I. STATE, DEVELOPMENT AND PROSPECTS OF THE ELECTRONIC COMMUNICATION MARKET

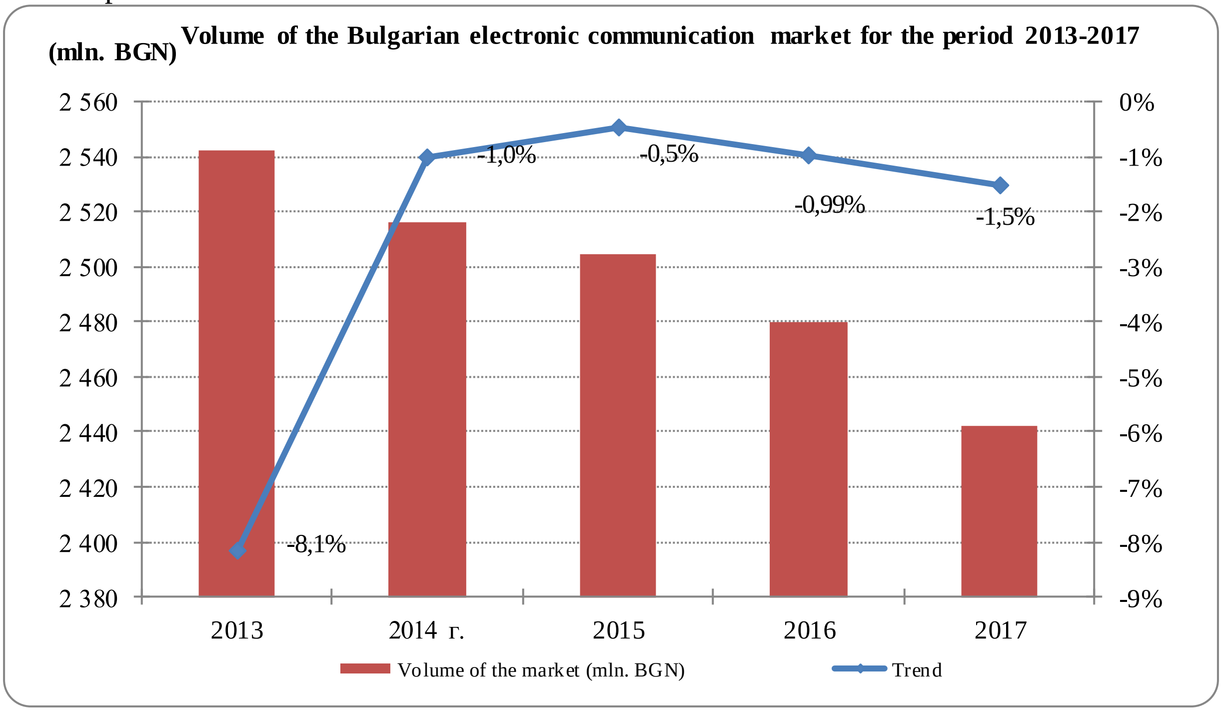
1. Volume and structure of the Bulgarian electronic communications market

1.1. Market volume

According to the data from the CRC register, as of 31.12.2017, 1103 undertakings were registered at CRC with the intention to provide public electronic communications. Pursuant to Art. 5 of the General requirements for the provision of public electronic communications, information from total 994[1] (90.1% of total registered) undertakings has been received.

In 2017, 842 undertakings performed their activity, including 20 undertakings which as of 31.12.2017 suspended their activity on providing public electronic communications and have been removed from the CRC register. In comparison to the previous reporting period, in 2017 there was a decrease both in the number of undertakings registered at CRC for providing public electronic communications (by 2.7%) and in the number of undertakings with real activity during the year (decrease by 1.6%). This reflected on the total market volume, which amounted to BGN 2.442 billion2 in 2017, decreasing by 1.5% as compared to 2016.

Fig.1 presents the dynamics in the electronic communications market volume in the country for the period 2013 – 2017.



Note: The data had been updated for 2016 *Source: Data submitted to CRC*

Fig. 1

The decrease in the total volume of the electronic communications market reflects on its share in the total GDP [3] of Bulgaria reporting a decrease by 0.2 percentage points (2.5% for 2017 compared to 2.7% for 2016).

[1] The data is based on the information submitted to CRC as of 17.05.2018
[2] Including incomes from undertakings, ceased operations in 2017
[3]Calculated at current prices Source: NSI: http://www.nsi.bg/bg/content/2206/%D0%B1%D0%B2%D0%BF-%D0%BF%D1%80%D0%BE%D0%B8%D0%B7%D0%B2%D0%BE%D0%B4%D1%81%D1%82%D0%B2%D0%B5%D0%BD-%D0%BC%D0%B5%D1%82%D0%BE%D0%B4-%D0%BD%D0%B0%D1%86%D0%B8%D0%BE%D0%BD%D0%B0%D0%BB%D0%BD%D0%BE-%D0%BD%D0%B8%D0%B2%D0%BE

1.2. Market structure

Information on revenue from the provision of public electronic communications in Bulgaria by segments determined according to the type of services for the period 2015-2017, is provided in Table 1.

Table 1

Structure of the public electronic communications market in Bulgaria by type of the provided services for the period 2015 – 2017

Public electronic communications services	Revenues		
	2015 г.	2016 г.[1]	2017 г.
	(mln. BGN)		
1. Voice telephony services	1 131,441	886,146	734,860
1.1 Fixed voice service through geographic numbers from the NNP, Carrier Selection service and public payphones	174,305	155,866	126,711
1.2 Mobile voice service through numbers from the NNP	942,830	718,521	596,147
1.3 Other voice servises[2]	14,305	11,759	12,002
2. Leased lines services[3]	31,896	26,597	23,212
3. Data transfer and/or Internet access services	403,357	472,317	487,500
4. Transmission and/or distribution of radio and TV programmes services	244,415	254,535	254,397
5. Bundled services	643,483	784,505	885,411
6. Other services[4]	50,121	55,759	56,650
TOTAL	**2 504,713**	**2 479,860**	**2 442,029**

[1] The data for 2016 has been updated

[2] Includes revenue from carrying out VoIP (voice IP service where no NNP numbers (geographic or non-geographic) are used, the service quality is not quarantined and the user must use/have Internet assess through the respective device – computer/telephone).

[3] Revenues from Leased lines (national and international) are included as well as the revenues from parts of international leased lines out of the territory of the republic of Bulgaria

[4] The segment includes revenues from the provision of duct network access, satellite systems access service, shared use including provision of towers, masts, dark fibre, co-location services other than those provided for interconnection and other services

Source: Data submitted to CRC

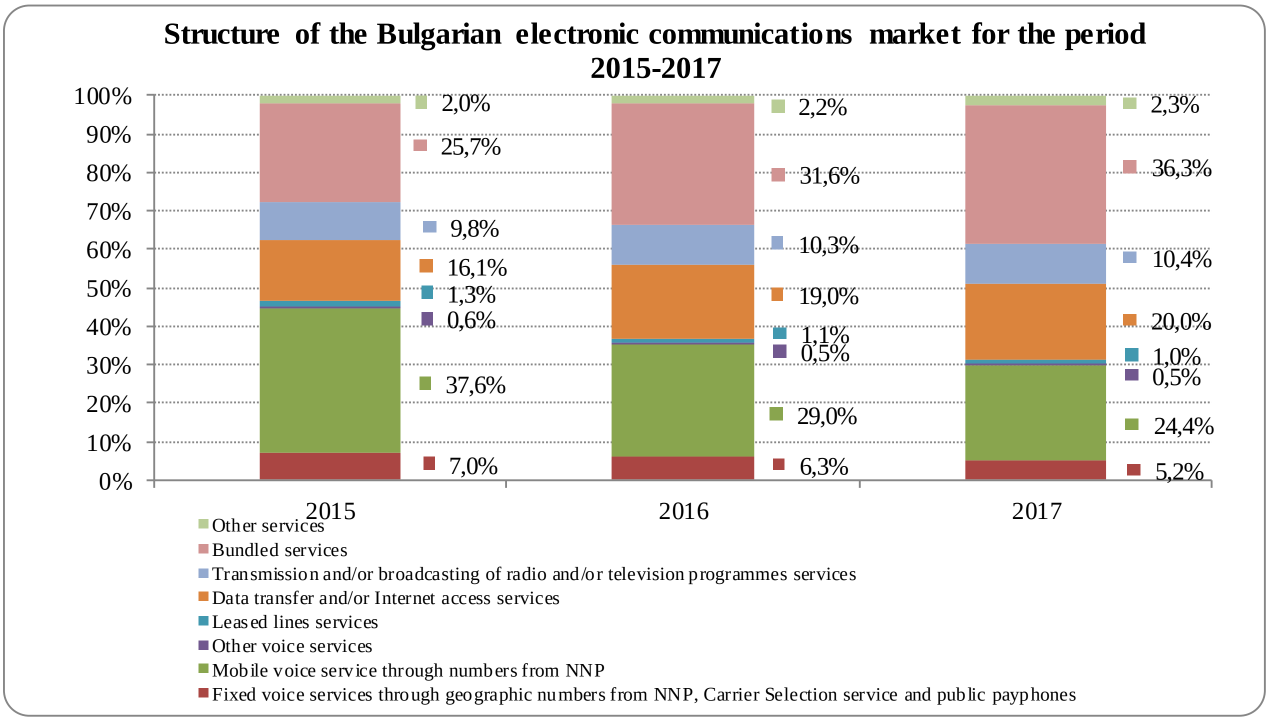
In 2017, the total volume of the electronic communications market[4] in Bulgaria was determined mainly by revenue from voice services, bundled services and data transfer and/or Internet access services.

For the first year the share of the revenue from bundled services in the total volume of the market in 2017 goes ahead of the revenue from the voice services increasing by 4.7 percentage points compared to 2016 and reaches its highest relative share – 36.3%. The share of voice telephony services (fixed, mobile and other voice services) in the total volume of the public electronic communications in 2017 is 30.1% and reported decrease by 5.7 percentage points compared to 2016. The services for data transfer and/or Internet access are on the third place and

[4] Formed by revenues from services provided standalone and by revenues from bundled services (installation fees and monthly subscription)

represent 20% of the total market volume. The relative share of revenue from this market segment in the market structure increased by 1 percentage point compared to 2016.

The change in the relative shares of the revenue from electronic communications services in the structure of the electronic communications market for the period 2015-20167 is shown on Figure 2.



Source: Data submitted to CRC

Fig. 2

As compared to the previous year, in 2017 three market segments registered a growth, namely:

✓ ”Data transfer and/or Internet access“ – 3.2%. This growth is mainly due to ”Other services related to provision of data transfer and Internet access“, the revenue of which increased by 68.5%;

✓ ”Bundled services” increased by 12.9%. It was due to both the considerable increase in the revenue from quadruple-play service (by more than 4 times as compared to 2016), and increase in (by 14% as compared to 2016) the revenue from double-play service;

✓ ”Other services” registered a growth of 1.6%. The main increase here was from “Satellite systems access” service, the revenue of which increased by 22.3% compared to 2016. The revenue from the provision of access to duct network, included in this segment also registered a growth of 6.0%.

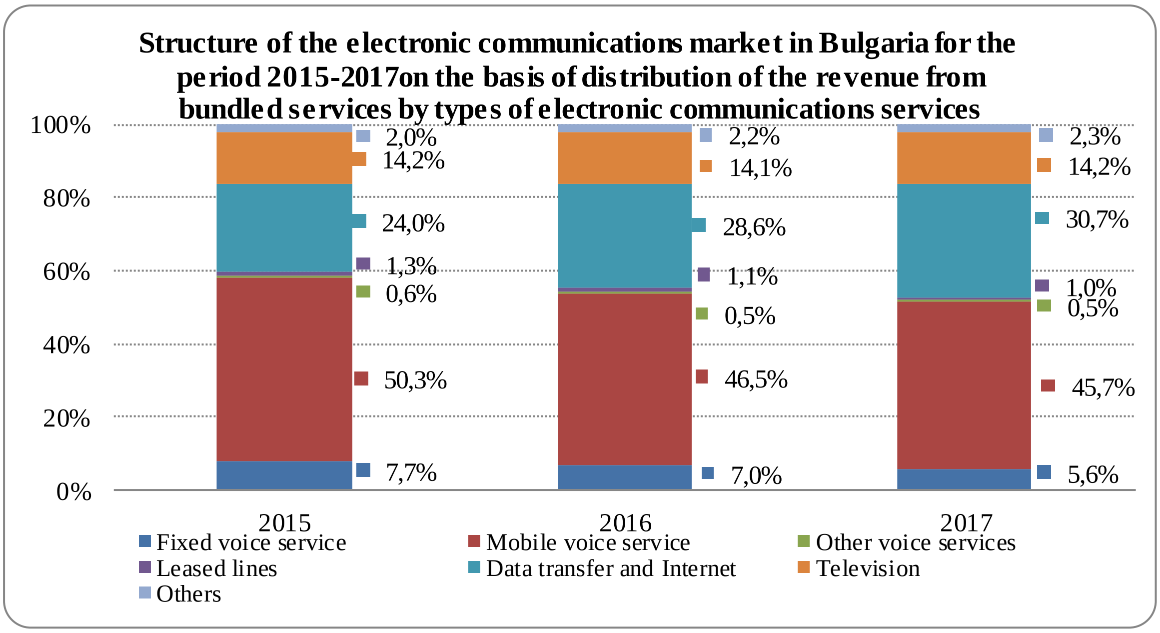
Despite the considerable increase in the revenue (more than two times) of the provision of retail IPTV service compared to 2016, in 2017 “Transmission and/or distribution of radio and TV programmes services” segment marked a slight decrease of 0.1%.

The following segments reported a considerable drop in their volume during the reported period:

✓ For a consecutive year the ”Voice telephony service” segment reported a drop by 17.1% in absolute terms, as the most considerable decrease by 18.7% was for the fixed voice service;

✓ In 2017, ”Leased lines services” continued to record a decrease which amounted to 12.7% compared to 2016 mainly due to a drop in the revenue from retail Leased lines.

In the recent years the influence of the bundled services and their share in the total market volume has been increased. At the same time, the use of the stand-alone services decreases. With a view to this fact, in order to be able to show the revenue generated by the different types of electronic communications services, more specifically, Fig. 3 represents the distribution of the revenue from bundled services by types of electronic communications services.



Source: *Data submitted to CRC*

Fig. 3

The data shows that in the case of such distribution, the segment ”Voice telephony services” (fixed voice service, mobile voice service and other voice services) reports a drop by 6.8 percentage points in total (for the period 2015 – 2017), although it occupies the first share place in the total market volume. The segment ”Data transfer and Internet“ takes the second place in importance, its share increases by 6.7 percentage points for the three-year period. The main reason for the increase is the growth in revenues from mobile access to Internet, which has increased more than 2 times for the period 2015-2017. The third place in that distribution is for the segment “Transmission and/or broadcasting of radio and/or television programmes services”, which revenue in 2017 accounts 14.2% of the total market volume.

Investments

In 2017, 403 undertakings (452 in 2015) invested in building and maintenance of public electronic networks BGN 413.912 million out of the planned BGN 441.419 million in 2016, which shows that the investments planned by the undertakings were realized at 93.8%.

During the year BGN 163.938 million were invested in fixed networks for provision of electronic communication services, as BGN 73.559 (BGN 17 million more than the previous year) were invested in next generation access networks (NGA). This leads to an increase of 6.1 percentage points of the share of NGA network investments in the total investment volume, which was 17.8% for 2017. In 2017 the number of the undertakings, invested in next generation access networks decreased by 7 compared to 2016 (168 undertakings in 2017 compared to 175 undertakings in 2016).

In 2017 the investments in mobile networks were 38.7% of the total investments of the undertakings, which reported a drop of 8.9 percentage points for one-year period. In 2018 the operators plan to invest in their mobile networks BGN 116.836 million.

2. Voice telephony services

The segment "Voice telephony services" includes the following services: fixed telephony service through geographic numbers from the National Numbering Plan (NNP), access to public telephony service through "Carrier Selection service", telephony services via public payphones, mobile voice service through numbers from the NNP (including SMS[5] and MMS[6]) and other voice services. The revenue from "Other voice services" position is gained from the provision of VoIP[7], from the provision of voice service through commercial representation, from web-based incoming voice services, etc.

In 2017, the total volume of the revenue earned from the stand-alone services included in the "Voice telephony services" segment amounted to BGN 734.860 million. A steady downward trend in the volume of that segment continues as the decrease of the total revenue in 2017 by 17.1% compared to 2016 is observed.

Table 2 presents summarised information on the segment under review in 2017, namely: the number of undertakings providing services in this market segment, the number of their subscribers/lines used voice telephony services, as well as the revenue from the services provided.

Table 2

Number of undertakings, subscribers/lines and revenue by type of voice telephony services provided in 2017

Service	Number of undertakings providing the service as of 31.12.2017	Number of subscribers/lines as of 31.12.2017		Revenue (in BGN million excl.VAT)[2]
		Total[1]	including bundled service subscribers	
1. Fixed voice service	///	///	///	**126,711**
1.1. Fixed voice service through numbers from the NNP and the Carrier Selection service	24	1 249 476*	520 788	126,069
1.2. Telephony service through public payphones	3	6 636**	///	0,642
2. Mobile voice service through numbers from the NNP	3	8 532 908	4 695 840	**596,147**
3. Other voice services	28	///	///	**12,002**
Total		///	///	**734,860**

[1] Including bundled service subscribers
[2] Excluding revenue from bundled services
* Numbers of lines of fixed telephony service subscribers
** Number of public payphones/telephone booths
Note: *The symbol /// used in this document means that the information is not applicable to the indicated parameter or is confidential.*

Source: *Data submitted to CRC*

The total number of undertakings declared activity on providing fixed telephony service as of 31.12.2017 was two less compared to the end of 2016. At the end of 2017 there were only three

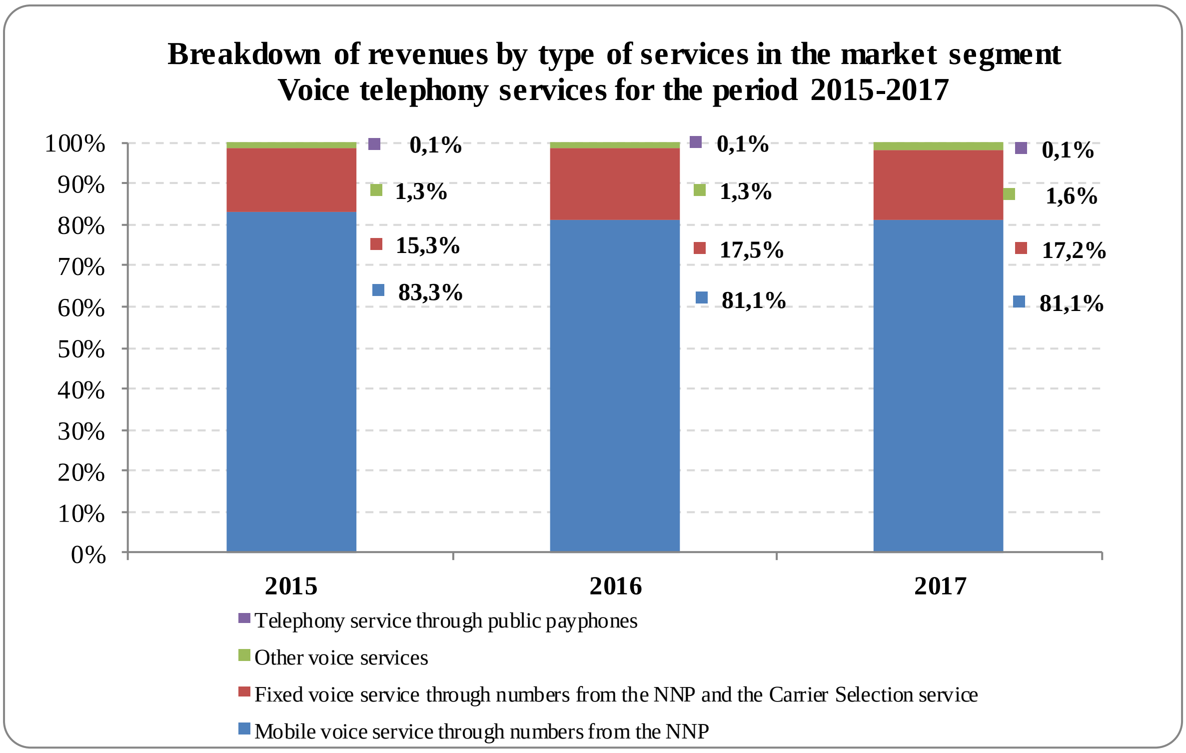
[5]Short Message Service
[6]Multimedia Messaging Service
[7]Voice IP service where no NNP numbers are used, the quality of service is not guaranteed and the user must use/have Internet access through the respective device - computer/telephone.

undertakings providing mobile voice service through numbers from the NNP. At the beginning of 2017 “Max Telecom” Ltd[8] (Max Telecom) ceased to provide the service. The undertakings providing the services including in “Other voice services” group decreased from 29 in the previous year to 28 in 2017.

Only the number of the undertakings providing telephone service through public payphones/telephone booths has not changed – total of 3 undertakings including the “Bulgarian Telecommunications Company” EAD (BTC).

