LITHUANIAN COMMUNICATIONS SECTOR 2018

2 July 2019 No ND-17
Vilnius

COMMUNICATIONS REGULATORY AUTHORITY OF THE REPUBLIC OF LITHUANIA

CONTENTS

FOREWORD OF THE MINISTER OF TRANSPORT AND COMMUNICATIONS OF THE REPUBLIC OF LITHUANIA

Nowadays information and communication technologies form a basis for the progressive society. Active progress of Lithuania is evidenced by the increasing investments in the development of information technologies and communications and ambitious aims to introduce 5G connection within a few years that would make radical changes in the daily life of people and open new possibilities for business and public sector.

The communications sector is a fundamental basis for the entire digital economy and information society. In the European Union ('the EU'), the aim is to ensure uninterrupted 5G coverage in the territories of all cities and in the all the major land transport links by 2025. The current electronic communications infrastructure and 5G technologies will be used for introduction of new services. Lithuania is catching up with these ambitious plans. By the end of this year, Lithuania will have a clear vision for the development of 5G connection. A group of public sector and business experts will prepare guidelines for the development of the national 5G connection to enable the creation of favourable legal and investment environment for the development of 5G networks in Lithuania.

5G connection is an important engine of economic progress and a key for the development of digital society. Clear vision of 5G connection development and action plan are believed to help Lithuania to seek leadership in 5G connection technology between other the EU countries.

Further rapid and gradual development of fixed broadband communications networks is crucial. Important progress has been made in this regard. It is illustrated by the indices of broadband communication penetration – at the end of 2018, the broadband penetration stood at 47.3% and increased by 5.6% over a year. The development of new generation access networks will certainly remain relevant in the future. The aim is to reach the objectives of gigabyte society established by the EU and to ensure that all enterprises engaged in the provision of public services would have gigabyte accesses by 2025. Although various challenges are posed to the implementation of these objectives today, however, we can manage them through close cooperation with state authorities, fixed and mobile communications operators as well as international partners and organisations.

Finally, we set objectives not only to keep pace with the development of new technologies, but also to ensure the availability of services based on these technologies to all Lithuanian residents. The coverage of new generation networks is consistently increasing in geographically remote locations due to investments of the state, EU and private businesses, however, equally important is also the fact that we remain to be one of the EU Member States the population of which can enjoy advantageous services for an attractive price. According to the data of the survey published by the European Commission, the broadband internet connection recorded in the EU Members States is provided under the most favourable prices in Romania, Latvia, Hungary and Lithuania.

Lithuania is ready to move fast forward and introduce the solutions of the most advantageous technologies to ensure the highest-quality services for all Lithuanian people, businesses and public sector.

Minister of Transport and Communications — Rokas Masiulis

FOREWORD OF THE DIRECTOR OF THE COMMUNICATIONS REGULATORY AUTHORITY OF THE REPUBLIC OF LITHUANIA

The Lithuanian communications sector has maintained stable growth tendencies for four consecutive years. Growth is demonstrated in both electronic communications and postal service markets.

In the electronic communications market, the main growth engine is the developing market of internet access services provided by mobile communications networks showing that Lithuanians are actively using internet wherever they are. It is also interesting to note the fact that, at the end of 2018, the number of SIM cards for internet access services exceeded the number of Lithuania's population for the first time. In addition to the increasing number of users of internet access services, the volumes of downloaded data increase in huge rates: 'consumption' of mobile communications data grew by 59% in Lithuania over a year and each user of internet access services downloaded nearly 10 GB of data on the average.

Another obvious trend is the increase in the use of mobile communications data while travelling in the EU countries. It is an excellent illustration how the principle 'Roam Like At Home' that was introduced in the middle of 2017 forms a possibility for the Lithuanian users to use internet much cheaper and that changes the habits of consumption – internet is used freely abroad when travelling just like at home. In 2018, 2.4 thousand TB of international roaming communications data were transmitted, i.e. nearly 2.5 times more than during the previous year.

Over the last few years we have been speaking a lot about the internet of things. The trends of its penetration in Lithuania are shown by the dissemination of M2M cards. At the end of 2018, nearly 300 thousand of M2M cards were used and the number increased by 17% over a year. The breakthrough in the use of M2M is expected in the coming years, when not only solutions of individual households, but also new high-quality solutions of the internet of things covering all sectors at national level and solutions will start to be introduced.

We can also welcome excellent development LTE networks – the mobile communications services provided on the basis of this technology are accessible in nearly entire Lithuania. The next step is to evaluate not only the accessibility, but also the quality of communications. For this reason, RRT is one of the first in the EU to create a new and advanced methodology enabling not only precise evaluation of where mobile communication will function, but also estimation of the strength of signal indicating the possible quality of accessible services. Another new operator's networks information system OTIS developed by RRT allows precise measurement of development of fixed broadband communications networks. On the last day of 2018, these networks reached 77.0% of all residential premises, meaning that over 3/4 of all Lithuanian households had a possibility to receive high-quality internet access, pay-TV or telephone communications services provided by fixed communications networks. The coverage of new generation networks stood at

63.4%. These new tools help us, the regulator, to make precise evaluation of the situation on the market and take the necessary regulation decisions.

It is worth mentioning that the postal services market has been growing no fewer than ten years in a row. The growth of this market goes hand-in-hand with the annually increasing number of transferred postal parcels and especially international postal parcels. In 2018, the number of sent international postal parcels was by nearly 50% higher than in the previous year.

As regards the provision of universal postal service ensuring the accessibility of postal service in the entire territory of the country, the growth in the number of mobile postal service provision points has been observed for three years in a row. Such changes allow to provide universal postal services even in rarely settled areas of the Republic of Lithuania, thus, reducing the social exclusion in the regions.

Director of the Communications Regulatory Authority — Feliksas Dobrovolskis

Country	Lithuania
Capital	Vilnius
Area, km²	65,200
Population	2,793,986
Number of households	1,343,263
Country code	+370
Internet domain	.lt

IMPORTANT!

- The icons provided in the tables ( ) illustrate the trends prevailing between 2013 and 2018 (decreasing, increasing, fluctuating).
- The figures provided on the left of the charts (e.g. +3.2%; –4.5%) show the changes of respective indicators in 2018 (positive, negative) compared to 2017.
- The report 'Lithuanian Communications Sector 2018' has been drafted using the information on electronic communications and postal activities provided by electronic communications networks and service providers, as well as postal service providers. The information of the European Commission and other publicly available reliable sources has also been used in the report.
- The lists of electronic communications service providers and postal service providers are provided in Annexes 1 and 2.
- The data submitted by the electronic communications networks and service providers and postal service providers may be updated after the publication of the relevant annual report, therefore, the data of earlier periods provided in the reports of different years may differ.
- The data provided in the tables and figures of the report are rounded up to decimal places, therefore, the total sum of the market share does not always equal 100%.
- The revenue received by the service providers indicated in the report or indicators that use revenue values for the calculation are VAT excluded.
- The number of residents and households of a respective year used to calculate the penetration is provided in Annex 3 to the Report.
- The methodologies for the calculation of certain indicators are provided in Annex 4.

OVERVIEW OF THE COMMUNICATIONS SECTOR

Communications service providers	173
Major service provider	Telia Lietuva, AB
Revenue of the wholesale communications sector, EUR million	157.8
Revenue of the retail communications sector, EUR million	706.7
Total revenue of the communications sector, EUR million	864.5

IMPORTANT!

- In this chapter of the report, other communications service providers shall be all communications service providers, except for UAB Bitė Lietuva, UAB DHL Lietuva, UAB DPD Lietuva, AB Lietuvos Paštas, UAB Mediafon Carrier Services, UAB Tele2, Telia Lietuva, AB, and UAB Venipak Lietuva (hereinafter – the other providers).

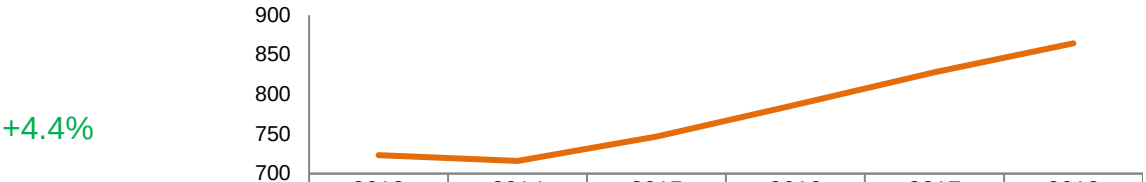
The Lithuanian Communications Sector consists of two service markets: the electronic communications market and postal service market. As regards to both of these markets, at the end of 2018, there were 173 undertakings having informed the Communications Regulatory Authority ('the RRT') about the activities carried out in the communications sector – by 19 undertakings fewer than in 2017 (see Table 1). This was mostly influenced by the decisions adopted by companies on the termination of activity, dictated by market needs and consolidation. At the start of 2018, UAB Cgates acquired UAB DKD, the activity of UAB Acta Iuventus was taken over by UAB Internetas Vilniuje, whereas in the 3rd quarter of 2018, UAB Duomenų Ekspresas was merged with UAB Magnetukas.

Table 1. **Number of undertakings that notified RRT of the activity planned in the communications sector, number by markets in 2013-2018, in units**

	2013	2014	2015	2016	2017	2018
Electronic communications market	144	144	132	139	127	116
Postal service market	76	69	66	67	65	57
All providers	**220**	**213**	**198**	**206**	**192**	**173**

Source: RRT

The revenue of the communications sector has continued to grow in 2018, as well as in 2017 (see Fig. 1). In 2018, it stood at EUR 864.5 million and was by 4.4% or EUR 36,7 million higher than in 2017. In 2018, the GDP growth in Lithuania was 3.6%, thus, the revenue of the communications sector increased faster than GDP in 2018. In 2018, the revenue of both markets slightly grew as well: postal service market – by 16.3% or EUR 24.0 million, electronic communications market – by 1.9% or EUR 12.7 million. It must also be noted that the share of the postal service market represented a much lower share throughout the entire period of 2013-2018 in terms of the total revenue of the communications sector, however, this share has demonstrated a growth every year: in 2018, it stood at 19.8% (in 2017 – 17.8%).



	2013	2014	2015	2016	2017	2018
Postal service market	101,9	109,0	120,6	130,7	147,1	171,1
Electronic communications market	621,3	607,0	626,0	656,1	680,7	693,4
Communications sector, in total	723,2	716,0	746,6	786,8	827,8	864,5

Fig. 1. **Revenue of the communications sector in 2013-2018, in EUR million.**
Source: RRT

During the period of 2013-2018, the structure of the communications sector by revenue and by activities shows that the electronic communications service providers prevail in the sector (see Table 1 and Fig. 2). In 2018, the most revenue was generated by Telia Lietuva, AB (32.1%) providing electronic communications services out of 174 undertakings operating in the communications sector, although its market share shrank by 2.8 pp during 2018. The other 2 providers among those generating the most revenue from provision of communications services were UAB Tele2 and UAB Bitė Lietuva taking 17.8% and 14.4% of the market share respectively. The revenue of the largest postal services provider – AB Lietuvos Paštas – accounted for 6.6% of all revenue in communications sector in 2018. It shall be noted that with the rapid increase in the revenue in postal services market, more and more providers of this service appear in the list of the major service providers of all communications sector.

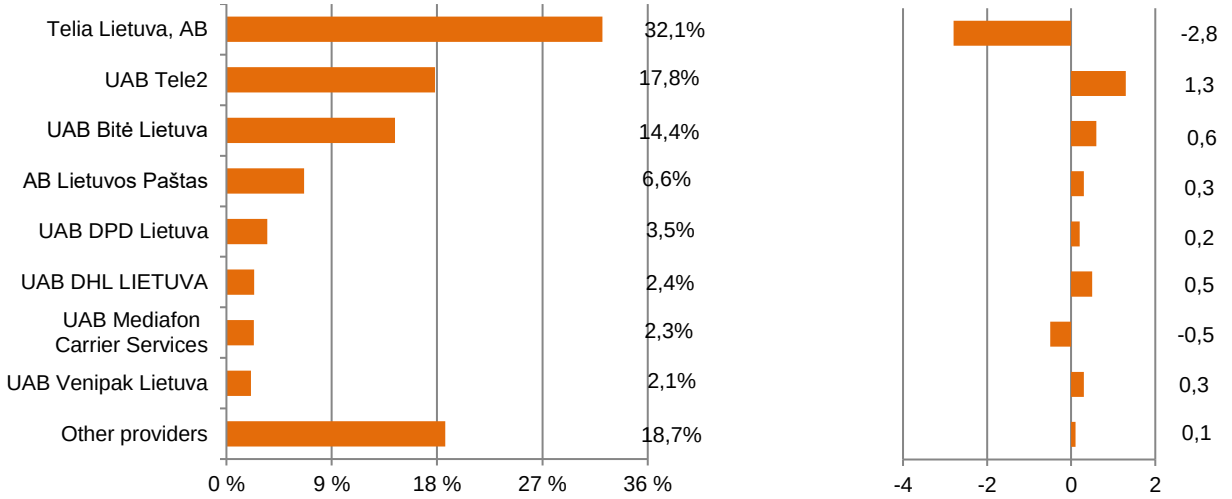
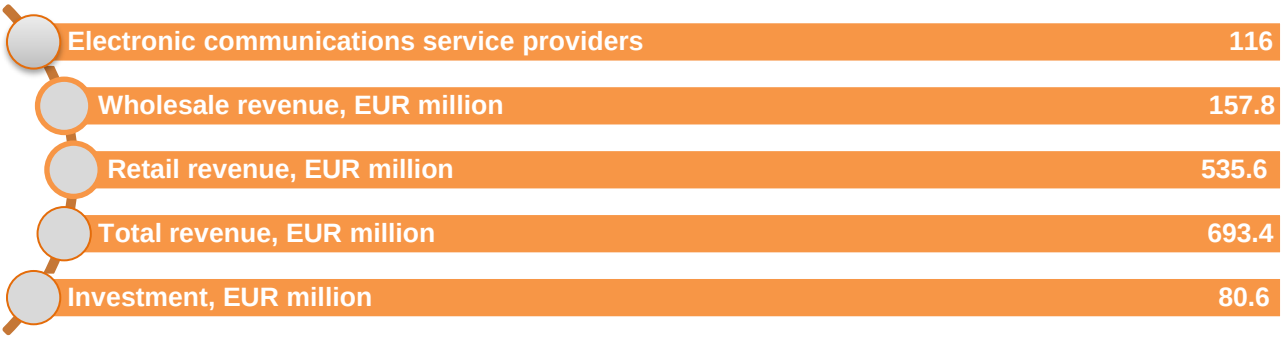


Fig. 2. **2 Market shares of the communications sector service providers by revenue, %, and annual changes of the market shares, pp, 2018**
Source: RRT

Although the number of service providers decreased in 2018, the provision of services meeting the needs of the service users was ensured. In 2018, the competitive services were offered to yet increasing circle of the service users in many service segments by ensuring high quality of the services provided. This resulted in the growth of the annual revenue of the communications sector by 4.4% – growth was demonstrated in both the postal service and electronic communications markets. Such growth certainly shows positive future tendencies. The process of consolidation shows the interest of the undertakings to increase the efficiency of their activities in the sector in order to create additional value to the users in the future.

MARKET OF ELECTRONIC COMMUNICATIONS SERVICES

1. General Overview of the Electronic Communications Market



IMPORTANT!

- In this chapter of the report, other electronic communications service providers shall be all electronic communications service providers, except for UAB Bitė Lietuva, UAB Cgates, AB Lietuvos Radijo ir Televizijos Centras, UAB Mediafon Carrier Services, UAB Tele2 and Telia Lietuva, AB (hereinafter – the other providers).

The market of electronic communications services may be divided into 4 service groups:

- telecommunications services;
- data transmission services;
- television and radio services;
- services of access to physical infrastructure.

Service providers. The number of undertakings engaged in the electronic communications activities decreased by 11 undertakings in 2018 and stood at 116. The largest share was that of data transmission service providers as in the previous year (see Table 2).

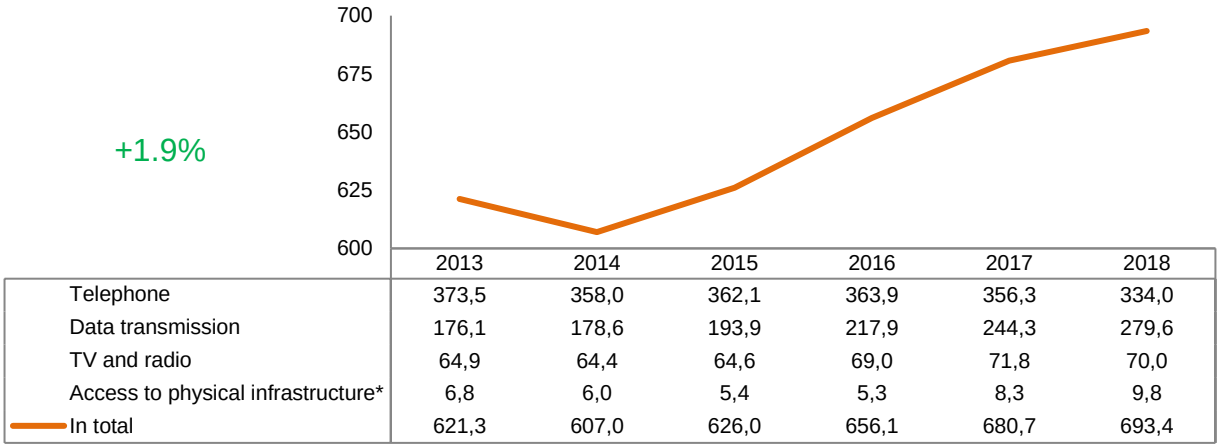
Table 2. **Number of electronic communications service providers that were providing the services, in units, 2013-2018**

	2013	2014	2015	2016	2017	2018
Telecommunications services	56	51	49	53	49	46
Data transmission services	107	110	103	106	93	87
Television and radio services	44	43	43	42	40	41
Services of access to physical infrastructure	17	15	14	15	15	16
All services	**144**	**144**	**135**	**140**	**127**	**116**

Source: RRT

Revenue. The revenue of the electronic communications market has continued to grow in 2018 (see Fig. 3). Compared to 2017, the revenue increased by 1.9% in 2018 and amounted to EUR 693.4 million. It is a slightly more moderate growth than in 2017 (in 2017, the revenue increased by 3.7%). Same as in 2017, most of the revenue was generated by telecommunications (48.2%) and data transmission (40.3%) service providers in 2018. In 2018, the data transmission service providers received revenue in the amount of EUR 35.3 million or by 14.4% more compared to 2017. The lowest part of the revenue was received when

providing the services of access to physical infrastructure in 2018, same as in 2017. The revenue from the provision of service of access to physical infrastructure continued to grow in 2018 – from EUR 8.3 million to EUR 9.8 million or by 18.1%.



	2013	2014	2015	2016	2017	2018
Telephone	373,5	358,0	362,1	363,9	356,3	334,0
Data transmission	176,1	178,6	193,9	217,9	244,3	279,6
TV and radio	64,9	64,4	64,6	69,0	71,8	70,0
Access to physical infrastructure*	6,8	6,0	5,4	5,3	8,3	9,8
In total	621,3	607,0	626,0	656,1	680,7	693,4

* Till 2017, the revenue received only from the access to the dark fibre service is included.

Fig. 3. **Structure of electronic communications market revenue by service groups in EUR million, in 2013-2018**

Source: RRT

In 2018, Telia Lietuva, AB remained a leader of the electronic communications market in terms of revenue, however, its market share decreased by 2.4 percentage point down to 40.0% over the year (see Fig. 4). It is the largest decrease considering the market shares taken by all undertakings providing electronic communications services by percentage points. In 2018, the highest increase in the market share was increased by UAB Tele2 (2.1 percentage point) as well as UAB Bitė Lietuva and UAB Lietuvos Radijo ir Televizijos Centras: by 1.1 and 0.2 percentage point, respectively.

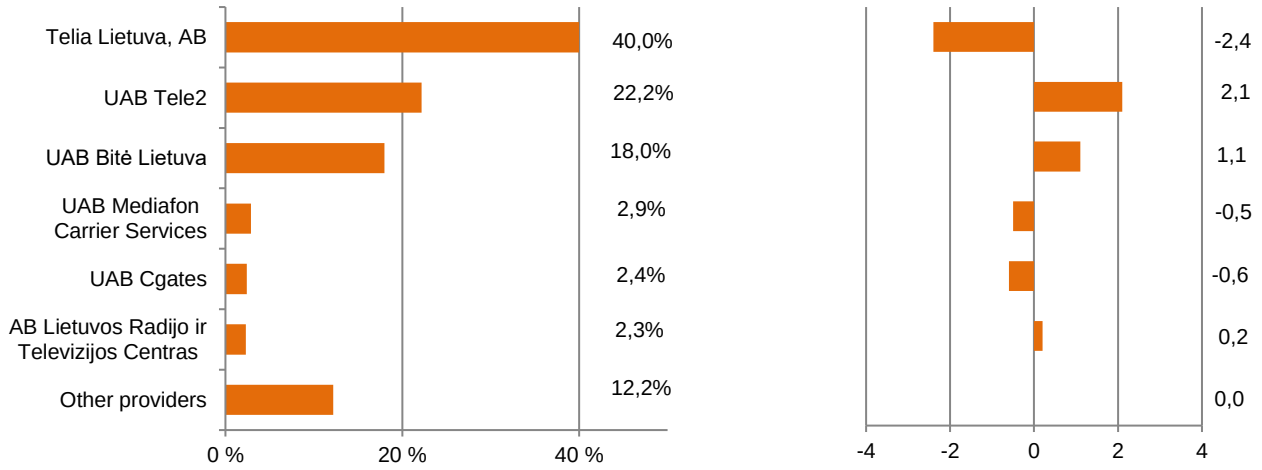
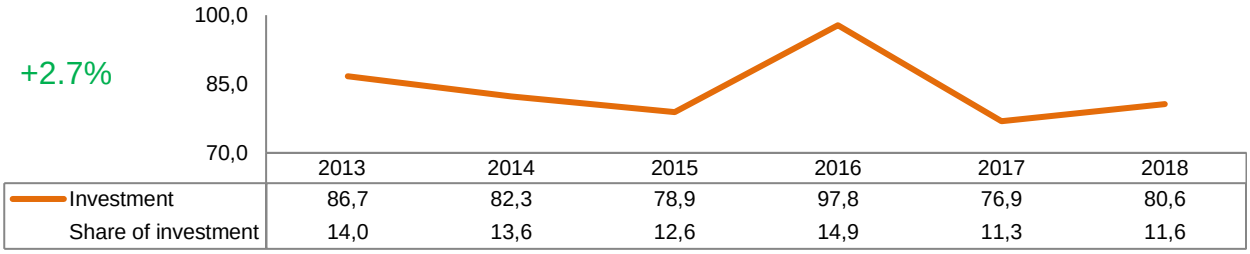


Fig. 4. **Structure of the electronic communications market revenue by service providers, %, and annual changes of the market shares, pp, 2018**
Source: RRT

Investments. Contrary to the situation in 2017, in 2018, the investments in the electronic communications infrastructure increased. In 2018, the service providers invested EUR 80.6 million in the electronic communications infrastructure or by EUR 3.7 million more than in 2017 (see Fig. 5). As in the previous periods, the investments were made mostly in broadband networks: mobile communications 4G

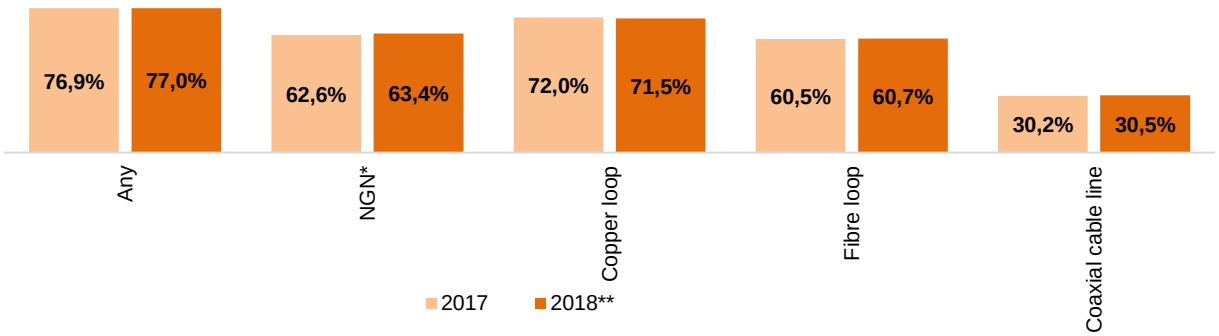
networks (Long Term Evolution, LTE) and optical fibre communication networks. While considering the opportunities of the development of the electronic communications market, it is necessary to take account of the ratio between investment and the total revenue of this market. In 2018, the ratio between investments in the electronic communications infrastructure and the total revenue of this market accounted to 11.6% and it was by 0.3 pp higher compared to 2017.



	2013	2014	2015	2016	2017	2018
Investment	86,7	82,3	78,9	97,8	76,9	80,6
Share of investment	14,0	13,6	12,6	14,9	11,3	11,6

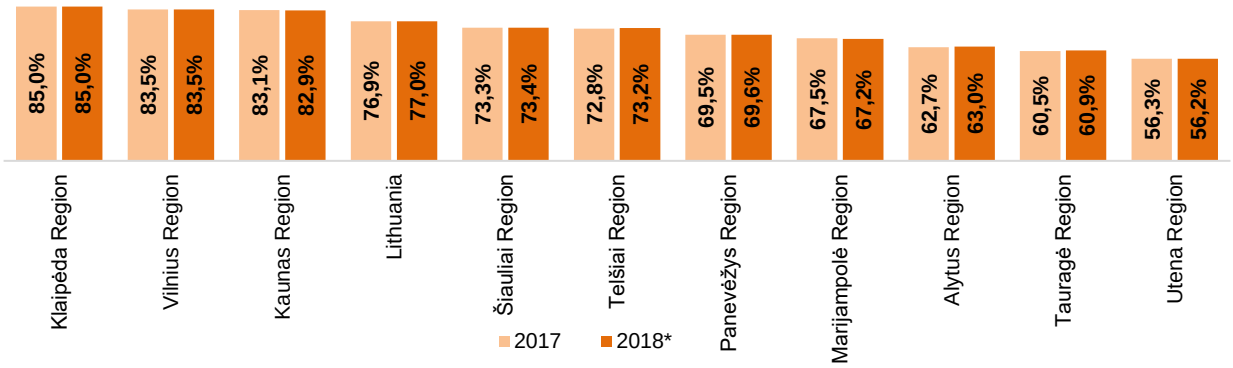
Fig. 5. **Investments in the electronic communications infrastructure, in EUR million, and share of investments in the total revenue of the electronic communications market, %, 2013-2018**
Source: RRT

Development of public fixed communications networks In 2017-2018, in Lithuania, 77.0% of all residential premises were accessed by public fixed communications networks by any lines (copper loops or fibre loops or coaxial cable lines) (see Fig. 6). As compared with 2017, in 2018, the coverage of public fixed communications networks increased by 0.1 percentage points. In 2018, as compared with 2017, the development of new generation network (NGN) increased by 0.8 percentage point – 63.4% of all residential premises were accessed by this network in 2018. It shall be noted that in Lithuania the most developed public fixed communications networks are those based on the copper loops. In 2018, their coverage reached 71.5% of all residential premises and was by 0.5 pp lower than in 2017. As already mentioned in this report, in 2018, the operators made considerable investments in the development of networks on the basis of fibre loops. As a result, in 2018, compared to 2017, the development of these public fixed communications networks increased by 0.2 pp and covered nearly 6.1% of all residential premises.



* NGN – new generation networks covering fibre loop, cooper loop with VDSL technology and coaxial cable line with Docsis 3.x technology.
** preliminary data
Fig. 6. **Development of fixed communications networks in Lithuania by communications lines, %, 2017-2018**
Source: RRT

In 2017-2018, according to the coverage of residential premises, public fixed communications networks were best developed in Klaipėda Region (85.0%), Vilnius region (83.5%) and Kaunas Region (approximately 83%). (see Fig. 7). In these 3 regions, the development of public fixed communications networks exceeded the total coverage of public fixed communications networks of the entire Lithuania. Public fixed communications networks are least developed in Utena, Tauragė and Alytus Regions.



* preliminary data
Fig. 7. **Development of fixed communications networks in Lithuania by regions and in the entire territory of Lithuania, %, 2017-2018**
Source: RRT

In 2017–2018, the public fixed communications network was best developed by Telia Lietuva, AB in Lithuania – its public fixed communications network covered over 76% of all residential premises (see Fig. 8). The second operator with the best developed fixed communications networks in Lithuania was UAB Cgates – fixed communications networks of this operator covered approximately 28% of all residential premises. The growth of fixed public communications networks development of UAB Balticum TV and UAB Penkių Kontinentų Komunikacijų Centras can also be distinguished in 2018 as compared with 2017.

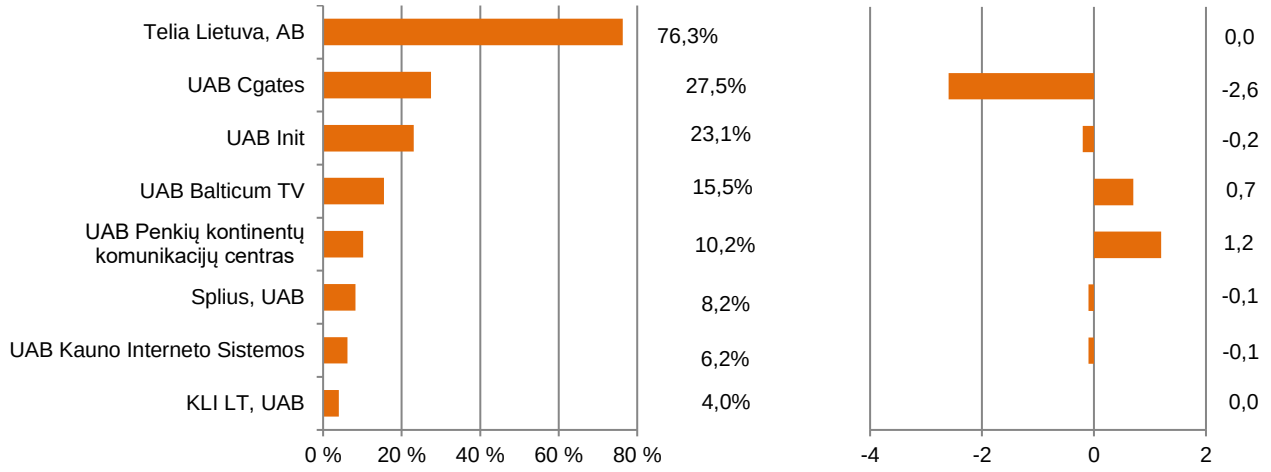
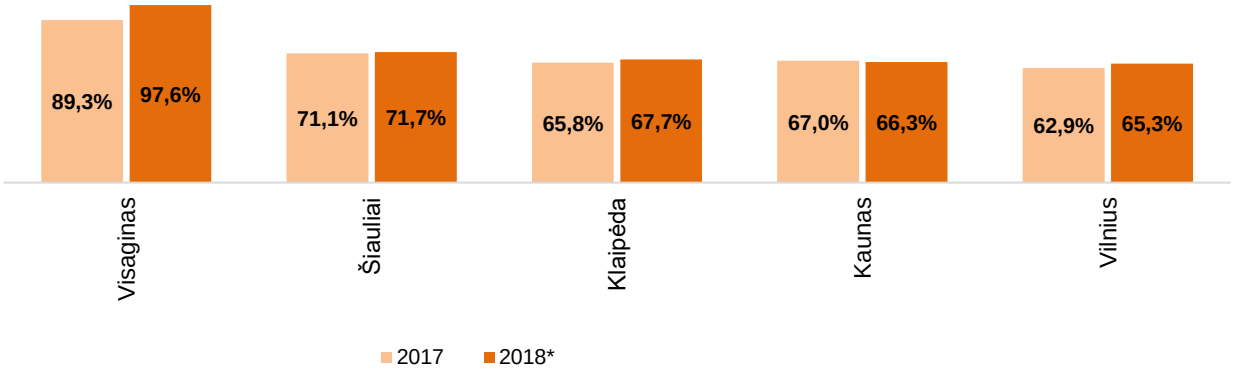


Fig. 8. **Development of fixed communications networks by operators, %, and annual changes of the development of networks, pp, 2018***
* preliminary data
Source: RRT

When analysing the development of public networks, it is important to examine not only the total coverage of premises, but also to evaluate the duplication of these networks. The duplication of networks forms the conditions for the final service recipients, for example, residents or business companies to have a possibility to receive retail electronic communications services from several providers. In 2017-2018, the majority of the same residential premises were reached by at least 3 operators by fixed communications networks in municipalities of Visaginas (89.3-97.6% of all residential premises in that municipality) and the City of Šiauliai (71.1-71.7%) (see Fig. 9). The top 5 with the best accessibility also included 3 largest

municipalities of the Lithuanian cities. It shall be noted that in 2018, compared to 2017, the major growth (in percentage points) of accessibility of fixed communications networks of at least 3 operators in the same residential premises was monitored in Visaginas municipality (8.3 percentage point). In Vilnius City Municipality, such growth reached 2.4 percentage points. In Klaipėda City Municipality, such growth accounted for 1.9 percentage points, however, the accessibility of residential premises did not reach 70%.



* preliminary data

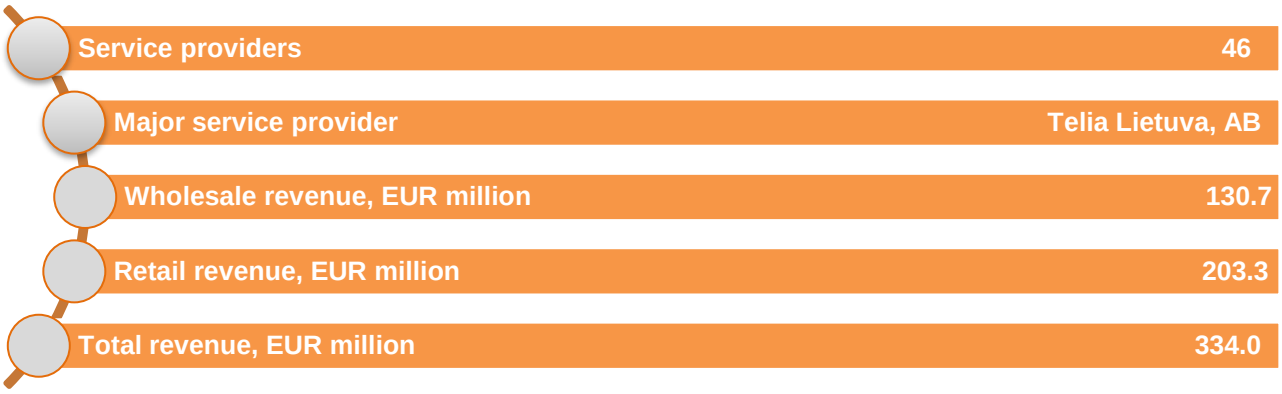
Fig. 9. **Share of residential premises accessed by at least 3 operators by fixed communications networks according to 5 municipalities characterised by the best accessibility, %, 2017-2018**

Source: RRT

In 2018, 116 operators acted in the electronic communications market, i.e. by 11 less than in 2017. In 2018, the revenue of electronic communications market continued to increase – the growth amounted to 1.9% and revenue – EUR 693.4 million. In 2018, the investment increased by EUR 3.7 million to EUR 80.6 million. The growth in data transmission, especially by mobile communications, and access to physical infrastructure segments looks promising. In 2018, in Lithuania, public fixed communications networks were developed in nearly 77% of all residential premises, public fixed communications networks of fibre loop covered nearly 61% of all residential premises. In 2018, the majority of the same residential premises were reached by at least 3 operators by fixed communications networks in municipalities of Visaginas (97.6% of all residential premises in that municipality) and the City of Šiauliai (71.7%). In other municipalities, such coverage did not reach 70%.

2. Telephone service

2.1. General Overview of the Market of Telephone Services



IMPORTANT!

- In this chapter of the Report, other telephone service providers shall be all telephone service providers, except for Telia Lietuva, AB, UAB Tele2, UAB Bitė Lietuva and UAB Mediafon Carrier Services (hereinafter – the other providers).

The telephone services provided in Lithuania in 2018 can be classified into retail public mobile and fixed telephone services and wholesale public communications networks provision and public telephone services (hereinafter – interconnection services).

Service providers. At the end of 2018, telephone services were provided by 46 undertakings, i.e. by 3 less than at the end of 2017. Telephone services providers represented more 39.7% of all 116 undertakings engaged in electronic communications activities. As much as 32 telephone services providers, i.e. 69.6% of all undertakings engaged in telephone services, provided public fixed telephone services.

Revenue. In 2018, income for telephone services accounted for EUR 334.0 million, i.e. 6.3% less than in 2017 (see Fig. 10). Although the tendency of decrease in the income of all telephone communications services (mobile, fixed communications and interconnection services) was observed for a second year in a row, such income still accounted for the largest share of all revenue from electronic communications market (48.2%).

	2013	2014	2015	2016	2017	2018
Total revenue	373,5	358,0	362,1	363,9	356,3	334,0
Mobile communications services	213,4	189,1	179,0	174,8	173,6	168,8
Fixed communication services	62,6	53,8	47,8	44,2	39,9	34,5
Interconnection services	97,5	115,1	135,4	144,9	142,7	130,7

Fig. 10. **Revenue from telephone services, in EUR million, 2013-2018**
Source: RRT

In 2018, same as during the entire period 2013-2018, the major share (50.5%) of revenue was received from retail public mobile services (see Fig. 11). In 2018, compared to 2017, the share of revenue received from retail public mobile telephone services increased by 1.8 percentage points according to total revenue.

