

# DESI Report 2018

## Telecoms chapter

### Bulgaria

#### Market developments

##### 1. Competitive environment

Coverage	BG-2016	BG-2017	EU-2017
Fixed broadband coverage (total)	95%	95%	97%
Fixed broadband coverage (rural)	81%	82%	92%
Fixed NGA coverage (total)	74%	75%	80%
Fixed NGA coverage (rural)	17%	25%	47%
Ultrafast coverage (total)	no data	74.6%	58%
4G coverage (average of operators)	66%	72%	91%

Source: Broadband Coverage Study (IHS and Point Topic). Data as of October 2016 and October 2017.

The total coverage of fixed broadband networks in Bulgaria remains unchanged at 95% of households, slightly below the EU average (97%). However, fixed broadband coverage in rural areas remains significantly below the EU average (82% versus 92%). Networks capable of providing at least 30 Mbps (next-generation access (NGA)) are available to three quarters (75%) of Bulgarian homes, slightly below the EU average (80%). Nevertheless, despite some progress, rural areas remain poorly covered by fixed NGA (25%), close to twice below the EU average (47%). On 4G coverage Bulgaria is lagging behind the EU average (91%) at just 72%. Furthermore, Bulgaria has made remarkable progress on ultrafast broadband coverage, reaching 74.6% while the EU average is 58% only. Nevertheless, because other EU countries are progressing faster for most of the other indicators, Bulgaria remains in a group of countries displaying a rather slow development. The fixed broadband price index<sup>1</sup> is 80, while the EU average is 87<sup>2</sup>. However, the price factor could not be the only reason for the slow take-up of fixed broadband in Bulgaria. Other reasons, such as demography, different social interest, consumers' preferences for broadcasting products, the need of increasing digital skills, and an ageing population in some remote areas probably also help to explain this state of play.

Based on recent market analyses<sup>3</sup>, the substitutability between fixed and mobile services in Bulgaria is not sufficient to conclude that the two services belong to the same product market. The development of these services in 2017 does not justify the assumption that they are substitutable. Specifically in terms of voice services, in the context of the third round of market analyses of the retail markets for access and calls provided at a fixed location, it has been concluded that there is asymmetric demand side substitutability.

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<sup>1</sup> The Broadband Price Index measures the prices of twelve representative broadband baskets as the percentage of household income. The baskets include three speed categories (12-30 Mbps, 30-100 Mbps and at least 100 Mbps) and four types of products (standalone internet, internet + TV, internet + fixed telephony and internet + TV + fixed telephony).

<sup>2</sup> Source: Commission Services based on Fixed Broadband Prices in Europe (Empirica). Digital Economy and Society Index 2018.

<sup>3</sup> CRC's Decision № 581/22.11.2016 (market 1 of Recommendation 2007/879/EC and markets from 3 to 6 of Recommendation 2003/311/EC) and CRC's Decision № 372/13.08.2015 (markets 3a and 3b of Recommendation 2014/710/EU).

Concerning the internet access service, a trend of upward increase of usage is observed, with a rise in the number of subscribers of both fixed and mobile internet access. Currently, there are no clear indications that the fixed internet subscribers tend to switch to mobile access only. A steady growth trend is observed in the total volume of mobile voice service traffic, as well in roaming. At the same time, there is a decrease in the international mobile traffic and in the consumption of all parameters of fixed services. A decrease in the total number of short text messages (SMS) sent is registered, also in roaming. In 2017, the mobile operators in Bulgaria continue to offer some zero-rated services, including tariff plans with a volume of megabytes (MB) to some major OTT services and TV content. The reasons for the decrease in the international mobile voice and SMS traffic along with the increase in the mobile internet traffic could be explained by the impact of the OTT services.

The structure and the range of the most used bundles remained unchanged in 2017 and the main competitors consolidated their positions. The majority offer the bundled service "Television and fixed Internet access", which is preferred by users (over 50% of all bundled services subscribers). In contrast, triple-play bundled services show a drop in subscribers. The most significant growth is observed in the quadruple-play bundles. The TV connection is the most popular service included in a bundle and a bundle is most likely to include also internet access, followed by mobile and fixed telephony. Bundles combining TV and mobile services do not mark considerable success and due to the vast and diverting offers in the market, comparing for Bulgarian consumers is not easy. To date, bundled offers do not fall under ex-ante regulation.

