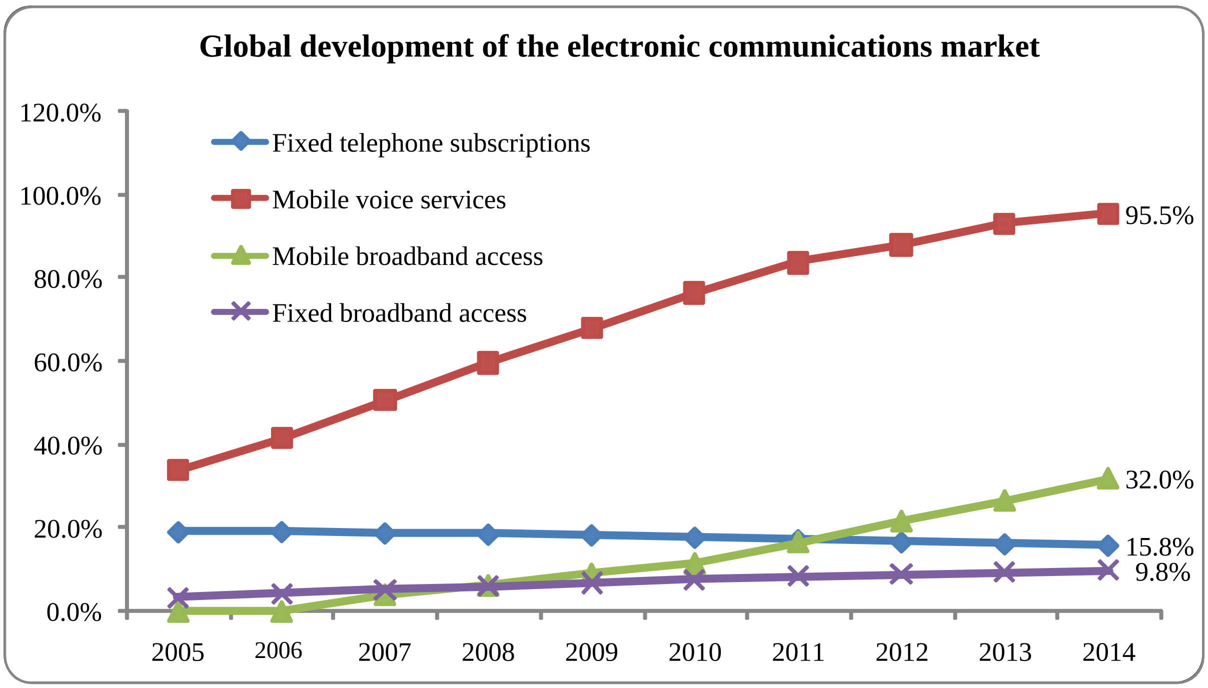
# I. STATE, DEVELOPMENT, AND PROSPECTS OF THE ELECTRONIC COMMUNICATIONS MARKET

## 1. Global development of the electronic communications market

***Volume and growth of the sector***

In 2014, the total volume of the telecommunication services market reached USD 1.626 trillion. According to data, reported by one of the leading international analytical companies, *Gartner Inc*[1], there is a decrease of 0.1% for another consecutive year, compared to the data for 2013.

According to the data of ITU[2], in 2014, the global trend towards growth in the number of users of electronic communications services continued. Figure 1 shows data on the penetration by population (per 100 inhabitants) by types of services over the past ten years (2005-2014).




***Source:*** ITU World Telecommunication/ICT indicators database

Fig. 1

Mobile voice services continued to play a major part in the development of the global electronic communications market. ITU reported a mobile voice services' penetration of 95.5%, which is an increase of 2.4 percentage points compared to 2013.

An increase of 5.3 percentage points was also reported in the mobile broadband access, where penetration reached 32%. Fixed broadband access penetration also reported growth, although at a slower pace (0.4 percentage points) compared to the previous year.

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1 http://www.gartner.com/newsroom/id/2959717

2 http://www.itu.int/en/ITU-D/Statistics/Documents/facts/ICTFactsFigures2014-e.pdf

In 2014, the decrease in the penetration of the fixed phone services was insignificant – by 0.3 percentage points compared to 2013.

***Mobile services***

In 2014, as the previous year, according to ITU data, mobile-cellular subscribers worldwide almost approached the number of people on earth (nearly 6.9 billion subscribers for a population of 7.1 billion).

The increase in the number of subscribers of mobile voice services worldwide was again mainly due to the market in the developing countries where a growth of 38.9% was registered in the past five years (2010 – 2014). The penetration of mobile services in these countries grew from 68.5% in 2010 to 90.2% at the end of 2014.

In terms of the "average degree of mobile services penetration" indicator, the data show that in 2014 its value was 95.5% (Fig. 1), with penetration of 120.8% in the developed countries. This percentage is the highest in the countries of the Commonwealth of Independent States (CIS) and the European countries, respectively 140.6% (3.6 percentage points more compared to 2013) and 124.7% (1.8 percentage points more compared to 2013). The lowest degree of mobile services penetration was registered in the African countries – 69.3% and in the countries in the Asia-Pacific region – 89.2%.

According to ITU data on the development of mobile services in the different regions of the world, in the countries from Africa, the Asia-Pacific region, and the Arab States, the trend towards increase in the number of mobile services subscribers continues to grow at faster rates compared to the number of mobile services subscribers in the remaining regions. For a five-year period, this increase reached 72% for the African countries and in 2014 it was 8%, compared to 2013.

***Fixed voice services***

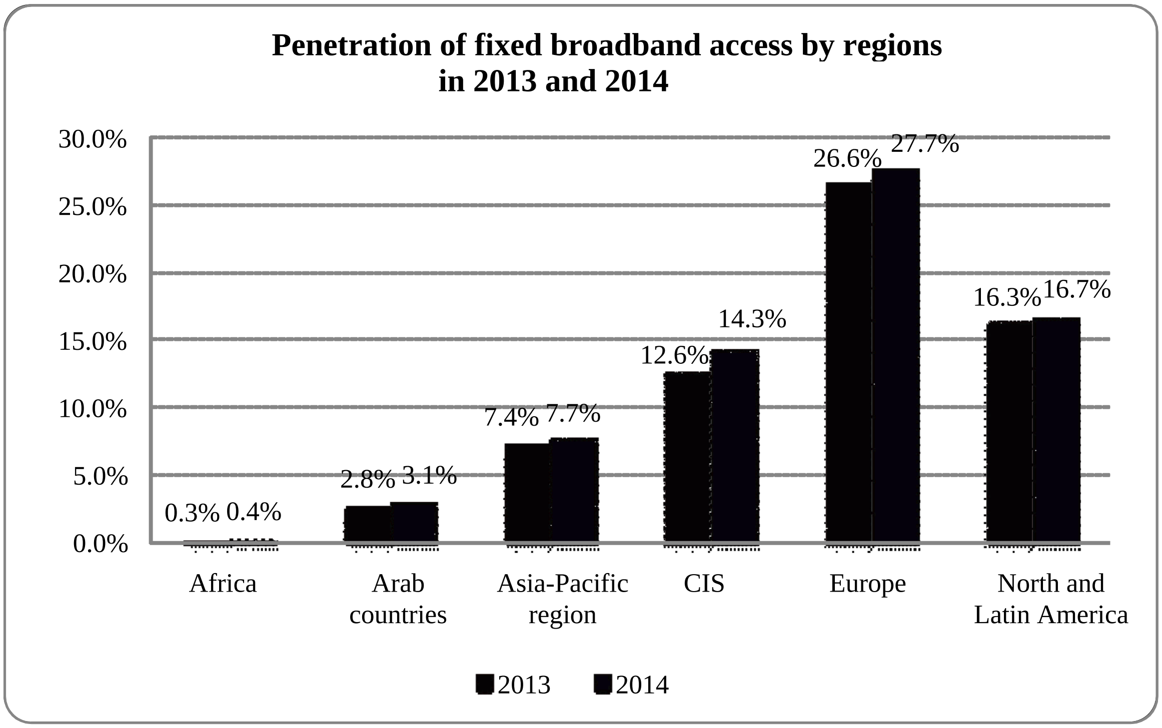
According to ITU data, in 2014 the degree of use of traditional telephony services over fixed network was almost equal to the one in 2013. Slight decrease was reported worldwide of the "number of fixed telephone lines" indicator. In 2014, the indicator value decreased by 0.96% compared to the previous year, or in an absolute value, by 11 million (in 2013, the number of fixed telephone lines was 1,158 million, while in 2014 it was 1,147 million). The greatest reduction of the "number of fixed telephone lines" indicator for a one-year period was reported in America – 1.6%. Increase in the number of fixed telephone lines was reported only in Africa and the Arab countries, where the increase in the indicator value compared to 2013 was 2.41% and 0.23%, respectively.

A decrease was reported in the degree of penetration of fixed telephony services, whereas at the end of 2014 only 15.8% (16.2% in 2013) of the world population used this type of services. No change was observed in terms of the leading positions held by the European countries, where the highest degree of 39.2% penetration of fixed telephony services was observed once again (in 2013, this percentage was 39.6%). The next two places were held by the countries from North and South America (26.3%) and the CIS countries (24.9%). The lowest degree of penetration was observed in Africa (1.3%).

***Fixed broadband access***

In 2014, the "fixed broadband access" service continued to attract new users (711.1 million subscribers), as it registered for a one-year period a growth of 5.6% in the number of subscribers, which in an absolute value represents an increase of 37.8 million subscribers. For a one-year period, the highest growth in the number of subscribers was reported in Africa (by 28%), while the lowest - in the North and Latin American countries (by 3.5%).

The chart below shows data on the degree of penetration of fixed broadband access by regions in 2013-2014.




***Source:*** ITU World Telecommunication/ICT indicators database

Fig. 2

In 2014, the CIS countries reported the highest degree of increase in the penetration indicator – 1.7 percentage points compared to 2013. In the remaining regions, this change varied between 0.1 and 1.1 percentage points, as the least significant increase of the penetration indication was observed in the African countries – 0.1 percentage points.

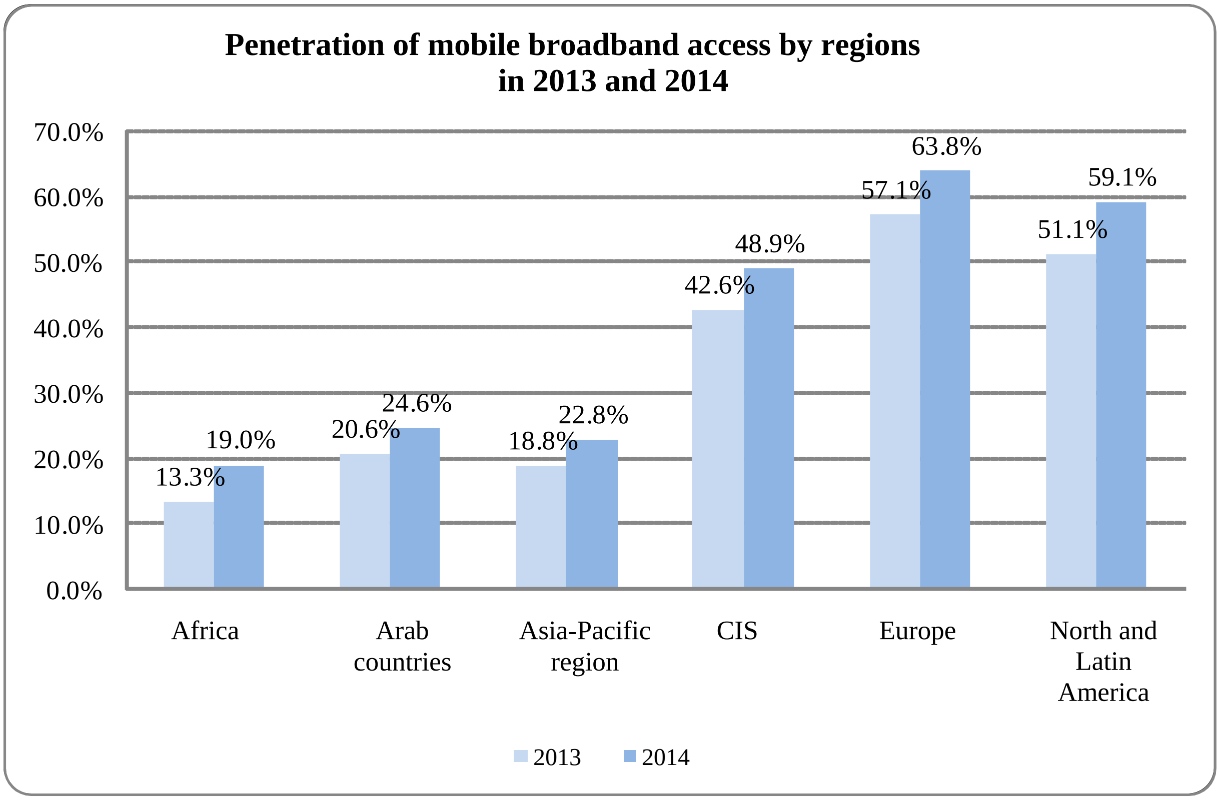
***Mobile broadband access***

In 2014, mobile broadband access remained a major driver for the development of electronic communications worldwide. According to ITU data, the growth in this segment of the electronic communications market is a result of the increase by 19.9% of the number of subscribers compared to 2013. The indicator's value increases both in the developing countries (by 27.6%), and in the developed ones (by 11.8%). The subscribers of mobile broadband access continued to be several times (3.25) more than the subscribers of fixed broadband access.

The greatest relative increase in the number of mobile broadband access subscribers in 2013-2014 was observed in the African countries (by 46.7%), and the least significant one is in the European countries (by 12.1%).

In the past five years, the value of the "penetration of mobile broadband access" indicator worldwide increased by 20.4 percentage points.

Figure 3 below shows the penetration of mobile broadband access by regions in 2013-2014.




***Source:*** ITU World Telecommunication/ICT indicators database

Fig. 3

The penetration rate of mobile broadband access compared to 2013 was considerably higher than the one of the fixed broadband access. This indicator has increased mostly in the countries from North and Latin America (by 8 percentage points compared to 2013) and Europe (by 6.7 percentage points compared to 2013).

## 2. The electronic communications market outlook

Despite the measures adopted to overcome the global economic crisis, the economic conditions remained unstable in most of the world. In this environment, the expectations for the development of the electronic communications services market worldwide are once again for a slight increase in revenues.

The forecast of *Gartner Inc.* for 2015 envisages an increase in the revenues from telecommunication services. It is expected to be approximately 0.7% compared to the previous year, as revenues are expected to reach USD 1,638 trillion in 2015.

The analytical company *Ovum*[3] expects the revenues of mobile voice and data services to continue to grow globally, but in the developed countries this growth will be slow. The

[3] http://info.ovum.com/uploads/files/Ovum_2015_Research_Agenda_Telecoms.pdf

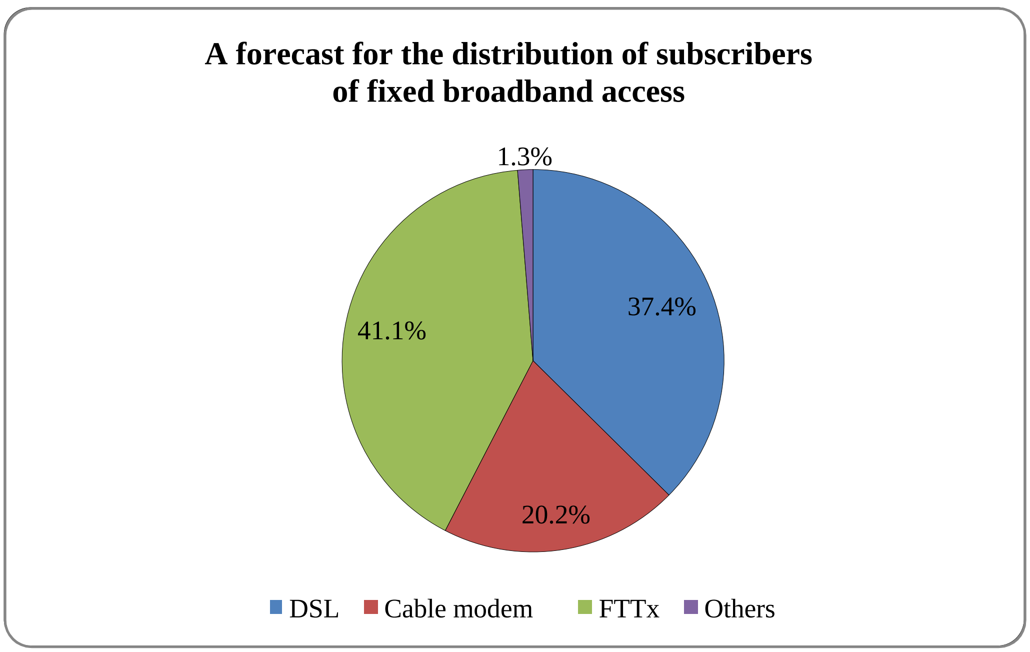
forecast of *Ovum* is that in the next years the growth rate of fixed voice services and broadband access services will slowly decrease by 2% per annum. The company considers that the main challenges in the sector will be the increasing demand and the competition with the other undertakings operating on the electronic communications market.

For another year in succession, the world analytical companies acknowledge the major role of the Internet access services in the development of the telecommunications sector.

According to *Ericsson*[4] company, the expected growth of these services in the next years will be mainly due to the increased number of the subscribers of mobile broadband access. According to the forecast of *Ericsson*, in 2020, the number of the subscribers of mobile broadband access will reach 8.4 billion.

According to the forecast of the independent consulting firm *Broadbandtrends LLC*[5], the subscribers of fixed Internet access will reach 814 million in 2020, as the penetration based on households is expected to reach 42% in 2017 compared to 39% in 2014.

Figure 4 shows a *Broadbandtrends LLC` s* forecast for the distribution of fixed Internet access` s subscribers by type of Internet access in 2020 worldwide. The consulting firm expects the DSL technology to lose its leading market position, with a corresponding growth in the relevant share of subscribers using FTTx access. The relevant share of DSL technology users of the total number of subscribers of fixed broadband access is expected to decrease from 51.5% in 2014 to 37.4% in 2020.




***Source***: Broadbandtrends LLC

Fig. 4

According to *Broadbandtrends LLC*[6], the mobile broadband access via LTE[7] technology remains the greatest challenge to the fixed broadband access. This mainly applies to the

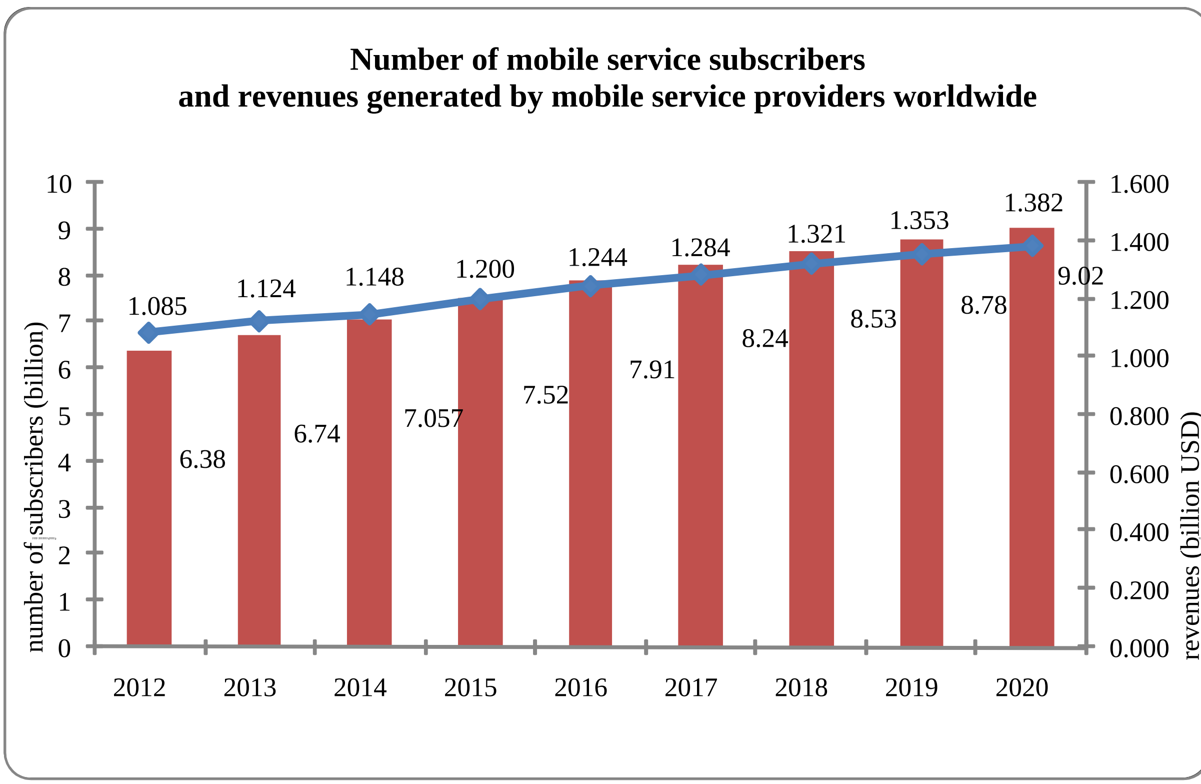
[4] http://www.ericsson.com/res/docs/2014/ericsson-mobility-report-november-2014.pdf

[5]http://broadbandtrends.com/yahoo_site_admin/assets/docs/BBT_GlobalBBOutlook2015_151100_TOC.10224022.pdf

developing markets where penetration of fixed Internet access is low, and the offered mobile Internet speeds and the relevant price levels are comparable to those of the fixed one.

The *World GSM Association (GSMA)* expects growth in the number of the subscribers of mobile broadband access. The association expects the worldwide penetration of mobile Internet access services to increase from 33% in 2014 to 49% in 2020.

The development of mobile services has an increasing significance, both for the telecommunication services sector and the socio-economic progress worldwide. The development in the sector is additionally boosted by the wider use of new mobile devices, applications, and cloud systems. This trend is also confirmed by the data published in the *GSMA*[8] report, stating that a fast-pace growth is expected in the number of mobile services users and the generated data traffic, respectively. The forecast data indicate that the number of the SIM cards will reach 7.5 billion in 2015 and 9.02 billion at the end of 2020. Regarding the revenues generated by mobile service providers, the agency expects slower growth of 3.1% of revenues in the next years, for the period 2014-2020. For comparison, the value of this indicator was 4% in 2008-2014. This phenomenon will be a reflection of factors, such as market maturity, high level of competition and regulation. Figure 5 shows data regarding the number of subscribers and the revenues generated from the provision of mobile services globally.




**Number of mobile service subscribers and revenues generated by mobile service providers worldwide**

[6]http://broadbandtrends.com/yahoo_site_admin/assets/docs/BBT_GlobalBBOutlook2015_151100_TOC.10224022.pdf

[7] Long Term Evolution

[8] http://www.gsmamobileeconomy.com/GSMA_Global_Mobile_Economy_Report_2015.pdf

***Source***: GSMA

Fig. 5

For the countries in Continental Europe, within three years perspective, *GSMA* expects stabilization in the level of revenues generated by the mobile service providers, which will be driven by the migration to 4G networks and devices. Regarding the countries in North America, the growth of revenues is expected to be slowing down due to the high levels of competition and market saturation.

The dynamics in the development of the telecommunications sector is also determined by the increased demand for new mobile devices to meet the users' expectations. In its Annual Report "Technology, Media & Telecommunications Predictions 2015", the consulting company *Deloitte*[9] predicts that one billion smartphones will be purchased as upgrades in 2015. According to the market forecast of Deloitte, in 2015 smartphone sales will be greater than those of computers, tablets, and video games combined. It is expected that by 2018, market smartphones sales in units and revenues will continue to grow.

