications, €	Total outgoing minutes of voice communications	Revenue per minute of outgoing traffic, €
Kosovo*	Vala	127,420,000	934,882,000	0.136
	IPKO	50,201,000	538,555,330	0.093
	Daradafon.net	9,940,000	86,871,305	0.114
	Dukagjini Telekomunikation	74,519	376,050	0.198

Table L.3 – Average revenue per minute of outgoing voice traffic – based on annual 2012 data

Notes:

EU data on ARPM:

Croatia:

Iceland:

Macedonia:

Serbia:

Turkey:

Albania:

See <https://ec.europa.eu/digital-agenda/sites/digital-agenda/files/DAE%20SCOREBOARD%202013%20-%20SWD%202013%20217%20FINAL.pdf> - page 69

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.

Revenue data are sensitive and are not disclosed.

Total values of 3 mobile operators, in 2012.

Total values of 3 mobile operators.

Total values of 3 mobile operators.

Revenues refer to total retail revenues.

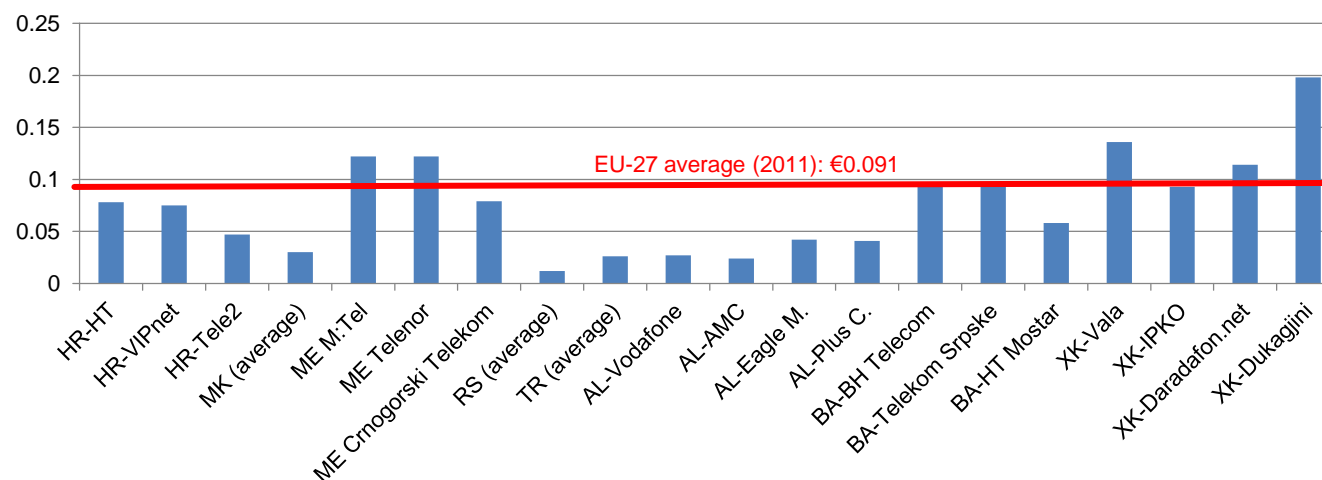


Figure L.4 – Average revenue per minute of outgoing traffic

Notes:

EU-27: Source: Digital Agenda Scoreboard June 2013

Macedonia, Turkey and Serbia: average for all mobile operators. No data available for Iceland.

## 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 - < 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	-	10.70	-	24.32	-
	Largest alternative operator	5.15	9.21	13.28	17.34	-
Iceland	Incumbent operator	-	-	-	23.20	29.49
	Largest alternative operator	-	-	-	13.45	18.23
FYR Macedonia	Incumbent operator	-	-	8.12	14.62	16.23
	Largest alternative operator	-	-	-	12.99	19.49
Montenegro	Incumbent operator	14.23	20.34	25.41	20.33	25.41
	Largest alternative operator	15.26	20.34	28.48	49.98	71.19
Serbia	Incumbent operator	13.63	18.88	17.48	34.10	72.58
	Largest alternative operator	-	-	13.69	25.26	33.26
Turkey	Incumbent operator	8.13	-	23.40	25.26	36.78
	Largest alternative operator ( DSL)	7.76	-	23.40	25.26	33.06
Albania	Incumbent operator	10.71	14.29	17.15	25.73	-
	Largest alternative operator	8.93	11.31	14.29	-	278.79

Country	Operator	Download speeds range				
		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 & Herzegovina	BH Telecom	-	5.98	10.17	22.13	47.86
	Telekom Srpske	11.37	14.96	20.94	29.91	-
	HT-Mostar	12.56	20.94	59.22	-	-
	Largest alternative operator	-	-	13.16	32.90	32.90
Kosovo*	Incumbent operator	10.43	16.23	20.87	26.67	30.15
	Largest alternative operator	-	9.22	17.34	23.14	46.34

Table M.1 – Monthly subscription charges, by incumbent and by the largest alternative provider

Notes:

EU-27: For comparison, In Feb. 2012 EU-27 average prices of 1-2 Mbps broadband offers were of €39.24; prices of 2-4 Mbps broadband offers were of €45.21; prices of 4-8 Mbps broadband offers were of €44.54; prices of 8-12 Mbps broadband offers were of €43.98. Prices of 12-30 Mbps broadband offers were of €42.62; and prices above 30 Mbps were on average of 47.67. Source: Broadband Internet Access Cost report 2012, Van-Dijk Management Consultants

Iceland: Price is a factor of amount of data downloaded from abroad. Local data and all sent data are not metered.  
In case of FTTH – line rental of ISK 1900 excluding VAT (€11.90) to the FTTH operator is not included, as this charge also opens the line to other services such as VoIP and IPTV.

Turkey: Listed is the lowest and highest comparable subscription plan.

DSL and fiber technology of incumbent operator is shown in different rows (incl. all taxes)

Operator	Download speeds range			
	1 Mbps - < 2 Mbps	4 Mbps - < 8 Mbps	8 Mbps - < 20 Mbps	> 20 Mbps
TTNET (Incumbent DSL Operator, Turk Telekom's ISP subsidiary)	1 Mbps 1GB Traffic Cap: €8.13	Up to 8 Mbps 4GB Traffic Cap with Fair Usage Policy: €11.14 Up to 8 Mbps Unlimited with Fair Usage Policy: €23.40	Up to 16 Mbps Unlimited with Fair Usage Policy: €25.26 20 Mbps 4 GB Traffic Cap with Fair Usage Policy: €13 Up to 20 Mbps Unlimited with Fair Usage Policy: €25.63	Up to 35 Mbps Unlimited with Fair Usage Policy: €29.35 Up to 50 Mbps Unlimited with Fair Usage Policy: €36.78 Up to 100 Mbps Unlimited with Fair Usage Policy: €44.21
TTNET (Incumbent Fiber Operator, Turk Telekom's ISP subsidiary)			20 Mbps 4 GB Traffic Cap with Fair Usage Policy: €13 Up to 20 Mbps Unlimited with Fair Usage Policy: €25.63	Up to 35 Mbps Unlimited with Fair Usage Policy: €29.35 Up to 50 Mbps Unlimited with Fair Usage Policy: €36.78 Up to 100 Mbps Unlimited with Fair Usage Policy: €44.21

Operator	Download speeds range			
	1 Mbps - < 2 Mbps	4 Mbps - < 8 Mbps	8 Mbps - < 20 Mbps	> 20 Mbps
D-SMART NET (Largest Alternative DSL Operator)	1 Mbps 1GB Traffic Cap: €7.76	8 Mbps 4 GB Traffic Cap with Fair Usage Policy: €11.14 Up to 8 Mbps Unlimited with Fair Usage Policy: €23.40	Up to 16 Mbps Unlimited with Fair Usage Policy: €25.26	
Superonline (Largest Alternative Fiber Operator)			20 Mbps 4 GB Traffic Cap with Fair Usage Policy: €14.71	50 Mbps Unlimited with Fair Usage Policy: €33.06 100 Mbps Unlimited with Fair Usage Policy: €40.49 1000 Mbps Unlimited: €371.12
Turksat (Incumbent Cable Operator)			Up to 10 Mbps 1 GB: €7.05 Up to 10 Mbps 5 GB Traffic Cap: €9.29 Up to 10 Mbps Unlimited with Fair Usage Policy: €18.20 Up to 20 Mbps 20 GB Traffic Cap: €16.34	Up to 50 Mbps Unlimited with Fair Usage Policy: €29.35 Up to 100 Mbps Unlimited with Fair Usage Policy: €36.78
TTNET: <a href="http://www.ttnet.com.tr/bireysel/internet/Sayfalar/Tum-Tarifeler.aspx">http://www.ttnet.com.tr/bireysel/internet/Sayfalar/Tum-Tarifeler.aspx</a> D-SMART NET: <a href="http://www.dsmartnet.com.tr/tarifeler.aspx">http://www.dsmartnet.com.tr/tarifeler.aspx</a> Superonline: <a href="http://www.superonline.net/">http://www.superonline.net/</a> Turksat: <a href="http://www.kablonet.com.tr/int-uydunet-tarifeleri">http://www.kablonet.com.tr/int-uydunet-tarifeleri</a>				

Albania:

Albtelecom tariffs for 1-4 Mbps refer to the 20% discount for 12 months advance payment.

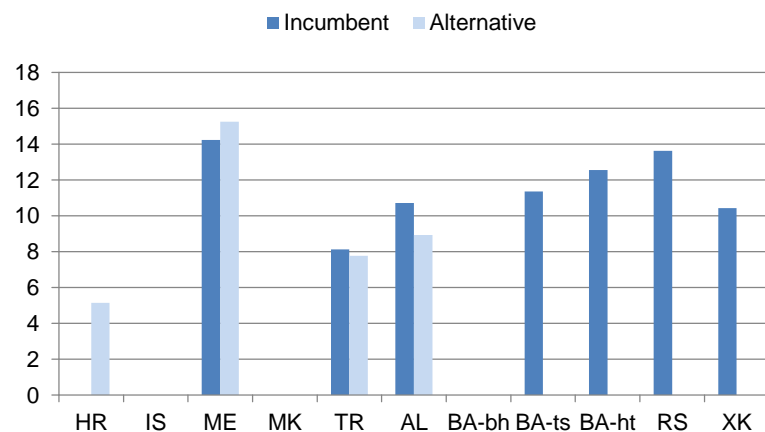


Figure M.1 – Monthly retail broadband subscription prices – 1 Mbps up to 2 Mbps, in euro (incl. VAT)

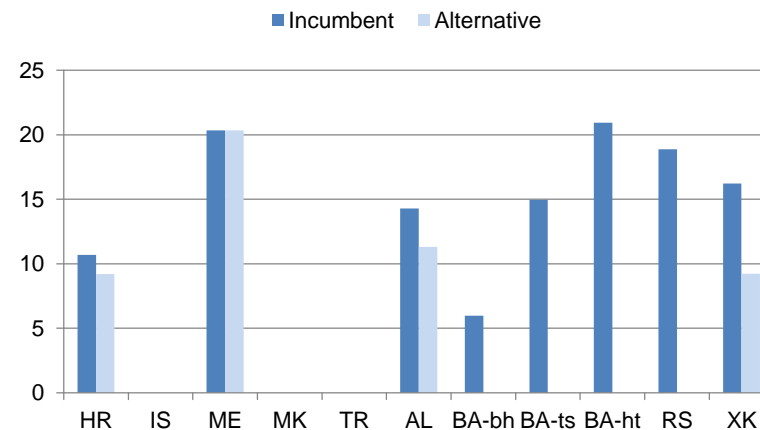


Figure M.2 – Monthly retail broadband subscription prices – 2 Mbps up to 4 Mbps, in euro (incl. VAT)

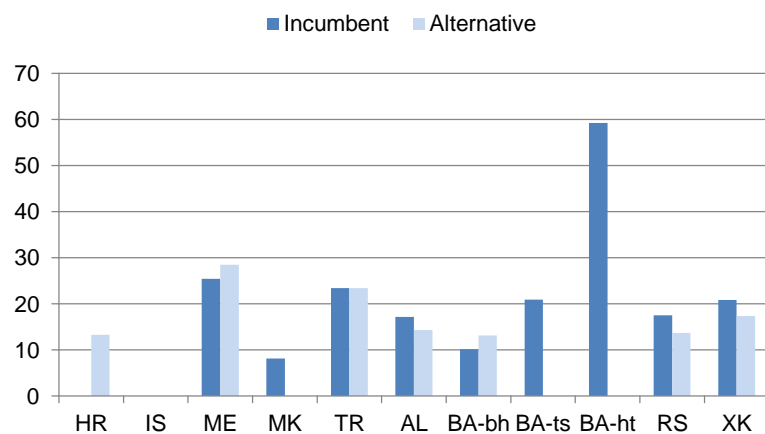


Figure M.3 – retail broadband subscription prices – 4 Mbps up to 8 Mbps, in euro (incl. VAT)

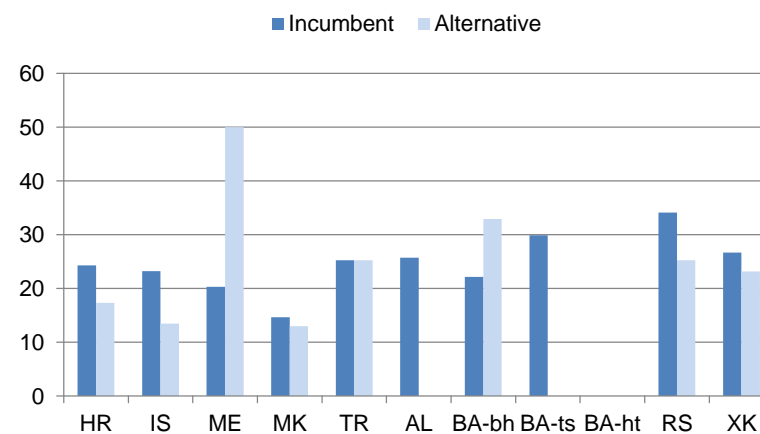


Figure M.4 – Monthly retail broadband subscription prices – 8 Mbps up to 20 Mbps, in euro (incl. VAT)



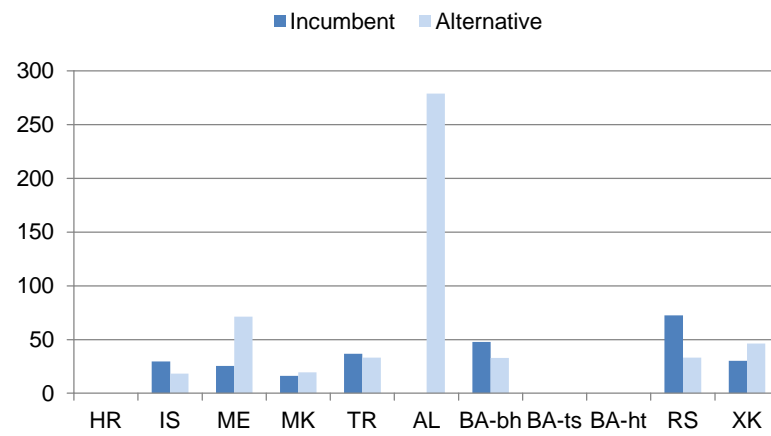


Figure M.5 – Monthly retail broadband subscription prices – 20 Mbps and above, in euro (incl. VAT)

## N. Leased lines retail tariffs

### 1. National leased lines

The annual prices (excluding VAT) are presented for:

- 2 km 2 Mbps
- 2 km 34 Mbps

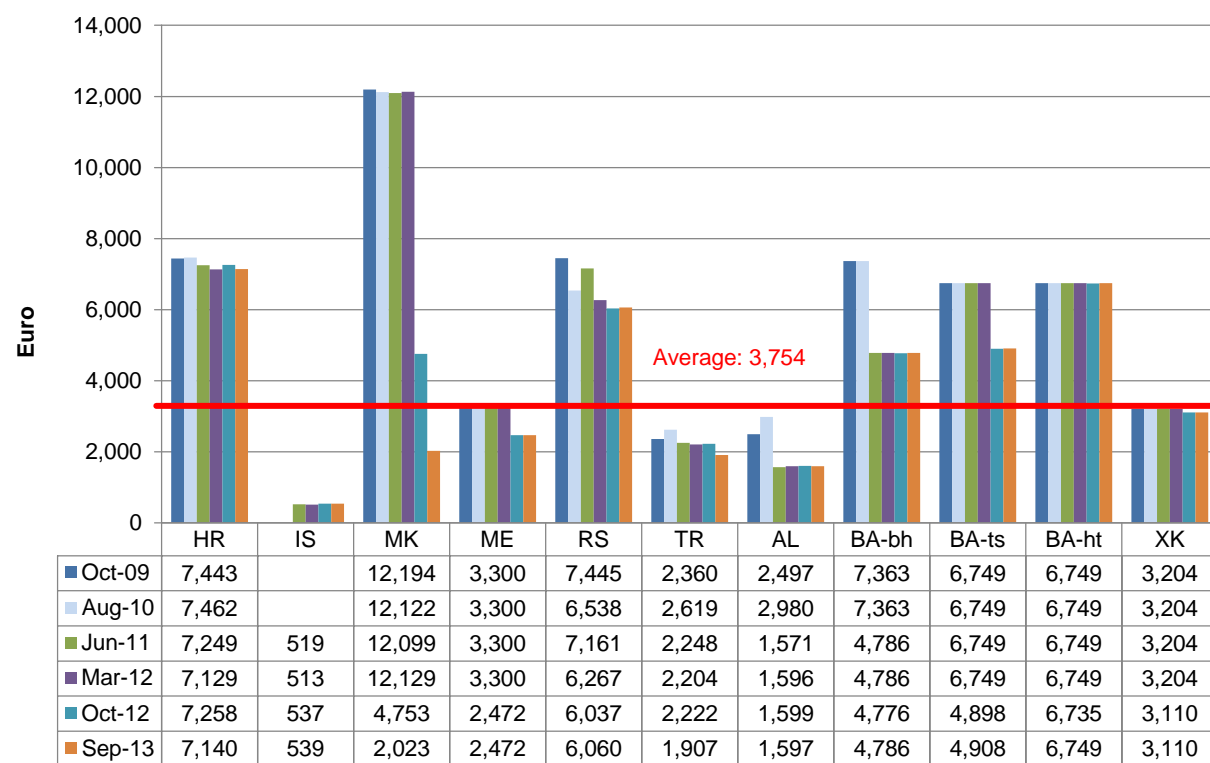


Figure N.1 – Annual prices for a 2 km 2 Mbps leased line

Notes:  
 Croatia: The price for PPC: 2Mbit/s 2km: 7.733 HRK, 34Mbit/s 2km: 24.254 HRK  
 Macedonia: Implementation of LRIC methodology for terminating and trunk segment of leased lines. New prices from December 2012.  
[http://www.telekom.mk/download/domestic/ws\\_dll/WS%20DLL%20ponuda%202012%20\(verzija%201%201%20za%20objava\).pdf](http://www.telekom.mk/download/domestic/ws_dll/WS%20DLL%20ponuda%202012%20(verzija%201%201%20za%20objava).pdf)  
 Turkey: 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.

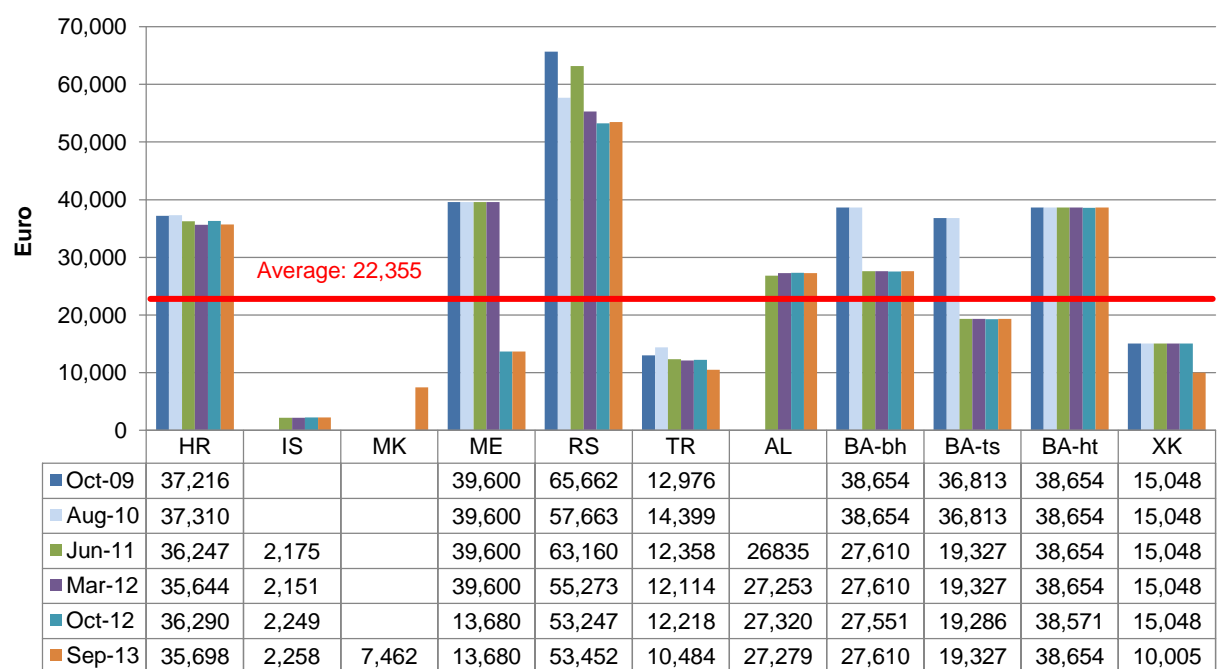


Figure N.2 – Annual prices for a 2 km 34 Mbps leased line

Notes:  
 Macedonia: Implementation of LRIC methodology for terminating and trunk segment of leased lines. New prices available from December 2012.  
[www.telekom.mk/download/domestic/ws\\_dll/WS%20DLL%20ponuda%202012%20\(verzija%201%201%20za%20objava\).pdf](http://www.telekom.mk/download/domestic/ws_dll/WS%20DLL%20ponuda%202012%20(verzija%201%201%20za%20objava).pdf)

## 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.

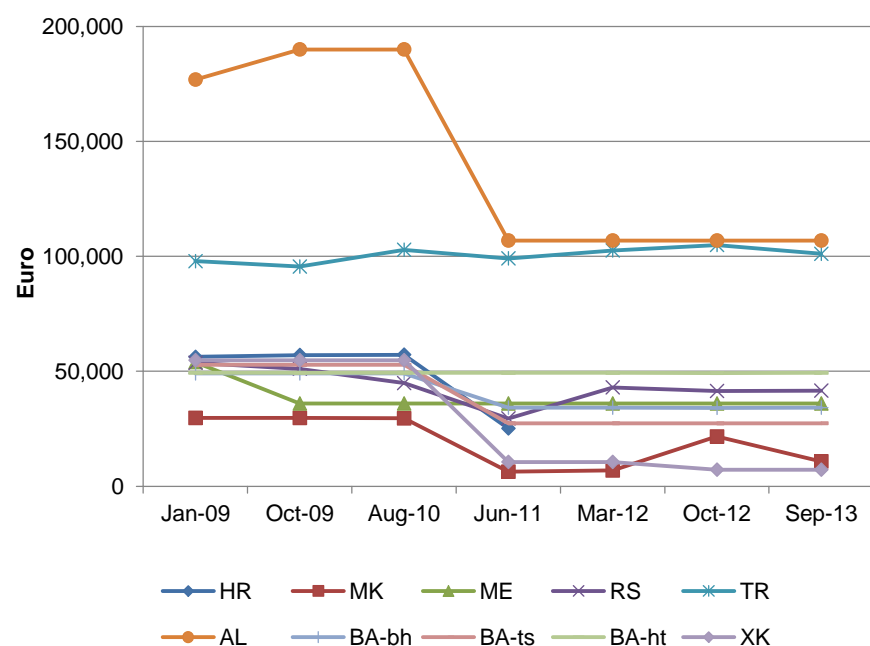


Figure N.3 – Annual prices for international half circuits 2 Mbps to near country (2009-2012)

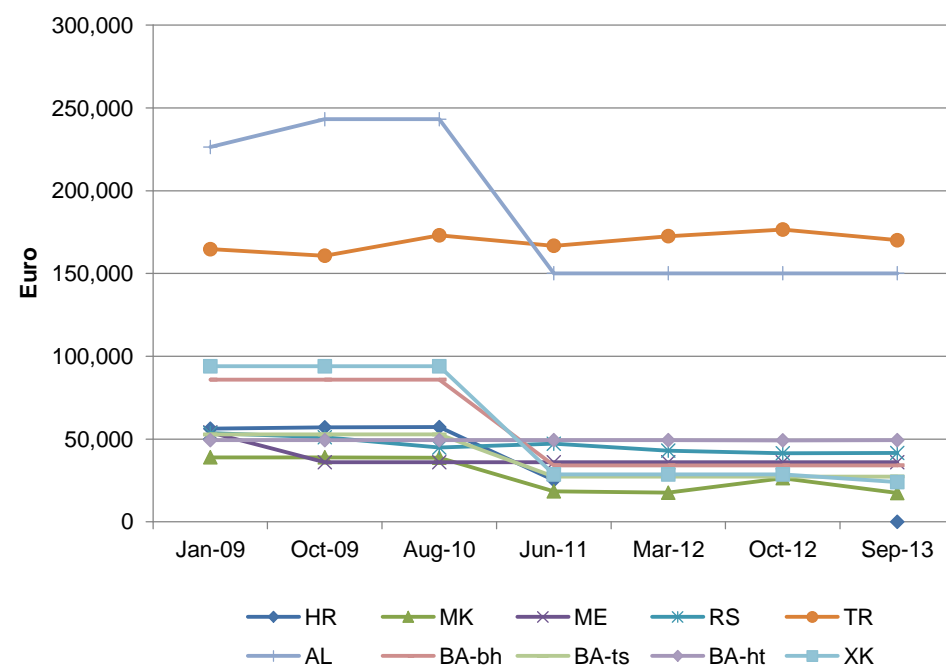


Figure N.4 – Annual prices for a 2 Mbps international half-circuit to the UK (2009-2012)

Notes:

Iceland and Croatia:

International half-circuit prices are defined commercially and are confidential

FYR Macedonia:

Updated data from Maktel

Turkey:

The currency of international leased line tariffs is Special Drawing Rights (SDR). SDR exchange rate Sep. 3, 2013: 1.147720

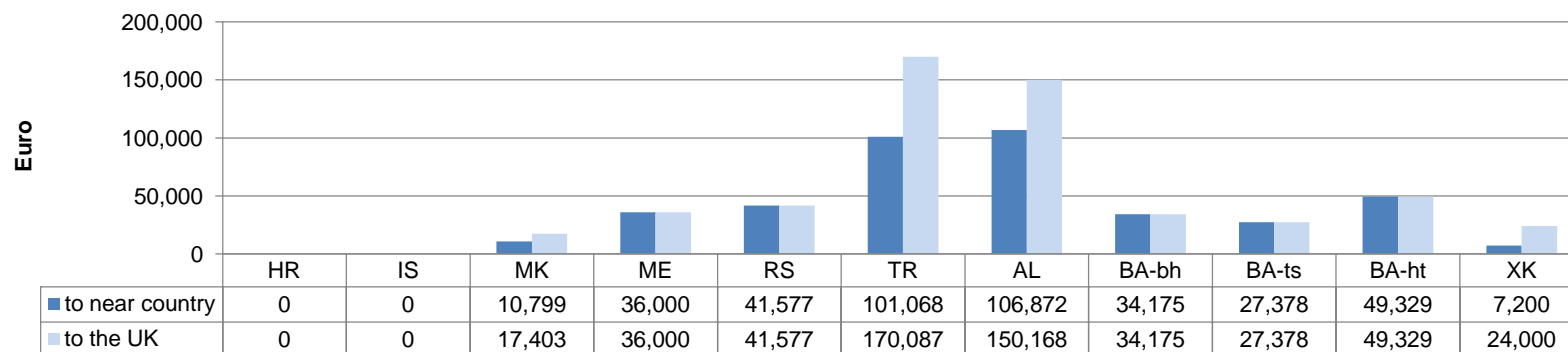


Figure N.5 – Annual prices for a 2 Mbps international half-circuit, Sep. 2013

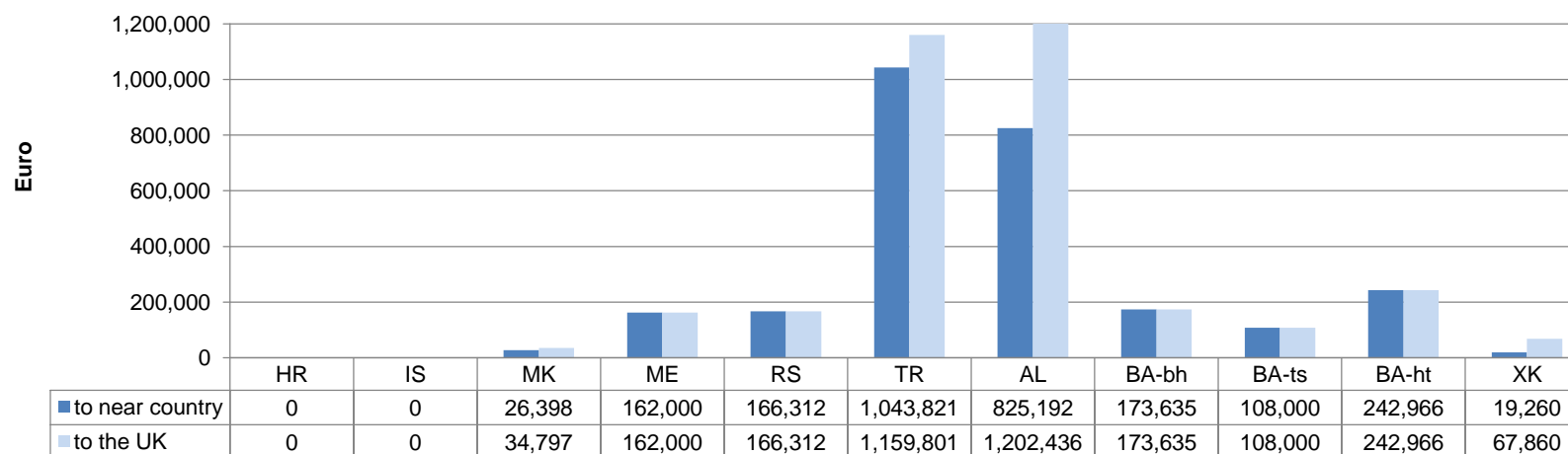


Figure N.6 – Annual prices for a 34 Mbps international half-circuit, Sep. 2013

## 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. Termination rates for calls originated from abroad are typically not regulated and are defined by confidential commercial agreements.