In 2017, drop in the revenue from all services included in the ”Voice telephony services” segment was observed. The total revenues from other voice services with reported increase by 2.1% due to mainly to growth in provision of VoIP services were an exception. For the other groups, the decrease compared to the previous year is as follows: 18.7% drop in revenues from the fixed voice service through numbers from the NNP and “Carrier selection” service; 17% drop in revenues from the mobile voice service and 14.2% drop in revenues from the public payphones/telephone booths.

Fig. 4 shows the distribution of revenue from the different services in the segment volume for the period 2015 – 2017.



Source: Data submitted to CRC

Fig. 4

In 2017 there were no change in the breakdown of revenue by type of services in the market segment Voice telephony services. The revenue from the mobile voice service hold the highest share (81.1%) in the total volume of the segment; followed by the revenue from the fixed voice service through geographic numbers from the NNP and the Carrier Selection service (17.2%). The share of the revenue from other services increased by 0.3 percentage points and reached 1.6%, and for a consecutive year the share of the revenues from public payphones did not changed (0.1%).

[8] With CRC Decision 510/14.09.2017 the licenses of Max Telecom were granted to T.com AD. T.com AD did not provide mobile telephony service in 2017

2.1. Fixed voice telephony services

Market players

At the end of 2017 the total number of the undertakings authorised by CRC to provide access to fixed telephony service through geographic numbers and access to public telephony service through Carrier Selection service was 24. Nine undertakings which had declared their intention to provide public electronic communications by resale of fixed telephony service through secondary submitted numbers were registered, of which (Comtech Bulgaria EOOD and VOXBONE S.A./N.V) declared some activity during the year.

In 2017 three undertakings ceased activity on provision of access to the fixed telephony service to end users ("BLIZOO MEDIA & BROADBAND" EAD (BLIZOO)[9], "GLOBAL COMMUNICATION NET" AD and "Premium Net International S.R.L". Two undertakings which did not provide services through geographic numbers to end users in 2016, declared the subscribers as of 31.12.2017, ("Novatel"EOOD - through individually assigned scarce resource - geographic numbers and VOXBONE S.A. /N.V – through secondary submitted numbers). Thus, at the end of 2017 the total number of the undertakings providing access to fixed telephony service through geographic numbers, including secondary submitted geographic numbers was 22. Two of the authorised undertakings provided only wholesale services, related to the provision of fixed telephony service and generated revenue from transit and access to the interconnection services. As a result, in 2017 the number of the active undertakings on the market of fixed telephony service was 24.

Telephone lines of fixed telephony service subscribers

The information submitted by the undertakings related to their activity on provision of end users' access to the fixed telephony service in 2017 indicates that for a yet another year there was a decrease in the number of fixed telephone lines. In 2017 the decline was by 12,9% as compared to 2016 which is 3.3 percentage points more than the decline in 2016 compared to 2015 (9.6%). It is due to decrease in the number of fixed telephone lines of the incumbent by 13.2% and also to the drop in the total number of the subscribers' fixed telephone lines of the alternative undertakings by 12.5% compared to the drop of 5.1% for the previous year. Because of the considerable decrease in the number of lines served by the alternative undertakings, the market shares of the incumbent, calculated on the basis of the number of fixed telephone lines remained at the level of 2016 and at the end of 2017 it was 61.7%[10]. "Mobiltel" EAD[11] (Mobiltel) and "Telenor"EAD (Telenor) were BTC major competitors on that market. In 2017 Blizoo was acquired by Mobiltel[12], which increased its market share and at the end of the year the undertaking served 23.1% of the fixed telephone lines of the service subscribers, followed by Telenor[13] with 13.4%.

Fig. 5 presents information on the variation in the number of the fixed telephone lines and the fixed telephone penetration by population for a three-year period.

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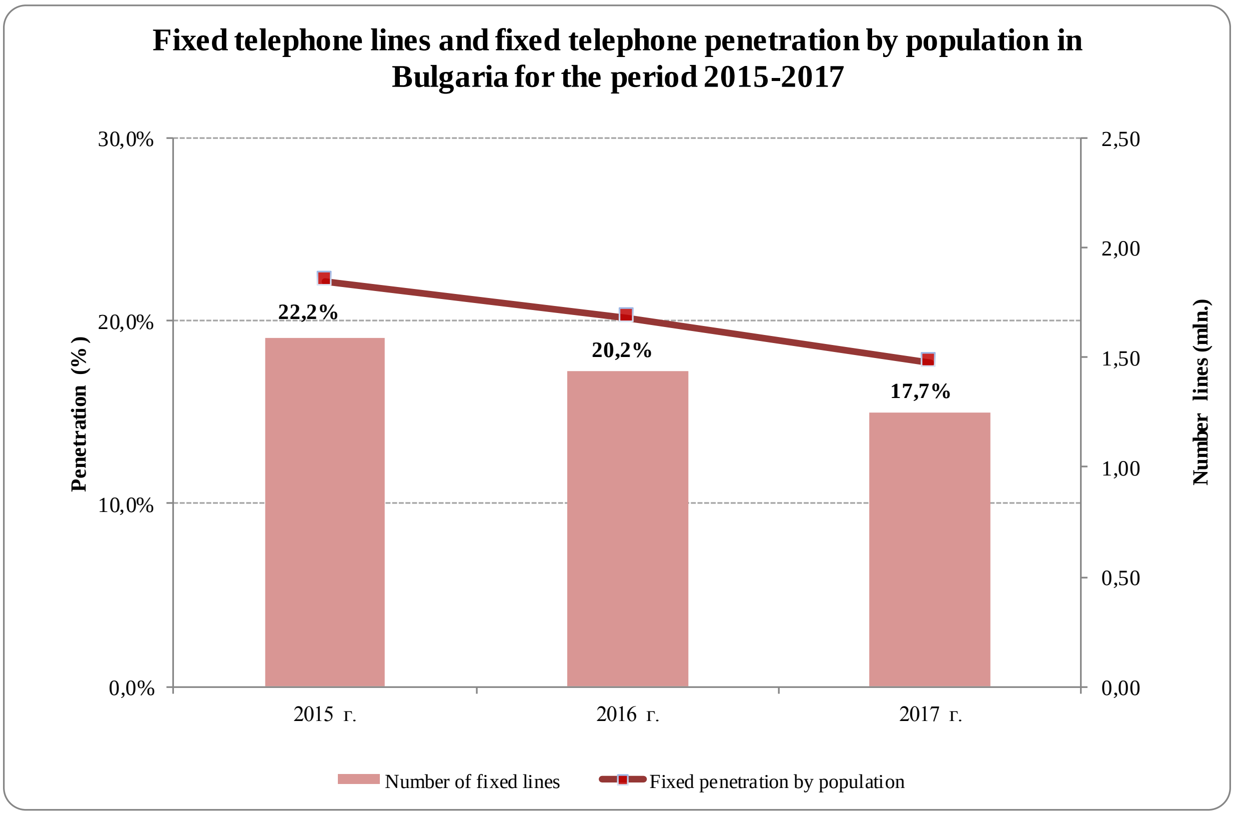
[9] On 12.04.2017 "Blizoo Media and Broadband" EAD was acquired by "Mobiltel" EAD.

[10] In 2017 BTC relative share, calculated on the basis of the number of fixed telephone lines decreased by 0,2 percentage points for one-year period.

[11] Since 18.05.2018 "Mobiltel" EAD has been named "A1 Bulgaria" EAD.

[12] As of 31.12.2017 Mobiltel relative share, calculated on the basis of fixed telephone lines increased by c 8.3 percentage points compared to 31.12.2016 as a result of Blizoo acquisition.

[13] In 2017 Telenor relative share, calculated on the basis of fixed telephone lines decreased by 0.8 percentage points for one-year period.



Source: *Data submitted to CRC*

Fig. 5

As a result of the decline in the total number of fixed telephone lines, the value of the fixed penetration by population indicator also decreased in 2017 and reached 17,7%[14].

Consumption (traffic) of fixed telephony service

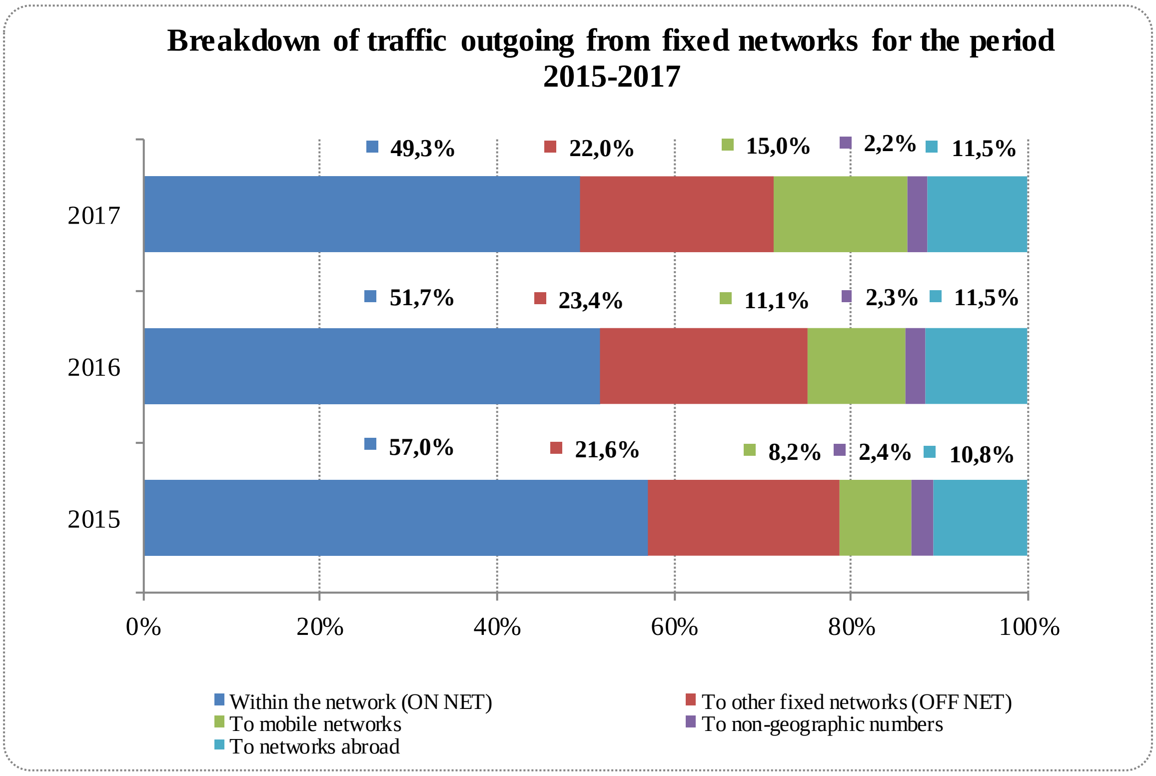
The annual decrease in the number of fixed telephony subscribers, as expected, resulted in decrease in the total consumption of the service. In 2017 the volume of the outgoing traffic (in minutes), originated by the users[15] for the national (local and long-distance calls, calls to mobile networks and non-geographic numbers) and international calls amounted to 774.3 million minutes and decreased by 19.9% compared to 2016 – for comparison, the decrease in the previous one-year term was by 15.9%.

Over the last years, development of the fixed voice service found its expression in increasing of the telephone traffic volume in the monthly subscriptions. The traffic that the subscribers pay beyond their monthly subscription is only 17.8% of the total generated traffic. For one-year period it decreased by 4.4 percentage points. This fact, as well as the steady trend of decrease in the consumption of the service as a whole, leads, as it is expected to a considerable drop in the Carrier Selection service consumption. As of 31.12.2017 there were no declared subscribers using the Carrier Selection service and there was only symbolic consumption measured in a volume of generated traffic and realized revenue during the year.

[14] Fixed density by population indicator is calculated as the ratio between the total number of active telephone lines as of 31.12.2017 and the number of the country's population as of 31.12.2017 according to NSI (National Statistical Institute) data (Population by districts, municipalities, place of residence and sex: http://www.nsi.bg)

[15] Including the traffic originated by subscribers of fixed telephony service, as well as the voice traffic from public payphones

In 2017 the structure of the consumption, regarding the calls direction, did not changed significantly as compared to the previous years. Fig. 6 presents the breakdown of the total volume of the traffic, originated by fixed networks [16].



Source: *Data submitted to CRC*

Fig. 6

As in the previous years, the major part of the total traffic originated in 2017 was formed by the traffic within the network (on net), as for a consecutive year the volume of that traffic decreases considerably – by 23.6% with a decrease of 23.8% for the previous period (2016-2015). In 2017 a decrease was reported also in the volume of the traffic generated from calls to other fixed networks (off net) – by 24.8% compared to 2016. A growth was reported only for the calls to mobile networks – by 8.1%. In 2017, 71.3% of the volume of traffic from calls to mobile networks was from consumption, included in the subscriptions, for the previous period it was 57.5%. According to the data submitted by the undertakings providing fixed telephony services, in 2017, 82.2% of the total traffic generated by the fixed telephony service subscribers was minutes, included in the monthly subscriptions. The increase in the share of the traffic, included in the monthly subscriptions, has an impact on the breakdown of the revenue from the fixed telephony service.

Revenue from fixed telephony service

In 2017 the total volume of the revenue from the provision of stand-alone fixed telephony service[17] amounted to BGN 126.7 million, which was a drop by 18.7% compared to 2016 while for the previous one-year period the drop was 10.6%. BTC is the undertaking with the highest market share, calculated on the basis of revenue from provision of fixed telephony service. In

[16] Including the traffic, originated by fixed telephony service subscribers with geographic numbers from NNP, the traffic from subscribers of the Carrier Selection service and the traffic from public payphones and telephone booths.

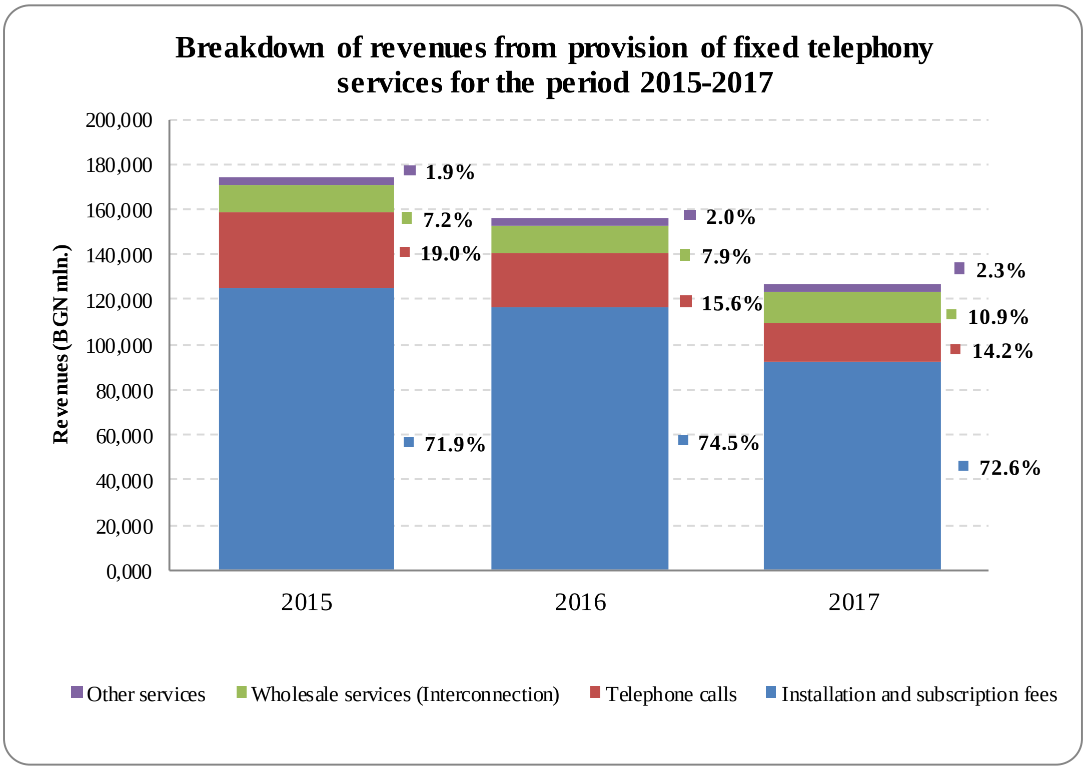
[17] Not including the revenue from monthly subscriptions and installation fees for fixed telephony service included in a bundle with other electronic communications services. Including revenue from the Carrier Selection service and revenue from calls through public payphones and telephone booths.

2017 its share was 84.4%, registering a decrease by 3.1 percentage points compared to the level from the previous year (87.5%).

The basic reported changes related the revenue from the fixed telephony service, realized in 2017 are as follows:

- Drop in the volume of revenue realized from retail services due to decrease in the service consumption consisting of decrease of the fixed telephone lines and generated traffic. In absolute value, the realized revenue generated from access to fixed telephony service (installation and subscription fees) reported drop by 20.8%, and the revenue from telephone calls – drop by 26.3%;
- Increase in the total volume of revenue from wholesale services (including interconnection services – origination, termination, transit and access to the interconnection services) by 12.4%. It is mainly due to the growth in consumption and revenue from the service "transit" in comparison to the previous year - by 47.0% for the transit traffic and 59.3% for the revenue, respectively. In 2017 the service "transit" had the largest share in the volume of the revenue from interconnection services – 58.3%, followed by the service "termination"- by 31.0%.

The next Fig.7 shows the breakdown of total revenues from fixed telephony service by types of services for the period 2015 – 2017.



Source: *Data submitted to CRC*

Fig. 7

As it is evident from the data, in the period 2015 – 2017 the structure of the fixed telephony service market did not change significantly – installation and subscription fees (retail access revenue) formed the basic part of the total revenue from the service - over 70%. As a result of the adding of a considerable number of minutes in the subscription plans the retail traffic revenue decreases every year which reflects on their share in the total revenue volume.

For wholesale services, the revenue growth in absolute value, reported in 2017 reflects on their share in the total volume increasing by 3 percentage points.

Public payphones

According to data submitted by the undertakings, at the end of 2017 the number of public payphones and telephone booths in the country amounted to 6636 and a considerable drop (by 12.6%) compared to the previous year was reported again. Decrease of the traffic volume originated by the public payphones and telephone booths was also considerably in 2017 compared to 2016 – by 25.3%. Generally, the volume of the traffic, the revenue and the number of operative public payphones and telephone booths are entirely formed by the BTC's activity under the obligations to provide universal service.

Summary

In 2017 the drop of the fixed telephony service consumption due to the decreasing interest of the customers results in a decrease in the values of all basic parameters as follows:

- Decline in the total number of the fixed telephony lines, including the service, used in a bundle with other communication services;
- Decline in the total revenue volume from stand-alone fixed telephony service[18], due to the reduced consumption of the service and the inclusion of a considerable amount of minutes in the monthly subscriptions as well;
- Decline in the volume of the outgoing traffic (in minutes), originated by subscribers from telephone calls including public telephones.

2.2. Mobile voice telephony service

Market players

In 2017 the total number of the undertakings authorized by CRC to provide mobile voice telephony service was 5: BTC, Bulsatcom EAD (Bulsatcom), Max Telecom OOD (Max Telecom), Mobiltel and Telenor. The data submitted to CRC reporting their activity in 2017 show that 3 of the undertakings actually offered and provided the service in the market in 2017 - BTC, Mobiltel and Telenor. Max Telecom OOD (Max Telecom) ceased provision of the service at the beginning of 2017, Bulsatcom provided free test access to "Bulsatcom Voice" mobile application only to users using other electronic communications services provided by the undertaking. Thus, it enabled them to make free telephone calls with mobile and fixed numbers of the other operators in the country as well to send SMS.

In 2017 Mobiltel continues to play a leading role in the mobile telephony service segment - the undertaking owns the largest market share in the segment, both by number of subscribers (39.3%), and the amount of revenue generated during the year (40.3%), followed by Telenor and BTC with a market share of 32.9% and 27.8% respectively related to the number of subscribers and 31.2% и 28.4% respectively related to the revenue.

The changes in Mobiltel[19], Telenor[20] и BTC[21] market shares registered in 2017 are insignificant and they did not result in any rearrangement of their position in the segment.

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[18] Excluding revenue from installation fees and monthly subscriptions for bundled services with fixed telephony service included.

