LITHUANIAN COMMUNICATIONS SECTOR 2019

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COMMUNICATIONS REGULATORY AUTHORITY OF THE REPUBLIC OF LITHUANIA

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

We live at the times of rapid changes when the consumers' bar on expectations and services is varied and raised in all areas of life: we want yet higher speed Internet, convenient and simple online ordering, fast physical delivery by post, etc. Information and communications technology is a means allowing for substantial changes when providing diverse services, making them more available, higher quality and more expedient, reducing the costs of their provision, etc. At the same time, however, the pace of technological changes has accelerated to the point where it is difficult to forecast where we are 5 or 10 years later when the actual benefit of open data or artificial intelligence is enabled.

It is clear that the essential preconditions for the development of the communications sector will be the development of 5G networks that will be ensured by planning and implementing different internal legal measures and by close cooperation with the private sector, international partners and organisations. We believe that this will enable creating a high value added, it will contribute to economic growth and international competitiveness of the State, create new jobs, contribute to the development of the innovations and information society, it will serve as a tool in a number of other sectors, for example, self-driving cars, e-health system, energy management, public security, manufacturing automation, etc. This will undoubtedly contribute to the Green Deal initiative of the European Commission. For seemingly simple decisions, for instance, to legalise a single universal charger of mobile telephones or other devices or eSIM, may significantly contribute to environmental sustainability.

In 2019, the preparatory work for transposition of Directive (EU) 2018/1972 of the European Parliament and of the Council establishing the European Electronic Communications Code (Recast)Text (the "Code") (the Draft Law on the Amendment to the Law on Electronic Communications of the Republic of Lithuania has been drafted and submitted for public consultations) as the Code must be transposed by the end of 2020. This acquis of electronic communications of the European Union will promote more effective regulation of the electronic communications market taking account of modern communications technology and characteristics of the market resulting from the rapid growth of the need for Internet services and high capacity networks. The strategic task of this reform of regulatory framework is to create a "Gigabit Society" by 2025 so that "gigabit" Internet connection is available to all EU residents and businesses. For this purpose, a special focus is placed on the development of high capacity 5G networks and promotion of investments in the construction thereof. Moreover, it is important to revisit the legal framework of the services as their convergence allows for new preconditions for the potential violations of the rights of the users or unfair competition between the service providers.

The postal sector encounters new challenges which require new approaches and innovative solutions. This is an issue for not only Lithuanian but also for European and global post. The customers are not satisfied with the conventional ways of the provision of the postal services as, in light of the development

of e-commerce, they desire to receive the ordered items on the same or the following day. This has already been implemented in other countries – delivery by drones has already become a reality in other countries. Postal services are less frequently used as a channel of information transmission, therefore it is a challenge not only for the posts but also for the Universal Postal Union and for the European Union in terms of revisiting the legal framework and finding new, sustainable and environmentally friendly solutions which would reflect the users' expectations. The year of 2020 will clearly bring changes to the postal sector as the needs of the residents are changing but the accessibility of all residents will need to be ensured as well, the processes of distribution of postal items will be fully automated and digitized, the need for and feasibilities of providing other services, especially in remote areas, will be assessed. A mission of the post is to be a bridge ensuring the reduction of social exclusion between the urban and rural residents.

I wish you success and I hope that new decisions and actions will allow for the development of both the communications and postal sectors, and the users will experience a true benefit of the changes.

Minister of Transport and Communications

Jaroslav Narkevič

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

The Lithuanian Communications Sector is one of the most dynamic segments of our economy. This is demonstrated by both the sectoral revenue growing for the fifth year in a row and market trends. We monitor them on a regular basis as we, as the national regulator, aim at contributing to the creation of the innovation-friendly environment in the communications sector by forming the investment-friendly environment and promoting the innovative services to the customers.

Compared to 2018, the total revenue of the electronic communications sector increased by 2.9% (EUR 20.1 million) in 2019 and reached EUR 713.5 million in total.

The electronic communications market shows that the conventional services are replaced by online-based alternatives. In 2019, the income from the provision of the data transmission service exceeded the income from telephony services for the first time. The same trend is evident in the international roaming segment – the number of voice calls and SMS and MMS sending revenue dropped by one third (32.6%) but the revenue from Internet access services grew by one third (32.1%), respectively.

Similar changes are observed in the television segment – in 2019, the revenue from internet protocol television (IPTV) (EUR 32.4 million or 46.1% of all revenue of pay-TV) exceeded the revenue from traditional cable television services (EUR 27.5 million or 39.1% of all revenue of pay-TV) for the first time. By the number of subscribers, the cable television remains the leader in this segment but their number dropped by 5.1% over the year, whereas the number of IPTV subscribers grew by 9.5%.