Country		Local, €				Single transit, €				Double transit, €			
		Peak		Off-peak		Peak		Off-peak		Peak		Off-peak	
		Setup	Per min.	Setup	Per min.	Setup	Per min.	Setup	Per min.	Setup	Per min.	Setup	Per min.
Croatia		-	0.0049	-	0.0024	-	0.0073	-	0.0036	-	0.0141	-	0.0071
Iceland		0.0039	0.0040	0.0039	0.0040	-	-	-	-	-	-	-	-
FYR Macedonia		-	0.0055	-	0.0020	-	0.0073	-	0.0033	-	0.0089	-	0.0037
Montenegro		-	0.0093	-	0.0093	-	0.0107	-	0.0107	-	-	-	-
Serbia		-	0.0060	-	0.0060	-	0.0079	-	0.0079	-	0.0081	-	0.0081
Turkey		-	0.0052	-	0.0052	-	0.0064	-	0.0064	-	0.0083	-	0.0083
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	-	0.0076	-	0.0076	-	0.0111	-	0.0111	-	0.0143	-	0.0143
	Telekom Srpske	-	0.0076	-	0.0076	-	0.0111	-	0.0111	-	0.0143	-	0.0143
	HT Mostar	-	0.0076	-	0.0076	-	0.0111	-	0.0111	-	0.0143	-	0.0143
Kosovo*		-	-	-	-	-	0.0150	-	0.0150	-	-	-	-

Table O.1 – Call termination on the incumbent operator's fixed network, Sep. 2013

#### Notes:

Croatia: Reference date January 1, 2013, valid until Dec. 31, 2013. Peak time (07:00-19:00); Off-peak time (19:00-07:00). [HAKOM decision](#) from Oct. 30, 2013 sets out new cost oriented prices for call termination for 2014.

Iceland: Country is one local zone for fixed network termination. Macedonia. Approved by AEC in April 2012. In force in RIO from May 2012

FYR Macedonia: Under the market analysis on call termination in fixed networks new RIO is expected in 2014, with different (lower prices) considering IP migration. Final decision expected by end 2013: IP based interconnection should be established and part of the Maktel RIO.

Montenegro: No double transit network termination. Prices from abroad are subject to commercial agreement between operators. For 2014, local FTR to be reduced to €0.0077, single transit FTR to €0.0101.

Turkey: With the regulation on interconnection charges N. 2012/DK-07/570 of Nov. 07, 2012 fixed termination rates for calls originated abroad and terminated in Turkey have been excluded from the scope of tariff control regulation

Serbia: RIO Telekom Srbija a.d.

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Albania: AKEP Decision on 30.07.2013 imposed the application of glide path on Albtelecom termination rates with decreases foreseen from Jan. 1, 2014 and Sep. 1, 2014.  
 Kosovo: Country is one local zone for fixed network termination. Interconnection takes place at the single transit level. The interconnection agreement expired in April 2011. The operators did not reach any agreement and on October 31, 2012 the functional commission for dispute resolution between IPKO and PTK decided to introduce a symmetric rates' glide path on FTR until July 1, 2014.

Country		Local, €				Single transit, €				Double transit, €			
		Peak		Off-peak		Peak		Off-peak		Peak		Off-peak	
		Setup	Per min.	Setup	Per min.	Setup	Per min.	Setup	Per min.	Setup	Per min.	Setup	Per min.
Croatia		-	-	-	-	-	0.0073	-	0.0036	-	0.0141	-	0.0071
Iceland		0.0043	0.0046	0.0043	0.0046	-	-	-	-	-	-	-	-
FYR Macedonia		-	0.0055	-	0.0020	-	0.0073	-	0.0033	-	0.0089	-	0.0037
Montenegro		-	-	-	-	-	0.0142	-	0.0142	-	-	-	-
Serbia		-	0.0060	-	0.0060	-	0.0079	-	0.0079	-	0.0081	-	0.0081
Turkey		-	0.0119	-	0.0119	-	0.0119	-	0.0119	-	0.0119	-	0.0119
Albania		0.0059	0.0107	0.0059	0.0107	0.0059	0.0179	0.0059	0.0179	-	-	-	-
Bosnia & Herzegovina	BH Telecom	-	-	-	-	-	0.0134	-	-	-	-	-	-
	Telekom Srpske	-	-	-	-	-	-	-	-	-	-	-	-
	HT Mostar	-	-	-	-	-	-	-	-	-	-	-	-
Kosovo*			-	-	-	-	0.0150	-	0.0150	-	-	-	

Table O.2 – Call termination on the largest alternative network, Sep. 2013

Notes:  
 Croatia: Reference date – January 1, 2013, valid until Dec. 31, 2013. Name of the operator: OT-Optima Telekom. Peak time (07:00-19:00); off-peak time (19:00-07:00).  
 Iceland: Country is one local zone for fixed network termination. – Glide path is in effect – from Dec. 4, 2012 symmetry between incumbent and ANO's FTRs has been achieved. The symmetric FTR is ISK 0.62 for the connection fee and ISK 0.63 per minute (€0.0039). No peak/off-peak differentiation.  
 FYR Macedonia: Symmetrical termination rates with incumbent operator Makedonski Telekom. Above prices are in force from June 2012. From approval of their RIOs, alternative operators now have only one (national) point of presence.  
 Montenegro: Price is for national call termination (local call termination and double transit call termination are not possible).  
 Serbia: Orion Telekom  
 Turkey: With the regulation on interconnection charges N. 2012/DK-07/570 of Nov. 7, 2012 fixed termination rates for calls originated abroad and terminated in Turkey have been excluded from the scope of tariff control regulation  
 Albania: The above charges refer to ABCOM, the largest alternative network operator. AKEP Decision of 31.07.2013 imposed the application of following glide path on all alternative network operators termination rates. <http://www.akep.al/images/stories/AKEP/publikime/2013/Vendim-nr2338date310713.pdf>  
 Bosnia & Herzegovina: No peak/off-peak differentiation. Alternative operator: ANEKS d.o.o. Banja Luka. Price for calls originating from abroad: BAM 0.11 (€0.562)

Kosovo: Calls to IPKO fixed network. Country is one local zone for fixed network termination. Interconnection takes place at the single transit level. The interconnection agreement expired in April 2011. The operators did not reach any agreement and on October 31, 2012 the functional commission for dispute resolution between IPKO and PTK decided to introduce a symmetric rates' glide path on FTR until July 1, 2014. The new agreement is based on ARKEP's decision No. 271 on the "Dispute resolution between PTK and IPKO" and was signed by the relevant parties on January 9, 2013

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, 2013.

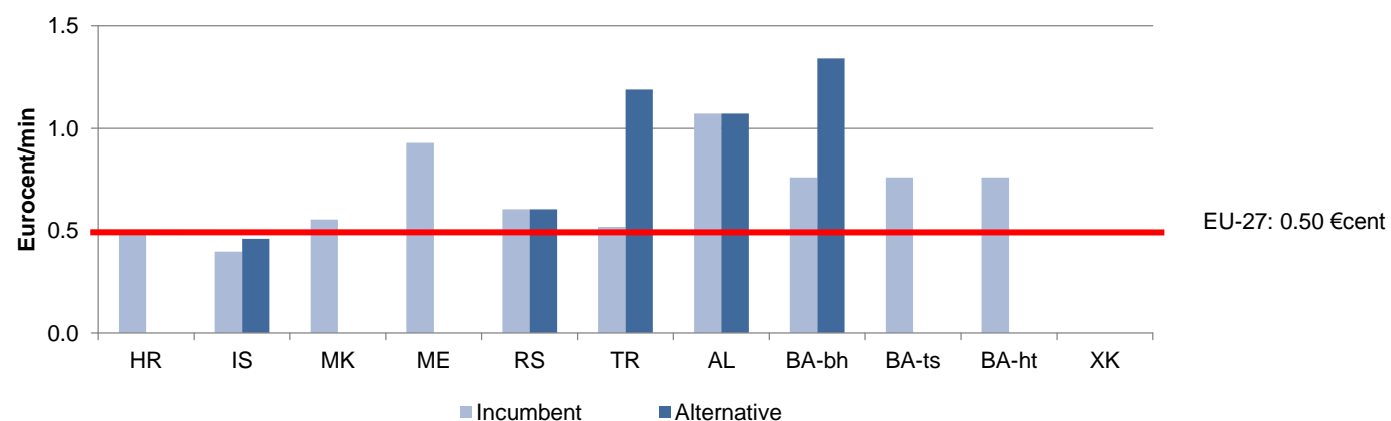


Figure O.1 – Local call termination on the fixed incumbent and alternative network (peak hours), Sep. 2013



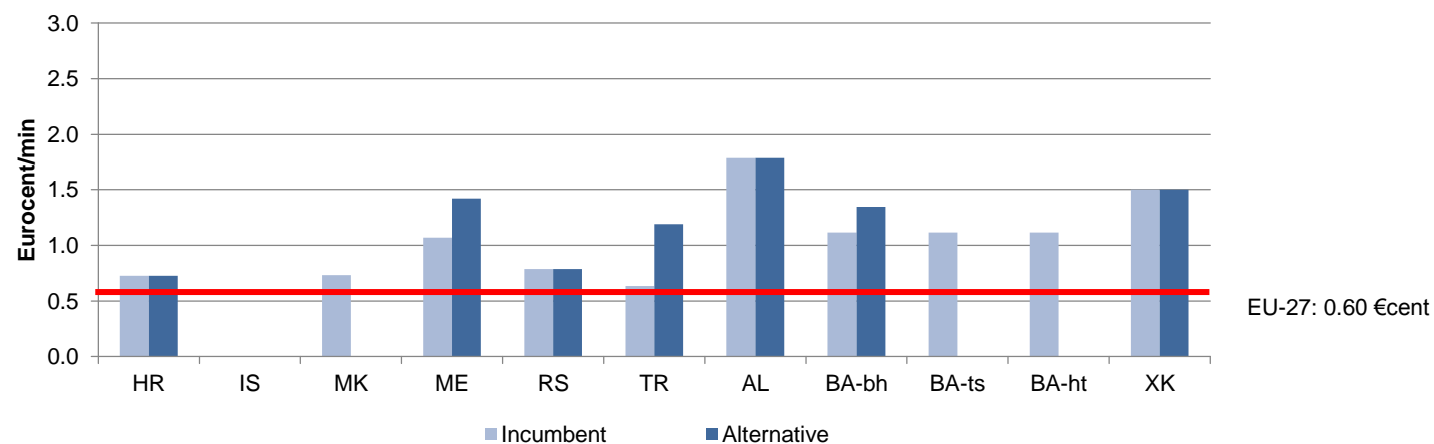


Figure O.2 – Single transit call termination on the fixed incumbent and alternative network (peak hours)

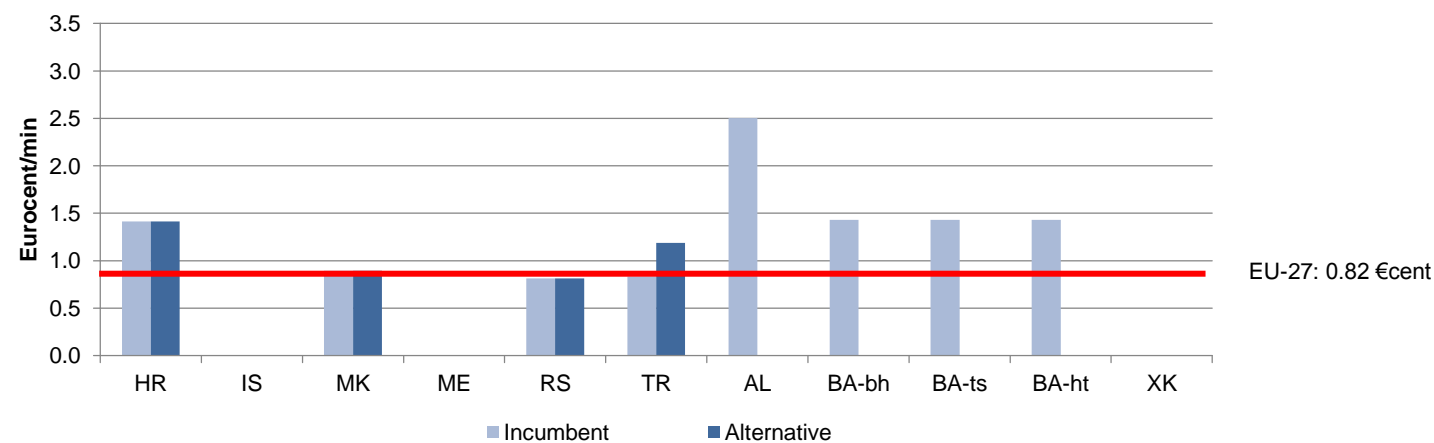


Figure O.3 – Double transit call termination on the fixed incumbent and alternative network (peak hours)

Notes:

EU-27 weighted average as of January 2013. Source: Body of European Regulators for Electronic Communications (BEREC) 'Termination Rates Benchmark Snapshot (Jan. 2013)' [http://berec.europa.eu/eng/document\\_register/subject\\_matter/berec/reports/1279-termination-rates-benchmark-snapshot-as-of-july-2012-integrated-report-on-mobile-termination-rates-amp-sms-termination-rates](http://berec.europa.eu/eng/document_register/subject_matter/berec/reports/1279-termination-rates-benchmark-snapshot-as-of-july-2012-integrated-report-on-mobile-termination-rates-amp-sms-termination-rates)

## 2. Call termination on mobile networks

## a) Mobile termination rates – Glide paths

Country	Glide path for reduction in MTRs																															
Croatia	<p>From July 1, 2013 MTRs of three operators with SMP – HT, VIPnet and Tele2 are set based on LRAIC+. Implementation of “pure LRIC”-based MTRs is foreseen from Jan. 1, 2015.</p> <p>HAKOM <a href="#">decision</a> of June 10, 2013 sets out the following glide path for reductions in MTRs applicable to termination of national traffic:</p> <table><tr><th colspan="2">MTR per minute (national traffic)</th><th>July 1, 2013</th><th>Jan. 1, 2014</th><th>Jan. 1, 2015</th></tr><tr><td rowspan="2">T-Mobile, VIPnet, Tele2</td><td>HRK</td><td>0.1933</td><td>0.1282</td><td>0.0630</td></tr><tr><td>€cents</td><td>2.556</td><td>1.695</td><td>0.833</td></tr></table> <p>A separate glide path for reduction in MTRs applies to termination of international traffic (set out in HAKOM 2<sup>nd</sup> round <a href="#">analysis</a> of market 7/2007, June 2013):</p> <table><tr><th colspan="2">MTR per minute (international traffic)</th><th>July 1, 2013</th><th>July 1, 2014</th><th>Jan. 1, 2015</th></tr><tr><td rowspan="2">T-Mobile, VIPnet, Tele2</td><td>HRK</td><td>0.45</td><td>0.32</td><td>0.0630</td></tr><tr><td>€cents</td><td>5.950</td><td>4.231</td><td>0.833</td></tr></table>				MTR per minute (national traffic)		July 1, 2013	Jan. 1, 2014	Jan. 1, 2015	T-Mobile, VIPnet, Tele2	HRK	0.1933	0.1282	0.0630	€cents	2.556	1.695	0.833	MTR per minute (international traffic)		July 1, 2013	July 1, 2014	Jan. 1, 2015	T-Mobile, VIPnet, Tele2	HRK	0.45	0.32	0.0630	€cents	5.950	4.231	0.833
MTR per minute (national traffic)		July 1, 2013	Jan. 1, 2014	Jan. 1, 2015																												
T-Mobile, VIPnet, Tele2	HRK	0.1933	0.1282	0.0630																												
	€cents	2.556	1.695	0.833																												
MTR per minute (international traffic)		July 1, 2013	July 1, 2014	Jan. 1, 2015																												
T-Mobile, VIPnet, Tele2	HRK	0.45	0.32	0.0630																												
	€cents	5.950	4.231	0.833																												
Iceland	<p>Glide path for MTRs applicable to all operators with SMP, i.e. 3 MNOs and 2 MVNOs - Síminn hf., Fjarskipti ehf (Vodafone), IMC Island hf., Nova hf., and Tal ehf. (IP-fjarskipti) was initially set out in PTA decision No. 32/2012 of November 1, 2012. This decision also provided for the implementation of fully symmetrical MTRs based on benchmarking against countries with “pure” LRIC from July 1, 2013.</p> <p>On June 30, 2013 the Appellate Committee for Electronic Communications and Postal Affairs repealed the part of the PTA decision mandating the reduction in MTRs from July 1, 2013. On October 31, 2013 PTA <a href="#">confirmed</a> the MTRs valid for 2013 and postponed the reduction until Jan. 1, 2014:</p> <table><tr><th>MTR per minute</th><th>Jan. 1, 2013</th><th>Jan. 1, 2014</th></tr><tr><td>All MNOs</td><td>4 ISK 2.54 €cents</td><td>1.64 ISK 1.04 €cents</td></tr></table>				MTR per minute	Jan. 1, 2013	Jan. 1, 2014	All MNOs	4 ISK 2.54 €cents	1.64 ISK 1.04 €cents																						
MTR per minute	Jan. 1, 2013	Jan. 1, 2014																														
All MNOs	4 ISK 2.54 €cents	1.64 ISK 1.04 €cents																														