At the same time, the advance of OTT[10] services, the need of more powerful mobile devices, the expansion of scope of use of M2M[11] services, as well as the deployment of mobile access networks, predetermine the growth of the mobile data traffic worldwide. In 2014, 88% of the total global mobile traffic was smart traffic[12], and it is expected to reach 97%[13] in 2019.

According to Plunket Research[14], the trends for the global future development of the telecommunications sector are related to:

- ✓ Shifting competitive landscape due to consolidation of the electronic communications market;
- ✓ Increased supply of innovative new value added services that are accessed online;
- ✓ Constant technological changes, which will be driven by the intense competition on the electronic communications market.

Globally, in the next few years on the electronic communications market the scope of M2M services is expected to expand in more fields of life and establishment of partnerships between the mobile service providers and companies providing OTT services, to meet the customer requirements and needs and to increase the revenues generated.

In the next years, the migration to 5G networks will have a significant role for the future development of the telecommunications sector. In this regard, it is important to emphasize the key part of the European Commission in terms of the deployment of 5G networks standards as a part of the 5G PPP project under the EU Horizon 2020 Programme with an European budget of EUR 6.2 billion. The above-mentioned project and the funding under the Horizon 2020

[9] http://www2.deloitte.com/us/en/pages/technology-media-and-telecommunications/articles/2015-telecommunications-outlook.html

[10] over-the-top – carrying out electronic communication services and online content without the involvement of the Internet access service provider

[11] Machine-to-machine – services for automated data transfer between different devices/machines and a central information platform

[12] Traffic realized by devices supporting 3G connectivity as a minimum.

[13] Cisco Visual Networking Index™ (VNI) Global Mobile Data Traffic Forecast for 2014 to 2019 http://www.cisco.com/c/en/us/solutions/collateral/service-provider/visual-networking-index-vni/white_paper_c11-520862.html

[14] http://www.plunkettresearch.com/trends-analysis/telecommunications-voip-business-market/

Programme are expected to contribute to the involvement of Europe in the world initiatives for the deployment of 5G networks.

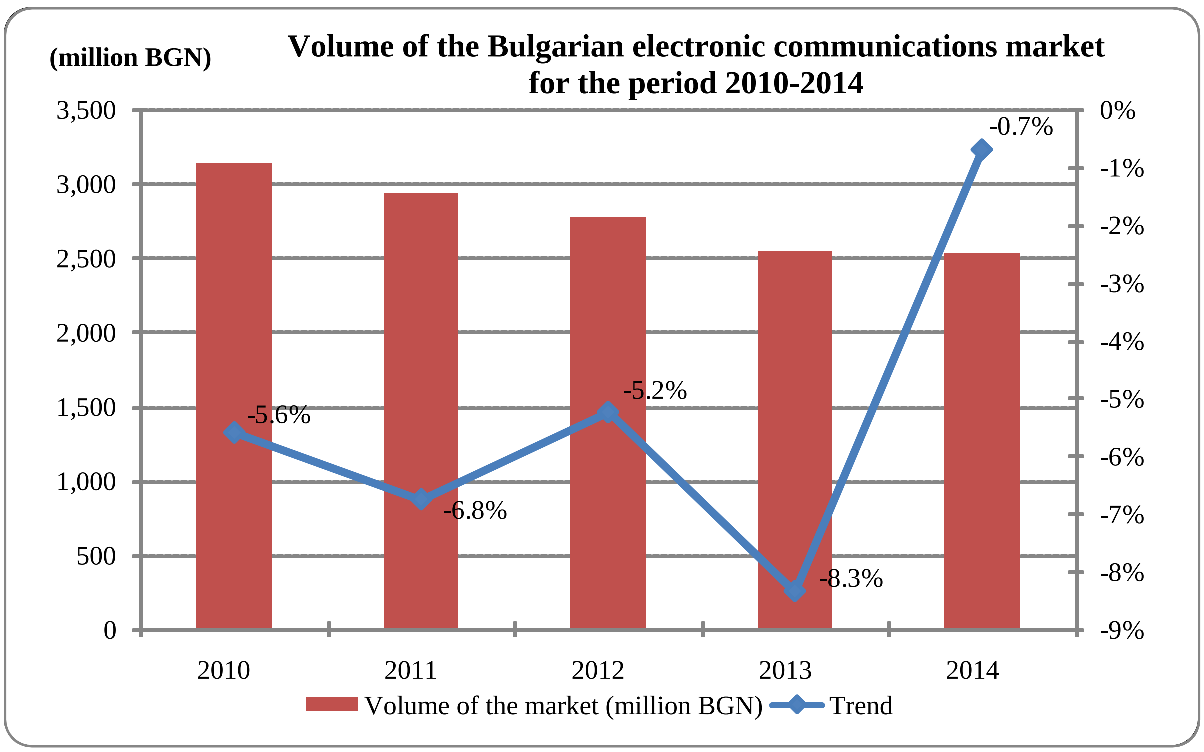
## 3. Volume and structure of the Bulgarian electronic communications market

### 3.1. Market volume

According to the CRC register (as of 31.12.2014) 1,156 undertakings were entitled to provide public electronic communications, as for one year their number has increased by 2.4%. From these registered undertakings, 1,051 (90.92%) submitted information to CRC under Art. 5 of General Terms & Conditions for Carrying out Public Electronic Communications.

In 2014, the total volume of the Bulgarian electronic communications market[15] amounted to BGN 2.526 billion, which is a decrease by 0.7% compared to 2013. For the first time in the past five years (2010-2014) the decline in electronic communications market is so negligible that market revenues are nearly as much as those reported in 2013. The slowed-down decrease trend is due to the smaller revenues reduction (compared to the previous reporting period) in some market segments: fixed and mobile voice services and the provision of leased lines services. This was also due to the reported increase in revenues in the other market segments in 2014.

Figure 6 below shows the dynamics in the volume of electronic communications market in the country for the period 2010-2014[16].




[15] Calculated based on summarized data received by 855 undertakings that were operating during the reporting period, as well as based on the revenues realized by 25 undertakings that submitted in 2014 notices on termination of business and questionnaires to report the activity in the current year.
[16] The data for 2013 have been updated.

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

Fig. 6

The total volume of the electronic communications market in 2014 represents 3.1% of the total GDP[17] of Bulgaria, remaining almost the same compared to 2013.

### 3.2. Market structure

Information on revenues from the activity related to carrying out public electronic communications in Bulgaria by segments determined according to the type of services provided for the period 2012 - 2014, is given in Table 1.

**Table 1**

**Structure of the public electronic communications market in Bulgaria by type of services provided in 2012 – 2014**

[17] 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

| Public electronic communications services | Year | | |
|---|---|---|---|
| | 2012 | 2013 | 2014 |
| | (million BGN) | | |
| **1. Voice telephony services** | 1,796.664 | 1,485.413 | 1,372.769 |
| 1.1. Fixed voice service through geographic numbers from NNP, carrier selection service and public payphones[1] | 265.778 | 225.492 | 203.340 |
| 1.2. Mobile voice service through numbers from NNP | 1,523.807 | 1,250.880 | 1,156.829 |
| 1.3. Other voice services[2] | 7.079 | 9.041 | 12.600 |
| **2. Leased lines services** | 45.023 | 35.225 | 34.830 |
| **3. Data transfer and/or Internet access services** | 341.192 | 364.226 | 372.351 |
| **4. Transmission and/or broadcasting of radio and/or television programs** | 235.157 | 257.438 | 265.073 |
| **5. Bundled services** | 310.557 | 350.376 | 424.703 |
| **6. Other services[3]** | 46.491 | 50.802 | 56.173 |
| **Total** | **2,775.084** | **2,543.480** | **2,525.900** |

[1] The data for 2012 and 2013 have been updated.

[2] Includes revenue from the carrying out VoIP (voice IP service where no NNP numbers (geographic or non-geographic) are used, the service quality is not guaranteed and the user must use/have Internet access through the respective device - computer/telephone), voice service provided through numbers with national destination code „99x“ and others.

[3] The segment includes revenues from the carrying out duct network access, satellite systems access services, co-location services other than those provided for interconnection and unbundled access, and other services.

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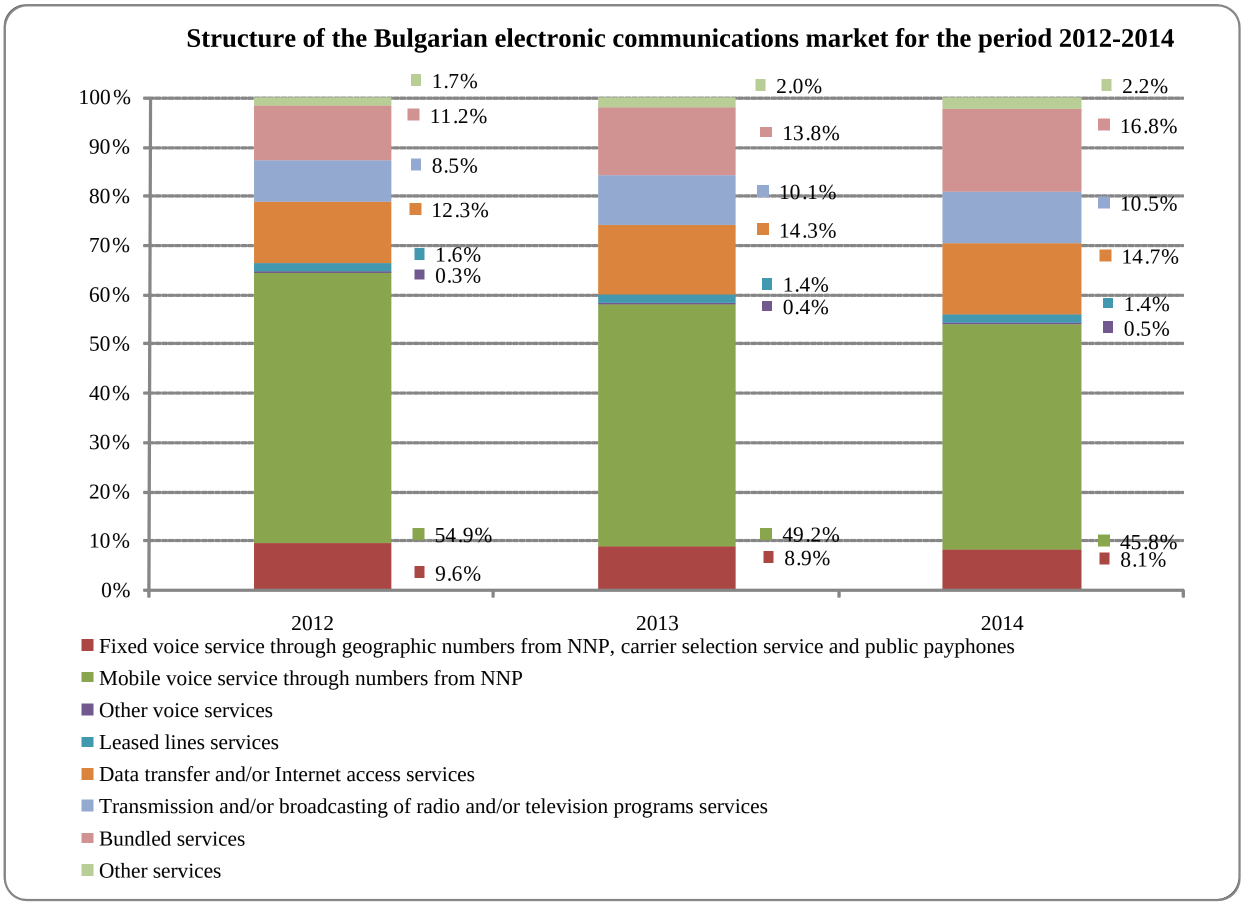
[3]The segment includes revenues from the carrying out duct network access, satellite systems access services, co-location services other than those provided for interconnection and unbundled access, and other services.

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

The change in the relative shares[18] of the segments in the structure of the electronic communications market for the period 2012 - 2014 is shown on Figure 7.

[18] Calculated on the basis of the total revenue from activity.




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

Fig. 7

In 2014, the total market volume formed by the revenues from the provision of electronic communication services continued to be determined by voice services, stand-alone data transfer and/or Internet access services and bundled services (Table 1 and Fig. 7).

The share of 54.3% of the voice telephony services (fixed, mobile and other voice services) in the total volume of the public electronic communications market remained the highest, regardless of the reported decrease by 4.1 percentage points compared to 2013. The revenues from the provision of bundled services rank second by size and represent 16.8% of the total market volume, which is an increase of 3.0 percentage points compared to their share in 2013. Data transfer and/or Internet access services, which represent 14.7% of the total market volume, occupy the third place by significance, marking an increase by 0.4 percentage points compared to 2013.

Based on the summary of information submitted by the undertakings, the following main trends are outlined on the Bulgarian electronic communications market in 2014, compared to 2013:

- The Voice Telephony services segment registered a decrease (in an absolute value) by 7.6%, as the highest decrease of 9.8% being observed for the fixed voice service;
- In 2014, the Leased Lines Services segment registered again a revenues reduction of 1.1% compared to the previous year. The change was much more insignificant compared to the previous reporting period (2012-2013), when there was a revenues reduction of 21.8%.

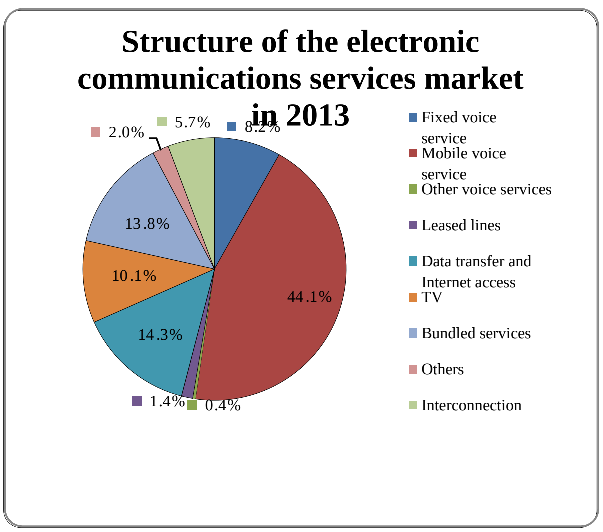
- In the Data Transfer and/or Internet Access Services segment the volume of revenues increased by 2.2%, whereas the revenues from Internet access services increased by 0.5% compared to 2013, while the revenues from data transfer, the other main service included in the segment, increased by 11.9%.
- In 2014, the Transmission and/or Broadcasting of Radio and/or TV Programs Services segment a revenues increase of 2.97% was registered, which was mainly due to the growth of revenues from wholesale services – transmission of radio and TV programs and Terrestrial broadcasting of radio and TV programs;
- In the Bundled Services segment the volume of revenues registered growth of 21.2%. The main reason for the considerable growth is the continued increase in revenues from double-play bundled services – mobile voice and mobile Internet, fixed Internet and TV, fixed voice and fixed Internet.

In the Other Services segment there was a growth of 10.6%, which is mainly due to the revenues increase by 14.8% from co-location and other types of shared use services, including the provision of access to towers, masts, dark fiber, etc. The revenues from the satellite systems access service, also comprised in this market segment, registered a decrease by 4.0%, while the accrued revenues from the provision of access to duct networks increased by 5.3% for one year.

***Interconnection***

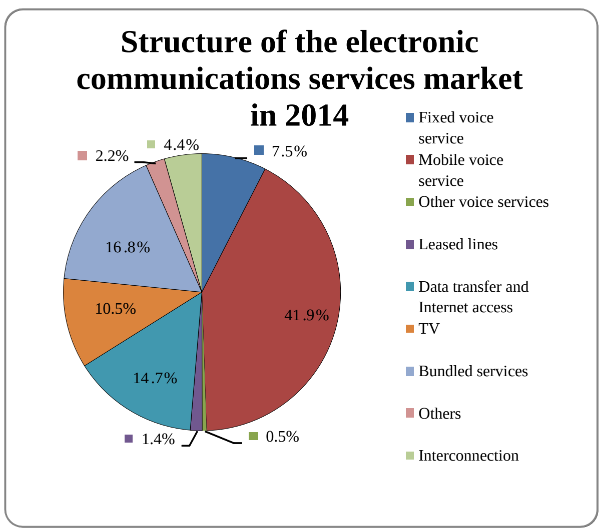
In 2014, for another consecutive year the revenues from interconnection[19] registered a decrease – by 24.2%, compared to 2013, but the change is much more insignificant compared to the previous reporting period (2012 – 2013), when it was 54.4%.

Figures 8 and 9 show the trend in the revenues from interconnection in the total market volume for 2013 and 2014.




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

Fig. 8




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

Fig. 9

[19] Includes revenues from: physical interconnection (ports, lines, and connection points); traffic termination (from fixed/mobile undertakings and WiMax networks both in the country and abroad, including SMS and MMS traffic); origination and transit.

Data shows that the share of the revenues from interconnection in the total market volume also decreased, as in 2014 it was 4.4% or by 1.4 percentage points less compared to the previous reporting period (2013). The decline in the revenues from interconnection is mainly due to the lower wholesale prices for termination in individual fixed networks and in individual mobile networks in 2014 (set under Decision No. 134/14.02.2013 and Decision No. 135/14.02.2013) compared to 2013.

***Investments***

In 2014, 516 undertakings invested in the construction and maintenance of public electronic networks, which is 9% more than in the preceding period. The total amount of investments by these undertakings reached BGN 595 million in 2014 out of the planned BGN 624 million in 2013. Although the investments in the reporting period were less than the planned, a growth of 13.6% was reached as compared to 2013. According to the data submitted to CRC, 454 undertakings intend to invest in the provision of public electronic communications services nearly BGN 544 million in 2015.

In 2013, a new indicator was introduced to calculate the investments made during the reporting year in Next Generation Access (NGA) networks and those planned for the next year. Data for 2014 show that for a period of one year the number of undertakings which have invested in NGA networks has increased by 37 (60 undertakings in 2013, 97 undertakings in 2014). Nevertheless, the investments in 2014 (BGN 77 million) in NGA networks declined by 10.4% as compared to 2013 (BGN 86 million). This decrease also affected the share of NGA investments in the total volume of investments, which was 13.0% in 2014, whilst in 2013 it was 16.5%.

In 2015, the total of 90 undertakings are set to invest in the deployment and exploitation of next generation access networks to the amount of BGN 113 million.

## 4. Voice telephony services

In 2014, the trend of reduction, observed in the period 2009-2013, in the total amount of revenues from services included in the Voice Telephony services market segment, persisted, but with a slower reduction rate. Compared to 2013, in 2014, a reduction of 7.6% in the total amount of revenues was observed, whilst the decrease in the previous period (2012-2013) was 17.3% and 12.2% in the period 2011-2012. In an absolute value, the revenues reported by the undertakings from the provision of voice services in 2014 amounted to BGN 1.373 billion.

These revenues are generated from the provision of the following services: fixed voice service through geographic numbers from the National Numbering Plan (NNP), access to public telephony service provided by carrier selection, telephony services via public payphones, mobile voice service through numbers from the NNP (including Short Message Service /SMS/ and Multimedia Messaging Service /MMS/) and other voice services. Revenues from the Other Voice Services position are gained from the provision of VoIP[20], from voice service through numbers with national destination codes like 99x, from the provision of voice service through trade agencies, form web-based incoming voice services, etc.

Table 2 presents summarized information on the reviewed segment, namely: number of undertakings, which provided services in this market segment in 2014, number of their subscribers/lines who used voice telephony services, and the revenues from services provided.

[20] Voice IP service where no NNP numbers (geographic or non-geographic) are used, the service quality is not guaranteed and the user must use/have Internet access through the respective device - computer/telephone.

**Table 2**

**Number of undertakings, subscribers/lines, and revenues by type of voice telephony services provided in 2014**

| Name of service | Number of undertakings providing 31.12.2014 | Number of subscribers/lines as of 31.12.2014 | | Revenue (in million BGN, VAT excl.)[2] |
|---|---|---|---|---|
| | | Total [1] | Inc. bundled services subscribers | |
| **1. Fixed voice service** | /// | /// | /// | **203.340** |
| 1.1. Fixed voice service through numbers from the NNP and the carrier selection service | 26 | 1,743,759* | 551, 621 | 202.088 |
| 1.2. Telephony service through public payphones | 5 | 8,807** | /// | 1.251 |
| **2. Mobile voice service through numbers from the NNP** | 3 | 9,870,806 | 1,901, 944 | 1,156,829 |
| **3. Other voice services[3]** | 27 | /// | /// | 12.600 |
| **Total** | | /// | /// | **1,372.769** |

[1] Including bundled service subscribers
[2] Excl. revenue from bundled services
[3] Incl. VoIP, voice service through numbers with national destination code „99x“ and others
[*] Number of lines of fixed voice telephony service subscribers
[**] Number of public payphones/telephone booths

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

In 2014, the total number of undertakings which declared activity on providing fixed telephony service was 26, which is by 1 more than the year before. Four of the undertakings operating in 2013 have not declared activity at the end of 2014 – three of them (IP WORLD COMMUNICATIONS OOD, INTERBUILD OOD and ORBITEL EAD, which merged into MOBILTEL EAD) declared activity termination, and one undertaking (NEXCOM-BULGARIA EAD) did not submit information on its activity.

In 2014, five undertakings started to provide fixed telephony services – NETWORKS-BULGARIA EOOD, TELECOMMUNICATIONS COMPANY VARNA EAD, TRITEL OOD, 669S EOOD, and PREMIUM NET INTERNATIONAL S.R.L.

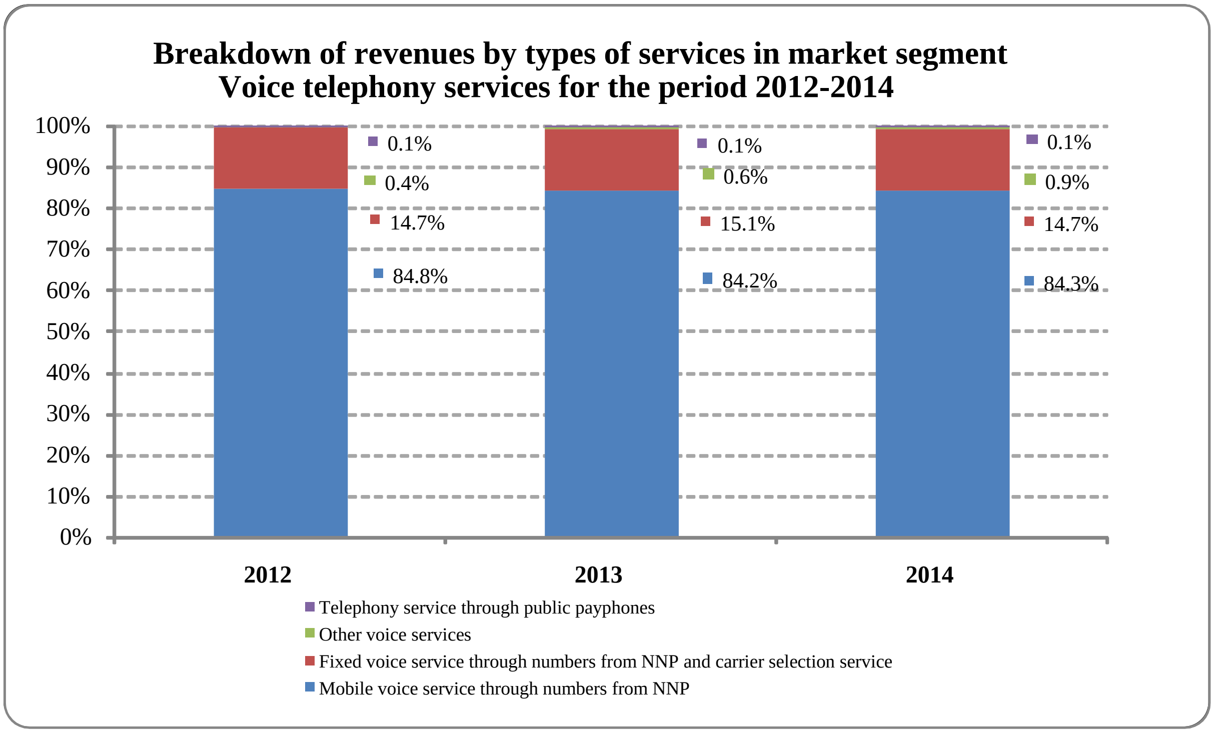
The number of undertakings, which declared activity on providing telephony service via public payphones/telephone booths, was 5 at the end of 2014, and decreased by one undertaking, which terminated its business during the year. Generally, the major part of the public payphones/telephone booths (over 99.9%) are maintained by BULGARIAN TELECOMMUNICATIONS COMPANY EAD (BTC), considering the undertaking’s obligation to provide universal service.