Such changes are resulted by the continuous development of technology, since both traditional telephony and television services started to give way to online services which provide the customers with diverse opportunities and better adapt to the growing expectations of the customers. Certain trends in consumption demonstrate the growing needs of consumers as well. In 2019, the monthly amount of data sent and received by the user over the mobile communications networks accounted for 13.6 GB, which is up to ten times the amount in 2015 and by 35.4% more than in 218. It is likely that this acceleration of the data use will remain in the upcoming year as well. It is therefore not surprising that most operators invested in the infrastructure used to provide the data transmission services in 2019.

As for the retail Internet access services, as many as 68.1% of such services were provided by means of mobile communications technology in 2019. According to the Authority, the number of mobile broadband users outdid the number of optical fibre users. This change was caused by the fact that the broadband mobile Internet connection, in terms of its quality, is almost equal to fibre optic, whereas a possibility to use the Internet on a mobile telephone everywhere where the customers desire is a huge advantage. Mobility is highly important to modern people and 4G technology enables that, whereas 5G will soon show what kind if breakthroughs it will bring.

The fundamental prerequisite for the market development is effective competition, and market analyses serve as a tool to ensure competition. In 2019, we completed the analyses of three markets –

wholesale local access at a fixed location, wholesale centralised access at a fixed location for the mass-market products and call termination on individual public communications networks at a fixed location – and launched three new market analyses. The fulfilment of the obligations will ensure effective competition in retail markets, which will enable the customers to choose electronic communications services from a larger number of service providers, will promote the growth of diversity and quality of the services and will likely lead to lower prices of the services.

The postal market has been growing for the 11th consecutive year: the total revenue increased by 11.7% (EUR 20.1 million) per year and reached EUR 191.1 million. This growth is mostly related to the increasing scope of e-commerce. As more and more areas of our life move to digital space, people tend to shop online, which results in a higher number of postal items. In 2019, compared to the previous year, the number of postal parcels grew by 20.3% and stood at 20.6 million units, of which 6.3 million units were cross-border parcels. This means that a Lithuanian resident represented in average 7 parcels in 2019, of which 2 cross-border ones. It is obvious that the trend of the growing number of postal parcels will continue.

Another significant factor contributing to the growth of the postal market is increasing availability of the postal service, where the providers of that service expand the innovative models of the service provision. In 2019, the number of self-service parcel terminals went up by 1.6 times; more and more post offices were relocated to the supermarkets. This enabled people to choose the place, manner and time of the provision of the service, therefore access to the postal service has enlarged significantly. New winds affected the universal postal service segment as well. In 2019, the number of non-permanent places where mobile postal services are supplied almost doubled (up to 323).

All that remains is to wish all market players more innovative solutions, and to wish the customers customised, advanced and accessible services enabled by technological progress.

Director of the Communications Regulatory Authority

Feliksas Dobrovolskis

Country	Lithuania
Capital	Vilnius
Area, km²	65,200
Population	2,794,329
Number of households	1,311,892
Country code	+370
Internet domain	.lt

IMPORTANT!

- The icons provided in the tables ( ) illustrate the trends prevailing between 2014 and 2019 (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 2019 (positive, negative) compared to 2018.
- The report “Lithuanian Communications Sector 2019” 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 report also contains the information from the European Commission and other publicly available reliable sources.
- 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	176
Major service provider	Telia Lietuva, AB
Wholesale revenue of the communications sector, EUR million	151.9
Retail revenue of the communications sector, EUR million	752.6
Total revenue of the communications sector, EUR million	904.6

IMPORTANT!

- In this section of the report, other communications service providers shall be all communication 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 (the "other providers").

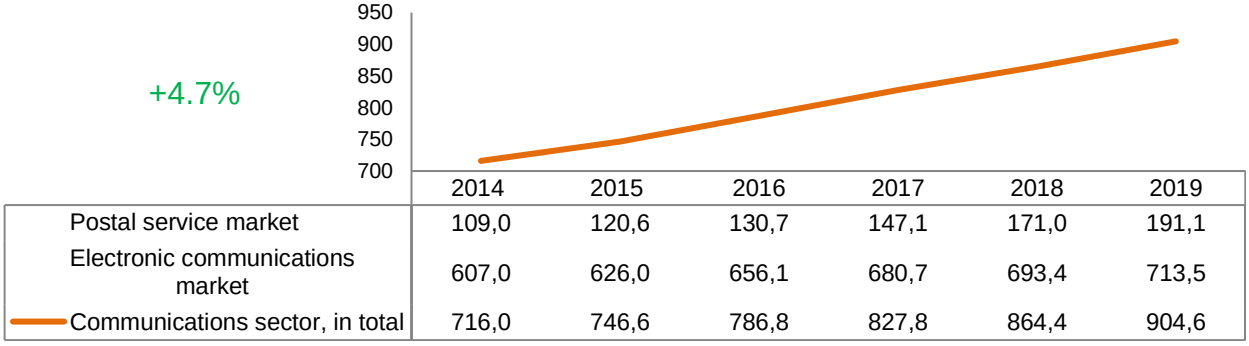
The Lithuanian Communications Sector consists of two service markets: the electronic communications market and postal service market. With a view to both of these markets, at the end of 2019, there were 176 undertakings having informed the Communications Regulatory Authority of the Republic of Lithuania (the "RRT") about the activities carried out in the communications sector – by 3 undertakings more than in 2018 (see Table 1).