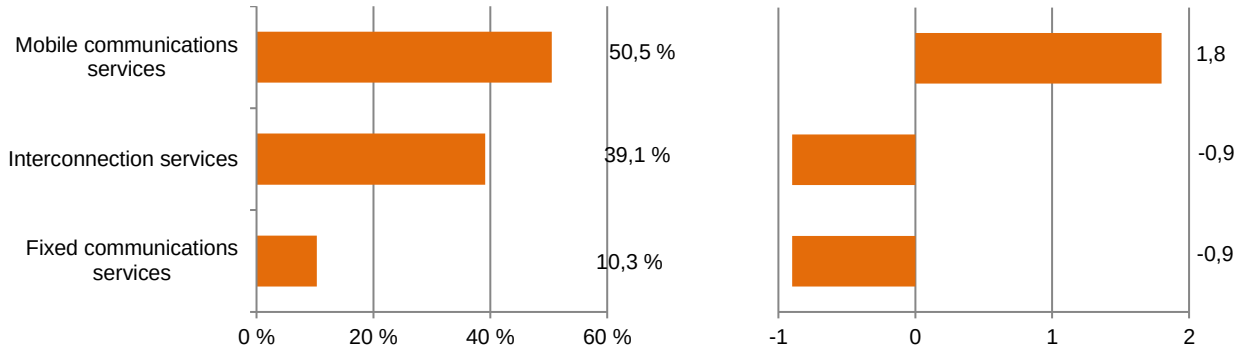


Fig. 11. **Structure of revenue from telephone services by groups of services, %, and annual changes of the revenue structure, pp, 2018**
Source: RRT

In 2018, the revenue of four major telecommunications services providers accounted for 94.4% of all revenue received for telephone services. Such revenue slightly decreased (by 0,5 percentage points) over a year. In 2018, same as in 2017, the major share of revenue for telephone services was received by Telia Lietuva, AB – 37.6% of all revenue from telephone service (see Fig. 12). The market share of this undertaking decreased by 2.4 percentage point over the year. The market share of UAB Tele2 increased by 1.6% and represented 28.3% according to revenue in 2018.

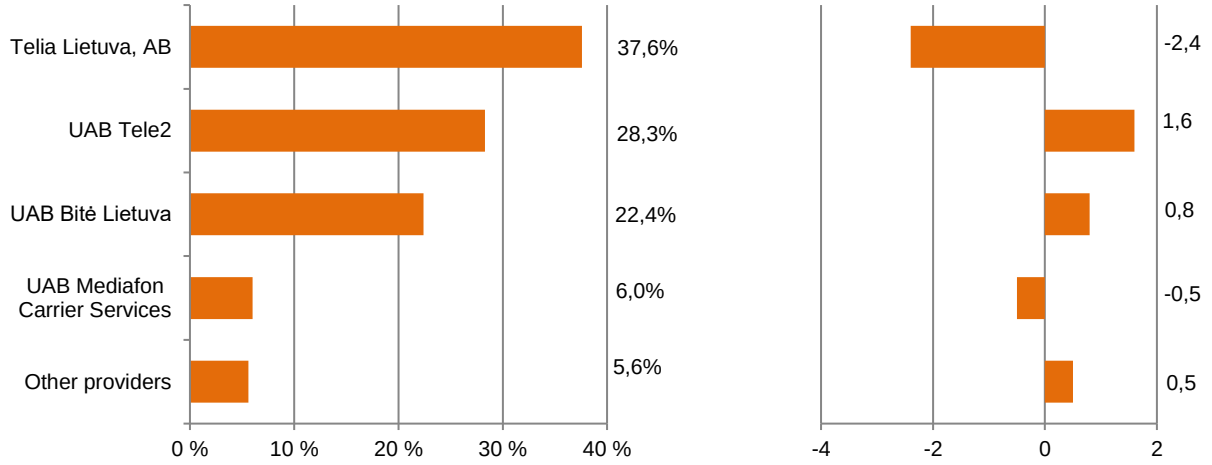


Fig. 12. **Structure of revenue from telephone services by service providers, %, and annual changes of the revenue parts, pp, 2018**
Source: RRT

In 2018, the market of telephone services was further shrinking in terms of revenue. Although the tendency of decrease in revenue of all groups of telephone services has been observed for a second year in a row, however, as compared to 2013, only the revenue received from mobile (20.9%) and fixed (44.9%) telephone services decreased, whereas the revenue from interconnection services increased by 34.1%.

2.2. Public Mobile Telephone Services

IMPORTANT!

- In this chapter of the report other public mobile telephone service providers shall be all public mobile telephone voice service providers, except for UAB Bitė Lietuva, Telia Lietuva, AB, and UAB Tele2 (hereinafter – the other providers).

Public mobile telephone services consist of local[1], international[2] and international roaming[3] calls via public mobile communications networks, where Lithuanian users of public mobile telephone services use roaming services in foreign countries (hereinafter – the roaming calls). This chapter also includes the Short Message Service (SMS) and Multimedia Messaging Service (MMS) sending services.

The data transmission services via the mobile network by means of both phones and computers are included in chapter 'Data Transmission'.

Service providers. At the end of 2018, public mobile telephone services were provided by 15 undertakings: 3 undertakings were providing public mobile telephone services over their own network, 4 service providers had concluded the wholesale service agreements with the mobile operators, the remaining 8 undertakings were reselling the services provided by other public mobile telephone service providers to the service users.

Service users. At the end of 2018, public mobile telephone services were provided to approximately 3.8 million active SIM cards[4] (see Table 3). The number of active SIM cards went up by 2.1% over the year. The number of active SIM cards per 100 residents (mobile service penetration) grew by 3.5 pp due to a higher number of active SIM cards and lower number of residents in 2018, and at the end of 2018, 100 residents shared 135.2 SIM (Subscriber Identification Module) cards.

In 2018, the major share (64.6%) consisted of active SIM cards which were paid under invoices (hereinafter – post-paid) rather than in advance (hereinafter – pre-paid) (see Table 3). Since 2013, the continuous trend in growing of the number of post-paid SIM cards came about. In 2017, the number of such SIM cards grew by 7.6% or 172.0 thousand units and totalled 2,440.2 thousand. Accordingly, the use of pre-paid SIM cards was going down on the market (6.7% or 96.1 thousand). Such trends could have been induced by so-called flat rate service plans applied by the service providers, where a certain duration of local

[1] Local calls shall mean the calls originated and terminated in Lithuanian public mobile and fixed communications operator networks.
[2] International calls shall mean the calls originated in Lithuanian public mobile and fixed communications operator networks and terminated in foreign operator networks.
[3] International roaming calls shall mean the calls originated by service users of Lithuanian public mobile communications network operators in foreign countries.
[4] The number of service users indicated in this part of the report corresponds to the number of active SIM cards (used for providing voice calls, SMS and/or MMS services). An active SIM card shall mean a card which has been used to initiate a telecommunications event in the last 3 months (initiated or accepted call, sent or received a short text message or another service used).

calls (or unlimited calls to all networks of Lithuania) and international calls and a certain amount of additional services (SMS/MMS/ data transmission services) are offered for a regular charge.

Table 3. **Structure of the number of active SIM cards used to provide public mobile telephone services by service providers and method of payment, in thousands, 2013-2018**

	2013	2014	2015	2016	2017	2018
UAB Bitė Lietuva	872.5	846.3	840.2	812.4	880.0	870.0
*Pre-paid**	*420.6*	*398.6*	*385.7*	*356.8*	*338.4*	*301.5*
*Post-paid***	*452.0*	*447.7*	*454.5*	*455.6*	*541.6*	*568.5*
Telia Lietuva, AB	1,283.0	1,095.0	1,016.3	975.7	1,033.6	1,108.2
Pre-paid	*633.6*	*439.3*	*351.3*	*305.8*	*277.3*	*262.6*
Post-paid	*649.5*	*655.7*	*665.0*	*670.0*	*756.3*	*845.5*
UAB Tele2	1,824.1	1,780.5	1,713.2	1,724.5	1,704.2	1,715.2
Pre-paid	*1,022.2*	*959.9*	*893.5*	*863.8*	*815.7*	*771.3*
Post-paid	*802.0*	*820.6*	*819.7*	*860.7*	*888.5*	*943.8*
Other providers	86.0	78.2	79.6	87.5	82.5	82.8
Pre-paid	*13.0*	*1.3*	*1.3*	*1.3*	*0.7*	*0.4*
Post-paid	*73.0*	*76.8*	*78.3*	*86.2*	*81.8*	*82.4*
All providers	**4,065.7**	**3,800.0**	**3,649.3**	**3,600.1**	**3,700.3**	**3,776.1**
Pre-paid	*2,089.3*	*1,799.1*	*1,631.8*	*1,527.7*	*1,432.0*	*1,335.9*
Post-paid	*1,976.4*	*2,000.8*	*2,017.5*	*2,072.4*	*2,268.2*	*2,440.2*

**Pre-paid* – pain in advance.
***Post-paid* – paid under invoice
Source: RRT

The evaluation of the breakdown of the number of public mobile telephone service users by providers shows that the number of active SIM cards of UAB Bitė Lietuva (see Table 3) decreased in 2018, whereas number of active SIM cards of Telia Lietuva, AB, UAB Tele 2 went up. UAB Tele2, by the number of active SIM cards, held the largest share of the market (45.4%) in 2018. 38.7% of all post-paid and 57.7% of all pre-paid SIM cards belonged to this operator.

Number portability service. In 2018, the number portability service was used by 165.9 thousand service users, which constituted 4.4% of all public mobile telephone services users (see Table 4). It shall be noted that in 2018, this service was used by as much as 30.9 thousand service users more than in 2018. The growth in demand for the number portability service shows that the service users are looking for the most favourable offers.

Table 4. **Flows of ported numbers by service providers, in units, in 2018**

	To	From	**Balance sheet**
UAB Tele2	58,633	51,937	**6,696**
Telia Lietuva, AB	40,780	43,090	**-2,310**
UAB Bitė Lietuva	51,025	55,101	**-4,076**
Other providers	15,468	15,778	**-310**

Source: RRT

In 2018, as in 2017, the major part of service users that used the number portability service came to UAB Tele2 network (35.3%), and UAB Bitė Lietuva network was left by most subscribers (33.2%).

Revenue. In 2018, compared to 2017, the revenue from public mobile telephone services shrank by 2.8% or EUR 4.8 million and stood at EUR 168.8 million (see Fig. 13). In 2018, this revenue accounted for

one of the largest shares of the electronic communications service market revenue (24.3%). The decrease trend in the revenue received for public mobile telephone services has been observed during the period 2013-2018.

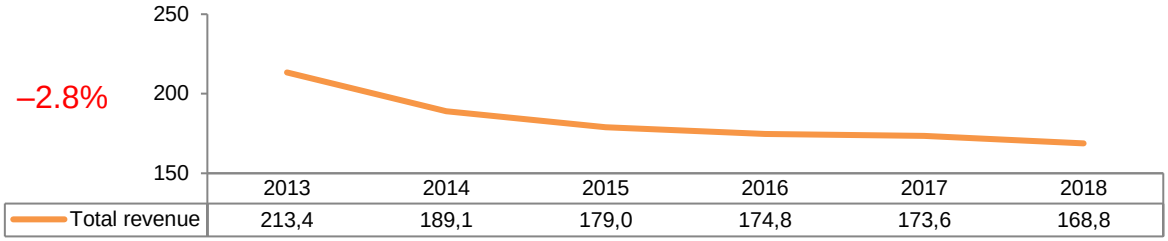


Fig. 13. **Revenue from public mobile telephone services, in EUR million, 2013-2018**
Source: RRT

In 2018, the largest market share (40.3%) by revenue from public mobile telephone services was held by UAB Tele2, as in 2017. The market share of Telia Lietuva, AB increased most significantly (see Fig. 14).

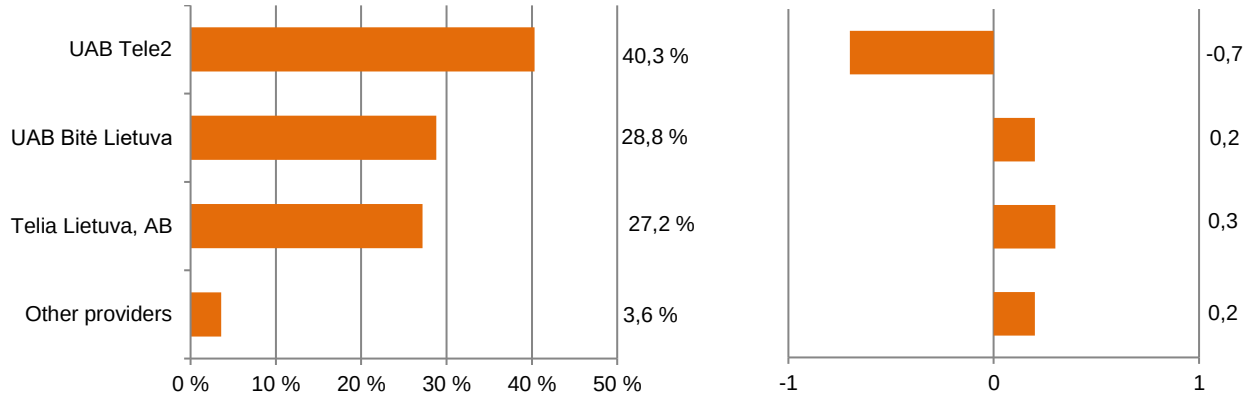


Fig. 14. **Structure of revenue from public mobile telephone services by service providers, %, and annual changes of the revenue shares, pp, 2018**
Source: RRT

The average revenue per user (ARPU) a month for public mobile telephone services was decreasing in 2018 (EUR 0.2) and it stood at EUR 3.7 per month (see Table 5). It shall be noted that the ARPU fluctuations were not considerable during the period 2013-2018: from EUR 3.5 to EUR 4.0 per month.

Table 5. **ARPU for public mobile telephone services, in EUR per month, 2013-2018***

	2013	2014	2015	2016	2017	2018
ARPU for public mobile telephone services	4.0	3.7	3.6	3.5	3.9	3.7

**Since 2017, a more precise number of active SIM cards used only for voice calls, SMS and/or MMS services is used in the calculations.*
Source: RRT

2.2.1 Mobile Telephone Voice Services

Call Duration. Duration of calls originated by Lithuanian public mobile telephone service users was further increasing in 2018. The duration of originated calls went up by 0.9% in 2018, compared to 2017, or by 77.4 million minutes and totalled 8,792.5 million minutes (see Fig. 15). In 2018, the Lithuanian public mobile telephone voice service users originated 97.0% of the calls by duration in Lithuania. The duration of such calls has not changed practically in 2018, as compared with 2017 (increased by 0.04%). The duration of calls originated in foreign countries increased considerably, where the Lithuanian public mobile telephone service users, when being abroad, were using the roaming services (39.6%).

	2013	2014	2015	2016	2017	2018
LR originated calls	7699,9	8181,5	8405,1	8567,2	8529,1	8532,8
Roaming calls	38,3	44,1	53,7	86,4	186,1	259,7
Originated calls, total	7738,2	8225,6	8458,8	8653,6	8715,1	8792,5

Fig. 15. **Duration of calls originated by Lithuanian public mobile telephone voice service users, in million minutes, 2013-2018**
Source: RRT

As regards to the breakdown of the duration of the calls originated by the Lithuanian public mobile telephone service users by providers, the longest duration (48.6%) remained that of the calls originated by UAB Tele2 service users in 2018 (see Table 6).

Table 6. **Duration of calls originated by Lithuanian public mobile telephone voice service users by service providers, in million minutes, 2013-2018**

	2013	2014	2015	2016	2017	2018
UAB Tele2	3,571.8	3,877.9	4,045.3	4,127.9	4,216.7	4,272.5
Telia Lietuva, AB	2,148.8	2,157.6	2,240.8	2,318.5	2,347.2	2,364.0
UAB Bitė Lietuva	1,761.7	1,930.7	1,947.3	1,972.3	1,939.4	1,945.5
Other providers	217.6	215.3	225.3	234.9	211.9	210.4
All providers	**7,699.9**	**8,181.5**	**8,458.7**	**8,653.6**	**8,715.1**	**8,792.5**

Source: RRT

When assessing the call structure, the call destinations must be taken into account as well. The following destinations of the calls originated in the Lithuanian public mobile communications networks are singled out: where the calls are terminated in own network, by short and service numbers, in other public mobile communications networks, in public fixed communications networks and in foreign operators' networks. The major part (53.7%) of all public mobile telephone calls were terminated in the own network and in other Lithuanian public mobile networks (41.5%) in 2018 (see Table 7). In 2018, the duration of the public mobile telephone calls which were terminated in other public mobile and fixed communications networks increased by 3.0% and 3.9%, accordingly.

Table 7. **Structure of the duration of calls originated in Lithuanian public mobile communications networks by call destination, in million minutes, 2013-2018***

	2013	2014	2015	2016	2017	2018
Terminated in own network	5,226.7	5,144.7	4,969.3	4,866.7	4,692.3	4,580.0
Terminated by short-number and service calls	-	-	-	-	31.7	35.3
Terminated in other public mobile communications networks	2,224.5	2,755.9	3,114.6	3,346.8	3,439.4	3,541.0
Terminated in public fixed communications networks	177.9	222.3	269.0	304.3	320.3	332.7
Terminated in foreign operators' networks	70.8	58.6	52.2	49.4	45.4	43.9
Total call duration	**7,699.9**	**8,181.5**	**8,405.1**	**8,567.2**	**8,529.1**	**8,532.8**

**Since 2017 the short-number calls or other premium or toll-free calls are excluded.*
Source: RRT

When analysing the call structure by the method of payment, most calls in Lithuania were originated by service users (legal and natural entities) which paid for the services under invoices (post-paid)

in 2018 – this represented 79.7% of the total duration of originated calls (see Table 8). The duration of such calls grew by 2.7% in 2018, compared to 2017.

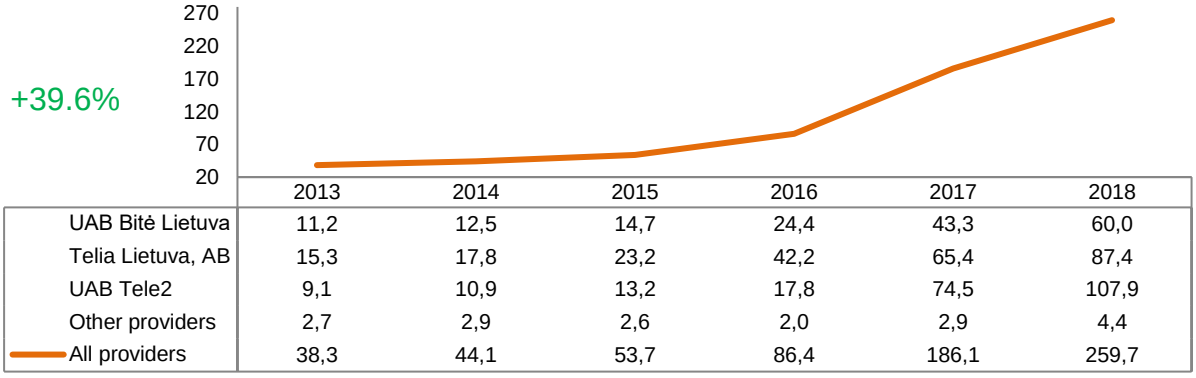
Table 8. **Structure of the duration of calls of various destinations originated in Lithuanian public mobile communications networks by method of payment and type of service users, in million minutes, 2017-2018**

	2017			2018		
	*Pre-paid**	*Post-paid***		*Pre-paid*	*Post-paid*	
		Natural	Legal		Natural	Legal
Terminated in own network	1,309.2	2,489.0	894.2	1,139.3	2,586.6	854.0
Terminated by short-number and service calls	1.4	17.5	12.8	1.9	19.9	13.6
Terminated in other public mobile communications networks	535.3	2,117.6	786.5	526.9	2,250.7	763.4
Terminated in public fixed communications networks	60.5	183.1	76.7	64.0	193.2	75.5
Terminated in foreign operators' networks	5.0	12.4	13.8	3.2	14.3	26.3
All originated	**1,911.4**	**4,819.6**	**1,798.1**	**1,735.4**	**5,064.7**	**1,732.8**

**Pre-paid* – paid in advance.
***Post-paid* – paid under invoice.
Source: RRT

The duration of calls originated in foreign countries, where the Lithuanian public mobile telephone service users, when being abroad, were using the roaming services, increased by 6.8 times as compared with 2013. This was mostly contributed by the increasing duration of mobile communications voice calls originated by the service users of the Lithuanian operators, which have travelled to the EU countries under the principle of international roaming communication services prices 'Roam Like At Home'.

UAB Tele2 remained the leader of roaming services by the duration of calls where service users of Lithuanian public mobile telephone service providers were calling while being abroad in 2018 (see Fig. 16). In 2018, by means of SIM cards of this operator, 41.6% of all roaming calls were originated. The duration of roaming calls originated by means of UAB Tele2 SIM cards increased by 44.9% or by 33.4 million minutes over 2018.

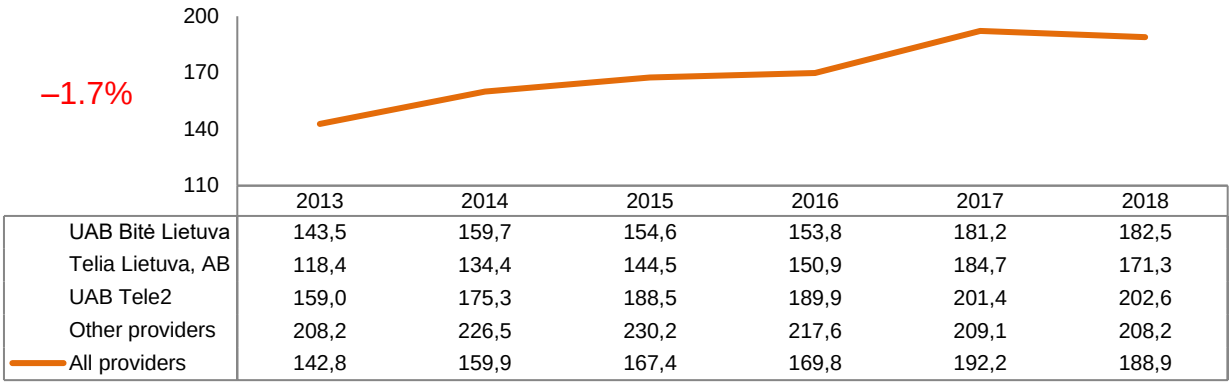


	2013	2014	2015	2016	2017	2018
UAB Bitė Lietuva	11,2	12,5	14,7	24,4	43,3	60,0
Telia Lietuva, AB	15,3	17,8	23,2	42,2	65,4	87,4
UAB Tele2	9,1	10,9	13,2	17,8	74,5	107,9
Other providers	2,7	2,9	2,6	2,0	2,9	4,4
All providers	38,3	44,1	53,7	86,4	186,1	259,7

Fig. 16. **Duration of calls originated by Lithuanian public mobile telephone service users using roaming services by service providers, in million minutes, 2013-2018**
Source: RRT

As regards to the calls originated in Lithuania public mobile communications networks, without differentiating call destinations, the average monthly call duration per service user was 188.9 minutes in 2018 (slightly more than 3 hours), i.e., by 3.3 minutes shorter than in 2017 and that was the first decrease in the duration of calls originated in Lithuania during the period 2013-2018 (see Fig. 17). The average longest duration of the calls (202.6 minutes or 3.4 hours) was of the UAB Tele2 service user in 2018. It must be

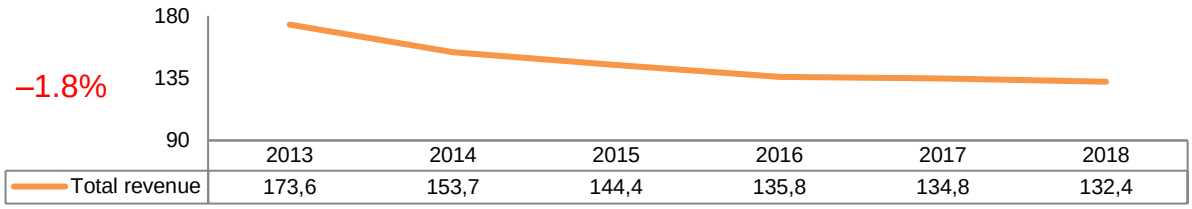
noted that in 2018, compared to 2017, the most decrease in the average monthly duration of calls was observed in Telia Lietuva, AB: 7.3% or 13.4 min. The average monthly call duration per post-paid service user was 236.5 minutes in 2018 (natural person – 242.5 minutes, legal person – 220.5 minutes), and the duration per pre-paid service user was 105.6 minutes.



	2013	2014	2015	2016	2017	2018
UAB Bitė Lietuva	143,5	159,7	154,6	153,8	181,2	182,5
Telia Lietuva, AB	118,4	134,4	144,5	150,9	184,7	171,3
UAB Tele2	159,0	175,3	188,5	189,9	201,4	202,6
Other providers	208,2	226,5	230,2	217,6	209,1	208,2
All providers	142,8	159,9	167,4	169,8	192,2	188,9

Fig. 17. **Average monthly duration of calls originated by a single Lithuanian public mobile telephone service user by service providers, in minutes, 2013-2018**
Source: RRT

Revenue. In 2018, compared to 2017, the revenue from public mobile telephone voice services went down by 1.8% or EUR 2.4 million (see Fig. 18). It shall be noted that the revenue decrease trend has been observed since 2013.



	2013	2014	2015	2016	2017	2018
Total revenue	173,6	153,7	144,4	135,8	134,8	132,4

Fig. 18. **Revenue from public mobile telephone voice services, in EUR million, 2013-2018**
Source: RRT

Since one operator does not separate the revenue from local and international calls, it is very difficult to assess the structure of the revenue received by public mobile telephone voice service providers by call destinations. However, when analysing the roaming call segment, it must be noted that the major share of total revenue (15.2%) for roaming calls was held by Telia Lietuva, AB, whereas the smallest share was that of UAB Bitė Lietuva (see Table 9).

Table 9. **Structure of revenue received by public mobile telephone voice service providers by call destinations, %, 2018**

	Local calls	International calls	International roaming calls
UAB Bitė Lietuva	76.9	14.6	8.5
Telia Lietuva, AB	68.1	16.7	15.2
UAB Tele2	90.5		9.5
Other providers	70.7	16.7	12.6

* UAB Tele2 does not separate the revenue from local and international calls.
Source: RRT

ARPU. In 2017, the growth of monthly average revenue from one subscriber received from public mobile telephone voice services was conditioned by a more precise number of active SIM cards used only for voice calls, SMS and/or MMS services included in the calculations. In 2018, ARPU decreased by EUR 0.1 and amounted to EUR 2.9 per month. It constituted 78.4% of ARPU for all public mobile telephone

services (see Table 10). Although revenue from public mobile telephone service users paying for the services under the invoices (post-paid) was nearly 2.1 times higher than of pre-paid users, in 2018, the further growth in the number of service users paying under the invoices was recorded (7.6%). It can be concluded that the difference between the service users' expenditure when paying under invoices or in advance is not significant, and the choice is determined by flat rate service plans which corresponded to the service users' needs and helped them to forecast their expenses.

Table 10. **ARPU for public mobile telephone voice services by way of settlement, in EUR per month, 2013–2018**

	2013	2014	2015	2016	2017	2018
ARPU for public mobile telephone voice services	3.2	3.0	2.9	2.7	3.0	2.9
From post-paid*	*4.7*	*4.1*	*3.7*	*3.4*	*4.1*	*3.6*
From pre-paid**	*1.5*	*1.5*	*1.6*	*1.5*	*1.4*	*1.7*
ARPU for all public mobile telephone services	4.0	3.7	3.6	3.5	3.9	3.7

**Pre-paid* – pain in advance.
***Post-paid* – paid under invoice.
Source: RRT

The comparison of ARPU received by major operators for public mobile telephone voice services shows that in 2018, as in 2017, the lowest ARPU was that of UAB Tele2 (EUR 2.4), the highest ARPU was of UAB Bitė Lietuva (EUR 3.7) (see Table 11).

Table 11. **ARPU for public mobile telephone voice services by providers, in EUR per month, 2013-2018**

	2013	2014	2015	2016	2017	2018
UAB Bitė Lietuva	3.9	3.5	3.2	3.4	3.9	3.7
Telia Lietuva, AB	2.9	3.0	2.9	2.9	3.5	3.2
UAB Tele2	3.0	2.8	2.7	2.4	2.4	2.4
Other providers	3.1	2.5	2.0	1.9	2.6	2.6
All providers	**3.2**	**3.0**	**2.9**	**2.7**	**3.0**	**2.9**

Source: RRT

Prices. During the period between 2013 and 2018, the so-called flat rate service plans were prevailing in Lithuania, where a certain duration of local calls (or unlimited calls to all networks of Lithuania) and a certain amount of additional services (SMS data transmission services) were offered for a certain regular charge. Where different mobile telephone flat rate service plans are offered on the market, it is difficult to exclude the price of public mobile telephone voice services from the total price offered in the plan. However, having calculated the average prices of voice services (the ratio between revenue for such services and duration of respective calls subject to received revenue), the trend of the price decrease has been observed from 2013 to 2017. In 2018, the average price of voice services did not change. In 2018, as compared with 2017, it can be seen that neither the total nor the average price of voice services of Telia Lieuva, AB, and other providers showed any changes, the price of UAB Bitė Lietuva and UAB Tele 2 decreased by EUR 0.1 cent per minute in 2018 (see Table 12).

Table 12. **Calculated average public mobile telephone voice service prices by service providers, in euro cent per minute, 2013-2018**

	2013	2014	2015	2016	2017	2018
UAB Bitė Lietuva	2.7	2.2	2.0	1.9	2.1	2.0
Telia Lietuva, AB	2.5	2.2	2.0	1.9	1.8	1.8
UAB Tele2	1.9	1.6	1.4	1.3	1.2	1.1
Other providers	1.4	1.1	0.8	0.9	1.2	1.2

All providers	**2.2**	**1.8**	**1.7**	**1.6**	**1.5**	**1.5**

Source: RRT

Quality. In order to inform on the quality of electronic communications services RRT carries out the evaluation tests of the public mobile telephone service quality indicators[5] in relation to UAB Bitė Lietuva, Telia Lietuva, AB, and UAB Tele2 public mobile communications networks operating in Lithuania. The following criteria are taken into account when carrying out the tests: share of unsuccessful calls of voice calls, call setup time, voice transmission quality and share of interrupted calls. Voice transmission quality is expressed in MOS score[6]: the highest the score, the higher the quality of the service. It can be seen by different service providers that in 2018 the quality of services was high and differed insignificantly (see Table 13).

Table 13. **Average MOS value of transmission quality of public mobile telephone voice services by service providers, in scores, 2017-2018**

	2017	2018
UAB Bitė Lietuva	3.40	3.45
Telia Lietuva, AB	3.03	3.29
UAB Tele2	3.24	3.22

Source: RRT

2.2.2 Mobile Telephone SMS and MMS Services

Short messaging service (SMS), as the calls, have a feedback option. In 2018, SMS remained one of the most popular means of communication although the demand for this service decreased. The popularity of multimedia messaging service *(*MMS) – with an option allowing to send a video message which may be supplemented by audio features and text – increased. Despite greater possibilities of MMS, the popularity of this service, is still lower than that of SMS.

Number of SMS and MMS. The number of SMS has been going down during the analysed period (see Table 14). In 2018, the decrease accounted for 11.4%. A single public mobile telephone service user sent 88 SMS per month on an average in 2018 (by 13 SMS fewer than in 2017), i.e. by 2.9 SMS per day.

Table 14. **Number of sent SMS, in million units, and MMS, in thousand units, and market shares of service providers, %, 2013-2018**

	2013	2014	2015	2016	2017	2018
Number of sent SMS, in million units	**7,068.3**	**7,107.9**	**6,350.2**	**5,259.3**	**4,489.7**	**3,978.0**
UAB Tele2	*42.2*	*48.0*	*51.3*	*53.9*	*56.8*	*56.7*
Telia Lietuva, AB	*25.9*	*22.8*	*22.5*	*21.5*	*21.7*	*22.6*
UAB Bitė Lietuva	*31.4*	*28.5*	*25.1*	*22.9*	*19.7*	*18.9*
Other providers	*0.5*	*0.7*	*1.1*	*1.7*	*1.8*	*1.9*
Number of sent MMS, in thousand units	**6,229.6**	**6,785.3**	**8,071.5**	**9,430.7**	**10,944.3**	**13,128.4**
UAB Tele2	*52.3*	*47.7*	*47.4*	*46.3*	*47.7*	*49.7*
Telia Lietuva, AB	*27.9*	*28.4*	*30.3*	*30.9*	*27.1*	*23.2*

[5] For more information, see RRT website at: https://www.rrt.lt/wp-content/uploads/2019/04/2018m-JRPK-ataskaita-telefonija-registruota.pdf

[6] Voice transmission quality is a figure which shows the quality of a voice transmitted over the network during a successful call expressed in MOS scores: from 1 to 4.5" excellent quality is >3.7, good quality – from 3.2 to 3.7, satisfactory quality – from 2.3 to 3.2, poor quality – from 1.6 to 2.3, bad quality – <1.6 score. MOS assessment is carried out by means of specific software installed in RRT measurement equipment that uses the broadband voice transmission quality rating P.863-SWB 'POLQA'.

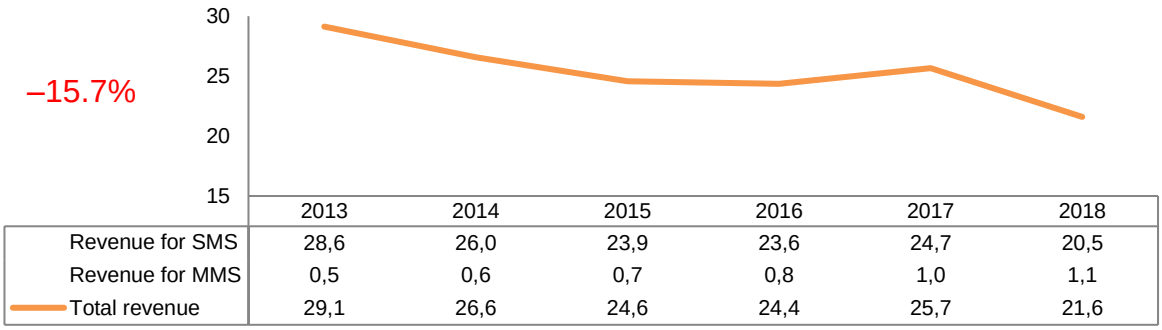
UAB Bitė Lietuva	*17.7*	*19.8*	*16.5*	*15.5*	*21.0*	*22.3*
Other providers	*2.1*	*4.1*	*5.8*	*7.4*	*4.2*	*4.8*

Source: RRT

In 2018, 13.1 million MMS were sent in public mobile communications networks and this is the largest amount in six years (see Table 16) and 2.1 times higher than in 2013. In 2018, the number of sent MMS was higher by 20.0% than in 2017. Despite the growing number of sent MMS, the number of MMS per subscriber is small – a single public mobile telephone service user sent 0.3 MMS on an average in 2018.

While analysing the structure of SMS and MMS services by the number of sent messages and their breakdown by service providers, it is obvious that service users of UAB Tele2 have been sending the largest number of SMS and MMS for six consecutive years (see Table 16).

Revenue. In 2018, the revenue received from sent SMS and MMS messages decreased by 15.7% and equalled EUR 21.6 million (see Fig. 19). In 2018, the major part of this revenue, 94.9%, was represented by the revenue from sent SMS. Compared to all revenue from public mobile telephone services, the revenue from SMS accounted for 14.2% of the total revenue[7]. The decrease in revenue from SMS was caused by re-allocation of the revenue from mobile communications service of UAB Tele2.



	2013	2014	2015	2016	2017	2018
Revenue for SMS	28,6	26,0	23,9	23,6	24,7	20,5
Revenue for MMS	0,5	0,6	0,7	0,8	1,0	1,1
Total revenue	29,1	26,6	24,6	24,4	25,7	21,6

Fig. 19. **Revenue from SMS and MMS, EUR million, 2013-2018**

Source: RRT

Prices. Following the re-allocation of revenue from the mobile communications service performed by UAB Tele2, the calculated average price of SMS services (ratio between revenue from such services and number of sent SMS) stood at 0.52 euro cent in 2018, i.e., by 0.3 euro cent less than in 2017. The calculated average SMS prices of UAB Bitė Lietuva, Telia Lietuva, AB, and UAB Tele2 differed in 2018: the difference between the highest and lowest calculated average SMS prices on the market amounted to 0.31 euro cent. Service users of UAB Bitė Lietuva had to pay 0.73 euro cent per sent SMS, which was the highest price to be paid, whereas the lowest price (0.42 euro cent) for sending SMS was applied by Telia Lietuva, AB in 2018. The average revenue received by other providers per sent SMS stood at 1.54 euro cent.

The average calculated price of sending MMS (ratio between services and number of sent MMS) stood at 8.5 euro cent in 2018. The largest difference between the highest and lowest calculated average MMS price applied by the major mobile communications operators stood at 11.1 euro cent. UAB Bitė Lietuva service users had to pay the highest price for sending an MMS, i.e., 15.2 euro cent; the lowest price was paid by Telia Lietuva, AB, service users – 4.1 euro cent. UAB Tele2 service users had to pay 8.2 euro cent for sending MMS in 2018. The calculated average price of other providers per sent MMS stood at 1.1 euro cent.

[7] All revenue from public mobile telephone services includes the revenue from calls, SMS, MMS and other revenue.

The increasing duration of calls, number of active SIM cards and decreasing revenue show more effective competition in the public mobile telephone voice services. The service users could chose attractive service plans that formed conditions for the use of high-quality services and to pay slightly less for such services than in 2017.

2.3. Public Fixed Telephone Services

IMPORTANT!

- In this chapter of the report other public fixed telephone service providers shall be all public fixed telephone service providers, except Telia Lietuva, AB, UAB CSC Telecom, UAB Baltnetos Komunikacijos, UAB Cgates indicated in Figure 20, Telia Lietuva AB indicated in Table 16, Tables 18-20 and Figure 21, Telia Lietuva AB and UAB Baltnetos Komunikacijos indicated in Figure 23 (hereinafter – the other providers).