Undertakings providing mobile voice service through numbers from the NNP are BTC, MOBILTEL EAD and TELENOR BULGARIA EAD[21].

In 2014, 27 undertakings provided services included in the group “Other Voice Services”, as the major part of the revenues in this group was formed by VoIP services – 67%.

[21] As of 28.10.2014, COSMO BULGARIA MOBILE EAD was renamed to TELENOR BULGARIA EAD.

As evident from Table 2, the major part of the revenues in the segment is formed by the provision of mobile voice service with numbers from the NNP. Figure 10 shows the distribution of revenues from different services in the segment volume in the period 2012-2014.




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

Fig. 10

In 2014, the Breakdown of revenues by types of services in the market segment Voice telephony services did not change significantly, compared to the years before. For yet another year the mobile voice service held the highest share in revenues generated from voice services (84.3%), followed by revenues from the fixed voice service through numbers from the NNP and the “carrier selection” service with 14.7%. The share of revenues from public payphones and the part of revenues accrued from other voice services remained close to the levels of the previous years.

### 4.1. Fixed voice telephony services

***Players on the fixed voice telephony services market***

In 2014, CRC authorized one more undertaking (669S EOOD) to provide fixed telephony service through geographic numbers. Three undertakings filed requests with CRC for termination of the authorizations for use of scarce resources – geographic numbers – VOXBONE S.A., INTERBUILD OOD and ORBITEL EAD, as the latter merged into MOBILTEL EAD.

In 2014, 26 undertakings declared they provided fixed telephony services.

***Development of the fixed voice telephony service***

In 2014, the development trends in the fixed telephony service segment remained unchanged. The decreasing customers’ interest in the fixed telephony services led to reduced consumption, therefore this market segment was characterized by a decline:

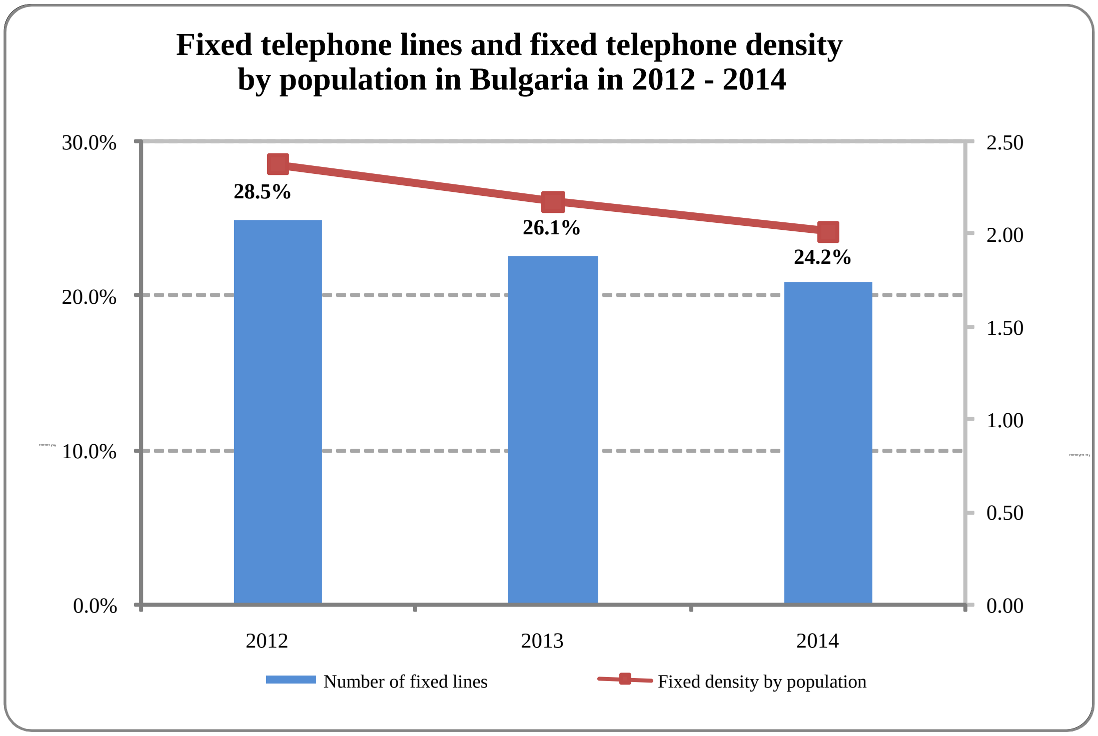
- in the total volume of revenues earned from carrying out fixed telephony services[22], access to public telephony services through the „carrier selection“ service and access to public telephony services through public payphones and telephone booths, which amounted to BGN 203.3 million in 2014, decreasing by 9.8% as compared to 2013;
- in the total number of fixed telephone lines and in the number of subscribers of “carrier selection” service. At the end of 2014, the market share of the incumbent in terms of the number of fixed telephone lines amounted to 66.2%, which represents a decrease by 1.6 percentage points compared to the year before;
- in the volume of the outgoing traffic (measured in minutes) generated by users from national (local and long-distance calls, calls to terrestrial mobile networks, to networks for broadband wireless access, and to non-geographic numbers) and international calls. In 2014, compared to 2013 there was a decrease of 10.9%, whilst the reduction in 2013 compared to 2012 was 14,3% . The use of the “carrier selection” service also continued to shrink. The volume of the traffic generated from the provision of “carrier selection” service was cut down by 40% compared to 2013 and its share in the total volume of telephone traffic generated by subscribers of the fixed telephony service reached only 0.1%.

In 2014, the market share of the incumbent in terms of revenues amounted to 86.9%, registering a minimum growth of 0.8 percentage points compared to the level in the year before (86.1%).

According to data submitted to CRC, at the end of 2014, 21 undertakings provided end users with access to the fixed telephony service through geographic numbers from the NNP, and 2 of them also provided access to the public telephony service via the carrier selection service. One undertaking (669S EOOD) declared the provision of access to the public telephone network by the ”carrier selection” service at the end of the year, but it did not provide access to the fixed telephony service through geographic numbers.

The information submitted by the undertakings, which provide access to the fixed telephony service to end users, revealed that in 2014, as in the year before, there was a decrease in the number of fixed telephone lines. In 2014, there was a cut down by 7.8%, compared to 2013, which is 1 percentage point less than the decline of 8.8% in 2013 versus 2012. (Figure 11).

[22] Excluding revenues from installation fees and monthly subscriptions for bundled services, including fixed telephony service.




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

Fig. 11

The decline in the total number of fixed telephone lines in 2014 was mainly due to the decreased number of fixed telephone lines of the incumbent by 10.0%. In 2014, the number of fixed telephone lines of alternative undertakings also marked a reduction (by 3.1%), but the shrink was less than the reported in the year before (7.9%). A scale down was also observed in the value of the fixed density by population indicator calculated as the ratio between the total number of active telephone lines and the number of the country's population at the end of the relevant year.

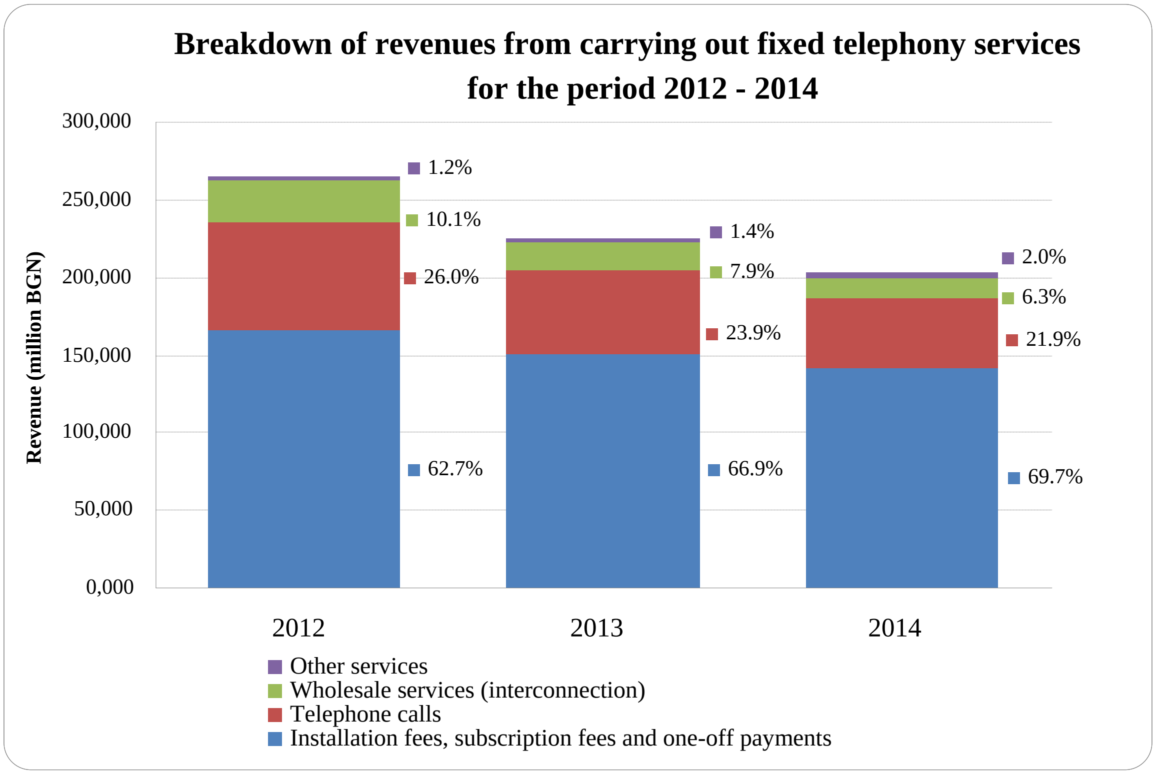
In the provision of "carrier selection" service, in addition to the decreased consumption, a significant cut down was also reported for another consecutive year in the number of subscribers using this service at the end of the year. In the previous year, most of the subscribers of the service were clients of ORBITEL EAD and after the merger of the undertaking into MOBILTEL EAD in October 2014, the provision of this service was suspended. Thus, at the end of 2014 the number of the users of the service decreased by 95.2% compared to the end of 2013.

***Breakdown of the revenues and the traffic generated from carrying out fixed telephony service***

As evident from Figure 12, nearly 70% of the revenues earned from carrying out fixed telephony service[23] are generated from subscriptions. In the period 2012-2014, once again there has been an increase in the relative share of revenues from subscriptions (by 7.0%), which is to

[23] Excluding revenue from monthly subscription and installation fees for fixed telephony service included in a bundle with other electronic communications services. Including revenues from the provision of "carrier selection" service and revenue from calls via public payphones and telephone booths.

the prejudice of the relative share of revenues gathered from telephone calls and wholesale services.



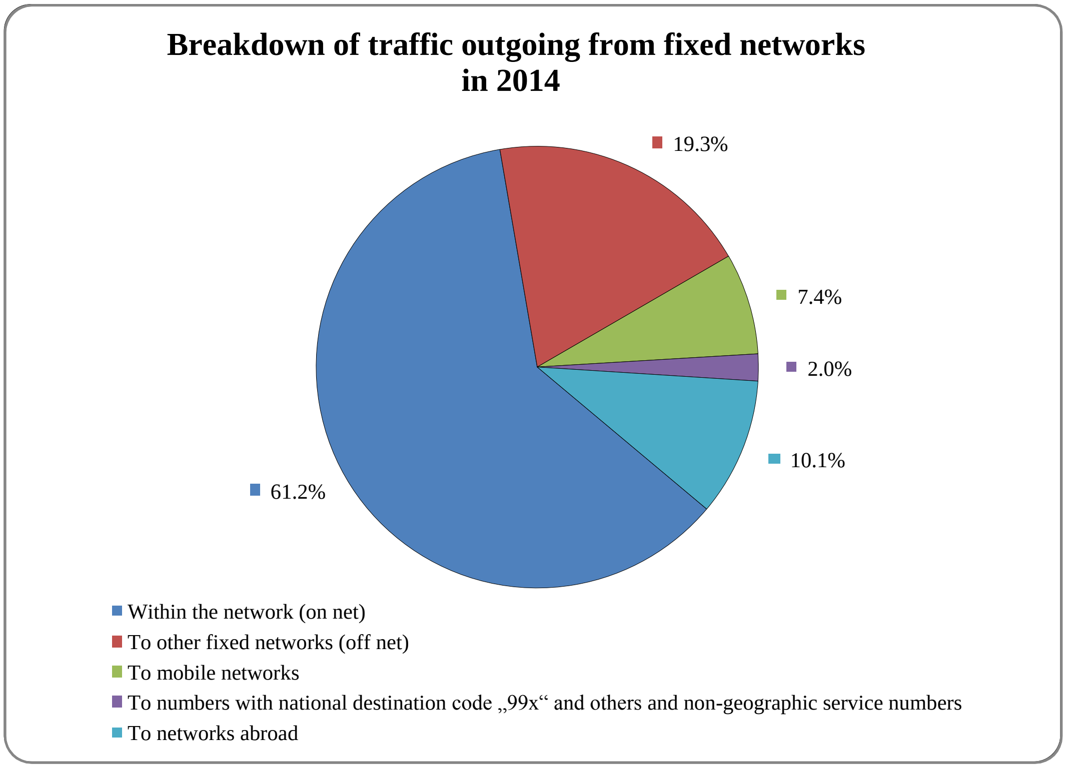

***Source:*** Data submitted to CRC

Fig. 12

The trend to offer subscription plans with included free-of-charge minutes for telephone calls continued in 2014 as well. The data submitted by the undertakings reveal that a significant part of the volume of the traffic generated by subscribers of the fixed telephony service represents minutes included in the monthly subscriptions. In 2014, this type of traffic amounted to nearly 73% of the total retail traffic, the greatest share of which - as expected - comprised on-net calls, and the smallest share – calls to mobile networks. As a result, the revenues accrued from telephone calls decreased not only as a relative share in the total volume of revenues from fixed telephony service, but also in an absolute value, marking a cut down of 17.2% in 2013-2014.

Figure 13 presents the breakdown of the total volume of traffic generated from fixed networks.[24] As evident from this breakdown, the major part of the volume of the traffic is formed by calls within the network (on net), followed by calls to other fixed networks, and calls to networks abroad.

[24] Including traffic generated by subscribers of fixed telephony service with geographic numbers from the NNP, traffic generated by subscribers to the “carrier selection” service, and traffic from public payphones and telephone booths.




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

Fig. 13

As in the year before, the major part of 61.2% of the total traffic generated in 2014 was the on-net traffic. In 2014, compared to 2013, the volume of this type of traffic in an absolute value decreased by 19.1%, while the traffic generated from calls to other fixed networks increased by 12.4%.

***Public payphones***

According to data of the undertakings, at the end of 2014 the number of public payphones and telephone booths in the country registered a significant decrease compared to the year before and amounted to 8,807. The reduction in revenues was 32.3% compared to 2013, while the volume of traffic decreased by 26.4%. As a whole, the volume of traffic, the revenues and the number of operative public payphones and telephone booths are due almost entirely to BTC's activity under the obligations of the undertaking in its capacity of universal service provider.

## 4.2. Mobile voice telephony services

***Market players***

In 2014, the number of undertakings, which provided public mobile telephony services on the Bulgarian market, remained the same as the previous year. The players on this market segment are MOBILTEL EAD, TELENOR BULGARIA EAD and BTC. In the middle of the year, MAX TELECOM OOD started providing mobile Internet under the LTE standard, but it did not declare provision of mobile voice telephony services under this standard.

***Coverage***

Table 3 below presents information on the coverage of the terrestrial mobile networks of the three undertakings as of 31.12.2014.

**Table 3**

| Undertaking / Index | MOBILTEL EAD | | TELENOR BULGARIA EAD | | BTC | |
|---|---|---|---|---|---|---|
| | **GSM** | **UMTS** | **GSM** | **UMTS** | **GSM** | **UMTS** |
| **Coverage by territory** | 99,81% | 98,90% | 99,50% | 91,56% | 99,65% | 98,17% |
| **Coverage by population** | 99,99% | 99,88% | 99,98% | 98,66% | 99,99% | 99,85% |

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

As evident from the data above, the GSM coverage of the country by territory and population is nearly 100%.

In 2014, the number of GSM base stations increased by 5.0% compared to the end of the year before, and as of 31.12.2014, their total number reached 8,132.

The coverage also increased in terms of the UMTS standard and for a period of one year the growth of this indicator was the most significant for TELENOR BULGARIA EAD.

The total number of active UMTS base stations of the three undertakings increased and as of 31.12.2014, it reached 4,729, which represents a growth of 21% compared to the end of the year before.

The investments input in mobile networks represents 60% of the total investments of the mobile undertakings, reporting a growth of 28% for a period of one year.

***Development of the mobile voice telephony services segment***

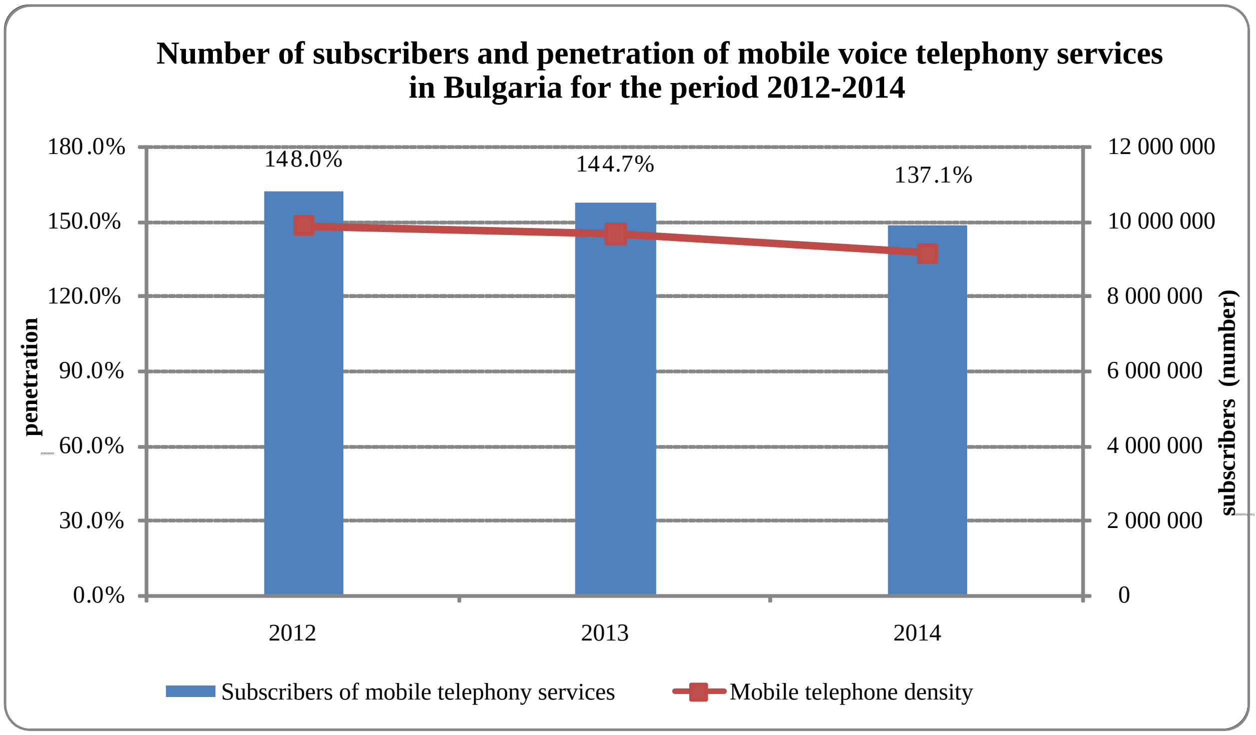
In 2014, this market segment was characterized by a decline in the total revenues from carrying out mobile telephony services, which compared to the year before decreased by 7.5% and at the end of 2014 amounted to BGN 1.157 billion[25].

In order to equalize the indicators with those of the international institutions, CRC changed the definition of the number of active SIM[26] cards indicator - whereas active SIM cards shall be those that have been used for outgoing or incoming calls at least once in the past 3 months. As a result, a decrease was caused in the number of active voice SIM cards[27] and as of 31.12.2014 they were 9,870,806 or with 5.9% less compared to the end of 2013 (Figure 14).

[25] Including revenues from mobile voice telephony services and additional services related to the mobile voice service (such as SMS, MMS, video calls, information services, etc.), and excluding revenue from monthly subscriptions for mobile telephony service provided in bundle with other electronic communication services.

[26] For 2012 and 2013, the indicator includes the number of active SIM cards allowing the use of voice services and with validity of pre-paid cards of 12 months.

[27] Excluding data transfer cards, which do not allow voice phone calls.




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

Fig. 14

Due to the decrease in the absolute value of the number of users of mobile telephony services in 2014, the mobile telephone penetration indicator registered a decrease of nearly 8 percentage points compared to 2013, reaching 137.1%.

The redistribution of market shares between the three mobile operators continued. The first undertaking that entered the market, MOBILTEL EAD[28], registered a decline in its market shares both in terms of subscribers and of revenues from the provision of mobile telephony services, in favour of the increased the market share mainly of BTC[29] and an insignificant increase of the market share (in terms of subscribers) of TELENOR BULGARIA EAD[30].

Among the main factors that influenced the segment development were the saturation of the traditional voice services markets, the reduced termination rates on individual mobile networks imposed by CRC's Decision No. 1362/31.05.2012 and Decision No. 135/14.02.2013 and the increased consumption of mobile telephony services offered in bundle with other electronic communication services (an increase of 35% in the number of subscribers to bundled

[28] In 2014, the relative share of MOBILTEL EAD calculated on the basis of number of subscribers amounted to 38.8%, down by nearly 2 percentage points for a one-year period, while the one calculated on the basis of revenue amounted to 38.9%, registering a decrease of 3.4 percentage points.

[29] In 2014, the relative share of BTC calculated on the basis of the number of subscribers amounted to 23.2%, up by 1.1 percentage points compared to the year before, while the one calculated on the basis of revenue made up 26%, registering a growth of 4.8 percentage points.