#### a. Fixed Markets

<b>New entrants' DSL subscriptions by type of access (VDSL excluded)</b>	BG-2016	BG-2017	EU-2017
Own network	-	-	0.5%
Full LLU	-	-	72.8%
Shared Access	-	-	4.1%
Bitstream	-	-	14.7%
Resale	-	-	7.8%

*Source: Communications Committee. Data as of July 2016 and July 2017.*

<b>Fixed broadband market shares</b>	BG-2016	BG-2017	EU-2017
Incumbent market share in fixed broadband	25.1%	26.2%	40.3%
<b>Technology market shares</b>			
DSL	12.1%	10.7%	64.2%
Cable	16.9%	16.7%	19.4%
FTTH/B	47.3%	50.3%	12.9%
Other	23.8%	22.3%	3.6%

*Source: Communications Committee. Data as of July 2016 and July 2017.*

Twenty one undertakings provided access to fixed telephony service to end users. Two new operators started the provision of the service during 2016 (Telekabel AD and Comtex Bulgaria EOOD) and one in 2017 (Novatel EOOD). In April 2017, the merger between Blizoo Media and Broadband EAD with Mobiltel EAD was finalised. As a result, the fixed telephone lines market share of Mobiltel increased, but did not significantly change the order of the operators' shares in the retail fixed telephony market: Bulgarian Telecommunication Company EAD (BTC), Mobiltel EAD (Mobiltel & Blozoo) and Telenor Bulgaria EAD (Telenor). The total market share of the remaining operators is lower than 2%.

In 2017, there was no change in the development trend of the fixed telephony service segment. The declining consumer interest resulted in a decrease of consumption and a decline in the values of all key parameters, including the total volume of revenue (not included in a bundle)<sup>4</sup>, the number of the fixed telephony lines and the volume of the outgoing traffic.

On the other hand, the upward trend of fixed Internet access continued in 2017<sup>5</sup> and the number of fixed Internet subscribers<sup>6</sup> (including bundle) maintained its steady growth. The shares of subscribers to high speed<sup>7</sup> and ultra-high speed<sup>8</sup> internet access increased due to the migration to NGA networks and the total volume of retail revenues from fixed Internet access also grew. Infrastructure-based competition reveals a deepened trend of decrease of the number of ADSL subscriptions with no declared demand for the wholesale services offered by BTC. VDSL connections are already provided by BTC in several Bulgarian settlements<sup>9</sup>. The broadband penetration in Bulgaria reached 57.6% based on households<sup>10</sup> and 24.4% based subscriptions per head of population<sup>11</sup>. In 2016, €28 million were invested in NGA, and for 2017 the undertakings planned investing additional €33 million.

In general, the provided average access speeds in rural areas are lower than those provided at national level. However, the trend of increase in the number of subscribers using high and ultra-high-speed access follows that at national level. This growth is due to the increase in the number of fixed broadband subscribers via next generation access networks. The majority of fixed Internet access subscribers are located in towns and cities and only 11.6% of them are located in the rural areas<sup>12</sup> and their absolute number amounted to almost 200 thousand, increasing by 24% for one-year period. A quarter of the fixed Internet access subscribers in the rural areas use FTTN/C and the reported one-year growth rate in subscriptions is 31%. The contrasting change in the same indicator in cities and villages is mainly due to the different economic conditions and the potential for development. Unlike the share of CATV subscribers at national level, which remains relatively stable, the subscribers to CATV in rural areas are increasing. Traditionally, the number of the incumbent's ADSL subscribers declined both at urban and rural levels. In general, wireless networks at a fixed location are mainly used in less populated areas, where the building of wired access is economically inefficient. The number of wireless networks subscribers for one year increased by more than 50% and their share at the end of 2016 was 21% of the total number of fixed broadband subscribers in rural areas. The largest increase by 162% is reported in the number of subscribers with access at a fixed location through mobile network. Satellite access also grew by 8%, but its share in the total number of subscribers in rural areas is only 0.1%. The only decrease observed among wireless access subscribers refers to RLAN.