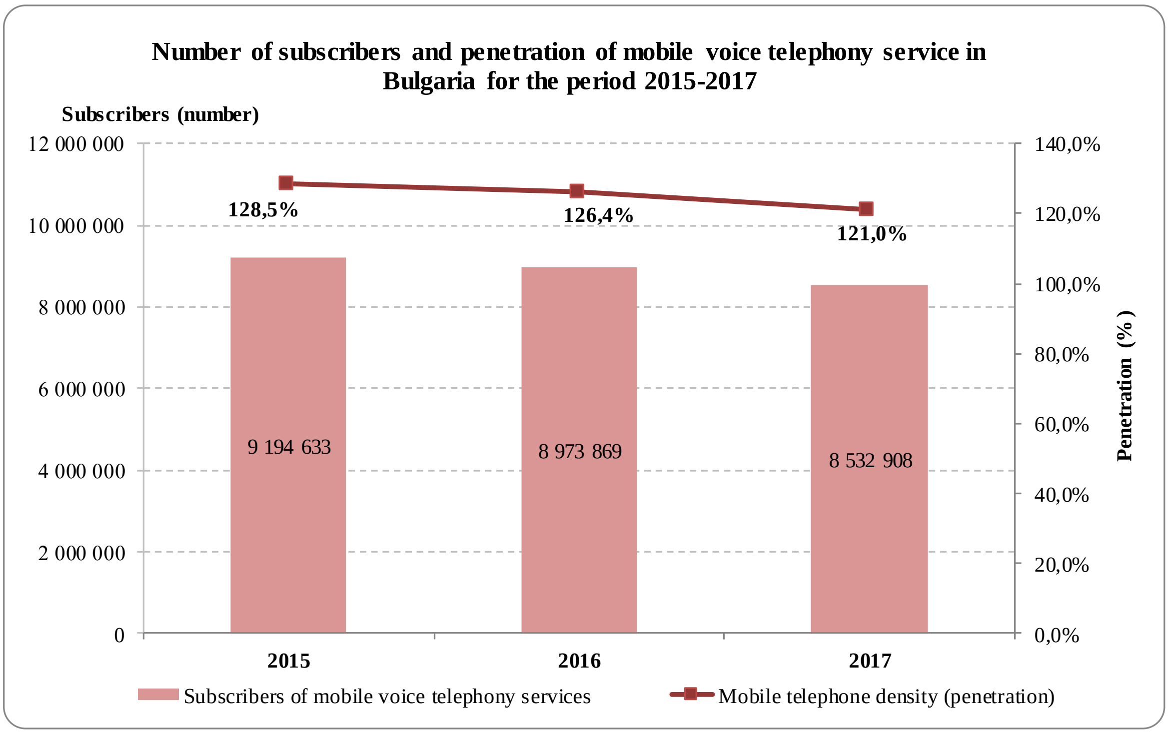
[19] In 2017 the relative share of Mobiltel calculated on the basis of number of subscribers decreased for one-year period by 0.4 percentage points, while the one calculated on the basis of revenue increased by 0.9 percentage points.

[20] In 2017 the relative share of Telenor calculated on the basis of number of subscribers decreased for one-year period by 0.6 percentage points, while the one calculated on the basis of revenue increased by 0.4 percentage points.

[21] In 2017 the relative share of BTC calculated on the basis of number of subscribers increased for one-year period by 1.0 percentage points, while the one calculated on the basis of revenue decreased by 1.3 percentage points.

Subscribers of mobile voice telephony service

As of 31.12.2017 the number of subscribers of mobile voice telephony service (number of unique SIM cards) amounted to 8 532 908 and for a consecutive year registered a drop (by 4.9% compared to 2016; as of 31.12.2016 the number of subscribers was 8 973 869). According to the data submitted to CRC by the undertakings, the drop continued to be mainly provoked due to decrease in the number of prepaid cards (drop by 22.5%) and slightly drop in the number of post-paid subscribers (by 0.2%). The following Fig.8 presents information on the number of subscribers of mobile voice telephony service and the penetration (mobile telephone density) of the service in the population for the period 2015 – 2017[22].



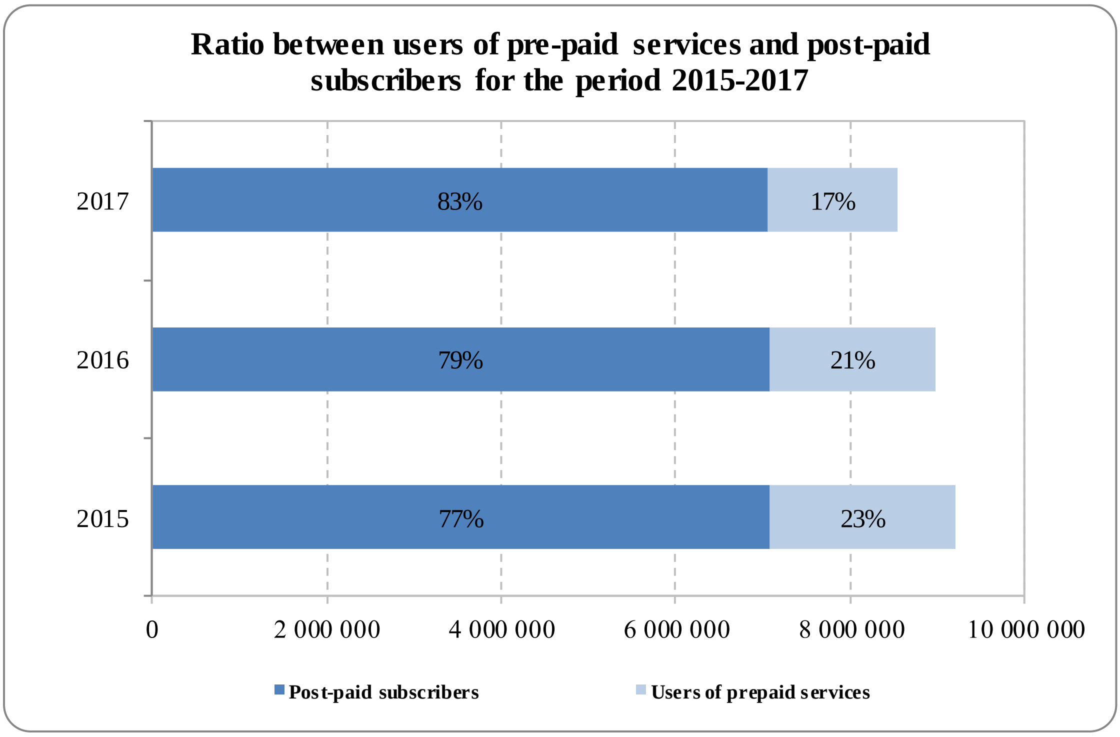
Source: *Data submitted to CRC*

Fig. 8

In 2017, compared to the previous two years, the trend of drop in the number of subscribers of mobile voice telephony service was forced. As a result, the Fig.8 shows, that mobile telephone density indicator decreased by 5.4 percentage points for the past year and reached 121%.

The following Fig. 9 presents data on the ratio between users of prepaid mobile telephony service and post-paid subscribers. The considerable drop in the number of prepaid cards in 2017 negatively affected their relative share, which decreased to 17%. As a result, the share of the post-paid subscribers increased and at the end of 2017 their number reached 83% of the total number of the mobile telephony service users in Bulgaria.

[22] Mobile telephone density indicator was calculated as a ratio between the number of subscribers of mobile voice telephony service as of 31.12.2017 and the number of population as of 31.12.2017 according to NSI data (Population by districts, municipalities, place of residence and sex: http://www.nsi.bg/bg/node/2972).



Source: *Data submitted to CRC*

Fig. 9

The main reason for the considerable drop in the number and relative share of the prepaid cards in 2017 (as it is shown in Fig.9) is some changes of LEC[23] that were adopted at the end of 2016. As a result, in 2017 the mobile operators took measures to deactivate prepaid SIM cards of users who had more than 10 cards registered in their name (the measures meet the LEC and Counter-Terrorism Law).

Consumption (traffic) of mobile voice telephony service

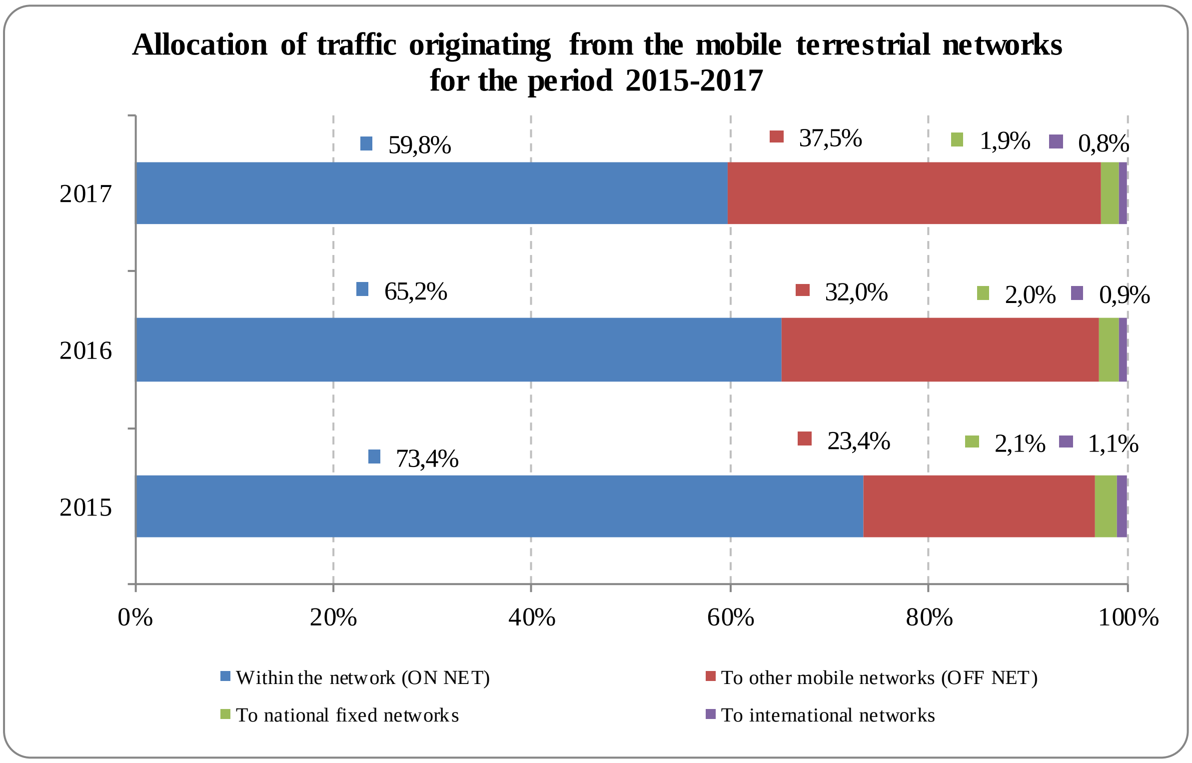
In 2017, the total volume of the outgoing traffic[24] (measured in minutes) was 18 850.23 million minutes and shows a growth by 4.5% compared to the previous 2016. Unlike the Fixed telephony service where the annual decrease in the number of subscribers went together with the drop in the service consumption, there was no causal link in the mobile telephony service. The decline in the number of subscribers of the mobile telephony service did not result in shrinking of the total consumption of the service and it constantly increased (by 9.2% over the last three years). This was because the decline in the number of subscribers of mobile telephony service was mainly due to a decline in the number of the subscribers with prepaid SIM cards, and the share of their consumption (number of call minutes) in the total consumption of the mobile telephony service was very small (4.1% for 2017). The large share of consumption by post-paid subscribers (95.9% for 2017), as well as the annual increase in minutes of calls on mobile networks (by 12.4% for the period 2015 – 2017) balanced the drop in consumption of prepaid subscribers and increased the consumption of the mobile telephony service.

Data from Fig.10 shows that in 2017 the share of the on-net traffic again was the largest (59.8%) in the total volume of the retail traffic originated on the mobile networks in the country

[23] Art. 138 of LEC (SG, No.103 of 27 December 2016): The undertakings providing public telephony networks through fixed and/or mobile terrestrial networks, do not have right to register and/or activate in the time of one user more than 10 telephone numbers through which prepaid telephone service are provided.

[24] Including outgoing traffic generated by mobile telephony service subscribers within a mobile network (on net traffic), to other mobile networks in the country (off net traffic), to fixed networks in the country and to networks abroad.

However, it continued to decrease for the period 2015 – 2017 by 13.6 percentage points. In absolute value (number of minutes) the on-net traffic cut down by 11.2% for the same period.



Source: *Data submitted to CRC*

Fig. 10

The share of both traffic to fixed networks in the country and traffic to international networks remains almost unchanged for the period 2015 – 2017 (Fig.10).

The reported drop in the share of on-net traffic is due to the increase in the share of the off-net traffic originated to other mobile networks in the country. In 2017 the off net calls occupied 37.5% of the total traffic originated in mobile networks in the country and registered a growth of 14.1 percentage points for the period 2015 – 2017. In absolute value, for the specified period, an increase by 75.1% in the off-net traffic was reported. The observed growth in off net consumption shows that there is a strong competition on the mobile voice telephony service market. The resulting benefits for the end users is that they have not only a specified volume of minutes for on-net calls but also more favourable terms for calls out of own network.

The user-friendly regulation of roaming charges within EEA countries had a positive effect on the mobile telephony service consumption in 2017 – the number of call roaming minutes (roaming outgoing calls) by Bulgarian undertakings subscribers increased by 200.6% (three times) and those of incoming calls – by 84.5%.

Short multimedia and text messages

In 2017 for a consecutive year, a decrease in the number of sent short text (SMS) and multimedia (MMS) messages was registered. In 2017 the sent SMS amounted to 467 million (drop by 16.3% compared to 2016), while the sent MMS were 4.8 million (by 0.08% less than 2016).

Despite the fact that the abovementioned regulation of roaming charges applies also to the roaming SMS, in 2017 they also reported drop in their consumption – by 22.2%. The roaming MMS consumption for the same period increased 5 times (by 389%).

Revenue from mobile voice telephony service

In 2017, the revenue from stand-alone provision of mobile telephony service (out of a bundle with other electronic communications services) amounted to BGN 596.147 million and for a consecutive year they registered a drop compared to the previous year (a drop of 17% for 2017 as compared to 2016). The data, available in CRC shows that this downward trend in the revenue from stand-alone provision of mobile telephony service was mainly due to a drop in retail revenue - by 21.6%, and to certain extends due to a drop in wholesale revenue (interconnection) - by 2.5%. Among the number of factors, which caused that, the most important are the following:

- steady downward trend in the total number of mobile telephony service subscribers in the country (7.2% for the period 2015 – 2017) and the continuous increase in the share of consumers, who use the service bundled with other electronic communications services [25] (from 33.1% as of the end of 2015 to 55.0% as of the end of 2017). Only for the past year, the share of subscribers using bundled mobile telephony service increased by 8.6 percentage points. This trend continued to influence strongly the volume of revenue from installation fees and monthly subscription from stand-alone provision of mobile telephony service, which dropped by 22.6% in 2017 compared to 2016 (for comparison - revenue from monthly subscription and installation fees from use of bundled mobile telephony service in 2017 amounted to BGN 519.8 million and registered a growth of 19.5% compared to 2016 г);

- the strong competition between the players on the mobile telephony service market in the country results in offering of more and more favourable offers to the consumers (subscriptions/prepaid tariff plans), in which the undertakings include a great or unlimited volume of minutes for both on net calls and off net calls. As a result, in 2017 the volume of the consumed minutes for calls to other mobile networks in the country, included in the price of the subscription plan continued to increase (by 25.1% compared to 2016), and their share in the total volume of call off net minutes in 2017 reached 97.5%;

- the user-friendly regulation of roaming charges within EEA countries had an effect on the revenue from the revenue from retail mobile telephony service in 2017 due to a decrease in the wholesale prices combined with an inadequate pace of the growth of terminated traffic.

The following Fig.11 presents the breakdown (structure) of revenue from mobile telephony service by years for the period 2015 - 2017. Data from Fig.11 show that the revenue from monthly subscription and installation fees remained dominated in 2017, they continued to occupy the largest share in the segment (33.1%), despite the steady downward trend in their share. At the same time, the reported drop in 2017 in the total volume of wholesale revenue did not affect negatively on their share in the segment, which reached to 28%, followed by the share of revenues from voice telephony (19.7%).

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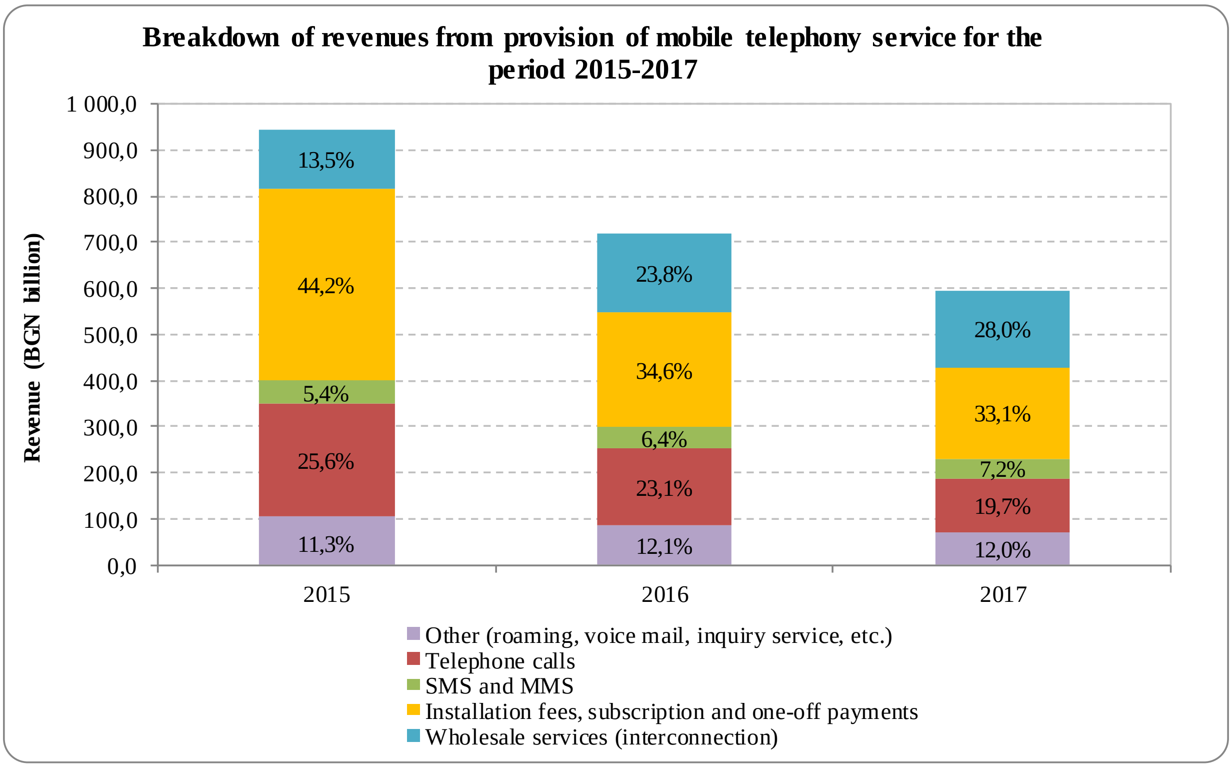
[25] The revenues from bundled services with mobile telephony service (installation fees and monthly subscription) are reported in “Bundled services” segment



Source: *Data submitted to CRC*

Fig. 11

Other services in the segment did not experience significant changes over one-year period. The share of the revenue from SMS and MMS messages reported a slight increase in 2017 (by 0.8 percentage points), while the share of the revenue from other services reported a slight drop (by 0.1 percentage point).

Summary

Development of the mobile telephony service in 2017 continued to be characterized by strong competition between the three major players (Mobiltel, Telenor and BTC), as compared to the previous 2016 there were the following changes observed:

- decline in the number of subscribers of a mobile telephony service;
- decline in amount of revenue from stand-alone provision of mobile telephony service and a slight drop in wholesale revenue (interconnection);
- growth in the total consumption of the mobile telephony service and growth in the actual roaming call minutes by subscribers of Bulgarian undertakings.

3. Leased lines services

On the basis of the information from the undertakings provided the Leased lines service, including international Leased lines in 2017 CRC reported the trend of drop in total revenue in the segment compared to the previous year maintained. The total revenue from provision the service in 2017 amounted to BGN 18.096 million[26], which was decrease by 12.7% compared to the

[26] Including revenue from national wholesale and retail leased lines, as well as the revenue from the national sections of the international Leased lines, also the revenue from the active undertakings at the end of 2017 and the revenue from undertakings ceased its activity in 2017 (based on an expert assessment)

revenue of BGN 20.736 million reported in 2016.

Table 3 below presents summarised information on the number of undertakings, providing the Leased lines service, including international Leased lines, as well as the amount of the revenue received by them.

Table 3

Number of undertakings, number of lines and revenue by types of Leased lines in 2017

Service	Number of undertakings providing services in 2017	Number of leased lines as of 31.12.2017	Revenue in 2017 (in BGN million excl. VAT)
1. Wholesale leased lines	**21**	**2 936**	**12,161**
1.1. National leased lines	18	2 603	6,952
1.2. Minternational leased lines	9	333	5,208
2. Retail leased lines	**10**	**2 544**	**5,935**
Total	**23**	///	**18,096**

Source: *Data submitted to CRC*

Market players

According to CRC register as of 31.12.2017 the total number of undertakings notified their intention to provide Leased lines service, including international Leased lines was 94. At the end of 2017, 23 undertakings[27] were active in the Leased lines market segment, eight[28] of which provided the service on both – the retail and the wholesale market. Nine undertakings[29] provided international Leased lines service. In 2017 Blizoo ceased provision of Leased lines service due to the acquisition by Mobiltel.