Table 1. **Number of undertakings that notified RRT of the activity planned in the communications sector, number by markets in 2014-2019, in units**

		2014	2015	2016	2017	2018	2019
Electronic communications market	⇔	144	132	139	127	116	121
Postal service market	↓	69	66	67	65	57	55
All providers	⇔	**213**	**198**	**206**	**192**	**173**	**176**

Source: RRT

The revenue of the communications sector has continued to grow in 2019 as was the case in 2018 as well (see Fig. 1). In 2019, it stood at EUR 904.6 million and was by 4.7% or EUR 40.2 million higher than in 2018. The GDP growth in Lithuania accounted for 3.9%, thus the revenue of the communications sector increased more rapidly than GDP. In 2019, the revenue of both markets slightly grew: postal service market – by 11.7% or EUR 20.1 million, electronic communications market – by 2.9% or EUR 20.1 million. It must be also noted that the share of the postal service market represented a much lower but annually growing share throughout the entire period of 2014-2019 in terms of the total revenue of the communications sector: In 2019, it stood at 21.1% (in 2018 – 19.8%).



	2014	2015	2016	2017	2018	2019
Postal service market	109,0	120,6	130,7	147,1	171,0	191,1
Electronic communications market	607,0	626,0	656,1	680,7	693,4	713,5
Communications sector, in total	716,0	746,6	786,8	827,8	864,4	904,6

Fig. 1 **Revenue of the communications sector in 2014-2019, EUR million**

Source: RRT

During the period of 2014-2019, both 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 2019, the most revenue was generated by Telia Lietuva, AB (30.6%) providing electronic communications services out of 176 undertakings operating in the communications sector, but its market share shrank by 1.6 percentage points during 2019. Other 2 providers which received most revenue from the provision of communications services were UAB Tele2 and UAB Bitė Lietuva, which respectively held the market shares of 18.5% and 14.8%. The revenue of AB Lietuvos Paštas – the largest postal service provider – constituted 7.7% of all sectoral revenue in 2019. It is likely that the even more postal service providers may be included in the list of the major service providers of the entire communications sector in light of rapidly growing revenue of the postal service market.

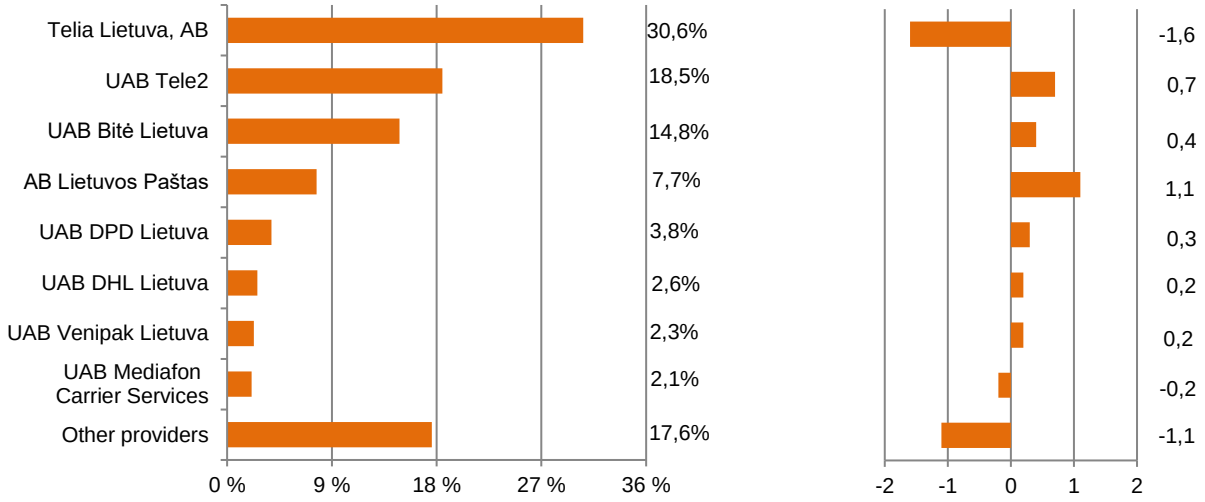
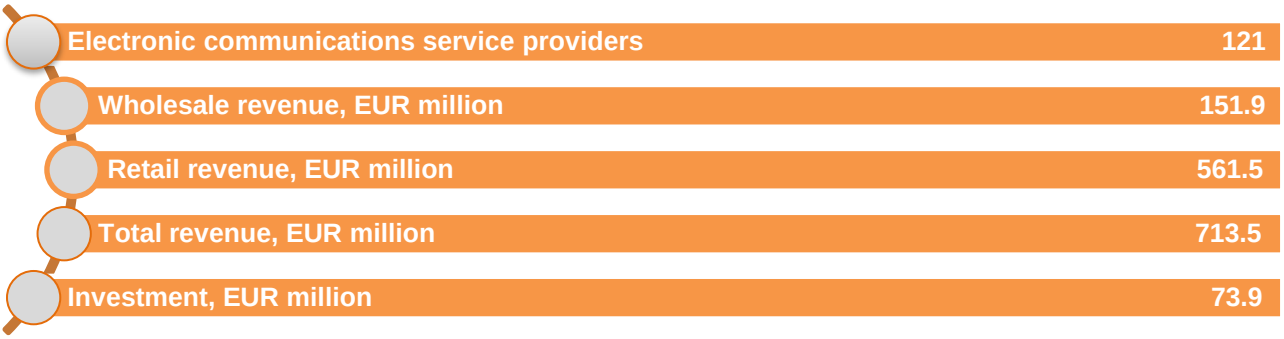