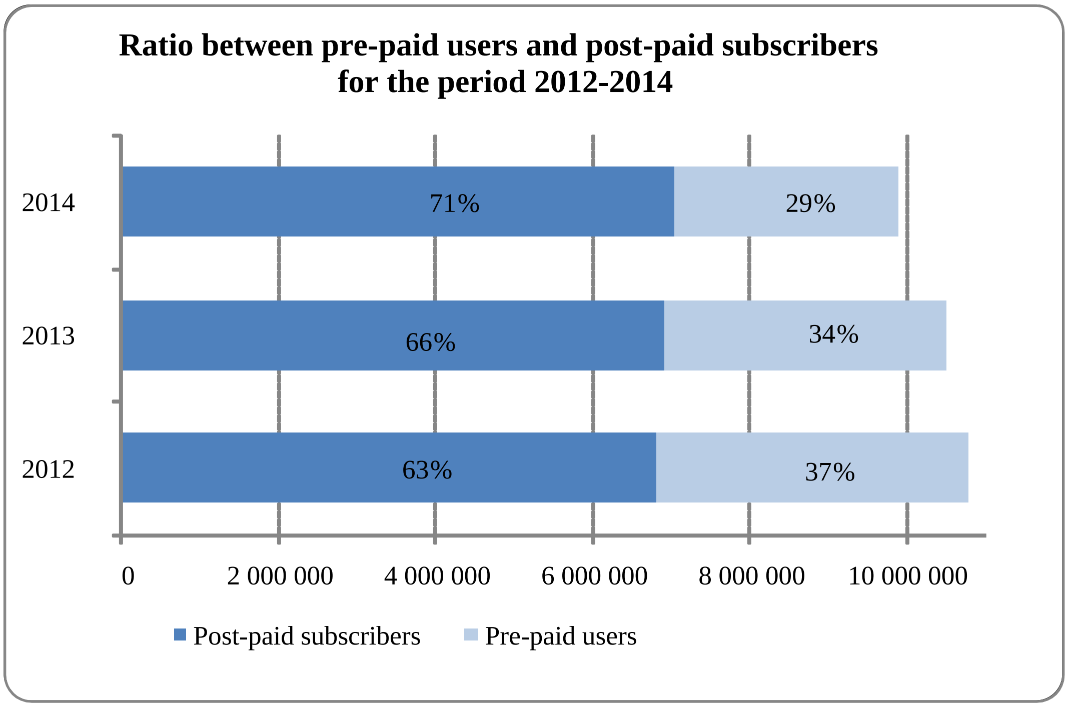
[30] In 2014, the relative share of TELENOR BULGARIA EAD calculated on the basis of the number of subscribers amounted to 38.0%, up by 0.8 percentage points compared to the year before, while the one calculated on the basis of revenue amounted to 35.1%, registering a decrease of 1.4 percentage points.

services was reported for a period of one year).

***Ratio between pre-paid users and post-paid subscribers***

As evident from the data presented in Figure 15, the number of the post-paid subscribers in Bulgaria continued to grow to the prejudice of the number of users of pre-paid services, whose share in the total number of users of mobile telephony services decreased to 29% (Fig. 15)[31]. In 2014, following the trend of the preceding years, more than half (53.3%) of the new subscribers activated during the year were post-paid.

The decline in the reported number of pre-paid cards as of 31.12.2014 – nearly 21%, reflected on the number of active SIM cards indicator, which, as it was already mentioned, was down, compared to the year before.




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

Fig. 15

***Subscribers of services provided under different trademark***[32]

According to data submitted to CRC as of 31.12.2014, the relative share of the number of subscribers of services provided under different trademark in the total number of active voice SIM cards, decreased compared to the end of 2013 and is close to the data from 2011 – about 4%. The reported decrease of nearly 33% in absolute values is due to the cutdown in the number of pre-paid cards, resulting mainly from the updated definition of an active SIM card, as well as from the customer preferences to the use of contractual services and from the plans of

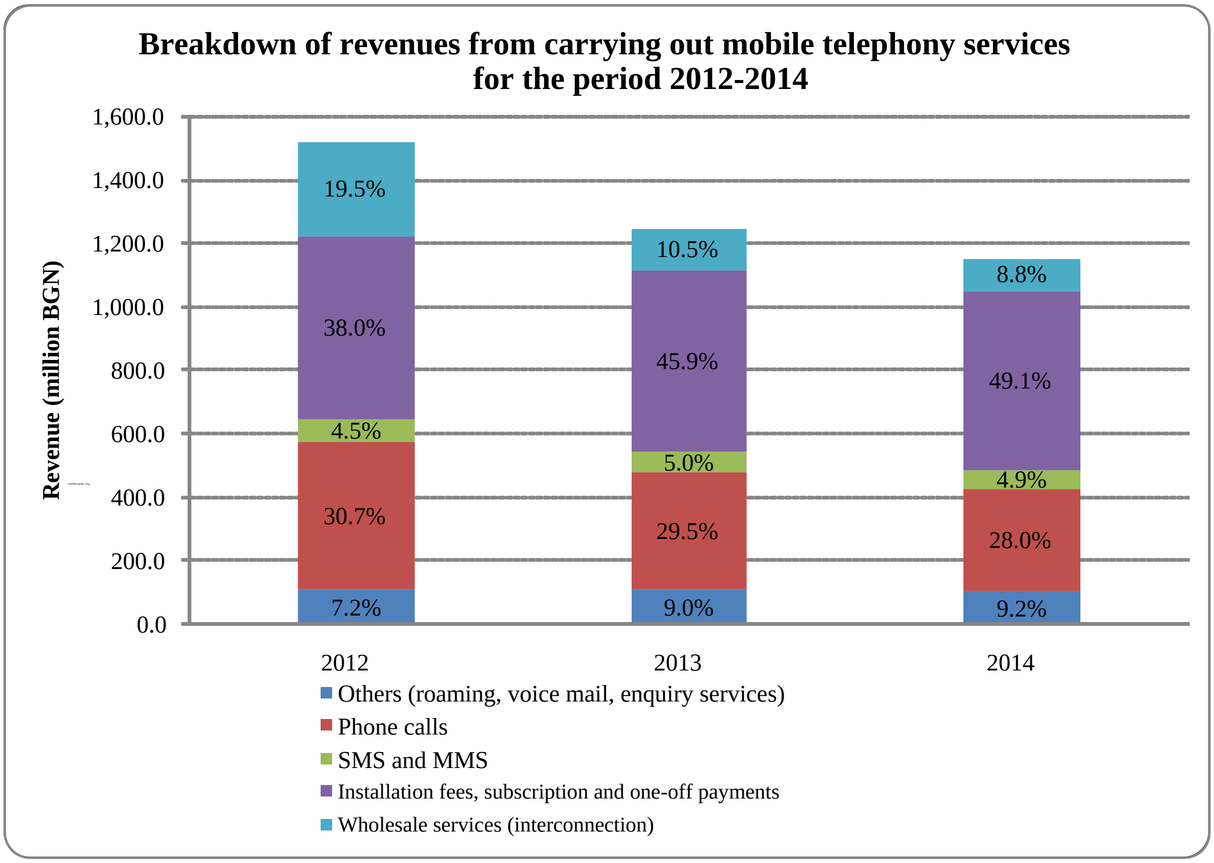
[31] The data do not take into account mobile data card services, which do not allow voice phone calls.

[32] Different trademarks are both trademarks owned by the undertaking (such as Loop, Frog Mobile) and trademarks owned by other legal entities (such as Alo, Da!). In 2014, BTC did not offer services provided under different trademark.

undertakings for their own trademarks.

***Breakdown of revenues from services provided via mobile networks***

The monthly subscription and installation fees still have a decisive role in the revenues structure. In 2014, their share grew by nearly 3 percentage points compared to 2013 reaching 49.1% of the total volume of the segment (Fig. 16).

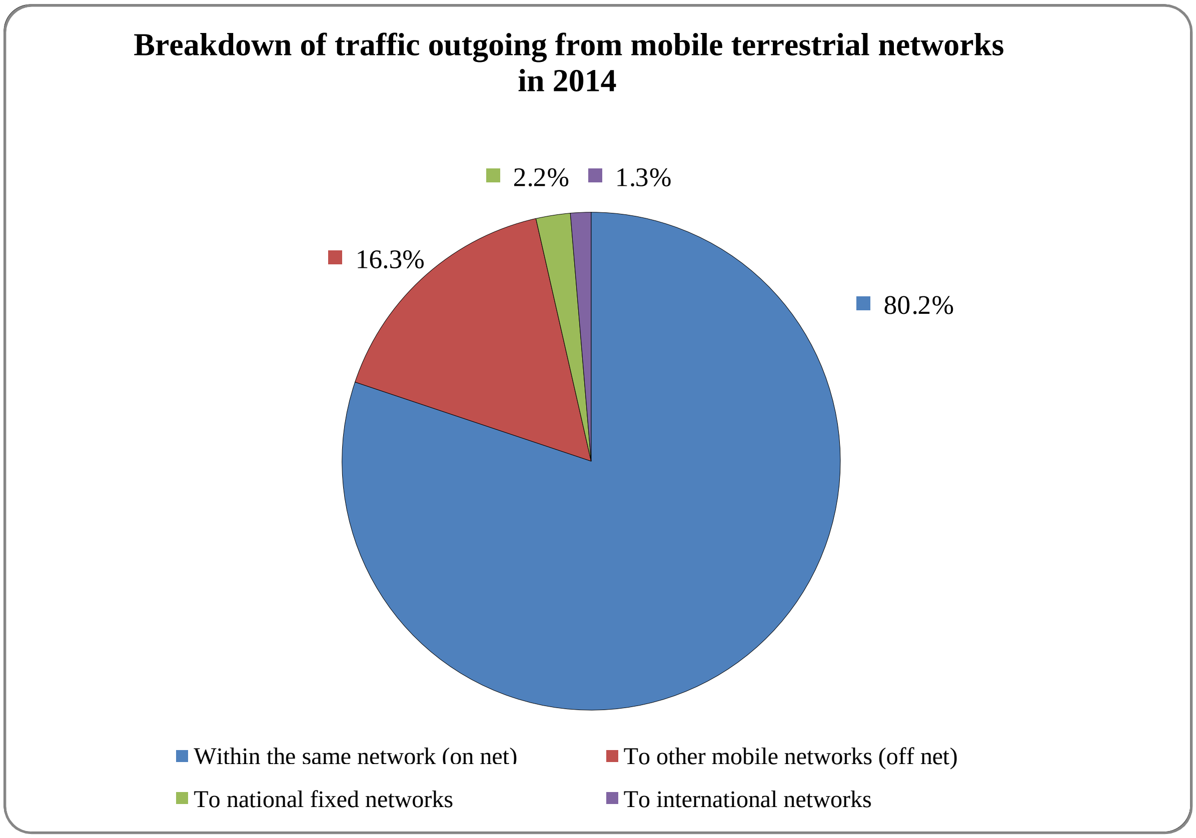



***Source:*** Data submitted to CRC

Fig. 16

For another year in succession, revenues from voice telephone compose approximately 30% of the total revenues amount from mobile telephony services. The actual voice services share is even greater, considering that revenues from the free-of-charge minutes for calls comprised in the tariff plans are reported as revenues from monthly subscription.

In 2014, the relative share of the on-net traffic (generated within the same mobile network) represents 80.2% of the total retail traffic generated on the mobile networks in the country (Fig. 17). Following the trend in 2013, the relative share of the on-net traffic continued to decrease at a slower but constant pace, accounting for a cut down of 2.8 percentage points compared to the year before. The relative share of the traffic generated to other mobile networks was 16.3%, registering growth of nearly 3 percentage points compared to the previous year. The share of outgoing traffic to fixed networks remained unchanged compared to the preceding years (2012 and 2013) at the level of 2.2% of the total outgoing traffic generated in 2013.




***Source:*** Data submitted to CRC
Fig. 17

***Short multimedia and text messages***

In the past 2014, a decline was reported both in the number of multimedia messages sent (by 14.8%), and in the number of short text messages sent (by nearly 7%).

**4.3. Voice services provided over broadband wireless access (BWA) networks by means of radio frequency spectrum**

The networks for broadband wireless access (BWA) by means of radio frequency spectrum allow for carrying out voice telephony services through geographic and non-geographic numbers using the WiMax technology.

As of 31.12.2014, the issued licenses to build electronic communications networks for broadband wireless access (BWA) remained unchanged. Based on licenses, three undertakings are entitled to provide public electronic communications via BWA networks: MAX TELECOM OOD, NEXCOM BULGARIA EAD, and MOBILTEL EAD. Of these three, MAX TELECOM OOD and NEXCOM BULGARIA EAD operate commercially.

Voice services through non-geographic numbers are provided with national access code 99X and allow for limited mobility (nomadicity) of subscribers, who can use the service everywhere where there is coverage of the network of the undertaking. These services are only provided by MAX TELECOM OOD. NEXCOM BULGARIA EAD provides WiMax phone services through geographic numbers; therefore, their subscribers and revenues are included in the fixed voice telephony service segment.

In 2014, the decrease in the number of subscribers to broadband wireless Internet access[33] and in the number of subscribers to voice services, registered in 2013, continued.

As of 31.12.2014, the total number of subscribers to voice services (stand-alone and bundled services) with destination code of the 099x type decreased by 69.4%, compared to the data at the end of 2013, as the reduction in the subscribers to stand-alone services was 85.4%, while for the subscribers to bundled services it was 37.2%. As for revenues[34], a decline of 41.2% was reported for a one-year period.

The considerable decrease in the number of subscribers is due to the discontinued carrying out voice services for new subscribers in the WiMax network of MAX TELECOM OOD and is a result of the development strategy of the undertaking, envisaging that the existing customers who use WiMax-based services will migrate to the developing LTE network by the end of 2015.

## 5. Leased lines services

The leased lines segment maintained its volume as the year before – in 2014, the total revenues from carrying out the service amounted to BGN 32.315 million, representing an increase by 0.04% compared to 2013[35].

Table 4 below presents summarized information on the number of undertakings, which provided the leased lines service, including international leased lines, as well as the amount of the revenues received by them.

**Table 4**

| Name of service | Number of undertakings providing the service in 2014 | Number of leased lines as of 31.12.2014 | Revenue (in million BGN, excl. VAT) |
|---|---|---|---|
| **1. Wholesale leased lines** | **19** | **3,664** | **20.281** |
| 1.1. National leased lines | 17 | 3,405 | 14.450 |
| 1.2. International leased lines | 7 | 259 | 5.831 |
| **2. Retail leased lines** | 9 | 3,361 | 12.034 |
| **Total** | **21** | **7,025** | **32.315** |

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

According to the data of the CRC's register, as of 31.12.2014, a total of 84 undertakings

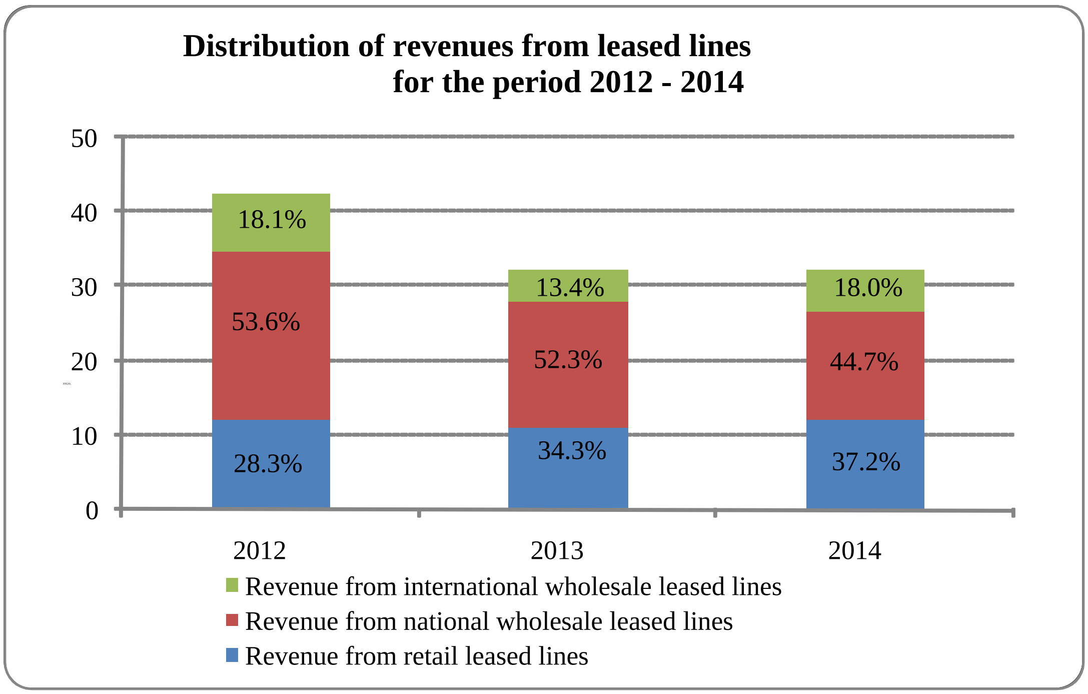
[33] Information has been provided in the Data transfer and/or Internet access section.

[34] Excluding the revenue from monthly subscriptions to the telephony service, bundled with other electronic communications services. Including non-traffic revenue (revenue from monthly subscriptions to stand-alone services) and traffic revenues from retail and wholesale services.

[35] Including the revenue from national wholesale and retail leased lines, as well as the revenues from the national sections of the international leased lines.

notified CRC of their intention to provide the leased lines service, including international leased lines. Sixteen of them are new undertakings[36] and one undertaking[37] declared refusal of its intention to provide the service. At the end of 2014, 21 undertakings[38] operated in the leased lines market segment, seven[39] of which provided the service on both the retail and the wholesale market.

Figure 18 presents the structure of revenues earned from carrying out leased lines service (wholesale and retail) for the period 2012 - 2014.




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

Fig. 18

As evident from the data presented in Figure 18, there is a change in the ratio between the revenues from retail and wholesale leased lines (including national and international), although the volume of the entire market remained almost unchanged.

The revenues from national wholesale leased lines still represent a significant part

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[36] GTS TELECOM SRL, IDTV EOOD, RAZLOG MEDIA CONSULTINC EOOD, MITKO.COM EOOD, ITNS GLOBAL EOOD, VIDEOSAT 21 VEK OOD, VIDEOSAT DOLNA ORYAHOVITSA 21 VEK OOD, NET+2014 EOOD, ELECTROENERGIEN SISTEMEN OPERATOR EAD, ET ALEKSANDAR DOYCHEV-ANS, OMEGA TRANS OOD, ARIEL DIDZHITAL EOOD, TSBG HOSTING EOOD, LINEYNI MREZHI EOOD, GM COMYUNITI OOD, INFRASTRUCTURNI PROECTI EOOD.

[37] TRANS TELEKOM AD.

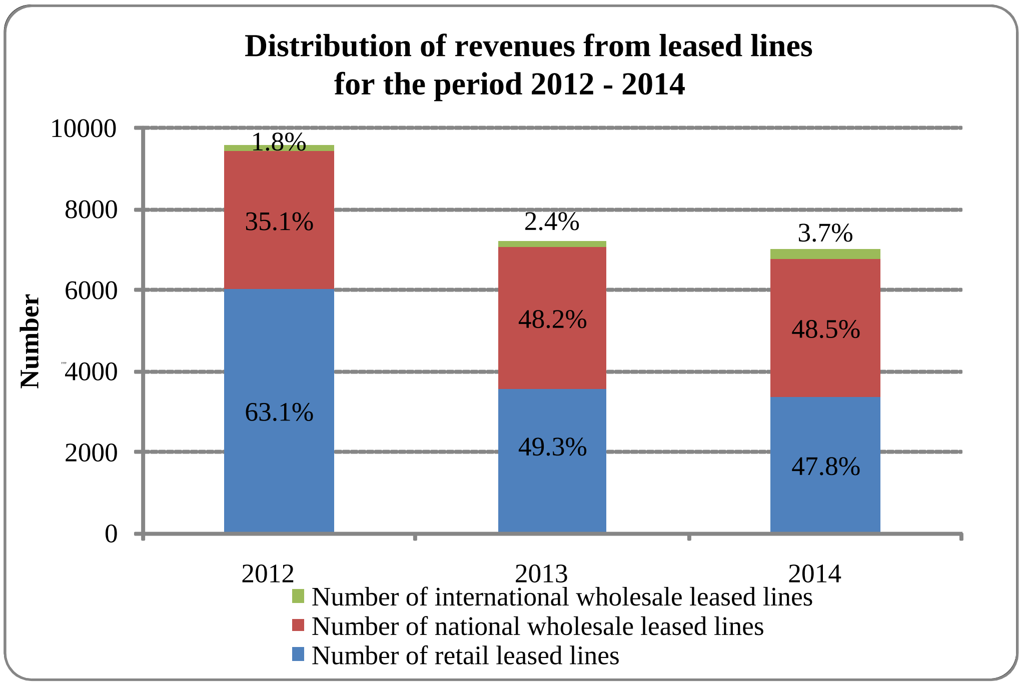
[38] ITD NETUARK AD, BLIZOO MEDIA & BROADBAND EAD, BULGARTEL EAD, BTC, VESTITEL BG AD, GLOBAL COMUNICASHON NET AD, GTS TELECOM CRL, NBI SISTEMI OOD, ENDZHALSOFT OOD, ET ENDZHALSOFT – ANGEL GAROV, MOBILTEL EAD, NETERA EOOD, NET IS SAT OOD, NOVATEL EOOD, PLADI COMPUTERS OOD, PRONET TELEKOM OOD, SOFIA COMUNIKATIONS EAD, TELECABLE AD, TELENOR BULGARIA EAD, TELNET OOD and TURK TELECOM INTERNESHANAL EOOD.

[39] ITD NETWORK AD, BLIZOO MEDIA & BROADBAND EAD, BTC, VESTITEL BG AD, MOBILTEL EAD, SOFIA COMUNIKASHANS EAD and TELNET OOD.

(44.7%) of the total volume of the leased lines market, despite the reported decrease of 14.4% compared to 2013. The revenues from international wholesale leased lines[40] represent 18.1% of the total volume from leased lines, as in 2014 there was an increase in both absolute values (by 34.4% compared to 2013), and their share – by 4.6 percentage points. Two new undertakings started to provide international lines, while two others reported increase of more than 60% in their revenues for a period of one year.

The trend observed in the years before regarding the revenues from retail leased lines continued, registering an increase of the indicator by 8.6% for a period of one year. The share of the revenues from retail leased lines in the total market volume increased by 2.9 percentage points compared to 2013, reaching 37.2%.

In 2014, the total number of wholesale and retail leased lines provided decreased by 2.8% compared to the year before, which was due to the decrease by 5.8% of the number of retail leased lines provided and the decrease by 2.2% of the number of national wholesale leased lines provided.




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

Fig. 19

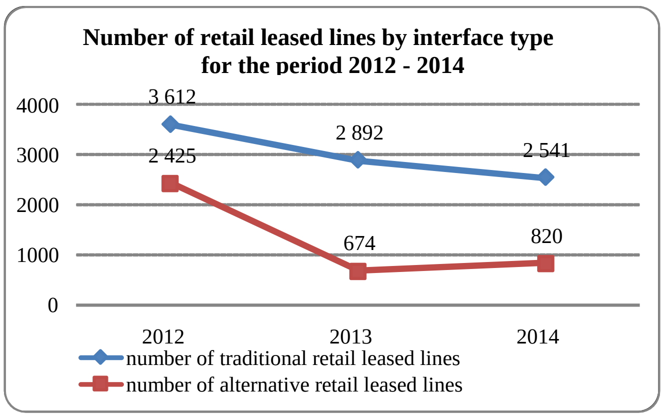
As evident from Figure 19, in 2014, the distribution of leased lines is almost identical to the one in 2013. The share of retail leased lines represents 47.8% of the total number of lines, reporting a decrease compared to 2013 by 1.5 percentage points. In 2014, 290 lines were opened, which represent 8.6% from the total number of retail leased lines. It can be noted that with a decrease by 5.8% in the number of retail lines compared to the year before, the revenues from them were not only retained, but also slightly increased. This is due to the fact that more than 80% of the leased lines have speeds higher than 10 Mbit/s. The prices for leasing these

[40] Including revenues from the national sections of international leased lines, excluding revenues from transit international lines.

lines are higher than the prices for lines with lower speeds, which results in higher revenues from carrying out the services. Despite the minimum share (3.7%), which the number of international lines holds in the total structure, they register growth of 46.3% in an absolute value for a one-year period.