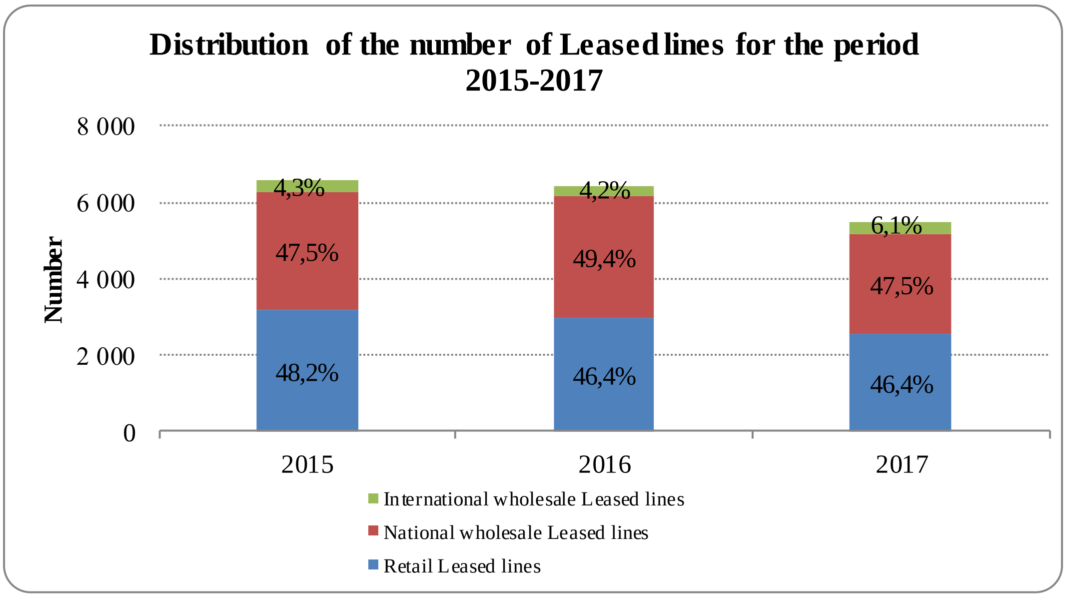
Number of wholesale and retail Leased lines

In 2017 the total number of wholesale and retail Leased lines provided by the undertakings decreased by 14.5%. Products and services (such as fast growing in recent years MAN networks) with higher quality parameters at better prices have been available on the market. They shift the user’s demand looking for new access products. The higher speeds at relatively lower costs provoke the user’s interest to innovative access products that provide all “Leased line” service functional characteristics better adapted to customer’s individual needs and demands.

[28]“BULGARTEL” EAD, BTC, “VESTITEL BG” AD, “GLOBAL COMMUNICATION NET” AD, GTS TELECOM CRL, “NBI SISTEMI” EOOD, “ENDZHALSOFT” OOD, ET “ENDZHALSOFT – ANGEL GAROV”, “COOLBOX” AD, MOBILTEL, “NETERA” EOOD, “NET IS SAT” EOOD, “NOVATEL” EOOD, “PLADI COMPUTERS” OOD, “PRONET TELECOM” OOD, “ROKADA INVEST” OOD, “SOFIA COMMUNICATIONS” EAD, “TELEKABEL” AD, TELENOR, “TELIA CARRIER BULGARIA” EOOD, “TELNET” OOD, “TRANS BOLKAN TELECOM” OOD and “TURK TELECOM INTERNATIONAL BG” EOOD.

[28] BTC, “VESTITEL BG” AD, “COOLBOX” AD, MOBILTEL, “NETERA” EOOD, “NOVATEL” EOOD, “SOFIA COMMUNICATIONS” EAD, and “TELNET” OOD.

[30]“BULGARTEL” EAD, BTC, “VESTITEL BG” AD, “GTS TELECOM CRL”, MOBILTEL, “NOVATEL” EOOD, “TELIA CARRIER BULGARIA” EOOD, “TRANS BOLKAN TELECOM” OOD and “TURK TELECOM INTERNATIONAL BG” EOOD

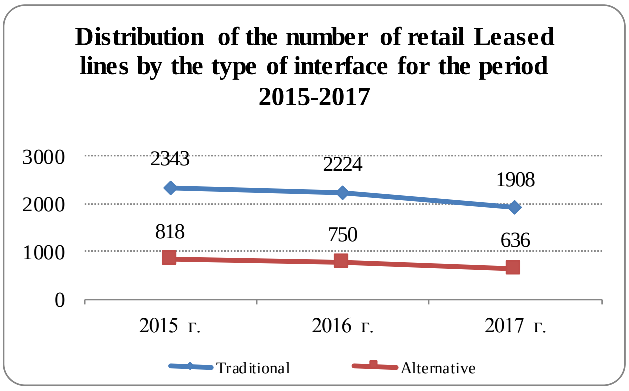


Source: *Data submitted to CRC*

Fig. 12

Fig.12 shows the market segment structure. The trend of shrinking the market segment did not change, but the ratio between the number of retail and wholesale lines remained. In the reported year the share of retail Leased lines in the total volume was almost identical to the one in the previous year (46.4%). A slight growth by almost 2 percentage points of the share of wholesale national Leased lines at the expense of the share of national Leased lines is observed.

Fig.13 and Fig.14 present the distribution of the wholesale and retail Leased lines provided for the period 2015 – 2017 by the type of interface.



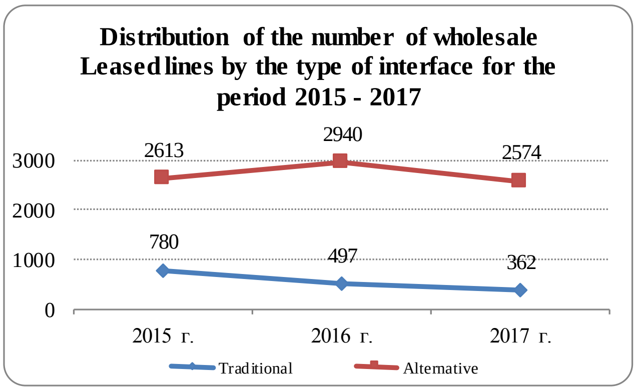


Fig. 13

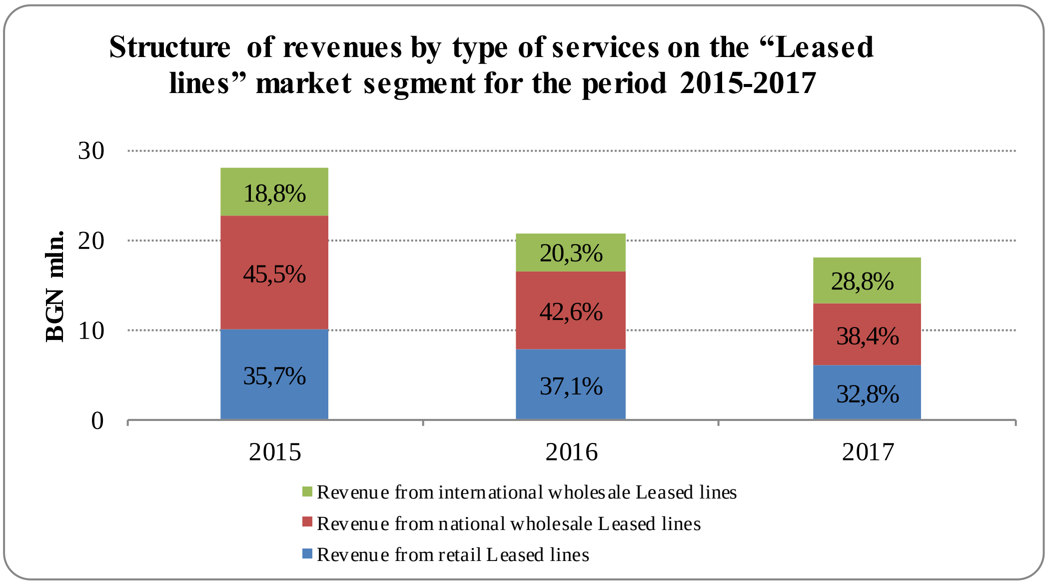
Fig. 14

Source: *Data submitted to CRC*

Data show a trend for decrease in the number of retail Leased lines (decline by 14.5%) and this trend affects both the number of traditional lines (decline by 14.2%) and the number of alternative lines (decline by 15.2%). The number of wholesale Leased lines also reported a drop of 14.6%, but it was a result mainly of drastic decrease by 27.2% in the number of traditional lines. The number of wholesale alternative Leased lines decreased by 12.4%.

Revenue from Leased lines

Fig.15 presents the structure of revenue from providing Leased lines service (wholesale and retail) for the period 2015-2017.



Source: *Data submitted to CRC*

Fig.15

Data presented in Fig. 15 show decrease of the revenue of the market segment and a change in the ratio between the revenue from retail Leased lines and wholesale ones (including national and international). In 2017 the wholesale national Leased lines occupied the largest share of the revenue – 38.4%. Despite that their share continued to drop by 4.2 percentage points in 2017 compared to 2016 as in absolute value the drop is by 21.3%. Revenue from retail Leased lines also reported decrease by 22.9% compared to the previous year and the share in the total volume of the segment decreased to 32.8%. Growth in the revenue in relative and absolute values was registered only for the wholesale international Leased lines[30]. As a result, the relative share of this revenue increased in 2017 reaching 28.8% of the total revenue volume which was to some extent a result of decrease of the share of revenue from wholesale and retail national Leased lines.

Summary

In 2017 the following changes compared to 2016 were observed in Leased line service segment:

- decline in the number of Leased lines, especially in retail traditional leased lines and only 67 new launched lines in the year (in comparison - 212 new launched retail lines in the previous year); the decline is more evident in wholesale traditional lines;
- decline in the volume of revenue from Leased lines, due to both the reduced number of lines and the migration trend which have been observed recently toward alternative leased lines with similar parameters and considerably lower prices which replaced the traditional leased lines;
- intensified migration to alternative and more profitable for the customer products and services resulting from the rapid development of technologies.

4. Data transfer and Internet access

The upward trend in development of Internet access and data transfer services in the country maintained in 2017. In 2017 the total volume of the revenue generated by the services,

[30] Including revenue from national sections of the international Leased lines, excluding revenue from transit international lines.

included in “Data transfer and Internet access” segment amounted to BGN 487.500 million, reporting a slight growth of 3.2% compared to the previous 2016.

Table 4 presents summarised information on the number of undertakings which provided services in this market segment in 2017, as well as information on the number of their subscribers/users and the amount of the generated revenue.

Table 4

Number of undertakings, subscribers/users and revenue by type of Internet access and data transfer services provided in 2017

Service	Number of undertakings providing the service in 2017	Number of subscribers/users as of 31.12.2017		Revenue in 2017 (in BGN million excl.VAT)[2]
		Total[1]	including bundled services subscribers	
1.Internet access services and data transfer services (retail)	**636**	///	///	**445,303**
1.1. Internet access[3], including	628	7 199 599	4 924 083	398,215
1.1.1. Fixed	627	1 799 791	729 714	194,017
1.1.2. Mobile[4]	5	5 459 966	4 254 527	204,199
1.2. Data transfer services	57	///	///	46,802
1.3. Други услуги (хостинг, електронна поща и др.)	18	///	///	0,286
2. Wholesale services	**108**	///	///	**42,197**
2.1. Provision of capacity for Internet connectivity (Peering and Transit)	82	///	///	28,876
2.2. Data transfer services	15	///	///	4,702
2.3. Wholesale provision of Internet access via next generation access networks (NGA)	42	///	///	6,130
2.4. Other wholesale services	8	///	///	2,488
Total	**661**	///	///	**487,500**

[1]Including bundled service subscribers

[2]Excl.revenue from bundled service

[3]The data on the total number of subscribers and revenue from Internet access services is based on the data received by CRC from 90.8% of the registered undertakings

[4]4Mobile access via data cards or modems, bundled services with mobile Internet access included (including subscribers of data transfer plans, purchased in addition to voice plans via 3G and 4G UMTS/HSPA+/LTE mobile networks)

Source: *Data submitted to CRC*

Market players

As of 31.12.2017, the total number of undertakings registered by CRC for their intention to provide data transfer and/or Internet access services was 901, as the stated number is 22 less than those registered their intention to provide data transfer and/or Internet access services in the previous year. The number of active undertakings providing Internet access and data transfer services was 661[31], reporting a decrease by 14[32] compared to 2016. The undertakings providing retail services decreased by 13 to 636, while these providing wholesale services decreased by 2, thus the total number of undertakings provided wholesale services in 2017 was 108.

[31] Including undertakings that notified CRC for suspension of their activity in 2017 and having declared revenue during the year.

[32] Data for 2016 have been updated.

Subscribers of Internet access services

In 2017 the upward trend in the number of Internet access services subscribers in the country maintained. As of 31.12.2017 the total number of subscribers of retail Internet services (fixed and mobile Internet access) amounted to 7 199 599 registering an increase by 7.7% as compared to the end of the previous year. The number of the bundled services subscribers (with included fixed and mobile Internet access) also increased in the last year by 9.5% and in absolute value they reached 4 924 083. The relative share of the bundled services subscribers in the total number of subscribers using Internet access services was 68.4%, as compared to the previous year it increased by almost 1 percentage point.

The number of fixed Internet access subscribers (including bundled services) continued its steady growth rate. For the past year the number of subscribers increased by 5.8% and reached 1 799 791[33]. The share of the fixed internet access subscribers in the total number of subscribers of Internet access continued to decrease to 25%, as a drop of 0.5 percentage points was reported for the one-year period.

The described above decline of the share of fixed Internet access subscribers in 2017 is based on the steady increase in the share of mobile access subscribers, which at the end of 2017 occupied 75% of the total number of subscribers of retail Internet access.

In 2017 the number of subscribers using mobile Internet access[34] services, increased by 8.9% compared to the previous year and reached 5 459 966. This growth is mainly due to the rise by 13.6% compared to the data from 2016 of the number of subscribers of bundled services with mobile Internet access included, as at the end of 2017 their number reached 4 254 527. As a result of reorientation of the users to use bundled mobile Internet, a decrease by 4.9% compared to 2016 was reported and the number of subscribers using the stand-alone service via cards and/or modems decreased at the end of 2017 and reached 1 205 439.

In 2017 mobile Internet access via LTE technology was offered by the fifth mobile operators in Bulgaria - BTC, Bulsatcom, Max Telecom OOD (Max Telecom), Mobiltel and Telenor. The number of LTE subscribers for the last year reported again a considerable growth of over 60% and as of 31.12.2017 the number of the subscribers reached 2.678 million. The share of LTE subscribers was 49.0%, which was almost half of the subscribers of mobile Internet in the country and compared to 2015 when their share was only 0.4% there was reported a growth of 48.6 percentage points for the period of three years.

Fig.16[35] presents the penetration[36] of fixed broadband access by population and households [37] and mobile access [38] by population for the period 2015– 2017.

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[33]Including subscribers of ADSL, LAN, RLAN, CATV, FTTx, satellite access, fixed access via mobile network, as well as users of retail access via leased lines and dedicated access.

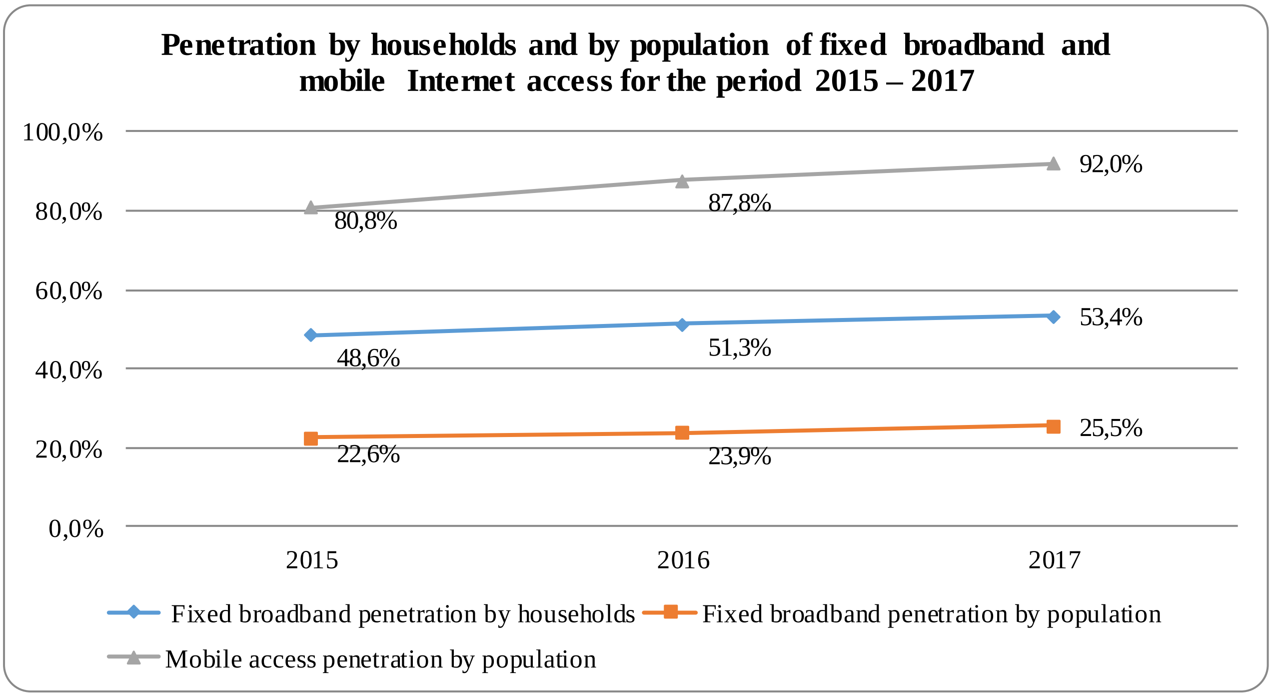
[34]Standalone service via data cards or modems and bundled services with mobile Internet access included via 3G and 4G UMTS/HSPA+/LTE mobile networks (including add-ons data packages, purchased in addition to voice service).

[35]Data for 2016 have been updated.

[36]This indicator was calculated on the basis of data from NSI assessment for the number of population in the country as of 31.12.2015, 31.12.2016 and as of 31.12.2017 and 2011 census data for the number of households.

[37] For the calculation the number of residential subscribers at the end of the relevant year has been used.

[38]These include: subscribers of bundled services with mobile Internet access included (including add-ons data packages, purchased in addition to voice service), subscribers of standalone service via cards and/or modems, as well as subscribers of standard mobile Internet access provided without an additional subscription.



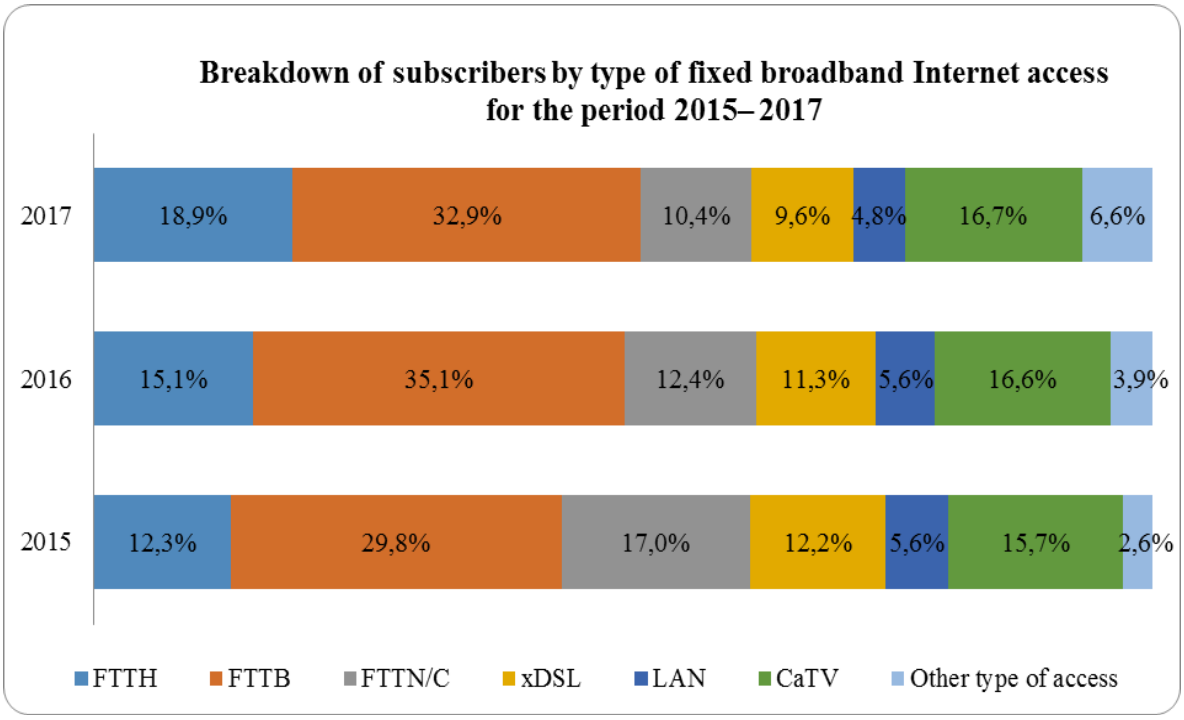
Source: *Data submitted to CRC*

Fig. 16

At the end of 2017 the fixed broadband penetration by households in the country reached 53.4% compared to 51.3% at the end of the previous year. The value of the "fixed broadband penetration by population" indicator also increased and over a year reached 25.5%, which was a growth by 1.6 percentage points. As a result of the considerable increase in the number of mobile Internet access subscribers, the indicator "mobile access penetration by population" also reported a growth of 4.2 percentage points compared to 2016 and for the period 2015-2017 this growth was over 11 percentage points.