Country	Glide path for reduction in MTRs																																											
FYR Macedonia	<p>AEC <a href="#">adopted</a> its decision on the third round analysis of the market for mobile voice call termination on May 30, 2012, setting MTRs up to Sep. 1, 2014. Glide paths were set for the period between June 1, 2012 and Aug. 31, 2013 based on the existing BU LRIC+ methodology; from Sep. 1, 2013 until Aug. 31, 2014 based on a revised BU LRIC+ methodology; and from Sep. 1, 2014 based on the newly developed pure BU LRIC methodology. The glide path allowed a temporary increase in the MTR of One from June 1, 2012, taking into consideration its reduced market share.</p> <p>Following a request from One, AEC decided in August 2013 to postpone the implementation of the next step in the glide path and the introduction of symmetry by two months, i.e. until Nov. 1, 2013 instead of Sep. 1, 2013. The final date for implementation of pure LRIC at Sep. 1, 2014 remains unchanged.</p> <table><tr><th>MTR per minute</th><th>June 2012</th><th>Nov. 1, 2013</th><th colspan="2">Sep. 1, 2014</th></tr><tr><td>T-Mobile</td><td>3 MKD 4.878 €cents</td><td>1.2 MKD 1.951 €cents</td><td colspan="2">0.9 MKD 1.463 €cents</td></tr><tr><td>ONE</td><td>4 MKD 6.504 €cents</td><td>1.2 MKD 1.951 €cents</td><td colspan="2">0.9 MKD 1.463 €cents</td></tr><tr><td>VIP</td><td>4 MKD 6.504 €cents</td><td>1.2 MKD 1.951 €cents</td><td colspan="2">0.9 MKD 1.463 €cents</td></tr></table>					MTR per minute	June 2012	Nov. 1, 2013	Sep. 1, 2014		T-Mobile	3 MKD 4.878 €cents	1.2 MKD 1.951 €cents	0.9 MKD 1.463 €cents		ONE	4 MKD 6.504 €cents	1.2 MKD 1.951 €cents	0.9 MKD 1.463 €cents		VIP	4 MKD 6.504 €cents	1.2 MKD 1.951 €cents	0.9 MKD 1.463 €cents																				
MTR per minute	June 2012	Nov. 1, 2013	Sep. 1, 2014																																									
T-Mobile	3 MKD 4.878 €cents	1.2 MKD 1.951 €cents	0.9 MKD 1.463 €cents																																									
ONE	4 MKD 6.504 €cents	1.2 MKD 1.951 €cents	0.9 MKD 1.463 €cents																																									
VIP	4 MKD 6.504 €cents	1.2 MKD 1.951 €cents	0.9 MKD 1.463 €cents																																									
Montenegro	MTRs, valid from Jan. 1 2013 for all MNOs, are at 4 €cents per minute. The 2 <sup>nd</sup> round market analysis decision on M7/2007 adopted in Nov. 2013 sets out a new cost-oriented MTR of 2.2 €cent per minute, calculated based on FAC HCA, applicable from March 1, 2014.																																											
Serbia	<p>RATEL decision of August 20, 2013 sets out the following glide path for reductions in MTRs:</p> <table><tr><th colspan="2">MTR per minute</th><th>Jan. 1, 2014</th><th>Jan. 1, 2015</th></tr><tr><td rowspan="2">Telekom Srbija (MTS), Telenor, Vip</td><td>RSD</td><td>3.95</td><td>3.43</td></tr><tr><td>€cents</td><td>3.454</td><td>3.00</td></tr></table>					MTR per minute		Jan. 1, 2014	Jan. 1, 2015	Telekom Srbija (MTS), Telenor, Vip	RSD	3.95	3.43	€cents	3.454	3.00																												
MTR per minute		Jan. 1, 2014	Jan. 1, 2015																																									
Telekom Srbija (MTS), Telenor, Vip	RSD	3.95	3.43																																									
	€cents	3.454	3.00																																									
Turkey	<p>ICTA does not regulate MTRs via announced glide path. In general MTRs are revised annually.</p> <p>Current tariffs, which are approved to be valid from July 1, 2013, are valid until the new tariffs have been approved by ICTA.</p>																																											
Albania	<p>AKEP decisions for <a href="#">AMC</a>, <a href="#">Vodafone Albania</a>, <a href="#">Eagle Mobile</a> and <a href="#">Plus Communications</a>, on 4.07.2012, approved the glide path until Sep. 2015 based on BU LRAIC model:</p> <table><tr><th colspan="2"></th><th>Sep.1, 2012-Aug. 31, 2013</th><th>Sep.1, 2013-Aug. 31, 2014</th><th>Sep.1, 2014-Aug. 31, 2015</th><th>Sep.1, 2015-</th></tr><tr><td rowspan="2">AMC, Vodafone</td><td>ALL</td><td>6.10</td><td>4.57</td><td>4.57</td><td>4.57</td></tr><tr><td>€cents</td><td>4.361</td><td>3.267</td><td>3.267</td><td>3.267</td></tr><tr><td rowspan="2">Eagle Mobile</td><td>ALL</td><td>6.52</td><td>4.57</td><td>4.57</td><td>4.57</td></tr><tr><td>€cents</td><td>4.661</td><td>3.267</td><td>3.267</td><td>3.267</td></tr><tr><td rowspan="2">Plus Communications</td><td>ALL</td><td>12.92</td><td>8.85</td><td>6.52</td><td>4.57</td></tr><tr><td>€cents</td><td>9.236</td><td>6.326</td><td>4.661</td><td>3.267</td></tr></table>							Sep.1, 2012-Aug. 31, 2013	Sep.1, 2013-Aug. 31, 2014	Sep.1, 2014-Aug. 31, 2015	Sep.1, 2015-	AMC, Vodafone	ALL	6.10	4.57	4.57	4.57	€cents	4.361	3.267	3.267	3.267	Eagle Mobile	ALL	6.52	4.57	4.57	4.57	€cents	4.661	3.267	3.267	3.267	Plus Communications	ALL	12.92	8.85	6.52	4.57	€cents	9.236	6.326	4.661	3.267
		Sep.1, 2012-Aug. 31, 2013	Sep.1, 2013-Aug. 31, 2014	Sep.1, 2014-Aug. 31, 2015	Sep.1, 2015-																																							
AMC, Vodafone	ALL	6.10	4.57	4.57	4.57																																							
	€cents	4.361	3.267	3.267	3.267																																							
Eagle Mobile	ALL	6.52	4.57	4.57	4.57																																							
	€cents	4.661	3.267	3.267	3.267																																							
Plus Communications	ALL	12.92	8.85	6.52	4.57																																							
	€cents	9.236	6.326	4.661	3.267																																							

Country	Glide path for reduction in MTRs					
Bosnia & Herzegovina	RAK decision of April, 2013 sets out the following glide path for reductions in MTRs applicable to termination of national traffic (analysis of market 7, April 2013, p. 45):					
	<b>MTR per minute (national traffic)</b>	<b>July 1, 2013</b>	<b>Jan 1, 2014</b>	<b>July 1,2014</b>	<b>Jan 1,2015</b>	<b>July 1,2015</b>
	BH Telecom d.d., Telekom Srpske a.d., HT d.d. Mostar	0.144 KM	0.122 KM	0.104 KM	0.085 KM	0.070 KM
		7.363 €cents	6.238 €cents	5.317 €cents	4.346 €cents	3.579 €cents
	International traffic: commercial agreement between telecom operators					
Kosovo*	Glide path for reductions in MTRs applicable to termination of national traffic for the two operators PTK JSC and IPKO JSC was introduced based on ARKEP's Board decision No. 271:					
	<b>MTR per minute</b>	<b>Prices in €cents</b>				
		<b>Nov. 1, 2012</b>	<b>July 1, 2013</b>	<b>Jan. 1, 2014</b>	<b>July 1, 2014</b>	
	Vala, IPKO	4.4	3.6	3.0	2.3	

Table O.3 – Glide paths for mobile call termination rates approved by regulators

b) Mobile termination rates – all operators

Table O.4 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 of the countries. In Croatia, a glide path of MTRs originated outside the territory of Croatia was defined with HAKOM [decision](#) of June 10, 2013: full symmetry between MTRs for calls originated in Croatia and abroad is foreseen from January 1, 2015.

Country	Operator	Peak, €		Off-peak, €	
		Setup	Per minute	Setup	Per minute
Croatia	T-Mobile Hrvatska	-	0.0256	-	0.0256
	VIPnet	-	0.0256	-	0.0256
	Tele2	-	0.0256	-	0.0256
Iceland	Siminn	-	0.0254	-	0.0000
	Vodafone	-	0.0254	-	0.0000
	Nova	-	0.0254	-	0.0000
	Tal	-	0.0254	-	0.0000
	IMC/Alterna	-	0.0254	-	0.0000

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Country	Operator	Peak, €		Off-peak, €	
		Setup	Per minute	Setup	Per minute
FYR Macedonia	T-Mobile	-	0.0488	-	0.0488
	ONE	-	0.0650	-	0.0650
	VIP Operator	-	0.0650	-	0.0650
Montenegro	Telenor	-	0.0400	-	0.0400
	T-Mobile	-	0.0400	-	0.0400
	m:tel	-	0.0400	-	0.0400
Serbia	m:ts	-	0.0420	-	0.0420
	Telenor	-	0.0420	-	0.0420
	VIP mobile	-	0.0420	-	0.0420
Turkey	Turkcell	-	0.0093	-	0.0093
	Vodafone	-	0.0096	-	0.0096
	Avea	-	0.0110	-	0.0110
Albania	AMC	-	0.0327	-	0.0327
	Vodafone Albania	-	0.0327	-	0.0327
	Eagle Mobile	-	0.0327	-	0.0327
	Plus Communication	-	0.0633	-	0.0633
Bosnia & Herzegovina	BH Telecom	-	0.0736	-	0.0736
	Telekom Srpske	-	0.0736	-	0.0736
	HT Mostar (Eronet)	-	0.0736	-	0.0736
Kosovo*	Vala	-	0.0360	-	0.0360
	Ipko	-	0.0360	-	0.0360

Table O.4 – Call termination on mobile networks

Notes:

- Iceland: Prices are on a glide path to symmetry. PTA decision No. 32/2012 of Nov. 1, 2012 on MTRs, confirmed with decision of October 31, 2013 setting rates until 2014. MTRs applicable to all operators will be €0.025 (ISK 4)/minute as of Jan. 1, 2013. On Jan 1, 2014 these benchmarked rates will be lowered to €0.010 (ISK 1.64)/minute.
- Macedonia: Validity of rates: from June 2012 to Nov. 2013. MKD 1.2 (1.95 €cents)/min as of Nov. 1, 2013.
- Turkey: With the regulation on interconnection charges N. 2011/DK-07/501 of Sep. 27, 2011 MTRs 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. As the operators did not reach any agreement, on Oct. 31, 2012 functional commission for dispute resolution between IPKO and PTK decided to introduce glide path on MTRs until July 2014 (€0.044 from Nov. 1, 2012; €0.036 from July 1, 2013; €0.030 from Jan. 1, 2014 and €0.023 from July 1, 2014). The incumbent operator PTK/Vala appealed the decision and TRA Board which however rejected the appeal and confirmed the validity of the rates in the glide path.

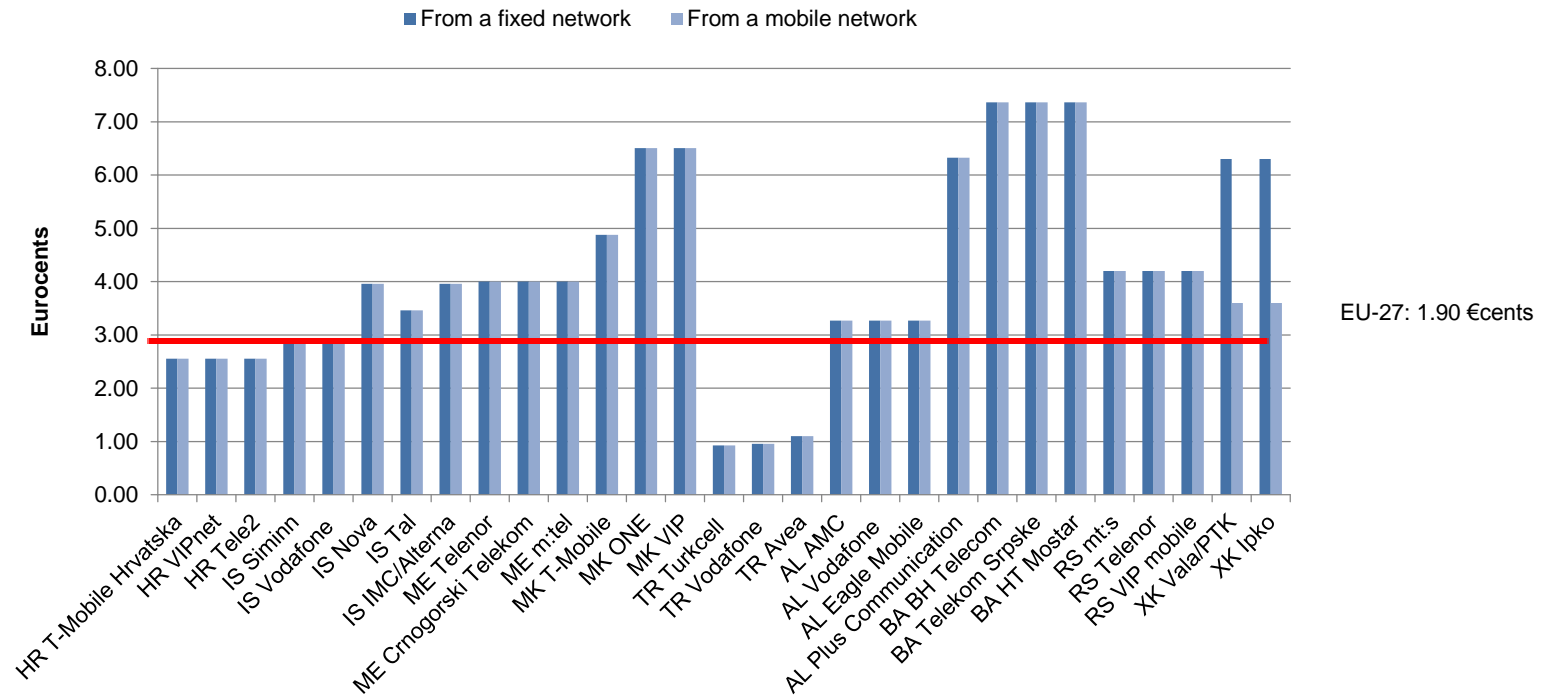


Figure O.4 – Mobile termination rates, peak time

Notes:  
 EU-27 weighted average as of January 2013 (source: BEREC) [http://berec.europa.eu/eng/document\\_register/subject\\_matter/berec/reports/1279-termination-rates-benchmark-snapshot-as-of-july-2012-integrated-report-on-mobile-termination-rates-amp-sms-termination-rates](http://berec.europa.eu/eng/document_register/subject_matter/berec/reports/1279-termination-rates-benchmark-snapshot-as-of-july-2012-integrated-report-on-mobile-termination-rates-amp-sms-termination-rates)  
 Source: Body of European Regulators for Electronic Communications (BEREC) 'Termination Rates Benchmark Snapshot (Jan. 2013)' [http://berec.europa.eu/eng/document\\_register/subject\\_matter/berec/reports/1279-termination-rates-benchmark-snapshot-as-of-july-2012-integrated-report-on-mobile-termination-rates-amp-sms-termination-rates](http://berec.europa.eu/eng/document_register/subject_matter/berec/reports/1279-termination-rates-benchmark-snapshot-as-of-july-2012-integrated-report-on-mobile-termination-rates-amp-sms-termination-rates)