Public fixed telephone services consist of local and international calls via public fixed communications networks.

Service providers. At the end of 2018, the public fixed telephone services were provided by 32 undertakings, i.e., by 3 undertakings fewer than at the end of 2017. Both at the end of 2018 and 2017, 30 undertakings indicated that they provided public fixed telephone services by means of VoIP (Voice Over Internet Protocol) technology.

Service users. The total number of public fixed telephone service users decreased by 12.2% or 59.4 thousand in 2018 and at the end of 2018 it stood at 426.5 thousand service users (see Table 15). The service users received public fixed telephone services via public fixed telephone lines by means of PSTN (Public Switched Telephone Network), ISDN (Integrated Services Digital Network) and VoIP technologies. It must be noted that the number of service users does not correspond to the number of lines as public fixed telephone services may be provided to several service users via a single line by means of different technologies. In 2018, the number of used public fixed telephone lines decreased by 13.1% or by 62.2 thousand lines and the total number equalled 412.1 thousand lines. Due to the shrinking number of lines, the penetration of communications lines via which the public fixed telephone services were provided decreased as well. At the end of 2018, as many as 14.8 lines per 100 residents were available.

Table 15. **Number of public fixed telephone service users and of used lines, in thousands, and penetration (per 100 residents and 100 households), %, 2013-2018**

	2013	2014	2015	2016	2017	2018
Number of lines, in thousand units	**614.5**	**574.5**	**553.4**	**521.9**	**474.3**	**412.1**
Line penetration (per 100 residents), %	*20.9*	*19.7*	*19.4*	*18.3*	*16.9*	*14.8*
Line penetration (per 100 households), %	*47.0*	*44.2*	*43.4*	*41.0*	*37.8*	*30.7*
Number of service users, thousand units	**624.8**	**585.5**	**560.8**	**529.9**	**485.9**	**426.5**
Natural persons	*449.8*	*416.3*	*396.8*	*374.7*	*333.7*	*282.1*
Legal persons	*175.0*	*169.2*	*164.0*	*155.2*	*152.2*	*144.5*
Service users' penetration (per 100 residents), %	*21.2*	*20.0*	*19.7*	*18.6*	*17.3*	*15.3*
Service users' penetration (per 100 households), %	*47.8*	*45.1*	*44.0*	*41.7*	*38.7*	*31.8*

Source: RRT

The greatest share of the number of public fixed telephone service users (66.1%) was comprised by natural persons in 2018 (see Table 15). In 2018, compared to 2017, the number of natural persons using public fixed telephone services dropped by 15.5% or by 51.7 thousand and the number of legal persons – by 5.1% or by 7.7 thousand.

In 2018, the market share of Telia Lietuva AB was the largest by the number of public fixed telephone service users and represented 82.9% (see Fig. 20). As compared with 2017, its market share decreased by 2.5 percentage points. The major growth in the market shares was demonstrated by UAB CSC telecom and other providers (except for UAB CSC Telecom, UAB Baltnetos Komunikacijos and UAB Cgates) – by 0.7 and 1.1 percentage points, respectively.

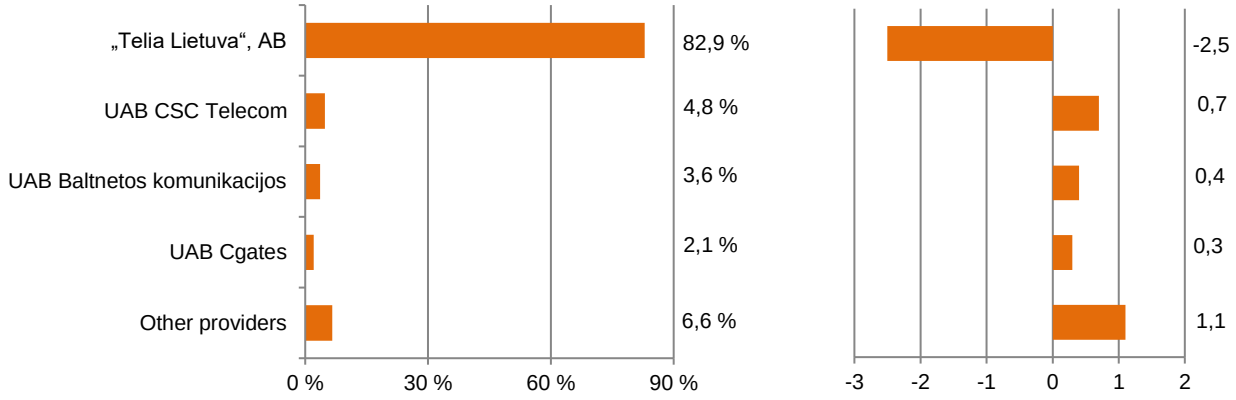


Fig. 20. **Structure of public fixed telephone services market by the number of service users, %, and the annual changes of market shares, pp, 2018**
Source: RRT

The number of users of public fixed telephone services provided by Telia Lietuva, AB went down by 14.8% or by 61.5 thousand in 2018, compared to 2017 (see Table 16). The number of users of services provided by other service providers increased by 3.0% or 2.1 thousand over 2018.

Table 16. **Number of public fixed telephone service users by service providers, in thousands, and by types of service users, %, 2013-2018**

	2013	2014	2015	2016	2017	2018
Telia Lietuva, AB	**564.1**	**524.7**	**499.3**	**464.8**	**414.9**	**353.4**
Natural persons	*77.1*	*76.3*	*75.9*	*76.0*	*74.8*	*72.5*
Legal persons	*22.9*	*23.7*	*24.1*	*24.0*	*25.2*	*27.5*
Other providers	**60.7**	**60.8**	**61.4**	**65.1**	**71.0**	**73.1**
Natural persons	*24.4*	*26.2*	*28.6*	*32.6*	*32.7*	*35.5*
Legal persons	*75.6*	*73.8*	*71.4*	*67.4*	*67.3*	*64.5*

Source: RRT

The decreasing overall number of service users resulted in the changes in the market structure by a type of service users (see Table 16). The number of natural entities using public fixed telephone services provided by Telia Lietuva, AB dropped by 17.5% and stood at 256.1 thousand in 2018. For this reason, the market share held by Telia Lietuva, AB in the segment of services provided to natural entities decreased by 2.4 pp and stood at 90.8% of the overall market. The number of natural entities using public fixed telephone services provided by other providers grew by 11.9% and stood at 2.8 thousand service users in 2018, compared to 2017.

The number of legal entities using public fixed telephone services provided by Telia Lietuva, AB and other providers dropped by 6.8% (7.1 thousand) and 1.4% (0.6 thousand) in 2018. Telia Lietuva, AB whose public fixed telephone services were used by 97.3 thousand legal entities at the end of 2018 held 67.3% of the market of public fixed telephone services provided to legal persons.

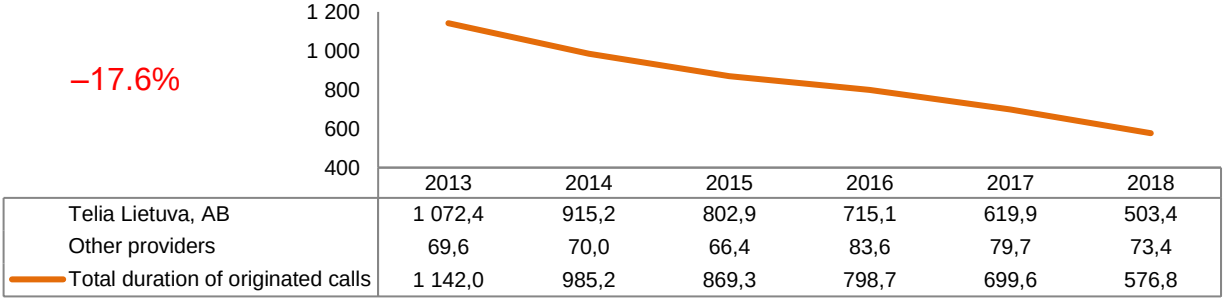
Number portability service. In 2018, this service was used 10.7 thousand times, i.e., by 40.3% more than in 2017 (see Table 17). A major share (8.1 thousand or 76.1%) of telephone numbers were ported to another network from Telia Lietuva, AB network. 0.4 thousand telephone numbers were ported from the networks of other providers to Telia Lietuva, AB network.

Table 17. **Number of ported numbers by service providers, in units, in 2018**

	To	From	**Balance sheet**
UAB CSC Telecom	6,945	359	**6,586**
UAB Nacionalinis Telekomunikacijų Tinklas	1,640	204	**1,436**
Teledema SIP, UAB	592	3	**589**
UAB Tele2	480	27	**453**
UAB Ecofon	117	5	**112**
AB Lietuvos Radijo ir Televizijos Centras	58	43	**15**
UAB Voxbone	0	1	**-1**
UAB Mediafon Carrier Services	477	1,911	**-1,434**
Telia Lietuva, AB	375	8,128	**-7,753**

Source: RRT

Call Duration. The size of the market of public fixed telephone services, in terms of the duration of originated calls, has been further decreasing. In 2018, the major negative change in the duration of calls originated by public fixed telephone service users was recorded (17.6%) during the entire researched period (see Fig. 21). The duration of calls initiated by using pre-paid cards showed a considerable decrease. In 2018, it reached 0.5 million minutes, i.e. by 46.0% less than in 2017. The market of public fixed telephone services, in terms of the duration of calls originated in the networks of different providers, maintained the same positions in 2018 as in the previous year: the major market share (87.3%) was held by Telia Lietuva, AB; however, its market share has shrunk by 6.6 pp since 2013.



	2013	2014	2015	2016	2017	2018
Telia Lietuva, AB	1 072,4	915,2	802,9	715,1	619,9	503,4
Other providers	69,6	70,0	66,4	83,6	79,7	73,4
Total duration of originated calls	1 142,0	985,2	869,3	798,7	699,6	576,8

Fig. 21. **Duration of calls originated by public fixed telephone service users by service providers, in million minutes, 2013-2018**
Source: RRT

The dynamics of the duration of calls originated by the users of services provided by Telia Lietuva, AB by call destinations during the period between 2013 and 2018 shows that users of services of Telia Lietuva AB made increasingly less calls in their own network (see Table 18). In 2018, as compared with 2017, the share of calls originated in this networks and made to other public fixed and mobile telephone networks increased by 3.6 percentage point (amounted 35.2% in 2018). In 2018, the duration of calls in own Telia Lietuva, AB network went down by 23.1% or 91.5 million minutes.

Table 18. **Structure of the duration of calls originated in individual public fixed telephone communications networks by call destination, in million minutes, 2013-2018**

Telia Lietuva, AB	2013	2014	2015	2016	2017	2018
Terminated in own network	914.1	726.2	591.8	497.1	395.1	303.6
Short-number and service calls	-	-	-	-	11.8	9.5
Terminated in other public fixed communications networks	19.6	21.0	22.5	23.3	23.2	22.0
Terminated in public mobile communications networks	111.2	144.1	167.3	175.8	172.5	154.9
Terminated in foreign operators' networks	27.5	23.9	21.3	18.9	17.2	13.3
Other providers						
Terminated in own network	13.1	12.8	13.7	16.9	11.0	10.5
Short-number and service calls					0.4	0.5
Terminated in other public fixed communications networks	22.4	23.8	22.5	24.5	23.0	21.8
Terminated in public mobile communications networks	21.2	20.5	20.5	21.4	20.7	23.4
Terminated in foreign operators' networks	12.9	12.9	9.7	20.9	24.6	17.1
All providers						
Terminated in own network	927.2	739	605.5	514	406.1	314.2
Short-number and service calls					12.3	10.0
Terminated in other public fixed communications networks	42.0	44.8	45	47.8	46.3	43.9
Terminated in public mobile communications networks	132.4	164.6	187.8	197.2	193.2	178.3
Terminated in foreign operators' networks	40.4	36.8	31	39.8	41.8	30.4

**Since 2017 the short-number calls or other premium or toll-free calls are excluded.*
Source: RRT

The duration of calls originated by the users of other service providers and terminated in own network represented one of the smallest parts in 2018 (10.5%). It must be noted that it was only the duration of the calls originated by the users of other service providers and terminated in public mobile communications networks that was increasing in 2018: 13.3% or 2.8 million minutes (see Table 18).

Revenue. In 2018, the revenue from public fixed telephone services went down by 13.6% or EUR 5.4 million and amounted to EUR 34.5 million (which constituted 5.0% of the total revenue of the electronic communications market) (see Fig. 22).

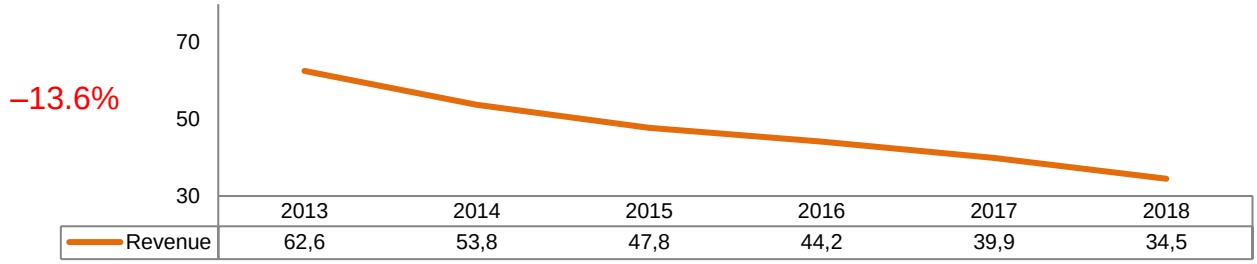


Fig. 22. **Revenue from public fixed telephone services, in EUR million, 2013-2018**
Source: RRT

When evaluating the structure of the revenue from public fixed telephone services by providers, the decreasing trend of the revenue received by all service providers from public fixed telephone services has been observed since 2013 already. In 2018, compared to 2017, the revenue received by Telia Lietuva, AB from the provision of public fixed telephone voice services dropped by 14.5% or by EUR 5.3 million. Telia Lietuva, AB, having received the revenue of EUR 31.2 million, held 90.4% of the overall market of public fixed telephone voice services in 2018 (see Fig. 23). UAB Baltnetos Komunikacijos held 2.8% of the market or by 0.3 percentage points more in 2018 compared to 2017.

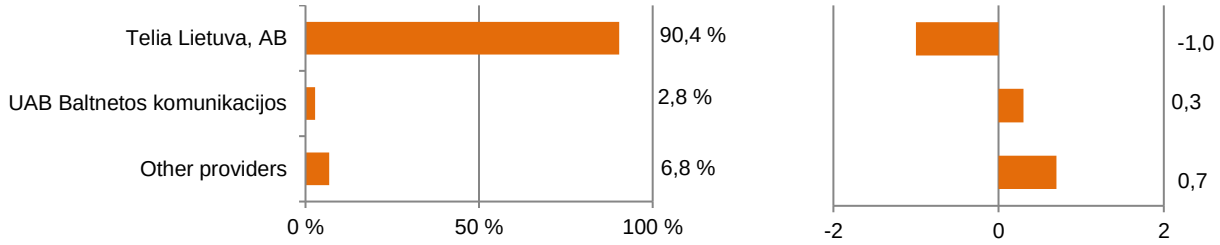


Fig. 23. **Structure of revenue from fixed mobile telephone services by service providers, %, and annual changes of the revenue shares, pp, 2018**
Source: RRT

ARPU. The average revenue from public fixed telephone services per subscriber per month (ARPU) dropped by 3.8% and accounted for EUR 6.4 in 2018, compared to 2017 (see Table 19). In 2018, ARPU was decreasing not only in the segment of legal persons (10.0%), but also in the segment of natural persons (1.7%). During the period between 2013 and 2018, ARPU from both legal persons (27.8%) and natural persons (23.9%) was going down. This may be associated with favourable conditions in terms of competition in the segment of both legal and natural persons in the segment.

Table 19. **ARPU for public fixed telephone services by service providers and type of service users, in EUR per month, 2013-2018**

	2013	2014	2015	2016	2017	2018
ARPU for public fixed telephone services*	8.3	7.6	7.1	7.0	6.6	6.4
ARPU by users						
Natural persons	*7.1*	*6.5*	*6.0*	*5.8*	*5.5*	*5.4*
Legal persons	*11.5*	*10.4*	*9.7*	*9.9*	*9.2*	*8.3*
ARPU by providers						
Telia Lietuva, AB	*9.1*	*8.8*	*8.1*	*7.5*	*7.0*	*6.9*
Other providers	*4.5*	*4.0*	*3.7*	*3.6*	*4.3*	*3.9*

* Including the revenue from subscriber lines.

Source: RRT

In 2018, same as in 2017, ARPU from public fixed telephone services exceeded ARPU from public mobile telephone voice services by 1.7 times. As ARPU does indirectly reflect average monthly expenses of a single service user as well, it follows that not only because of functionality of fixed and mobile telephone

voice services, but also due to ARPU difference in terms of such services, public mobile telephone voice services are more attractive to service users and this may be defined as one of the reasons for the market of public fixed telephone services to be rapidly shrinking.

Prices. The calculated average prices of different public fixed telephone service providers in 2018 (ratio between revenue for such services and duration of calls that revenue was received from) per minute of a local and international call changed insignificantly (see Table 20). In 2018, compared to 2017, the calculated average price per minute of a local call originated in the network of Telia Lietuva, AB increased by 0.1 euro cent or by 5.5%, while the calculated average prices of the said services provided by other providers went down by 0.2 euro cent or by 10.5%.

Table 20. **Calculated average public fixed telephone service prices by service providers, in euro cent per minute, 2013-2018**

Local call	2013	2014	2015	2016	2017	2018
Telia Lietuva, AB	2.0	2.2	2.3	2.4	2.5	2.6
Other providers	2.1	2.0	2.0	1.7	1.3	1.1
All providers	2.0	2.2	2.3	2.4	2.4	2.5
International call						
Telia Lietuva, AB	12.7	12.1	11.8	12.4	12.2	13.2
Other providers	8.0	7.1	8.3	5.8	6.0	6.6
All providers	11.2	10.4	10.7	8.9	8.6	9.5

Source: RRT

The analysis of calculated average prices per international call minute by service providers shows that the lowest calculated average prices were those of other providers (6.6 euro cent per minute) in 2018 as in the previous year. It grew by 0.6 euro cent or by 10.2% over the year. The prices of the services provided by Telia Lietuva, AB increased by 1.0 EUR or 8.0% (see Table 20).

In 2018, the market of public fixed telephone services was further shrinking in terms of both the number of service users and call duration, as well as in terms of revenue. The duration of calls originated by users of public fixed telephone services decreased by 49.5% as compared with 2013.

2.4. Wholesale Services of the Provision of Public Communications Networks and Wholesale Public Telecommunications Services

2.4.1 General Overview of the Market

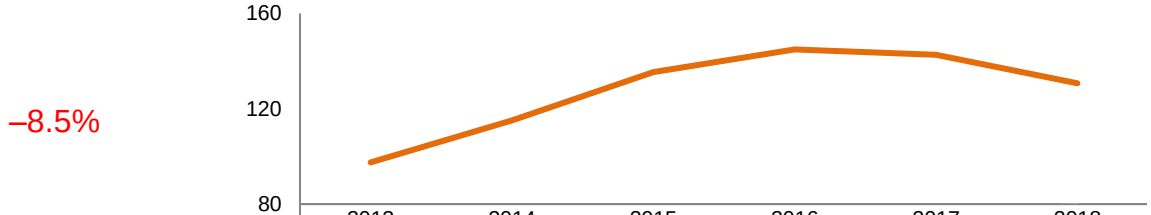
Service providers	15
Major service provider	Telia Lietuva, AB
Wholesale revenue, EUR million	130.7

IMPORTANT!

- In this chapter of the Report, other interconnection service providers shall be all interconnection service providers, except for Telia Lietuva, AB, UAB Tele2, UAB Bitė Lietuva, UAB Mediafon Carrier Services, UAB Ecofon (hereinafter – the other providers).

The wholesale public communications networks and wholesale public telephone services are wholesale services necessary to enable the provision of retail public telephone services. Such services include the following services provided to other service providers: call origination, call transit and call termination provided in public fixed and/or mobile communications networks, roaming services provided to foreign public mobile telephone service providers so that their service users were able to use public mobile telephone services while being in Lithuania, as well as other revenue received from wholesale public communications network provision and public telephone services.

Revenue. The revenue from the networks interconnection activities that had been increasing since 2013 stopped in 2017 and in 2018 the received revenue decreased by 8.5% and amounted to EUR 130.7 million as compared to revenue received in 2017 (see Fig. 24). The part of the revenue from the networks interconnection in the overall structure of the revenue of the electronic communications service market shrank by 2.1% and accounted for 18.8%.



	2013	2014	2015	2016	2017	2018
Total revenue	97,5	115,1	135,4	144,9	142,7	130,7
Termination in mobile networks	33,7	37,7	41,3	46,6	44,2	47,2
Termination in fixed networks	3,0	3,0	3,1	3,1	2,5	1,6
Call transit	40,2	51,9	67,5	70,3	73,8	56,4
Roaming calls	5,0	4,5	4,6	6,3	9,2	10,3
Other revenue	15,6	17,9	18,8	18,6	13,0	15,1

Fig. 24. **Structure of revenue received from networks interconnection services by service groups, in EUR million, 2013-2018**
Source: RRT

The decrease in revenue from interconnection activity was conditioned by the decrease in the revenue from call transit by EUR 17.4 million (23.6%) as compared with revenue in 2017. The revenue from call transit services has accounted for the major part of the revenue from networks interconnection services.

In 2018, the part of such revenue in terms of the total revenue from networks interconnection services went down by 8.5 percentage points. The revenue from transit services constituted 43.2% of the total revenue of networks interconnection services in 2018.

In 2018, the market share of UAB Tele2 showed the most rapid growth according to revenue from networks interconnection activities – by 3.5 percentage point (see Fig. 25). Although the market share of Telia Lietuva, AB decreased by 4.4 percentage points in 2018, it constituted the largest part of revenue (37.2%).

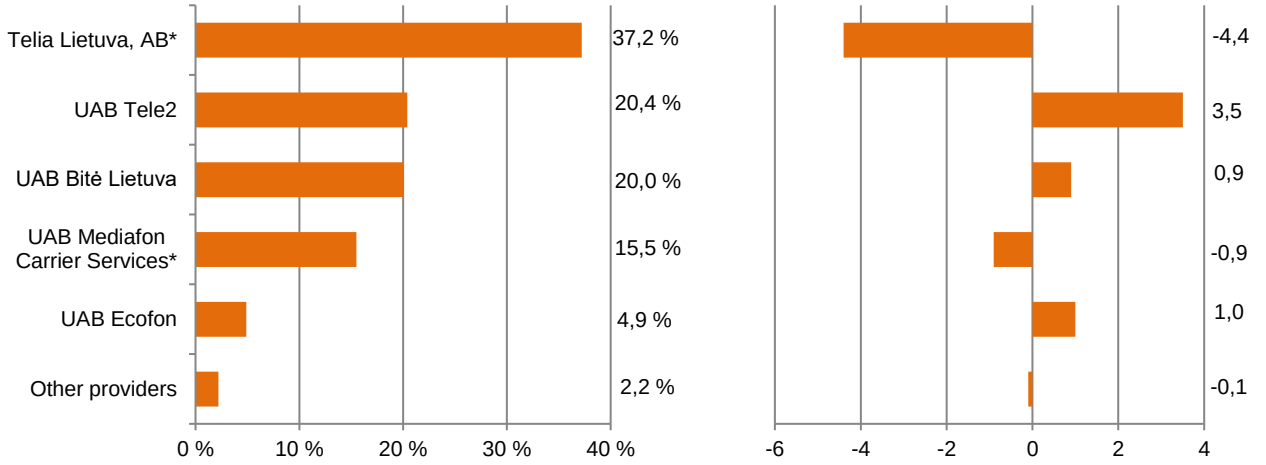


Fig. 25. **Structure of the networks interconnection services market in terms of revenue received by service providers, %, and annual changes of the market shares, pp, 2018**
Source: RRT

Although revenue from networks interconnection services decreased by 8.5% in 2018, however, it constituted a relatively considerable part of total revenue of electronic communications market (18.8%). 79.3% of all income received for networks interconnection services were revenue from call termination in mobile communications networks and call transit services.

2.4.2 Call transit services

Service providers	10
Major service provider	UAB Mediafon Carrier Services
Duration of calls, billion minutes	1.6
Wholesale revenue, EUR million	56.4

IMPORTANT!

- The call transit services discussed in this section include pure transit only, i.e., where the calls are not originated or terminated in the network where a transit service is provided.
- In this section of the report, other call transit service providers shall be all call transit service providers, except for Telia AB, UAB Mediafon Carrier Services, UAB Bitė Lietuva, UAB Nacionalinis Telekomunikacijų Tinklas, UAB Raystorm, UAB Ecofon indicated in Figure 27; Telia Lietuva, AB, UAB

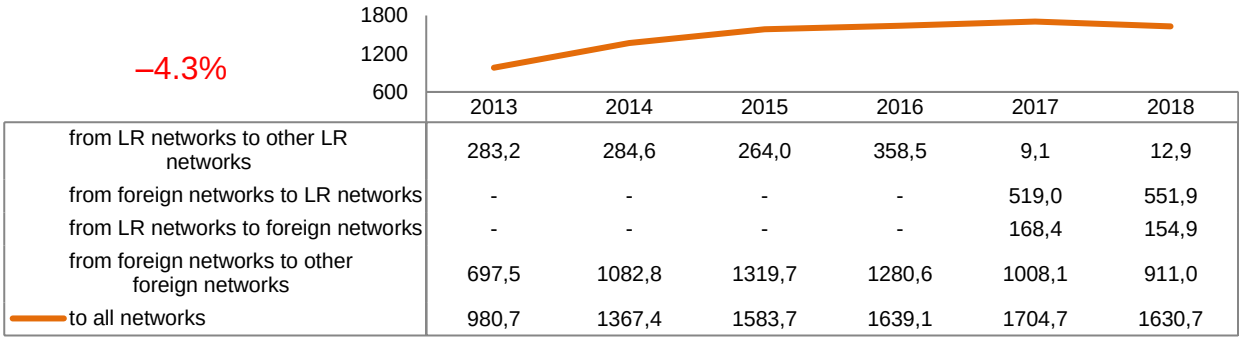
Mediafon Carrier Services, UAB Bitė Lietuva, UAB Ecofon indicated in Figure 29 (hereinafter – the other providers).

The call transit service is important to public telephone service providers with a view to make a more efficient use of the available network and financial resources and have alternative ways of sending calls. Call transit services make it possible to transfer calls inside the country, send calls originated inside the country to foreign countries, as well as to transfer calls from abroad to a specific public communications network in Lithuania. Calls which are neither originated nor terminated in Lithuania may be also forwarded by transit.

Service providers. At the end of 2018, call transit services were provided by 10 undertakings[8], i.e. the same as at the end of 2017.

Duration of transferred calls. Where assessing the duration of calls forwarded by transit by call destinations, the following call transit services are singled out, where calls are forwarded as follows: 1) from public communications networks of the Republic of Lithuania to other public communications networks of the Republic of Lithuania, 2) from public communications networks of the Republic of Lithuania to foreign operators' networks, 3) from foreign operators' networks to the public communications networks of the Republic of Lithuania, 4) from foreign operators' networks to other foreign operators' networks via the territory of the Republic of Lithuania.

In 2018, the duration of calls forwarded by transit to foreign operators' public communications networks shrank (9.4%), whereas the duration of calls forwarded by transit to other public telephone communications networks of the Republic of Lithuania increased (7.0%). Irrespective of this, the trend remained that the largest share (65.4%) of calls forwarded by transit in 2018 was forwarded to public communications networks of foreign operators (see Figure 26).



	2013	2014	2015	2016	2017	2018
from LR networks to other LR networks	283,2	284,6	264,0	358,5	9,1	12,9
from foreign networks to LR networks	-	-	-	-	519,0	551,9
from LR networks to foreign networks	-	-	-	-	168,4	154,9
from foreign networks to other foreign networks	697,5	1082,8	1319,7	1280,6	1008,1	911,0
to all networks	980,7	1367,4	1583,7	1639,1	1704,7	1630,7

Fig. 26. **Duration of calls forwarded by transit to public communications networks of Lithuanian and foreign operators, in million minutes, 2013-2018**
Source: RRT

The largest share on the market of call transit by the duration of forwarded calls (43.5%) was held by UAB Mediafon Carrier Services in 2018 – its share increased by 4.1 pp over the year (see Fig. 27). The largest decrease in the market share was that of Telia Lietuva, AB: 2.6 percentage points and reached 29.3%.

[8] Telia Lietuva, AB, UAB Bitė Lietuva, UAB Ecofon, UAB Mediafon ,UAB Mediafon Carrier Services, UAB Nacionalinis Telekomunikacijų Tinklas, UAB Raystorm, UAB TCG Telecom, UAB Teleksas, SA Voxbone.

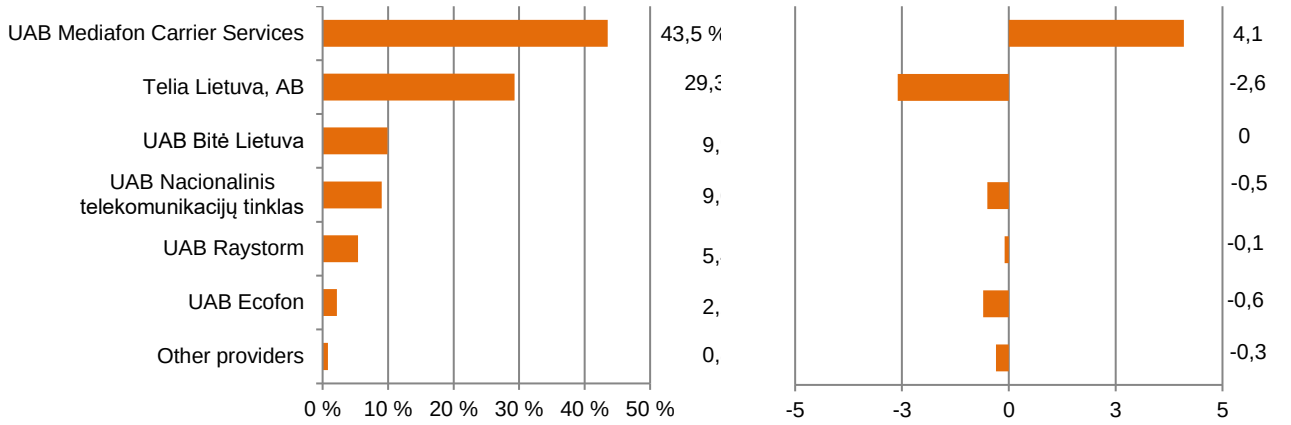


Fig. 27. **Structure of revenue from call transit services by duration of forwarded calls, %, and annual changes of market shares, pp, 2018**
Source: RRT

Revenue. During the period from 2013 to 2017, the revenue received from call transit services increased by 1.8 times (see Fig. 28). However, in 2018, compared to 2017, it decreased by 23.6% and amounted to EUR 56.4 million. The decrease in the revenue from call transit services was influenced by 4.3% shorter duration of calls forwarded by transit in 2018.

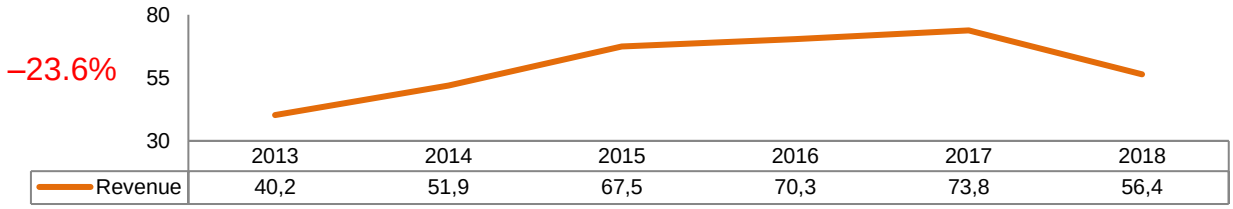


Fig. 28. **Revenue from call transit services, in EUR million, 2013-2018**
Source: RRT

The major part (44.7%) of the revenue of the market of call transit services was generated by Telia Lietuva, AB in 2018 (see Fig. 29). Its market share fell by 8.0 percentage points over a year. The market share held by UAB Mediafon Carrier Services demonstrated the most rapid growth (4.1%).

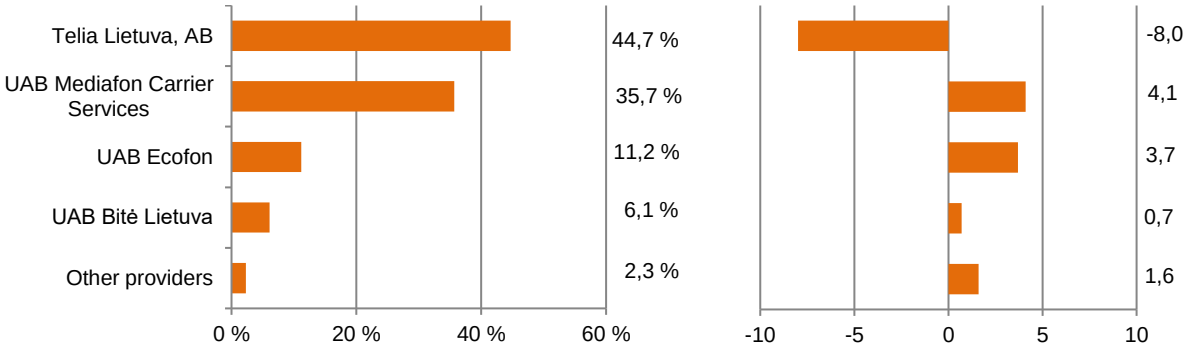


Fig. 29. **Structure of the market of call transit services by revenue, %, and annual changes of the market shares, pp, 2018**
Source: RRT

In 2018, two undertakings Telia Lietuva AB and UAB Mediafon Carrier Services were leading in the market of call transit services. The largest market share by revenue was held by Telia Lietuva AB (44.7%) and by duration of forwarded calls – by UAB Mediafon Carrier Services (43.5%).

2.4.3 Call Termination Services

2.4.3.1. Call Termination in Public Mobile Communications Networks

IMPORTANT!

- The services of call termination in public mobile communications networks discussed in this section include the termination of calls originated only in other networks, and calls which were originated and terminated in the same network are not assessed.
- In this section of the report other service providers of call termination in public mobile communications network shall be all service providers of call termination in public mobile communications network, except for UAB Bitė Lietuva, Telia Lietuva, AB, and UAB Tele2 (hereinafter – the other providers).

The services of call termination in public mobile communications services consist of calls originated in Lithuanian and foreign operators' networks which were terminated in public mobile communications networks of Lithuanian operators.

Service providers. In 2018, the services of call termination in public mobile communications networks were provided by 5 operators[9].

Duration of terminated calls. In 2018, the overall duration of calls terminated in public mobile communications networks was 4,240.6 million minutes, i.e., by 5.3% more than in 2017. The trend of the increasing duration of terminated calls is observed in all public mobile communications networks. Duration of calls terminated in public mobile communications networks of other providers increased by 49.4% and reached 17.1 million minutes over 2018 (see Table 21). In 2018, the largest part of calls terminated in public mobile communications networks (81.2%) by duration of calls was originated in public mobile communications networks. During this period, most calls were terminated in UAB Tele2 network and this accounted for 41.3% of all calls terminated in public mobile communications networks.

Table 21. **Duration of calls terminated in public mobile communications networks by service providers, in million minutes, and by call origination network, %, 2013-2018**

UAB Bitė Lietuva	2013	2014	2015	2016	2017	2018
Originated in public mobile communications networks	88.7	88.6	88.9	87.5	87.8	84.0
Originated in public fixed communications networks	8.3	8.8	7.7	8.5	6.5	7.2
Originated in foreign operators' networks	2.8	2.6	3.4	4.0	5.7	8.8
All originated	**703.1**	**880.2**	**979.8**	**1,041.3**	**1,064.3**	**1,135.5**
Telia Lietuva, AB						
Originated in public mobile communications networks	82.6	83.8	84.0	84.0	82.5	82.1

[9] Telia Lietuva, AB, UAB Bitė Lietuva, UAB Tele2, UAB CSC Telecom, UAB Mediafon Carrier Services

Originated in public fixed communications networks	5.0	4.7	4.8	4.8	4.6	4.1
Originated in foreign operators' networks	12.4	11.5	11.2	11.2	12.9	13.8
All originated	**830.1**	**1,012.6**	**1,129.8**	**1,226.0**	**1,288.4**	**1,335.2**
UAB Tele2						
Originated in public mobile communications networks	86.5	80.7	83.7	82.5	82.2	79.1
Originated in public fixed communications networks	4.7	6.6	5.3	5.4	5.0	4.8
Originated in foreign operators' networks	8.8	12.7	11.0	12.1	12.7	16.1
All originated	**1,000.7**	**1,280.7**	**1,455.1**	**1,594.8**	**1,664.3**	**1,752.7**
Other providers						
Originated in public mobile communications networks	96.3	92.8	93.0	95.1	47.8	58.9
Originated in public fixed communications networks	1.9	4.8	5.0	3.1	42.4	28.9
Originated in foreign operators' networks	1.8	2.4	2.0	1.8	9.9	12.3
All originated	**4.8**	**11.0**	**37.5**	**3.1**	**11.5**	**17.1**
Total originated	**2,538.7**	**3,184.5**	**3,602.1**	**3,865.2**	**4,028.6**	**4,240.6**

Source: RRT

Revenue. The revenue received from call termination in public mobile communications networks increased by 6.8% and stood at EUR 47.2 million in 2018, compared to 2017 (see Fig. 30). The revenue received from call termination in public mobile communications networks increased by 28.4% since 2013.