Fig. 2 **Market shares of the communications sector service providers by revenue, %, and annual changes of the market shares, pp, 2019**
Source: RRT

The number of service providers was increasing in 2019. In 2019, the competitive services were offered to yet increasing circle of the service users in many service segments by ensuring the high quality of provided services. This resulted in the growth of of the annual revenue of the communications sector by 4.7% – both the postal service market and electronic communications market were growing. Nevertheless, it is quite difficult to forecast the future trends as the scope of the services provided in 2020 will inevitably be affected by the quarantine introduced in the entire territory of the Republic of Lithuania due to the COVID-19 pandemic as well as by similar restrictions introduced in foreign countries.

MARKET OF ELECTRONIC COMMUNICATIONS SERVICES

1. General Overview of the Electronic Communications Market



IMPORTANT!

- In this section 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 (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 increased by 5 undertakings in 2019 and stood at 121 undertakings. The largest share was that of data transmission service providers as in the previous year (see Table 2). New undertakings in 2019 – UAB Blue Bridge, Alantic, UAB, Compatel Limited, UAB Inetas LT, UAB Mediafon Technology, UAB Moremins Lietuva, Nord Connect OU, ONOFFAPP OÜ, UAB Teletel and UAB Ukmergės IT.

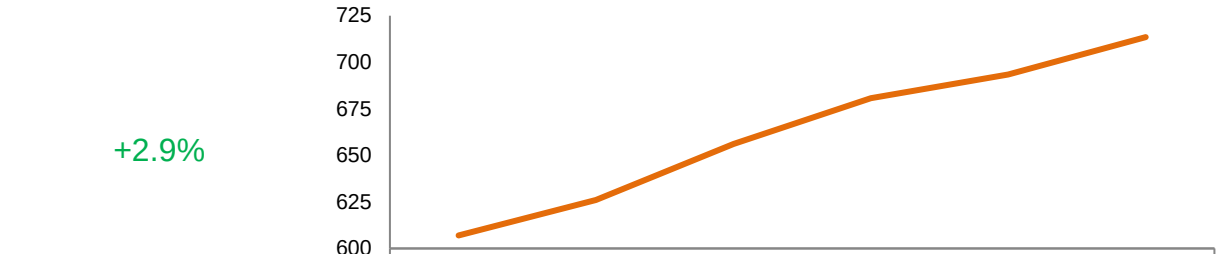
Table 2. **Number of electronic communications service providers that were providing the services, in units, 2014-2019**

	2014	2015	2016	2017	2018	2019
Telecommunications services	51	49	53	49	46	51
Data transmission services	110	103	106	93	87	87
Television and radio services	43	43	42	40	41	40
Services of access to physical infrastructure	15	14	15	15	16	15
All services	**144**	**135**	**140**	**127**	**116**	**121**

Source: RRT

Revenue. The revenue of the electronic communications market has continued to grow in 2019 (see Fig. 3). Compared to 2018, the revenue increased by 2.9% in 2019 and amounted to EUR 713.5 million. This growth is greater by 1.0 percentage point than in 2018 (the revenue went up by 1.9% in 2018). In 2019, the revenue from data transmission exceeded the revenue from telecommunications services for the first time

throughout the period in question. Thus, the major portion of the revenue (44.9%) was received by the data transmission service providers in 2019 which, compared to 2018, received EUR 40.9 million or by 14.6% more revenue. In 2019, the revenue of the television and radio service providers also increased – in 2019, these providers received EUR 4.8 million or by 6.9% more revenue than in 2018. In 2019, the revenue from the provision of the services of access to physical infrastructure grew by EUR 0.1 million or by 1.0%. The lowest portion of the revenue was received when providing the services of access to physical infrastructure in 2019 as was the case in 2018.