In the end of 2016, fixed broadband Internet access was provided in 3204 villages, representing 93% of the total rural population. The most significant growth is that of the

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<sup>4</sup>Including revenue from fixed telephone service, Carrier Selection service and public payphones. Excluding revenue from installation fees and monthly subscriptions for bundled services with fixed telephony service included.

<sup>5</sup> The data for 2017 regarding the number of broadband access subscribers distributed by speeds and type of Internet access is as of 1.07.2017.

<sup>6</sup> The users of retail Internet access through leased lines and dedicated access are excluded.

<sup>7</sup> Over and including 30 Mbps to 99.99 Mbps.

<sup>8</sup> Over and including 100 Mbps.

<sup>9</sup> <https://www.vivacom.bg/bg/files/7119-spisyk-po-t-2-3-ot-prilojenie-2.pdf>

<sup>10</sup> According to data taken from the last official census of NSI, conducted in 2011.

<sup>11</sup> According to NSI's data estimations for the number of population in Bulgaria as of 31.12.2016.

<sup>12</sup> The data about rural areas is provided by CRC and covers 2016.

number of settlements covered by fixed access through mobile network (76.2%), followed by FTTN/C (27.6%) and FTTH and CATV (16.9% each). The number of the villages and settlement formations covered by FTTH-B has increased by a total of 12%, which is an indication of the increasing importance of speed and quality of the services provided in small settlements.

## b. Mobile market

<b>Mobile market</b>	BG-2016	BG-2017	EU-2017
Market share of market leader	39%	39%	35%
Market share of second largest operator	33%	31%	28%
Number of MNOs	5	5	-
Number of MVNOs	-	-	-
Market share of MVNO (SIM cards)	-	-	-

*Source: Communications Committee. Data as of October 2016 and October 2017.*

<b>Mobile broadband prices [EUR/PPP]</b>	BG-2016	BG-2017	EU-2017
Least expensive offer for handset (1 GB + 300 calls basket)	€60	€48	€24
Least expensive offer for tablet and laptop (5 GB basket)	€22	€18	€17

*Source: Mobile Broadband Price Study (Van Dijk and Empirica). Prices expressed in EUR/PPP, VAT included. Data as of February 2016 and February (handset) 2017 - July (tablet-laptop) 2017.*

Despite the fact that the prices of packages including mobile broadband on handsets in Bulgaria have significantly diminished in 2017, they remain twice more expensive than in the EU-28 on average. Prices for mobile broadband on laptops and tablets have also dropped and are in line with the EU-28.

There are no MVNOs in Bulgaria. As of 1 July 2017, the number of undertakings providing public mobile services in Bulgaria remained unchanged: Mobiltel, Telenor, BTC, Max Telecom and Bulsatcom. The first four provide both mobile telephony service and mobile data services, while Bulsatcom provides only mobile internet. Based on CRC's information, there is no significant change in the market positions of the players on the mobile voice telephony service market. Mobiltel confirms its leading role with the largest number of subscribers (40.2%), followed by Telenor (32.5%) and BTC (27.3%). In the mobile Internet market, the ranking by subscribers' number is led by BTC's 34.67% of the total mobile Internet subscribers, followed by Telenor (34.64%), Mobiltel (30.52%), Max Telecom (0,16%) and Bulsatcom (0.03%). Following the decision of Max Telecom to stop its activities, it requested end of 2017 its licences to be transferred to T.Com<sup>13</sup> and some consumer contracts were terminated without penalties. The remaining subscribers temporarily roamed in the network of Bulsatcom.

The strong competition between the three major mobile undertakings continued, while the segment was characterised by the decline in the number of subscribers of mobile voice telephony services as a result of outflow mainly of the users using prepaid SIM cards service. The observed decline in the amount of revenues from standalone provision of mobile voice telephony services is due to both the increase of the number of subscribers using bundles and the steady upward trend in the volume of free-of-charge calls originated in own networks (on-net). The wholesale revenue (interconnection) increased for a second consecutive year mainly

<sup>13</sup> The final transfer has been realized in the beginning of 2018.

due to the increase in the volume of the terminated traffic contributed by the lowest wholesale termination rates imposed by CRC<sup>14</sup> and to the withdrawal of the price regulation for traffic terminated from non-EU/EEA-calling networks. There are no plans for early 5G trials or deployments.