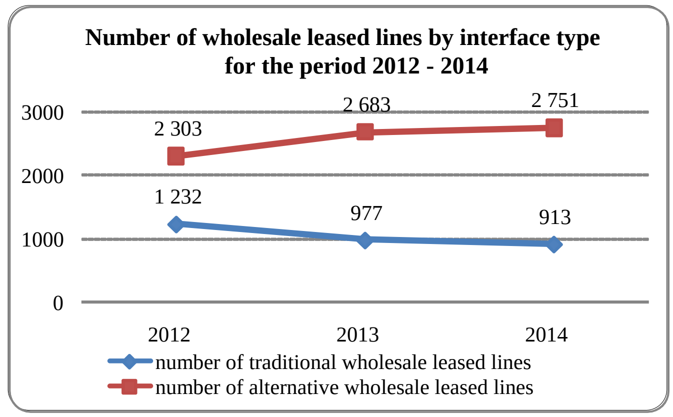
In 2014, the market share of the incumbent calculated based on revenues registered an insignificant decrease under 1% and remained relatively high – 63.1%. The market share of BTC calculated based on number of lines decreased by 5.31 percentage points and for the reporting year it amounted to 46.39%.

Figures 20 and 21 present the distribution of the wholesale and retail leased lines provided for the period 2012 - 2014, depending on the interface type.




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

Fig. 20




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

Fig. 21

As evident from the data, the trend for gradual decrease in the number of traditional retail lines continued, as for a period of one year the indicator decreased by 12.1%. The number of alternative retail lines in contrast to the year before, registered a growth of 21.7% compared to 2013.

Analogical trends were also observed in the wholesale leased lines (Fig. 22). The decrease in the number of traditional wholesale line was 6.6%, with reported growth of 2.5% in the alternative lines.

As a whole, the leased lines market developed in accordance with the demand for high-speed services. In 2014, a more stable trend was observed regarding the reduction of the number of leased lines. At the same time, due to the orientation to the demand for higher-speed leased lines, the revenues from them for the same period remained almost unchanged.

## 6. Data transfer and Internet access

In 2014, the services for Internet access and data transfer in the country continued to undergo an upward development. Table 5 presents summarized information on the number of undertakings, which provided services in this market segment in 2014, on the number of their subscribers/users, as well as the amount of revenues earned.

**Table 5**

**Number of subscribers/users and revenues by type of Internet access and data transfer services provided in 2014**[41]

| Name of service | Number of undertakings, providing the service in 2014 | Number of subscribers/users as of 31.12.2014 | | Revenue (million BGN, excl. VAT)[2] |
|---|---|---|---|---|
| | | Total [1] | incl. bundled services subscribers | |
| **1. Retail Internet access and data transfer services** | /// | /// | /// | **332.866** |
| 1.1. Internet access, incl.[3] | 640 | 4,612,623 | 2,248,441 | 292.376 |
| 1.1.1. Fixed | 545 | 1,457,329 | /// | /// |
| 1.1.2. Wireless | 177 | 3,155,294 | /// | /// |
| Mobile access[4] | 4 | 3,105,213 | 1,489,610 | /// |
| Satellite | 1 | /// | /// | /// |
| Other (Wimax, RLAN, HomeBox, Microwave) | 175 | /// | /// | /// |
| 1.2. Data transfer services | 58 | /// | /// | 38.743 |
| 1.3. Other services (hosting, e-mail, etc.) | /// | /// | /// | 1.747 |
| **2. Wholesale services** | /// | /// | /// | **39.486** |
| 2.1. Provision capacity for Internet connectivity (Peering and Transit) | 91 | /// | /// | 18.434 |
| 2.2. Data transfer services | 24 | /// | /// | 20.138 |
| 2.3. Wholesale provision of Internet access via NGA access lines | 13 | /// | /// | 0.913 |
| **Total** | /// | /// | /// | **372.351** |

[1]Incl. bundled services subscribers

[2]Excl. revenue from bundled services

[3]Data on the total number of subscribers and revenues from Internet access services are obtained according to an expert estimation based on data submitted to CRC by 84.9% of the registered undertakings.

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

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

### *Market players*

At the end of 2014, the total number of undertakings registered by CRC for their intention to provide data transfer and/or Internet access services was 897 and compared to the year before there was an increase by 3%. The number of active data transfer and Internet access service providers was 640, as last year there was a growth by 4% (or 26 undertakings more) compared to 2013. The fixed Internet market continues to be highly fragmented, the major part

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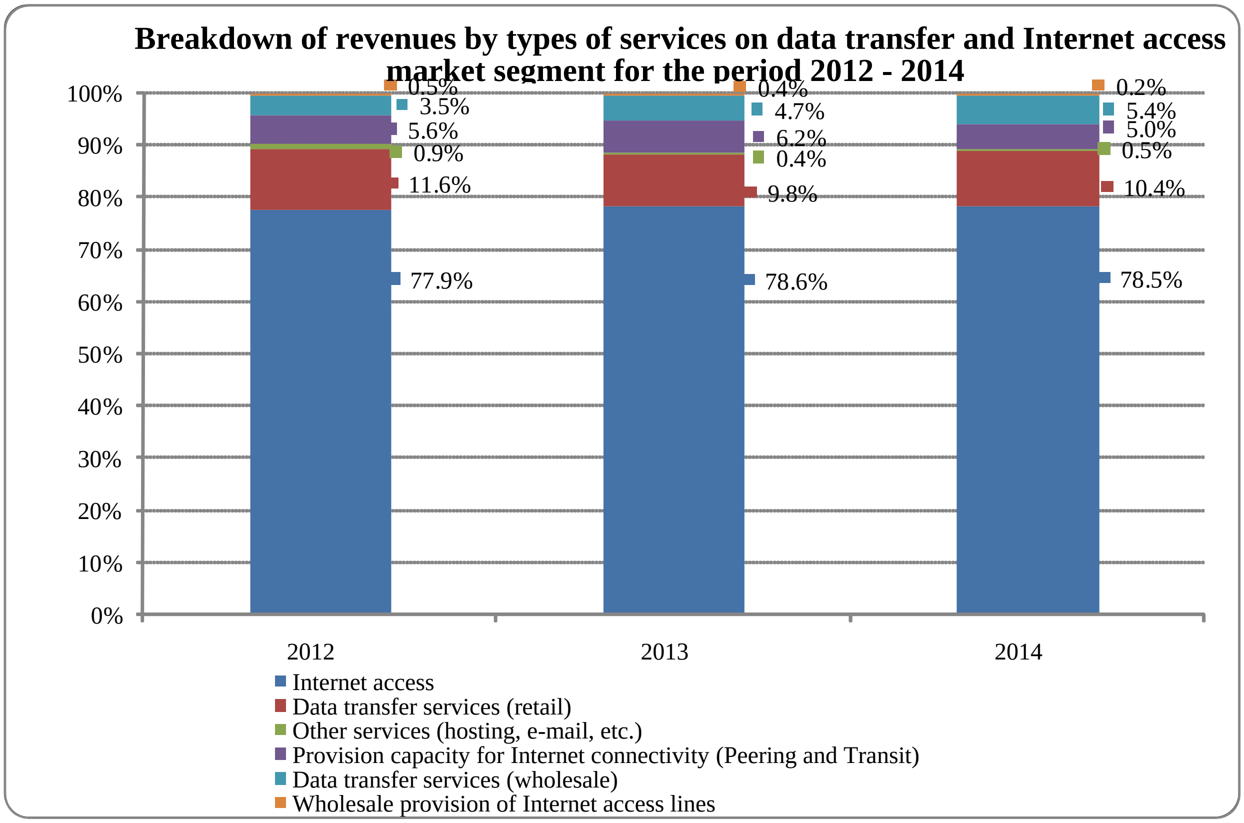
of the undertakings are small local providers operating mainly in one settlement with a small number of subscribers, while the ten largest undertakings holding a market share of more than 1% (based on subscribers) cover 69.1% of the subscribers to fixed broadband access.

***Development of the data transfer and Internet access segment***

In 2014, the revenues[42] from the data transfer and Internet access segment reached BGN 372.351 million, increased by 2.2% compared to 2013. The revenues from retail services amounted to BGN 332.866 million and compared to 2013 increased by 3.0%, while the revenues from wholesale services amounted to BGN 39.486 million, registering a decrease by 3.8% compared to the year before. Figure 22 presents a breakdown of the revenues earned for the period 2012 - 2014[43].




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

Fig. 22

As evident from the data presented, the general Breakdown of revenues in the segment remained relatively stable, as the revenues from retail Internet access hold the largest relative share (78.5%). Last year, they reached BGN 292.4 million and registered growth in an absolute value of 2.2%. Although there was a minimum increase (by 0.7 percentage points) in the relative

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[42] Including revenues from stand-alone services related to retail Internet access (fixed and wireless), retail data transfer and wholesale services (capacity for Internet connectivity, wholesale access services, provision of wholesale Internet access services via NGA access networks, wholesale data transfer services).

[43] Data for 2012 and 2013 have been updated.

share of the revenues from data transfer services (retail and wholesale) in the total revenues amount, for a one-year period they increased by 11.9% in an absolute value.

In the past year, a considerable increase in the number of Internet subscribers was observed in the country. As of 31.12.2014, the total number of subscribers (fixed and mobile Internet access) amounted to 4,612,623 and increased by 20.7% compared to 31.12.2013. In 2014, the number of subscribers using bundled services (with fixed or mobile Internet access included), increased by 33.4% reaching 2,248,441, as their relative share represents almost half (48.7%) of the total number of Internet subscribers.

As of 31.12.2014, the number of subscribers using mobile services for Internet access[44] increased by 31.2% compared to the year before and reached 3,105,213. This growth is due to the rise by 50.2% for a one-year period of the number of subscribers of bundled services with mobile Internet access included. The subscribers using mobile Internet via data cards and/or modems increased by 17.6%, and those who have purchased packages for data transfer in addition to their subscription plans grew by 17.1%.

Since the middle of 2014, services for mobile Internet access provided via LTE technology also started to be offered commercially. At the end of 2014, the subscribers using LTE access represented 0.3% of the subscribers to mobile Internet via data cards and/or modems. The subscription and pre-paid plans offered to end users provide high-speed access with international download speed up to 75 Mbps and upload speed up to 25 Mbps, as the included data traffic at the maximum attainable speed depending on the tariff plan chosen may reach up to 300 GB per month. After the consumption of the data volume included, the speed drops to 256 Kbps for download and 128 Kbps for upload.

The number of subscribers to fixed Internet access (including bundled services) was increased by 4.3% compared to 31.12.2013, reaching 1,457,329[45].

Figure 23 presents the penetration[46] of fixed broadband access by population and households[47] and mobile access[48] for the period 2012 - 2014.

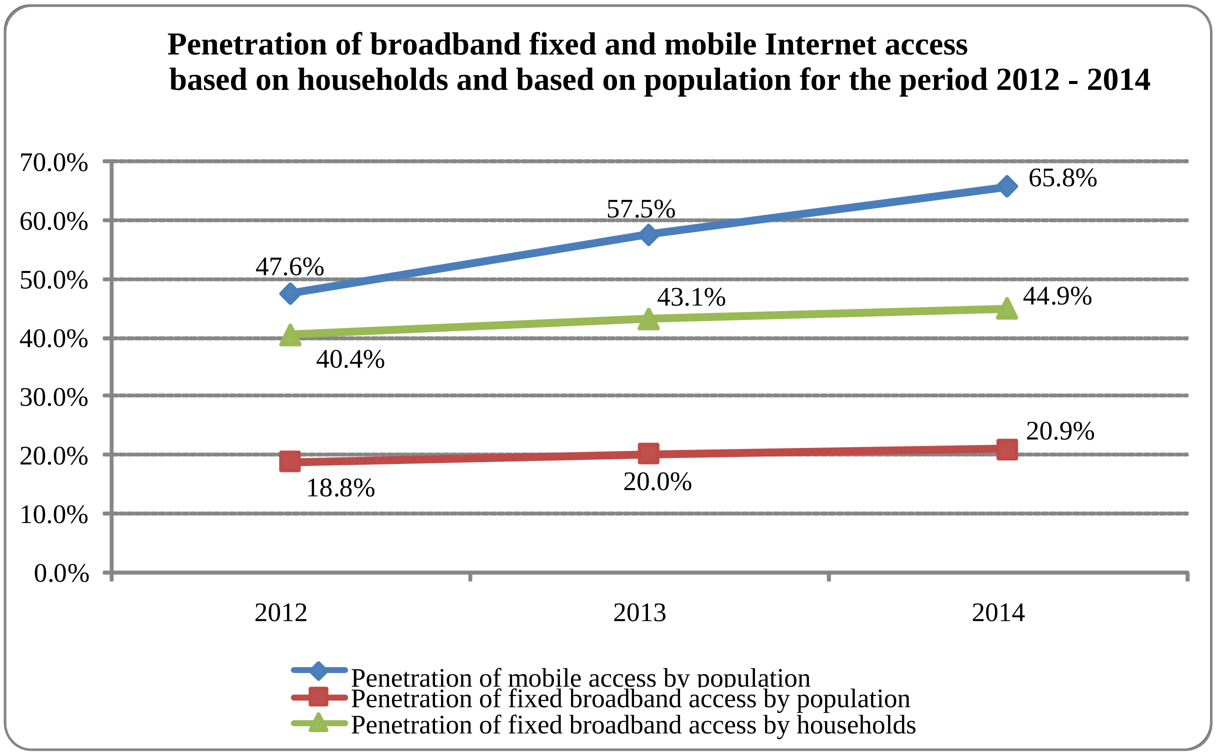
[44] Mobile access via data cards and modems, add-ons data package (purchased in addition to voice service), subscribers of bundled services with included mobile Internet access via 3G and 4G UMTS/HSPA+/LTE mobile networks.

[45] According to an expert estimation based on data submitted to CRC by 84.9% of registered undertakings.

[46] For calculation of this index, the NSI data on the population in the country as of 31.12.2012, 31.12.2013, and 31.12.2014 were used, as well as the 2011 census data.

[47] Data used on the number of residential users at the end of the relevant year.

[48] These include: subscribers of bundled services with mobile Internet access included, data cards and modems, subscribers of add-ons data package, as well as subscribers of standard mobile voice subscription.



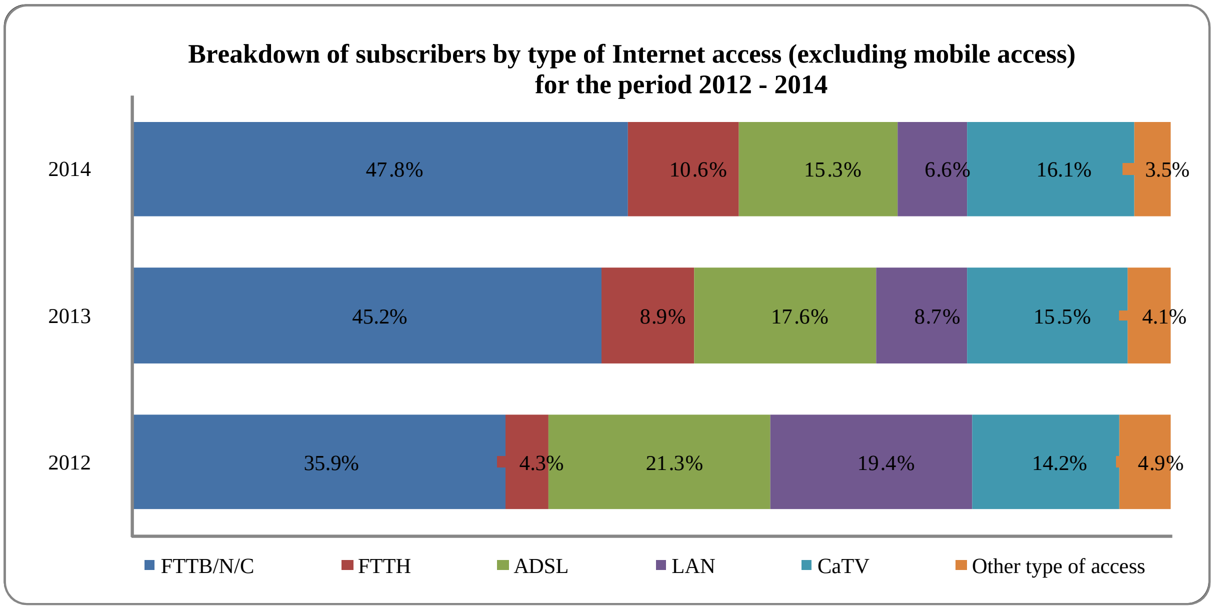

***Source:*** Data submitted to CRC

Fig. 23

At the end of 2014, the penetration of fixed broadband by households reached 44.9% compared to 43.1% at the end of the year before and 40.4% at the end of 2012. For the reviewed period (2012-2014) the change in the penetration of fixed broadband based on population indicator was 2.1 percentage points and as of 31.12.2014 it reached 20.9%. The growth in the number of mobile Internet access subscribers also reflected on the penetration of mobile Internet access by population indicator in Bulgaria. During the review period its value increased by nearly 18.2 percentage points, reaching 65.8% of the population in the country.

The breakdown of fixed and wireless access subscribers (excluding those using mobile access) by type of access for the period 2012 - 2014[49] is shown on Figure 24.

[49] Data for 2012 and 2013 have been updated.




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

Fig. 24

As evident from the chart above, as of 31.12.2014, the major part of Internet subscribers in Bulgaria (58.4%) used access via fiber data transfer networks (FTTx), as for the period 2012 - 2014 a growth of 18.2 percentage points was reported.

The second place by number of subscribers was already held by the access via transmission and/or distribution of radio and TV programs networks (CATV) based on coaxial cables or Hybrid Fiber-Coaxial (HFC) technology and DOCSIS standard. In 2014, the subscribers of CATV access increased by 7.6% compared to the year before, which in the relative share of subscribers represents an increase by 0.6 percentage points. The constant growth of the subscribers of this technology is due to the introduction of next-generation data transfer standards for hybrid cable networks (DOCSIS 3.0), where the maximum speed to the subscriber may reach 150 Mbps. At the end of 2014, the subscribers of DOCSIS 3.0 cable access protocol increased by 27.2% and reached 60.3% of the total number of CATV subscribers.

In 2014, the downward trend in ADSL access subscribers continued, as in 2012-2014 there was a drop by 6.0 percentage points in the share of this type of access in the total number of subscribers. This change was mainly due to the upgrade of the incumbent's network and the investments upon the building of its optical network, thus there was an increase by 77.3% in the number of its fiber access subscribers for a period of one year.

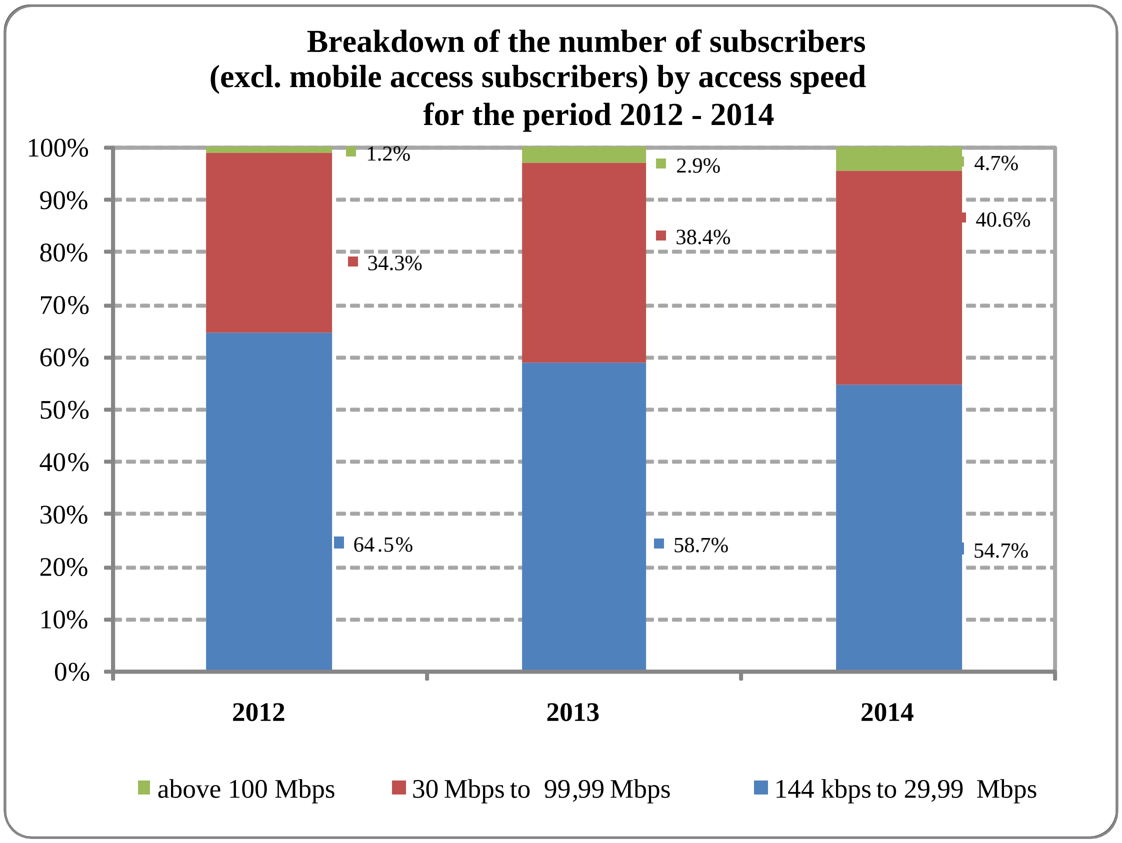
In 2014, the number of LAN[50] access subscribers continued to decrease and for the period 2012 - 2014 there was a reduction of 12.8 percentage points in the relative share of subscribers in the total market structure, as this reduction was mainly to the prejudice of the increase in the share of optical connectivity subscribers.

[50] LAN (Local Area Network) – Access via a local cable network (e.g. built on the basis of Ethernet), which does not use an optical connection.

The other types of access (RLAN, Microwave, Dial-up, dedicated access, satellite network access, WiMax access) hold an insignificant relative share (3.5%), as the downward trend from the past years continued.

The clear trend of subscribers' migration to NGA networks also defined the leading position of the country among the other EU Member States by share of subscribers of broadband access via NGA networks. Last year, it increased by 4.8 percentage points, reaching 63.6%.

The development of broadband access via NGA networks had a positive effect on the speed of Internet services offered as well. The chart below presents the breakdown of the number of Internet access subscribers depending on international download speed for a three-year period (2012-2014)[51]. Due to the insignificant number of subscribers using narrowband access (0.03% of the total number), the data on this type of access are not presented on Fig. 25.




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

Fig. 25

As a result of the increasing share of subscribers using optical connectivity (FTTB/FTTH) and DOCSIS 3.0 cable access protocol, at the end of 2014, 40.6% of the users of broadband access used high-speed access with international download speed from 30 Mbps to 99 Mbps, which represents an increase by 6.3 percentage points compared to the data for 2012. The highest growth was observed in the users of ultra-high-speed access (above 100 Mbps), who have increased more than 4 times (reaching 71,351 from 16,195 subscribers as of 31.12.2012).

[51] Data for 2012 and 2013 have been updated.

Based on the above-mentioned data, the following development of this market segment is expected in 2015:

– Maintained upward trend of subscribers, including those using bundled services (with fixed or mobile Internet access included);

– Continued migration to NGA access networks, which will also increase the share of subscribers using high-speed and ultra-high-speed Internet access;

– The growth rate of mobile access subscribers will continue to exceed the growth of the fixed access subscribers and will be one of the main prerequisites to the increase in the number of subscribers in the segment, as well as the increase of the penetration of Internet services indicator among households and the population in the country.

## 7. Transmission and/or distribution of radio and TV programs services

In 2014, the size of the Transmission and/or distribution of radio and TV programs services market segment amounted to BGN 265.073 million, registering a growth of nearly 3% compared to 2013.