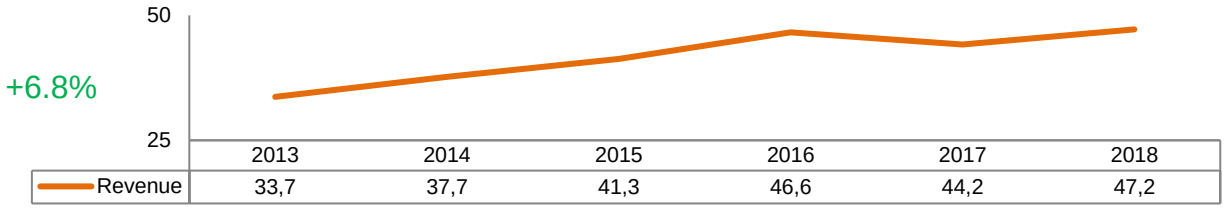


Fig. 30. **Revenue from call termination in public mobile communications networks, in EUR million, 2013-2018**
Source: RRT

The major part of the revenue (39.7%) in 2018, as in 2017, was receive by UAB Tele2 whose revenue from call termination remained unchanged over the year (see Fig. 31).

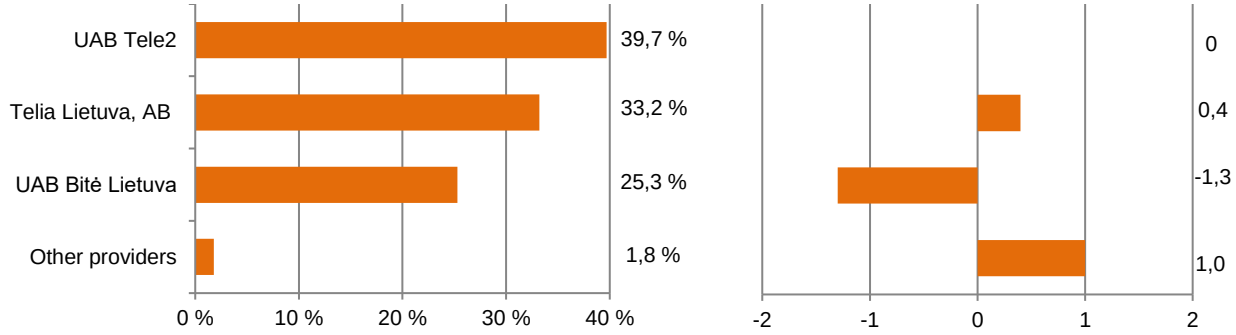


Fig. 31. **Structure of revenue from termination of calls in public mobile communications networks by service providers, %, and annual changes of the market shares, pp, 2018**
Source: RRT

Prices. In 2018, the price of call termination in public mobile communications networks did not change due to the regulation applied by RRT. According to this regulation, as of 1 April 2016, the price of call

termination in public mobile communications networks, where calls are originated in the Member States of the European Economic Area[10], may not exceed 0.94 euro cent per minute (VAT excl.).

2.4.3.2. Call Termination in Public Fixed Communications Networks

IMPORTANT!

- In this section of the report other service providers of call termination in public fixed communications network shall be all service providers of call termination in public fixed communications network, except for Telia Lietuva, AB indicated in Table 22, Telia Lietuva, AB, UAB Nacionalinis Telekomunikacijų Tinklas and UAB CSC Telecom indicated in Figure 33 (hereinafter – the other providers).

The services of call termination in public fixed communications services cover calls originated in Lithuanian and foreign operators' networks which were terminated in public fixed communications networks of Lithuanian operators.

Service providers. In 2018, the services of call termination in public fixed communications networks were provided by 7 operators[11].

Duration of terminated calls. In 2018, compared to 2017, the duration of calls terminated in public fixed communications networks increased by 8.8% and accounted for 406.5 million minutes. In 2018, the largest share of calls terminated in public fixed communications networks (76.3%) by call duration was originated in public mobile communications networks (see Table 22). The duration of these calls increased by 18.5% or by 48.3 million minutes in 2018.

Table 22. **Structure of the duration of calls terminated in individual public fixed communications networks by call origination network, in million minutes, 2013-2018**

Telia Lietuva, AB	2013	2014	2015	2016	2017	2018
Originated in public mobile communications networks	161.3	212.9	235.6	252.9	211.0	248.5
Originated in public fixed communications networks	81.5	55.9	43.6	52.4	49.6	42.2
Originated in foreign operators' networks	72.6	54.6	81.3	40.1	30.1	24.6
All originated	**315.4**	**323.4**	**360.5**	**345.4**	**290.7**	**315.3**
Other providers						
Originated in public mobile communications networks	18.7	25.9	31.8	45.9	50.7	61.5
Originated in public fixed communications networks	23.5	24.9	26.0	31.9	26.6	25.2
Originated in foreign operators' networks	4.8	4.9	5.6	4.3	5.6	4.5

[10] Norway, Iceland and Liechtenstein are not the Member States of the European Union, however, the said three countries and the Member States of the European Union constitute the European Economic Area.

[11] Telia Lietuva, AB, AB Lietuvos Geležinkeliai, AB, Lietuvos Radijo ir Televizijos Centras, UAB CSC Telecom, UAB Ecofon, UAB Mediafon Carrier Services, UAB Nacionalinis Telekomunikacijų Tinklas.

All originated	**47.0**	**55.7**	**63.4**	**82.1**	**82.9**	**91.2**
Duration of all terminated calls	**362.4**	**379.1**	**423.9**	**427.6**	**373.6**	**406.5**

Source: RRT

As regards the structure of the market of call termination in public fixed communications networks by service providers, most of the calls (77.6%) were terminated in Telia Lietuva, AB public fixed communications network in 2018 (see Table 22). The largest share (78.8%) of calls terminated in Telia Lietuva, AB network was comprised of the calls originated in public mobile communications networks. Duration of calls terminated in the networks of other providers increased by 10.0% in 2018 or by 8.3 million minutes. The overall duration of calls terminated in the networks of other providers stood at 91.2 million minutes in 2018 (see Table 22). The largest share (67.4%) of calls terminated in the networks of other providers was comprised of the calls originated in public mobile communications networks.

Revenue. In 2018, the revenue received from call termination in public fixed telecommunications networks significantly decreased (by 33.8%) and stood at EUR 1.6 million (see Fig. 32). This was also conditioned by the decrease in revenue from termination of calls originated in foreign operator's networks in public fixed communication networks by 36% or by EUR 0.5 million in 2018, compared to 2017.

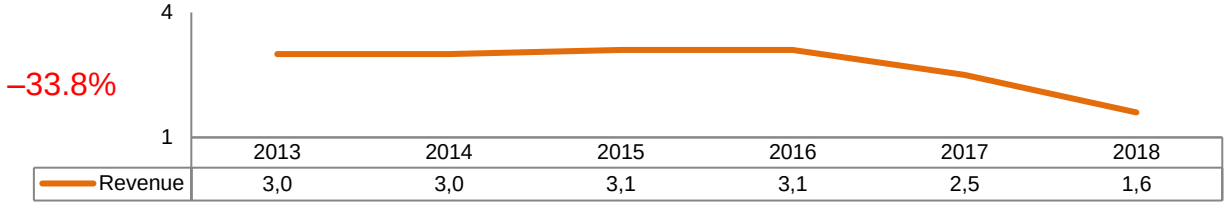


Fig. 32. **Revenue from call termination in public fixed communications networks, in EUR million, 2013-2018**
Source: RRT

The largest part of such revenue (85.2%) was generated by Telia Lietuva, AB (see Fig. 33). In 2018, the major decrease in the market share was that of UAB CSC Telecom (4.2 pp and stood at 5.2%), whereas the market share held by UAB Nacionalinis Telekomunikacijų Tinklas increased by 2.1 pp and stood at 7.3%. The market share of other providers (except for UAB CSC Telecom and UAB Nacionalinis Telekomunikacijų Tinklas) demonstrated only a slight increase.

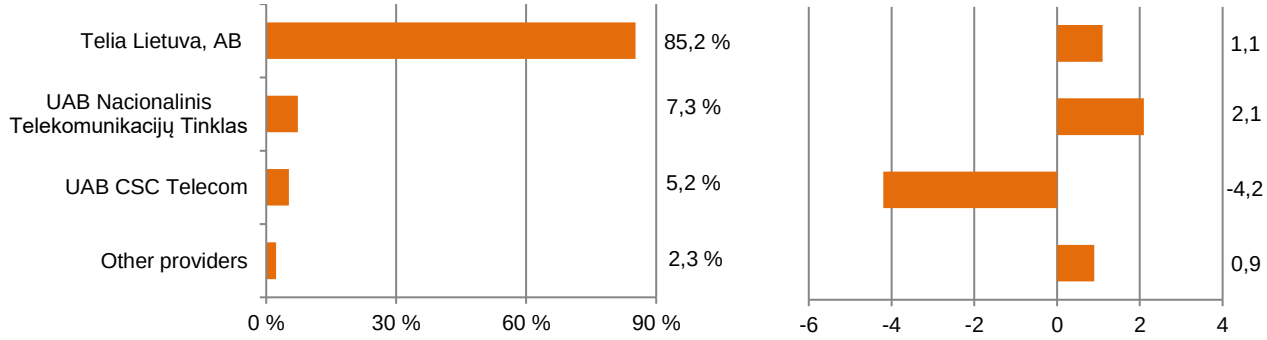


Fig. 33. **Structure of revenue from termination of calls in public fixed communications networks by service providers, %, and annual changes of the market shares, pp, 2018**
Source: RRT

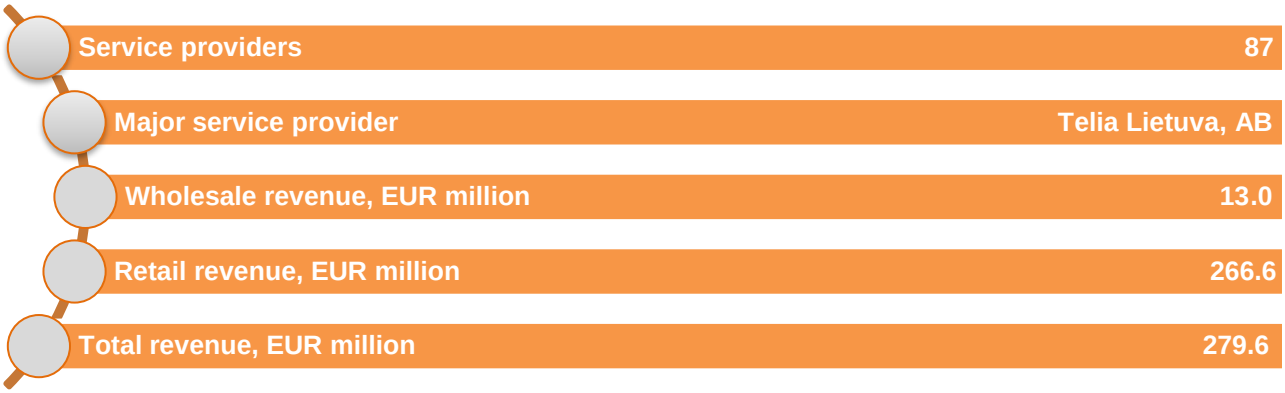
Prices. In 2018, the price of call termination in public fixed communications networks did not change due to the regulation applied by RRT. To take account of this regulation, as of 1 January 2016, the price of call termination in public fixed communications networks, where calls are originated in the Member States of the European Economic Area[12], may not exceed 0.13 euro cent per minute (VAT excl.).

[12] Norway, Iceland and Liechtenstein are not the Member States of the European Union, however, the said three countries and the Member States of the European Union constitute the European Economic Area.

In 2018, the calls terminated in public mobile communications networks accounted for 91.3% of the call termination services market by duration of calls. In terms of revenue, the call termination services (in fixed and mobile communications networks) market increased by 4.6%.

3. Data transmission

3.1. General Overview of the Market of Data Transmission Services



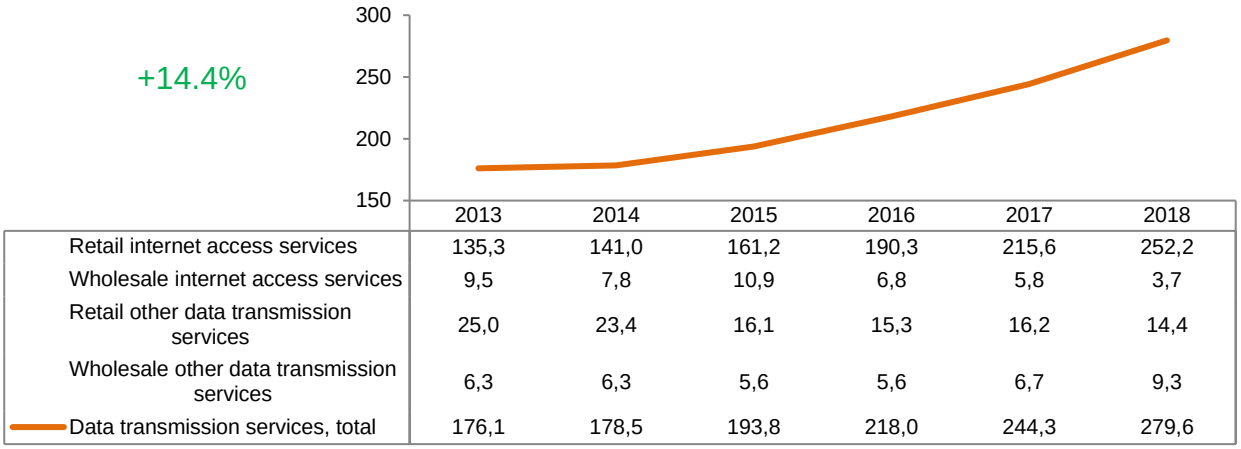
IMPORTANT!

- In this section of the report other data transmission service providers shall be all providers of such services, except for Telia Lietuva, AB, UAB Tele2, UAB Bitė Lietuva, AB Lietuvos Radijo ir Televizijos Centras and UAB Cgates indicated in Figure 36 (hereinafter – the other providers).

In 2018, the data transmission services provided in Lithuania may be divided into internet access services (retail and wholesale) and other data transmission services (retail and wholesale).

Service providers. The number of data transmission service providers decreases due to concentrations of undertakings. At the end of 2018, data transmission services were provided by 87 undertakings (at the end of 2017 – 93). Data transmission service providers represented 75.0% of all 116 undertakings engaged in electronic communications activities. The majority of data transmission service providers were providing retail internet access services in 2018 as in previous periods – their number stood at 80 (in 2017 – 86).

Revenue. In 2018, revenue from data transmission services accounted for EUR 279.6 million, i.e. 14.4% more than in 2017 (see Fig. 34). The activity of the provision of data transmission services remains one of the most important components of the electronic communications sector representing 40.3% of the total revenue of the electronic communications market. It must be also noted that the increase of the revenue from data transmission services was recorded between 2013 and 2018.



	2013	2014	2015	2016	2017	2018
Retail internet access services	135,3	141,0	161,2	190,3	215,6	252,2
Wholesale internet access services	9,5	7,8	10,9	6,8	5,8	3,7
Retail other data transmission services	25,0	23,4	16,1	15,3	16,2	14,4
Wholesale other data transmission services	6,3	6,3	5,6	5,6	6,7	9,3
Data transmission services, total	176,1	178,5	193,8	218,0	244,3	279,6

Fig. 34. **Structure of revenue received from data transmission services by service groups, in EUR million, in 2013-2018**
Source: RRT

In 2018, as throughout the entire period between 2013 and 2018, the largest part of the revenue (90.2%) was comprised of the revenue from retail internet access services (see Fig. 35). In 2018, as compared to 2017, the share of revenue received from retail internet access services increased by 1.9 percentage points according to total revenue gained from data transmission services. This was mainly affected by the increased demand for the retail internet access services.

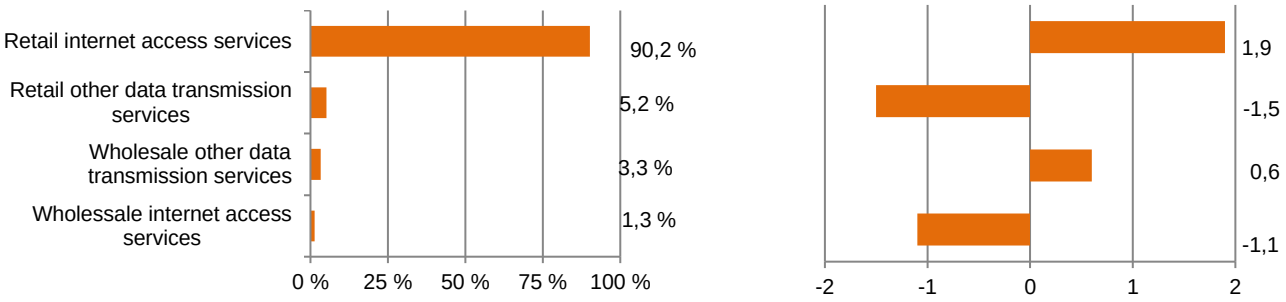


Fig. 35. **Structure of revenue from data transmission services by service groups, %, and annual changes of the revenue structure, pp, 2018**
Source: RRT

In 2018, as in 2017, the largest part of the revenue from data transmission services was gained by Telia Lietuva, AB – the received revenue represented 43.1% of all revenue from data transmission services (see Fig. 36). The second largest operator, in terms of revenue from data transmission services, was UAB Tele2 in 2018, which received 21.3% of all revenue from data transmission services; the revenue gained was subject to the largest increase of all operators in 2018, compared to 2017 (by 4.3 pp). UAB Bitė Lietuva was the largest third operator by gained revenue and it received 17.2% of all revenue from data transmission services. In 2018, AB Lietuvos Radijo ir Televizijos Centras and UAB Cgates received 3.6% and 3.1% of all revenue from data transmission services, respectively.

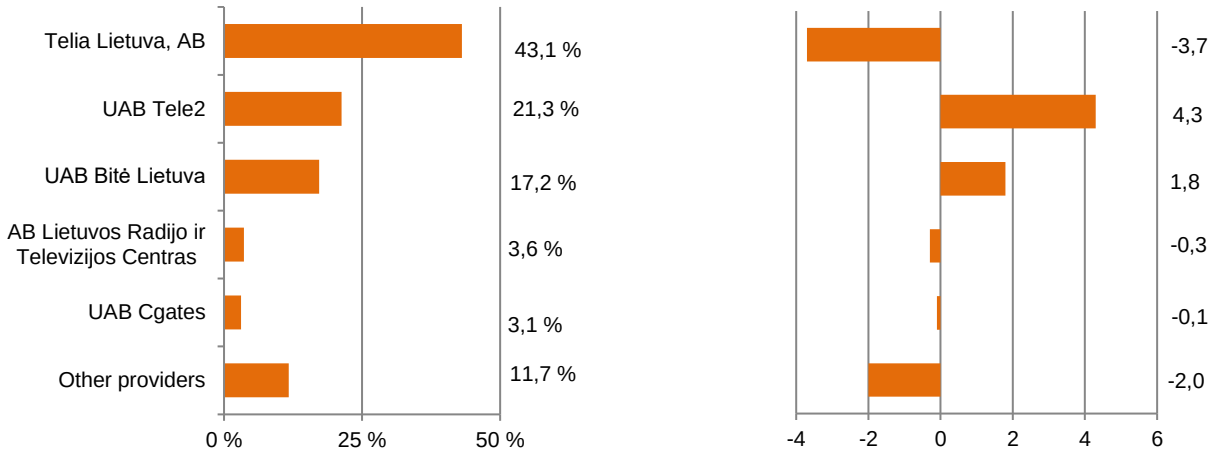


Fig. 36. **Structure of revenue from data transmission services by service providers, %, and annual changes of the revenue portions, pp, 2018**
Source: RRT

The increase in the data transmission service market, in terms of revenue, has been observed since 2013. In 2018, the revenue in this market increased by 14.4%. This growth was basically caused by the increase of revenue from retail internet access services. Telia Lietuva, AB has remained the major leader of the market of data transmission services, however, its market share is decreasing.

3.2. Retail Internet Access Services

Methods of the service provision. In 2018, the retail internet access services were provided by means of fixed communications or mobile communications technologies in Lithuania.

Service providers. The Lithuanian market of retail internet access services was characteristic of the high number of service providers in 2018 as in the previous periods. At the end of 2018, the internet access services were provided by 80 undertakings (by 7 undertakings fewer than in 2017).

Service users. According to the data of the European Commission, in 2018, the use of retail internet access services[13] in Lithuanian households grew by 2.9 pp, compared to 2017, i.e., from 75.0% to 77.9%[14] (see Fig. 37). The overall average of the use of the internet by the EU Member States decreased by 0.8 pp and stood at 86.1% in 2018 due to changes in the methodology of estimation of certain countries compared to 2017, which is by 8.2 pp more than in Lithuania. As regards the use of such services in the households, Lithuania remains at the lower positions in the European Union. The Lithuanian indicator is also the lowest compared to the closest neighbouring countries Estonia, Poland and Latvia, where this indicator, respectively, stood at 89.3%, 78.8% and 79.3%. The most widespread use of retail internet access services is in the Netherlands, and the least widespread – in Bulgaria. In these countries, the share of households using the internet accounted for 97.4% and 71.5%, respectively, in 2018.

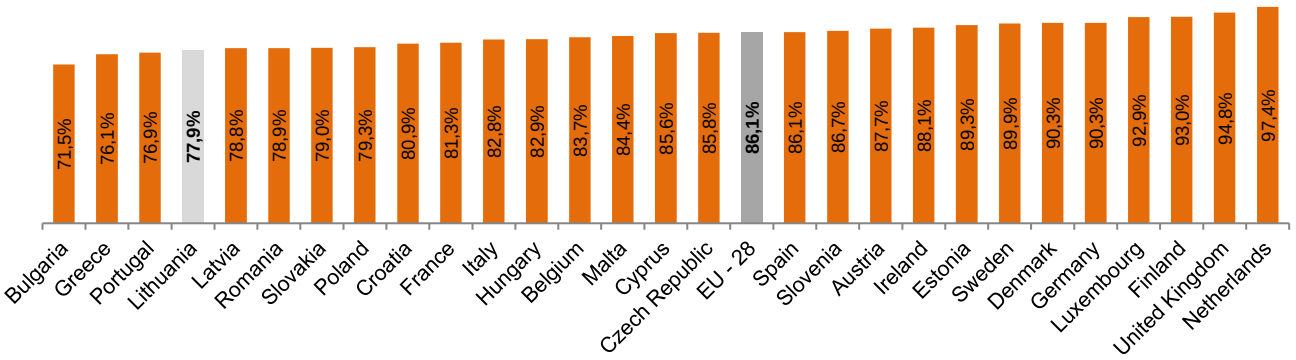
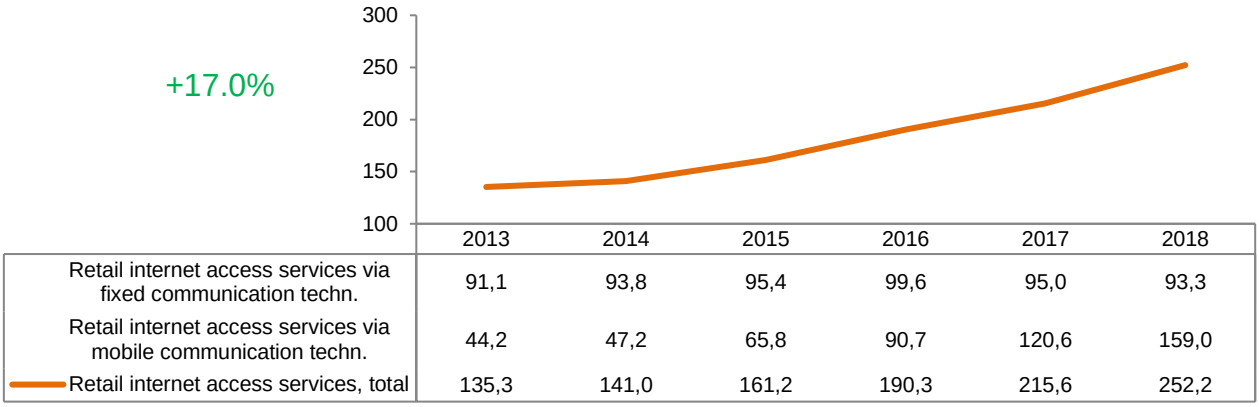


Fig. 37. **Share of households using internet access service in the EU Member States, %, 2018**
Source: The European Commission[15]

[13] Including retail internet access services provided via xDSL loops, wireless communication lines, CTV networks, FTTx lines, LAN lines and mobile communications technologies (using a computer).
[14] Calculated based on 'Eurostat' survey 'Community Survey on ICT Usage in Households and by Individuals'.
[15] https://digital-agenda-data.eu/datasets/digital_agenda_scoreboard_key_indicators/visualizations

According to the data of the Statistics Department[16], at the start of 2018, internet was used in 80% of households in Lithuania, i.e. by 2 pp more than in 2017. Internet was mostly used for communications, search for information and leisure.

Revenue. The total revenue from retail internet access grew throughout the entire period between 2013 and 2018. In 2018, compared to 2017, such revenue increased by 17.0% and accounted for EUR 252.2 million (see Fig. 38). In 2018, the revenue from retail internet access services provided by means of fixed communications technologies represented 37.0% or by 7.1 pp less than in 2017 according to the total revenue from retail internet access services, whereas the revenue from retail internet access services provided by means of mobile communications technologies accounted for, respectively, 63.0% or by 7.1 pp more than in 2017 according to the total revenue from retail internet access services.



	2013	2014	2015	2016	2017	2018
Retail internet access services via fixed communication techn.	91,1	93,8	95,4	99,6	95,0	93,3
Retail internet access services via mobile communication techn.	44,2	47,2	65,8	90,7	120,6	159,0
Retail internet access services, total	135,3	141,0	161,2	190,3	215,6	252,2

Fig. 38. **Structure of revenue received from retail internet access services by service provision technologies, in EUR million, in 2013-2018**
Source: RRT

In 2018, the revenue from retail internet access services continued to grow (the growth of 17.0%). The major share (63.0%) was comprised of the revenue from retail internet access services provided by means of mobile communications technologies.

[16] https://osp.stat.gov.lt/informaciniai-pranesimai?articleId=5808689

3.2.1. Retail Internet Access Services Provided by Means of Fixed Communications Technologies

IMPORTANT!

- In this section of the report the other providers of retail internet access services provided by means of fixed communications technologies shall be all providers of such services, except for Telia Lietuva, AB, UAB Cgates, UAB Init, Splius, UAB, UAB Balticum TV, UAB Penkių Kontinentų Komunikacijų Centras, AB Lietuvos Radijo ir Televizijos Centras indicated in Figure 42; Telia Lietuva, AB , UAB Cgates, Splius, UAB, UAB Balticum TV, UAB Init, UAB Penkių Kontinentų Komunikacijų Centras, UAB Kauno Interneto Sistemos, AB Lietuvos Radijo ir Televizijos Centras, UAB Baltnetos Komunikacijos, KLI LT, UAB, UAB Kvartalo Tinklas, UAB Magnetukas, UAB Etanetas indicated in Table 24; Telia Lietuva, AB, UAB Cgates, AB Lietuvos Radijo ir Televizijos Centras, UAB Init, UAB Balticum TV, UAB Baltnetos Komunikacijos, Splius, UAB, UAB Penkių Kontinentų Komunikacijų Centras indicated in Figure 45 (hereinafter – the other providers).

Methods of the service provision. In 2018, retail internet access services were provided by means of fixed communications technologies using the following methods in Lithuania:

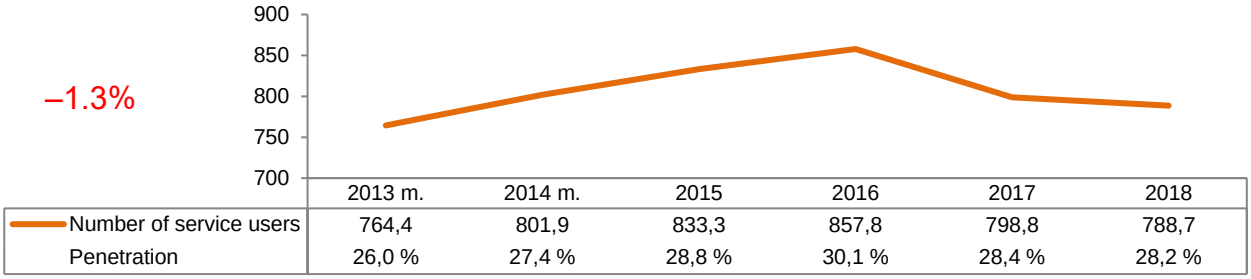
- metallic twisted pair loops using xDSL technology (hereinafter – xDSL loops);
- wireless communication lines using WiMAX (Worldwide Interoperability Microwave Access), Wi-Fi (Wireless Fidelity) and other wireless communication technologies (hereinafter – wireless communication lines);
- coaxial cable lines (hereinafter – CTV networks);
- optical fibre lines using FTTB[17] (Fibre to the Building) and FTTH[18] (Fibre to the Home) technologies (hereinafter – FTTH lines and FTTB lines, collectively to be referred to as FTTx lines);
- using other technologies (shielded twisted pair (STP)) and unshielded twisted pair (UTP) lines in LAN networks (Local Area Network) (hereinafter – the LAN lines, designated lines, etc.);

Service providers. In 2018, retail internet access services by means of fixed communications technologies were provided by 77 undertakings in Lithuania (by 6 undertakings fewer than in 2017).

Service users. At the end of 2018, compared to the data at the end of 2017, the number of users of retail internet access services provided by means of fixed communications technologies decreased by 10.0 thousand or by 1.3% and stood at 788.7 thousand subscribers (see Fig. 39). The penetration of retail internet access services provided by means of fixed communications technologies (number of service users per 100 residents) went down by 0.2 pp in 2018 and accounted for 28.2%. Where the growth of the number

[17] Fibre to the Building
[18] Fibre to the Home

of service users and penetration was observed between 2013 and 2016, both indicators dropped in 2017. In 2018, the number of service users using retail internet access services provided by fixed communication technologies slightly decreased further. This decrease may be basically explained by the fact that AB Lietuvos Radijo ir Televizijos Centras switched from WiMAX technology to mobile communications LTE technology when providing internet access services in 2017-2018.



	2013 m.	2014 m.	2015	2016	2017	2018
Number of service users	764,4	801,9	833,3	857,8	798,8	788,7
Penetration	26,0 %	27,4 %	28,8 %	30,1 %	28,4 %	28,2 %

Fig. 39. **The number of users of retail internet access services provided by means of fixed communications technologies, in thousands, and penetration, %, 2013-2018**
Source: RRT

According to the data of the European Commission, the penetration of retail internet access services provided by means of fixed communications technologies stood at 27.9% in the middle of 2018 in Lithuania[19] (see Fig. 40). The average penetration of the Member States of the European Union amounted to 34.7% in the middle of 2018. Based on this indicator, Lithuania outperforms two neighbouring countries – Latvia and Poland (26.6% and 18.6%, respectively). Estonia where the penetration of the said services stood at 33.0% in the middle of 2018 is still ahead of Lithuania. The highest penetration of internet access services provided by means of fixed communications technologies in the European Union was recorded in Denmark (44.0%) and the Netherlands (43.5%).

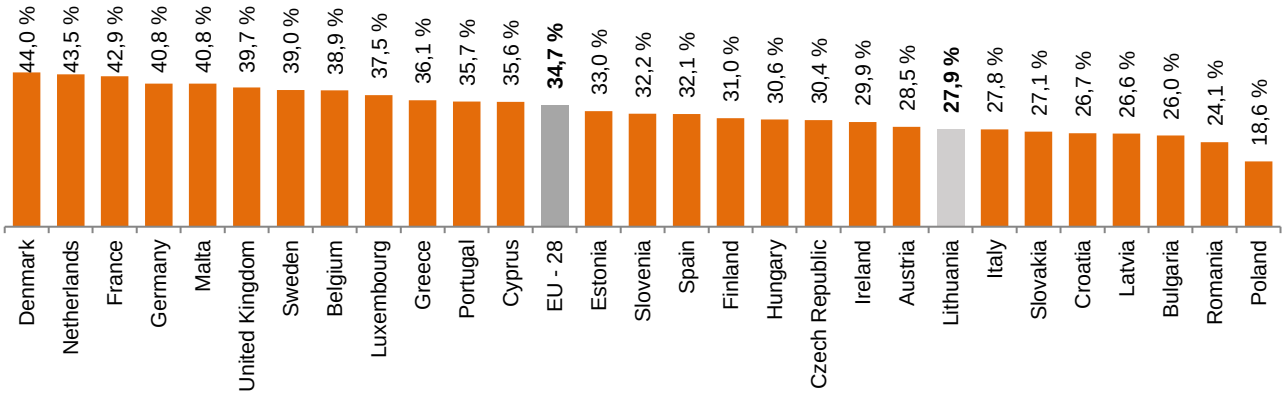


Fig. 40. **The number of users of retail internet access services provided by means of fixed communications technologies per 100 residents, in the EU Member States, %, June 2018**
Source: The European Commission[20]

The structure of the market of retail internet access services by fixed communications technologies used by service users maintained the similar proportions in 2018 as in the previous periods (see Table 23); FTTx lines were used most often – 73.6% (580.2 thousand users). It must be noted that 49.3% (286,1 thousand) of all users of retail internet access services provided via FTTx lines used the internet access

[19] The penetration of Lithuanian retail internet access services provided by means of fixed communications technologies in Figure 40 differs from that in Figure 41 because of the different calculation methodology applied by the European Commission.
[20] http://digital-agenda-data.eu/charts/analyse-one-indicator-and-compare-countries

services provided via FTTB lines, and 50.7% (294.0 thousand) were provided with the services via FTTH lines. In 2013, these indicators were 61.3% and 38.7%, respectively. During the period between 2013 and 2018, the number of users of retail internet access services provided via FTTH lines was increasing more rapidly than the number of users of retail internet access services provided via FTTB lines. Therefore, the gap between the number of users of retail internet access services provided via FTTB and FTTH lines is decreasing.

In 2018, compared to 2017, the number of the users of retail internet access services provided by means of FTTx technology grew by 16.3 percentage points. In 2018, as in each previous year, the number of users of retail internet access services provided via xDSL lines and CTV networks continued to go down. In 2017, compared to 2017, the number of users of retail internet access services provided via xDSL lines went down by 10.6 thousand and totalled 132.5 thousand users at the end of the year. The number of users of retail internet access services provided via CTV networks decreased by 2.3 thousand in 2018 and, at the end of the year, the number stood at 22.6 thousand. The decrease of the number of the users of retail internet access services provided via CTV networks is the outcome of continuous investments in FTTx line networks, where service users, who used to receive retail internet access service via CTV networks, switch to the services provided via FTTx lines without changing the service provider.

Table 23. **Structure of service users by used fixed communications technologies to receive retail internet access services, %, 2013-2018**

	2013	2014	2015	2016	2017	2018
FTTx	57.3	59.6	62.1	63.6	70.8	73.6
xDSL	23.1	21.2	19.8	18.3	17.9	16.8
Wireless telecommunications lines	2.8	13.1	13.1	13.4	7.2	6.0
CTV network	5.0	4.6	3.8	3.5	3.1	2.9
Other technologies (UTP, STP, leased line, etc.)	1.9	1.5	1.3	1.3	1.0	0.7

Source: RRT

According to the data of the survey conducted by organisation FTTH Council Europe and IDATe in September 2018[21], Lithuania took a rather high second place by the penetration of broadband internet provided by fibre loops in Europe (46.8 connections per 100 households) (see Fig. 41). The first place was taken by Latvia with 50.3% penetration, the third in the European ratings – Spain (44.0%). Latvia was leading in this rating for a third year in a row. Penetration of the European Countries (EU-28) stood at 13.8%.

The penetration of internet access subscribers using fibre loops per households was evaluated during the research. Only the countries with at least 200,000 households were involved in the rating. Information is provided only about the Members States of the EU, where the penetration exceeds 1%. United Kingdom where penetration of fibre loops exceed 1% and stood at 1.3% in 2018 was included in this survey.

On the global scale, Lithuania takes a thirteenth position by the penetration of fibre loops (the first three was taken by the United Arab Emirates, Qatar and Singapore where the use of fibre internet will soon reach 100% of households).

[21] https://www.ftthcouncil.eu/documents/PressReleases/2019/PR%20Market%20Panorama%20-%2014-03-2019%20V3.pdf

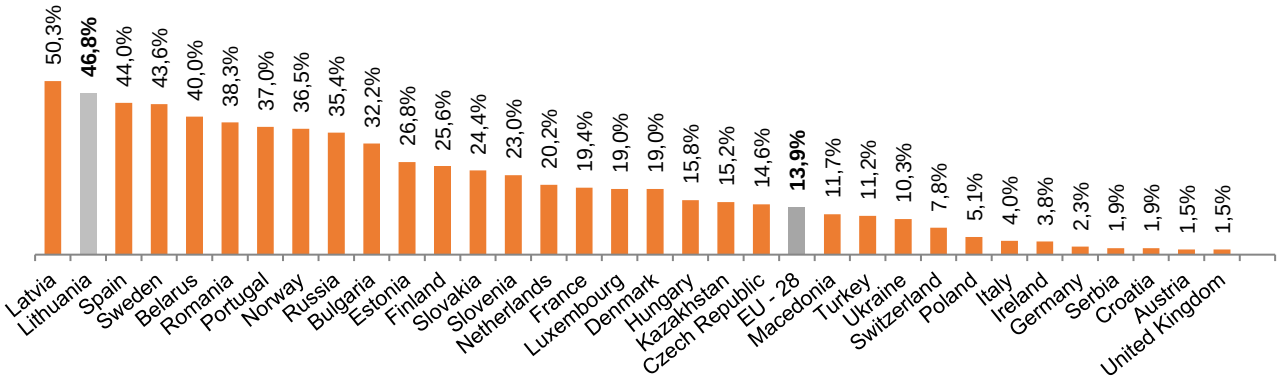


Fig. 41. **Number of subscribers of broadband internet by using fibre loops per 100 households in the European countries, units, September 2018**
Source: Association FTTH Council Europe and IDATE

As many as 52.0% of all users of retail internet access services provided by means of fixed communications technologies were choosing the services provided by Telia Lietuva, AB (see Fig. 42). 14.4% of the users preferred UAB Cgates. Over the year, the market shares held by Telia Lietuva, AB grew by 0.6 pp, whereas of Splius UAB – 0.2 pp. Also, in 2018, compared to 2017, the minimum growth of the market shares held by other providers was also observed. In 2018, compared to 2017, the market share held by AB Lietuvos Radijo ir Televizijos Centras was subject to the most significant decrease – by 0.6 pp.