### **Regulatory developments**

## **2. Supporting measures for deployment and investment in high-speed networks**

### **a. Spectrum**

Since 2016 no advancement has been observed in the spectrum assignment in Bulgaria. Only 26.61% of the spectrum harmonised at EU level for broadband use (including the 700 MHz band) has been assigned. The total assigned spectrum excluding the unpaired 2 GHz band is 290 MHz, compared to the EU average of 751.6 MHz<sup>15</sup>. The entire 3.4-3.8 GHz, 1.5 GHz and 2.6 GHz bands are still awaiting assignment. This situation is partially due to delays in making some crucial spectrum below 1 GHz available for electronic communication services, combined with the lack of commercial interest for some other bands. There are several challenges regarding spectrum management in Bulgaria, where the 800 MHz and 700 MHz bands are still partially occupied by military, or DVB-T broadcasting services. A strong need for redistribution of the 1.8 GHz, the re-farming of 700 MHz, 800 MHz and lower UHF band has been indicated together with a call for general revision and modernisation of the system for spectrum fees. Better quality, legal certainty and enhanced efficient use of spectrum are expected.

The lengthy interferences testing conditions negotiations between operators and the Ministry of Defence for a possible future shared use of the 800 MHz between civil and Military, which started in 2015 after the decision of making available a portion of the band (2 x 10 MHz), are still ongoing. Some operators have stated their interest in the 2.6 GHz band, which was freed already in 2016 and did not find a successful assignment then, due to reluctant operators deterred by the prohibitively high price.

The constant hunger for lower frequency spectrum is further rising due to some undertakings' changes and failures in the market. After stopping its activities, Max Telecom requested for transferring its spectrum licences to a newly created company (T.Com). Furthermore, following the failure of Bulsatcom to timely pay the claimed fees for purchasing spectrum in 1.8 GHz, it lost 2 x 10 MHz in that band. In the process of the relevant public consultation all three undertakings expressed that the assignment of the free radio spectrum in the 1.8 GHz band in blocks of 2 x 2 MHz will lead to an inefficient use of the scarce resource, neither promoting the deployment and development of LTE networks, nor meeting the end users' interests. There is a general agreement of all actors, that there is not enough spectrum for three MNOs in the 1.8 GHz band, in the context of overall lack of resources due to the fact that the 800 MHz and 700 MHz are not available for communication services.

The future Spectrum plans foresee the modification of the frequency allocation plan for civil use. An Inter-Ministerial Working group on the 700 MHz band started its work in 2017, a

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<sup>14</sup> Decision No. 135/14.02.2013 and Decision No. 585/24.11.2016.

<sup>15</sup> Sources: direct communications between MS and EC, ECO reports, EFIS database.

dedicated Action plan is under preparation and a clear roadmap is expected beginning of 2018. There were no coordination problems with any of the neighbouring countries and agreements for the repurposing were signed with Serbia, Greece, FYROM, Romania, Ukraine and Turkey end of 2017. The preliminary draft foresees that the reallocation of Multiplexes should be carried out without compensation and the number of channels should be reduced to five. The biggest challenge remains the need of the Ministry of Defence claiming 1-1.5 billion BGN for freeing all bands (700 MHz, 800 MHz and lower UHF) from Military use. The bands 31.8-33.4 GHz and 40.5-43.5 GHz are likely to be available for 5G services as soon as there are harmonised technical requirements developed. A position on the still unassigned 2.6 GHz and 3.4-3.8 GHz and the 24.25-27.5 GHz pioneer band is also expected.

#### **b. National and EU investment in broadband**

Bulgaria's 2014 broadband strategy, the 'National Broadband Infrastructure for Next Generation Access Plan' (NBP), sets 100% coverage with 30 Mbps by 2020 and 50% take-up rate for 100 Mbps targets, both in line with the Digital Agenda for Europe<sup>16</sup>. Bulgaria is also aiming for 80% take-up rate for 100 Mbps in the business segment by 2020. The "Digital Bulgaria' 2020" updated the NBP by including measures for building broadband infrastructure in rural and scarcely populated areas and foreseeing regulatory actions in relation to the gigabit society targets within horizon 2025. There are no separate regional or municipal broadband plans. Nevertheless, additional measures are needed to increase customers' interest and to timely realise the NBP's objectives. The deployment costs should diminish, in order to decrease the digital divide and the tax deductions put in place are insufficient to encourage the majority of households to take up higher bandwidths. It is essential to combine private financing and financial instruments with European, national and municipal grants in order to achieve the NBP goals, but cooperation between different actors in order to aggregate demand is not going smoothly. Bulgaria does not have a 5G strategy yet, but an Inter-Ministerial working group has been launched in 2017 to revise the NGA plan in order to include it together with E-governance, digital data and cloud services.<sup>17</sup>