Summarized information on the number of undertakings that provided transmission and/or distribution of radio and/or TV programs services, the number of their subscribers/users, and on the volume of revenues earned from them, along with the structure of the segment, is presented in Table 6 and Figure 26 below:

**Table 6**

**Number of subscribers/users and revenues by type of transmission and/or distribution of radio and TV programs services in the segment provided in 2014**

| Name of service | Number of undertakings providing the service in 2014 | Number of subscribers/users as of 31.12.2014 | | Revenue (in million BGN, excl. VAT)[2] |
|---|---|---|---|---|
| | | Total [1] | incl. bundled services subscribers | |
| **1. Retail distribution of radio and TV programs** | **312** | **1,826,980** | **713,832** | **198.618** |
| 1.1. Cable TV[3] | 279 | 815,034 | 328,753 | 73.565 |
| 1.2. Satellite TV | 3 | 822,345 | 205,088 | 123.451 |
| 1.3. IPTV | 33 | 189,851 | 180,229 | 1.601 |
| **2. Carrying out transmission/distribution of radio and/or TV programs** | **15** | **180** | **///** | **66.456** |
| 2.1. Transmission of radio and TV programs services | 6 | 44 | /// | 10.148 |
| 2.2. Distribution of radio and TV programs services, incl. IPTV wholesale service provided to other undertakings | 10 | 136 | /// | 56.307 |
| **3. Terrestrial broadcasting of radio and TV programs[4]** | **73** | /// | /// | /// |
| **Total** | **///** | **///** | **///** | **265.073** |

[1]Incl. bundled services subscribers

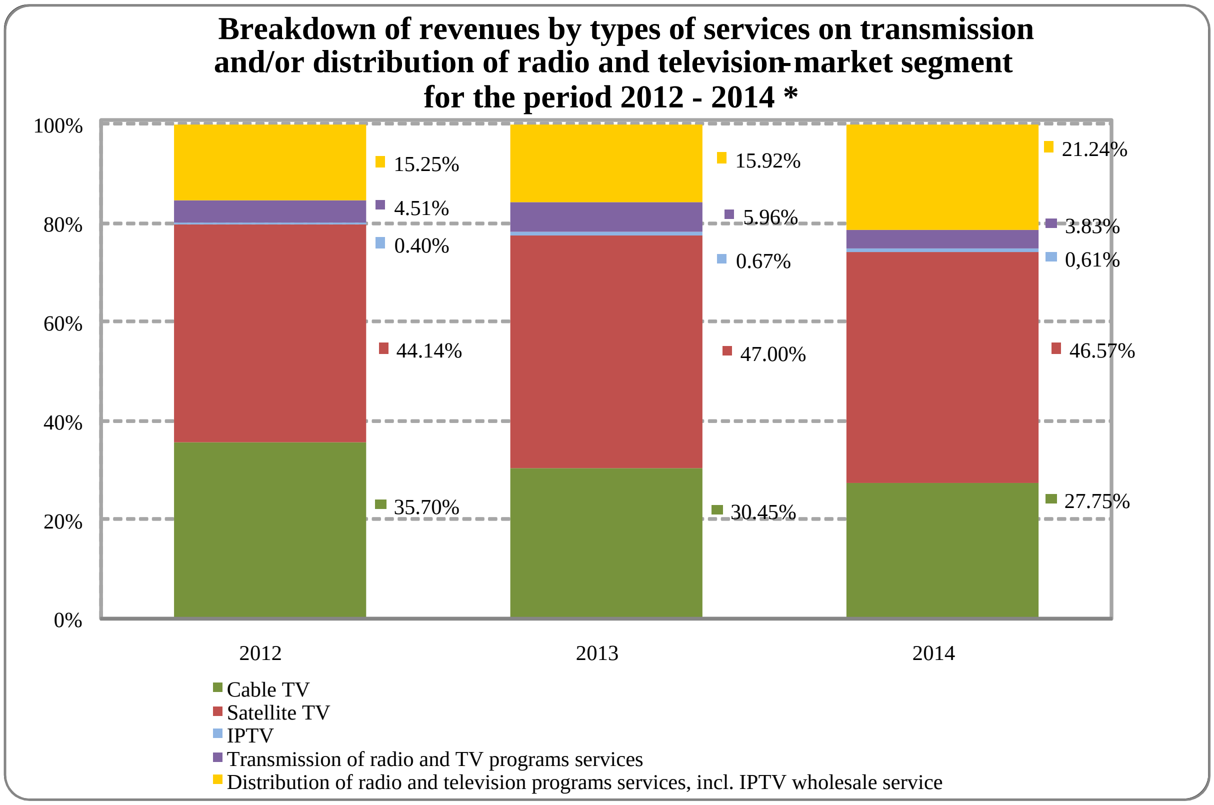
[2]Excl. revenue from bundled services

[3]Data on the total number of cable television subscribers and revenue are obtained according to an expert estimation based on data submitted to CRC by 94.5% of registered undertakings. 20 of the undertakings registered by CRC for the carrying out the service have not submitted an activity report for 2014.

[4]4 of the undertakings registered by CRC for the carrying out the service has not submitted an activity report for 2014.

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

In 2014, there was a growth in revenues from two of the services in the segment – wholesale distribution of radio and/or TV programs, incl. wholesale IPTV service (37.4%) and satellite television provided as a stand-alone service (2.0%)[52]. The other three services in the segment registered a decrease in revenues, respectively by 33.8% from wholesale distribution of radio and/or TV programs services, by 6.2% from cable television, and by 7.2% from IPTV.




* Data for 2013 have been updated.
***Source:*** Data submitted to CRC

Fig. 26

In 2014, the largest share of the total volume of the segment (74.9%) continued to be occupied by the revenues from carrying out retail distribution of radio and TV programs services (Fig. 26): cable TV, satellite TV and IPTV. Regardless of the high growth in the number of retail IPTV subscribers reported in 2014, its share remained the lowest in the segment – only 0.6%.

### 7.1. Retail distribution of radio and TV programs

***Market players***

In 2014, the number of undertakings providing retail distribution of radio and TV

[52] The revenues from the transmission and/or distribution of radio and TV programs include revenues from individual provision of cable, satellite and IP television (standalone TV). The revenues from provision of bundled services with TV form part of the bundled services segment.

programs services decreased by 14 undertakings compared to 2013, reaching 312 (Table 6).

As of 31.12.2014, the total number of undertakings registered by CRC for carrying out cable television was 365[53], as the number of undertakings that actually provided this service amounted to 279 (decrease by 14 compared to 2013). This is an indicator that the trend observed in the last several years towards decrease in the number of cable operators continues, and it is accompanied by an intensified competition between the undertakings carrying out activity in the retail distribution of radio and TV programs market segment.

In 2014, the number of cable operators providing digital TV programs to their subscribers is up by 25 as compared to 2013, reaching 185, which represents 66% of the total number of cable operators operating in 2014. To compare with, this share was about 55% in the preceding year, and 33% in 2012.

As of 31.12.2014, the number of undertakings that provide satellite television in Bulgaria was three: BULSATCOM AD, BTC, and MOBILTEL EAD, as the latter started providing satellite TV at the end of September 2014.

Over the last years, IP television retained its popularity among the users as a means for reception of reliable and quality television signal accompanied by interactive and flexible service. As of 31.12.2014, 133 undertakings registered their intentions to provide IPTV, as 33 of them actually provided this service. Another 5 declared their intention to start offering the service in 2015.

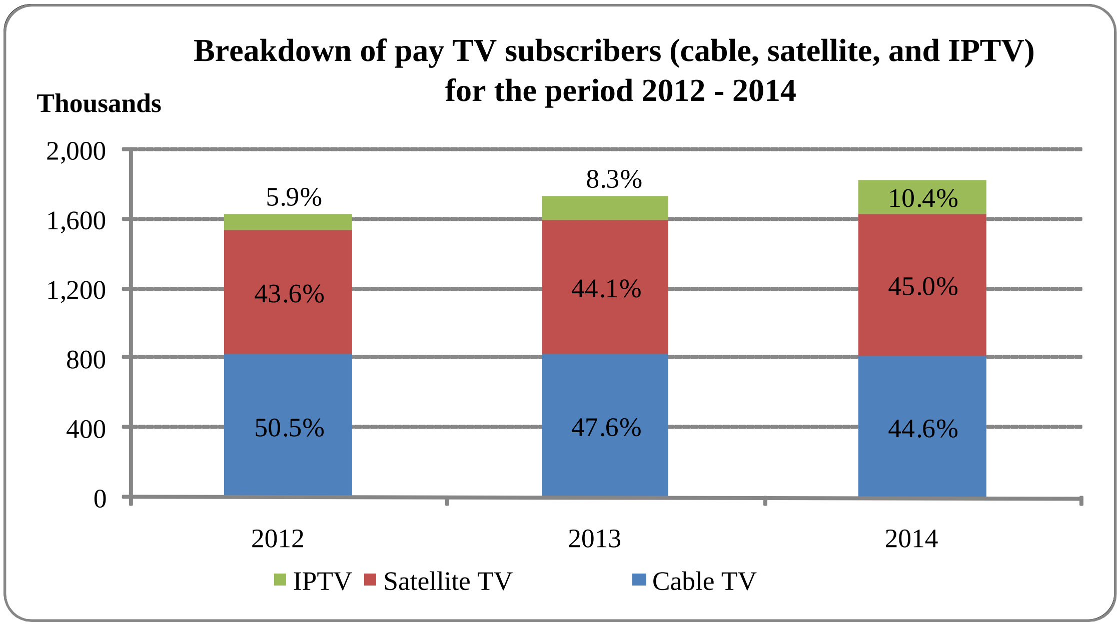
With regard to the breakdown of undertakings according to the way of IPTV provision, the situation remained unchanged compared to 2013 - 24 undertakings purchased the IPTV service from another undertaking for resale purposes, while the remaining 9 provided services through their own platform. Resale is a preferred method for the providers, in respect of costs for maintenance of own platform and settlement of copyright and related rights for radio and television programs.

Although the undertakings providing IPTV via their own platform are not many (9), they occupy a significant share in the number of subscribers receiving IP television (97%), and 93.1% of the users of IPTV are subscribers of the two largest undertakings in the segment, BTC and MOBILTEL EAD, as their share grew by 0.5 percentage points compared to the year before.

***Subscribers of retail distribution of radio and TV programs services***

For the period 2012 - 2014, the number of subscribers of retail paid television increased by 11.7%, as only last year the growth observed was 4.9%, reaching 1.83 million subscribers.

[53] 20 undertakings of those registered as of 31.12.2014 have not submitted an activity report for 2014.




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

Fig. 27

In 2014, the most significant increase was observed in the subscribers of IP television, compared to the year before – more than 30%, as of 31.12.2014 they reached 10.4% of the subscribers of pay TV in the country (Figure 27). For a second year, however, the growth rate decreased, which indicates that inter-platform competition in the segment regarding the quality and diversity of services offered intensified.

The number of users of satellite television also registered an increase – by 7.1% compared to the year before. At the end of 2014, number of subscribers using the service stand-alone or in bundle reached 45% of the total number of subscribers of pay TV in Bulgaria.

Unlike the year before, when an insignificant growth of 0.4% was observed, in 2014 there was a drop by 1.7% in the number of cable TV subscribers for one year period. For the first time, the share of cable TV subscribers took the second place, after the one of satellite TV subscribers, holding 44.6%[54]. This relocation of shares is due to the intensifying competition between the undertakings providing TV service that followed increasingly more aggressive policy to attract new subscribers.

In the last several years, the TV sets and the quality they ensure have undergone a strong development. This has reflected on the services offered by an increasing part of television content providers, as value-added services are gradually beginning to turn into a necessity for end users. As a result, more and more undertakings provide to their subscribers High-Definition TV channels. In 2014, the number of the undertakings providing HD channels was 114, increasing by more than 2.5 times compared to the year before, when it was only 42.

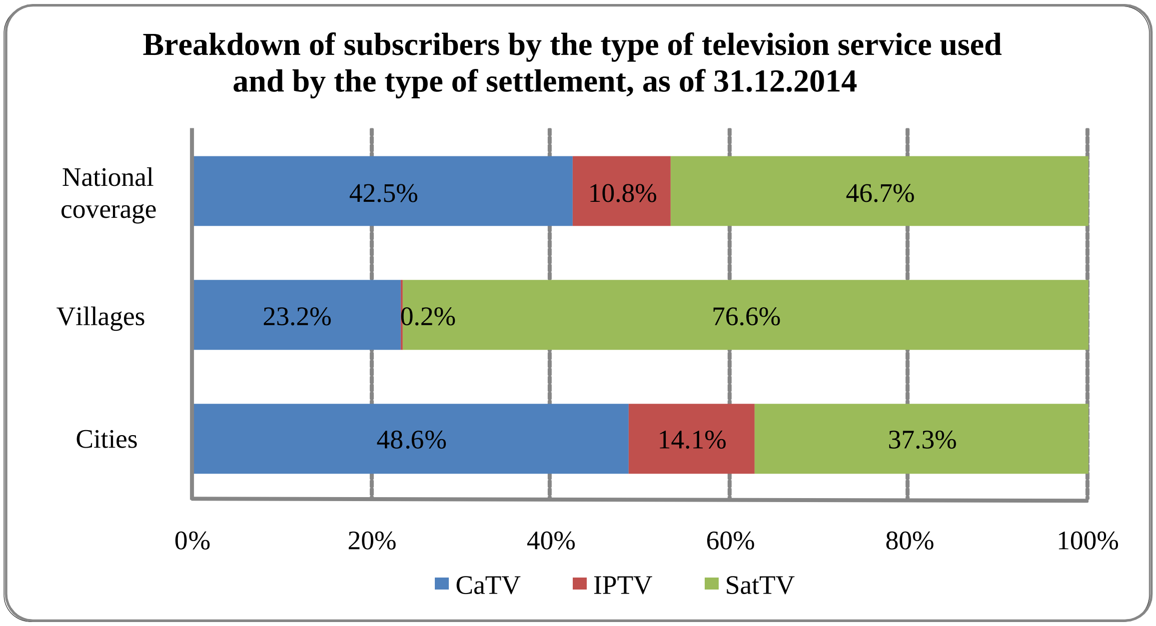
The Pay-per-View (PPV) and Video on Demand (VOD) services are offered by undertakings providing cable TV, as well as by IPTV providers, and as of 31.12.2014, the summarized data indicate that:

- the number of the unique subscribers who have used the PPV service at least once increased by 2.7 times compared to 2013, reaching 7,147;

[54] According to an expert estimation based on data submitted to CRC by 94.65% of registered undertakings.

➢ the number of the unique subscribers who have used the Video on Demand (VOD) service reduced by about 11% to 30.1 thousand subscribers.

Figure 28 below presents the breakdown of the pay TV subscribers depending on the settlement where they use this service as of 31.12.2014.



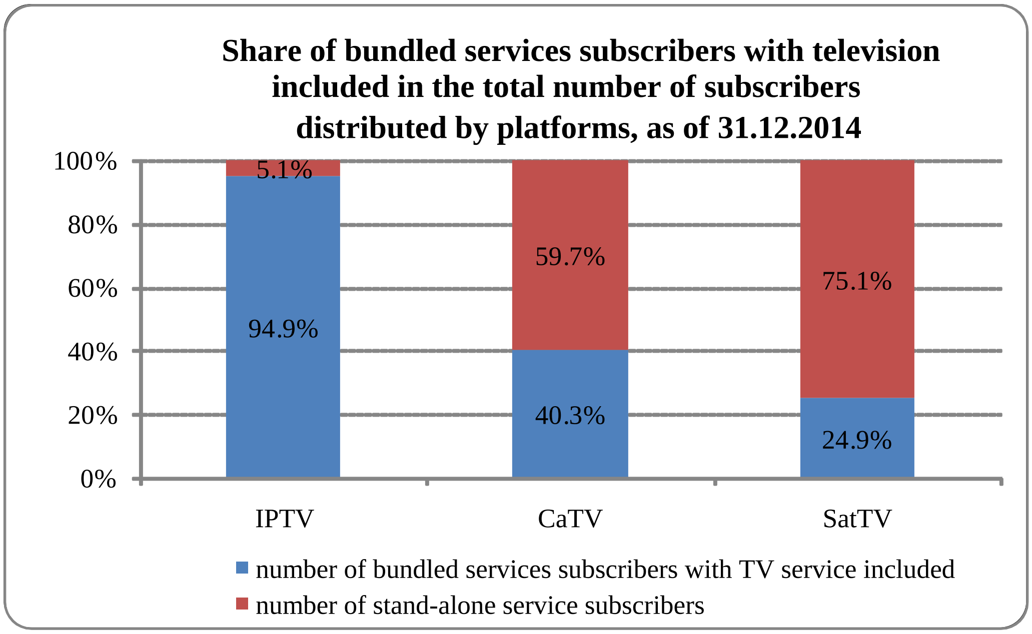

***Note:*** The distribution of the number of satellite TV subscribers is based on an expert estimation.

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

Fig. 28

As evident from Figure 28, the distribution of pay TV users (cable TV, satellite TV, and IPTV) in the cities and the villages is uneven and does not correspond to their national distribution. While the cable operators and IPTV providers focus their efforts mainly to attract new users in the cities due to the expected greater return of their investment input to build the infrastructure to the end user, thanks to the advantage of the satellite technology providing wireless access to the subscriber nationally, the options to attract subscribers in both the cities and the villages are only limited by the user preferences. In many villages where there is no coaxial or optical network built, the only alternative for paid TV access is the satellite TV, thus the share of subscribers of this TV platform in the villages is times greater than the shares of the other two platforms.

The number of subscribers of bundled services with television included increases every year, as in 2012–2014 its share in the total number of paid TV subscribers has increased by 8.1 percentage points to 39%. The following chart (Figure 29) shows the share of subscribers of bundled services with television included in the total number of subscribers distributed by platforms, as of 31.12.2014.




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

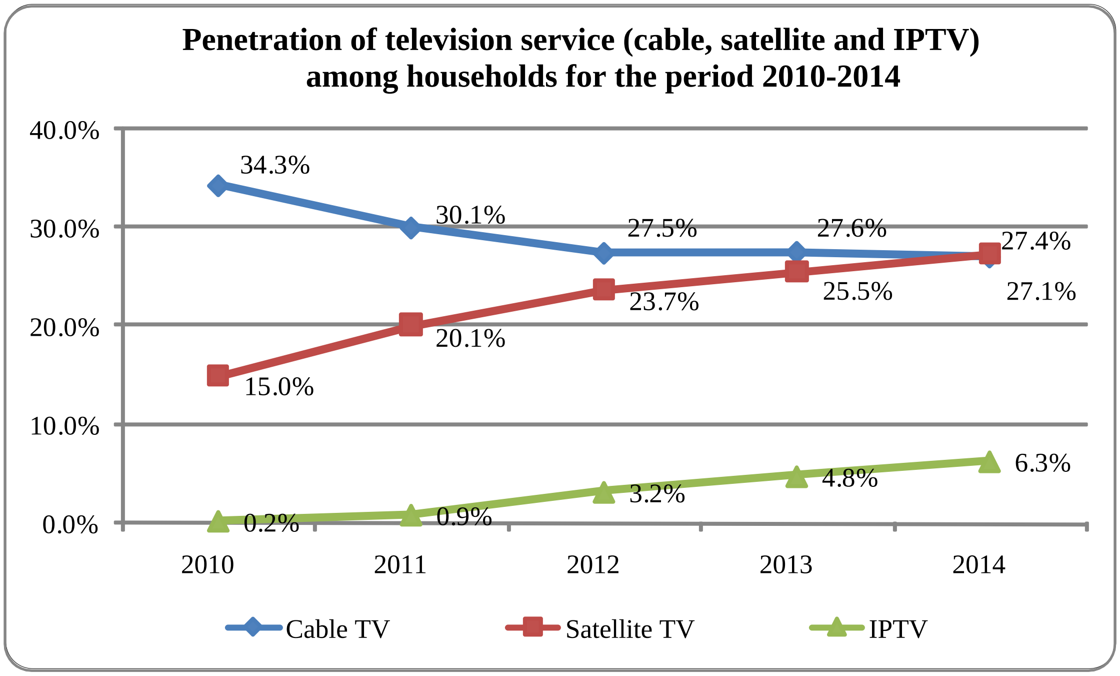
Fig. 29

The chart clearly shows that the number of subscribers of bundled services with IP television included constitutes over 95% of the total number of subscribers of IP television, as this share remained almost unchanged compared to the year before. For the same period, the relative share of subscribers of bundled services with cable TV[55] included increased by nearly 4 percentage points to 40.3%, and the number of subscribers of bundled services with satellite TV included – by less than 1 percentage point, reaching 24.9%.

As a result of the increased number of subscribers, the penetration rate of pay TV (cable TV, satellite TV and IPTV) among households, as of 31.12.2014, preserved its upward trend, increasing its share by 3 percentage points compared to the year before and by more than 11 compared to 2010, reaching almost 61%[56] (for comparison, at the end of 2013 this indicator was 58%). The highest growth was registered in the penetration rate of satellite television (1.8 percentage points) compared to 2013, as its share at the end of 2014 amounted to 27.4%. The share of cable television in 2014 was 27.1% or by 0.5 percentage points less compared to the year before, while that of IPTV reached 6.3%, which represents an increase of 1.5 percentage points compared to 2013 (Figure 30).

[55] Calculated based on assessment of the number of subscribers on the basis of data received from 94.5% of the registered undertakings

[56] The number of households (3,005,589 - ordinary households) used to calculate the index was taken from the last official census carried out by NSI in 2011.

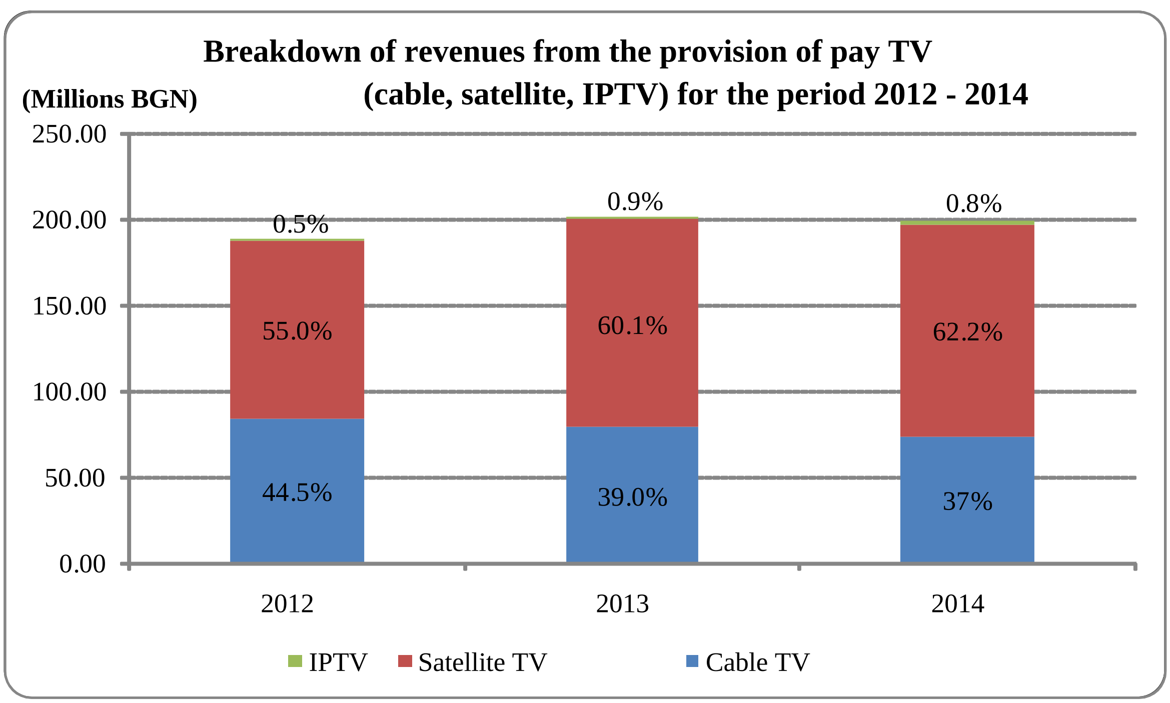



***Source:*** Data submitted to CRC

Fig. 30

***Revenues from carrying out retail distribution of radio and TV programs services***

The volume of total revenues earned from subscribers of pay TV in 2014 amounted to BGN 198.62 million. Unlike the previous one-year period when an increase by 7% was observed in the total revenues from pay TV, in 2014 they decreased by 1.3% compared to 2013.