## 3. LLU tariffs

Country	Tariff	Prices per fully unbundled local loop (€)	Shared unbundled loops:		Validity period of current tariffs	Source and comments
			Price per shared loop (incl. splitter) (€)	Splitter installed and operated by		
Croatia	Monthly fee	5.77	2.21	Incumbent	Price for shared LLU – from Oct. 1, 2012	Hrvatski Telekom RUO
	Activation fee	4.12	21.31			
Iceland	Monthly fee	8.71	2.16	Incumbent	From Aug. 1, 2013, following an 8.6% increase approved by PTA	MILA RUO
	Activation fee	19.91	19.91			
FYR Macedonia	Monthly fee	3.41	1.61	Incumbent	From May 2012	Makedonski Telecom RUO
	Activation fee	18.03	21.17			
Montenegro	Monthly fee	3.88	1.16	Incumbent	Until superseded by new EKIP decision	The prices are from proposal RUO.
	Activation fee	41.66	61.11			
Serbia	Monthly fee	6.28	2.49	Incumbent	Unspecified	RUO Telekom Srbija
	Activation fee	38.20	38.20			
Turkey	Monthly fee	5.43	2.04	Incumbent	Current tariffs are valid until the new LLU tariffs are determined in the scope of following reference offer.	Turk Telekom RUO of April 3, 2013.
	Activation fee	13.17	14.32			
Albania	Monthly fee	5.73	3.35	Unspecified	From May 2012 until superseded by new AKEP decision	AKEP decision nr. 1565, 13.04.2011 designating Albtelecom as SMP on M11/2003 Charges are based on the BU-LRAIC
	Activation fee	12.05	17.53			
Bosnia & Herzegovina	Monthly fee	7.13	2.85	Incumbent	Until superseded by new EKIP decision	RUOs (HT Mostar, BH Telecom, Telekom Srpske)
	Activation fee	46.02	55.22			
Kosovo*	Monthly fee	6.50	2.30	Incumbent	(Proposed - under consultation)	LLU is not available.
	Activation fee	25.00	31.00			

Table O.5 – LLU tariffs

## Notes:

Croatia: Price for full LLU is valid until the price decision based on cost-model. HAKOM notified to the EC a draft decision on LLU prices, with the proposed new monthly fee for full LLU of HRK 57.30 (€7.58) that will apply as of January 1, 2014.

Kosovo: ARKEP initiated the public consultation on RUO in December 2012 and the process is still ongoing. Price for shared access is for higher band.

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 Digital Agenda Scoreboard report 2012.

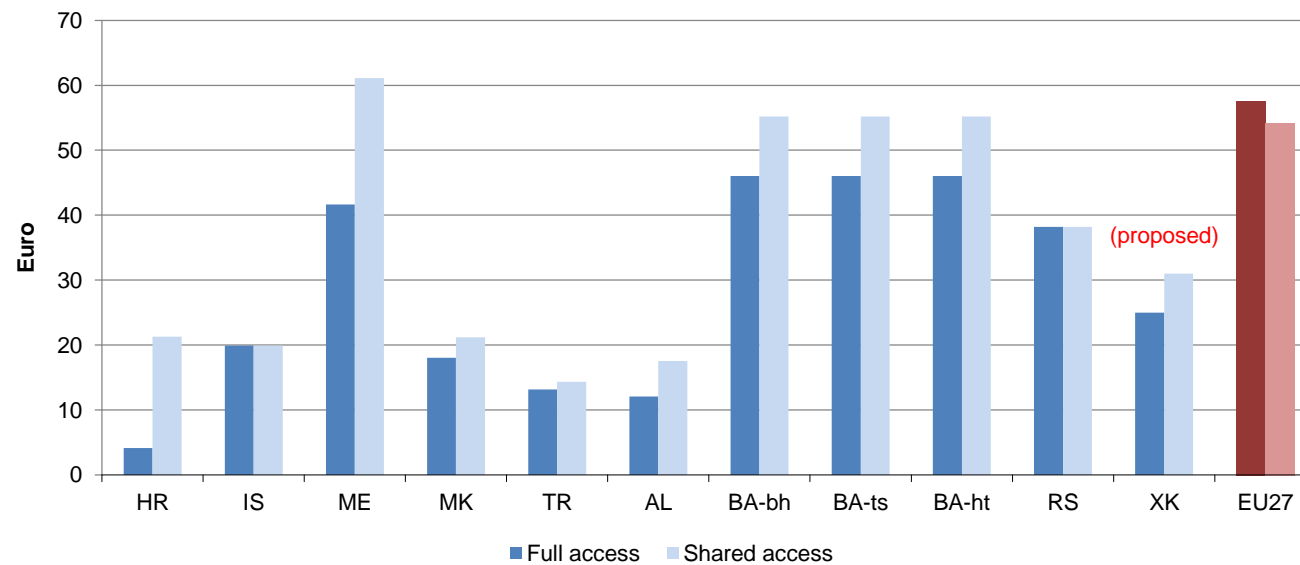


Figure O.5 – Connection prices for fully unbundled loop and shared access



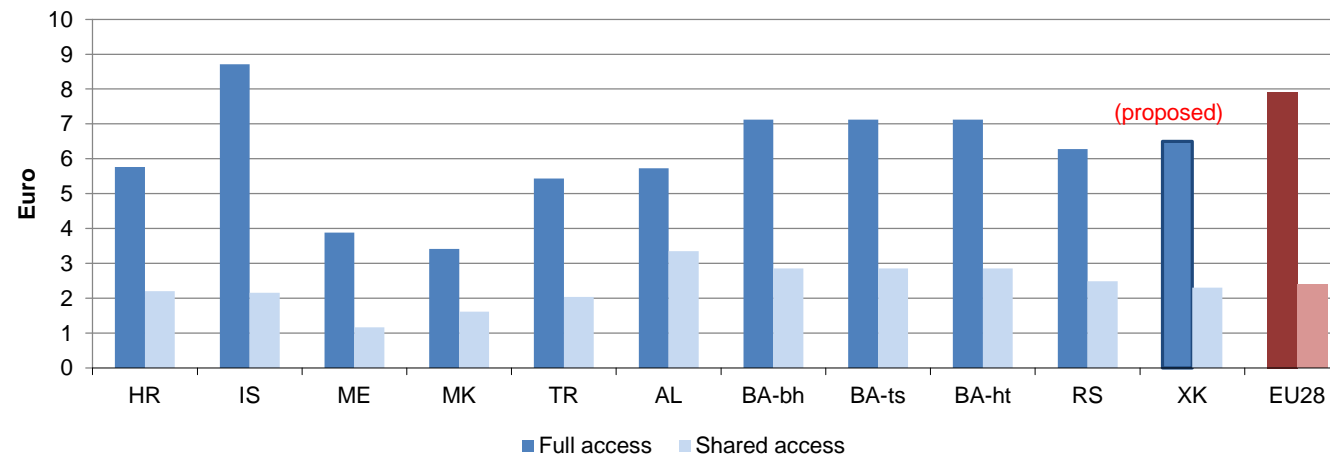


Figure O.6 – Monthly rental prices for fully unbundled loop and shared access

Notes:

EU-27 averages as of October 2011, according to the Digital Agenda Scoreboard report 2012

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.
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 Constitutional Court of Serbia decided on June 13, 2013 that articles 128.1, 128.5 and

Country	Freedom of expression	Right to respect for private and family life	Relevant case law
			<p>129.4 of the Law on electronic communications were not in accordance with the constitution. These articles referred to the possibility to retain the data in accordance with specifics provided in other laws, to demand retained data based on the decision of “authorised bodies” and that requirements for data retention could be specified by the secondary legislation.</p> <p>Also, the provisions on obtaining listings, locations and other information about the citizen’s telecommunications traffic, in the Criminal Procedure Code have been challenged before the Constitutional Court of Serbia in June 2012. A judgment is still pending.</p> <p>The Constitutional Court decided on April 19, 2012 on provisions regarding surveillance of electronic communication in the Law on Military Security Agency and Military Intelligence Agency and decided that they were inconsistent with the constitution, meaning that only head of authorised bodies can issue demand for this kind of information.</p>
Turkey	Art. 26 of the Constitution	Art. 20 of the Constitution	<p>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.</p> <p>The Turkish Constitutional Court adopted several judgments protecting freedom of expression.</p> <p>On December 18, 2012 the European Court of Human Rights <a href="#">decided</a> in the case <a href="#">Ahmet Yıldırım v. Turkey (application no. 3111/10)</a> that Turkey violated article 10 of the European Convention on Human Rights by blocking access to Google Sites. The applicant had published his academic work on a website hosted by Google Sites. A Turkish court had blocked all access to Google Sites because of another hosted website whose owner had been accused of insulting the memory of Atatürk.</p> <p>On February 5, 2014 parliament passed <a href="#">Law no. 6518</a>, which would amend Law no. 5651 and extend the measures to block internet websites. At the time of finalising this report the new law is still awaiting the final approval by the president.</p>
Albania	Art. 22 and 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 to the Constitution of Bosnia & Herzegovina the European Convention on Human Rights with all its protocols and the International Pact on Citizens and Political Rights with optional protocols are directly applied.		
Kosovo*	<a href="#">Art. 40 of the Constitution</a>	<a href="#">Art. 36 of the Constitution</a>	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 authorities and 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	No information available
Montenegro	No such regulation	No such mechanism	-
Serbia	No such regulation	No such mechanism	-
Turkey	Article 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 no. 5651, dated May 4, 2007 on "Regulation of publications on the internet and combating crimes committed by means of such publications". On Feb. 5, 2014 parliament adopted <a href="#">Law no. 6518</a> , which would amend Law no. 5651 and extend the measures to block internet websites (the law is still pending the final approval by the president).	<b>Mechanism</b> 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.	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 authorities and 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?
		<p><b>Responsible authorities</b></p> <p>a) <b>Judicial authorities:</b> 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.</p> <p>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.</p> <p>b) <b>Telecommunication Communication Presidency (TCP) of ICTA:</b> 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.</p> <p>'Notice and take down' procedure is used as the principle methodology.</p> <p><b>Technical implementation</b></p> <p>Decisions taken by the judge, the court or the public prosecutor are sent to ICTA for implementation.</p> <p>ICTA notifies access providers in electronic form about all decisions to block access to websites.</p> <p>ISPs have to save the access provider traffic data for one year.</p> <p>Access providers shall not be liable for controlling whether the content of the information accessed via them is unlawful or requires responsibility or not.</p>	<p>Legal and administrative aspects of each individual blocked websites are provided at the stop page, to which blocked access attempts are redirected.</p> <p>TCP provides an interface to check whether any given domain name or IP address is subject to a decision of independent courts and/or TCP, and provides information on the relevant decision. <a href="http://eekg.tib.gov.tr/">http://eekg.tib.gov.tr/</a></p> <p>NB Almost 2.5m awareness brochures about safer and efficient use of Internet were distributed free of charge and 260 awareness seminars were given to 40,000 children, parents and trainers all around Turkey in the last two years. Also, Safer Internet Service which has chosen by almost 1.5m subscribers has been served for over 1.5 years</p>
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 October 2013, the Eurostat website<sup>8</sup> shows information society statistics including Croatia, Iceland, Macedonia, Serbia and Turkey. In Serbia the Statistical Office collects data based on the same methodology and integrated with Eurostat, but not all data is yet published on the Eurostat website. The Statistical Office of Montenegro (MONSTAT) has started regular enquiries based on Eurostat methodology in 2011, but the data is not yet published on the Eurostat website. The following table shows the available key performance indicators (t\_isoc\_pibdek) and 2011–2015 indicators (t\_isoc\_pibde15), 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.<sup>9</sup> 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>10</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;
- 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 much of the data for Serbia has been provided by the respective statistical offices.

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<sup>8</sup> See [http://epp.eurostat.ec.europa.eu/portal/page/portal/information\\_society/data/main\\_tables](http://epp.eurostat.ec.europa.eu/portal/page/portal/information_society/data/main_tables) and the links behind the respective indicators.

<sup>9</sup> See <http://scoreboard.lod2.eu/> and <http://scoreboard.lod2.eu/index.php?page=indicators>.

<sup>10</sup> See the Commission staff working paper on the Digital Agenda Scoreboard, May 2011, <http://register.consilium.europa.eu/pdf/en/11/st11/st11041.en11.pdf>

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	HR				IS				MK				ME*		RS				TR			
	20 09	20 10	20 11	20 12	20 09	20 10	20 11	20 12	20 09	20 10	20 11	20 12	20 11	20 12	20 09	20 10	20 11	20 12	20 09	20 10	20 11	20 12
Benchmarking Digital Europe: <b>Key performance indicators</b> (t_isoc_pibdek)																						
Individuals using the internet for ordering goods or services ( <a href="#">tin00096</a> ) (percentage of individuals)	10	14	17	23	44	45	49	54	3	4	4*	5	7*		11*	11*	14*		3	5	7*	9
Individuals using the internet for ordering goods or services from other EU countries ( <a href="#">tin00003</a> ) (percentage of individuals)	3	3	4	6	20	18	19	24	1	1	1*	2	2*		1				0	0		0
Enterprises having purchased on-line (at least 1%) ( <a href="#">tin00112</a> ) (All enterprises, without financial sector, 10 employees or more)	22	23				22				4		4	21*							11		13*
Enterprises having received orders on-line (at least 1%) ( <a href="#">tin00111</a> ) (All enterprises, without financial sector, 10 employees or more)	22	22	18	23		16		35		4	3	5	24*							8		11*
Individuals regularly using the internet ( <a href="#">tin00091</a> ) (all individuals)	44	51	55	58	90	92	94	95	47	50	54*	54	37*	59*	38*	41*	42*	48*	30	33	36*	38
Individuals never having used the internet ( <a href="#">tin00011</a> ) (all individuals)	47	42	39	35	6	5	4	3	47	44	40*	39	50*	34*	56	54*	53*	48*	62	58	55*	53
Individuals using the internet for interaction with public authorities ( <a href="#">tin00012</a> ) (percentage of individuals)	17	19	17	26	80	82	84	86	13	14	13*	20			13*	13*				11	17*	20*
Individuals using the internet for interaction with public authorities, by type of interaction ( <a href="#">tin00013</a> ) (obtaining information from public authorities web sites)	14	14	12	20	73	74	68	72	12	13	11*	15			4					10	15*	19
Individuals using the internet for interaction with public authorities, by type of interaction ( <a href="#">tin00013</a> ) (downloading official forms)	12	13	11	16	60	61	54	60	5	5	7*	12			4					5	4*	7
Individuals using the internet for interaction with public authorities, by type of interaction ( <a href="#">tin00013</a> ) (sending filled forms)	8	7	6	9	57	58	70	75	3	3	4*	7			2					5	6*	8