Since end of 2016 the State electronic e-Government Agency (SEGA) is the new administrative structure, which inherited of the functions of the former ECMIS. It is in charge of maintenance, operating and development of the electronic communications network of the state administration and its electronic management functions.

Concerning the WiFi4EU initiative, multiple preparatory actions were realised and there is readiness and interest expressed. While still waiting for technical specifications, Mayors were contacted and interested operators were informed.<sup>18</sup>

Due to lengthy internal adjustment discussions the implementation of the wide broadband deployment project co-financed by the European Agricultural Fund for Rural Development (EAFRD) has not started as planned. For the Project "Development of high-speed broadband access in Bulgaria through building a critical, secure, and reliable public ICT infrastructure", co-financed by ESIF funds and lead by SEGA, the contractor's selection procedure for maintaining and operating the network was relaunched after extending the contract term to 15 years. Its prolongation, the project "building super-high-speed connectivity in remote and

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<sup>16</sup> <https://www.mtict.government.bg/en/category/46/next-generation-access-ngn>

<sup>17</sup> The new NBP is foreseen for beginning of 2018 with target date 2030.

<sup>18</sup> <https://www.mtict.government.bg/bg/content/vupro-si-i-otgovori-za-eit-i-wifi4eu>

sparsely populated rural areas" with beneficiary SEGA, and Ministry of Agriculture, Food and Forestry (MAF), co-financed by ESIF funds, foresees € 30 million to connect 44 state administrations of the municipal centres in the "white zone" to the Integrated Electronic Communications Network (IESM) of the state administration. It intends building 1023 km optical cable network and providing connectivity to 72 schools, which would improve the use of electronic services for citizens and businesses, but the application guidelines are still pending and the project has not been launched.

Despite the fact that participants from Bulgaria submitted two promising projects under the Connected Communities Initiative<sup>19</sup> (CCI), a joint partnership between the European Commission and the World Bank providing technical assistance to European broadband project promoters that were expected to be eligible for funding from the European Fund for Strategic Investments (EFSI), none of them has been neither finalised, nor launched.

The project ensuring the connectivity of schools, part of the Strategy for the effective use of ICT in the education and science in Bulgaria, connects 19 regional departments of the Ministry of Education and Science (MES) and foresees 28 connected by the end of 2017. The transferred funds are for terminal equipment to complete the educational backbone network. The application process was completed, the results were published, 91 schools were approved to receive national funding by the end of November and the equipment had to be purchased by mid-December 2017.

In respect of the NOBAL project to build cross-border ultra-high speed connectivity planned to be implemented jointly with Romania and Serbia, uniting their efforts for establishing cross-border broadband infrastructure with a trilateral agreement signed in 2013, at this stage the project has not begun due to lack of appropriate funding model.

### **c. Implementation of the Broadband Cost Reduction Directive**

Following the expiry on 1 January 2016 of the deadline for transposing the Broadband Cost Reduction Directive<sup>20</sup> (BB CRD), the Commission opened infringement proceedings against Bulgaria for failure to notify transposition measures. Five pieces of national legislation transposing the Directive have already been adopted, namely: the Law on spatial planning; the Law on access to public information; the Procedural Administrative Code; the Law on electronic communications; an Ordinance for rules and standards for design, construction and commissioning of cable electronic communications networks and associated infrastructure. However, at the end of 2017, the BB CRD had still not been entirely transposed and notified<sup>21</sup>.

The Ministry of Transport, Information Technology and Communications is foreseen as Single Information Point (SIP) for the BB CRD and some preparatory steps to anticipate the adoption of the transposing law for the establishment of the SIP in accordance with Article 4 have been taken in order to rapidly provide access to information about existing physical

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<sup>19</sup> <https://ec.europa.eu/digital-single-market/news/connected-communities-initiative>

<sup>20</sup> Directive 2014/61/EU of the European Parliament and of the Council of 15 May 2014 on measures to reduce the cost of deploying high-speed electronic communications networks (OJ L 155, 23.5.2014, p. 1).