The breakdown of subscribers by type of fixed Internet access for the period 2015– 2017 is shown in Fig. 17[39].

[39] Data for 2016 have been updated



Source: *Data submitted to CRC*

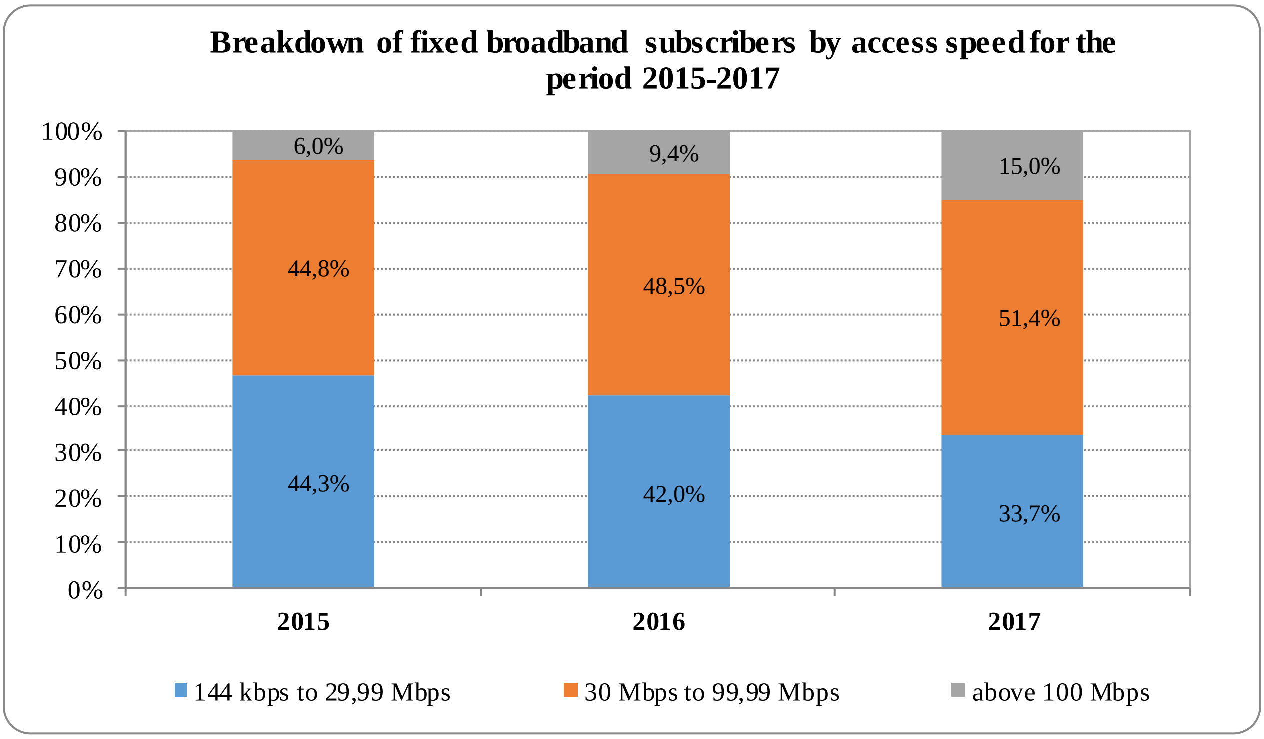
Fig. 17

At the end of 2017 the major part of subscribers of fixed Internet access in Bulgaria continued to use access via fibre-optical networks (FTTH, FTTB and FTTN/C) – 62.2%, as for the period 2015 - 2017 a growth of 11.4% in absolute items was reported or 3.1 percentage points in relative terms.

The share of CATV access subscribers (based on transmission and/or distribution of radio and TV programmes networks and DOCSIS standard) ranks next, which remained relatively steady during the period 2015 - 2017. At the end of 2017, 91.7% of the CATV subscribers use the DOCSIS 3.0 protocol, where the maximum speed to the subscriber may reach up to 200 Mbps, while at the end of 2015 the subscribers using DOCSIS 3.0 were 73.4% of the CATV users. The downward trend in the subscribers of xDSL access provided only by BTC, continued in 2017 as well. Compared to the end of the previous year the subscribers of that type of access decreased by 9.4%, and for the period 2015 - 2017 the drop was by 16.1%. Migration of subscribers of BTC using ADSL access to access via fibre-optical networks remained the same in 2017, as for a one-year period an increase by 15.7% of the BTC subscribers, using fibre-optical networks was reported. For the period 2015 – 2017 the growth was 49.4% in absolute items. In 2017, BTC started provision of VDSL access in the country[40], as at the end of 2017 the share of BTC subscribersr who used VDSL in the total number of undertaking's subscribers was 1.2%. LAN access subscribers continued to decrease in 2017 and for the period 2015 - 2017 their drop was by 9.1% and by 0.8 percentage points in relative items. This reduction was mainly at the expense of the increase in the share of optical connectivity subscribers. The other types of access (RLAN, fixed access via mobile networks, Dial-up access, and satellite network access) occupied 6.6% in the total number of subscribers.

[40] List under item 2.3 of Annex No.2 to the Reference offer for conclusion of a contract for unbundled access to subscriber's line - https://www.vivacom.bg/bg/files/7119-spisyk-po-t-2-3-ot-prilojenie-2.pdf

At the end of 2017 the subscribers of fixed broadband access using high-speed access via NGA[41], reached 81.5% of the total number of subscribers of fixed broadband Internet access. An increase by 4.6 percentage points compared to the end of 2016 was registered. The upward development of the broadband Internet access via NGA networks has a positive role on the speed of the offered Internet services. The following chart presents the breakdown of the number of fixed broadband access subscribers depending on the international download speed for the three-year period 2015 – 2017[42].



Source: *Data submitted to CRC*

Fig. 18

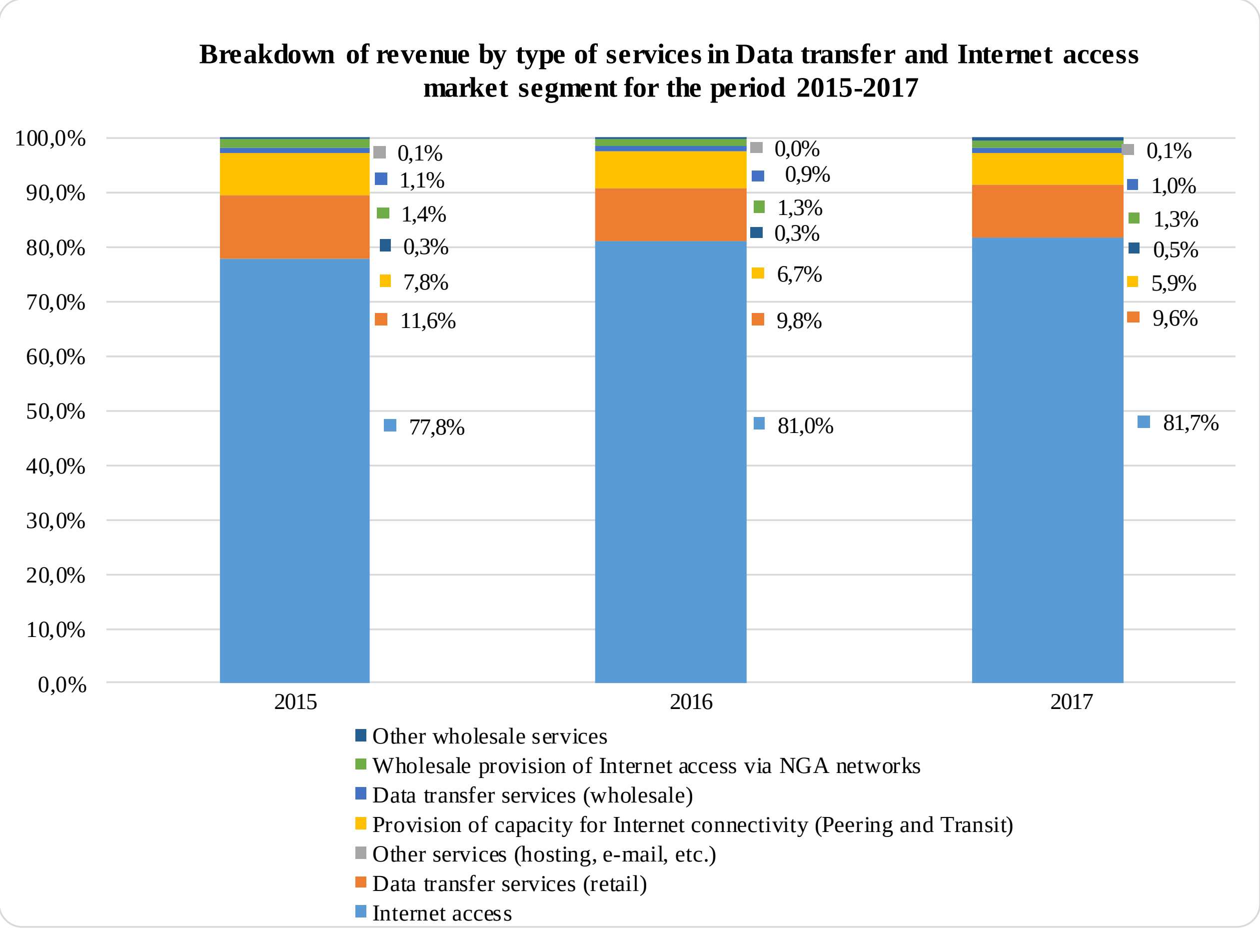
As a result of the increasing number of subscribers using optical connectivity and DOCSIS 3.0 cable access protocol, the number of the subscribers using Internet access with minimum speed of 30 Mbps grew. At the end of 2017 a bit over half (51.4%) of the subscribers of fixed broadband access used high-speed access with international download speed from 30 Mbps to 99.99 Mbps, as their relative share increased totally by over 2.9 percentage points compared to the data for 2016 and over 6 percentage points compared to the end of 2015. The highest growth was observed in the users of ultra-high-speed access (above 100 Mbps), which increased more than twice for the period 2015 - 2017 and as of 31.12.2017 they numbered almost 270 thousand.

Revenue from data transfer and Internet access

In 2017 compared to 2016 a growth by 3.2% in the revenues[43] from “Data transfer and Internet access services” was reported as they reached BGN 487.5 million. The increase was in the retail services segment where the growth was 3.8%. The total amount of revenue from retail

[41] Including optical (FTTB and FTTH), hybrid fibre-optical (FTTN/C with minimum speed of 30 Mbps), cable networks on the DOCSIS 3.0 standard, LAN and RLAN access with minimum speed of 30 Mbps, as well as fixed access via mobile networks with minimum speed of 30 Mbps.
[42] Not including subscribers using narrowband access due to their negligible number (0.01% of the total number of subscribers).
[43] Including revenues from standalone provided services for retail fixed and mobile Internet access, retail data transfer services and wholesale services (capacity for Internet connectivity, wholesale access services, wholesale provision of Internet access via next generation access networks (NGA), wholesale data transfer services).

services was BGN 445.303 million, of which BGN 398.215 million was revenue from Internet access services. The revenues from wholesale services amounted to BGN 42.197 million, reporting a bit drop of 2.6% compared to the previous year. Fig. 19 presents the breakdown of revenues generated for the period 2015– 2017 [44].



Source: *Data submitted to CRC*

Fig. 19

In 2017 there were not any considerable changes in the revenues structure of the segment and it remained relatively stable. The revenues from retail Internet access services held the highest relative share (81.7%), which in last year reported a growth of 4.2% in absolute value compared to 2016. This increase is as a result of the revenues from both fixed and mobile Internet access, with reported growth of 6.5% and 2.0% compared to the previous 2016.

Summary

In 2017 no change was observed in the development trend of Data transfer and Internet access segment, reporting again the following:

- increase in the number of subscribers mainly due to the growth in the number of subscribers with mobile Internet access, as well as the number of subscribers using bundled services with included fixed and/or mobile access;
- increase in the share of LTE subscribers in the total number of subscribers of mobile Internet access, so as for two-year period nearly half of the subscribers of mobile Internet

[44] Data for 2016 have been updated.

already use LTE technology;

- increase in the share of subscribers using fixed high-speed and ultra-high-speed access within the total number of subscribers using fixed Internet access (as a result of migration to NGA networks);

- the total volume of revenue from the segment continued to increase mainly due to the increase in the revenue from Internet access[45].

5. Transmission and/or distribution of radio and TV programmes services

In 2017 the volume of the "Transmission and/or distribution of radio and TV programmes services" market segment amounted to BGN 254.397 million registering a slight drop of 0.05% compared to 2016.

Summarized information on the number of undertakings providing services for transmission and/or distribution of radio and TV programmes, on the number of their subscribers/users and the amount of revenue generated from them, along with the structure of the segment, is presented in Table 5 and in Fig. 20 below:

Table 5

Number of undertakings, number of subscribers/users and revenue by type of transmission and/or distribution of radio and TV programmes services in the segment provided in 2017

Service	Number of undertakings providing the service in 2017	Number of subscribers/users as of 31.12.2017		Revenue (in BGN million excl.VAT)[2]
		Total[1]	including bundled service subscribers	
1. Retail distribution of radio and TV programmes[3]	**259**	**1 822 372**	**714 842**	**219,709**
1.1. Cable TV	236	583 896	340 557	47,947
1.2. Satellite TV	3	864 298	133 057	140,315
1.3. IPTV	27	374 178	241 228	31,447
2. Terrestrial broadcasting of radio and TV programmes[4]	**63**	///	///	///
3. Carrying out of transmission/distribution of radio and/or TV programmes	**13**	**150**	///	**34,688**
3.1. Transmission of radio and TV programmes services	6	58	///	7,391
3.2. Distribution of radio and TV programmes services, including wholesale IPTV provided to other undertakings	8	92	///	27,297
Total	///	///	///	**254,397**

[1]Including bundled service subscribers

[2]Excl.revenue from bundled service

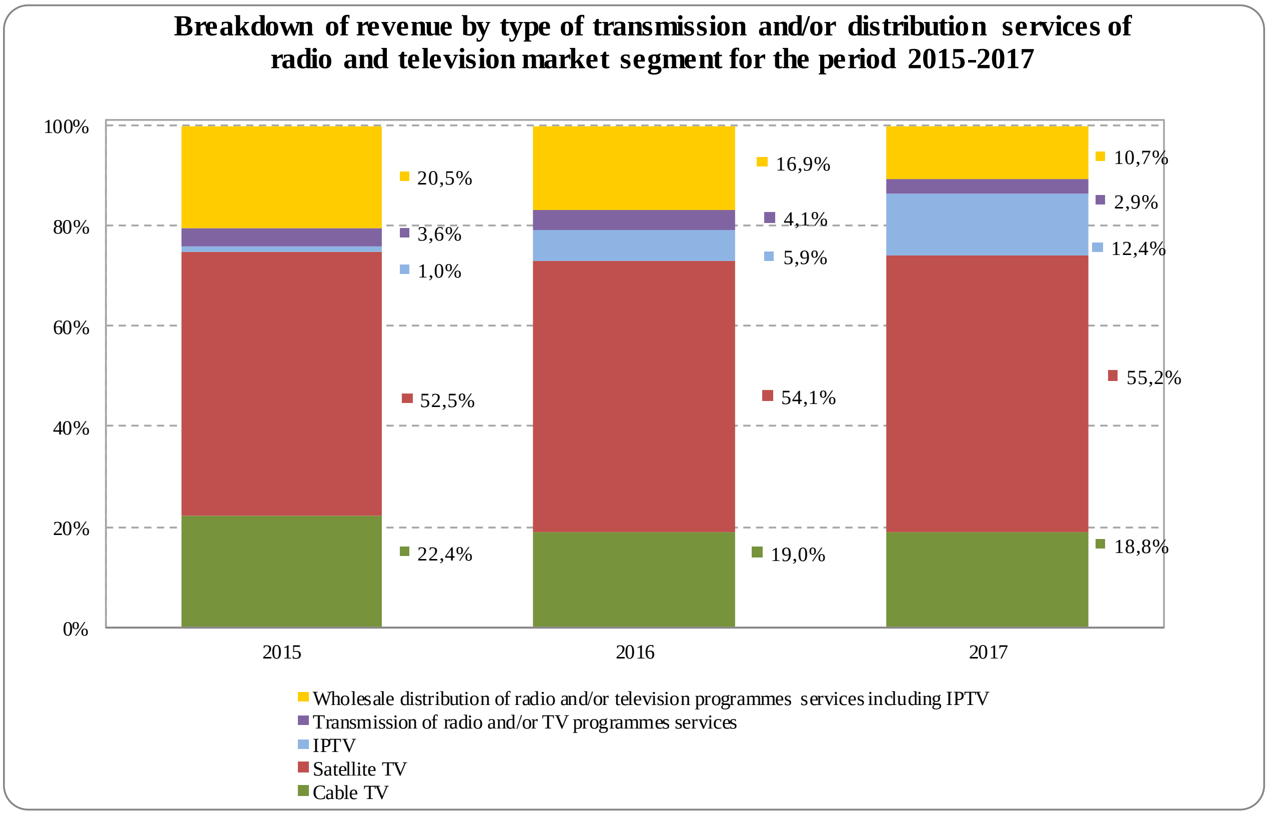
[3] Data on the total number of the subscribers and revenue from distribution of retail radio and television programmes services are based on information received from 91.3% of the registered undertakings

[4] One of the undertakings registered by CRC for the provision of the service has not submitted an activity report for 2017

Source: *Data submitted to CRC*

[45] Not including revenues from installation fees and monthly subscription from bundled services, including Internet access service.

According to the data submitted by the undertakings in 2017 compared to 2016 there was a growth of revenue from two of the services in the segment – retail IP-television (over 2 times) and satellite TV (2%)[46]. The other two services in the segment registered a decline in revenue, respectively by 1% from cable TV, by 28.9% from wholesale transmission services of radio- and television programmes and by 36.4% from distribution of radio and TV programmes, including wholesale IPTV provided to other undertakings.



***Source:** Data submitted to CRC*

Fig. 20

In 2017 the largest share of the total volume of the segment (86.4%) continued to be occupied by the revenue from the provision of retail distribution of radio and TV programmes services (Fig.20): cable TV, satellite TV and IPTV. For a consecutive year, the revenue from satellite TV occupied the largest share in the total segment volume, as in relative items the revenue increased slightly by over 1 percentage point for one-year period and reached 55.2%. The share of the revenue from cable TV amounted 18.8% and occupied the next place. The share of the revenue from provision of IP-television continued to increase and in 2017 reached 12.4% in the total segment volume. The revenue from wholesale services had the smallest share in the total volume of the segment occupying respectively 10.7% from wholesale distribution services of radio- and television programmes, including IPTV[47] and 2.9% from wholesale transmission services of radio- and television programmes.

[46] The volume of the market segment “Transmission and/or distribution of radio and television programmes services” covers only the revenues from stand-alone (television, provided out of bundled services). The revenues from the provision of bundled services with television are included in the volume of the market segment “Bundled services”.

[47] CRC Decision 323/15.06.2017 removed the licence of “FIRST DIGITAL” EAD to use individually assigned scarce resource – radio-frequency spectrum for electronic communications via electronic communications network for terrestrial digital broadcasting with national scope, intended for broadcasting of public operators’ programmes. The undertaking was deleted from the CRC public register. “FIRST DIGITAL” EAD did not submit a report for its activity in 2017 according to CRC Decision 47/25.01.2018.

5.1. Retail distribution of radio and TV programmes

Market players

In 2017 the number of the undertakings providing retail distribution of radio and television programmes services continued to decrease and reached 259[48] (Table 5), as the decrease by about 3% is insignificant.

As of 31.12.2017, the total number of undertakings registered at the CRC for the provision of cable television was 313, as the number of undertakings that actually provided this service amounted to 236 (decrease by 7 compared to 2016). For a consecutive year, the number of cable operators decreased as a result of competitive pressure, exerted by the biggest players in the market segment, providing satellite television and IP-television.