	2014	2015	2016	2017	2018	2019
Telecommunications	358,0	362,1	363,9	356,3	334,0	308,3
Data transmission	178,6	193,9	217,9	244,3	279,6	320,5
Television and radio	64,4	64,6	69,0	71,8	70,0	74,8
Access to physical infrastructure*	6,0	5,4	5,3	8,3	9,8	9,9
Total	607,0	626,0	656,1	680,7	693,4	713,5

* Till 2017 includes the revenue received only from the access to the dark fibre service.

Fig. 3 **Structure of electronic communications market revenue by service groups in 2014-2019, in EUR million**

Source: RRT

In 2019, Telia Lietuva, AB remained a leader of the electronic communications market in terms of revenue but its market share shrank by 1.3 percentage points to 38.7% over the year (see Fig. 4). This is the steepest decline in terms of percentage points of the marker shares held by all electronic communications service providers. In 2019, the market shares held by UAB Tele2 and UAB Bitė Lietuva grew by percentage points (1.3 and 0.8 percentage points, respectively).

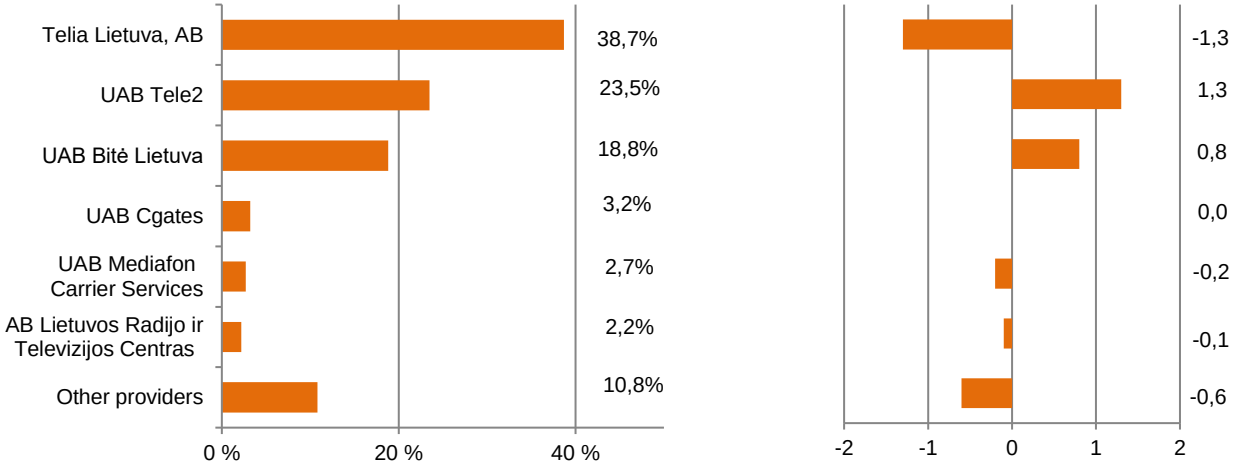
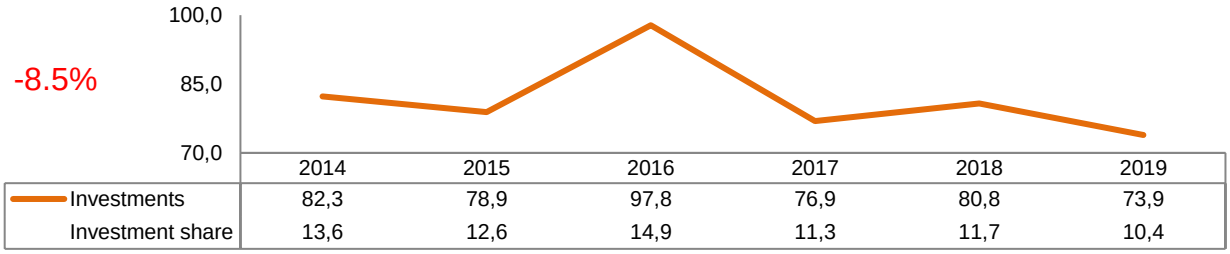


Fig. 4 **Structure of the electronic communications market revenue by service providers, %, and annual changes of the market shares, pp, 2019**

Source: RRT

Investments. Contrary to 2018, the investments in the electronic communications infrastructure went down in 2019 – the service providers invested EUR 73.9 million in the electronic communications infrastructure in 2019, i.e. by EUR 6.9 million fewer than in 2018 (see Fig. 5). As was the case in the previous periods, the