<sup>21</sup> The European Commission therefore decided in January 2018 to refer the case to the Court of Justice. At the end of February 2018, the Law on electronic communications networks and physical infrastructures, expected to complete the transposition, was adopted. The law was published in the National Gazette on 9 March 2018 and notified to the Commission.

infrastructure suitable for the deployment of electronic communications networks, as well as planned and ongoing construction activities. CRC is the designated dispute resolution body under the BB CRD.

### **3. Regulatory function**

During 2017, neither market analyses were due, nor notified to Commission services. Only three markets are still regulated in Bulgaria, namely markets 1, 2, 3a in accordance with Commission Recommendation 2014/710/EU of 9 October 2014. All the other markets were found to be effectively competitive and hence deregulated in the past years. The review of Markets 3a (Wholesale local access provided at a fixed location) will take place in 2018, Market 1 (Wholesale call termination on individual public telephone networks provided at a fixed location) and Market 2 (Wholesale voice call termination on individual mobile networks) in 2019.

In 2017, no change was made to the national numbering plan. The NRA Chairman's mandate expires and as of 15 January 2018 a new one has been appointed. However, the CRC board still has three members with expired mandates and new members are expected to be nominated by the Parliament.

Bulgaria complies with the 2009 Termination Rates Recommendation for both fixed and mobile termination rates, both based on a pure BULRIC price cost methodology. End of 2016 the mobile termination rates decreased and were fixed at €cents 0.7158 per minute till 2020. Till end of 2018 the fixed termination rates are €cents 0.0767 per minute and decrease to €cents 0.0716 per minute for the period 2019-2020.

### **4. Consumer matters**

During 2017 the number of complaints CRC has received has considerably increased and reached 4 252. In most cases consumers complained about pricing and billing, contract termination penalties, unsolicited communications or services, roaming issues and the quality of network coverage. This trend might be explained partly by some roaming related requests for clarifications and the financial problems which one of the providers had, that caused lack of availability of services for several months.

Regarding pricing and billing (except charging of roaming services), contracts termination and penalties, CRC has no legal competence and informs consumers that they have the right to start an Alternative Dispute Resolution (ADR). The NRA also applies some mediation which, usually, resolves the problem between the undertaking and the consumer. About complaints concerning unsolicited communications via SMS/phone, when the sending of such messages is in breach of article 261 of the Law on Electronic Communications, CRC starts an administrative-penal procedure and imposes sanctions. However, the NRA has no power to oblige the person/entity to stop sending spam messages or cease marketing calls. The complaints are forwarded to the Consumers protection commission and/or the Bulgarian DPA (Commission for personal data protection). Regarding the issue related to the early contract's withdrawal the Consumers Protection Commission opened dialogues with the main operators defining a reasonable price of maximum three months penalty. It further disseminates the approach to other operators by informing customers which companies apply fair conditions. Following a binding decision adopted by CRC in 2016, all mobile operators are obliged to develop and publish on their web pages detailed interactive maps of the mobile coverage

allowing users to check the level of the signal provided by the operator at a certain place, to ease the consumer to take an informed decision before signing a contract.

#### **a. Roaming**

There has not been any major compliance issue as regards Roam Like at Home<sup>22</sup> (RLAH) implementation in Bulgaria, and no operator applied for the sustainability derogation. The retail mobile prices have not increased significantly compared to prior 15 June 2017. In most cases, the price remained identical for more services and a small price increase was accompanied by higher volumes of data. As a result of the EU Roaming regulation, the call minutes by subscribers of Bulgarian undertakings abroad rose. The share of Bulgarian consumers using mobile data while travelling in the EU more than doubled after 15 June 2017, while the share of those never using mobile data while travelling in the EU dropped<sup>23</sup>. Bulgarian subscribers consumed 3.4 times more voice and 8.7 times more data roaming services when travelling in the EU in summer 2017 compared to summer 2016<sup>24</sup>.