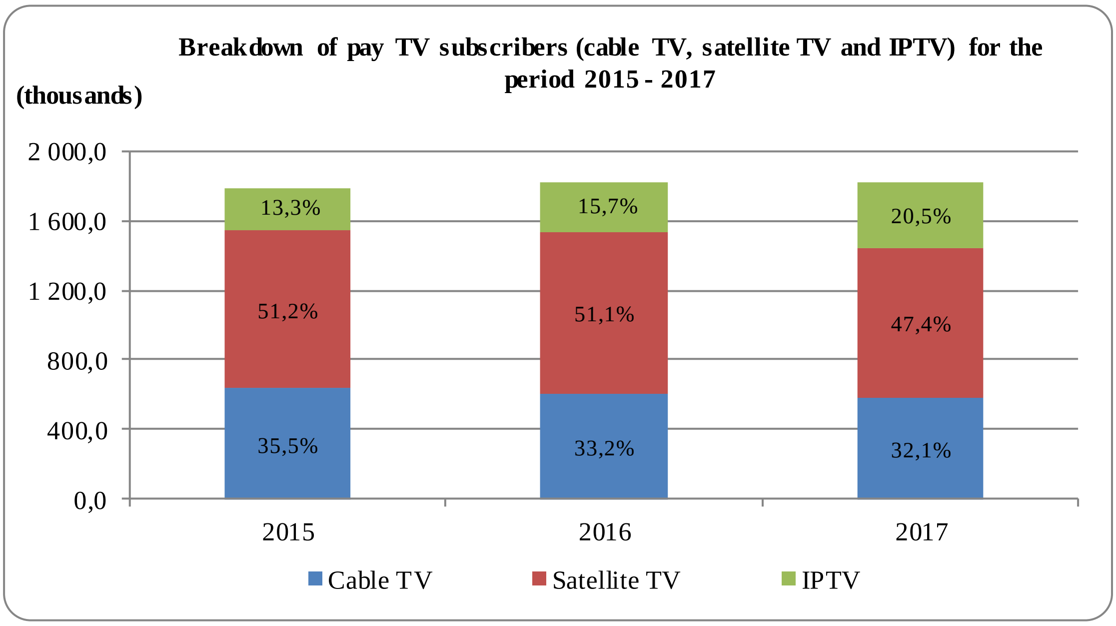
In 2017 compared to 2016 the number of cable operators providing digital TV to their subscribers increased in absolute items by 8 to 183, and in relative items – by almost 7 percentage points and occupied 80% of the total number of cable operators actually provided the service in 2017. For comparison, this share was 73% in the previous year and 72% in 2015.

As of 31.12.2017, the number of undertakings providing satellite television in Bulgaria remained unchanged compared to previous years: Bulsatcom, BTC и Mobiltel.

As of 31.12.2017, 129 undertakings registered their intention to provide IPTV, as compared to the previous year the number of actually provided this service decreased by 1 undertaking and reached 27. Another 6 undertakings declared their intention to start offering this service in 2018.

Subscribers of retail distribution of radio and television programmes services

As of 31.12.2017, the number of subscribers of pay TV retail services reached 1.82 million subscribers[49]. For the first year the indicator reported drop of 0.2% compared to the previous one-year period. The decrease was mainly due to Mobiltel acquisition and reallocation of Blizoo subscribers of cable television.



Source: *Data submitted to CRC*

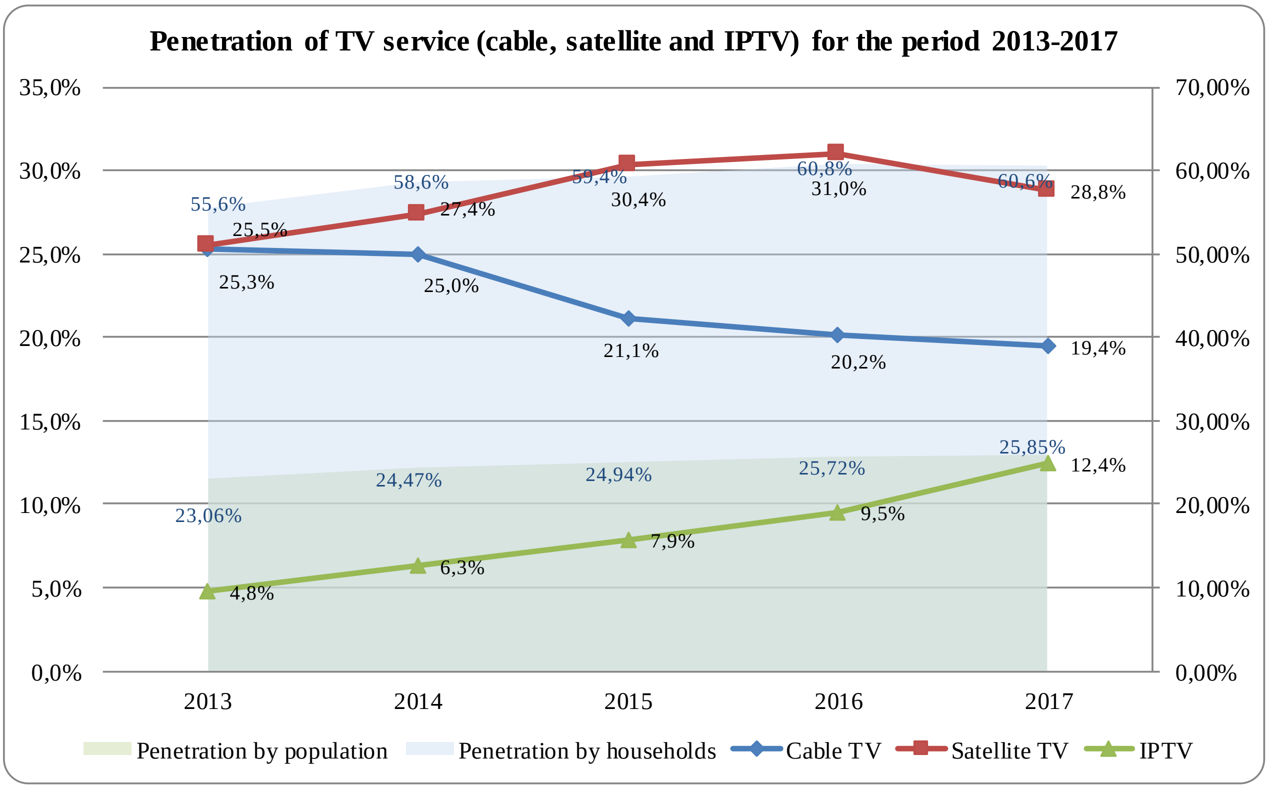
Fig. 21

[48] Including undertakings that notified CRC for cessation of their activity in 2017 and having declared revenue during the year.
[49] Including bundled services subscribers which were 714 842 as of 31.12.2017.

For a consecutive year the most considerable increase was observed in the number of subscribers of IP-television. In 2017, as compared to the previous year, the indicator's growth was 30.5%, as of 31.12.2017 the relative share of IPTV subscribers reached 20.5% of the total number of subscribers of pay TV in the country (Fig. 21). Unlike the previous four years when the growth rate of IPTV subscribers gradually decreased on an annual basis, in 2017 it increased to 30.5%, reaching the 2014 levels.

Although, the share of satellite TV subscribers was the largest in the total number of pay TV subscribers – 47.4% (Fig. 21), for the first time this indicator reported drop by 7.4% compared to data at the end of 2016. On an annual basis, the number of cable television subscribers reported double less decrease – 3.8%, as the share in the total number of pay TV subscribers decreased by a bit over 1 percentage point to 32.1%. As it was mentioned above, the drop in the cable and satellite television subscribers was at the expense of the growth in the number of IPTV subscribers, which however was not able to offset the drop in the total number of pay TV subscribers.

The drop in the total number of pay TV subscribers had an effect on pay TV penetration by households[50] which decreased to 60.6% as of 31.12.2017 (for comparison, at the end of 2016 this indicator was 60.8%). Only IPTV penetration registered growth of 2.9 percentage points compared to 2016, its share at the end of 2017 was 12.4%. The penetration of cable and satellite television decreased by 0.8 and 2.3 percentage points, respectively and reached 19.4% and 28.8%. However, the service penetration by Bulgarian population[51] continued its upward trend although the growth in 2017 was very small – 0.13 percentage points, compared to 2016 (Fig.22).

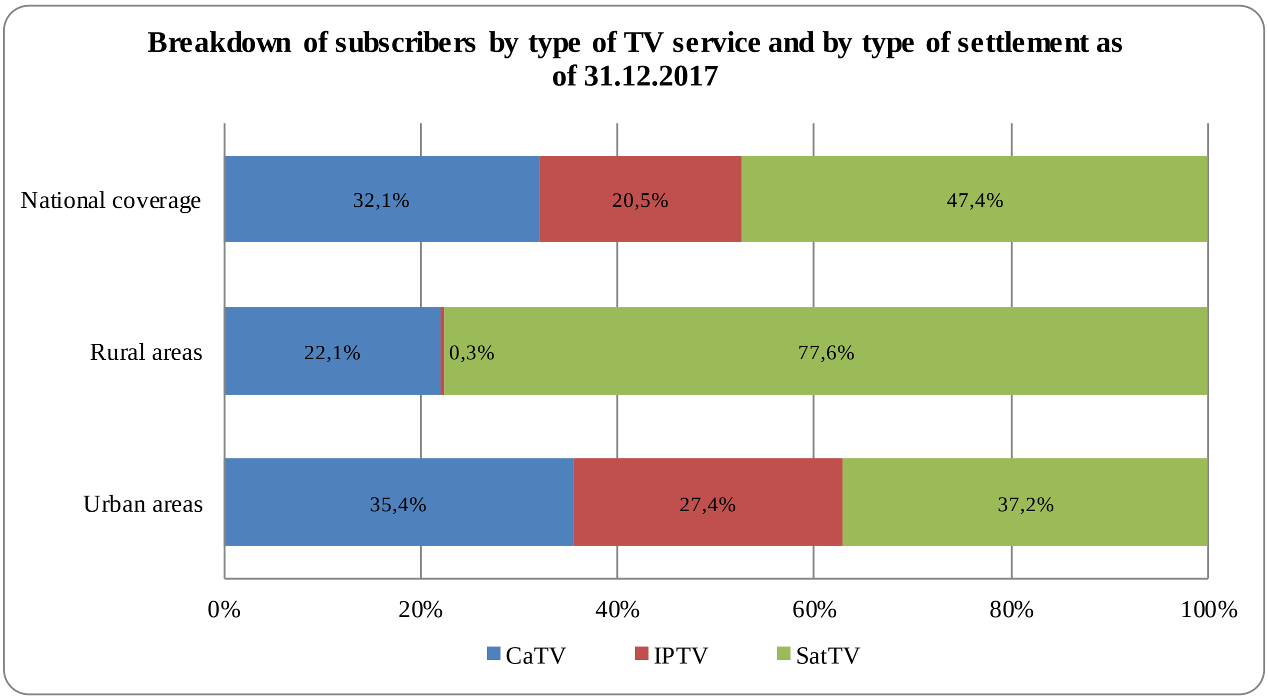


Source: *Data submitted to CRC*

Fig. 22

[50] This indicator was calculated on the basis of data of NSI assessment for the number of population in the country as of 31.12.2015, 31.12.2016 and as of 31.12.2017 and 2011 census data for the number of households (3 005 589).
[51] This indicator was calculated on the basis of data of NSI assessment for the number of population in the country as of 31 December for the period 2013-2017.

Fig. 23 presents the structure of pay TV subscribers by type of the settlement in which this service was used as of 31.12.2017.

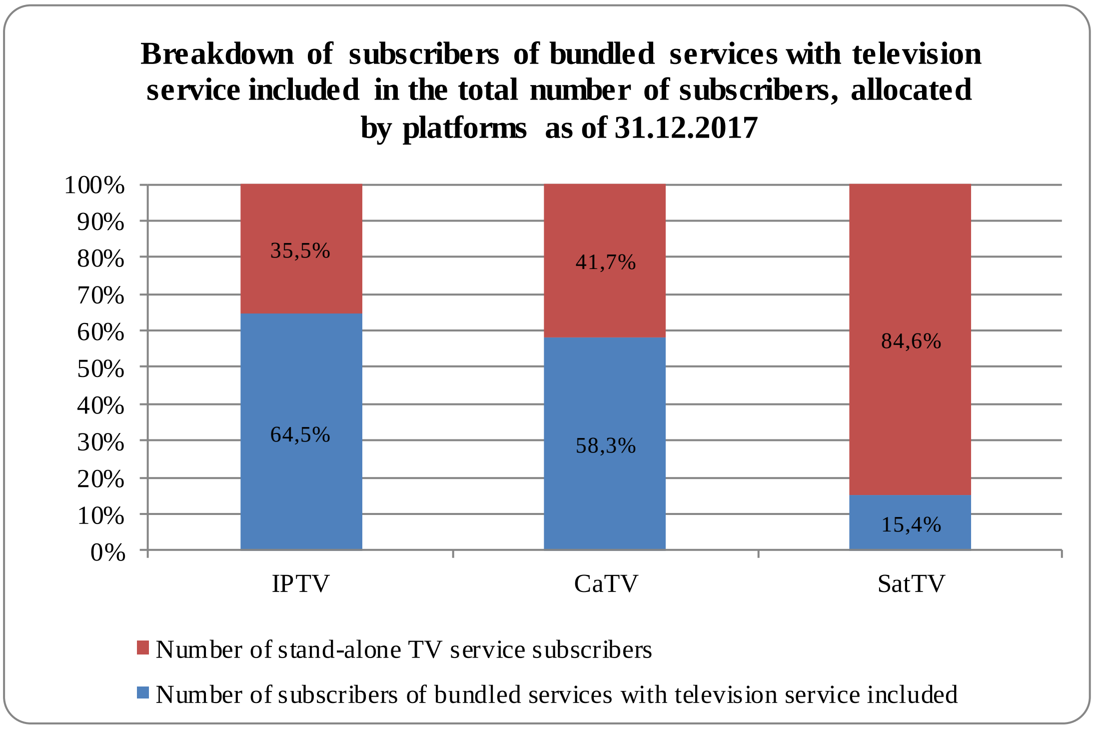


Source: *Data submitted to CRC*

Fig. 23

While the breakdown of subscribers by type of used TV service in villages remained almost unchanged compared to the previous year, the breakdown in the urban areas and at national level changed considerably. For a consecutive year, the share of the satellite television subscribers in the rural areas was in times more than the share of the other two platforms. Because there were not built subscription network in rural areas, the satellite television remained the only alternative to pay TV access, which is conditional on its main feature to provide wireless access to the subscriber at national level. On the other hand, cable operators and IPTV providers focused their efforts mainly to attract customers in the urban areas (99.7% of IPTV subscribers and 82.5% of cable TV subscribers are in the urban areas), due to the expected higher return on their investments in building infrastructure to the end user. It is evident from the breakdown of the subscribers in the urban areas (Fig. 23). The share of IPTV subscribers in the urban areas increased by 7.3 percentage points to 27.4%, which had an effect on their distribution at national level increasing by 4.8 percentage points to 20.5%. The share of cable television subscribers in the urban areas (35.4%) and at national level (32.1%) remained relatively steady.

The number of subscribers of bundled services with television service included reported drop by 6.7% in 2017 compared to 2016. The following chart (Fig. 24) shows the share of subscribers of bundled services with television service included in the total number of subscribers, allocated by platforms as of 31.12.2017.



Source: *Data submitted to CRC*

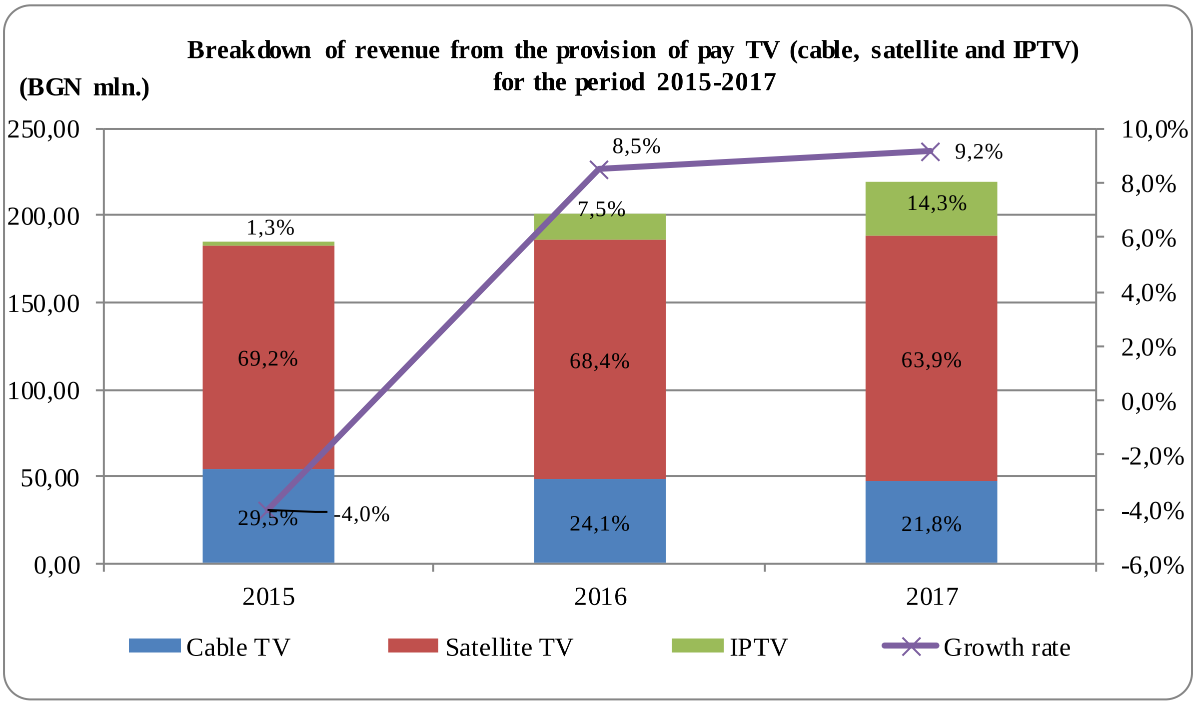
Fig. 24

The chart above shows that the number of bundled services subscribers with IP-television included constitutes 64.5% of the total number of subscribers of IP television. This share decreased by almost 20 percentage points compared to the previous year as a result of growth in the number of subscribers of stand-alone IP television of almost 3 times. For the same period [52] the relative share of bundled services subscribers with cable television included increased by 5 percentage points reaching 58.3% in 2017 while the share of bundled services subscribers with satellite television included – decreased by over 6 percentage points to 15.4% in 2017.

Revenue from retail distribution of radio and television programmes services

The volume of total revenue [53] generated from subscribers of pay TV in 2017 amounted to BGN 219.709 million, and increased by 9.2% compared to 2016. The growth rate increased by 0.7 percentage points. This growth following the change from the previous year ceased the downward trend in total revenue from pay TV observed during the previous years (Fig. 25).

[52] 2017 compared to 2016
[53] Excluding revenue from bundled services



Source: *Data submitted to CRC*

Fig. 25

The growth in the total volume of the pay TV market in Bulgaria was due to the increase in revenue from the provision of IPTV compared to 2016. The revenue from IP television increased over twice for one-year period, as their share in the total volume of the market segment increased almost twice and reached 14.3%. The growth was mainly due to a considerable increase in the number of subscribers using stand-alone service in 2017. Despite reported increase in the revenue from satellite television – by almost 2% compared to the previous year, its share in the total volume of the market segment decreased by over 4.5 percentage points, but remained the highest – 63.9% (Fig.25). The amount of the revenue from provision of cable television remained unchanged in absolute items, decreasing by 1% compared to 2016. For comparison, the registered drop for the previous one-year period was of over 11%.

5.2 Wholesale transmission and/or distribution of radio and TV programmes and IPTV

In 2017, the total number of undertakings providing wholesale transmission and/or distribution of radio and TV programmes services and wholesale IPTV was 13.

Detailed information on the number of undertakings providing in 2017 wholesale transmission and/or distribution of radio and TV programmes services, on the number of service users and on the amount of revenue generated by them, as well as on the market structure of the above-mentioned services, is presented in Table 6 and in Fig. 26 below:

Table 6

Number of undertakings, number of subscribers/users and revenue from the provision of wholesale transmission and/or distribution of radio and television programmes services, including wholesale IPTV in 2017

Types of wholesale transmission and distribution of radio and/or television programmes services	Number of undertakings providing the service in 2017	Number of subscribers/users as of 31.12.2017	Revenue from the service in 2017 (in BGN million excl.VAT)
1.1. Transmission of radio and/or television programmes, including:	**6**	**58**	**7,391**
1.1.1. Terrestrial transmission	1	///	
1.1.2. Satellite transmission	4		
1.1.3. Other type of transmission	2	34	0,116
1.2. Distribution of radio and/or television programmes, incl. wholesale IPTV provided to other undertakings, incl.:	**8**	**92**	**27,297**
1.2.1. Terrestrial broadcasting	6	47	22,315
1.2.2. Satellite broadcasting	1	///	
1.2.3. Other type of distribution of radio and/or television programmes, including wholesale IPTV	2		
Total	**13**	**150**	**34,688**

Source: *Data submitted to CRC*

In 2017 the number of undertakings providing transmission of radio and television programmes services remained unchanged compared to 2016 – 6. The number of the users of these services increased by over 30% compared to the previous year.