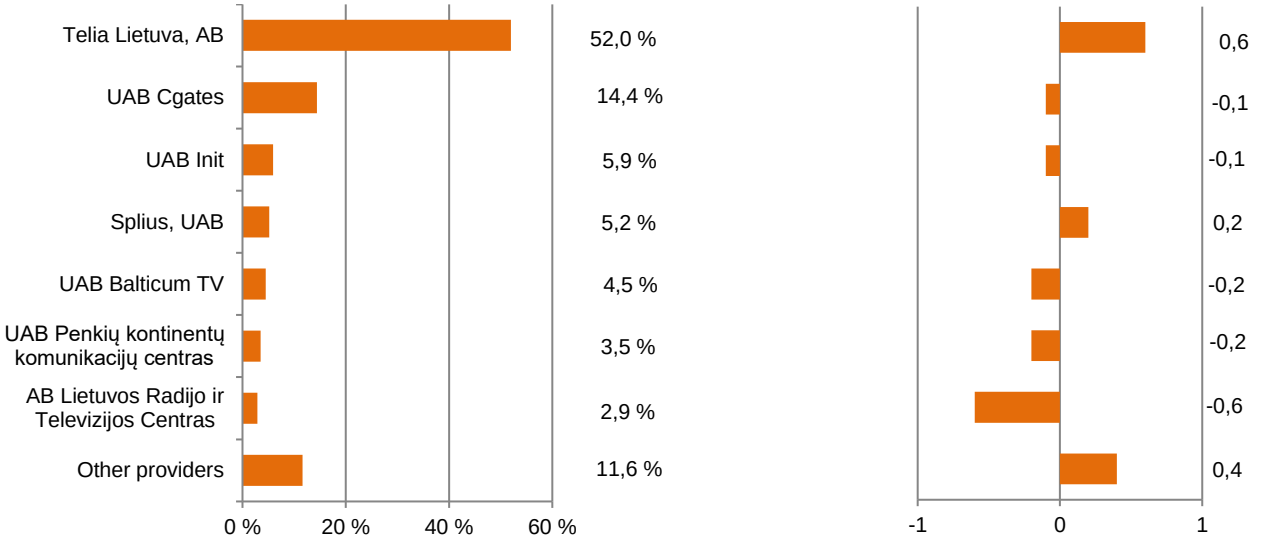


Fig. 42. **Structure of the number of subscribers by service providers, %, and annual changes of the market shares, pp, 2018**
Source: RRT

As measured by the breakdown of the number of the users of retail internet access services provided by the services providers by fixed communications technologies used to provide retail internet access services, it is apparent that in 2018, as in the previous year, Telia Lietuva, AB was the major provider of retail internet access services via FTTx lines and xDSL lines (see Table 24). In 2018, accordingly, 47.7% (in the case of FFTx lines) and 99.3% (in the case of xDSL lines) of all internet access service users were using the services provided by Telia Lietuva, AB. In 2018, AB Lietuvos Radijo ir Televizijos Centras held the largest share of the market of retail internet access services provided via wireless communication lines

(48.2%), whereas the share of the market of internet access services provided over CTV networks was held by UAB Init (75.3%).

Table 24. **Structure of service providers by the number of service users using respective technologies, %, 2018**

	FTTx	Wireless communication	CTV networks	xDSL
Telia Lietuva, AB	47.7	3.1	-	99.3
UAB Cgates	19.1	3.9	3.0	-
Splius, UAB	6.3	3.3	13.6	-
UAB Balticum TV	5.3	7.3	4.2	-
UAB Init	5.1	-	75.3	-
UAB Penkių Kontinentų Komunikacijų Centras	4.8	-	-	-
UAB Kauno Interneto Sistemos	2.3	-	-	-
AB Lietuvos Radijo ir Televizijos Centras	-	48.2	-	-
UAB Baltnetos Komunikacijos	-	2.9	-	-
KLI LT, UAB	-	4.0	-	-
UAB Kvartalo Tinklas	-	2.2	-	-
UAB Magnetukas	-	5.9	-	-
UAB Etanetas	-	4.2	-	-
Other providers	9.5	19.1	3.9	0.7
Total number of providers	**51**	**52**	**10**	**7**

Source: RRT

Speed rate. Internet access speed rate has been annually increasing. In 2018, the speed rate exceeding 100 Mb/s was selected by 4.4% more service users than in 2017. Furthermore, in 2018, the number of users of speed rate from 30 Mb/s to 100 Mb/s increased by 1.4%. Accordingly, the internet access of the speed rate of up to 10 Mb/s was used by only 5.4% of all users of internet access services provided by fixed communication technologies, i.e. nearly 3 times less than in 2017.

Table 25. **Structure of users of retail internet access services provided by means of fixed communications technologies by speed rate, %, 2013-2018**

	2013	2014	2015	2016	2017	2018
up to 2 Mb/s	4.8	3.2	2.1	1.4	0.6	0.3
2 Mb/s to 10 Mb/s	24.8	24.4	21.7	19.8	14.7	5.1
10 Mb/s to 30 Mb/s	19.0	15.6	16.1	15.9	12.7	19.4
30 Mb/s to 100 Mb/s	41.0	44.6	42.4	36.0	27.9	28.7
More than 100 Mb/s	10.5	12.2	17.7	26.8	44.0	46.5

Source: RRT

The Next Generation Internet Access Development Plan for 2014-2020 of the Republic of Lithuania approved by Order No 3-410-(E) of the Minister of Transport and Communications of 30 October 2014 'On the Approval of the Next Generation Internet Access Development Plan for 2014-2020 of the Republic of Lithuania' aims to have 50% of all Lithuanian households using 100 Mb/s and higher speed broadband internet by 2020. In 2018, this indicator had not been achieved in Lithuania yet (see Fig. 43), but, the changes during the period of 2014-2018 are quite promising. Until 2017, the growth of the number of households with the internet speed higher than 100 Mb/s was observed: in 2015, compared to 2014, that increase accounted for 3.8 pp, in 2016, compared to 2015, it was 6.7 pp, and in 2017, compared to 2016, it

stood at 9.9 pp. Although the number of households having a faster than 100 Mb/s internet increased in 2018, however, due to decreased population and average size of household (pursuant to data of the Department of Statistics of Lithuania), i.e. decrease in the total number of households, the percentage of households with faster than 100 Mb/s internet slightly decreased.

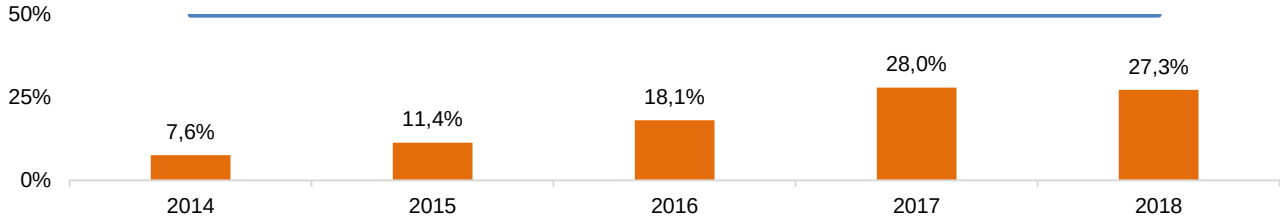


Fig. 43. **Implementation of the Next Generation Internet Access Development Plan for 2014-2020 of the Republic of Lithuania so that 50% of the households were using at least 100 Mb/s speed internet in Lithuania**
Source: RRT

Revenue. In 2018, compared to 2017, the service providers' revenue from retail internet access services provided by means of fixed communications technologies went down by 1.9% or by EUR 1.8 million. In 2018, that revenue stood at EUR 93.3 million (see Fig. 44). Between 2013 and 2016, the growth of the revenue from retail internet access services provided by means of fixed communications technologies was observed. The largest growth of the revenue was recorded in 2016.

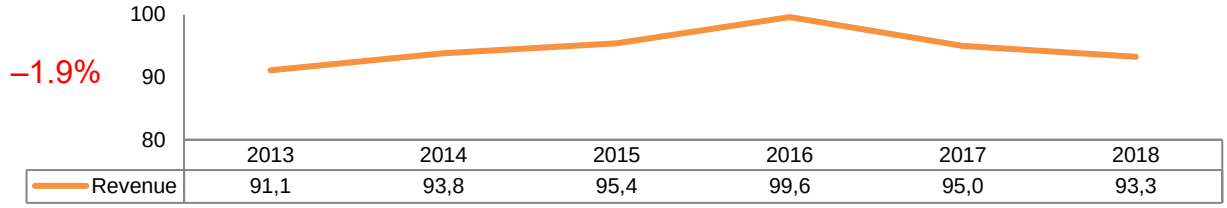


Fig. 44. **Revenue received from retail internet access services provided by means of fixed communications technologies, in EUR million, in 2013-2018**
Source: RRT

When assessing the service providers by received revenue (see Fig. 45) it is seen that the structure of the market was not subject to the significant changes in 2018, as in 2017: the leader's position (the largest part of the revenue gained) was maintained by Telia Lietuva, AB. Its market share, in terms of the revenue received, stood at 60.6% and increased by 0.2 pp over the year, compared to 2017. The market shares held by UAB Cgates, UAB Baltnetos komunikacijos and Splius UAB also grew insignificantly in 2018, compared to 2017. In 2018, compared to 2017, the market share held by AB Lietuvos Radijo ir Televizijos Centras decreased the most significantly (by 1.2 pp). This drop, as mentioned before, was caused by the fact that AB Lietuvos Radijo ir Televizijos Centras was actively switching from WiMAX technology to mobile LTE technology to provide internet access services.

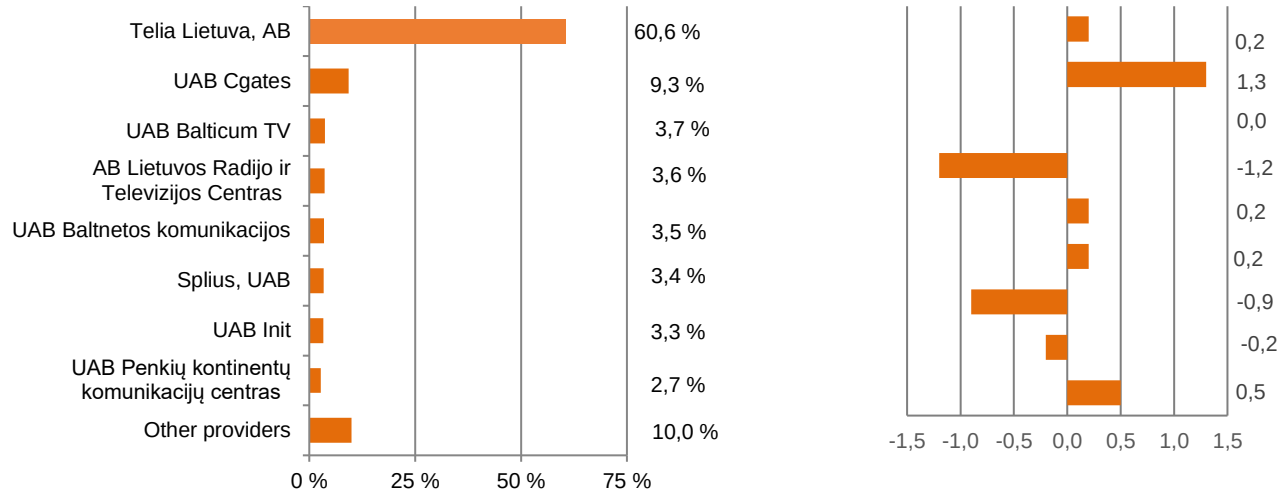


Fig. 45. **Structure of the revenue by service providers, %, and annual changes of the market shares, pp, 2018**
Source: RRT

ARPU. The average monthly revenue per user of retail internet access services provided by means of fixed communications technologies (ARPU) accounted for EUR 9.8 in 2018 and it was by EUR 0.1 larger than in 2017 (see Fig. 46). As in the previous periods, the highest ARPU was generated from service users who connected to the internet by means of other technologies (via leased lines, UTP, STP). In 2018, compared to 2017, ARPU of this service went up by 31.6% or by EUR 6.9 per month.

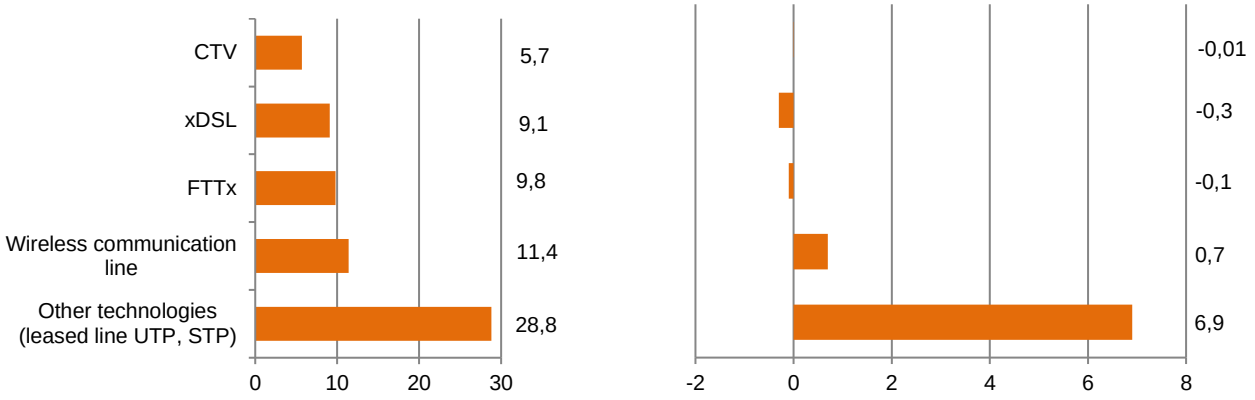


Fig. 46. **ARPU by used technologies, in EUR per month, and ARPU annual changes, in EUR per month, 2018**
Source: RRT

The lowest revenue (EUR 5.7) per service user in 2018, as in 2017, was received from retail internet access services provided by means of CTV networks. ARPU of the most popular retail internet access services provided via FTTx lines decreased by EUR 0.1 up to EUR 9.8 per month in 2018. ARPU of retail internet access services provided via xDSL lines also dropped by EUR 0.3 in 2018, compared to 2017.

The structure of the market of retail internet access services provided by means of fixed communications technologies by fixed communications technologies used by service users maintained the similar proportions in 2018 as in the previous periods; FTTx lines were used most often. According to the data of the survey conducted by organisation FTTH Council Europe and IDATe in September 2018, Lithuania took a second place (after Latvia) by the penetration of broadband internet provided by fibre loops in Europe (46.8 connections per 100 households).

3.2.2. Retail Internet Access Services Provided by Means of Mobile Communications Technologies

IMPORTANT!

- In this section of the report other providers of retail internet access services provided by means of mobile communications technologies shall be all providers of such services, except for UAB Bitė Lietuva, Telia Lietuva, AB, UAB Tele2, AB Lietuvos Radijo ir Televizijos Centras indicated in Table 26 and Table 27 and Figure 50 (hereinafter – the other providers).

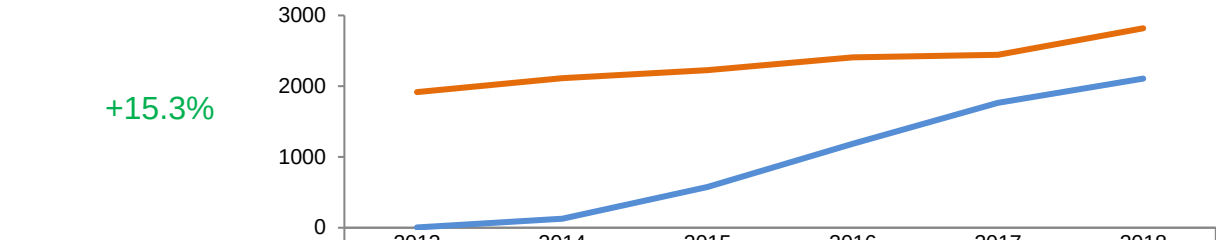
Methods of the service provision. Retail internet access services provided by means of mobile communications technologies were provided using GPRS, EDGE, UMTS, UMTS HSDPA, UMTS HSUPA, LTE[22] and other mobile communications technologies ensuring higher speed.

Service providers. Retail internet access services provided by means of mobile communications technologies were provided by 8 undertakings in 2018 (compared to 2017, this number has not changed)[23].

Service users. It must be noted that the number of active SIM cards used to provide internet access services has been growing on a yearly basis. Over 2018, the number of active SIM cards for internet access services increased by 373.9 thousand, or by 15.3% – it was the major growth over 5 years at the end of 2018, and it stood at 2,818.2 thousand units (see Fig. 47). Moreover, in 2018, compared to 2017, the number of LTE technology-based active SIM cards grew by 19.4% and equalled 2,107.2 thousand cards. It must be also noted that the penetration of the use of active SIM cards used to provide internet access services has been growing annually since 2013 (active SIM cards per 100 residents), and, in 2018, it exceeded 100% (i.e. one subscriber used more than one card) and that is 13.9 percentage points more than in 2017.

[22] GPRS (General Packet Radio Service), EDGE (Enhanced Data Rates for GSM Evolution), UMTS (Universal Mobile Telecommunications System), UMTS HSDPA (Universal Mobile Telecommunications System High-Speed Download Packet Access), UMTS HSUPA (Universal Mobile Telecommunications System High-Speed Uplink Packet Access), LTE (Long-Term Evolution)

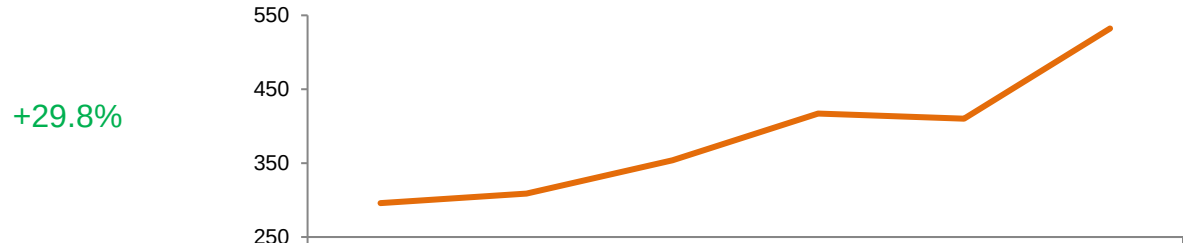
[23] Telia Lietuva, AB, UAB Bitė Lietuva, UAB Tele2, AB Lietuvos Radijo ir Televizijos Centras, UAB CSC Telecom, UAB Eurocom, UAB Teledema and AS TV Play Baltics.



	2013	2014	2015	2016	2017	2018
Number of service users	1 916,5	2 113,1	2 225,8	2 409,0	2 444,3	2 818,2
Change	30,4 %	10,3 %	5,3 %	8,2 %	1,5 %	15,3 %
Penetration	65,1 %	72,3 %	77,1 %	84,6 %	87,0 %	100,9 %
of which LTE technoogy	4,3	126,8	573,1	1 184,2	1 765,2	2 107,2
Change in LTE techn. Users	2050,0%	2848,8%	352,0%	106,6%	49,1%	19,4%
LTE penetration	0,1 %	4,3 %	19,8 %	41,6 %	62,8 %	75,4 %

Fig. 47. **Number of active SIM cards of retail internet access services provided through mobile communications technologies used to provide internet access, in thousands, annual change, %, and penetration of the use of active SIM cards for internet access services (number of active SIM cards for internet access services per 100 residents), %, 2013-2018**
Source: RRT

In 2018, compared to 2017, the number of active SIM cards of retail internet access services provided by means of mobile communications technologies, where the internet access service provision plan instead of the telephony one was used, increased by 29.8% and amounted to 532.2 thousand (see Fig. 48). In 2018, the major increase in the number of these SIM cards was observed from the very start of provision.



	2013	2014	2015	2016	2017	2018
Number of service users	295,9	308,7	353,9	417,1	410,1	532,2
Change	5,1 %	4,3 %	14,6 %	17,9 %	-1,7 %	29,8 %

Fig. 48. **Number of active SIM cards of retail internet access services provided by means of mobile communications technologies, where the internet access service provision plan instead of the telephony one is used, in thousands, and annual change, %, 2013-2018**
Source: RRT

In 2018, three major market players were dominating on the market of retail internet access services provided by means of mobile communications technologies in Lithuania – Telia Lietuva, AB, UAB Bitė Lietuva and UAB Tele2 (see Table 26). The largest market share, in terms of the number of active SIM cards for internet access services, was held by UAB Tele2 in 2018 (37.8%); during the period from 2013 to 2018, these market shares showed only slight changes.

Table 26. **Structure of active SIM cards used to provide internet access services by service providers, %, 2013-2018**

	2013	2014	2015	2016	2017	2018
UAB Bitė Lietuva	27.2	26.6	27.6	28.3	28.4	28.3
Telia Lietuva, AB	35.7	35.1	30.7	29.4	31.2	29.6
UAB Tele2	35.5	36.8	40.0	40.5	35.8	37.8
AB Lietuvos Radijo ir Televizijos Centras	-	-	-	-	2.6	2.6
Other providers	1.6	1.5	1.6	1.7	1.9	1.7

Source: RRT

Revenue. In 2018, as in the previous periods, the service providers' revenue from retail internet access services provided by means of mobile communications technologies was growing. In 2018, such revenue amounted to EUR 159.0 million, i.e., by 31.8% or by EUR 38.3 million more than in 2017 (see Fig. 49). It must be noted that the growth of such revenue, in terms of EUR, was the largest in 2018, compared to the previous periods.

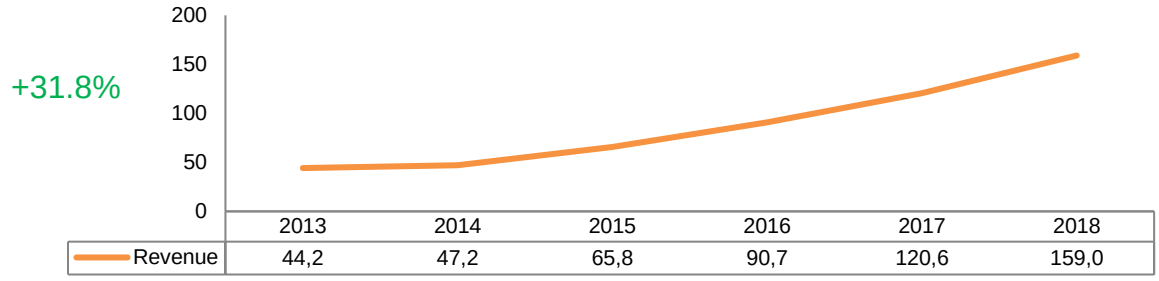


Fig. 49. **Revenue received from retail internet access services provided by means of mobile communications technologies in 2013-2018, in EUR million**
Source: RRT

In terms of the revenue received by individual undertakings, UAB Tele2 held the leader's position in the structure of the market of retail internet access services provided by means of mobile communications technologies in 2018; it held 37.1% of the market (see Fig. 50). In 2018, its market share was subject to the largest growth – by 3.0 pp. The second largest undertaking in this segment was Telia Lietuva, AB with 29.9% of the market, despite its market share decreased by 3.3 pp over the year. UAB Bitė Lietuva held 28.2% of the market, its share increased over the year (by 0.2 pp). A new market player emerged in this segment from 2017 – AB Lietuvos Radijo ir Televizijos Centras which held 4.0% of the market in 2018, i.e. 1.1 pp more than in 2017.

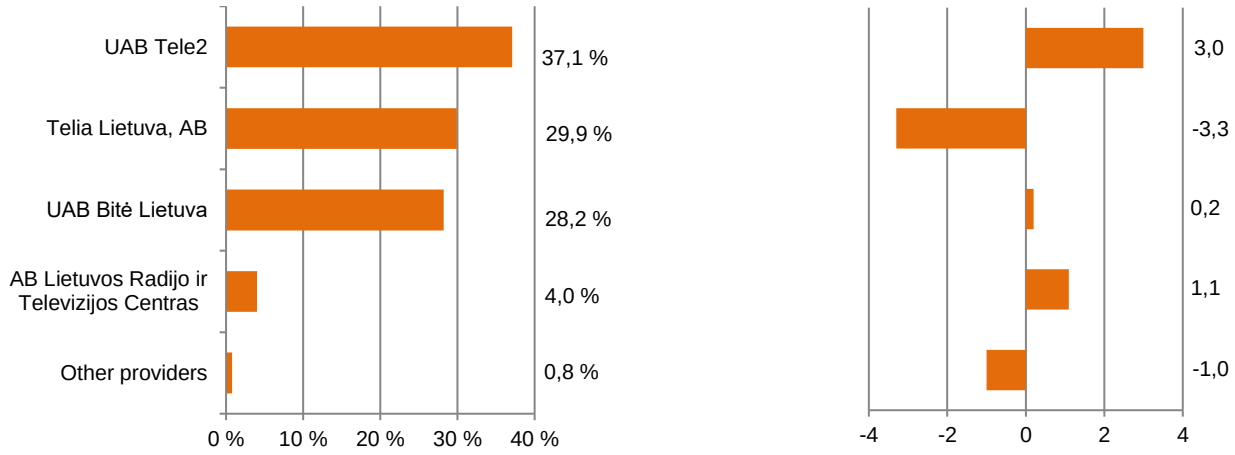


Fig. 50. **Structure of revenue from retail internet access services provided by means of mobile communications technologies by service providers, %, and annual changes of the market shares, pp, 2018**
Source: RRT

ARPU. ARPU per user of a SIM card for retail internet access services provided by means of mobile communications technologies accounted for EUR 5.0 in 2018 and it was by EUR 0.7 larger than in 2017 (see Fig. 51). In 2018, AB Lietuvos Radijo ir Televizijos Centras received the highest ARPU – EUR 7.7. ARPU of Telia Lietuva, AB stood at EUR 5.1, UAB Bitė Lietuva - EUR 4.9, UAB Tele2 - EUR 4.8.

In 2018, compared to 2017, the largest growth of ARPU was that of UAB Lietuvos Radijo ir Televizijos Centras (EUR 2.1).

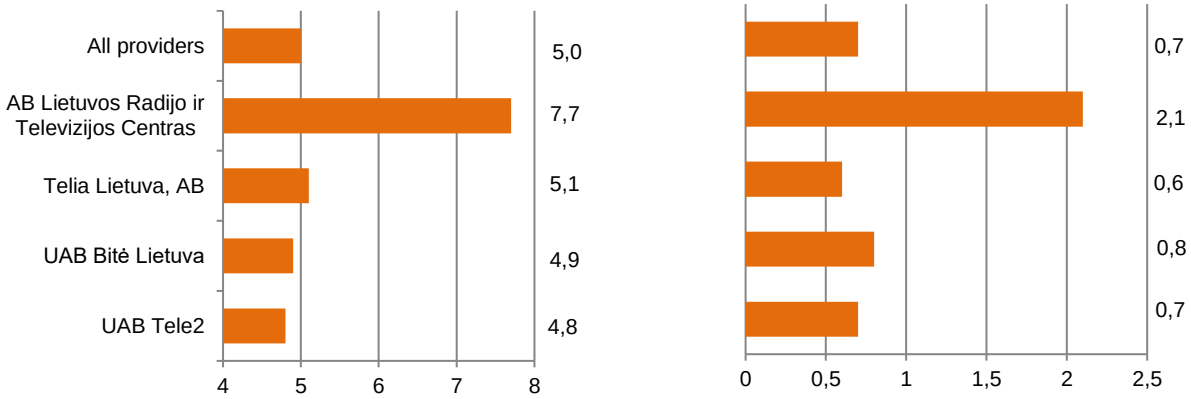


Fig. 51. **ARPU of all providers and each of the major service providers, EUR per month, and ARPU annual changes, EUR per month, 2018**
Source: RRT

The monthly ARPU per SIM card user, where the internet access service provision plan is applied rather than the telephony one, accounted for EUR 7.3 in 2018 and it was by 0.3 pp lower than in 2017 (see Fig. 52). In 2017, AB Lietuvos Radijo ir Televizijos Centras received the largest ARPU – EUR 7.7 per month, because it provided only services of internet on the computer. ARPU of UAB Tele2 and UAB Bitė Lietuva amounted to EUR 7.4, whereas the ARPU of Telia Lietuva was the lowest – EUR 6.7.

When comparing Fig. 52 and Fig. 46 where the indicated ARPU for retail internet access services is provided by means of fixed communications technologies, it is apparent that the average ARPU in Figure 46 received in provision of services by fixed communications technologies are by EUR 2.5 higher than the average ARPU in Figure 52 received in provision of services by mobile communications technologies.

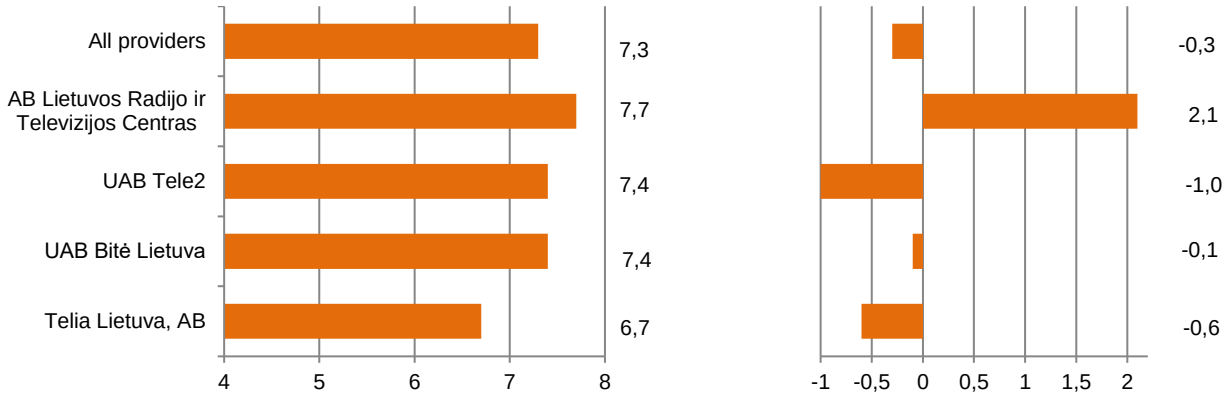


Fig. 52. **ARPU of all service providers and each of the major service providers, where the internet access service provision plan is applied instead of that of telephony, EUR per month, and ARPU annual changes, EUR per month, 2018**
Source: RRT

Data Volume. In 2018, compared to 2017, the volume of sent and received data per service user per month grew by as many as 38.9% and it stood at 10,042.1 MB (see Table 27). The largest monthly volume of data was sent by a single service user by means of internet access services provided by AB Lietuvos Radijo ir Televizijos Centras in 2018 – 100,315.3 MB, because this company provided such services only to users of computers. Among other service providers providing services in 2018, Telia Lietuva, AB showed the highest increase in the number of data sent and accepted per one service user and stood at 7,220.4 MB. The monthly volume of sent and received data per service user of UAB Bitė Lietuva and UAB Tele2 also increased, respectively, by 38.8% and 37.2% and, accordingly, constituted 6,281.3 MB and 9,190.0 MB.

Table 27. **Monthly volume of data sent and received by a single service user, MB, and their changes, %, 2018**

Service provider	Data volume per month in 2017	Data volume per month in 2018	Change per year, %
AB Lietuvos Radijo ir Televizijos Centras	87,964.4	100,315.3	14.0
UAB Tele2	66,962	9,190.0	37.2
Telia Lietuva, AB	4,820.5	7,220.4	49.8
UAB Bitė Lietuva	4,526.7	6,281.3	38.8
Other providers	1,483.8	1,965.5	32.5
All providers	7,228 8	10,042.1	38.9

Source: RRT

4G (LTE) Network Accessibility. According to the data of the company OpenSignal established in London[24], Lithuania was ranked the 4th in Europe by the LTE network accessibility in Europe at the start of 2018 (with an 88.4% indicator) (see Fig. 53). As for LTE network accessibility, we not only outperform the closest neighbours (in Latvia, LTE network accessibility is 84.17%, in Estonia – 84.21%, in Poland – 72.84%), but we are also ahead of the other European countries, except only Hungary with 89.26%, the Netherlands with 89.64% and Norway with 92.16% which is the leader of the European countries by LTE network accessibility.

[24] https://opensignal.com/reports/2018/02/state-of-lte

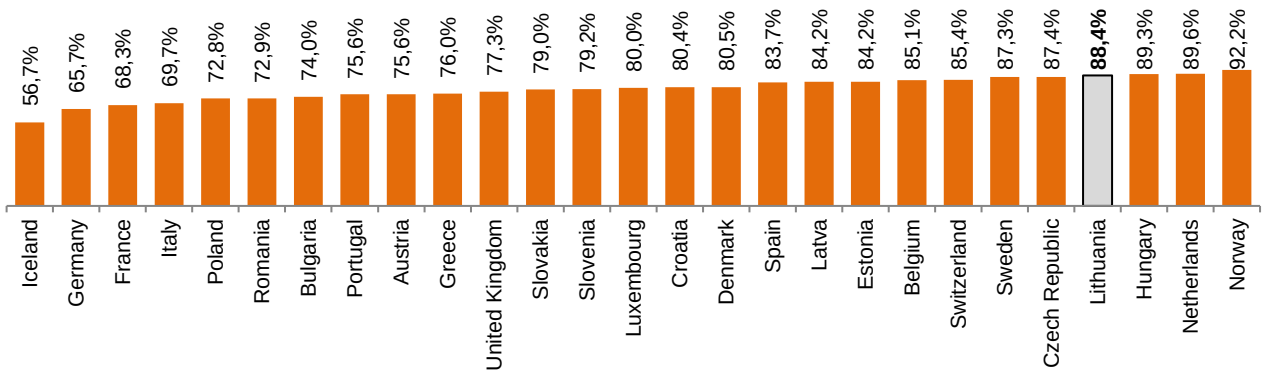


Fig. 53. **LTE network accessibility in European countries, %, the start of 2018**
Source: OpenSignal

Speed rate. According to the data of portal Global Speed Test (Ookla)[25], in March 2019, Lithuania was ranked the 14th by data upload speed of internet access services (3G/4G) provided by means of mobile communications technologies in Europe – data upload speed was 43.4 Mb/s in Lithuania (see Fig. 54). The highest download speed was in Norway - 67.5 Mb/s. In terms of data upload speed, Lithuania outperformed all neighbouring countries: Latvia and Estonia as their data download speed was 30.6 Mb/s and 42.8 Mb/s respectively, and Poland whose data download speed was 30.7 Mb/s.

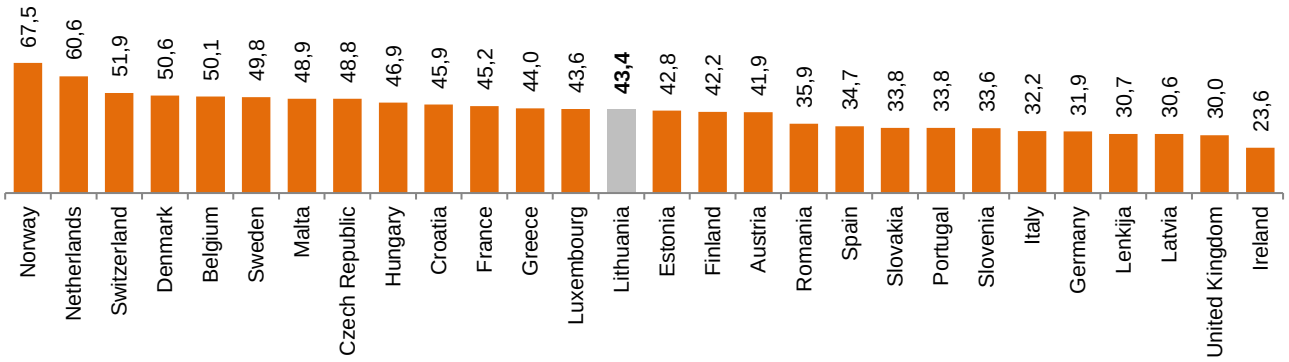


Fig. 54. **Data upload speed (Mb/s) of internet access services provided by means of mobile communications technologies (3G/4G) in European countries**
Source: Global Speed Test data of March 2019 (Ookla)

In 2018, as in the previous periods, the service providers' revenue from retail internet access services provided by means of mobile communications technologies was growing. In 2018, the revenue of all undertakings gained from retail internet access services provided by means of mobile communications technologies totalled EUR 159.0 million, i.e., by 31.8% more than in 2017. In 2018, the number of active SIM cards for internet access services increased by 379.9 thousand, or by 15.3% - it was the greatest growth over a period of 5 years. The number of LTE technology-based active SIM cards per 100 residents grew by 12.6% and stood at 75.4%.

[25] https://www.speedtest.net/global-index#mobile

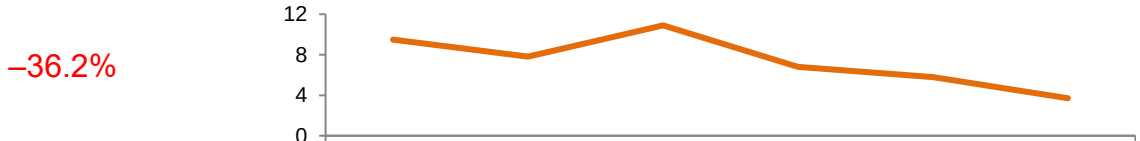
3.3. Wholesale Internet Access Services

Service providers	11
Major service provider	Telia Lietuva, AB
Wholesale revenue, EUR million	3.7

IMPORTANT!