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	20 09	20 10	20 11	20 12	20 09	20 10	20 11	20 12	20 09	20 10	20 11	20 12	20 11	20 12	20 09	20 10	20 11	20 12	20 09	20 10	20 11	20 12
Benchmarking Digital Europe: <b>2011–2015 indicators</b> (t_isoc_pibde15)																						
Broadband and connectivity (t_isoc_bde15b)																						
Households with internet access at home (tin00088) (Total)	50	56	61	66	90	92	93	95	42	46	55	58	51*	55*	37	39*	41*	48*	30	42	43*	47
Households with broadband access (tin00089) (Percentage of households)	39	49	56	60	87	87	92	93	34	37	42*	58		52*	23	28*	31*	38*	26	34	39*	43
Enterprises with fixed broadband access (tin00090)	72	76	80	88		95		98		76	74	87			66*	74*	75*			89	91*	92*
Individuals using selected mobile devices to access the internet (tin00083) (Percentage of individuals)		21				43				14									5*	5	8*	14*
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*	32*
Individuals using a mobile phone via UMTS (3G) to access the internet (tin00117) (All individuals)	1	7			9	23			0	2			4*		2*	4*	6*			1	3*	5*
Individuals using a laptop via wireless connection to access the internet (tin00118) (All individuals)	6	13			28	29			4	6			13*		4*	4*	6*		3	2	2*	7*
ICT usage by individuals (t_isoc_bde15c)																						
Internet use by individuals (tin00028) (Last internet use: in the last 3 months)	47	54	58	62	93	93	95	96	50	52	57*	57	47*		38				34	38	40*	43
Internet use by individuals (tin00028) (Last internet use: in the last 12 months)	51	57	60	63	93		95	96	52	54	59*	60	49*		42	44*	44*		36	40	43*	45
Internet use by individuals (tin00028) (Individuals who have ever used the internet)	53	58	61	65	94		96	97	53	56	60*	61	50*		44	46*	47*		38	42	45*	47*
Internet use by individuals (tin00028) (Internet use: never)	47	42	39	35	6	5	4	3	47	44	40*	39	50*		56				62	58	55*	53
Individuals frequently using the internet (tin00092) (All individuals)	37	40	44	48	82	85	88	88	37	39	43*	44	36*		25				20	22	26*	27
Individuals using the internet for finding information about goods and services (tin00095) (All individuals)	33	43	43	52	80	84	81	88	26	30	27*	37	21*		22				18	21	19*	26



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	HR				IS				MK				ME*		RS				TR			
	20 09	20 10	20 11	20 12	20 09	20 10	20 11	20 12	20 09	20 10	20 11	20 12	20 11	20 12	20 09	20 10	20 11	20 12	20 09	20 10	20 11	20 12
Individuals using the internet for downloading software (tin00029) (All individuals)	16	25	24		29	31	34		14	15	11*		9*		9				5	6	6*	
Individuals using the internet for uploading selfcreated content (tin00030) (All individuals)	21	11		31	43	41		58	14	16		18	12*		10				8	11		14
Individuals using the internet for participating in social networks (tin00127) (All individuals)			32				72														20*	
Individuals using the internet for seeking health information (tin00130) (All individuals)	26	25	35		37	42	61		14	16					8				15	18	22*	
Individuals using the internet for posting messages to social media sites or instant messaging (tin00084) (All individuals)	21	23		35	57	43		65	20	20		42	27*		16				20	24		18
Individuals using the internet for reading / downloading online newspapers / news magazines (tin00097) (All individuals)	36	38	44	53	72	88	85	91	30	26	37*	41	57*	83*	16				24	22	29*	31
Individuals using the internet for listening to webradio/watching web television (tin00100) (All individuals)	16	21		29	60	65		25	22	19		31	58*	74*	10				15	15		17
Individuals using the internet for internet banking (tin00099) (All individuals)	16	20	20	21	72	77	80	86	4	4	6*	8	2*		5				5	6	6*	7
Individuals using the internet for selling goods or services (tin00098) (All individuals)	6	5	7	9	13	16	18	20	1	2	4*	3			2				1	2	3*	3
Individuals using the internet to buy or order online content (tin00080) (All individuals)	3	3	2		19	19	21				1*				0				0	1	1*	0*
Individuals using the internet for playing or downloading games, images, films or music (tin00032) (All individuals)	22	17		35	42	39		54	30	30		30	24*		24				19	19		21
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*		6				4	4	4*	

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	HR				IS				MK				ME*		RS				TR			
	20 09	20 10	20 11	20 12	20 09	20 10	20 11	20 12	20 09	20 10	20 11	20 12	20 11	20 12	20 09	20 10	20 11	20 12	20 09	20 10	20 11	20 12
Individuals using the internet for consulting wiki ( <a href="#">tin00128</a> ) (All individuals)			21				51														10*	
Individuals using the internet for doing an online course ( <a href="#">tin00103</a> ) (All individuals)	2	1	2		10	9	10		5	4	4*		1*		1				2	2	2*	
Individuals using the internet for taking part in online consultations or voting ( <a href="#">tin00129</a> ) (All individuals)			6				32														4*	
Individuals using the internet for looking for information about education, training or course offers ( <a href="#">tin00034</a> ) (All individuals)	20	25	31		41	43	54		13	12					10				9	10	15*	
ICT usage by enterprises (t_isoc_bde15d)																						
Share of enterprises' turnover on e-commerce ( <a href="#">tin00110</a> )	14	9	12	17		18		14		1												
Enterprises sharing electronically information on sales or on purchases with the software used for any internal function ( <a href="#">tin00113</a> ) (All enterprises, without financial sector, 10 persons employed or more)	39	44	51	52		43		52		36	41	42								35	34*	39*
Enterprises using automated data exchange with customers or suppliers ( <a href="#">tin00124</a> )	28	25				23				20			32*							18		
Enterprises sending and/or receiving e-invoices ( <a href="#">tin00114</a> )	23	23				25				9										13		
Enterprises using Radio Frequency Identification (RFID) instrument ( <a href="#">tin00126</a> )	4	7								6											5*	
Enterprises whose business processes are automatically linked to those of their suppliers and/or customers ( <a href="#">tin00115</a> )	42	53		47		7		14				33								16		18*
Enterprises using software solutions, like CRM to analyse information about clients for marketing purposes ( <a href="#">tin00116</a> )	8	11		13		15		16		11		14								21		

	HR				IS				MK				ME*		RS				TR			
	20 09	20 10	20 11	20 12	20 09	20 10	20 11	20 12	20 09	20 10	20 11	20 12	20 11	20 12	20 09	20 10	20 11	20 12	20 09	20 10	20 11	20 12
ePublic services (t_isoc_bde15e)																						
Individuals using the internet for interaction with public authorities (tin00079) (All individuals)	17	19	17	26	80	82	84	86	13	14	13*	20			5					11	17*	20*
Enterprises using the internet for interaction with public authorities (tin00107)	61	63				90				56			60*		69*	70*	80*			66	77*	82*
Enterprises using the internet for submitting a proposal in a public electronic tender system to public authorities (tin00109)	13	16				14				10										4	12*	

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 2011 and 2012 surveys of the Statistical Office of Montenegro <a href="http://monstat.org/cg/page.php?id=459&amp;pageid=162">http://monstat.org/cg/page.php?id=459&amp;pageid=162</a>
Serbia	The Statistical Office of the Republic of Serbia conducts regular surveys based on Eurostat methodology. Only some data (in particular for the year 2009) is published on the Eurostat website.	See detailed table above 2011 and 2012 surveys of the statistical office: <a href="http://webzrs.stat.gov.rs/WebSite/Public/PageView.aspx?pKey=204">http://webzrs.stat.gov.rs/WebSite/Public/PageView.aspx?pKey=204</a> RATEL produces annual statistics on telecommunications markets and broadband. <a href="http://www.ratel.rs/market/overviews_of_telecom_market.129.html">http://www.ratel.rs/market/overviews_of_telecom_market.129.html</a>

Country	Status of information society statistics	Available statistical data
Turkey	Eurostat methodology implemented and data published on Eurostat website	See detailed table above
Albania	<p>The Institute of Statistics INSTAT collects/produces information society statistics for business and citizens based on methodologies in conformity with Eurostat regulations: "Methodological manual for statistics on the Information society implementation of Art. 5 of Regulation (EC) no 808/2004."</p> <p>Currently INSTAT collects/produces five indicators from 13 of Eurostat methodology. The results for 2012 are in the process and data will be available in January 2014.</p> <p>Regarding individuals and families INSTAT has no special survey on information society but in LSMS survey collects/produces 21 from 37 indicators of Eurostat methodology. The results for Information society are expected to be uploaded to the Eurostat website.</p>	First results will be available from January 2014.
Bosnia & Herzegovina	The Agency for Statistics of Bosnia & Herzegovina planned to collect ICT statistics based on the Eurostat methodology, but this has been delayed.	-
Kosovo*	According to the Policy for the Electronic Communication Sector – Digital Agenda for Kosovo 2013–2020, it is required from the Statistical Agency to collect information society statistics based on Eurostat methodology.	-

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 and 47a Electronic communications act Art. 47a and other provisions on CERT-IS were inserted by Art no. 62, 25 June 2012: <a href="http://pfs.is/upload/files/Act%20no.62_2012.pdf">http://pfs.is/upload/files/Act%20no.62_2012.pdf</a> 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 Based on the amendments in June 2012, the NRA operates a Computer Security Incidents Response Teams (CERT-IS)	Yes
FYR Macedonia	Art. 106 and 107 Law on electronic communications The process of aligning the law with the EU 2009 regulatory framework is ongoing. AEC will be in charge for network security. Obligations for operators will be aligned with EU legislation.	Appropriate technical and organisational plan and measures in case of emergency	No	No explicit provision on auditing operators' security measures
Montenegro	Art. 168, 169 Law on electronic communication (2013)	Appropriate technical and organisational measures, suitable for the existing risks	Yes	Yes
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, as amended by law nr. 102/2012	Appropriate technical and organisational measures	Yes	Yes
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

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?
Kosovo*	Art. 85 Law on electronic communications	Appropriate technical and organisational measures, appropriate to the risk presented	Yes	Yes

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.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

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
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
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. 170 to 173 Law on electronic communication (2013)	Appropriate technical and organisational measures	Obligation to notify the NRA and the Agency for Personal Data Protection and the affected subscribers	Yes The NRA and the Agency for Personal Data Protection are entitled to audit	NRA and 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. 5 and 6 Bylaw on the Processing of Personal Data and the Protection of Privacy in the Electronic Communications Sector, in force since July 24, 2013.	Operators have to establish a security policy Appropriate technical and organisational measures, having regard to state of the art and ensuring a level of security appropriate to the risk presented. Personal data only to be accessed by authorised	Operators are obliged to notify personal data breaches to the NRA and subscribers/users concerned (art. 6 of the bylaw)	Yes (art. 5 of the bylaw)	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
		personnel, obligation to keep log files and other provisions in art. 5 of the bylaw.			
Albania	Art. 121 and 122 Law on electronic communications, as amended by law nr. 102/2012	Appropriate technical and organisational measures	Operators are obliged to notify personal data breaches to the NRA and subscribers concerned (amended art. 122)	Yes (amended art. 122)	NRA
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 <a href="#">Law on the protection of personal data</a>	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 new Criminal Code (in force since Jan. 2013) <ul style="list-style-type: none"> <li>illegal access (art. 266)</li> <li>systems interference (art. 267)</li> <li>data interference (art. 268)</li> <li>illegal interception (art. 269)</li> </ul>	Yes, in the new Criminal Code (in force since Jan. 2013) <ul style="list-style-type: none"> <li>child pornography (art. 163)</li> <li>computer forgery (art. 270)</li> <li>computer fraud (art. 271)</li> <li>crimes against intellectual property (art. 284 to 290)</li> </ul>
Iceland	Yes, on Jan. 29, 2007	Yes, in the General Penal Code: <ul style="list-style-type: none"> <li>illegal access (art. 228 para. 1)</li> <li>data interference (art. 257)</li> </ul> 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: <ul style="list-style-type: none"> <li>computer-related forgery (art. 155, 157, 158)</li> <li>computer-related fraud (art. 249a)</li> <li>child pornography (art. 210 para. 4)</li> <li>Copyright infringements are offences under the Act on copyright.</li> </ul>
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: <ul style="list-style-type: none"> <li>damage and illegal entrance into a computer system (art. 251)</li> <li>creation and input of computer viruses (art. 251a)</li> <li>illegal access to computer resources (art. 251b)</li> <li>unauthorised use of computer data (art. 379a, 251b)</li> <li>illegal use and multiplication of computer data (art. 379a)</li> <li>illegal manipulation with computer data (art. 379a)</li> <li>changing, damaging of data or programs (art. 379a)</li> <li>abuse of passwords (art. 251b).</li> </ul>	Yes, in the Criminal Code: <ul style="list-style-type: none"> <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: <ul style="list-style-type: none"> <li>• data interference (art. 349)</li> <li>• computer sabotage (art. 350)</li> <li>• distribution of viruses (art. 351)</li> <li>• unauthorised use (art. 353)</li> <li>• disturbing electronic processing (art. 354)</li> <li>• illegal access (art. 355)</li> <li>• preventing access to networks (art. 356)</li> </ul>	Yes, in the Criminal Code: <ul style="list-style-type: none"> <li>• criminal offences against copyright (art. 234)</li> <li>• computer fraud (art. 352)</li> <li>• electronic distribution of child pornography covered by art. 211</li> </ul>
Serbia	Yes, on March 19, 2009	Yes, in the Criminal Code: <ul style="list-style-type: none"> <li>• damaging computer data and programs (art. 298)</li> <li>• computer sabotage (art. 299)</li> <li>• creating and introducing computer viruses (art. 300)</li> <li>• unauthorised access (art. 302)</li> <li>• preventing or restricting access to a public computer network (art. 303)</li> <li>• unauthorised use of a computer (art. 304)</li> </ul>	Yes, in the Criminal Code: <ul style="list-style-type: none"> <li>• computer fraud (art. 301)</li> <li>• child pornography (art. 185)</li> <li>• criminal offences against intellectual property (art. 198 to 202)</li> </ul>
Turkey	Not ratified but signed on Nov. 10, 2010	Yes, in the Criminal Code: <ul style="list-style-type: none"> <li>• illegal access (art. 243 par. 1)</li> <li>• illegal interception (art. 243 par. 1)</li> <li>• data interference (art.244 par. 2)</li> <li>• system interference (art. 244 par.1)</li> </ul>	Yes, in the Criminal Code: <ul style="list-style-type: none"> <li>• computer forgery (art. 244/4)</li> <li>• computer fraud (art. 244/4)</li> <li>• child pornography (art. 103)</li> </ul> <p>Infringements of copyright issues are penalised under intellectual property law.</p>
Albania	Yes Law no. 8888 dated April 25, 2002	Yes, in the Criminal Code <ul style="list-style-type: none"> <li>• Unauthorised access (art. 192/b)</li> <li>• Illegal interception of computer data (art. 293/a)</li> <li>• Data interference (art. 293/b)</li> <li>• System interference (art. 293/c)</li> <li>• Misuse of computer devices (art. 293/ç)</li> </ul>	Yes, in the Criminal Code: <ul style="list-style-type: none"> <li>• Offences related to child pornography (art. 117)</li> <li>• Computer-related fraud (art. 143/b)</li> <li>• Computer-related forgery (art. 186/a)</li> </ul> <p>Offences related to infringements of copyright and related rights are regulated by law 9380 dated 28.4.2005 on copyright.</p>