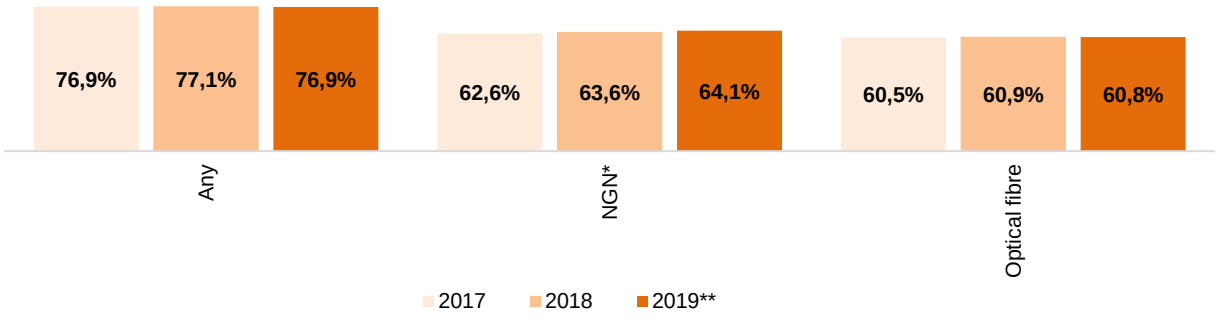
investments were mostly made in broadband networks: mobile communications 4G networks (Long Term Evolution, LTE) and optical fibre communication line networks. While considering the opportunities of the development of the electronic communications market, it is necessary to take account of the ratio between investment and the total revenue of this market. In 2019, the ratio between investments in the electronic communications infrastructure and the total revenue of this market accounted to 10.4%.



	2014	2015	2016	2017	2018	2019
Investments	82,3	78,9	97,8	76,9	80,8	73,9
Investment share	13,6	12,6	14,9	11,3	11,7	10,4

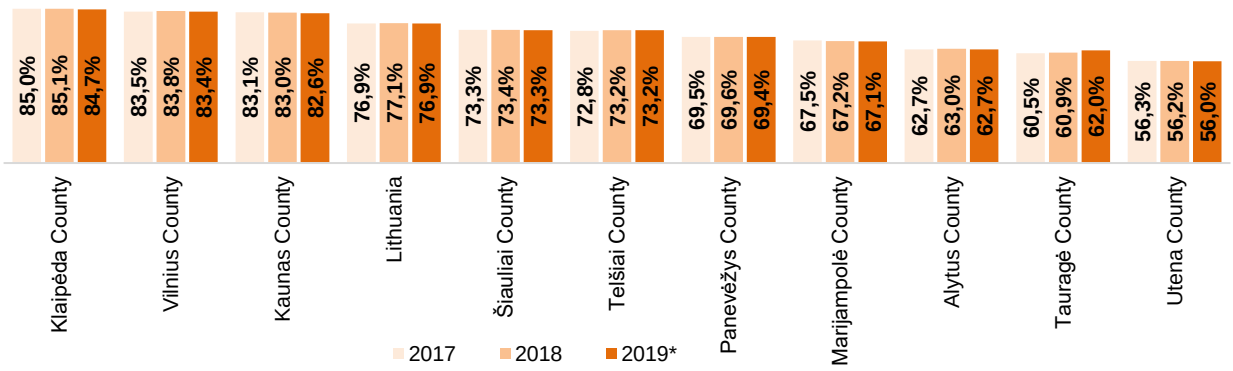
Fig. 5 **Investments in the electronic communications infrastructure, in EUR million, and ratio between the investments in the electronic communications infrastructure and the total revenue of the electronic communications market, %, 2014-2019**
Source: RRT

Development of public fixed communications networks. In 2017-2019, the public fixed communications networks reached 76.9% of all residential premises by means of any lines (copper lines or optical fibre, or coaxial cable lines) in Lithuania (see Fig. 6). In 2019, compared to 2018, the coverage of public fixed communications networks slightly decreased, i.e. it failed to catch up the growing number of residential premises in terms of the scope. In 2019, compared to 2018, the development of the next-generation network (NGN) increased by 0.5 percentage points – 64.1% of all residential premises were accessed by this network in 2019. In 2019, optical fibre lines accessed 60.8% of all residential premises.



* NGN – the next-generation network covering the optical fibre line, copper line with VDSL technology and coaxial cable line with Docsis 3.x technology.
** Preliminary data which may be clarified in the future.
Fig. 6 **Development of fixed communications networks in Lithuania by communications lines, %, 2017-2019**
Source: RRT

In 2017-2019, public fixed communications networks were best developed in Klaipėda County (84.7%), Vilnius County (83.4%) and Kaunas County (82.6%) in terms of the coverage of residential premises (see Fig. 7). In these 3 counties, the development of public fixed communications networks exceeded the overall coverage of the whole of Lithuania by public fixed communications networks. The least development of public fixed communications networks was observed in the counties of Alytus, Tauragė and Utena.