- In this section of the report, other wholesale internet access service providers shall be all providers of such services, except for UAB Satgate, Telia Lietuva, AB, UAB Bitė Lietuva, UAB Nacionalinis Telekomunikacijų Tinklas, UAB Ektra, Lattelekom SIA branch in Figure 56 (hereinafter – the other providers).

Revenue. In 2018, compared to 2017, the revenue from wholesale internet access services went down by 36.2% and amounted to EUR 3.7 million. Wen analysing the revenue changing trend between 2013 and 2014, it must be noted that from 2013 to 2014, the revenue from wholesale internet access services was decreasing (see Fig. 55), except for 2015, when this revenue demonstrated increase.



	2013	2014	2015	2016	2017	2018
Revenue	9,5	7,8	10,9	6,8	5,8	3,7
of which wholesale roaming internet access revenue	-	-	-	-	1,03	1,13

Fig. 55. **Revenue from wholesale internet access services, in EUR million, 2013-2018**
Source: RRT

In 2018, wholesale internet access services were provided by 11 undertakings. In 2018, the largest market share, in terms of revenue from the provision of wholesale internet access services, was held by UAB Bitė Lietuva (30.5%) (see Fig. 56). It was followed by Telia Lietuva, AB with 26.5% of the market, UAB Satgate with 15.4% of the market, UAB Nacionalinis Telekomunikacijų Tinklas with 12.4% of the market, UAB Ektra with 6.7% of the market and Lattelekom SIA branch with 5.8% of the market. In 2018, compared to 2017, the market shared held by UAB Satgate and other service providers were shrinking. The market shares held by UAB Bitė Lietuva and UAB Nacionalinis Telekomunikacijų Tinklas showed the greatest increase – 15.4% and 5.2%, respectively.

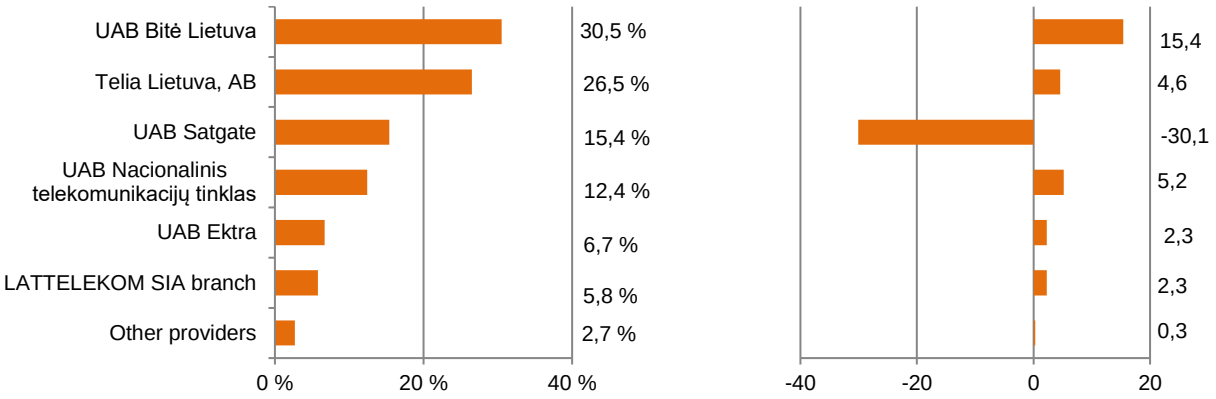


Fig. 56. **Structure of revenue from wholesale internet access services by service providers, %, and annual changes of the market shares, pp, 2018**
Source: RRT

The rapid increase in the use of internet data encouraged the internet access service providers to increase the speed of direct international internet communications channels. The total speed of direct international internet communications channels increased by 29.9% and stood at 782.5 Mb/s over 2018.

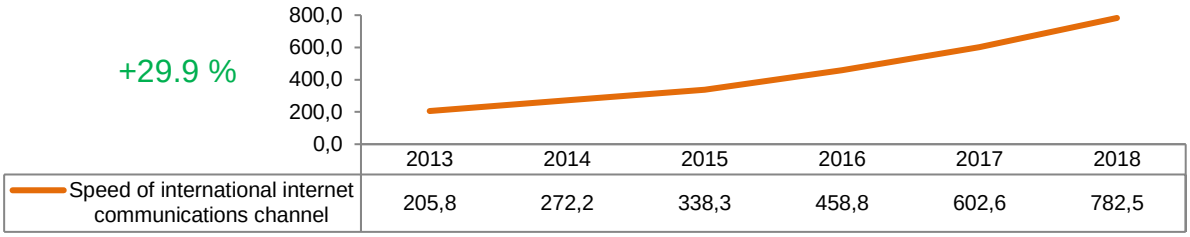


Fig. 57. **Total speed of direct international internet communications channel, Mb/s, 2013–2018**
Source: RRT

In 2018, the revenue from wholesale internet access services was going down by 36.2%. The largest market share was held by Telia Lietuva, AB in 2018.

3.4. Other Data Transmission Services

Service providers	18
Service users, thousand	12.9
Revenue, EUR million	23.7

*- excluding active SIM cards used for M2M services.

Methods of the service provision. Other data transmission services are usually the services provided by the internet protocol technologies which ensure data transmission between the geographically distant points, connection of geographically distant points, data flow transmission and other features of data transmission. The examples of such services are Virtual Private Network services, Ethernet services, Multiprotocol Label Switching (MPLS) services for data flow transmission.

Revenue. In 2018, the revenue from other data transmission services totalled EUR 23.7 million or by 3.5% less than in 2017 (see Fig. 58). Throughout the entire period of 2013-2016, the annual decrease in the revenue from other data transmission services was observed, whereas from 2017 its increase was stimulated by the start of provision of certain services (e.g. wholesale central access).

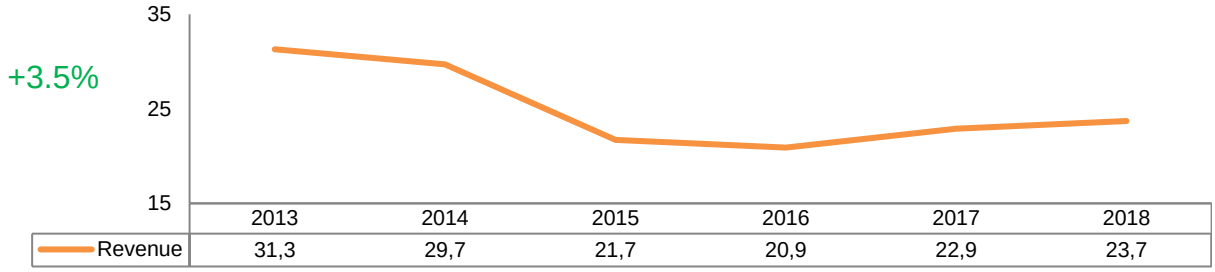


Fig. 58. **Revenue from other data transmission services, in EUR million, 2013-2018**

Source: RRT

3.4.1. Retail Other Data Transmission Services

Service providers	13
Service users, thousand	12.9
Number of M2M SIM cards, thousand	293.6
Retail revenue, EUR million	11.0
Revenue from M2M services, EUR million	3.4

IMPORTANT!

- In this section of the report, other retail service providers of other data transmission shall be all providers of such services, except for Telia Lietuva, AB, UAB Dekbera, UAB Bitė Lietuva in Figure 60, Telia Lietuva, AB, UAB Bitė Lietuva, UAB Tele2 indicated in Figure 62; Telia Lietuva, AB, UAB Bitė Lietuva, UAB Dekbera, AB Lietuvos Radijo ir Televizijos Centras in Figure 54 (hereinafter - the other providers).

Service users. In 2018, compared to 2017, the number of users increased by 3.9% to 12.9 thousand users (see Fig. 59). In 2013-2016, the number of leased lines was included in the number of service users of other data transmission services considering, with reservation, that 1 leased line equals 1 service user.

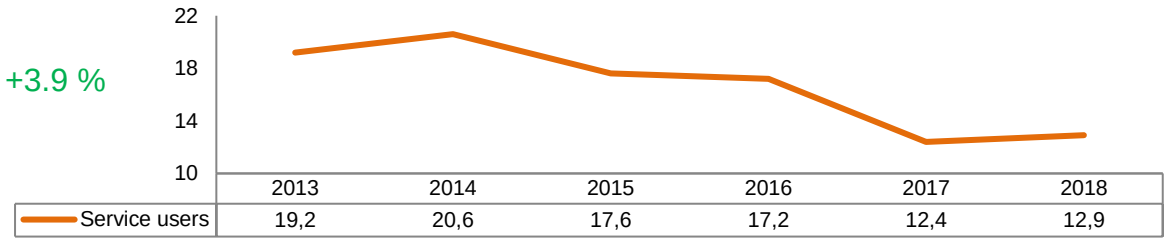


Fig. 59. **Number of retail other data transmission service users, in thousands, 2013-2018**
Source: RRT

The majority of retail other data transmission service users were using the services provided by Telia Lietuva, AB. At the end of 2018, Telia Lietuva, AB was providing retail other data transmission services to 85.4% of the service users, which was by 0.1 pp more than in 2017 (see Fig. 60).

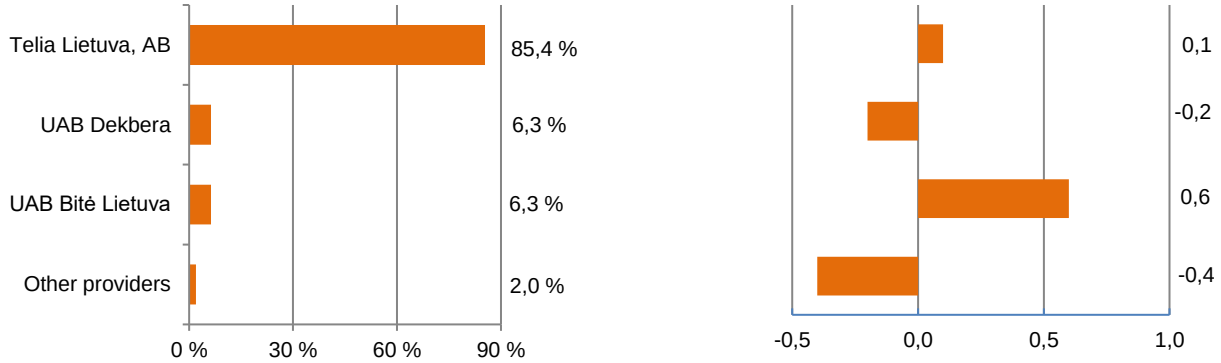


Fig. 60. **Structure of the number of service users by service providers, %, and annual changes of the market shares, pp, 2018**
Source: RRT

Number of M2M SIM cards. Between 2013 and 2018, the number of active SIM cards used to provide M2M (Machine to Machine, Man to Machine, Machine to Man) services was continuously growing. In 2018, the growth of the number of such cards was the highest throughout the entire period – in 2018, it

amounted to 293.6 thousand SIM cards for M2M services, which was by 17.0% or by 42.6 thousand more than in 2017 (see Fig. 61).

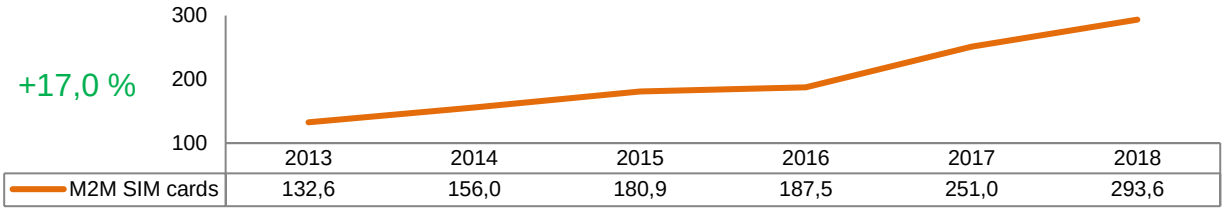


Fig. 61. **Number of SIM cards for M2M services, in thousands, 2013-2018**
Source: RRT

In 2018, over a half of SIM cards for M2M services were used by Telia Lietuva, AB, i.e., in 53.4% of the market. UAB Bitė Lietuva held 29.3% of the market and UAB Tele2 held 17.3% of the market (see Fig. 62). In 2018, compared to 2017, the market share held by UAB Tele2 increased (by 1.9 percentage points) and the market share held by Telia Lietuva, AB decreased by 2.8 percentage points.

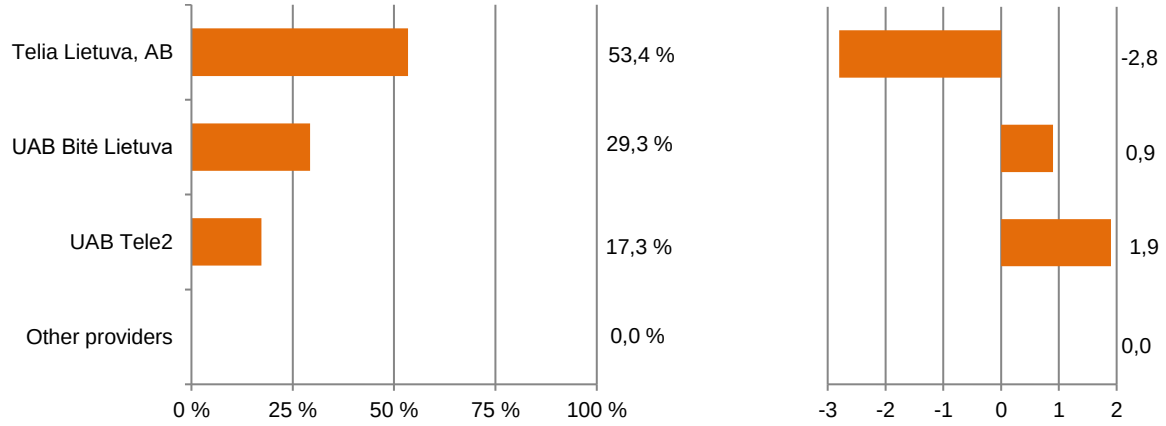


Fig. 62. **Structure of the number of SIM cards for the provision of M2M services by service providers, %, and annual changes of the market shares, pp, 2018**
Source: RRT

Revenue. Between 2013 and 2018, the revenue from retail other data transmission services were consistently decreasing and only in 2017 a slight increase was observed (5.6%). In 2018, such revenue had been the lowest since 2013 and stood at EUR 14.4 million (see Fig. 63). In 2018, compared to 2017, the revenue from retail other data transmission services went down by 11.0% and amounted to EUR 14.4 million. With a view to the revenue from the provision of M2M services, such revenue had grown since 2014 until 2018. In 2018, the revenue from M2M services stood at EUR 3.4 million and was by 17.7% higher than in 2017.

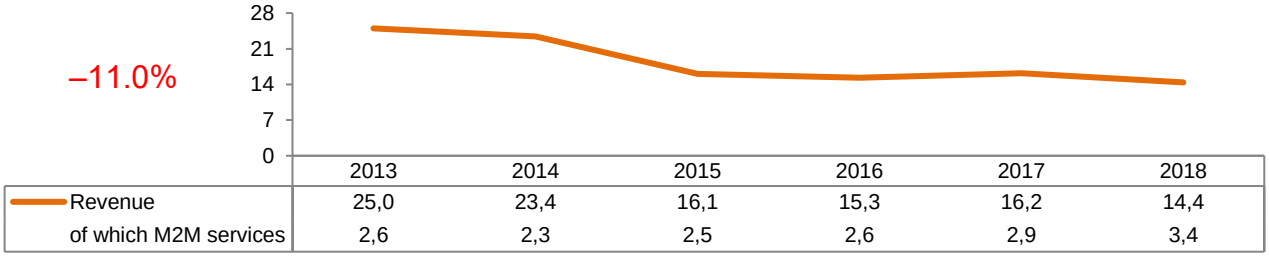


Fig. 63. **Revenue from retail other data transmission services, in EUR million, 2013-2018**
Source: RRT

In 2018, the largest market share, in terms of revenue from the provision of other retail data transmission services, was held by Telia Lietuva, AB (70.1%) (see Fig. 64). It must be noted, however, that the market share held by Telia Lietuva, AB shrank most significantly in 2018, compared to 2017 (by 5.3 pp). In 2018, UAB Bitė Lietuva held 19.3% of the market, it was followed by UAB Dekbera with 2.4% of the market and AB Lietuvos Radijo ir Televizijos Centras with 2.4% of the market. In 2018, compared to 2017, the market share held by UAB Bitė Lietuva was subject to the largest increase (by 6.2 pp).

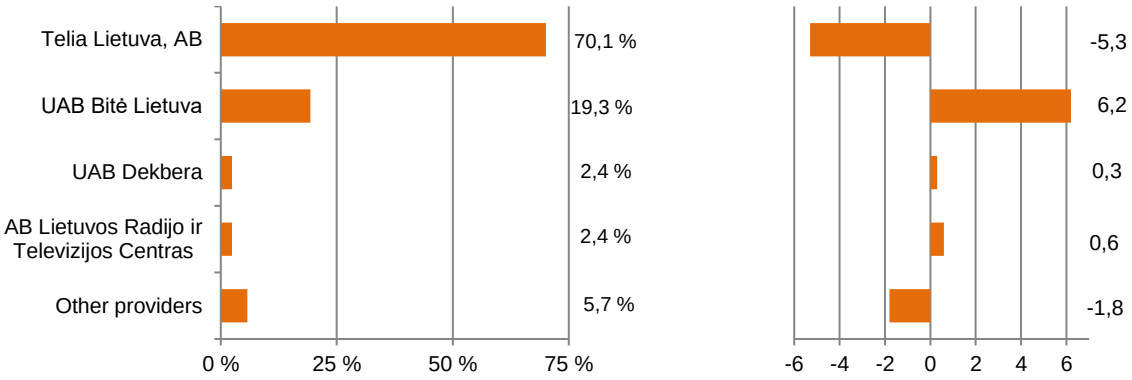


Fig. 64. **Structure of revenue from retail other data transmission services by service providers, %, and annual changes of the market shares, pp, 2018**
Source: RRT

In 2018, the revenue from M2M services was received by 3 undertakings (Telia Lietuva, AB, UAB Bitė Lietuva and UAB Tele2). The largest market share, in terms of revenue from M2M services, was held by Telia Lietuva, AB (45.3%), it was followed by UAB Bitė Lietuva with 38.7% of the market and UAB Tele2 with 16.0% of the market (see Fig. 65). The market share held by Telia Lietuva, AB was subject to the largest growth (by 1.8 pp) in 2018, compared to 2017, and the market share held by UAB Bitė Lietuva significantly decreased (by 2.1 pp).

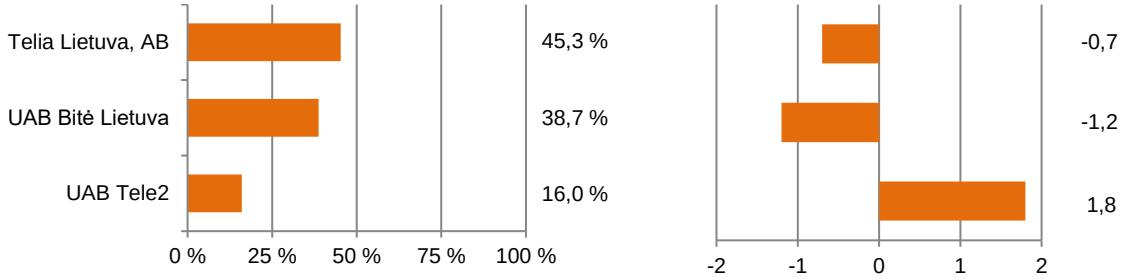


Fig. 65. **Structure of revenue from M2M services by service providers, %, and annual changes of the market shares, pp, 2018**
Source: RRT

In 2018, the number of retail other data transmission service users increased by 3.9%, the revenue received went down by 11.0%. In 2018, there were 293.6 thousand SIM cards used to provide M2M services, which was by 17.0% more than in 2017. In 2018, not only the number of M2M SIM cards, but also the revenue from the provision of M2M services was growing. M2M services were provided by 3 undertakings.

3.4.2. Wholesale Other Data Transmission Services

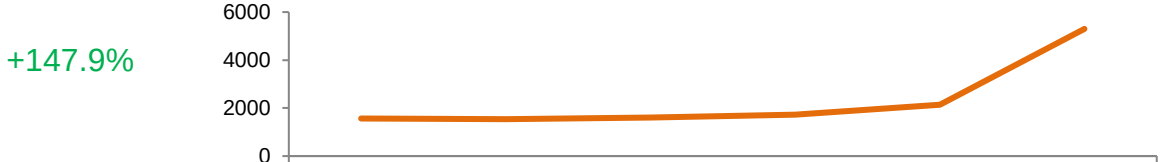
Service providers	7
Granted wholesale central accesses at a fixed location, thousand	5,300
Wholesale revenue, EUR million	9.26

IMPORTANT!

- In this section of the report, the wholesale other data transmission service providers shall be all providers of such services, except for Telia Lietuva, AB, Public Enterprise Plačiajuostis Internetas, UAB Duomenų Logistikos Centras indicated in Figure 68 (hereinafter – the other providers).

Service providers. In 2018, the wholesale other data transmission services were provided by 7 undertakings (same as in 2017).

Wholesale central access provided at a fixed location for mass-market products. At the end of 2018, the service of wholesale central access at a fixed location for mass-market products was provided by 1 undertaking – Telia Lietuva, AB. At the end of 2018, Telia Lietuva, AB had granted 5,300 wholesale central accesses at a fixed location in total, of which 21.3% of wholesale accesses (1,127 wholesale accesses) were granted by means of xDSL technology and 78.7% (4,173 wholesale accesses) of them were granted by means of FTTx technology (see Fig. 66). Taking account of the decrease in the demand for the services provided by means of xDSL technology, the number of granted wholesale central accesses at a fixed location by means of xDSL technology dropped by 6.6% in 2018, compared to 2017, however, the number of accesses using FTTx technology increased by 4.6 times. In the future, the demand for the services of wholesale central access at a fixed location for mass-market products by means of xDSL technology are also likely to go down and the use of FTTx technology should increase.

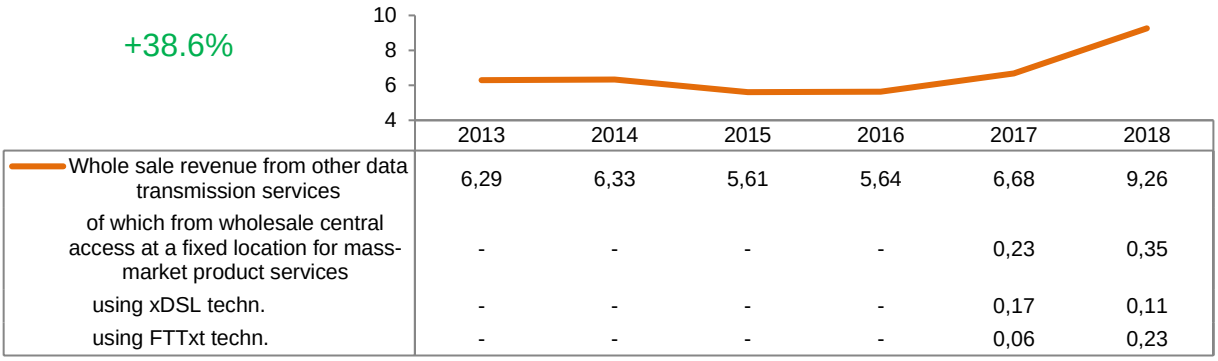


	2013	2014	2015	2016	2017	2018
Wholesale central access at a fixed location	1 567	1 538	1 611	1 725	2 138	5 300
of which using xDSL techn.	1 567	1 538	1 611	1 725	1 223	1 127
of which using FTTx techn.	-	-	-	-	915	4 173

Between 2013 and 2016, there are no data on the number of granted wholesale central accesses at a fixed location by means of FTTx technology.

Fig. 66. **Number of granted wholesale central accesses at a fixed location for mass-market products, 2013-2018**
Source: RRT

Revenue. In 2018, compared to 2017, the revenue from the provision of wholesale other data transmission services increased by EUR 2.58 million or by 38.6% and accounted for EUR 9.26 million (see Fig. 67). In 2018, the revenue from the provision of wholesale central access at a fixed location for mass-market products accounted for EUR 0.35 million or 3.7% of the total revenue from the provision of wholesale other data transmission services.



	2013	2014	2015	2016	2017	2018
Whole sale revenue from other data transmission services	6,29	6,33	5,61	5,64	6,68	9,26
of which from wholesale central access at a fixed location for mass-market product services	-	-	-	-	0,23	0,35
using xDSL techn.	-	-	-	-	0,17	0,11
using FTTxt techn.	-	-	-	-	0,06	0,23

Between 2012 and 2016, there are no data on the revenue from the services of wholesale central accesses at a fixed location for mass-market products provided by means of both xDSL and FTTx technologies.

Fig. 67. **Revenue from wholesale other data transmission services, in EUR million, 2013-2018**

Source: RRT

In 2018, the largest market share, in terms of revenue from the provision of wholesale other data transmission services, was held by Telia Lietuva, AB (58.6%) (see Fig. 68). It must be noted, however, that the market share held by Telia Lietuva, AB shrank most significantly in 2018, compared to 2017 – by 3.0 pp. In 2018, the Public Enterprise Plačiajuostis Internetas held 23.4% of the market, it was followed by UAB Duomenų Logistikos Centras with 12.2% of the market. In 2018, compared to 2017, the market share held by UAB Duomenų Logistikos Centras was subject to the largest increase (by 5.9 pp).

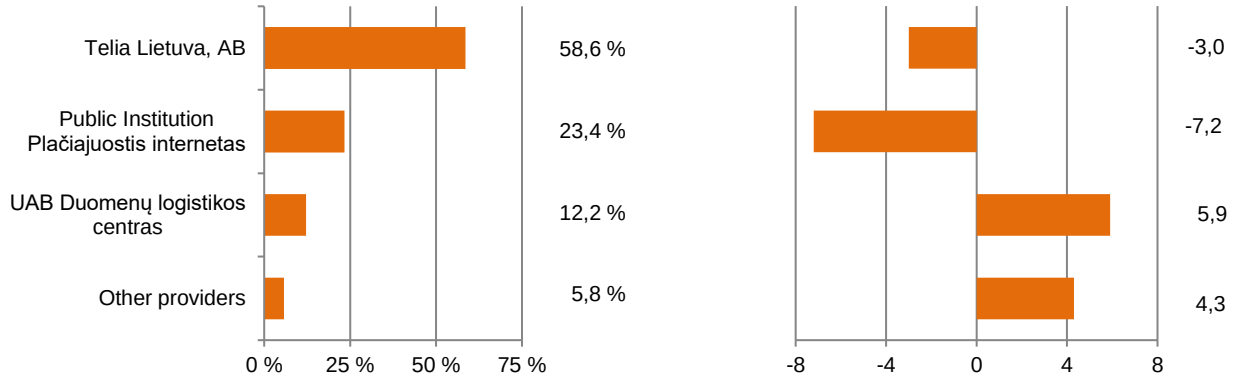


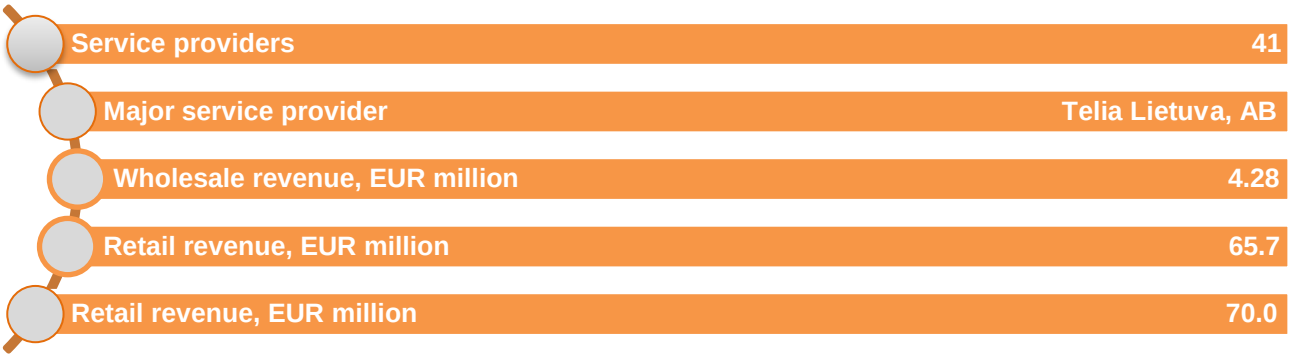
Fig. 68. **Structure of revenue from wholesale other data transmission services by service providers, %, and annual changes of the market shares, pp, 2018**

Source: RRT

In 2018, the revenue from the provision of wholesale other data transmission services increased by 38.6% and accounted for EUR 9.26 million. In 2018, the number of wholesale central accesses at a fixed location for mass-market products increased by 147.9% and totalled 5,300.

4. Television and Radio

4.1. General Overview of the Market of Television and Radio Services



IMPORTANT!

- In this section of the report other television and radio service providers shall be all television and radio service providers, except for UAB Balticum TV, UAB Cgates, UAB Init, AB Lietuvos Radijo ir Televizijos Centras, Splius, UAB, Telia Lietuva, AB and AS TV Play Baltics (hereinafter – the other providers).

In the context of this report, the market of television and radio services covers retail pay-TV services and wholesale television and radio broadcasting services which are required for the provision of retail radio and television services.

Service providers. At the end of 2018, television and radio activities, insofar this relates to the electronic communications activities, were carried out by one undertaking more than at the end of 2017, i.e., 41 undertakings (see Table 28).

In 2018, retail pay-TV services were provided by 40 service providers. There were quite fewer wholesale radio and television broadcasting service providers. At the end of 2018, television broadcasting services were provided by 3 undertakings: AB Lietuvos Radijo ir Televizijos Centras was providing both retail pay-TV services and radio and television services, UAB Balticum TV provided both retail pay-TV services and television services, UAB Satgate provided only television services not in the territory of the Republic of Lithuania.

Table 28. **Number of television and radio service providers by services provided, in units, 2013-2018**

	2013	2014	2015	2016	2017	2018
Radio and television broadcasting	4	6	4	4	3	3
Paid-TV services	46	45	41	42	39	40
In total	**46**	**46**	**45**	**44**	**40**	**41**

Source: RRT

Revenue. The significantly increased revenue from retail pay- and wholesale television and radio services in 2017 was growing slightly slower in 2018. In 2018, compared to 2017, the said revenue increased by EUR 1.8 million or by 2.5% and accounted for EUR 70.0 million (see Fig. 69). This change in the revenue was mainly caused by the higher revenue from pay-TV services.

In 2018, as in the previous periods, the largest part of the revenue was earned from retail pay-TV services. The revenue generated from this activity stood at EUR 65.7 million and constituted 93.9% (same as in 2017) of the total revenue from the provision of television and radio broadcasting services. In 2018, the revenue from wholesale television and radio broadcasting services amounted to EUR 4.28 million or 6.1%

(as in 2017) of the total revenue, of which: 4.6% (as in 2017) of the revenue was received from television broadcasting services, and 1.5% (in 2017 – 1.6%) – from radio broadcasting services.

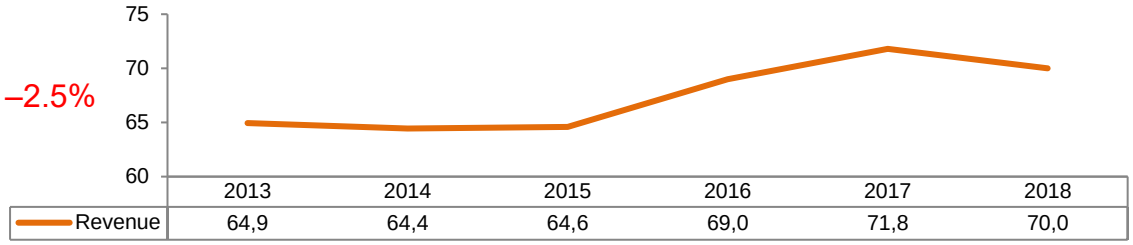


Fig. 69. **Revenue from television and radio services, in EUR million, 2013-2018**
Source: RRT

The analysis of the structure of the market of television and radio services by revenue of service providers in 2018 shows that the same 7 undertakings remained the major service providers and together held 93.9% of the market, i.e., by 0.4 pp more than in 2017 (see Fig. 70). Telia Lietuva, AB remained the major service provider, however, its market share decreased the most by 0.6 pp which stood at 36.9%. UAB Cgates, which held 18.1% of the market by revenue in 2018, was the one to have strengthened its market share the most.

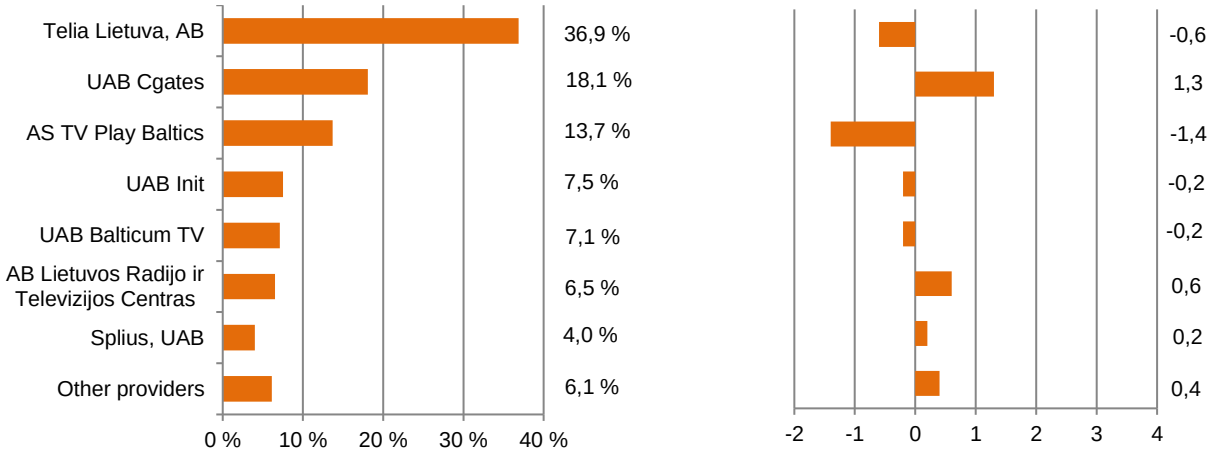


Fig. 70. **Structure of revenue from television and radio services by service providers, %, and annual changes of the market shares, pp, 2018**
Source: RRT

In 2018, compared to 2017, the revenue from television and radio services decreased by 2.5%. UAB Cgates, which held 18.1% of the market by revenue in 2018, was the one to have strengthened its market share the most; 2 other undertakings also managed to strengthen the market share slightly: AB Lietuvos Radijo ir Televizijos Centras which held 6.5% of market share and Splius, UAB, which held 4.0% of the market in terms of revenue in 2018.

4.2. Retail Pay-TV Services

IMPORTANT!

- In this section of the report, other retail pay-TV service providers shall be all retail television service providers, except for UAB Balticum TV, UAB Cgates, UAB Init, Splius, UAB, Telia Lietuva, AB and AS TV Play Baltics (hereinafter – the other providers).

Modes of the service provision. In 2018, pay-TV services were provided by employing 5 different methods in Lithuania:

- via cable television networks (hereinafter – CTV);
- via broadband networks by means of Internet Protocol technologies (hereinafter – IPTV);
- via satellite networks (hereinafter – satellite TV);
- via terrestrial television networks (hereinafter – DVB-T);
- via microwave multi-channel distribution system networks (hereinafter – MMDS).

Service providers. In 2018, compared to 2017, the number of pay-TV service users changed insignificantly. The changes are recorded in CTV and IPTV segments (see Table 29). The number of undertakings providing CTV services dropped from 26 to 25 service providers in 2018. The number of undertakings providing IPTV services had grown by 2 undertakings and stood at 20 in 2018. In 2018, as in the previous periods, MMDS and DVB-T services were provided by 2 undertakings (each), and satellite TV services were provided by 1 undertaking – AS TV Play Baltics.

Table 29. **Structure of pay-TV service providers by service provision methods, in units, between 2013 and the end of 2018**

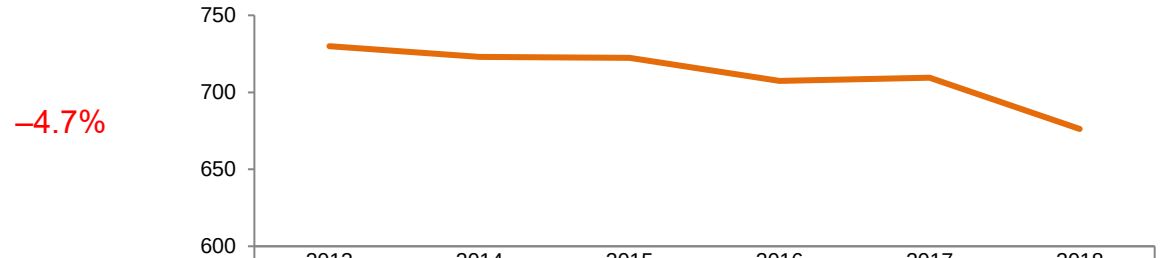
	2013	2014	2015	2016	2017	2018
IPTV	15	16	15	16	18	20
CTV	37	35	32	30	26	25
MMDS	2	2	2	2	2	2
DVB-T	2	2	2	2	2	2
Satellite TV	1	1	1	1	1	1

Source: RRT

Service users. At the end of 2018, the number of television service users stood at 676.2 thousand or by 4.7% less than in 2017 (see Fig. 71). Such decrease was mainly caused by the fact that undertaking Telia Lietuva, AB adopted a decision to disconnect DVB-T transmitted in the 3rd quarter of 2018, i.e. stopped providing paid DVB-T services. The largest share (51.8%) of television service users were still preferring CTV services, but their number was dropping. In 2018, compared to 2017, the share of CTV service subscribers decreased by 5.9 pp. In 2018, IPTV and satellite TV services were used by 38.3% and 8.5% of

all pay-TV service users, respectively. The DBV-TV service became the least popular unlike in 2017 (the least popular was MMDS) whose users accounted for mere 0.1%.