RLAH introduction went smoothly, despite some adjustments. In the preliminary assessment process of fair use policy, some inaccuracies and omissions have been spotted and all have rapidly been solved. During the implementation, violations were detected related to the application of alternative tariffs to some users without their explicit confirmation and the lack of transparent conditions concerning the data limits in some contracts. Administrative proceedings have been initiated and instructions were sent to the respective providers to change the information on the data limits in the contracts. Numerous consumer complaints were received and a multitude of inspections were conducted after 15 June 2017. Most frequently complaints are related to the deactivated roaming for certain consumer plans by one mobile operator. Some other complaints concern the consumer's misunderstanding that intra network/family offers count as off-net while roaming. A potential non-compliance with the new roaming rules has been detected for one undertaking, but following actions taken by the NRA, the conditions of the tariff plans have been modified and detailed information on the roaming data allowance has been included.

Besides imposing fines for breaches of the roaming regulation, CRC also can prohibit offers which are non-compliant. On 27 December 2016, Bulgaria published a Law amending the Law on Electronic Communications, (LEC) laying down administrative fines for infringements of certain articles of the roaming regulation. The associated fines are as follows: up to €1 million for infringements of Articles 3, 6e (1), 7, 9 and 12; up to €50 000 for infringements of Articles 4, 5(1), 6e(3) and (4), 11, 14 and 15. Furthermore, on 19 December 2017 Bulgaria amended the LEC, foreseeing that any undertaking providing false, deficient, late, or inaccurate information under the Roaming Regulation shall be liable to a penalty between € 500 to €25 000. Furthermore, any infringement of Articles 6a and 6b of the

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<sup>22</sup> Regulation (EU) No 531/2012 of the European Parliament and of the Council of 13 June 2012 on roaming on public mobile communications networks within the Union (OJ L 172, 30.6.2012, p. 10), as amended by Regulation (EU) 2015/2120 and Regulation (EU) 2017/920.

<sup>23</sup> Flash Eurobarometer 454 on the end of roaming charges within the EU, 27 September 2017.

<sup>24</sup> Figures compare Q3/2017 with Q3/2016 retail roaming volumes according to the BEREC International Roaming Benchmark Report, April 2017-September 2017, published on 14 March 2018.

Roaming Regulation in connection with Article 3, 4 or 5 of the FUP Implementing Regulation<sup>25</sup> should be fined of €25 000 up to €1 000 000.

#### **b. Net neutrality**

Bulgaria has adopted on 27 December 2016 a bill amending the LEC in order to transpose the requirements on penalties in Regulation (EC) No 2015/2120<sup>26</sup>. Bulgarian authorities notified these measures on 13 March 2017. The maximum fines are: up to €100 000 for certain infringements of Article 3(3) (for traffic management practices); up to €2 500 for Article 4 (not providing the information in the contract); up to €20 000 for Article 5(1) and (2) (specific requirements imposed by the NRA and not providing information to the NRA).

CRC monitors and controls the compliance to the open internet provisions and prepares a draft position on the implementation of Articles 3 and 4 of Regulation 2015/2120 in line with the BEREC guidelines, which was published for public consultation. Presently CRC is following BEREC Guidelines and regulations. Furthermore, the NRA is in the process of finalizing the documents for public procurement for the preparation of technical specification for the establishment of a QoS measurement system. The NRA follows BEREC's work on the developing of an opt-in monitoring system and is interested in the use of its software as a basis for the national measurement system.

During 2017, CRC has identified four cases of infringements of Article 4(1) and has notified its findings to the respective providers. CRC surveys the consumers' satisfaction from IAS QoS based on a special-purpose questionnaire published on its web site. Despite the low activity in completing the survey, the analysis reveals that the number of the satisfied end users from the QoS of fixed and mobile IAS is twice as high as the number of unsatisfied ones. The main reasons for the complaints are lower download/upload speeds than agreed for the fixed IAS and the poor or unavailable coverage of the mobile IAS in some areas.

#### **c. 112**

In 2017 there were no changes regarding the implementation of more accurate caller location in Bulgaria. In line with a provision of the LEC, the providers of mobile voice services are obliged to determine the caller location with an accuracy of 100m in urban areas and within one km outside of settlements. In the fixed network, the location is determined by the address on which the caller's number is registered. Both mobile and fixed operators use the "push" method for transmitting data for the caller location towards the Public Safety Answering Point (PSAP). Nevertheless, for the reporting period, caller location for mobile calls was temporarily not available due to technical failure. A procurement procedure is in progress and the performance is expected to restart in February 2018.