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
Bosnia & Herzegovina	Yes, in 2006	No provisions in the Criminal Code	No provisions in the Criminal Code
Kosovo*	No <a href="#">Law no. 03/L-166 on prevention and fight of the cyber crime</a> was approved by the Assembly in June 2010.	Yes, in two laws: The Law on prevention and fight of the cyber crime covers: <ul style="list-style-type: none"> <li>• illegal access (art. 9)</li> <li>• illegal interception (art. 10)</li> <li>• data interference (art. 11m, see also art. 264 Criminal Code)</li> </ul> Art. 64 of the <a href="#">Law on information society services (2012)</a> covers: <ul style="list-style-type: none"> <li>• illegal access (par. 1)</li> <li>• illegal interception (par. 2)</li> <li>• data interference (par. 3.1)</li> <li>• system interference (par. 3.2)</li> </ul>	Yes <ul style="list-style-type: none"> <li>• Computer-related forgery and computer-related fraud (art. 14, Law on prevention and fight of the cyber crime)</li> <li>• Offences related to child pornography (art. 16, Law on prevention and fight of the cyber crime)</li> <li>• Offences related to infringements of copyright and related rights (<a href="#">Law on copyrights and related rights</a>)</li> </ul>

Table R.3 – Cybercrime

## S. Electronic commerce and electronic signatures

### 1. 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 Art. 5 Electronic commerce act	Yes Art. 16, 20 Electronic commerce act	Yes Art. 17, 20 Electronic commerce act	Yes Art. 18, 20 Electronic commerce act	Yes 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 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
Montenegro	Yes Art. 6 Law on e-Commerce	Yes Art. 18 Law on e-Commerce	Yes Art. 19 Law on e-Commerce	Yes Art. 20 Law on e-Commerce	Yes Art. 21 Law on e-Commerce
Serbia	Yes Art. 5 Law on electronic commerce	Yes Art. 16 Law on electronic commerce	Yes Art. 17 Law on electronic commerce	Yes Art. 18 Law on electronic commerce	Yes Art. 20 Law on electronic commerce
		<p>A newly inserted provision (article 21a Law on electronic commerce) entitles a person who considers her rights are affected by illegal online content to ask the court for a preliminary injunction. The court then has to assess the urgency of the case and may oblige internet service providers to remove the content in question or to block access, if that is a proportional measure. The preliminary injunction stays in force until the main proceedings.</p> <p>The primary objective of the new provision is that hosting providers could be obliged to remove questionable content already while a court case on this content is pending. However, the text of the law also includes mere conduit or caching providers. As the provision is new, courts have not yet used it in practice.</p>			
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 Customs and Trade will be responsible for the execution of this law. The laws on electronic signature and electronic communications foresee that services provided under that laws do not need prior authorisation.				
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

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
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 <a href="#">Law on the information society services (2012)</a>	Yes Art. 24 Law on the information society services (2012)	Yes Art. 25 Law on the information society services (2012)	Yes Art. 26 Law on the information society services (2012)	Yes Art. 28 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 Art. 34a to 34d Electronic signature act Croatian Accreditation Agency	Yes Ministry of Economy <a href="http://www.mingo.hr">www.mingo.hr</a> State Inspectors' Office <a href="http://www.inspektorat.hr">www.inspektorat.hr</a>
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) <a href="http://www.neytendastofa.is">www.neytendastofa.is</a>
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 <a href="http://www.finance.gov.mk">www.finance.gov.mk</a>

Country	Are providers required to notify?	Is prior authorisation required?	Voluntary accreditation scheme established?	Supervision established?
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 Inspection Directorate
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 Foreign and Internal Trade and Telecommunications <a href="http://www.mtt.gov.rs">www.mtt.gov.rs</a>
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 <a href="http://www.btk.gov.tr">www.btk.gov.tr</a> Art. 15 Electronic signature law
Albania	Certification-service providers must notify to the authority once it starts operation. Art. 20 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 National Authority for Electronic Certification <a href="http://akce.gov.al">akce.gov.al</a>
Bosnia & Herzegovina	Certification-service providers must notify to the supervision body immediately at the beginning of their activities. Art. 7 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. 7 Law on electronic signature	No	No
Kosovo*	No obligation to notify. Certification service providers may request registration on a trusted list that is maintained by the ministry. Art. 58 Law on the information society services (2012)	No prior authorisation required. Art. 58 Law on the information society services (2012)	No	No However, according to article 59 of the Law on the information society services the ministry can determine a supervisory authority.

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) <a href="http://www.fina.hr/">http://www.fina.hr/</a>	Dec. 31, 2011 39,300 valid normal certificates 37,700 valid qualified certificates No newer data has been reported.
Iceland	Skilríki.is <a href="http://skilriki.is/">http://skilriki.is/</a>	200,000 issued electronic certificates approximately half of which are active (as of Sep. 2012) No newer data has been reported.
FYR Macedonia	KIBS AD Skopje <a href="http://ca.kibs.com.mk/">http://ca.kibs.com.mk/</a> Makedonski Telekom <a href="http://business.telekom.mk/mk/374/Delovni_reshenja/ICT_uslugi/Digitalni_sertifikati.html">http://business.telekom.mk/mk/374/Delovni_reshenja/ICT_uslugi/Digitalni_sertifikati.html</a>	No data available
Montenegro	Post of Montenegro <a href="http://www.postacg-ca.me/">http://www.postacg-ca.me/</a>	3001 issued digital certificates (Aug. 2013)
Serbia	PTT Communications "Serbia" <a href="http://www.ca.posta.rs/">http://www.ca.posta.rs/</a> Serbian Chamber of Commerce <a href="http://ca.pks.rs/">http://ca.pks.rs/</a> Ministry of Interior <a href="http://ca.mup.gov.rs/">http://ca.mup.gov.rs/</a> HALCOM BG CA <a href="http://www.halcom.rs/">http://www.halcom.rs/</a>	PTT Communications "Serbia": 9,000 traditional qualified electronic certificates Serbian Chamber of Commerce: 3,500 traditional qualified electronic certificates Ministry of Interior: 2,100 traditional qualified electronic certificates Halcom Bg: 1,500 traditional qualified electronic certificates Halcom Bg: 6,500 mobile qualified electronic certificates



Country	Certification service provider(s) issuing qualified certificates	Data on usage of electronic signatures
Turkey	<p>Electronic Information Security Corp. (e – Güven Corp.)  <a href="http://www.e-guven.com/">http://www.e-guven.com/</a></p> <p>The National Research Institute of Electronics and Cryptology (NRIEC) - Government Certification Authority (TUBITAK UEKAE)  <a href="http://www.kamusm.gov.tr/">http://www.kamusm.gov.tr/</a></p> <p>TürkTrust Information, Communication and Informatic Security Services Corp (TurkTrust Corp.)  <a href="http://www.turktrust.com.tr/">http://www.turktrust.com.tr/</a></p> <p>EBG Informatic Technologies and Services Corp. (e – Tuğra Corp.)  <a href="http://www.e-tugra.com.tr/">http://www.e-tugra.com.tr/</a></p> <p>Turkish National Police Certification Center  <a href="http://www.egmsm.gov.tr/">http://www.egmsm.gov.tr/</a></p>	<p>904,027 qualified electronic certificates(May 2013), of which:</p> <ul style="list-style-type: none"> <li>• 640,798 total generated traditional qualified electronic certificates</li> <li>• 263,229 total generated mobile qualified electronic certificates</li> </ul>
Albania	<p>ALEAT sh.p.k.  National Agency on Information Society (for public administration)  <a href="http://www.akshi.gov.al/">http://www.akshi.gov.al/</a></p>	Information not 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 legal entity will be fined with an amount from HRK 100,000 (€13,252) to HRK 1m (€132,522) A responsible person of a legal entity will be fined with an amount from HRK 20,000 (€2,650) to HRK 100,000 (€13,252). A natural person who broke the law will be fined with an amount from HRK 10,000 (€1,325) to HRK 50,000 (€6,626). 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
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	<ul style="list-style-type: none"> <li>• Content of communications</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	<p>Misdemeanour fines (Law on electronic communications):</p> <p>A fine in the amount of</p> <ul style="list-style-type: none"> <li>• 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</li> <li>• 4 to 7% for the legal entity which fails to protect the confidentiality of electronic communications</li> </ul> <p>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.</p>
Montenegro	Art. 172 Law on electronic communications (2013)	<ul style="list-style-type: none"> <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	No penalty provision

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
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 (€8,800–€17,500) 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. 7 of Bylaw Concerning the Processing of Personal Data and the Protection of Privacy in the Electronic Communications Sector, in force since July 24, 2013.	Content, traffic and location data	Protection against interception by operator and interception by third parties	If the operators do not fulfil the obligations regarding this matter, a fine in the amount of up to 3% of the total annual revenue acquired during the commercial year prior to the current year is applicable. (According to Bylaw on Administrative Monetary Penalties to be Imposed by Telecommunication Authority on Operators and Other Sanctions and Measures art.12-(c))
	Art. 132 to 140 of the Criminal Code	Protection of personal data, protection of privacy of private life Some of these provisions do not explicitly refer to communications data, but apply to everyone who taps or records on audio a conversation or statement that was not intended for him.	Interception by anyone	Criminal offence Imprisonment from two months to six years
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 <ul style="list-style-type: none"> <li>• pecuniary fine or up to two years of imprisonment (art. 123, violation of privacy)</li> <li>• 3 to 7 years of imprisonment (art. 293/a, public computer system interception)</li> <li>• 7 to 15 years of imprisonment (art. 293/a, state computer system interception)</li> </ul>
	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 of ALL 50m to 100m (€355,000 to €710,000) or a fine of ALL 10m to 50m (€71,000 to €355,000)

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
Bosnia & Herzegovina	No explicit legislation, but operators and service providers ensure confidentiality (content data and traffic data) according to their licences.			
Kosovo*	Art. 86 Law on electronic communications	Content data and traffic data	Protection against interception by operator	Misdemeanour NRA may impose fines according to the general provision in article 101 Law on electronic communications. Fines can be up to 7% of the annual gross income, but the law also foresees other thresholds for serious or repeated infringements, for entrepreneurs with low gross income or when the gross income is difficult or impossible to calculate.
	Art. 64 Law on the information society services	Content data and traffic data	Protection against interception by anyone	Criminal offence One to five years of imprisonment

Table T.1 – Protection of confidentiality of communications

## 2. 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 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 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
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 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	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
FYR Macedonia	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
Montenegro	Traffic data must be deleted when it is no longer needed. Art. 175 Law on electronic communication (2013)	Yes Art. 175 Law on electronic communication (2013)	Yes, for some non-EU countries Art. 41 and 42 of the Law on personal data protection allows transfer of personal data to the EU, the EEA and EU candidate countries without prior approval. However, these provisions would require prior approval by the data protection authority for transfer of personal data to other countries, even if they have adequate level of data protection.	Yes. Art. 177 Law on electronic communication (2013)	Yes. Art. 177 Law on electronic communication (2013)
Serbia	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. 53 Law on personal data protection permits transfer of data to countries with adequate level of protection	Yes Art. 123 Law on Electronic Communications	Yes

Country	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?
Turkey	One year for traffic and location data, three months for unsuccessful call attempts Personal data subject to inspection, examination, investigation or dispute shall be retained until the related activity has been completed. Art. 8 and 14 of Bylaw on the Processing of Personal Data and the Protection of Privacy in the Electronic Communications Sector.	Yes Art. 8 of Bylaw on the Processing of Personal Data and the Protection of Privacy in the Electronic Communications Sector.	Yes Art. 4(2) and 15 of Bylaw on the Processing of Personal Data and the Protection of Privacy in the Electronic Communications Sector. (Art. 4(2) will come into force on Jan. 1, 2014)	Yes Art. 11 of Bylaw on the Processing of Personal Data and the Protection of Privacy in the Electronic Communications Sector.	Yes Art. 11 of Bylaw on the Processing of Personal Data and the Protection of Privacy in the Electronic Communications Sector.
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 the purpose of the transmission of a communication, for billing and interconnection payments. Art. 87 paragraph 1 and 2 of <a href="#">Law on electronic communications</a>	Yes Art. 87 paragraph 3 of <a href="#">Law on electronic communications</a>	No	Yes Art. 89 paragraph 2 of <a href="#">Law on electronic communications</a>	Yes

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 ( <a href="http://www.hakom.hr">www.hakom.hr</a> ) CARNet – National CERT ( <a href="http://www.cert.hr">www.cert.hr</a> )

Country	Is spam prohibited or allowed?			Responsible authority to fight spam (+link)
	Spam to companies	Spam to individuals	Legal basis	
Iceland	Prohibited	Prohibited	Art. 46 Electronic communications act	PTA – NRA ( <a href="http://www.pfs.is">www.pfs.is</a> ) Data Protection Authority ( <a href="http://www.personuvernd.is">www.personuvernd.is</a> ) Consumer Agency ( <a href="http://www.neytendastofa.is">www.neytendastofa.is</a> )
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 ( <a href="http://www.dzlp.mk">www.dzlp.mk</a> ) Agency for electronic communications for network operators and service providers ( <a href="http://www.aec.mk">www.aec.mk</a> )
	An amendment in 2012 introduced an obligation for mobile network operators to send unsolicited text messages (SMS) to roaming customers on behalf of the tourism agency.		Art. 29 (7) Law on electronic communications, as amended in 2012	
Montenegro	Prohibited	Prohibited	Art. 178, 179 Law on electronic communication (2013)	No dedicated public authority.
Serbia	Prohibited	Prohibited	Art. 9 Law on Advertising Art. 118 Law on Electronic Communications Art. 8 Law on Electronic Commerce	No dedicated public authority
Turkey	Prohibited (except the permission to send spam to companies by Draft Law on Electronic Commerce.)	Prohibited to the users of electronic communications by Electronic Communications Law. Prohibited to the individuals by Draft Law on Electronic Commerce.	Article 50 Law on Electronic Communications 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 <a href="http://www.btk.gov.tr">www.btk.gov.tr</a> Ministry of Customs and Trade is responsible to fight spam sent by commercial entities according to the Draft Law on Electronic Commerce. TUBITAK-UEKAE (NRIEC) designs and implements awareness raising activities against security threats including spam. <a href="http://www.uekae.tubitak.gov.tr">www.uekae.tubitak.gov.tr</a>
	Article 50 of Electronic Communications Law no. 5809 empowers ICTA to determine the procedures and principles regarding the implementation of this article. At the same time, the 5th clause of this article states that "in situations where electronic communications such as automatic dialling machines, faxes, electronic mail, text message, are used for direct marketing, political propaganda purposes, or in case of sexual content, such as the transmission of unsolicited communications, users right to refuse each incoming message are provided in an easy way and free of charge." Nevertheless, this provision is considered as unsatisfactory because it adopts opt-out method and determines only the obligations of electronic communications operators regarding spam, but omits the roles and responsibilities of other parties. On the other hand, the draft Law on E-Commerce covers some provisions addressing spam in line with the E-Commerce Directive. The secondary regulations regarding spam sent by commercial entities will be prepared after the publication of the Draft Law on Electronic Commerce.			