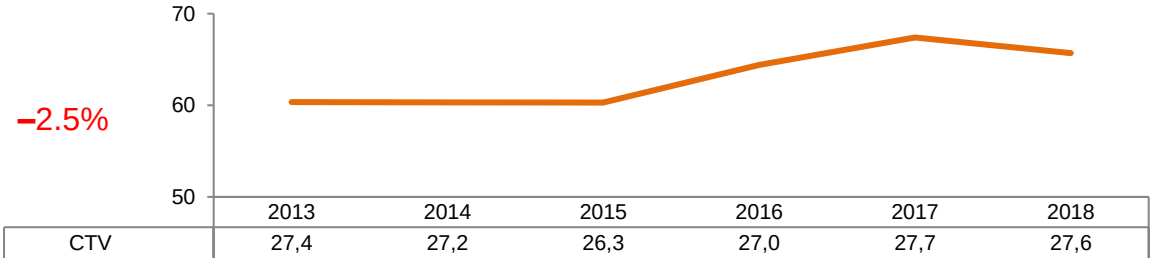
The assessment of the structure of pay-TV service users by methods of the television service provision indicates that the number of the users of services provided by all methods, except for IPTV, was decreasing in 2018. In 2018, same as in previous periods, the number of IPTV service users continued to demonstrate growth – in 2018, compared to 2017, the number of IPTV service users grew by 29.4 thousand or by 12.8 %. The growth of the demand for IPTV services may be associated with the fact that such services are provided conveniently in a single package with internet access services and also IPTV services ensure high video quality. The number of DVB-T television service users decreased the most – it went down by 98.7% and totalled 0.4 thousand users at the end of the year.



	2013	2014	2015	2016	2017	2018
CTV	428,1	414,2	397,9	377,4	372,1	350,2
IPTV	119,0	145,8	179,9	206,1	229,4	258,8
Satellite TV	100,4	92,6	83,6	73,6	66,2	57,6
DVB-T	67,8	57,0	48,7	39,6	31,8	0,4
MDTV	14,7	13,4	12,2	10,8	9,9	9,2
Service users, total	729,9	723,0	722,3	707,4	709,4	676,2

Fig. 71. **Number and structure of pay-TV service users by service provision methods, in thousand units, in 2013-2018**
Source: RRT

Revenue. In 2018, the largest part (42.0%) of the revenue from pay-TV services was from CTV services whose revenue, compared to 2017, decreased by 0.4% (see Fig. 72). In 2017, the decrease of the revenue from pay-TV services resulted from the decrease of the revenue from CTV and DVB-T services. In 2018, the revenue from IPTV continued to grow. In 2018, compared to 2017, revenue from IPTV increased by EUR 1.1 million or by 4.5%.



	2013	2014	2015	2016	2017	2018
CTV	27,4	27,2	26,3	27,0	27,7	27,6
IPTV	11,4	12,9	16,0	20,6	24,2	25,3
Satellite TV	13,6	13,5	12,1	11,4	10,8	9,6
DVB-T	6,4	5,4	4,8	4,3	3,6	2,2
MDTV	1,5	1,3	1,2	1,1	1,0	1,0
Revenue, total	60,4	60,3	60,3	64,4	67,4	65,7

Fig. 72. **Structure of revenue received from pay-TV services by service provision methods, in EUR million, 2013-2018**
Source: RRT

In 2018, the structure of the pay-TV service market by the revenue received by service providers looked as follows (see Fig. 73): Telia Lietuva, AB remained the market leader holding 39.4% of market,

however, its market share increased by 0.6 pp over a year, the second position on the market, same as in 2017, was held by UAB Cgates with 19.3% of the market which enhanced its positions over the year (increased the held market share by 1.4 pp). The market share of AS TV Play Baltics decreased by 1.5 pp and amounted to 14.6% in 2018.

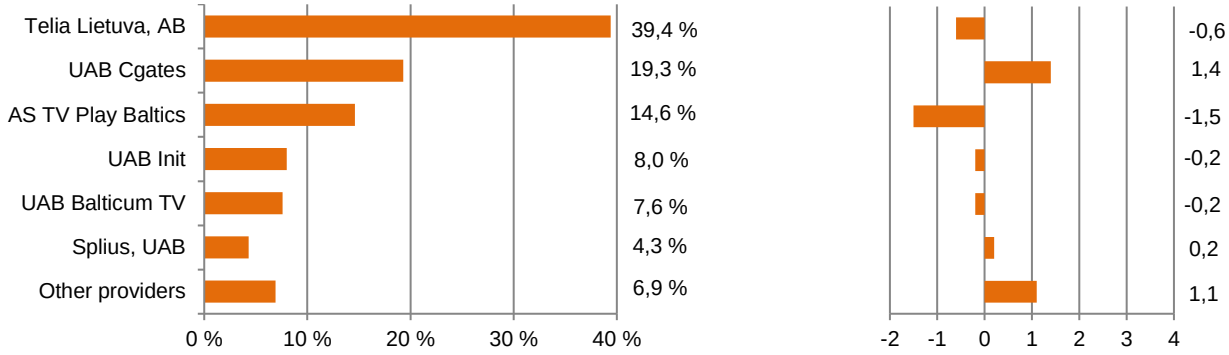
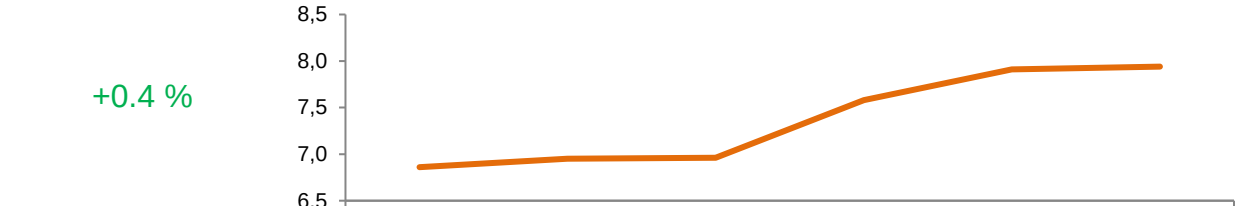


Fig. 73. **Structure of revenue from pay-TV services by service providers, %, and annual changes of the market shares, pp, 2018**
Source: RRT

ARPU. The monthly revenue per pay-TV service user (ARPU) accounted for EUR 7.94 in 2018 and it was by EUR 0.03 more than in 2017 (see Fig. 74). The highest ARPU was gained by the providers of satellite TV services in 2018, same as in previous periods. The lowest ARPU was earned by other CTV service providers in 2018, as in 2017.



	2013	2014	2015	2016	2017	2018
CTV	5,33	5,48	5,50	5,97	6,14	6,41
IPTV	8,02	7,37	7,40	8,33	9,16	8,58
Satellite TV	11,27	12,19	12,01	12,86	13,07	13,06
DVB-T*	7,88	7,84	8,25	8,96	8,70	9,26
MDTV	8,72	8,14	8,06	8,55	8,43	8,85
ARPU of all pay-TV services	6,86	6,95	6,96	7,58	7,91	7,94

* - 2018 results were estimated by using data of 1st and 2nd quarters of 2018.
Fig. 74. **ARPU from pay-TV services by service provision methods in EUR per month, 2013-2018**
Source: RRT

In 2018, both the number of IPTV service users and revenue gained by the service providers for IPTV services increased. Considerable growth in the IPTV services market both in terms of the number of service recipients and income has been observed since 2011. Such growth allows to expect positive future tendencies. In 2018, in terms of income, retail pay-TV services market share of UAB Cgates demonstrated the greatest growth (in percentage points). In 2018, ARPU of almost ways of the television provision was increasing, except for IPTV and satellite TV).

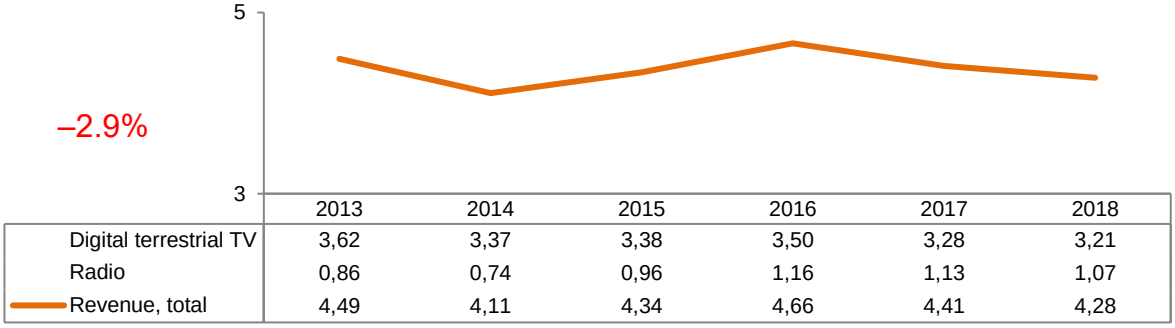
4.3. Wholesale Television and Radio Broadcasting Services

Service providers	3
Major service provider	AB Lietuvos Radijo ir Televizijos Centras
Wholesale revenue, EUR million	4.3

Service providers. In 2018, as in 2017, wholesale television broadcasting services were provided by 3 undertakings: AB Lietuvos Radijo ir Televizijos Centras (over national networks), UAB Balticum TV (over regional networks) and UAB Satgate (provided television broadcasting services outside Lithuania).

In 2018, as previously, wholesale radio broadcasting services were provided by only one undertaking – AB Lietuvos Radijo ir Televizijos Centras.

Revenue. In 2018, compared to 2017, the revenue from the provision of television and radio broadcasting services dropped by 2.9% and stood at EUR 4.28 million (see Fig. 75). The decrease of the revenue resulted from the lower revenue received from radio broadcasting services and the revenue from digital terrestrial television broadcasting services. The largest part of the revenue from television and radio broadcasting services in 2018, as in the previous periods, was generated by AB Lietuvos Radijo ir Televizijos Centras. In 2018, this undertaking generated 97.8% (in 2016 – 95.5%) of the total revenue from television and radio broadcasting services.



	2013	2014	2015	2016	2017	2018
Digital terrestrial TV	3,62	3,37	3,38	3,50	3,28	3,21
Radio	0,86	0,74	0,96	1,16	1,13	1,07
Revenue, total	4,49	4,11	4,34	4,66	4,41	4,28

Fig. 75. **Revenue from television and radio broadcasting services by service groups, in EUR million, 2013-2018**
Source: RRT

Digital terrestrial television broadcasting stations. At the end of 2018, as many as 87 (in 2017 – 104) digital terrestrial television stations were operating in Lithuania. 14 of them were used for broadcasting local and regional broadcasters' TV programmes, the remaining 73 operated in two national coverage digital terrestrial TV networks (Public Enterprise Lietuvos Radijo ir Televizijos Centras network and first network of AB Lietuvos Radijo ir Televizijos Centras).

In 2018, the revenue from wholesale television and radio broadcasting services shrank by 2.9% and amounted to 6.1% of the total revenue of the television and radio market. In 2018, AB Lietuvos Radijo ir Televizijos Centras generated 97.8% of the total revenue from television and radio broadcasting services.

5. Access to Physical Infrastructure

Service providers	16
Major service provider	Telia Lietuva, AB
Wholesale revenue, EUR million	9.8

IMPORTANT!

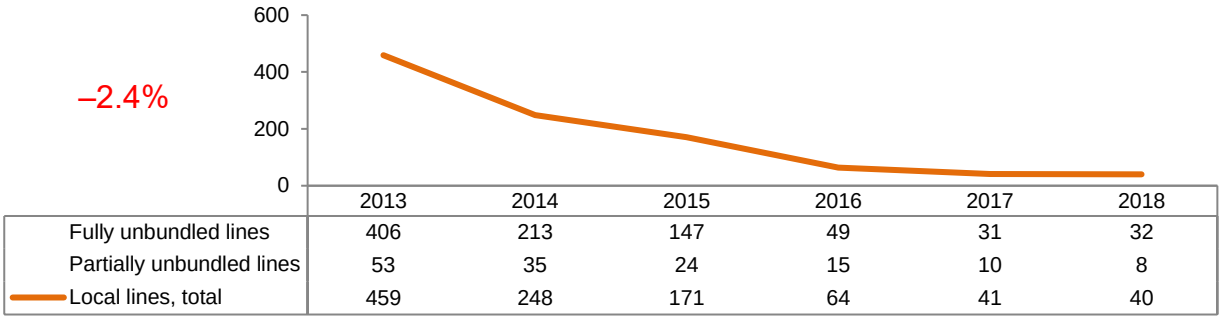
- As the information possessed by RRT until 2017 includes the access to dark fibre and full unbundled and shared access to the local metallic twisted pair loop services only, the information contained in this section will reflect only the provision of the said services throughout the entire period of 2013-2018. Information on other services of access to physical infrastructure covers 2017 and 2018 only.
- In this section of the report other access to physical infrastructure service providers shall be all access to physical infrastructure service providers, except for UAB Skaidula and Telia Lietuva, AB indicated in Figure 77, UAB Duomenų Logistikos Centras, Public Enterprise Plačiajuostis Internetas, UAB Skaidula and Telia Lietuva, AB indicated in Figure 79 (hereinafter – the other providers).

In 2018, the following wholesale access to physical infrastructure services were provided in Lithuania:

- wholesale line rental services (WLR) for the provision of public fixed telephone services by way of pre-selection of the operator;
- access to dark fibre service;
- service of full unbundled and shared access to the local loop;
- service of access to communications cable ducting system;
- services of access to other physical infrastructure.

Service providers. At the end of 2018, wholesale access to physical infrastructure services were provided by 16 undertakings, i.e. by 1 undertakings more as compared to 2017. In 2018, as in the previous year, shared access to the local metallic twisted pair loop services were provided by only one undertaking – Telia Lietuva AB. In 2018, this undertaking was also the sole operator that was providing wholesale line rental services (WLR) for the provision of public fixed telephone services by way of pre-selection of the operator. In 2018, the full unbundled access to local metallic twisted pair loop services and access to communications cable duct system services were provided by two undertakings – Telia Lietuva, AB and AB Lietuvos Geležinkeliai. In 2018, the full unbundled access to local dark fibre services were also provided by 2 undertakings (AB Lietuvos Geležinkeliai and AB Lietuvos Radijo ir Televizijos Centras). 14 undertakings were engaged in the provision of access to dark fibre services, i.e., the same number of undertakings as in 2017. Access to communication cable duct system services were provided by 3 undertakings in 2018 (Telia Lietuva, AB, AB Lietuvos Geležinkeliai and UAB Balticum TV).

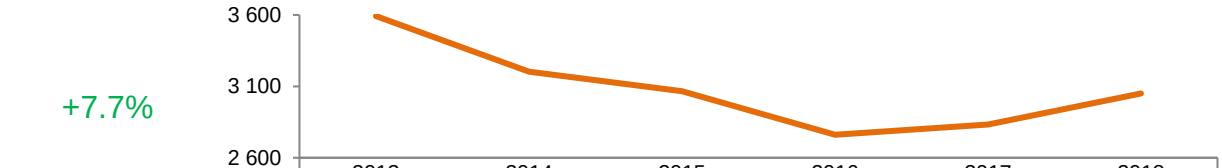
Number of granted accesses. During the period between 2013 and 2018, the demand for full unbundled and shared access to the local line services was gradually decreasing (see Fig. 76). At the end of 2018, the total number of granted accesses to the local line stood at 40 units or by 2.4% less than in 2017.



	2013	2014	2015	2016	2017	2018
Fully unbundled lines	406	213	147	49	31	32
Partially unbundled lines	53	35	24	15	10	8
Local lines, total	459	248	171	64	41	40

Fig. 76. **Number of granted accesses to full unbundled and shared local loop, in units, 2013-2018**
Source: RRT

At the end of 2018, the service providers had provided 3,050 dark fibres (see Fig. 77). The number of granted accesses to dark fibres was decreasing in 2013-2016, however, this tendency changed in 2017, i.e. the number of granted accesses started to increase. At the end of 2018, by 7.7% or by 218 dark fibres more were provided than at the end of 2017. In 2018, UAB Skaidula further maintained the leader's position on the market of access to dark fibre services in terms of the number of accesses granted. In 2018, compared to 2017, the market share of UAB Skaidula remained similar (decreased by 0.5 pp) and stood at 34.0%.

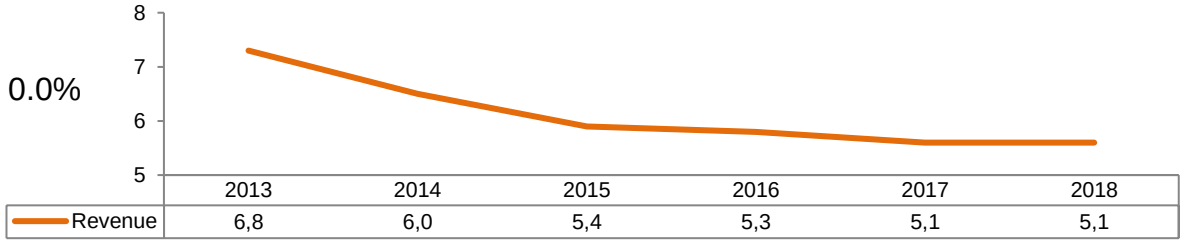


	2013	2014	2015	2016	2017	2018
Telia Lietuva, AB	1 324	1 075	975	843	810	925
UAB Skaidula	773	801	873	892	978	1 037
Other providers	1 495	1 326	1 218	1 026	1 044	1 088
Granted accesses, total	3 592	3 202	3 066	2 761	2 832	3 050

Fig. 77. **The number of granted accesses to dark fibre, in units, 2013-2018**
Source: RRT

At the end of 2018, as many as 810 wholesale local lines were assigned for the provision of public fixed telephone services by way of pre-selection by the operator (by 147 lines more than in 2017) as well as access to the communications cable duct system of 8,847 km long.

Revenue. In 2018, the revenue received from the provision of services of access to physical infrastructure equalled EUR 9.8 million or 18.1% compared to 2017. The amount of EUR 5.1 million or 52.0% of revenue from provision of access to physical infrastructure services was received from the provision of access to dark fibre services. The providers of dark fibres earned the same amount of revenue in 2018 as in 2017. The amount of EUR 2.9 million was received from the provision of service of access to communications cable duct system. The largest part of the revenue was gained by Telia Lietuva, AB, i.e. EUR 5.4 million or 55.4% of all revenue from the provision of services of access to physical infrastructure.



	2013	2014	2015	2016	2017	2018
Revenue	6,8	6,0	5,4	5,3	5,1	5,1

Fig. 78 **Revenue from access to dark fibre services, in EUR million, 2013-2018**

Source: RRT

In 2018, UAB Skaidula remained the leader of the market of the provision of access to dark fibre services, although its market share showed a minimum decrease by 1.2 pp (see Fig. 79). In 2018, compared to 2017, the market shares held by Telia Lietuva, AB and Public Enterprise Plačiajuostis Internetas showed an increase by 1.2 pp and 0.6 pp respectively and stood at 34.7% and 17.2% respectively.

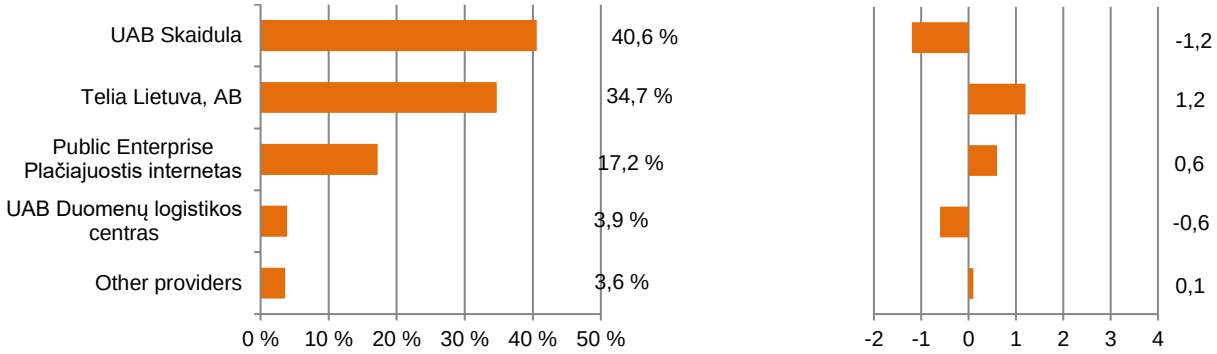


Fig. 79 **Structure of revenue from access to dark fibre services by service providers, %, and annual changes of the market shares, pp, 2018**
Source: RRT

In 2018, the revenue received from the provision of services of access to physical infrastructure equalled EUR 9.8 million. At the end of 2018, the total number of granted accesses to the local line stood at 40 units or by 2.4% less than in 2017. At the end of 2018, the service providers had provided 3,050 dark fibres, i.e. by 7.7% more than in 2017.

POSTAL SERVICE MARKET

1. General Overview of the Postal Service Market

IMPORTANT!

- In this section of the report, other postal service providers shall be all other postal service providers except for AB Lietuvos paštas, UAB DPD Lietuva, UAB DHL Lietuva, UAB Venipak Lietuva, UAB Baltic Post, UAB TNT, UAB Skubios Siuntos, UAB Omniva, UAB Nėgė, Federal Express Corporation branch, UAB Itella Logistic (hereinafter – the other providers).

The growth of the postal service market has been observed for ten years already – since 2009. During this period, the market has grown by 161.2% and in 2018, its revenue totalled EUR 171.1 million, i.e. 19.8% of the total revenue of the Lithuanian communications sector. The increasing volumes of e-commerce that has been observed both locally and internationally recently are directly related to the increase in the growth of the flow of postal items. This tendency is likely to remain in the future, thus, encouraging to continue to ensure uninterrupted provision of postal services under equal conditions to all residents of Lithuania.

The postal service consists of the following three main activities: sending of items of correspondence[26] (letters and small packages), sending postal parcels (articles and merchandise up to 50 kg), other postal and related services (advertising information, newspapers, magazines, other periodicals, etc.). Moreover, the postal service may be divided into universal postal service and non-universal postal service.

Service providers. At the end of 2018, there were 57 registered undertakings having indicated to intend to carry out the postal service activity in Lithuania, i.e., by 8 postal service providers fewer than at the end of 2017 (see Table 30). In 2018, 4 undertakings commenced the provision of the postal services, and 12 undertakings terminated this activity. However, there were only 45 out of 57 undertakings that were actually engaged in the provision of postal service at the end of 2018, i.e., by 1 undertaking less than in 2017.

Table 30. **Number of postal service providers, in units, 2013-2018**

	2013	2014	2015	2016	2017	2018
Number of actual postal service providers	59	56	47	55	46	45
Total number of postal service providers	76	69	66	67	65	57

Source: RRT

Revenue. In 2018, all postal service providers earned the revenue amounting to EUR 171.1 million, which was by 16.3% or by EUR 24.0 million more than in 2017 (see Fig. 80). It must be noted that

[26] An item of correspondence is a postal item to be dispatched and delivered, which contains a notice inscribed on any physical material, including small packages, and has the address of the addressee indicated thereon (books, catalogues, newspapers and other periodicals are not considered items of correspondence).

the revenue from the provision of postal services was growing throughout the entire period in question (2013-2018).

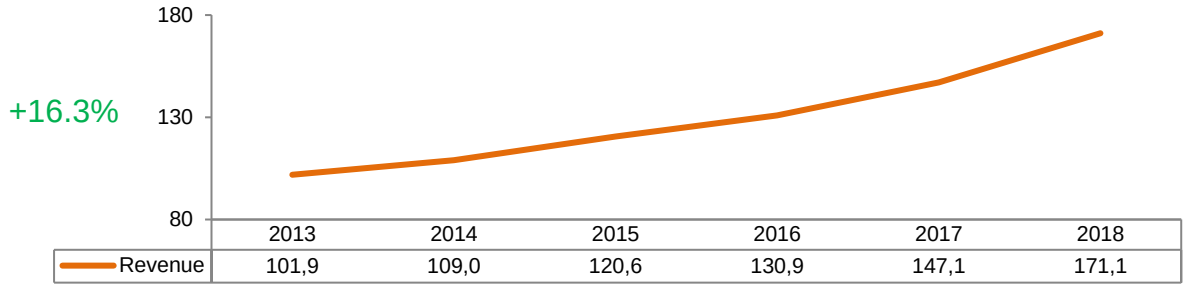


Fig. 80 **Revenue from the provision of postal services, in EUR million, 2013-2018**
Source: RRT

In 2018, the postal service market maintained the same proportions of the structure of income that was formed since 2012: the largest part of revenue (56.0%) was from the provision of postal services (see Table 31). The share of revenue for items of correspondence amounted to 40.1%, for other postal services[27] – 3.9%.

The largest share of postal revenue (82.1%) continued to include revenue for provision of non-universal postal service in 2018 (see Table 31), although this share decreased by 1.5 pp over a year. The revenue growth trend from the provision of the non-universal postal service[28] has been further observed since 2013. Over 2018, such revenue increased by 27.1% and over the entire period in question (2013-2018) it almost doubled (increased by 98.7%).

Table 31. **Structure of revenue of the postal service by types of postal items and services, in EUR million, 2013-2018**

	2013	2014	2015	2016	2017	2018
By types of postal items:						
items of correspondence	41.7	45.4	49.0	49.5	55.4	68.6
postal parcels	50.4	53.8	59.7	72.3	83.1	95.9
other	9.9	9.8	11.9	9.1	8.6	6.6
By types of the service:						
universal	15.4	16.8	18.7	20.4	24.1	30.6
non-universal	86.5	92.2	101.9	110.5	123.0	140.5
Total revenue	**101.9**	**109.0**	**120.6**	**130.9**	**147.1**	**171.1**

Source: RRT

The largest market share (33.5%), in terms of revenue, was held by AB Lietuvos Paštas in 2018 (see Fig. 81). Over the year, its market share shrank by 2.3 pp. The second largest undertaking in terms of the share of the postal service market was UAB DPD Lietuva holding 17.7% of the market, and UAB DHL

[27] Revenue for other postal services may include revenue from the sale of postage stamps, envelopes, packages, etc. This revenue does not include revenue received for delivery of periodicals.
[28] Universal postal service shall mean a postal service of the quality established by legal acts that is to be provided to all users willing to be provided with such a service throughout the Republic of Lithuania for an affordable fee. In the territory of the Republic of Lithuania the provision of this universal postal service shall be ensured: 1) the clearance, sorting, transport and delivery of postal items of up to 2 kilograms; 2) the clearance, sorting, transport and delivery of postal parcels up to 10 kg; 3) the clearance, sorting, transport and delivery of registered and insured postal items; 4) the delivery of postal parcels of up to 20 kilograms received from other Member States of the European Union.

Lietuva with the market share of 12.0% was ranked the third. The market share of the latter service provider showed the greatest increase over the year – by 1.7 pp.

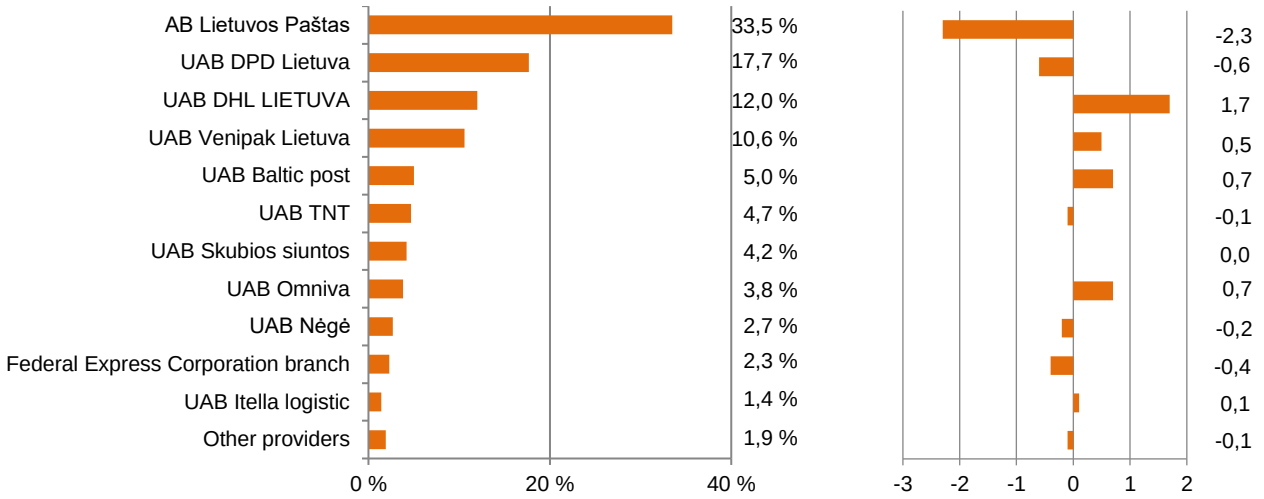


Fig. 81 **Structure of revenue of the postal service market by service providers, %, and annual changes of the market shares, pp, 2018**
Source: RRT

The obvious tendency of growth in the postal service market that has been observed over the last ten years and the increasing share of revenue of postal services shows that Lithuanian citizens are actively sending and receiving various parcels. This is a result of advanced electronic communications means which contribute to the increasing volumes of shopping online.

2. Items of Correspondence

IMPORTANT!

- In this section of the report, other providers of items of correspondence shall be all other providers of items of correspondence except for AB Lietuvos paštas, UAB DPD Lietuva, UAB DHL Lietuva, UAB TNT (hereinafter – the other providers).

Service providers. In 2018, items of correspondence were provided by 32 undertakings, i.e., by 4 undertakings fewer than in 2017.

Total number of items. In 2018, as many as 63.8 million items of correspondence were sent. In 2018, compared to 2017, the growth of 3.8% of the volume of items of correspondence was recorded (see Table 32). In 2018, the major share (69.2%) of these items was comprised of non-universal items of correspondence. Since 2013, an increase in the volume of items of correspondence has been observed in the segment of universal services (14.5%) and a decrease in the segments of non-universal services (15.0%). It shall be noted that despite this tendency, in 2018, a slight increase in the volume of items of correspondence was observed in the segment of non-universal services (3.5% or 1.5 million items).

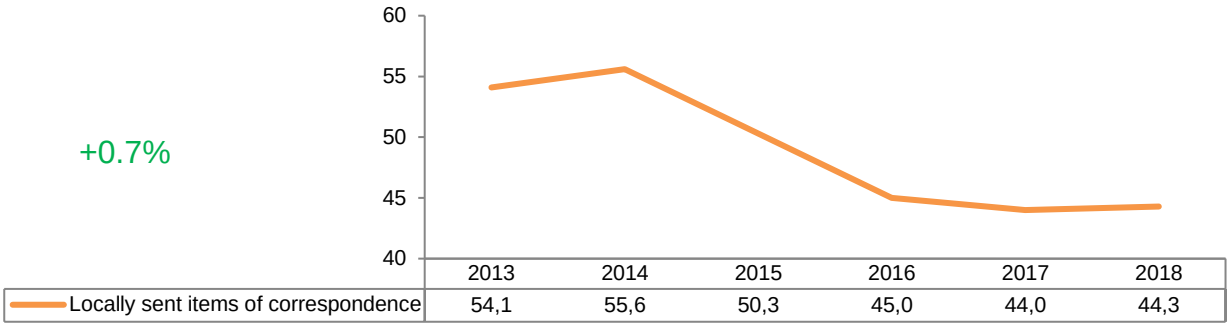
Table 32. **Volumes of items of correspondence, in million units, 2013-2018**

	2013	2014	2015	2016	2017	2018
Universal items of correspondence	17.2	17.5	16.8	17.2	18.8	19.7
Non-universal items of correspondence	51.9	54.1	57.5	43.5	42.6	44.1
All items	**69.1**	**71.6**	**74.3**	**60.7**	**61.4**	**63.8**

Source: RRT

The majority of items of correspondence (90.2%) were sent and received through AB Lietuvos Paštas, i.e., by 3.1% more than in 2017. The total of 1.9% of items of correspondence (0.2 pp more than in 2017) were sent and received through UAB DPD Lietuva, whereas through UAB Apskonta – 1.1% (1.1 pp less than in 2017) of items of correspondence.

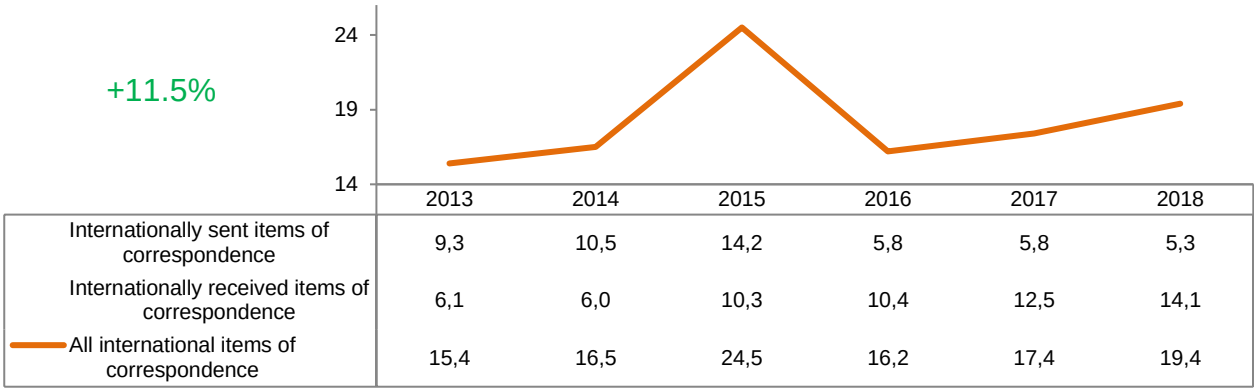
Volume of items by direction. As regards to items of correspondence by direction, 44.3 million of local items of correspondence were sent in 2018 – it is by 0.7% more as compared to 2017 (see Fig. 82). Although the decrease in the total volume of outgoing items of correspondence by 9.8 million or 18.1% has been observed throughout the entire period of 2013-2018, in 2018, the volume of domestic outgoing items of correspondence showed a slight increase (0.3 million). The volume of domestic incoming items of correspondence totalled 0.8 million in 2018 (77.9% or by 0.4 million more than in 2017).



	2013	2014	2015	2016	2017	2018
Locally sent items of correspondence	54,1	55,6	50,3	45,0	44,0	44,3

Fig. 82 **Dynamics of the number of domestic outgoing items of correspondence, in million units, 2013-2018**
Source: RRT

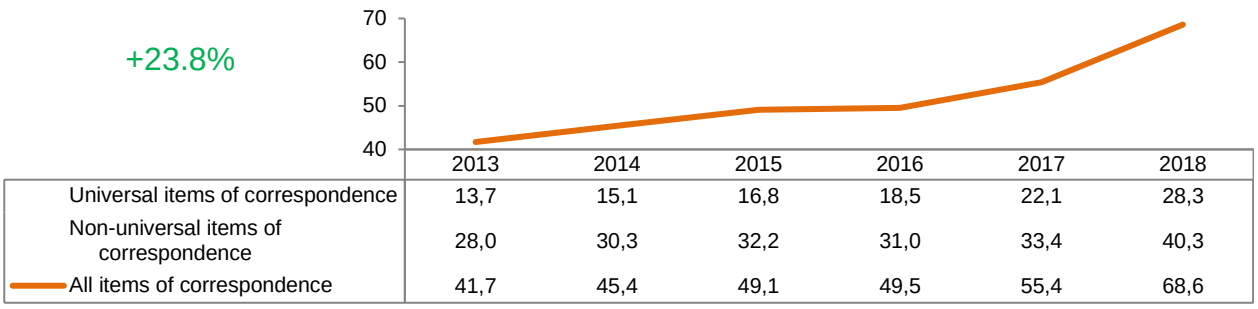
The volume of international items of correspondence increased by 4 million or 26.0% during the period in question (2013-2018). In 2018, 19.4 million international items of correspondence were sent and received (11.5% more than in 2017) (see Fig. 83). 5.3 million or 24.4% of which – international outgoing items of correspondence and 14.1 million or 72.6% – international incoming items of correspondence. In 2018, 8.8 million or 45.4% of all international items of correspondence were sent to/received from the EU Member States. In 2018, the largest market share in terms of the number of items of correspondence sent internationally was held by AB Lietuvos Paštas (91.9%), the market share of UAB DPD Lietuva amounted to 3.0% whereas of UAB DHL Lietuva – 2.8%.



	2013	2014	2015	2016	2017	2018
Internationally sent items of correspondence	9,3	10,5	14,2	5,8	5,8	5,3
Internationally received items of correspondence	6,1	6,0	10,3	10,4	12,5	14,1
All international items of correspondence	15,4	16,5	24,5	16,2	17,4	19,4

Fig. 83 **Dynamics of the number of international items of correspondence, in million units, 2013-2018**
Source: RRT

Revenue. In 2018, the revenue received from items of correspondence increased by 23.8%. In 2018, it equalled EUR 68.6 million (see Fig. 84). The largest part of the revenue (58.8%) was received from the provision of non-universal items of correspondence. The revenue from the provision of these services grew by 20.8% over the year. The revenue from universal items of correspondence increased by 28.3%.



	2013	2014	2015	2016	2017	2018
Universal items of correspondence	13,7	15,1	16,8	18,5	22,1	28,3
Non-universal items of correspondence	28,0	30,3	32,2	31,0	33,4	40,3
All items of correspondence	41,7	45,4	49,1	49,5	55,4	68,6

Fig. 84 **Revenue from sending items of correspondence, in EUR million, 2013-2018**
Source: RRT

Lietuvos Paštas AB received most revenue from letter-post items (see Fig. 85). The market share held by this company represented 72.9% in 2018 and it was by 0.6 pp higher than in 2017. UAB DHL Lietuva received 13.5%, UAB DPD Lietuva – 5.8% of the total revenue from items of correspondence in 2018.