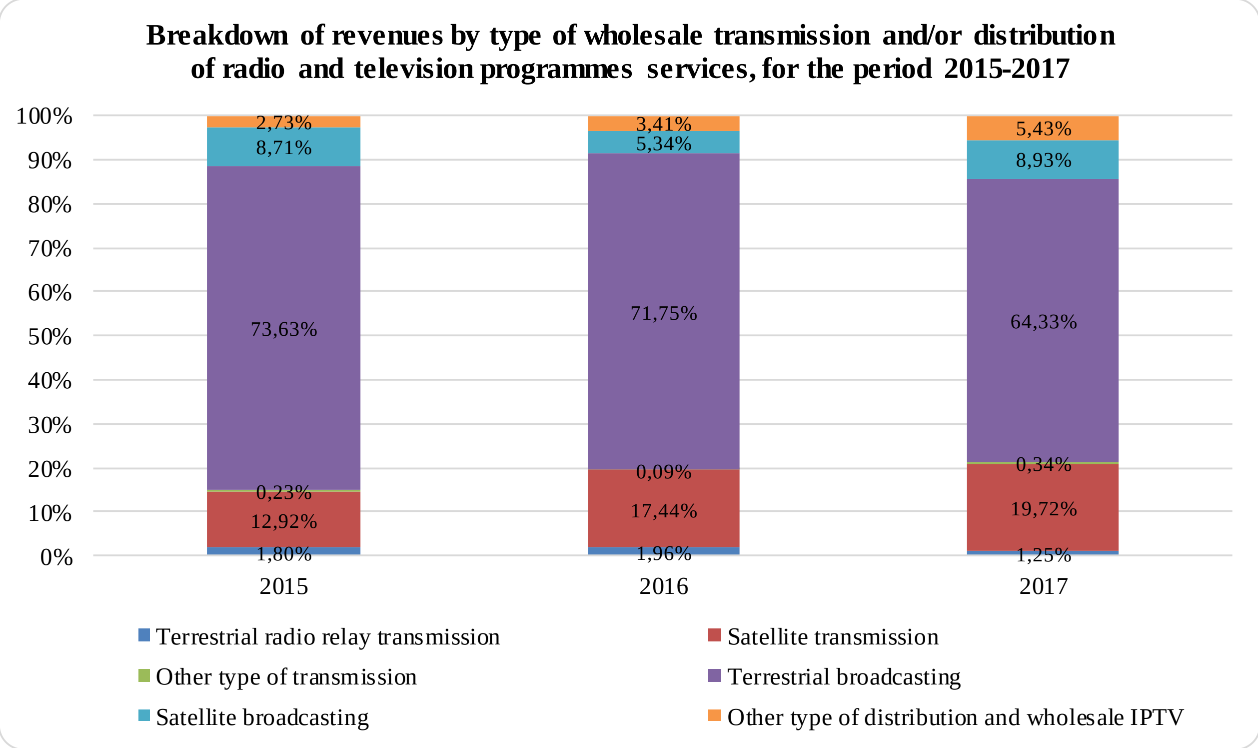
Compared to 2016 the number of undertakings providing distribution of radio and television programmes services including wholesale IPTV decreased by two and reached 8, while the the users of these type of services increased by 2% for a one-year period. Only two undertakings[54] provided wholesale IPTV services in 2017.

The revenue generated from the provision of wholesale transmission and distribution of radio and television programmes, including wholesale IPTV services, in 2017 amounted to BGN 34.688 million and reported a considerable drop by 35% compared to the previous year

This decline was a result of registered for the last year decrease of revenue from provision of terrestrial radio transmission (by 58%), satellite transmission (by 26%) and terrestrial broadcasting (by 42%). In the revenue generated from other type of transmission (optical), satellite broadcasting and other type of broadcasting (cable) of radio and/or television programmes, including wholesale IPTV service, an increase respectively by 136%, 9% and 4% compared to 2016 was observed, but due to their comparatively low gross relative share (15%) in the total volume of revenue from wholesale services, their growth failed to offset the reported decrease in the revenue of the above-mentioned wholesale services.

[54]"MITKO.COM" EOOD and "VIORA INTERAKTIV" OOD

In general, revenue from transmission (satellite, radio and optical) of radio and TV programmes services decreased by almost 30% compared to 2016 and in wholesale services for distribution of radio and TV programmes a drop by 36%[55] was observed.



Source: *Data submitted to CRC*

Fig. 26

From the data in Fig. 26 it is evident that in 2017 the largest share of the total volume of revenue from provision of wholesale services for transmission and distribution of radio and television programmes continued to be occupied by the terrestrial radio broadcasting – 67.33%, and the smallest share (0.34%) was occupied by wholesale provision of other types of transmission (optical) of radio and television programmes.

5.3. Terrestrial broadcasting – VHF broadcasting

At the end of 2017, 61 undertakings were registered at the CRC to provide services for terrestrial broadcasting of radio programmes, as 56 of these undertakings were active.

As of 31.12.2017 two undertakings remained with national coverage – Bulgarian National Radio and “DARIK RADIO” AD, while the undertakings with local coverage which actually provided services for terrestrial broadcasting of radio programmes in 2017 were 54.

Summary

In 2017, the following changes in the transmission and/or distribution of radio and TV programmes services segment were registered as compared to 2016:

[55] CRC Decision 323/15.06.2017 removed the licence of “FIRST DIGITAL” EAD to use individually assigned scarce resource – radio-frequency spectrum for electronic messages via electronic communications network for terrestrial digital broadcasting with national scope, intended for broadcasting of public operators’ programmes. The undertaking was deleted from the CRC public register. “FIRST DIGITAL” EAD did not submit a report for its activity in 2017 according to CRC Decision 47/25.01.2018.

- drop in the total volume of revenue of the segment, mainly as a result of considerable decrease in revenue from wholesale services for transmission and/or distribution of radio and TV programmes;
- drop in the number of retail subscribers, as a result of which the penetration of the TV service among the households decreased [56];
- drop in consumption of bundled services with retail television included;
- increase in the number of users of wholesale services for transmission and/or distribution of radio and TV programmes.

6. Bundled services

In 2017 the total volume of revenue generated from bundled services[57] reached BGN 885.411 million registering a growth of 12.9% compared to the previous year.

In 2017 compared to 2016 the number of undertakings, provided bundled services remained unchanged – 94. Most of them (90 undertakings or 95.7%) provided bundled service with television and fixed Internet access included.

Subscribers of bundled services

According to the data submitted by the undertakings providing public electronic communications in Bulgaria, the number of subscribers of bundled services at the end of 2017 increased compared to the previous year by 9% and reached 5.36 million.

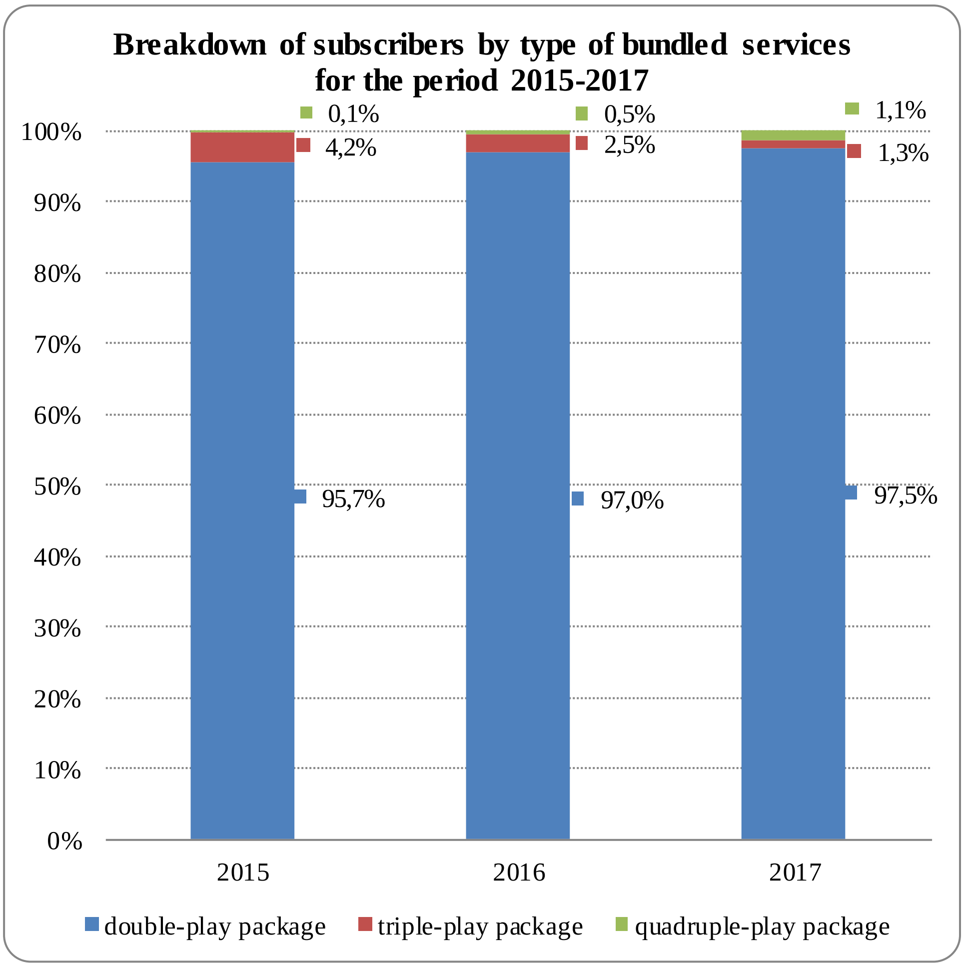
The growth observed in the number of subscribers of bundled services has an impact on the indicator "penetration by population"[58], which in 2017 increased by over 6.8 percentage points for a one-year period and reached 76%.

The breakdown of subscribers by type of bundled services according to the number of electronic communications services included, in Bulgaria is presented in Fig. 27.

[56] See the footnote 50

[57] The 2016 questionnaires introduced a change in the scope of the bundle service definition – under "bundled services", commercial offers on the basis of monthly subscription should be taken into account. Bundled services include two or more of the following services: (1) Fixed broadband Internet access, (2) Fixed voice service, (3) Mobile voice service, (4) Mobile broadband Internet access and Pay TV. So called "Pure", "Combination of tied and tying services" and "Mixed" bundled services should be considered as bundled services.

[58] The indicator was calculated as a ratio between the total number of subscribers of bundled services and the number of population as of 31.12.2017 according to NSI data (Population by districts, municipalities, place of residence and sex: http://www.nsi.bg)

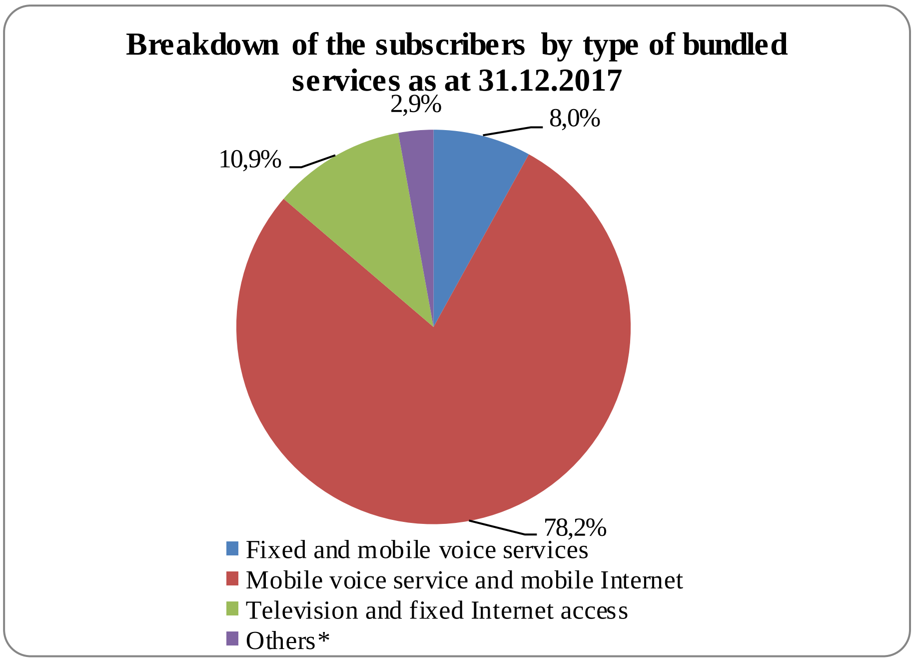


Source: *Data submitted to CRC*

Fig. 27

As it is evident from the data presented in Fig. 27, the share of the bundles including two electronic communications services (double-play bundles), increased every past year and in 2017 reached 97.5% of the total number of subscribers of bundled services. Although it was insignificant (1.1% of the total number of subscribers of bundled services), the share of subscribers of bundled services using quadruple-play bundles which include four electronic communications services in different combinations also increased in the monitoring period. It should be noted, however, that the quadruple-play bundles subscribers reported the most significant growth (nearly 19 times) in the period 2015-2017. This growth was mainly due to the reported in previous year trend of increased offering of quadruple services with television access included by one of undertakings and to the redirection of the consumption of the double-play and triple-play bundles with mobile service included (mobile voice or mobile Internet access) to quadruple services. The increase of the share of double-play and quadruple-play bundles was at the expense of decreasing of the share of triple-play ones, which for the period 2015-2017 dropped by 2.8 percentage points or by 55%, in absolute values.

Fig. 28 presents the breakdown of subscribers by the most preferred bundled services in 2017.



***Note**: In "Others", the subscribers of bundled services, the share of which does not exceed 2% in the total number of subscribers of bundled services are included*

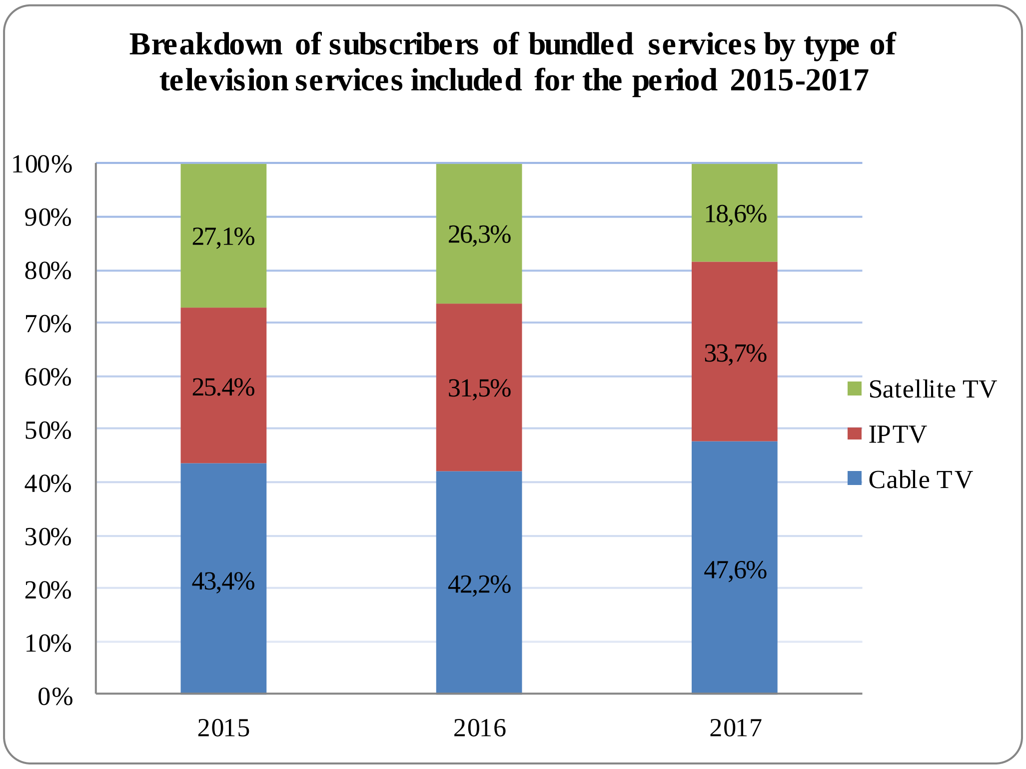
***Source:** Data submitted to CRC*

Fig. 28

As it is evident from the data presented in Fig.28, "Mobile voice service and mobile Internet access" (78.2%) was the bundled service which was the most preferred by the subscribers in the reported year and in the previous seven years, as well.

The number of subscribers of the most widely used bundled service – "Mobile voice service and mobile Internet access", increased by 13% compared to 2016 and reached 4.194 million at the end of 2017. The number of subscribers of the second most used bundle ("Television and fixed Internet access") in 2017 decreased by 5.7% and reached 584 thousand. "Fixed voice service and mobile voice service" bundle with a relative share of 8% was used by 431 thousand subscribers and the increase in 2017 was by 5.1% compared to the data from 2016.

Fig. 29 presents the breakdown of subscribers of bundled services according the type of television services included.



Source: *Data submitted to CRC*

Fig. 29

In 2017 for the first year since 2011 the share of subscribers of bundled services with cable TV reported a growth of 5,4 percentage points for one-year period and reached 47.6% of the total number of subscribers of bundled services with TV included. The increase in the share of cable TV bundled services was due to the increased number of subscribers (by 5.3% for one-year period) as well as the considerable drop in the number of satellite TV subscribers in the last year. In 2017 compared to 2016 they decreased by 34% in absolute items (or by 68 thousand subscribers), and the share in the total number of subscribers of bundled services with TV included - by 7.7 percentage points. The increase of the share of IPTV bundles subscribers for one-year period (2.3 percentage points) was also a result of the drastic drop in the number of subscribers of bundle servicees with satellite TV.

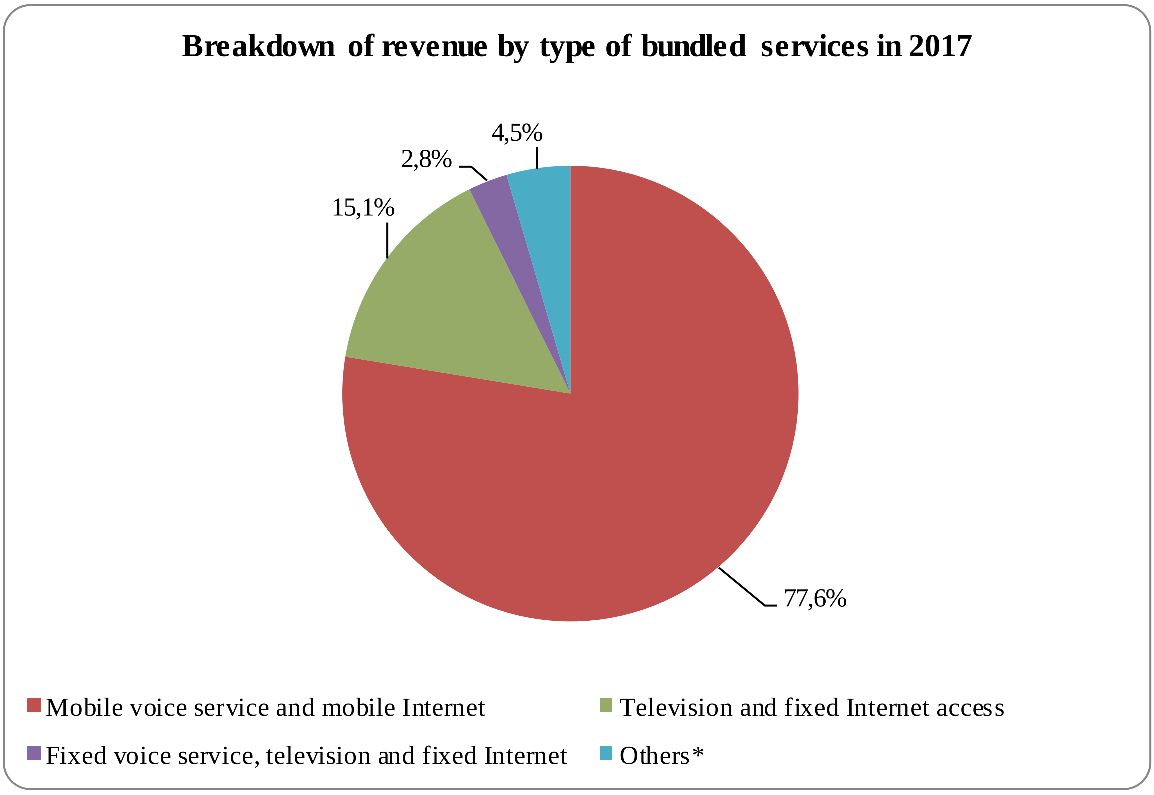
Revenue from bundled services

Double-play bundles continued to hold the largest share (94.7%) in the total volume of the revenue from bundled services[59]. In absolute items, a growth of 14% was reported, and in relative items - by 1 percentage point compared to the data from 2016. The observed downward trend in the rate of growth of this revenue continued in 2017 and it was more than twice as low as the growth rate in the previous period (2016 compared to 2015). The share of the revenue from triple-play bundles continued to decrease in 2017 (by 2.6 percentage points), in absolute items a decrease by 37.7% was reported.

The decline in the growth rate of revenue from double-play bundles and drop in the revenues from triple-play bundles are as a result of reorientation of the users to use a combination of four electronic communications services. The revenue considerably increased (over 4 times) in 2017 compared to 2016. However, the registered growth in 2017 did not contribute significantly to an increase in the share of quadruple-play bundled in the total volume of revenue in the segment realized in 2017 and it is still negligible small - only 2.2%.

[59] The total volume of revenue from bundled services in 2017amounted to BGN 885.411million.

Fig. 30 presents the breakdown of revenue by type of bundled services in 2017.



Note*: In "Others", the subscribers of bundled services, the share of which does not exceed 2% in the total number of subscribers of bundled services are included.*

Source: *Data submitted to CRC*

Fig. 30

The share of revenue from double-play bundle service with Mobile and Fixed voice service included, has been recording steady decline since 2011, as of the moment this share is 1.1%. Due to its small relative share in the total volume of revenue from bundled services, it is included in "Others" in Fig.30. In 2017 the share of the revenue from double-play bundled service with "Mobile voice service and mobile Internet access included", increased compared to 2016 by 3.8 percentage points and reached 77.6% of the total volume of the segment, and the reported growth of revenue in absolute items was 18.6%. The next in the increase of revenue was "Television and fixed Internet access" bundled service, which reported a growth of 3.2% compared to 2016, but a drop by 1.4 percentage points in the share of revenue from this bundled service was reported. The revenue from "Fixed voice service, television and fixed Internet" bundle reported decrease for a one-year period both in the relative share which it occupies in the total volume of the segment (which decreased by 2.2 percentage points to 2.8%) and in absolute items – by 37% as well.