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<sup>25</sup> Commission Implementing Regulation 2016/2286 of 15 December 2016 laying down detailed rules on the application of fair use policy and on the methodology for assessing the sustainability of the abolition of retail roaming surcharges.

<sup>26</sup> Regulation (EU) 2015/2120 of the European Parliament and of the Council of 25 November 2015 laying down measures concerning open internet access and amending Directive 2002/22/EC on universal service and users' rights relating to electronic communications networks and services and Regulation (EU) No 531/2012 on roaming on public mobile communications networks within the Union (OJ L 310, 26.11.2015, p. 1).

In 2017, the Commission continued investigating whether Bulgaria has correctly transposed and implemented Article 26(4) of the Universal Service Directive 2002/22/EC guaranteeing equivalent access for end-users with disabilities to emergency services and caller location delivery. Following this, the Law on national emergency call system using the single European number 112 was amended in summer 2016. This amendment guarantees that people with hearing or speech disabilities can access the 112 number. The definition of 'emergency call' was also modified to expressly include other ways, besides voice calls, for people with hearing or speech disabilities to contact 112. After this modification, Ordinance № 6 on Universal service was also amended and published on 29 September 2017. It introduced a new requirement, obliging all operators, at the request of end-users with hearing or speech disabilities, to provide them with an appropriate electronic communications device with the corresponding software.

A review of the Rules for determining the terms and conditions for the provision of end-user location and subscriber data by undertakings providing public telephone services for emergency calls is foreseen during 2018 in order to include handset-based location data. The Minister of interior is responsible to raise awareness on 112. There are information banners at the airports and the awareness in Bulgaria (64%) is significantly higher than for the EU (49%).<sup>27</sup>

#### **d. Universal service**

There are no changes in 2017 concerning the scope of universal service<sup>28</sup>. Public payphones, directories and/or directory enquiry services are in the universal service obligation scope. Broadband is not included in the current scope of the universal service. In addition according to the Law on Integration of People with Disabilities the consumers with disabilities may use social allowances for information and telecommunication services.

On the affordability side, it should be underlined that Bulgaria has a social tariffs system in place. In 2017 BTC continued to offer, with no change in prices and conditions, the price packages intended for users: with low income ("Limited plan"); people whose work capacity or capacity for social adaptation has been impaired by over 90% ("Handicap 160" and "Handicap 300" plan); people whose work capacity or capacity for social adaptation has been impaired by over 50% ("Handicap 300" plan); people admitted to social or health institutions ("Social and health institutions" plan). In 2017, the universal service provider has neither submitted to CRC a request for compensation for the provision of the universal service, nor the sector-funded compensation mechanism has been activated.

## **5. Conclusion**

Bulgaria is lagging behind the EU average on 4G coverage. The spectrum release efforts initiated in previous years in the 800 MHz and 700 MHz bands, remained at a standstill, while more difficulties arose in the 1.8 GHz band. Additional prompt efforts on the effective release of spectrum in those bands could have a strongly positive impact on the deployment of high-quality wireless broadband services in Bulgaria. Furthermore, 5G strategy is expected to be rapidly included in the NBP and Bulgaria is supposed to ensure that appropriate spectrum is made available in timely manner to all relevant market players for early 5G trials and

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<sup>27</sup> E-communications household and telecom single market survey.

<sup>28</sup> Directive 2002/22/EC of the European Parliament and of the Council of 7 March 2002 on universal service and users' rights relating to electronic communications networks and services (OJ L 108, 24.4.2002, p. 51).

deployment. Moreover, deeper focus on deploying broadband in rural areas and on developing digital skills and digital services would decrease the digital divide and benefit the country's overall connectivity, in particular for NGA coverage and take-up. Following the decision to refer Bulgaria to the CJEU, Bulgaria has finally notified complete transposition of the BB CRD in early 2018, which should improve and speed up broadband roll-out. Last but not least, the problems related to the 112 number (non-functional caller location and absence of access for people with disabilities) should swiftly be solved.