* Preliminary data which may be clarified in the future.
Fig. 7 **Development of fixed communications networks in Lithuania by counties and in the entire territory of Lithuania, %, 2017-2019**
Source: RRT

In 2017-2019, the public fixed communications networks were 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 whose fixed communications network was best developed in Lithuania was UAB Cgates whose fixed communications network covered approx. 28% of all residential premises.

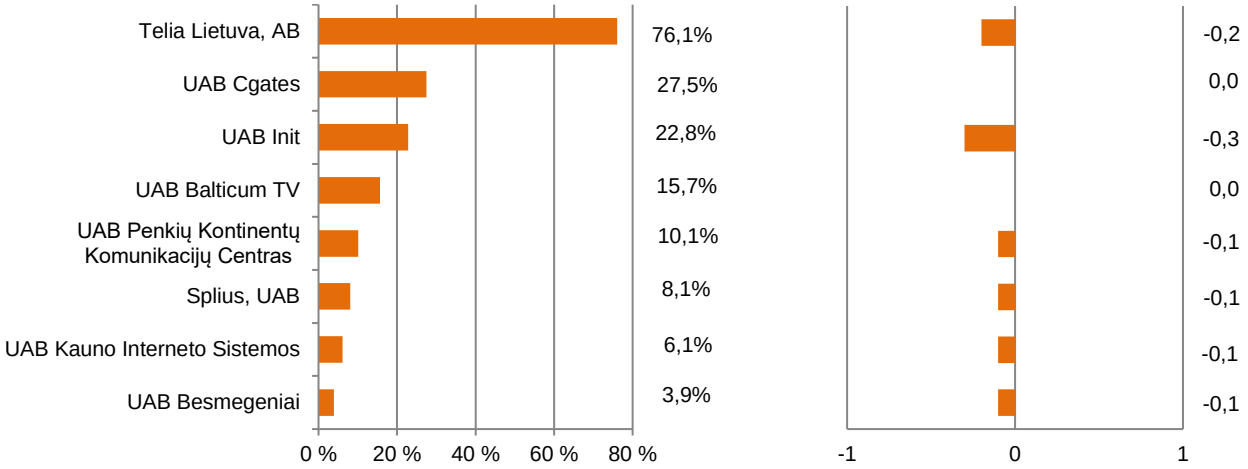
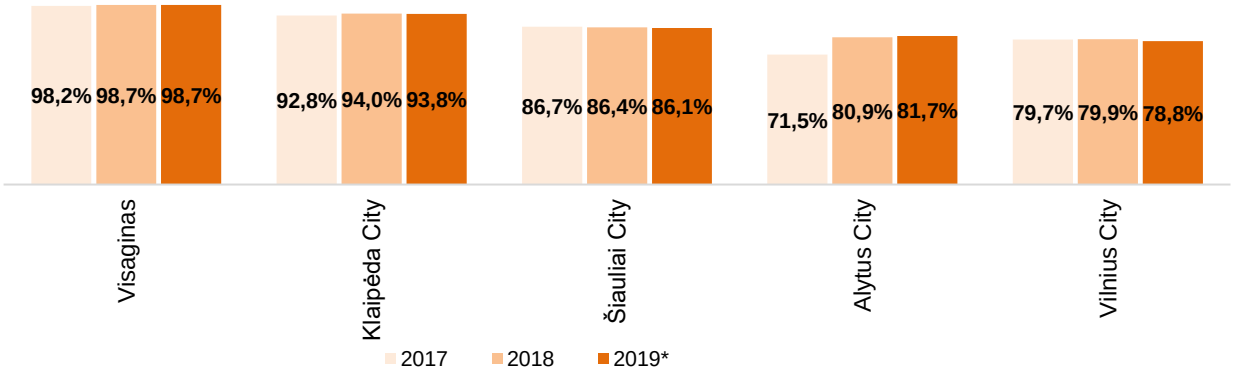


Fig. 8 **Development of fixed communications networks in Lithuania by operators, %, and annual changes of the network development, pp, 2019***
* Preliminary data which may be clarified in the future.