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

Fig. 31

The decrease in the total volume of the pay TV market in Bulgaria results from the reduced revenues from the provision of cable and IP television in 2013 – 2014. The most significant is the decrease in revenues from IPTV – by 7.2%, followed by revenues from cable TV – by 6.2%. For another consecutive year, the revenues from satellite television shows an upward trend. In 2014, compared to the year before, the reported increase was 2%, as the share held by revenues from satellite television in the total amount of revenues from pay TV in Bulgaria continued to be the largest and amounted to 62.2% (Figure 31). As it was already stated above, the decline in the revenues from cable television is mainly due to the growth (8.4%) in the number of subscribers, who use the service bundled with other electronic communications services, as well as a decrease (by 7.6%) in the number of subscribers, using it as a stand-alone service.

The fact that as of 31.12.2014 there was a growth in the number of pay TV subscribers compared to the year before, indicates that the digitization of broadcasting of radio and TV programs, which took place at the end of September 2013, had no negative impact on the pay TV segment in Bulgaria.

It is expected that the intensified competition between the providers of cable TV, satellite TV, and IPTV observed in the past few years to continue the relocation of the subscribers between the three television platforms.

## 7.2. Wholesale transmission and/or distribution of radio and TV programs and IPTV

In 2014, a total of 15 undertakings provided wholesale transmission and/or distribution of radio and television programs services.

Detailed information on the number of undertakings which in 2014 provided wholesale transmission and/or distribution of radio and television programs services, the number of users of these services and the volume of revenues generated from them, as well as on the structure of the above services' market is displayed in Table 7 and on Figure 33 below:

**Table 7**

**Number of subscribers/users and revenues from carrying out wholesale transmission and/or distribution of radio and TV programs services, incl. wholesale IPTV services, in 2014**

| Types of services for wholesale transmission and/or distribution of radio and/or television programs services | Number of undertakings providing the service in 2014 | Number of subscribers/users of the service as of 31.12.2014 | Revenue from the service in 2014 (in million BGN, VAT excl.) |
|---|---|---|---|
| **1.1. Services for transmission of radio and/or television programs, incl.:** | **6** | **44** | **10.148** |
| 1.1.1. Terrestrial radio relay transmission | 1 | | |
| 1.1.2. Satellite transmission | 5 | | |
| 1.1.3. Other type of transmission | 3 | 8 | 0.128 |
| **1.2. Services for distribution of radio and/or television programs, incl. IPTV wholesale service provided to other undertakings, incl. :** | **10** | **136** | **56.307** |
| 1.2.1. Terrestrial broadcasting | 7 | | |
| 1.2.2. Satellite broadcasting | 2 | | |
| 1.2.3. Other type of distribution of radio and/or television programs, incl. IPTV wholesale service | 3 | 43 | 1.274 |
| **Total** | **15** | **180** | **66.456** |

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

In 2014, the number of undertakings providing transmission of radio and TV programs services remained unchanged compared to the year before - 6, as the number of users of these services registered a decrease by 20.0% compared to 2013.

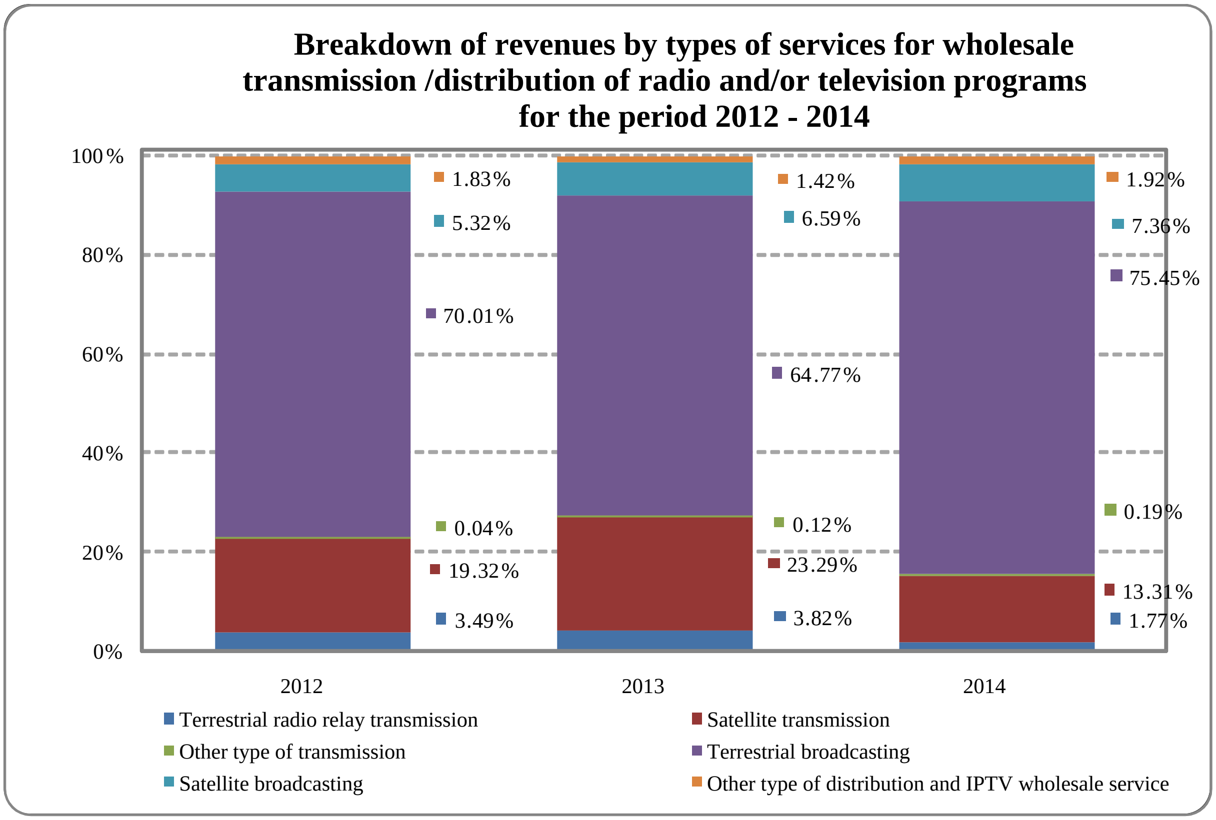
Compared to the year before, there was also no change in the number of undertakings providing distribution of radio and TV programs services, including wholesale IPTV service - 10 undertakings, but the users of these types of services increased by 32.0%.

In 2014, the revenues generated from providing wholesale transmission and/or distribution of radio and TV programs services, including wholesale IPTV service amounted to BGN 66.456 million, registering a growth of 17.98% compared to the year before.

This growth is a result of the increase observed in 2014 in the revenues from the provision of almost all wholesale transmission and distribution of radio and TV programs services, except for the satellite and terrestrial radio relay transmission. These two services recorded a decrease in the amount of 32.6% and 45.3%, respectively, compared to 2013.

In general, revenues from transmission (satellite, radio relay and optical) of radio and TV programs services decreased by 33.8% compared to 2013 and this is due to the mentioned decrease in the revenues from satellite and radio relay transmission. In 2014, the revenues from other type of transmission (optical) significantly increased - by 84.9%, but due to their insignificant share (1.3%) in the total amount of transmission revenues, their growth did not compensate the decrease observed in the other two services.

The amount of revenues generated from distribution of radio and TV programs services was up by 37.4% as a result of an increase in the revenues from all services in this group: by 59.7% in revenues from distribution of radio and/or TV programs, including wholesale IPTV service, by 37.4% in revenues from terrestrial broadcasting, and by 31.8% in the revenues from satellite broadcasting.




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

Fig. 32

The data on Figure 32 shows that in 2014 the largest share in the revenues from carrying out wholesale transmission and/or distribution of radio and TV programs services was again held by the terrestrial broadcasting – 75.5%, while the smallest share (0.19%) was occupied by the wholesale services for the provision of other types of distribution (optical) of radio and TV programs. The undertakings providing wholesale IPTV services in 2014 were 3 – GLOBAL COMMUNICATION NET AD, NETERRA COMMUNICATIONS EOOD, and VIORA INTERACTIVE OOD, and as of 31.12.2014 an increase by 34.4% in the number of users of this type of wholesale services was reported.

### 7.3. Terrestrial broadcasting – VHF broadcasting

At the end of 2014, 73 undertakings had the right to provide terrestrial analogue broadcasting, and the total number of active authorizations was 345. During the year, 7 authorizations were terminated.

The undertakings with national coverage as of 31.12.2014 were two – BNR and DARIK RADIO AD. The achieved coverage by population of the BNR programs as of 31.12.2014 was 95% for "Horizont" program, and 91% for "Hristo Botev" program, and of DARIK RADIO AD – 95.5 %.

The local-coverage undertakings are 72, which represents 97.3% of the total number, as 30 of them (41.7%) carry out activity in more than one settlement.

**8. Bundled services**

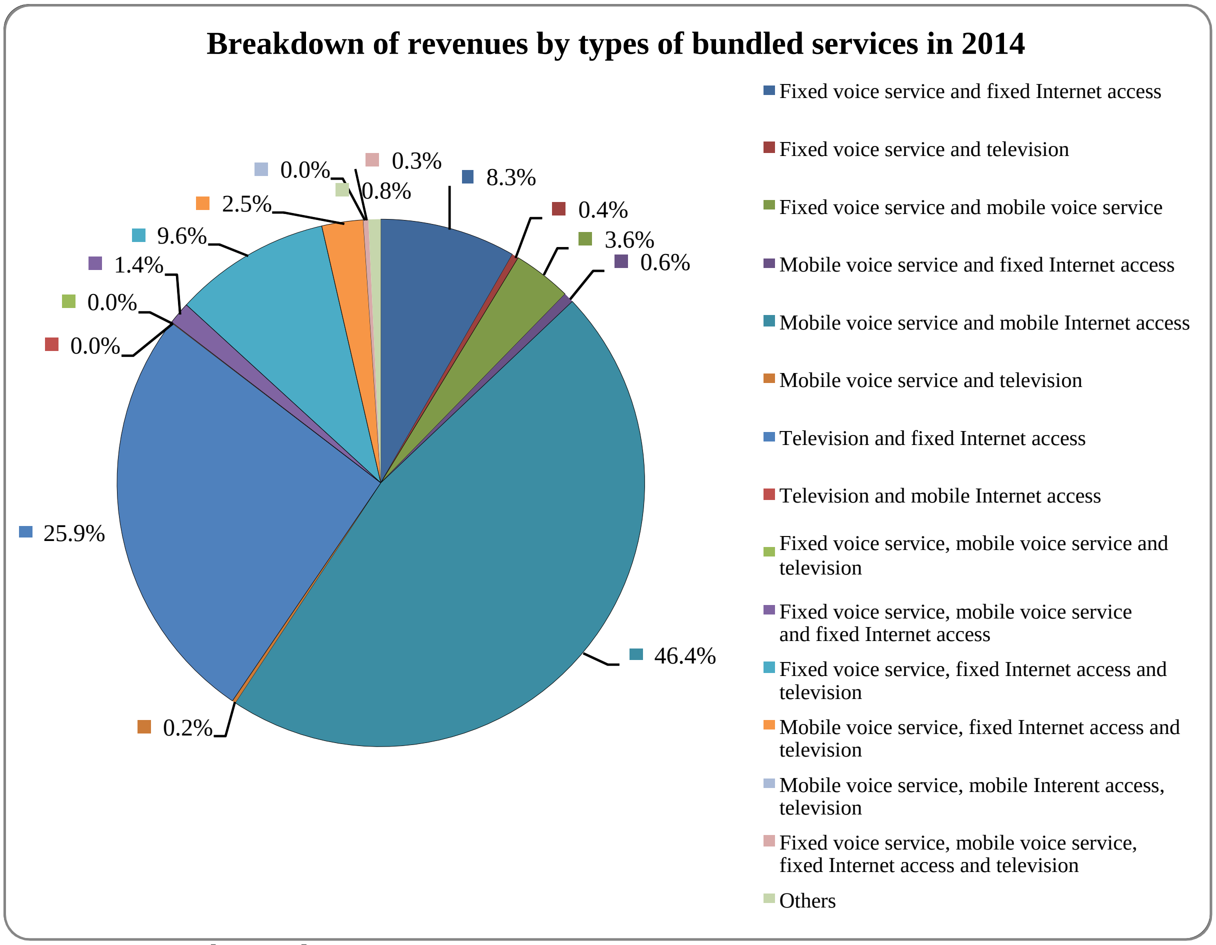
In 2014, the trend observed in the previous years towards an increase in the consumption of bundled services[57] continued. At the end of 2014, 112 undertakings provided bundled services, as the Double Play service "TV and fixed Internet access" was offered the most (by 100 undertakings).

The revenues[58] (from installation fees and monthly subscription) generated by undertakings providing bundled electronic communication services at the end of 2014, reached BGN 424.7 million, which represents an increase of 21.2% compared to the year before. For another consecutive year, the revenues from the Double Play services amounting to BGN 362.7 million held the largest share in the total volume of bundled services offered. The revenues from Triple Play services were BGN 57.4 million, while that from Quadruple Play service amounted to BGN 1.4 million.

Figure 33 presents the breakdown of revenues by types of bundle services in 2014.

[57] Pursuant to §1, item 79 of the supplementary provisions of LEC, the term "price package" is defined as a "bundle of two or more services with prices different from the price of each service when offered outside the bundle". According to the description adopted by CRC, the bundle services include two or more electronic communication services offered jointly by any given undertaking (at a common price), as services are offered under fixed, previously determined proportions and conditions. Generally, the bundled services divide into two types: "pure bundle" and "mixed bundle" which differ in terms of whether the user has the option to purchase any of the bundled services separately. Tied services, on their part, means that a service is offered only if purchased together with another service, as the latter can also be purchased separately. It should be taken into account that the information published in the Annual Report does not pertain to the cases of offered "pure bundles" (e.g., the provision of access to a public telephone network and publicly available telephony services at a fixed location).

[58] Excluding revenue from out-of-bundle consumption when the provided bundled services include voice telephone services.




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

Fig. 33

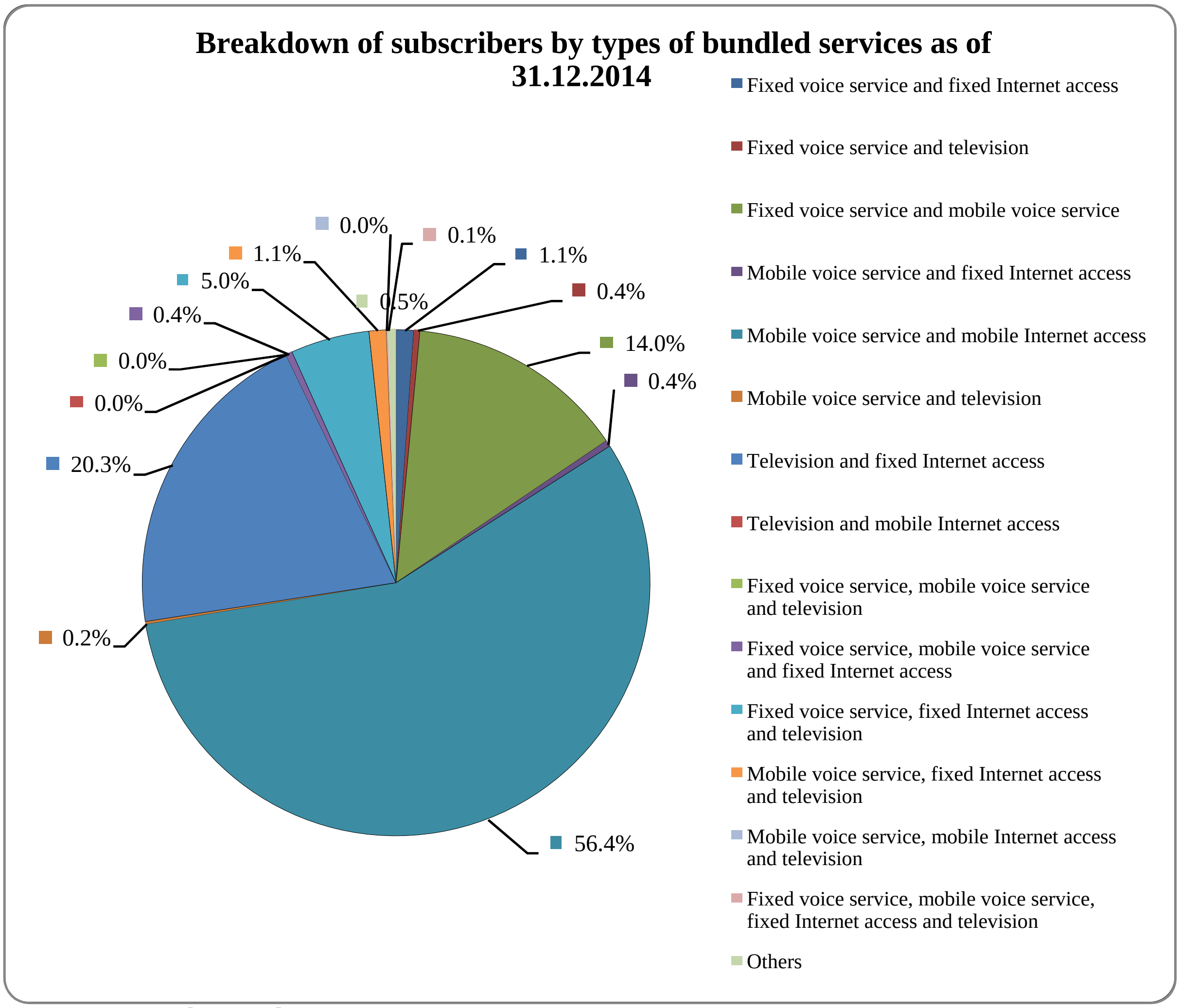
As evident from Figure 33, the share of revenues from Double Play service including mobile voice service and mobile Internet access is the greatest – more than 46% of the total volume of the bundled service market. Revenues from this type of service also registered the greatest increase for a one-year period (by 39%), following the upward trend in the number of subscribers.

Revenues from four types of bundled services (mobile voice service and mobile Internet access; television and fixed Internet access; fixed voice service, fixed Internet access and television; fixed voice service and fixed Internet access), which formed more than 85% of the total volume of the bundled service market in the year before, continued to grow and at the end of 2014 held more than 90%, representing an increase by 4.2 percentage points compared to 2013.

According to data of the undertakings providing electronic communication services in Bulgaria, the number of bundled services subscribers was 2.62 million at the end of 2014, which represents an increase of nearly 30%, compared to 2013.

Compared to the end of 2013, there was a considerable penetration growth, based on both population and households. The penetration based on population has increased by 8.4 percentage points and at the end of the year it reached 36.3%. At the end of 2014, the penetration based on households was 75.9%[59] (by 16.7 percentage points higher than in 2013), which indicates that in 2014 more than 3/4 of the Bulgarian households were subscribed to more than one electronic communications service.

Figure 34 presents the breakdown of subscribers by types of bundled services in Bulgaria.




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

Fig. 34

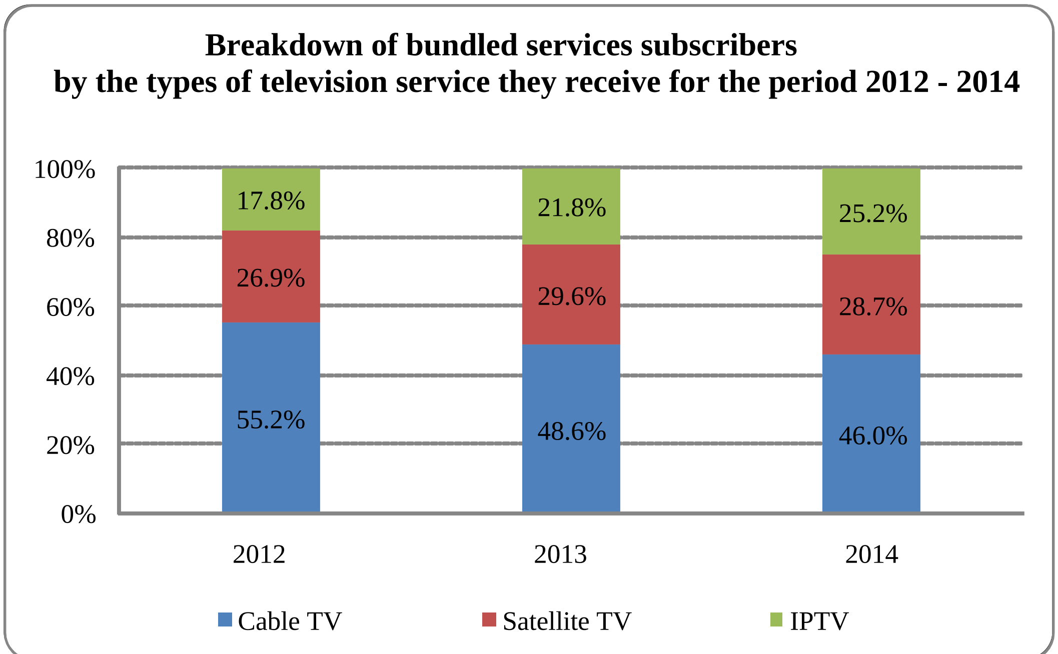
The presented data clearly shows that subscribers were mostly interested in three types of Double Play services: mobile voice service and mobile Internet access (56.4%), television and fixed Internet access (20.3%), and fixed voice service and mobile voice service (14%). These three bundled services were most preferred in the last two years as well.

The bundle including mobile voice service and mobile Internet access retained its first place compared to 2013, as more than half of the subscribers of bundled services were subscribed to the mentioned bundle. For third year in succession, the number of its subscribers

[59] In calculating the penetration by households, only residential users of bundled services were considered as of 31.12.2014. NSI data on the number of households as of 01.02.2011 were used.

increased, which is due to the convenience to the users regarding the option to use the two main services for communication and access to information everywhere where the mobile network has coverage, and the development and distribution of devices through which this bundled service may be used.

Figure 35 presents the breakdown of bundled services subscribers according to the type of television service they receive.




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

Fig. 35

Although the downward trend in the relative share of subscribers of bundled services with cable TV in the total number of subscribers of bundled services with television continued, at the end of 2014 a growth in the number of subscribers was reported in an absolute value of 25.8 thousand compared to the end of the previous year. The subscribers of bundles with satellite TV and IPTV also increased – by less than 20 thousand and by more than 44 thousand, respectively, for a one-year period.