Summary

In 2017, the following changes for the "Bundled services" segment compared to 2016 were observed:

- considerable growth in the total volume of revenue from the segment as a result mainly of the growth of "number of subscribers" indicator; the consumption of double-play and quadruple-play bundles increased at the expense of triple-play packages;

- growth in the number of subscribers of “Mobile voice service and mobile Internet access included” and “Mobile and Fixed voice service” bundled services and drop in the number of subscribers of “Television and fixed Internet access” bundle;
- growth in the number of subscribers of IPTV and cable television bundled services and considerable drop in the number of subscribers of satellite television bundled service.

7. Prospects for the development of the Bulgarian electronic communications market

The electronic communications market in Bulgaria will continue to be in line with trends of development of the European market in the future, as it was in the previous years. In response to the increasing demand of the customers related to quality, speed, connection security and variety of services offered, the undertakings invest in deployment of NGA networks. Innovations such as hybrid services - a combination between traditional electronic communications services and “machine – machine” communication, related content, Internet of things (IoT) etc. are increasingly used. Expected trends for 2018 are the following:

- The increase in the total consumption of mobile voice service and call minutes abroad by subscribers of Bulgarian undertakings should be maintained, as well as the strong competition between the major mobile telephony service providers. At the same time, the drop in the number of the users of mobile telephony service via prepaid SIM cards due to changes in regulations is expected to slow down its pace.

- The share of the mobile Internet subscribers using LTE technology should continue to increase due to deployment of LTE networks coverage and strong competition in this market segment towards offering new and diverse services, as well.

- The share of the fixed high-speed and ultra-high-speed access subscribers is expected to continue increasing due to migration to NGA networks. These networks have wide range of capabilities to deliver high definition content (video and TV), support high-speed applications, provide with symmetrical broadband connections at competitive prices.

- The fixed telephony service development observed so far should continue keeping the downward trend in subscribers and revenue from the service provided stand-alone or as a bundled service due to redirection of the users from fixed voice service to mobile voice service.

- IPTV subscribers and the revenue from them should increase, as well as the trend of redistribution of pay TV subscribers between the platforms, mainly in the towns.

- Shrinking in the “Leased lines” market segment should be maintained due to the offering of innovative access products which provide all the functional characteristics of “Leased lines” service and which are better adapted to the customer’s individual needs and demands.

- The upward trend in the number of bundled services subscribers and the revenue from them should continue. The undertakings should continue their efforts to improve the quality of the services provided, including additional so-called “digital services” and content services to the traditional electronic communication services.

8. Provision of the universal service

8.1. Degree of satisfaction from the universal service provision

As of 31.12.2017, BTC EAD - the undertaking obliged to provide a universal service [60]- ensured 82% coverage measured by the number of territorial units. Compared to 2016 the share of the territorial units where Fixed telephony service is provided, remained. It was due to the relatively constant number of territorial units according to the Unified Classification of

[60] Pursuant to § 7 of Law on Electronic Communications

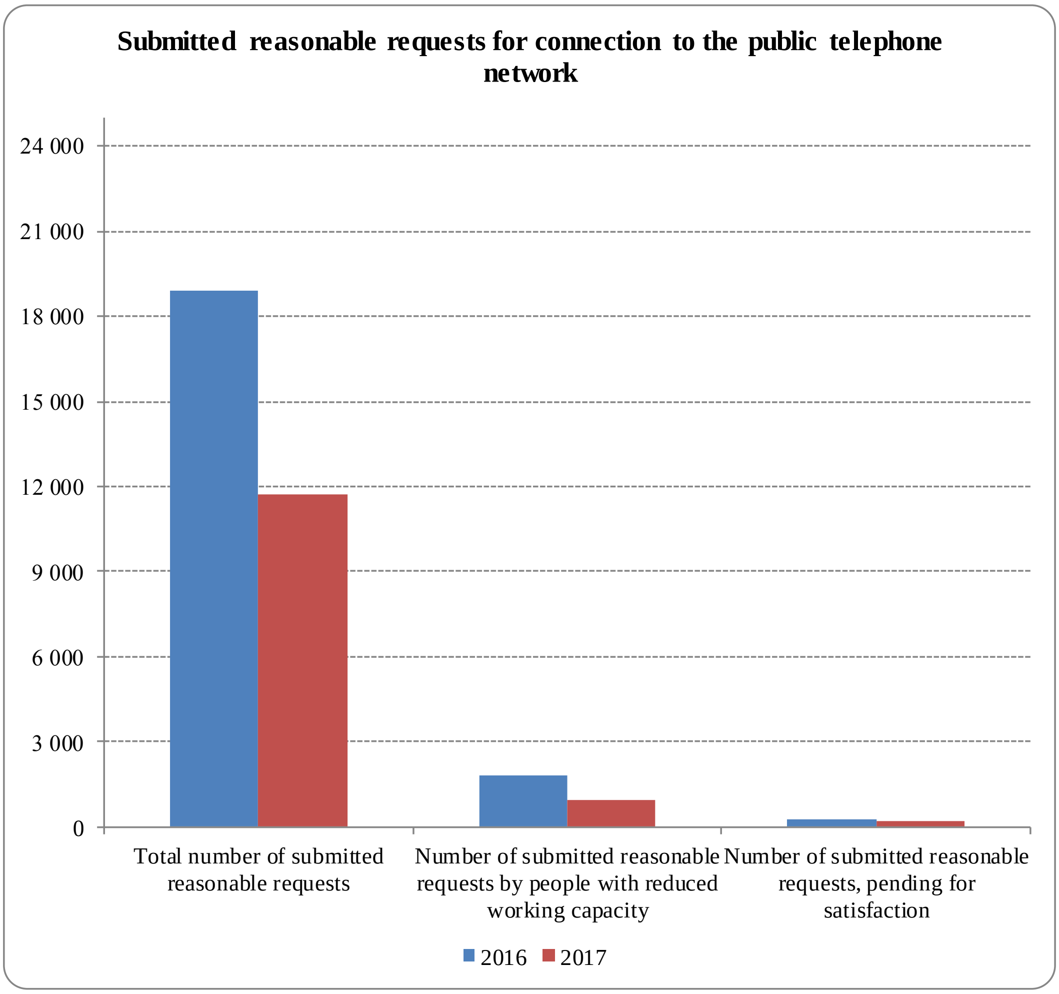
Administrative-Territorial and Territorial Units. This coverage includes settlements and settlement formations (resorts, etc.), which are included in the Unified Classification of Administrative-Territorial and Territorial Units.

In 2017 the telephone density by households[61] registered a decrease by 3.34 percentage points compared to the previous year, as a result of the steady downtrend in the total number of BTC residential subscribers as of 31.12.2017 BTC ensured access and provided public telephone services to nearly 13% less subscribers compared to the previous year.

8.2. Analysis of the provision of the universal service

8.2.1. Access to and provision of the universal service

As evident from Fig. 31 below, at the end of 2017, the total number of submitted reasonable requests for connection decreased by 38.17% compared to the previous year, which indicates the indicator' s increase reported in 2016 was a result of a single factor. A decrease in the number of submitted reasonable requests for connection filed by people with disabilities continued to be registered, as the submitted reasonable requests for connection were almost 38 % less compared to the previous year. It is in confirmation of the steady trend in drop in use of services within the scope of the universal service.



Source: *Data submitted to CRC*

Fig. 31

[61] "The density by households" indicator is measured by dividing the total number of residential lines by the number of households in the country based on data from NSI

In 2017, the percentage of the requests for connection pending for satisfaction decreased below 2% of the number of all requests, due to the striving of the undertaking to attract new subscribers. The share of the rejected requests for connection to the total number of the submitted requests was 24%, as the main part of them (over 60%) was as a result of the ceased interest by the customers.

BTC performed its obligation to ensure free-of-charge calls to emergency numbers, as in 2017 their share amounted to 0.11% of the total volume of calls to national numbers.

8.2.2. Access to public payphones

According to the criteria stipulated in Ordinance No 6[62] BTC is obliged to ensure a sufficient [63] number of public payphones (PPs).

Table 7 presents data about the performance of the obligation to provide a sufficient number of public payphones in 2017:

Table 7

Population	Number of municipalities	Sufficient number of public payphones
below 500 residents	1939	1939
from 500 to 1500 residents	1031	1315
over 1500 residents	477	3663
Total:	3447	6917

Source: *CRC on the basis of data submitted by BTC*

In 2017 the steady trend of reduction in the number of public payphones owned by BTC continued. The decline in the number of PPs was considerable – 12.6%. As in 2016, in 2017 the implementation of criteria for a sufficient number of public payphones installed in municipalities with over 1500 residents exceeded considerably the minimum number required by Ordinance No. 6. In the remaining categories municipalities, the criteria for a sufficient number of public payphones were not met.

The number of public payphones, property of BTC, whose qualitative characteristics include facilities for users with impaired hearing and for users with none or impaired eyesight, also registered a decrease of 17.2% compared to the previous year. As of 31.12.2017 these PPs reached 62.8% of the total number of public payphones in the country. Part of them provide a textual or other type of connection for people with impaired hearing or speech and are accessible for users in wheelchairs by being installed in suitable locations. In 2017 deterioration in the quality parameter of the PPs provided was observed, as the number of functional payphones was by 1 percentage point less compared to the previous year.

[62] Ordinance No 6 of 13 March 2008 on universal service under the Law on Electronic Communications (title amend. SG, issue 77 of 9 October 2012)

[63] A sufficient number of public payphones is considered to be present when there is at least 1 public payphone and/or 1 public access point for voice telephone services available in municipalities with up to 500 residents; at least 1 public payphone and/or 1 public access point for voice telephone services per 500 residents in municipalities with more than 500 residents, and at least 1 public payphone and/or 1 public access point for voice telephone services per 1500 residents in municipalities with more than 1500 residents.

Free calls to the national emergency numbers and the European emergency call number 112 can be made from all public payphones.

8.2.3. Ensuring telephone directory and provision of enquiry services

In compliance with LEC and with relation to the provisions of Art. 6 of Ordinance No. 5[64] the undertaking obliged to provide the universal service must issue at least one telephone directory in printed and/or electronic form. In 2017 by its Decision No 583/16.11.2017 CRC approved BTC's proposal[65] for the release of a public telephone directory for 2017 in an electronic form. The telephone directory is available at the undertaking's official website[66].

In compliance with its obligation to provide information for the numbers included in the comprehensive telephone directory during the year, BTC provides end users with a 24-hour telephone directory enquire service through number 11 800.

In 2017 a considerable drop of 79% in the number of calls, ensuring the enquiry services and almost 24% decline in the number of free-of-charge calls to emergency numbers was observed.

8.2.4. Affordability of tariffs of the universal service

In performing the obligation to provide price packages within the scope of universal service at affordable prices [67] in 2017 continued to offer, with no change in prices and conditions, the price packages intended for users: with low income (”Limited” plan, as named by BTC); with over 90% impaired work capacity or capacity for social adaptation (“Handicap 160” and “Handicap 300” plan, as named by BTC); with over 50% impaired work capacity or capacity for social adaptation (“Handicap 300”, plan, as named by BTC); people admitted to social or health institutions (“Social and health institutions” plan, as named by BTC).

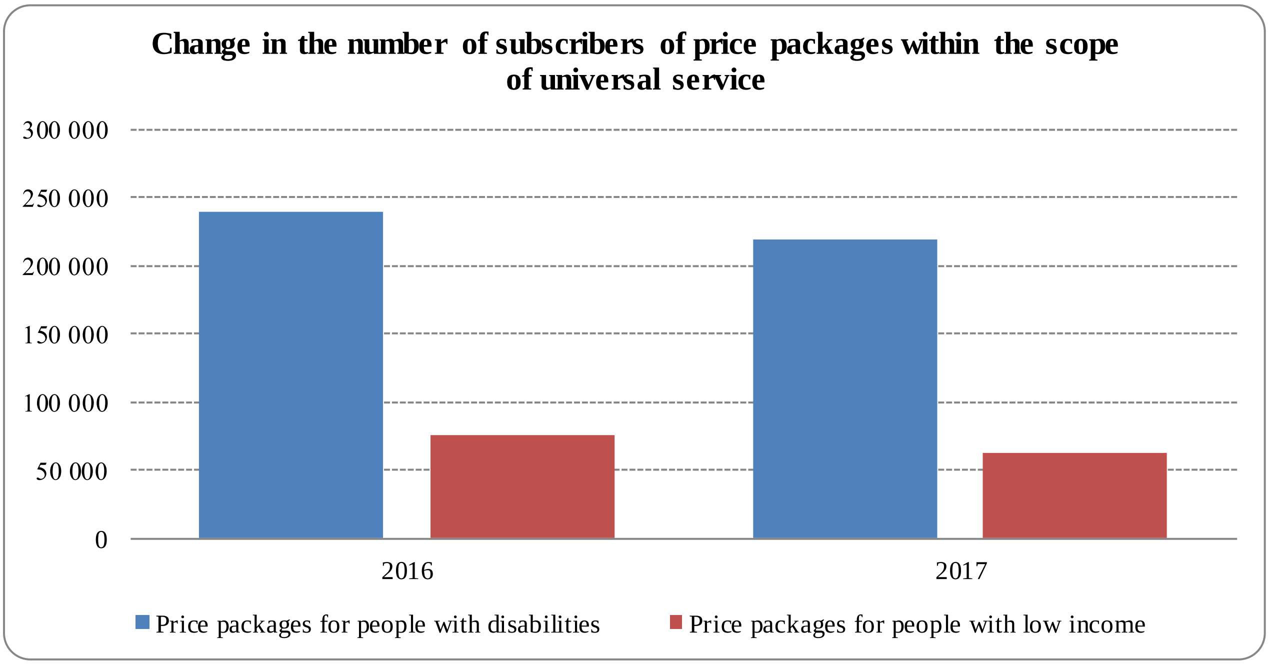
As of 31.12.2017 the subscribers of price packages within the scope of universal service increased by 4.9% compared to those of 2016. The chart below presents the dynamics of change in the number of subscribers of price packages within the scope of universal service for 2016 and 2017:

[64] Ordinance No. 5 of 13.12.2007 on the terms and procedure for release of telephone directories, including working with database, their transfer and use, as well as for carrying out telephone enquire services

[65] Letter, Ref.No.04-04-347/ 06.11.2017

[66] http://www.vivacom.bg/online/cgi-bin/wpd.cgi?temp=home.html&ls=0;

[67] Stipulated in the Methodology for determining prices and price packages for the universal service adopted with Decree No.2544 of 25.10.2008 of the Council of Ministers, prom. SG, issue 94 of 31.10.2008 Stipulated in the Methodology for determining prices and price packages for the universal service adopted with Decree No.2544 of 25.10.2008 of the Council of Ministers, prom. SG, issue 94 of 31.10.2008.



Source: calculations on data submitted to CRC

Fig. 32

The number of consumers of price packages for people with low income and price packages for people with disabilities decreased for 2017 compared to the previous year by 8.4% and 17.3% respectively, which established the long-term trend of drop in use of price packages from universal service scope. On Fig 32 the number of subscribers using price packages for people with special needs was not included, because it amounted to only 0.02% of the total number of subscribers of price packages within the scope of universal service.

8.3. Quality of the universal service

The Quality of Service parameters of the universal service provision are stipulated in Ordinance No. 6[68], as the target values of the parameters were adopted by Decision No. 345/31.03.2011 of the CRC and are publicly available at CRC's official website[69].

According to the data submitted by BTC, in 2017 the undertaking reported fulfilment of all indices, as quality higher than the target values for the universal service was achieved in almost all index groups

8.4. Compensation of net costs accrued due to the universal service provision

In 2017 BTC did not submit to the CRC a request for compensation of unfair burden from the universal service provision within the statutory period 30.06.2017. Thus, during the last year, the amount of the net expenditures was not calculated and it was not established whether these expenditures leaded to the unfair burden of the incumbent undertaking. Taking into account the absence of request for compensation of unfair burden from the universal service provision, the activity of the Fund for compensation of the universal service did not start and no funds were deposited.

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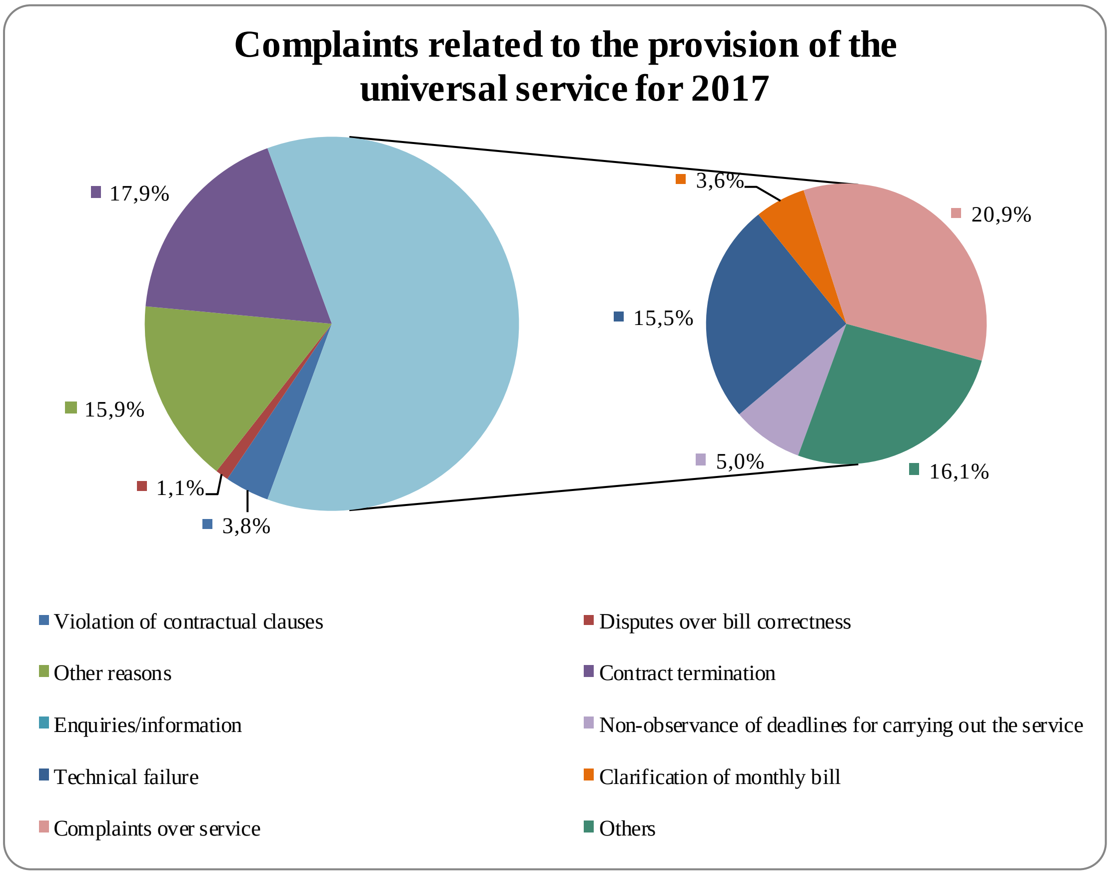
[68]Ordinance No.6 of 13 March 2008 on universal service under the Law on Electronic Communications (title amend. SG, issue 77 of 9 October 2012)
[69] http://www.crc.bg/section.php?id=904&lang=bg

8.5. Complaints and complaint resolutions

According to the General Conditions governing the relations between BTC and the end users, the undertaking provides the possibility that users individually track and control their costs through:

- provision of detailed bills free-of-charge[70];
- free-of-charge selective limitation of outgoing calls;
- deferred payment when connecting to public telephone networks.

In 2017 the number of complaints filed against the undertaking regarding the provision of the universal service was 37.4% less than in 2016. The most often complaints disputed technical failures, bill correctness, contract termination and enquiries /information. The causes for filing complaints are illustrated in Fig. 33:



***Source:** Data submitted to CRC*

Fig. 33

The percentage of complaints regarding technical failure was 17.9%, % in the total number of complaints, which is almost a constant compared to 2016. At the same time, the share of complaints for contract termination compared to the total number of complaints was 15.5% and registered increase by 1.1 percentage points, compared to the same indicator for the previous yea.

In 2017 BTC responded to 99% of the complaints within the regulatory deadline of 30 days, as the percentage of the unsatisfied complaints amounted to 61% of the total number of complaints filed.

[70] The content of the itemized bill is defined in Art. 260, Para.3 of the LEC

8.6. The universal service outlook

As it is evident from the submitted data, the obvious conclusion is that the interest to the services of the scope of the universal service registered a drop, in general. It was a result of decrease in demand of universal service during the recent years. As recognized by CRC that trend is mainly due to the fact that the mobile telephony services have almost replaced traditional fixed line telephony services and to the expansion of communication capabilities of the end users through the broadband Internet access. Taking this into account, CRC expect maintenance of the downward trend in the interest to the services from the universal service scope in Bulgaria in the next year.