Country	Is spam prohibited or allowed?			Responsible authority to fight spam (+link)
	Spam to companies	Spam to individuals	Legal basis	
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, information , direct trading through mobile telephony"	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.
Bosnia & Herzegovina	Not regulated	Not regulated	Not regulated	No dedicated public authority
Kosovo*	Prohibited	Prohibited	Art. 92 Law on electronic communications Art. 18 Law on the information society services (2012)	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 list 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	Art. 115-a Law on electronic communications <a href="#">Law on interception of communication</a> Art. 142 Criminal Procedure Code	Providers of public communications networks or services	Public Prosecutor Ministry of Interior Custom Administration Financial Police	Yes	Yes Limitation to organised and serious criminal offences Art. 8 Law on interception of communication	Yes

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. 180 Law on electronic communication (2013) Art. 237 and 238 Criminal procedure code	Providers of public communications networks or services	State prosecutor	Yes	Yes <ul style="list-style-type: none"> <li>Criminal offences for which a prison sentence of ten years or more may be imposed</li> <li>Organised crime</li> <li>Criminal offences committed by using the telephone line or telecommunication device</li> </ul>	Yes Also, operators must notify network upgrades that could affect interception to the relevant authorities six months in advance.
Serbia	Art. 126 and 127 Law on Electronic Communications Art. 166 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 162 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.
	The provisions on obtaining listings, locations and other information about the citizen's telecommunications traffic in the Criminal Procedure Code have been challenged before the Constitutional Court of Serbia in June 2012 (judgment pending)					
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 Art. 12 (2) g) Electronic Communications Law no. 5809	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	Yes Art. 12 (2) g) Electronic Communications Law no. 5809

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?
	<p>1- According to the Law On Amendments to Certain Laws (Law No: 5397)</p> <p>a) The communication which is performed via telecommunications can be detected and intercepted. Its signals can be evaluated and recorded by a court order.</p> <p>b) The authorities which are stated in Law On Amendments to Some Laws are entitled to request interception upon a court decision</p> <p>2- According to the Turkish Criminal Procedure Code ( Law No: 5271)</p> <p>Interception of correspondence through telecommunication location, listening and recording of correspondence Article 135 – (1) The judge or, in cases of peril in delay, the public prosecutor, may decide to locate, listen to or record the correspondence through telecommunication or to evaluate the information about the signals of the suspect or the accused, if during an investigation or prosecution conducted in relation to a crime there are strong grounds of suspicion indicating that the crime has been committed and there is no other possibility to obtain evidence. The public prosecutor shall submit his decision immediately to the judge for his approval and the judge shall make a decision within 24 hours. In cases where the duration expires or the judge decides the opposite way, the measure shall be lifted by the public prosecutor immediately.</p>					
Albania	<p>Art. 131 Law on electronic communication</p> <p>Art. 221 to 226 Criminal Procedure Code</p> <p>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</p>	Providers of networks and electronic communication services	Court decides on request of state prosecutor or private prosecutor (injured party)	<p>Yes</p> <p>Interception needs prior approval by a court authorisation, except in urgent cases, where the court evaluates the prosecutor decision within two working days at the latest</p>	<p>Yes</p> <p>Art. 221 of Criminal Procedure Code</p> <p>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.</p>	<p>Yes</p> <p>Telecommunication interception law art. 21</p> <p>Operators are obliged to install interception equipment. Installation costs are not compensated by state.</p>
Bosnia & Herzegovina	<p>Law on amendment of the Law on communication (related to the legal interception)</p> <p><a href="http://www.mkt.gov.ba/bos/dokumenti/zakoni/?id=1465">www.mkt.gov.ba/bos/dokumenti/zakoni/?id=1465</a></p> <p>Decisions of the Council of Ministers of B&amp;H on legal interception and data retention (Official gazette of B&amp;H 104/06 and 58/07)</p> <p><a href="http://www.mkt.gov.ba/bos/dokumenti/zakoni/?id=2056">www.mkt.gov.ba/bos/dokumenti/zakoni/?id=2056</a></p> <p><a href="http://www.mkt.gov.ba/bos/dokumenti/zakoni/?id=2057">www.mkt.gov.ba/bos/dokumenti/zakoni/?id=2057</a></p>	Providers of public or private communications networks or services	Public prosecution services	Yes, a court order needs to be issued	<p>Yes</p> <p>Definition in art. 117 of the Criminal Procedure Code</p>	<p>Yes</p> <p>Operators are obliged to install interception equipment that will be attached to the interface of the Public prosecution services</p> <p>The installation costs are not compensated</p>

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?
	Law on the Intelligence and security agency of Bosnia and Herzegovina (Official gazette of B&H 12/04 and 56/06) <a href="http://www.osa-oba.gov.ba/zakoneng.htm">www.osa-oba.gov.ba/zakoneng.htm</a> Criminal Procedure Code of B&H					
Kosovo*	Art. 88 to 100 of the <a href="#">Criminal Procedure Code</a>	Providers of public communications networks or services	State prosecution service	Yes Interception needs prior approval by a court order, except in urgent cases, where a state prosecutor may issue a provisional order but the court must decide within three days at the latest (art. 91 Criminal Procedure Code)	Yes Art. 90 Criminal Procedure Code	Yes Operators are obliged to install interception equipment, the costs of which is covered by the state budget Art.104 para. 3 Law on electronic communications

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	Is lawful interception allowed for other purposes than criminal proceedings? If yes: legal basis? Which authorities are entitled to request interception?				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	Yes Law on interception of communication, chapter III	Yes Law on interception of communication, chapter III	No	No	Yes	Yes Art. 24, Law on interception of communication	Yes Art. 28 Law on interception of communication
Montenegro	Yes National Security Agency Art. 9 <a href="#">Law</a> on the National Security Agency	No	No	No	Yes Art. 14 <a href="#">Law</a> on the National Security Agency	Not foreseen in the Law on the National Security Agency	Not foreseen in the Law on the National Security Agency

Country	Is lawful interception allowed for other purposes than criminal proceedings? If yes: legal basis? Which authorities are entitled to request interception?				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?			
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)
The Constitutional Court brought decision in April 2012, about the provisions of Article 13 Paragraph 1 in conjunction with Article 12 Paragraph 1 Count 6) and Article 16 Paragraph 2 Law on Military Security Agency and Military Intelligence Agency ("RS Official Gazette", No. 88/09) and decided that they are inconsistent with the Constitution, meaning that only head of authorised bodies can issue demand for this kind of information.							

Country	Is lawful interception allowed for other purposes than criminal proceedings? If yes: legal basis? Which authorities are entitled to request interception?				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?			
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 Telecommunication Communication Presidency scrutinises the decisions and may appeal them to court..
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
<p>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</p> <p>Basic principles for the interception of telecommunications are to respect the freedom and fundamental human rights. Results of surveillance, taken on the basis of this law, do not have the value of proof in a criminal proceeding, except those taken under the Code of Criminal Procedure. The process of tapping, in whole or in part, constitutes a state secret, whose offense is punishable under the criminal legislation in force. When the General Prosecutor determines that the surveillance is no longer valid, he/she revokes the decision on tapping at any time.</p>							



Country	Is lawful interception allowed for other purposes than criminal proceedings? If yes: legal basis? Which authorities are entitled to request interception?				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?			
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 <a href="#">Law on the Kosovo Intelligence Agency</a>	No	No	No	Yes Interception needs prior approval by a court order, except in urgent cases, where the court must decide within 72 hours at the latest.	No	Yes See also art. 39 of the Law on the Kosovo Intelligence Agency on the possibility to file complaints to the Ombudsperson Institution.

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 necessary 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 General personal data security requirements apply (article 111 Law on electronic communications)
Montenegro	Art. 181 to 183 Law on electronic communication (2013)	Telephony data and internet data	No reference to serious crime in Law on electronic communications, the law refers to all criminal offences, defence, national security and search and rescue.	6 months - minimum 2 years - maximum The ministry considers to specify the exact period by an amendment of the law or in secondary legislation.	Yes Art. 183 Law on electronic communications (2013)

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	Article 128, 129 and 130 Law on electronic communications	<p>According to Article 129, law on electronic communications, retained data cover:</p> <ul style="list-style-type: none"> <li>tracing and identifying the source of a communication</li> <li>identifying the destination of a communication</li> <li>determining the beginning, duration and end of a communication</li> <li>identifying the type of communication</li> <li>identifying users' terminal equipment</li> <li>identifying the location of the users' mobile terminal equipment.</li> </ul>	No According to article 128 Law on Electronic Communications, retained data can be used for the conducting criminal investigation, detecting the crimes, running the criminal proceedings, for the protection of national and public security.	12 months max.	Yes Access to retained data limited to specially authorised staff. Art. 130 Law on electronic communications
	<p>On June 13, 2013 the Constitutional Court of Serbia decided upon the challenged provisions of Law on electronic communication, stating that articles 128.1, 128.5 and 129.4 are not in accordance with constitution. Article 128 paragraphs 1 and 5 are referring to the possibility to demand the retained data on the decision of authorised bodies which are specified in other laws and to prescribe details and procedures about data retention in accordance with other laws (laws about functioning of security information agencies and internal affairs bodies). Being so, this decision of Constitutional Court is stating that referring to the other laws in order to authorise certain bodies to access retained data and to specify procedures and conditions for retained data is not in accordance with the constitution. Furthermore, article 129.4 is stating that specific details about data retention will be prescribed by secondary legislation. According to the Constitutional Court decision this is not in accordance with constitution and specifics about data retention had to be provided only in law.</p>				
Turkey	<p>Art. 13 and 14 Bylaw on processing of personal data and the protection of privacy in the electronic communications sector</p> <p>Art. 6 of Law no. 5651</p>	<p>Art. 13 of the bylaw: telephony data and internet data</p> <p>Art. 6 of Law no. 5651: internet data</p>	No reference to serious crime in the bylaw, neither in law no. 5651	<p>3 months for unsuccessful call attempts, 12 months for other data</p> <p>Art. 14 of the bylaw <a href="#">Law no. 6518</a> amending Law no. 5651 would require ISPs to retain internet data for 2 years (still pending the final approval by the president).</p>	Yes Art. 15 of the bylaw contains security provisions and art. 16 contains the obligation to publish statistics on received requests from competent authorities

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?
Albania	Art. 101 Law on electronic communications, as amended in 2012	Telephony data and internet data	No reference to serious crime in Law on electronic communications, but a general reference to the authorities stipulated in the Criminal Procedure Code.	Maximum 2 years	No General personal data security requirements apply (article 122 of the law, as amended in 2012)
Bosnia & Herzegovina	Art. 1 <a href="#">Law</a> 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 <a href="#">104/06</a> and <a href="#">58/07</a> )	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
Kosovo*	Art. 68 Law on electronic communications	Telephony data and internet data	No such limitations in the Law on electronic communications Art. 90 of the new <a href="#">Criminal Procedure Code</a> foresees that 'intrusive covert and technical measures of surveillance and investigation' (including surveillance of telecommunications and access to retained data) may only be used for the crimes listed in this article.	12 months (max.)	No General provisions on personal data security (art. 85 Law on electronic communications) apply Data retention storage shall be paid for by state funds (art. 68)

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 <a href="http://www.dns.hr/">http://www.dns.hr/</a>	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 Maritime Affairs, Transport and Infrastructure and the State Secretary of the Central State Administrative Office for e-Croatia, based on Art. 79 Electronic communications act.
Iceland	ISNIC – Internet á Íslandi hf. <a href="http://www.isnic.is/en/">http://www.isnic.is/en/</a>	Parliament is expected to adopt an Act on the top level domain (ccTLD). Information on the current status of this law is not available.	Currently: domain registration rules adopted by ISNIC In future: Act on the top level domain
FYR Macedonia	Macedonian Academic and Research Network (MARNet) <a href="http://dns.marnet.net.mk/">http://dns.marnet.net.mk/</a>	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) <a href="http://www.domen.me/">http://www.domen.me/</a>	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) <a href="http://rnids.rs/">http://rnids.rs/</a> <a href="http://pнидс.срб/">http://pнидс.срб/</a>	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 .cpб as new national IDN ccTLD. The domain became operational in May 2011.	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 .cpб 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
		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 domain name registry (text of the MoU in English is available upon request).	
Turkey	Middle East Technical University Nic.tr <a href="https://www.nic.tr/">https://www.nic.tr/</a>	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
	The existing registry (METU) is handling current domain name registration processes temporarily with respect to 3 <sup>rd</sup> clause of provisional article 1 of Bylaw on Internet Domain Names. Article 35 of Electronic Communications Law and related secondary legislations empowers the NRA ICTA to act as registry. Turkey plans re-delegation of “.tr” in due course. The studies for re-delegation according to the ICANN procedures are going on.		
Albania	Electronic and Postal Communications Authority (AKEP) <a href="http://akep.al/">http://akep.al/</a>	Article 8(k) of Law no 9918 dated 19.5.2008 on electronic communications	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”
Bosnia & Herzegovina	.BA Register (University tele-informatic centre UTIC) <a href="http://www.nic.ba/">http://www.nic.ba/</a>	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 (Feb. 2012) No updated information has been provided.
Iceland	Yes	Yes, but foreign registrars must appoint a local representative in Iceland	The registry	Yes	70 (Oct. 2013)
FYR Macedonia	Yes	No	The registry	Yes	1 (Sep. 2013)
	The process for accreditation of interested registrars has started recently and is in progress				
Montenegro	Yes	Yes	The registry	Yes	169 registrars (Sep. 2013)
Serbia	Yes	Yes, but local legal presence is required (e.g. local company 100% owned by foreign company)	The registry	Yes	38 (Aug. 2013)
Turkey	Yes	No	The registry	Yes	13 in total 9 active (Oct. 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. ICTA is preparing a draft communiqué on registrars and aiming to liberalise the .tr domain name market after re-delegation of “.tr”.				
Albania	Yes	No	The registry	Yes	5 (Sep. 2013)
Bosnia & Herzegovina	Yes	No	The registry	Yes	18 (Oct. 2013)
Kosovo*	-	-	-	-	-

Table V.2 – Registrars of domain names

### 3. 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	Information as of Feb. 2012. No updated information has been provided. 86,407	Information as of Feb. 2012. No updated information has been provided. Second level domains for virtual identity of the registrant: <ul style="list-style-type: none"> <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> </ul> Second level domains: <ul style="list-style-type: none"> <li>• up to 9 for legal entities</li> <li>• one for natural persons</li> <li>• €50 per year (fee of the registry)</li> </ul> Third level domains under .com.hr: <ul style="list-style-type: none"> <li>• number is not limited</li> <li>• €3 per year (fee of the registry)</li> </ul> About 80% of all registered domains are free of charge.	Information as of Feb. 2012. No updated information has been provided. Annual registration and transfer of the domain (transfer includes one year renewal). Registrar functions not included.
Iceland	43,000 <a href="http://www.isnic.is/tolur/index-en.html">http://www.isnic.is/tolur/index-en.html</a>	Annual fee for a domain: €39 <a href="http://www.isnic.is/en/payments/tariff">http://www.isnic.is/en/payments/tariff</a>	Registry services
FYR Macedonia	33,600 (Sep. 2013)	€10 for the first year, €5 in following years	Registration and free of charge updates within the subscription period. Registrar functions included.
Montenegro	733,515 (Sep. 2013)	Open Registrations €10 per year, minimum term 1 year. €5.99 for domains of third level for Montenegrin registrars.	Registry services



Country	Number of domains	Price per domain and year (excl. VAT)	Services covered by this price
Serbia	79,711 .rs domains (Aug. 15, 2013) 5,278 .cpb domains (Aug. 15, 2013)	Wholesale (registry) prices (excluding VAT): ~€15 for .rs ~€4 for .in.rs ~€6 for .co.rs, .edu.rs, .org.rs ~€6 for .cpb* ~€3 for second-level .cpb domains Data as of August 15, 2013 * €0.013 (RSD 1) promotional price in the first year of registration for current .rs domain owners	Annual registration for .rs and .cpb domains by the registry. Registrar functions not included.
Turkey	338,713 (Sep. 12, 2013)	1-year registration fee (excl. VAT) ranges from TRY 5 to 25 (€2 to €10) 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	10,958 (Sep. 1, 2013)	1-year registration fee ranges from €6 to €12 (incl. VAT)	Annual registration and some other operations such as contact changes, DNS server changes, domain name information update etc.
Bosnia & Herzegovina	14,500 (Oct. 2013)	First year: €40.9 (BAM 80) Following year: €15.34 (BAM 30) 2 years €25 (BAM 50) 3 years €35 (BAM 70) 4 years €50 (BAM 100) 5 years €60 (BAM 120)	.ba domain name registration by the registry (includes yearly maintenance for the first year). Registrar functions not included
Kosovo*	-	-	-

Table V.3 – Domain market data