With relation to the requirements of the European Commission and the more correct presenting of revenues generated from different electronic communications services, since 2013, CRC has required from the undertakings providing bundled services to submit information on the breakdown of revenues by the individual types of services included in the bundle[60]. The collected data showed that the major part (over one third) is occupied by mobile voice service (36.3%), followed by fixed Internet access (24.5%) and television (22.8%). The next place is held by mobile Internet access (11.6%), the revenues from which increased by 3.6 percentage points compared to the year before. It should be noted that the growth in the revenues from this service was the greatest – 76% for a one-year period. The last place is occupied by fixed voice

[60] The breakdown of revenue by individual types of services included in the bundle is carried out based on an assessment on the basis of the prices of the individual services that have close or similar characteristics (for example, included in the subscription free-of-charge minutes for calls to national fixed and/or mobile networks, Internet download speed, number of included TV programs, etc.) of services included in the bundled service.

service (4.85%), whose share decreased by more than 3 percentage points in the total amount of revenues from bundled services compared to 2013.
Bundled services remained a more attractive solution both for users and undertakings providing electronic communications services. In contrast to 2013, when the growth rate of the indicators number of subscribers and revenues from bundled services slowed down, in 2014 growth was registered once again. This indicates that the bundled services market in Bulgaria continues to develop due to the diversity and the quality of the bundles offered and is one of the basic drivers for the development of the electronic communications market in Bulgaria.

## 9. The Bulgarian electronic communications market outlook

In the long term, the development of the electronic communications market in Bulgaria is expected to reflect the world trends in the sector. In the next years, the trend towards migration of subscribers from fixed voice services to mobile services will continue to be observed. The growth pace of broadband access services and mobile services will be slowed down due to the maturity of the market. The influence of OTT[61] services on the electronic communications market will intensify, as the extent of this influence will considerably depend on the adopted business strategy by the undertakings providing traditional communication services towards OTT providers.

In the short term, the following trends are expected on the electronic communications market:

- regarding “the voice services” segment no considerable changes from the segment development observed in the past years are expected. Fixed and mobile voice services offered in bundle with other electronic communication services will increase. The increased offering of subscription plans with included free-of-charge minutes for outgoing calls will also continue;
- with respect to broadband Internet access services at a fixed location, it is expected that the trend towards migration to hybrid and optical networks will persist in order to offer broadband access at higher speeds and to improve the quality of the services;
- the number of mobile broadband access subscribers will continue to increase strongly, as it is expected that mobile Internet will surpass in its development the fixed broadband access. The growth of the mobile Internet access` usage will also be as a result of the development of services based on LTE networks, which have improved features regarding the maximum reachable transmission speed compared to 3G mobile networks.
- with respect to leased lines the trend towards migration to alternative leased lines and gradual reduce in the number of traditional wholesale and retail leased lines will retain;
- in the transmission and/or distribution of radio and TV programs services segment, the trends observed in the past few years towards merger of the segment, with increase in the number of subscribers of satellite and IP-based television on the account of cable TV subscribers, as well as a stronger role of bundled services with included IPTV are expected to persist.

In conclusion, it may be noted that the future development of the Bulgarian electronic communications market will be positively affected by the development of 4G services and the exploitation of LTE networks, as well as by the increased supply and demand of bundled services, mostly of bundles including mobile and fixed broadband access.

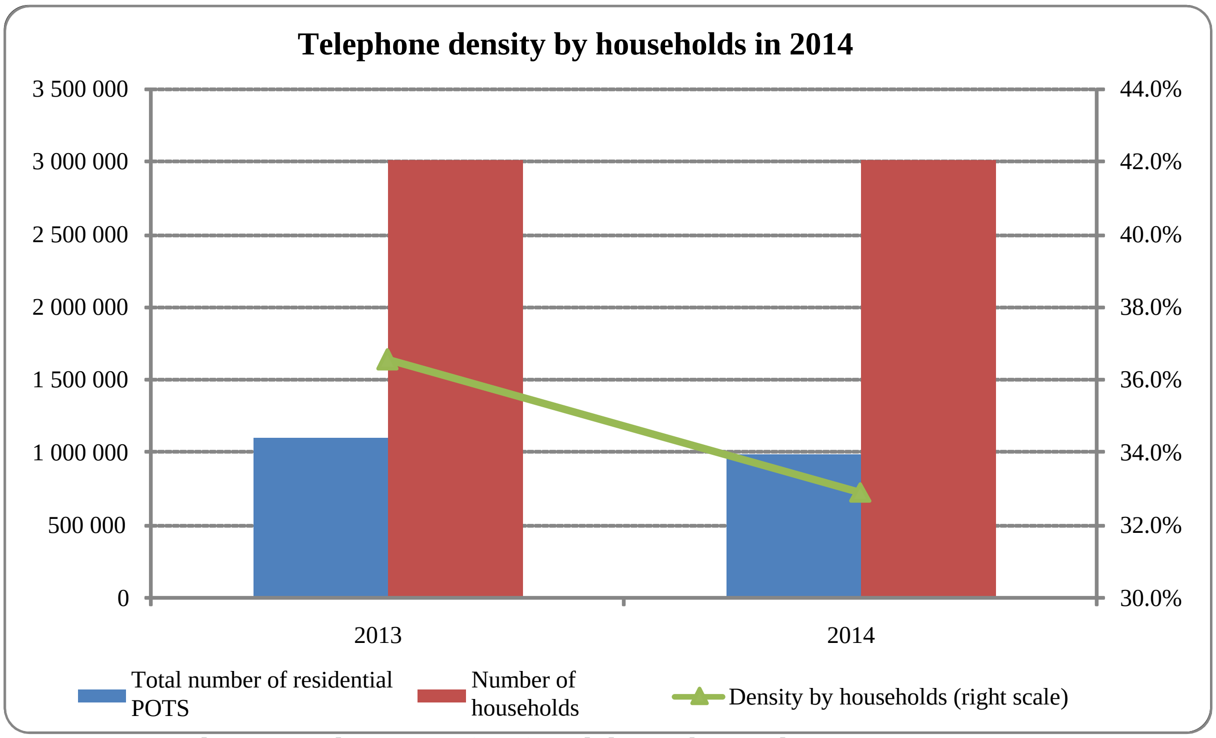
[61] Over-The-Top

## 10. Provision of the universal service

### 10.1. Degree of satisfaction from the universal service provision

At the end of 2014, BTC, in the capacity of universal service provider[62], ensures coverage measured by the number of territorial units by 0.7 percentage points less than the year before, which was mainly due to the increase in the number of settlements[63]. The coverage mentioned includes settlements and settlement formations (resorts, etc.), which are included in the Unified Classification of Administrative-Territorial and Territorial Units.

In 2014, the telephone density by households[64] registered a decrease by 3.64 percentage points compared to the year before. The decline in the values of this indicator reflects the steady downtrend in the number of BTC's residential subscribers of fixed voice telephony service.




***Source:*** National Statistical Institute (NSI) and data submitted to CRC

Fig. 36

### 10.2. Analysis of the provision of the universal service

#### 10.2.1. Access to and provision of the universal service

As evident from Figure 37 below, at the end of 2014, the submitted requests for connection followed the downward trend observed in the past years and last year they decreased by 3.38%.

Despite the reduced number of requests for connection filed by people with disabilities

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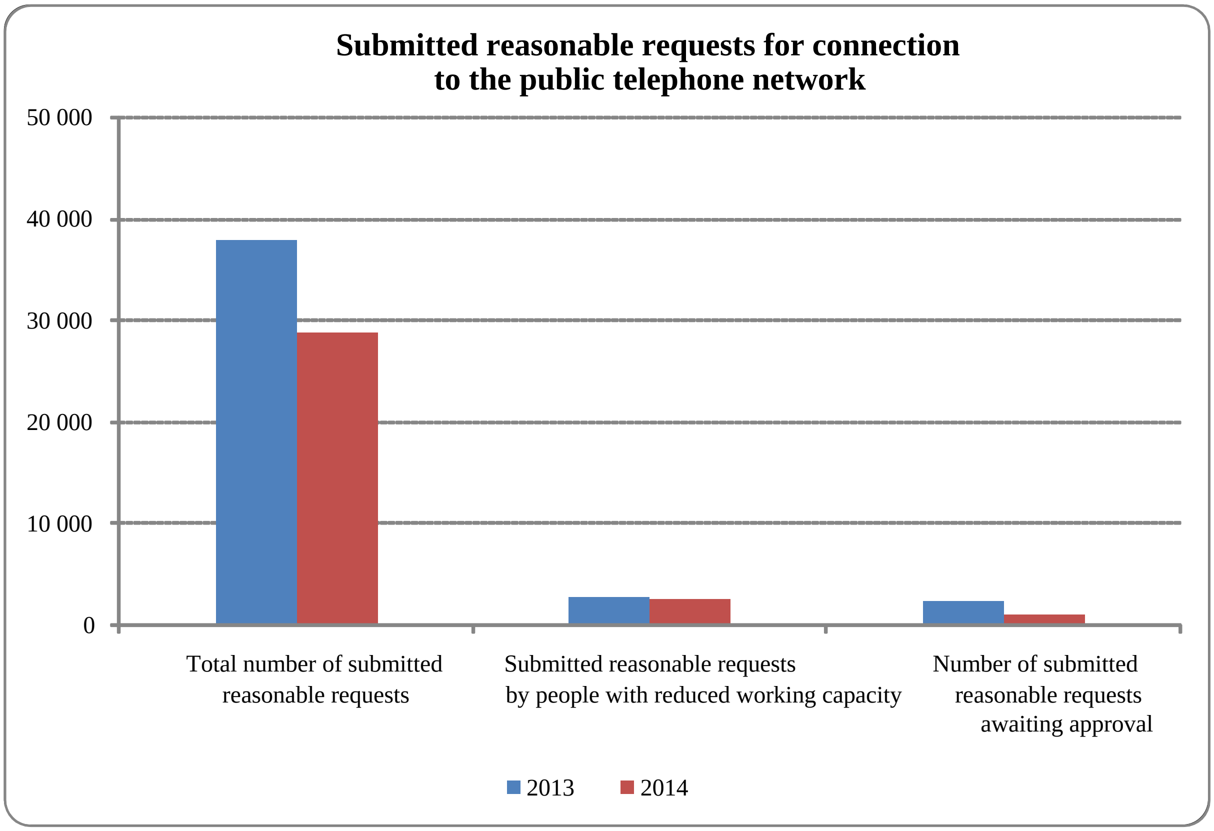
[62] Pursuant to § 7 of LEC.

[63] According to NSI data, as of 31.12.2014, the number of territorial units in Bulgaria was 5,302 compared to 5,265 as of 31.03.2013.

[64] The density by households index is measured by dividing the total number of residential lines by the number of households in the country.

in 2014, it should be noted that compared to trends in past years the decrease rate is decreasing[65]. The submitted requests for connection were 94 less than the last year, while the decline in 2013 was 1,407, compared to 2012. At a certain extent, the declining drop rate is defined by the constant growth of those entitled[66] to specific bundled services in the scope of the universal service due to reduced working capacity.




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

Fig. 37

In 2014, the percentage of requests awaiting approval for connection was down by 2.3 percentage points, which is due to the undertaking's intent to attract new subscribers. In this regard, the share of the rejected requests for connection compared to the total number of submitted requests was 21.8%, as the major part (73.4%) of this share is a result of discontinued interest on behalf of the clients.

As of 31.12.2014, BTC provided access and public telephony services to almost 10% less subscribers compared to the previous year.

In 2014, the number of calls to access numbers 134xx was three times less than the one in 2013 and formed 0.004% of the total volume of calls to national numbers. At the end of 2014, the number of subscribers of dial-up access to internet remained insignificantly small.

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[65] The drop in the values of the above-mentioned index for 2013 compared to 2012 was 33.6%, while for 2014 compared to 2013 it was 3.4%, which constitutes a growth rate drop by 30.2 percentage points.

[66] The number of newly granted disability pensions in 2014 was up by 1,930 compared to 2013, which constitutes an increase by 6.8%.

BTC performs its obligation to ensure free-of-charge calls to emergency numbers, as their share in 2014 amounted to 0.20% of the total volume of calls to national numbers.

### 10.2.2. Access to public payphones

According to the criteria stipulated for in Ordinance No. 6[67], BTC is obliged to ensure a sufficient[68] number of public payphones (PPs).

Table 8 presents data about the performance of the obligation to provide a sufficient number of public payphones in 2014.

***Table 8***

| Population | Number of municipalities | Sufficient number of public payphones |
|---|---|---|
| below 500 residents | 734 | 734 |
| from 500 to 1500 residents | 1,022 | 1,304 |
| over 1500 residents | 515 | 3,873 |
| **Total:** | **2,271** | **5,911** |

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

Unlike 2013, when the number of PPs recorded an insignificant increase by 0.08% compared to the year before, in 2014 once again there was a downward trend in the number of pubic payphones owned by BTC typical for the years before 2013. In 2014, the decrease in the number of PPs was significant – 20.61%. As in 2013, in 2014, the 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 everywhere.

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 16.04% compared to the previous year. As of 31.12.2014, these PPs formed 70.65% of the total number of public payphones in the country. Part of them provide for 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. No change was observed in the quality parameter of the provided PPs “Percentage of functional public payphones of BTC” compared to the year before, which was 91% at the end of 2014.

Free calls to the national emergency numbers and to the single European emergency number 112 can be made from all public payphones owned by BTC.

[67] Ordinance Nr. 6 of 13 March 2008 on the universal service under the Law on the Electronic Communications (title amended SG, issue 77 of 9 October 2012)

[68] Sufficient number is considered the availability of at least 1 public payphone and/or 1 point for public access to voice telephony services in municipalities having less than 500 residents in municipalities; at least 1 public payphone and/or 1 point for public access to voice telephony services per 500 residents having more than 500 residents and at least 1 public payphone and/or 1 point for public access to voice telephony services per 1500 residents in municipalities having more than 1500 residents.

### 10.2.3. 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[69] the undertakings obliged to provide the universal service must issue at least one telephone directory in printed and/or electronic form. In 2014, by its Resolution 794/19.12.2014, CRC approved BTC's proposal[70] for the release of a public telephone directory in an electronic form in 2014, which is available at the undertaking's official website[71].

In compliance with its obligation to provide a telephone directory enquiry service for the numbers comprised in the comprehensive telephone directory, BTC provided end users with a 24-hour telephone directory enquiry service in the past year through number 11 800.

### 10.2.4. Affordability of tariffs of the universal service

In 2014, in fulfilment of the obligation to provide price packages for the universal service at affordable[72] prices, BTC continued to offer, without any change in the prices and conditions, the price packages intended for users: with low income ("Limited plan", as named by BTC); people whose work capacity or capacity for social adaptation has been impaired by over 90% ("Handicap 160" and "Handicap 300" plan, as named by BTC); people whose work capacity or social adaptation capacity has been impaired by over 50% ("Handicap 300" plan, as named by BTC); people admitted to social or health institutions ("Social and health institutions" plan, as named by BTC).

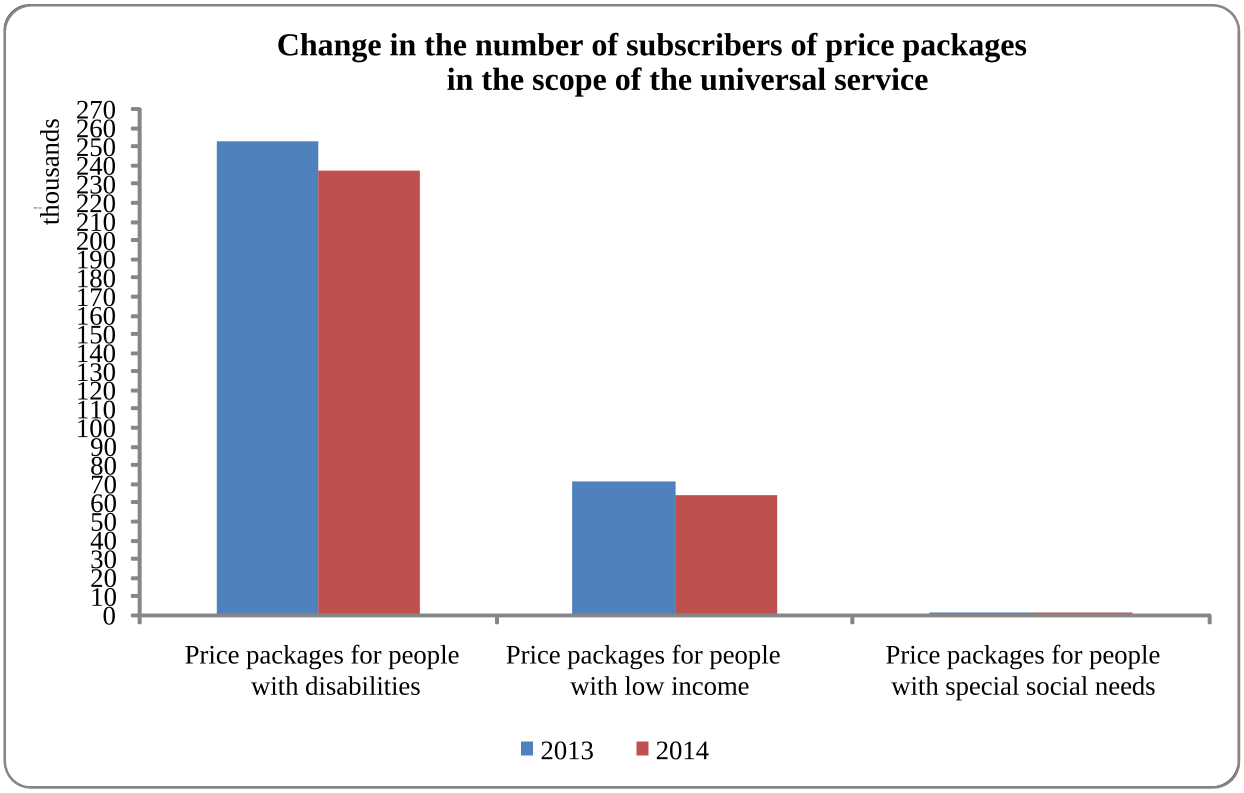
Figure 38 below presents the trend in the number of subscribers of price packages in the scope of the universal service for 2013 and 2014.

[69] Ordinance Nr. 5 of 13.12.2007 on the terms and procedure for release of telephone directories, including working with database, their transfer and use, and for carrying out telephone enquiry services

[70] Lettre, Ref. Nr. 04-04-233/08.12.2014

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

[72] Stipulated in the Methodology for determining prices and price packages for the universal service adopted with Ordinance Nr. 2544 of 25.10.2008 of the Council of Ministers, prom. SG, issue 94 of 31/10/2008




***Source***: Estimates based on data submitted to CRC

Fig. 38

The chart clearly shows that the number of users of the three types of price packages was significantly down by 6.5%, 9.8% and 3%, respectively, and the users of services in the scope of the universal service decreased by 7.2% in general, which results from the expanding choice of services and prices for end users, including bundled services, which enable the end users to reduce the costs of the electronic communication services used.

### 10.3. Quality of the universal service

The Quality of Service (QoS) parameters of the universal service provision are stipulated for in Ordinance No. 6[73], 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[74].

According to the data submitted by BTC, in 2014, the undertaking reported fulfilment of all indices, as higher than the targets for the universal service quality was achieved in the following index groups:

- Time for initial service provision;
- Fault percentage per subscriber line;
- Fault remedy time;
- Failed calls percentage;
- Call set-up time;

[73] Ordinance Nr. 6 of 13 March 2008 on the universal service under the Law on the Electronic Communications (title amended SG, issue 77 of 9 October 2012)

[74] http://www.crc.bg/section.php?id=904&lang=bg

- Call set-up time (response) for calls via operator services;
- Call set-up time (response) for calls to telephone enquiry services;
- Percentage of complaints concerning the correctness of bills.

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

In 2014, BTC[75] deposited a refusal at CRC of its right to compensation from the provision of the universal service, thus last year the amount of the net expenditures and the unfair burden of its provision was not calculated. In this regard, the activity of the Fund for compensation of the universal service did not start and no funds were deposited due to the absence of grounds for their collection.

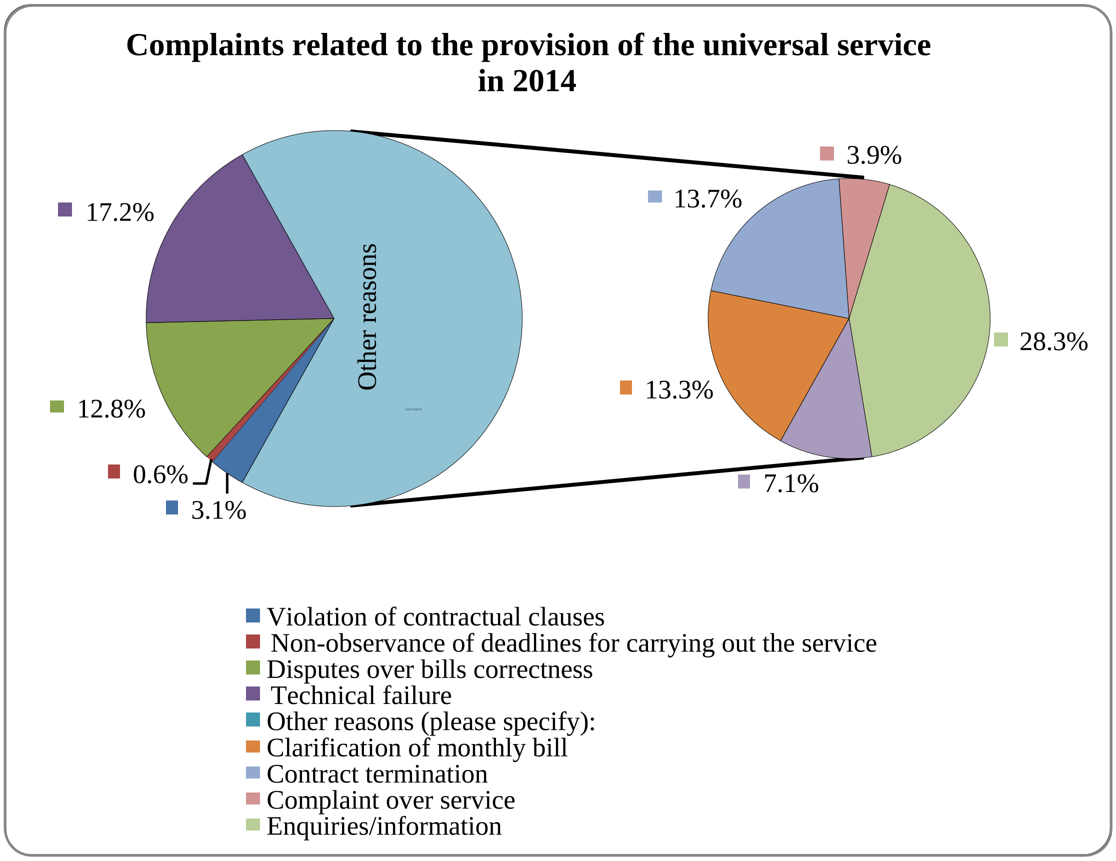
### 10.5. Complaints and complaint resolutions

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

- provision of detailed bills free of charge[76];
- selective limitation of outgoing calls free of charge;
- deferred payment when connecting to public telephone networks.

In 2014, the number of complaints filed against the undertaking regarding the provision of the universal service, was 40.1% less than in 2013. Most often complaints disputed technical failures, bills correctness, invoice delivery, and violation of contractual clauses. The causes for filing complaints are illustrated on Figure 39.

[75] Letter, Ref Nr. 04-04-102/29.05.2014
[76] The content of the itemized bill is defined in Art. 260, Para 3 of LEC




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

Fig. 39

The percentage of the complaints regarding technical failures was 17.2% of the total number of complaints, which is an increase by 7.2 percentage points compared to 2013. At the same time, the percentage of complaints regarding contract termination was 13.7% of the total number of complaints, registering a decrease of more than 4 percentage points, as compared to the same indicator in the previous year.

In 2014, BTC responded to 99.62% of the complaints within the regulatory deadline of 30 days, while the percentage of resolved complaints amounted to 78% of the total number of complaints filed.

### 10.6. The universal service outlook

CRC expects that in 2015 the persistent trend towards reduction in revenues and in the number of subscribers of the universal service will intensify. Among the main factors for these expectations are the sustainable and considerable growth of the demand for bundled services and the communication opportunities for users through broadband access.