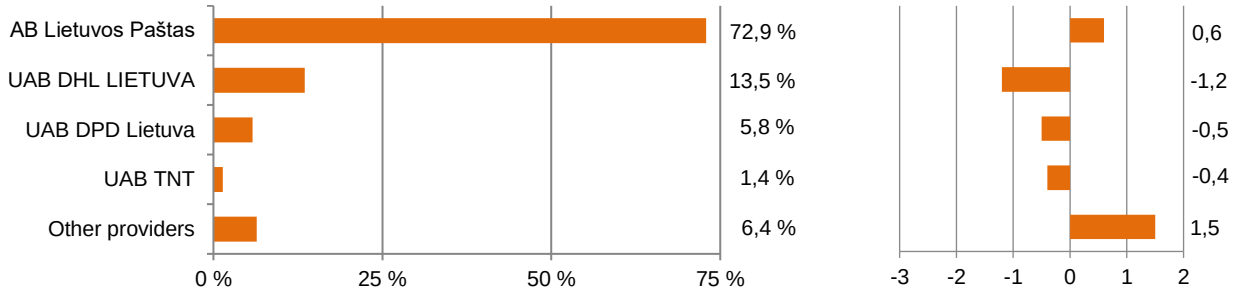


Fig. 85 **Structure of the postal service provider' market shares by revenue for the items of correspondence, %, and annual changes of the market shares, pp, 2018**
Source: RRT

Items of correspondence further remain a significant share of the postal service market. This is evidenced by the 3.8% increase in the volume of items and 23.8% increase in the revenue received for them. This change is most likely to be associated with sending heavier and more expensive items and increased rates of postal service providers.

3. Postal parcels

IMPORTANT!

- In this section of the report, other postal parcel service providers shall be all other postal parcel service providers except for AB Lietuvos paštas, UAB DPD Lietuva, UAB DHL Lietuva, UAB Venipak Lietuva, UAB Baltic Post, UAB TNT, UAB Skubios Siuntos, UAB Omniva, UAB Nėgė, Federal Express Corporation branch, UAB Itella Logistic (hereinafter – the other providers).

Service providers. In 2018, the postal parcel services were provided by 28 undertakings, i.e. same as in 2017.

Number of parcels. During the period between 2013 and 2018, the number of parcels was continuously growing. In 2018, 17.10 million items of postal parcels were handed over, i.e., by 23.7% more than in 2017. In 2018, 16.91 million items of non-universal postal parcels were sent and received, i.e., by 23.9% more than in 2017, and the number of items of universal postal parcels stood at 0.19 million units, i.e., by 10.8% more than in the previous year (see Table 33).

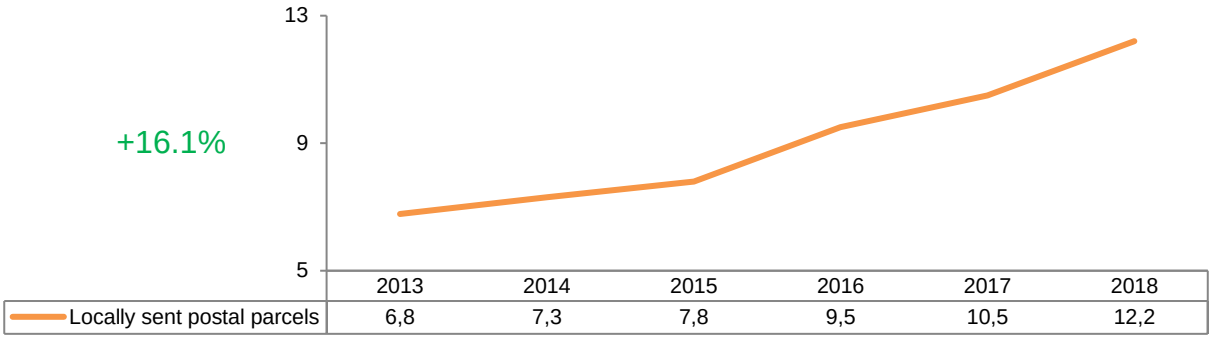
Table 33. **Volumes of universal and non-universal postal parcels, in million of items, 2013-2018**

	2013	2014	2015	2016	2017	2018
Universal postal parcels	0.21	0.20	0.19	0.18	0.17	0.19
Non-universal postal parcels	7.66	8.48	9.36	11.79	13.65	16.91
All postal parcels	**7.87**	**8.68**	**9.55**	**11.97**	**13.82**	**17.10**

Source: RRT

The major share of the postal parcel market, by number of parcels, was held by UAB DPD Lietuva – 29.2% (by 6.1% less than in 2017), UAB Venipak LT – 19.5% (by 3.0% less than in 2017), UAB Baltic Post – 19.1% (by 5.9% more than in 2017), UAB Omniva – 14.3% (by 2.9% more than in 2017), UAB Skubios Siuntos – 4.8% (by 0.3% more than in 2017), UAB Lietuvos Paštas – 3.9% (by 1.4% more than in 2017). The remaining undertakings jointly held 9.2% of the market.

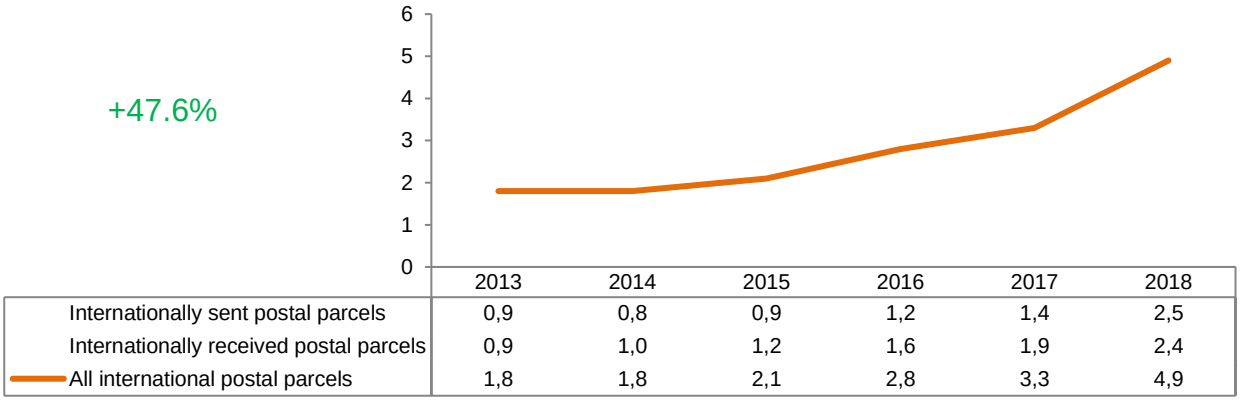
Volume of parcels by direction. As regards to postal parcels by direction, 12.2 million of local postal parcels were sent in 2018 – it is by 16.1% more as compared to 2017 (see Fig. 86). Throughout the entire period 2013-2018, the volume of postal parcels sent locally almost doubled – 5.4 million units or 79.4%. In 2018, the volume of postal parcels received locally totalled 0.2 million units (37.7% or 0.1 million units less than in 2017).



	2013	2014	2015	2016	2017	2018
Locally sent postal parcels	6,8	7,3	7,8	9,5	10,5	12,2

Fig. 86 **Dynamics of the number of postal parcels sent locally, in million units, 2013-2018**
Source: RRT

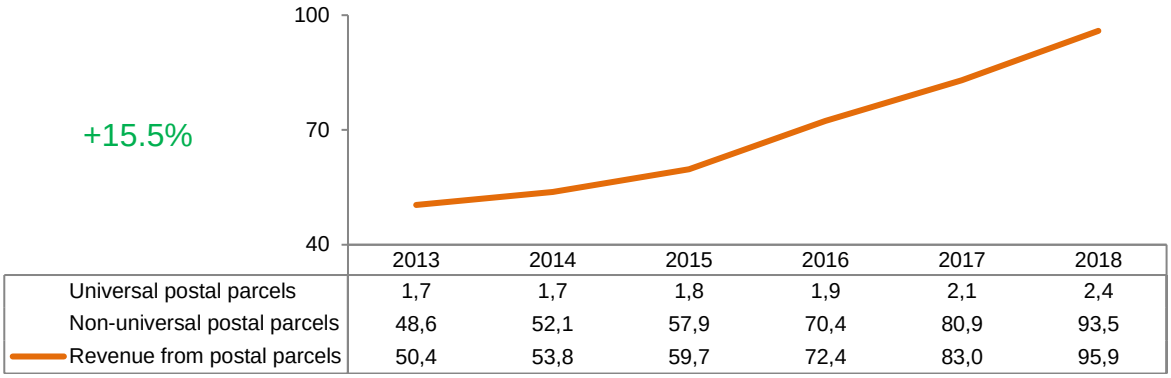
During the period in question (2013-2018), the volume of postal parcels sent internationally nearly tripled, i.e. in 2018, 3.1 million items of international postal parcels were sent and 4.9 million items were received (by 47.6% more than in 2017) (see Fig. 87). Both the volume of postal parcels sent internationally and received internationally was almost the same in 2018 (50.9% of sent and 49.1% of received items). In 2018, 4.3 million or 87.7% of all international items of correspondence were sent to / received from the EU Member States. In 2018, the largest market share in terms of the number of international postal parcels was held by UAB DPD Lietuva (32.3%), the market share of UAB Venipak Lietuva amounted to 23.4%, UAB Skubios Siuntos – 16.4%, UAB Itella Logistics – 9.5%, AB Lietuvos Paštas – 5.6%, UAB DHL Lietuva – 4.6%, UAB TNT – 3.0%, Federal Express Corporation branch – 1.7%, UAB .Baltic Post – 1.6%, UAB EU Broker – 1.0%.



	2013	2014	2015	2016	2017	2018
Internationally sent postal parcels	0,9	0,8	0,9	1,2	1,4	2,5
Internationally received postal parcels	0,9	1,0	1,2	1,6	1,9	2,4
All international postal parcels	1,8	1,8	2,1	2,8	3,3	4,9

Fig. 87 **Dynamics of the number of postal items sent internationally, in million units, 2013-2018**
Source: RRT

Revenue. Between 2013 and 2018, the revenue from postal parcels almost doubled (increased by 90.3%). In 2018, the revenue amounting to EUR 95.9 million was received from postal parcel services, which was by EUR 12.9 million or by 15.5% more than in 2017 (see Fig. 88). Such a growth is directly related to the increase of e-commerce volumes, which results in a greater demand for the postal parcel service.



	2013	2014	2015	2016	2017	2018
Universal postal parcels	1,7	1,7	1,8	1,9	2,1	2,4
Non-universal postal parcels	48,6	52,1	57,9	70,4	80,9	93,5
Revenue from postal parcels	50,4	53,8	59,7	72,4	83,0	95,9

Fig. 88 **Revenue from postal parcel services, in EUR million, 2013-2018**
Source: RRT

The revenue from non-universal postal parcels grew by 15.6% in 2018, compared to 2017. The revenue from the provision of universal postal parcels increased by 14.0% or EUR 0.29 million (see Fig. 88). In 2018, 97.6% of the revenue was received from non-universal postal parcels, and 2.4% – from universal postal parcels.

The largest market share, in terms of the revenue from the postal parcels, was held by UAB DPD Lietuva – 27.4% in 2018, the share held by UAB Venipak LT represented 16.3%, UAB DHL Lietuva held 9.6% of the market (see Fig. 89).

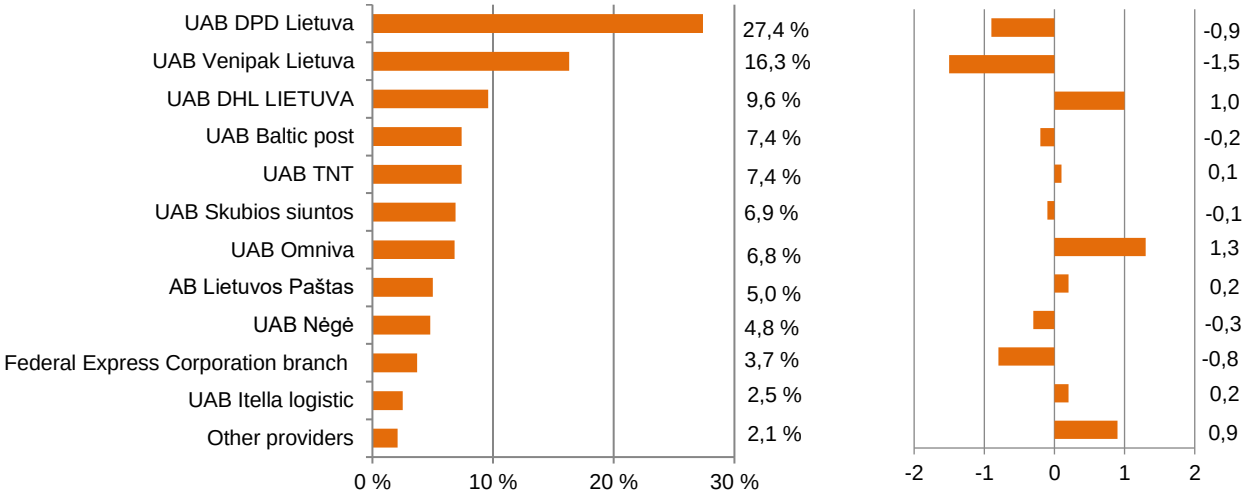


Fig. 89 **Structure of the postal service provider market shares by revenue for the postal parcels, %, and annual changes of the market shares, pp, 2018**
Source: RRT

Postal parcels hold the major share (56.0%) of the postal service market in terms of the revenue. During the period between 2013 and 2018, a tendency of rapid increase in the postal parcels market continued to be observed – both the revenue and number of parcels almost doubled.

4. Universal Postal Service

Service provider	AB Lietuvos paštas
Points of access, units	732
Number of items, million pcs.	19.9
Retail revenue, EUR million	30.6

Provision of service. In 2018, as in the previous years, the universal postal service in Lithuania was provided solely by AB Lietuvos Paštas. There were 732 points of access to universal postal services in Lithuania, i.e., by 12 points of access more than in 2017 (see Table 34). During the period 2013-2018, the number of mobile points of access to universal postal service increased by 53, stationary – decreased by 150. At the end of 2018, 74.5% of all points were stationary, 25.5% - mobile.

Table 34. **Number of points of access to universal postal services, in units, 2013-2018**

	2013	2014	2015	2016	2017	2018
Mobile access points	134	132	133	128	156	187
Stationary access points	695	679	659	627	564	545
All points of access	**829**	**811**	**793**	**755**	**720**	**732**

Source: RRT

In 2018, there were 1,583 post boxes for outgoing mail in Lithuania, i.e., by 23 post boxes or by 1.4% less than in 2017 (see Table 35). During the period between 2013 and 2018, the number of post boxes for outgoing mail was annually decreasing.

Table 35. **Number of post boxes for outgoing mail, in units, 2013-2018**

	2013	2014	2015	2016	2017	2018
Post boxes for outgoing mail	2,058	1,838	1,687	1,670	1,606	1,583

Source: RRT

Volume of service. In 2018, the volume amounting to 19.9 million of items of the universal postal service was sent and received, which was by 4.6% more than in 2017 (see Fig. 90).

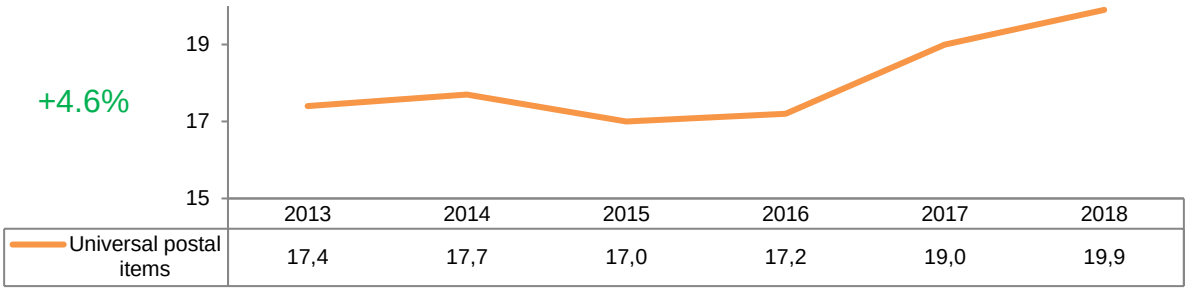


Fig. 90 **Scale of provided universal postal service, in million units, 2013-2018**
Source: RRT

Revenue. The revenue received from the provision of the postal service stood at EUR 30.6 million in 2018 and, compared to 2017, it grew by 27.1%. It must be noted that the revenue demonstrated a more

rapid growth in 2018 than in the previous year – the growth was also enhanced by the continuing growth in e-commerce and increased rates of provision of universal postal service in 2018 (see Fig. 91).

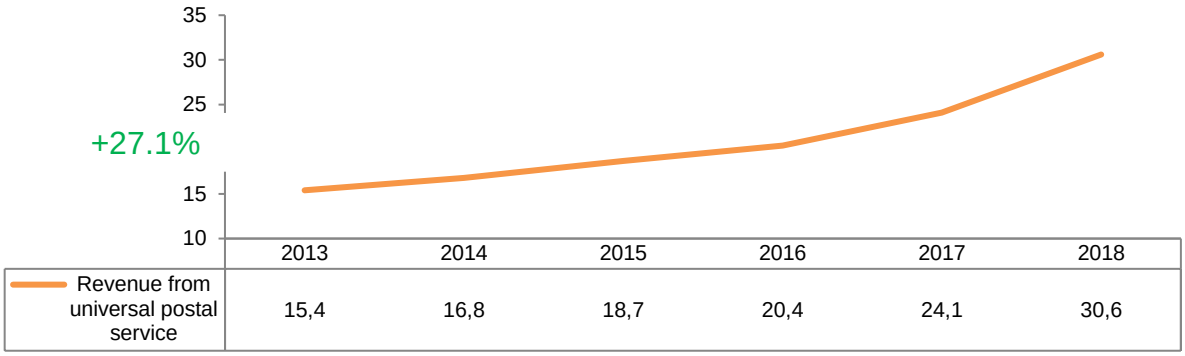


Fig. 91 **Revenue from the universal postal service, in EUR million, 2013-2018**
Source: RRT

The market of universal postal services same as all postal service demonstrated a rapid growth both in terms of volumes and revenue. In 2018, the growth was particularly evident – revenue received for the provision of this service increased by 27.1%.

5. Competition in the Postal Market

In order to establish the intensity of competition on the postal market, the indices of market concentration[29] are observed: market structure indices CR_4[30] and CR_8[31] and Hirschman-Herfindahl ratio HHI[32].

Concentration by the number of items of correspondence. CR_4 and CR_8 indices show a high concentration ratio on the market in 2013–2018 which remained stable in terms of market concentration by items of correspondence (see Table 36). Such high values of ratios mean that despite a rather considerable number of operating providers of postal service, the market of postal correspondence is concentrated and market structure is similar to oligopolistic, where several providers of postal service dominate and hold the largest share of the market.

When analysing the dynamics of CR_4 ratio of the market share held by four largest providers, it can be seen that the values of this ratio are rather stable and vary between 91 and 94%. In 2017, compared to 2016, the value of ratio increased by 1.1 pp. When comparing the values of ratio of 2013–2018, it can be seen that CR_4 increased by 0.7 percentage point. The dynamics of CR_8 ratio of the market share held by eight largest providers over the period 2013–2018 shows that the largest concentration on the market was in 2013, when eight largest service providers held the market share of 98.8%. In 2018, compared to 2017, the value of this ratio increased by 0.5 percentage point and amounted to 97.7%. Since the values of CR_4 and CR_8 ratios are not different, it can be stated that the market of postal correspondence is shared between four market players.

Table 36. **Market concentration indices by items of correspondence, 2013-2018**

Ratio	2013	2014	2015	2016	2017	2018
CR_4, %	93.6	93.0	93.2	91.1	93.2	94.3
CR_8, %	98.8	97.1	97.4	96.2	97.2	97.7
HHI	5,236.3	5,007.5	5,933.4	7,181.5	7,645.1	8,149.6

Source: RRT

[29] Concentration is a market situation where the control of undertaking is concentrated in one or several companies, in other words, when a small number of companies holds a major share of a certain market.
[30] Concentration ratio CR4 shows the market share held by the four largest market participants, in percentage.
[31] Concentration ratio CR8 shows the market share held by the eight largest market participants, in percentage. CR values:
- About 0% means a perfect competition on the market with excellent conditions to compete and a very small monopoly competition, i.e. the four largest companies have no significant influence on the market.
- Less than 40% means effective competition and low concentration ratio on the market.
- Less than 70% means average concentration on the market and the market is more similar to oligopolistic market.
- More than 70% means high concentration ration on the market and the market is between oligopoly and monopoly.
- 100% means a very concentrated oligopoly. If, for example, CR1 = 100%, the market is monopolistic.

[32] HHI shows the unevenness of situation of capacities of all market participants and is the most famous and the most important ratio of competition intensity on the market. HHI is directly proportional to the concentration (i.e. increases with the increasing concentration and decreases with the decreasing concentration). The lower the HHI, the higher the competition and vice versa. Increase in HHI shows the decrease in competition and increase in the market labour. HHI values:
- HHI < 1,000 means unconcentrated market;
- HHI between 1,000 and 2,000 – average concentration ratio;
- HHI over 2,000 – high concentration ratio.

As seen from the information provided in Table 36, HHI ratio also shows that correspondence market is characterised by high concentration. It has been noted that since 2013, except for 2014, the value of HHI ratio continued to increase and totalled 7,645.1 in 2017, and exceeded the limit of 8,000 and stood at 8,149.6 in 2018. In 2016, the ratio increased due to withdrawal of the second largest provider of items of correspondence from the market. Such high value of HHI ratio shows a considerable unevenness in the arrangements of capacities of participants operating in the market of items of correspondence and concentration of service of items of correspondence in a single company.

Concentration by the number of postal parcels. In terms of concentration of postal market by the number of postal parcels, the market of parcels in Lithuania has been observed to be not that concentrated as of the items of correspondence (see Table 37).

The ratio CR_4 of the market share held by four largest service providers shows a concentration ration that is above average but not exceeding the 90% concentration ratio: in 2013, the value of this ratio stood at 77.2%, in 2015, it increased up to 84.9%, whereas in 2016–2018 it did not change considerably – remained at 82%. In 2013-2018, this ratio increased by 5.0 percentage points.

The values of ratio CR_8 of market share held by eight largest service providers varied between 94% and 97% during the period in question (2013-2018). Although the values of ratio CR_4 varied between medium and high concentration limit, the other competition intensity value CR_8 showed that the market of postal parcels is of high concentration as in 2018 eight largest providers of postal services held 96.5% of the postal parcels market.

It shall be noted that in 2013-2018 the value of HHI ration decreased by 301.6 points. The major decrease was in 2018 - by 253.3 points. It means that increasingly more competing providers of this services appear on the postal parcels market.

Table 37. **Market concentration indices by the number of postal parcels, 2013-2018**

Ratio	2013	2014	2015	2016	2017	2018
CR_4, %	77.2	80.3	84.9	81.2	82.4	82.2
CR_8, %	94.8	97.1	96.9	95.3	96.4	96.5
HHI	2,163.1	2,178.1	2,265.1	2,020.9	2,114.8	1,861.5

Source: RRT

Concentration by revenue from postal service. In view of the market concentration according to the revenue of providers of postal service, CR_4 and CR_8 ratios also show high concentration level. The market share held by four largest postal service providers decreased insignificantly in 2018, as compared to 2017, whereas of the eight largest – showed a slight increase (see Table 38). During the period 2013-2018, CR_4 dropped by 1.1 percentage point, whereas CR_8 increased by 2,9 percentage point. In view of the values of CR_4 and CR_8 ratios, certain positive changes in the postal services market can be seen – the revenue is less concentrated in the markets of the four largest postal service providers and there is also a tendency that the most active competition and market share is more characteristic between the eight largest service providers.

In view of the competition on the postal market in terms of HHI, the value of this ratio has decreased over the period 2013-2018. The decreasing ratio shows the decreasing concentration of postal service providers and increasing concentration on the postal service market. Based on the HHI value of 2018, it is possible to state that an average concentration level exists on the postal service market.

Table 38. **Market concentration indices by revenue, 2013-2018**

Ratio	2013	2014	2015	2016	2017	2018
CR_4, %	75.0	74.9	75.4	73.6	74.6	73.9
CR_8, %	88.7	90.0	90.8	90.9	91.0	91.6
HHI	2,262.7	2,189.0	2,235.8	1,965.2	1,793.1	1,789.5

Source: RRT

The market of items of correspondence is concentrated, whereas the market structure is similar to oligopolistic. In Lithuania, the market of postal parcels is less concentrated than the market of items of correspondence. In view of the market concentration in terms of revenue gained by postal service providers, it can be concluded that a medium level of concentration exists on the postal market.

Annex 1

Electronic Communications Service Providers that Provided Services in 2018

Item No	Service providers	Telephone service	Data transmission	Radio and television	Access to physical infrastructure
1.	Telia Lietuva, AB	•	•	•	•
2.	A. Judickas' Individual Enterprise	•	•		
3.	AB Lietuvos Geležinkeliai	•			•
4.	AB Ogmios Centras	•	•		
5.	AB Lietuvos Radijo ir Televizijos Centras	•	•	•	•
6.	AS TV Play Baltics		•	•	
7.	Dainius Kamarauskas' company Davgita		•		
8.	DIDWW Ireland Ltd	•			
9.	G. Pečiulis' company		•		
10.	H. Abramavičius' company		•		
11.	Hibernia Media (UK) Limited		•		
12.	Individual Enterprise IT Kubas		•		
13.	Individual Enterprise Satinet		•		
14.	Inmarsat Global Limited		•		
15.	Ivančikas' Individual Enterprise Žaibas		•	•	
16.	J. Jasiulionis' Individual Enterprise			•	
17.	J. Varnas' Vilniaus Radijo Studija		•	•	
18.	KLI LT, UAB	•	•	•	
19.	KTU Department of Information Technology		•		
20.	L. Bulovas' firm Elektromedija		•		
21.	Mobi LT, UAB	•			
22.	SIA Lattelecom Ltd.		•		
23.	Splius, UAB	•	•	•	•
24.	Teleline LT, UAB	•			
25.	UAB Internetas Vilniuje		•		

Item No	Service providers	Telephone service	Data transmission	Radio and television	Access to physical infrastructure
26.	UAB Agon Networks	•			
27.	UAB AirnetTV		•	•	•
28.	UAB Arvilas	•			
29.	UAB Autožvilgsnis	•			
30.	UAB AVVA		•	•	
31.	UAB Balticum TV	•	•	•	•
32.	UAB Baltnetos Komunikacijos	•	•		
33.	UAB Bitė Lietuva	•	•		
34.	UAB Bitosis		•		
35.	UAB Cgates	•	•	•	•
36.	UAB Consilium Optimum		•	•	
37.	UAB CSC Telecom	•	•		
38.	UAB Data Business		•	•	
39.	UAB Dekbera		•		
40.	UAB Dicto Citius		•		
41.	UAB Duomenų Greitkelis		•	•	•
42.	UAB Duomenų Logistikos Centras		•		•
43.	UAB Dzūkijos Internetas		•		
44.	UAB EcoFon	•	•	•	•
45.	UAB Ektra		•		•
46.	UAB Elneta		•		
47.	UAB Eltida		•		
48.	UAB Etanetas		•	•	
49.	UAB Eteris		•	•	
50.	UAB Eurocom	•	•		
51.	UAB Funaris			•	
52.	UAB Horda			•	
53.	UAB Ignalinos Televizija		•	•	
54.	UAB Ilora		•	•	

Item No	Service providers	Telephone service	Data transmission	Radio and television	Access to physical infrastructure
55.	UAB Informacijos Labirintas		•		
56.	UAB Init	•	•	•	
57.	UAB Kalbu Lt	•			
58.	UAB Kalvanet		•		
59.	UAB Kauno Interneto Sistemos		•	•	
60.	UAB Kednetas		•		
61.	UAB Kodas		•		
62.	UAB Krėna		•		
63.	UAB Kvartalo Tinklas		•		
64.	UAB Lema		•		
65.	UAB Linaspas		•		
66.	UAB CITIC Telecom CPC Lithuania		•		
67.	UAB LT Telekomunikacijos	•			
68.	UAB Magnetukas		•	•	
69.	UAB Mano Kamanė			•	
70.	UAB Marsatas	•	•	•	
71.	UAB Mavy Studija	•			
72.	UAB Mediafon Carrier Services	•			
73.	UAB Mediafon	•			
74.	UAB Medium Group	•			
75.	UAB Metameda Ir Ko	•			
76.	UAB Molėtų Radijas ir Televizija		•	•	
77.	UAB N plius		•		
78.	UAB Nacionalinis Telekomunikacijų Tinklas	•	•	•	
79.	UAB Netas		•		
80.	UAB Netsis		•		
81.	UAB NNT		•		
82.	UAB Pakeleivis		•		
83.	UAB Parabolė		•	•	

Item No	Service providers	Telephone service	Data transmission	Radio and television	Access to physical infrastructure
84.	UAB Patrimpas			•	
85.	UAB Penkių Kontinentų Komunikacijų Centras	•	•	•	•
86.	UAB Peoplefone	•			
87.	UAB Progmera		•	•	
88.	UAB Proitas	•			
89.	UAB Radijo Elektroninės Sistemos	•	•	•	
90.	UAB Raystorm	•			
91.	UAB Roventa	•	•	•	
92.	UAB Satgate		•	•	
93.	UAB SauleNet		•		
94.	UAB Skaidula				•
95.	UAB Skylink LT	•			
96.	UAB Socius		•	•	•
97.	UAB Sugardas		•	•	•
98.	UAB Šilutės Internetas		•		
99.	UAB TCG Telecom	•			
100.	UAB Tele2	•	•		
101.	UAB Teledema SIP	•			
102.	UAB Teledema	•	•		
103.	UAB Telekomunikaciniai Projektai	•	•		
104.	UAB Teleksas	•			
105.	UAB Telemeta	•			
106.	UAB Televizijos Komunikacijos	•	•	•	
107.	UAB Verslo tiltas		•		
108.	UAB Viltuva		•	•	
109.	UAB Vinetika		•		
110.	UAB VIP Sprendimai		•		
111.	UAB Zirzilė		•	•	

Item No	Service providers	Telephone service	Data transmission	Radio and television	Access to physical infrastructure
112.	Public Enterprise Plačiajuostis internetas		•		•
113.	Public Enterprise Infostruktūra		•		
114.	Vytautas Ričkauskas' company		•		
115.	Voxbone SA	•			
116.	Public Enterprise Comtel		•		
		46	**87**	**41**	**16**

Annex 2

Postal Service Providers in 2018

Item No	Service Providers	Items of correspondence	Postal parcels
1.	AB Lietuvos Paštas	•	•
2.	A. Safošina's Individual Enterprise		•
3.	UAB Apskonta	•	
4.	UAB Araneum	•	
5.	UAB Avaneta*		
6.	UAB Baltic Post		•
7.	Individual Enterprise Britlita		•
8.	UAB DHL Lietuva	•	•
9.	UAB DPD Lietuva	•	•
10.	UAB Drusvilma	•	
11.	UAB EU Broker		•
12.	Federal Express Corporation affiliate	•	•
13.	UAB Finansinės Strategijos	•	
14.	UAB Greitasis Paštas	•	
15.	UAB HRES	•	
16.	UAB Investbaltija	•	
17.	UAB Invicte		•
18.	UAB In Salvo	•	
19.	UAB Itella Logistic		•
20.	UAB Jūros Paštas	•	•
21.	UAB Kaišiadorių Butų Ūkis	•	
22.	UAB Kastinida		•
23.	UAB Kautra	•	•
24.	UAB Kodas	•	
25.	Public Enterprise Kultūros vizija	•	
26.	UAB Linkera group	•	•
27.	UAB Litgina	•	•
28.	UAB Litpost	•	
29.	UAB Nėgė		•
30.	UAB Omniva		•
31.	UAB Pašto Paslaugos	•	
32.	UAB Prima Line		•
33.	UAB Rusko	•	•
34.	UAB Samus	•	•
35.	UAB Skubios Siuntos	•	•
36.	UAB Šiaulių Naujienos	•	
37.	UAB TNT	•	•
38.	UAB Toras LT		•
39.	UAB Utenos Diena	•	
40.	UAB Velo Kurjeris		•
41.	UAB Venipak Lietuva	•	•
42.	UAB Verslo Spaudos Centras	•	•
43.	Public Enterprise Vilties Pagalba	•	•
44.	UAB VIM Agentūra	•	•
45.	UAB Zenesa	•	
	Total	**32**	**28**

* Sends only non-addressed advertising.

Annex 3

Number of Residents and Households in Lithuania on 1 January, 2012-2018

	2014	2015	2016	2017	2018	2019
Number of residents	2,943,472	2,921,262	2,888,582	2,849,317	2,810,118	2,793,986
Number of households	1,308,210	1,298,339	1,289,546	1,272,017	1,254,517	1,343,263

Source: Lithuanian Department of Statistics

Annex 4

Maximum Tariffs of the Universal Postal Service[33]

I. Maximum Tariffs of the Universal Postal Service in Lithuania

Item of correspondence[1] up to 500 grams

Item No	Universal postal service	Posal tariff per one postal item, in EUR (VAT excl.)	
		non-priority postal items	priority postal items
1.	Up to 20 grams	0.49	0.55
2.	> 20 grams, up to 50 grams	0.59	0.65
3.	> 50 grams, up to 100 grams	0.69	0.75
4.	> 100 grams, up to 500 grams	0.79	0.85

Large letter-post items[2] up to 2 kilograms

Item No	Universal postal service	Postal tariff per one postal item, in EUR (VAT excl.)	
		non-priority postal items	priority postal items
1.	Up to 100 grams	0.79	0.85
2.	> 100 grams, up to 500 grams	0.99	1.05
3.	> 500 grams, up to 1,000 grams	1.19	1.25
4.	> 1,000 grams, up to 2,000 grams	1.59	1.65

Postal parcel[3, 4, 5] up to 10 kilograms (including a registration service)

Item No	Universal postal service	Postal tariff per one postal item, in EUR (VAT excl.)
1.	Per each postal parcel	2.40
2.	Per each full or partial kilogram	0.14

Registration and/or insurance of items of correspondence[1], large letter-post items[2] or postal parcels[3, 4]

Item No	Universal postal service	Postal tariff per one postal item, in EUR (VAT excl.)
1.	Registration of items of correspondence or large letter-post items	0.58
2.	Registration and insurance of items of correspondence or large letter-post items	3.48
3.	Insurance of postal parcels	3.48

[33] Approved by Order No 1V-1025 of the Director of the Communications Regulatory Authority of the Republic of Lithuania of 29 July 2014 On the Approval of Maximum Tariffs of the Universal Postal Service

II. Maximum Tariffs of Cross-Border Universal Postal Service

Item of correspondence[1] up to 500 grams

Item No	Universal postal service	Postal tariff per one postal item, in EUR (VAT excl.)			
		non-priority parcels		priority parcels	
		to the European Union Member States	to other states	to the European Union Member States	to other states
1.	Up to 20 grams	0.75	0.71	0.81	0.84
2.	> 20 grams, up to 50 grams	0.84	0.75	1.00	0.97
3.	> 50 grams, up to 100 grams	1.13	0.84	1.29	1.27
4.	> 100 grams, up to 500 grams	1.98	2.09	2.37	3.40

Large letter-post items[2] up to 2 kilograms

Item No	Universal postal service	Postal tariff per one postal item, in EUR (VAT excl.)			
		non-priority parcels		priority parcels	
		to the European Union Member States	to other states	to the European Union Member States	to other states
1.	Up to 100 grams	1.42	1.26	1.85	1.67
2.	> 100 grams, up to 500 grams	2.52	3.13	2.93	3.91
3.	> 500 grams, up to 1,000 grams	4.63	6.95	5.21	7.82
4.	> 1,000 grams, up to 2,000 grams	6.95	10.43	7.53	11.58

Postal parcel[3, 4, 5] up to 10 kilograms (including a registration service)

Item No	Universal postal service	Postal tariff per one postal item, in EUR (VAT excl.)	
		to the European Union Member States	to other states
	Cross-border postal parcel tariffs apply to postage of postal parcels. Processing of postal parcels in Lithuania:		
1.	per each postal parcel	5.07	5.07
2.	per each full or partial kilogram	0.14	0.14

Registration and/or insurance of items of correspondence[1, 6], bulky items of correspondence[2] or postal parcels[3, 4]

Item No	Universal postal service	Postal tariff per one postal item, in EUR (VAT excl.)
1.	Registration of priority items of correspondence or priority large letter-post items	2.03
2.	Registration and insurance of priority items of correspondence or priority large letter-post items	3.48
3.	Insurance of postal parcels	3.48

Notes

1. Largest possible dimensions of an item of correspondence shall be as follows: length – 381 mm, width – 305 mm, height – 20 mm.

2. Largest possible dimensions of a large letter-post item shall be as follows: any dimension shall not exceed 600 mm, while the sum of the length, width and height shall be no greater than 900 mm; any dimension of a cylinder item shall be no greater than 900 mm, while the sum of length and double diameter shall not exceed 1,040 mm.

3. Largest dimensions of a postal parcel shall be as follows: any dimension shall be no greater than 1.05 m, while the sum of the length and the largest dimension measured in any other direction than the length shall be no greater than 2 m.

4. Largest dimensions of a postal parcel marked ‘Encombrant’ (‘Large Sized’) shall be as follows: any dimension shall be no greater than 1.50 m, while the sum of the length and the largest dimension measured in any other direction than the length shall be no greater than 3 m.

5. A postal parcel marked ‘Encombrant’ (‘Large Sized’) shall be subject to additional postage tariffs of 50% as indicated in Table 3 or Table 7.

6. Only priority items of correspondence or priority large letter-post items may be registered or registered and insured.

7. Items of correspondence marked as ‘Cécogrammes’, items of correspondence addressed to prisoners of war marked as ‘Service des prisonniers de guerre’ and to interned civilians marked as ‘Service des internés civils’ or sent by these persons shall be sent free of charge.