Source: RRT

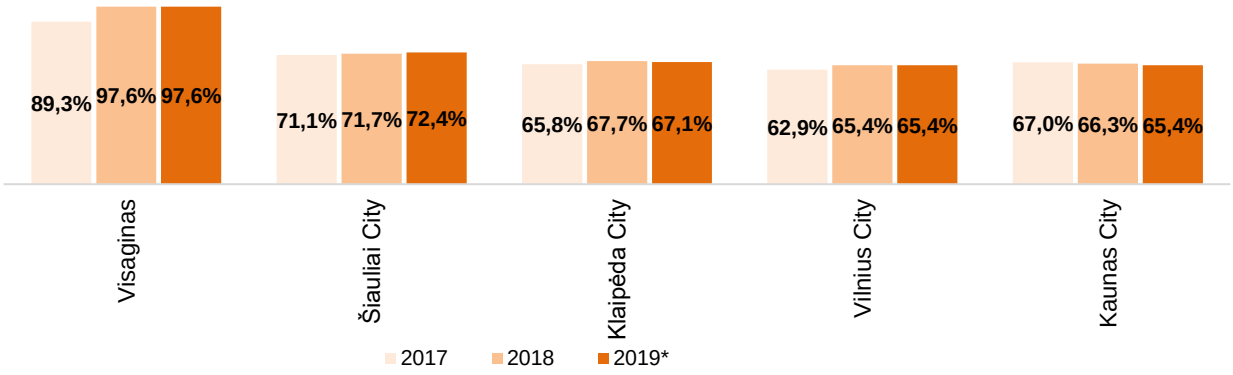
When analysing the development of public networks it is important to analyse not only the overall coverage of the premises but also to assess the duplication of such networks. The duplications of the networks allows the end-users, for instance, the residents of businesses, to receive retail electronic communications services from several providers.

In 2017-2019, the majority of the same residential premises were accessed by the fixed communications networks of at least 2 operators in the municipalities of Visaginas and Klaipėda City (98.7% and 93.8%, respectively, of all residential premises in that municipality) (see Fig. 9). Top five municipalities by accessibility also included the municipalities of Vilnius City, Šiauliai City and Alytus City. It must be noted that in 2019, compared to 2018, the availability of fixed communications networks of at least 2 operators in the same residential premises increased by 0.8 percentage points.



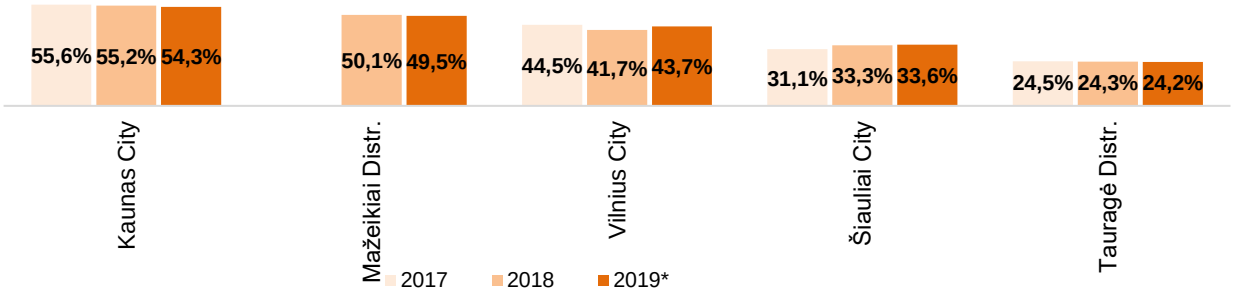
* Preliminary data which may be clarified in the future.
Fig. 9 **Share of residential premises accessed by fixed communications networks of at least 2 operators by 5 top best accessible municipalities, %, 2017-2019**
Source: RRT

In 2017-2019, the majority of the same residential premises were accessed by the fixed communications networks of at least 3 operators in the municipalities of Visaginas and Šiauliai City (97.6% and 72.4%, respectively, of all residential premises in that municipality) (see Fig. 10). Top five municipalities by accessibility also included the municipalities of 3 largest cities in Lithuania. It must be noted that in 2019, compared to 2018, the availability of fixed communications networks of at least 3 operators in the same residential premises increased by 0.7 percentage points in the municipality of Šiauliai City. Thus, the availability of fixed communications networks of at least 3 operators in the same residential premises exceeded 70% in 2 municipalities only (Visaginas and Šiauliai City) in 2019, whereas such availability did not reach 70% in the municipalities of other 3 largest cities.



* Preliminary data which may be clarified in the future.
Fig. 10 **Share of residential premises accessed by fixed communications networks of at least 3 operators by 5 top best accessible municipalities, %, 2017-2019**
Source: RRT

In 2017-2019, the majority of the same residential premises were accessed by the fixed communications networks of at least 4 operators in the municipalities of Kaunas City and Mažeikiai District (54.3% and 49.5%, respectively, of all residential premises in that municipality) (see Fig. 11). Top five municipalities by accessibility also included the municipalities of Vilnius City, Šiauliai City and Tauragė District. It must be noted that in 2019, compared to 2018, the availability of fixed communications networks of at least 4 operators in the same residential premises increased in the municipality of Vilnius City the most (by 2.0 percentage points).

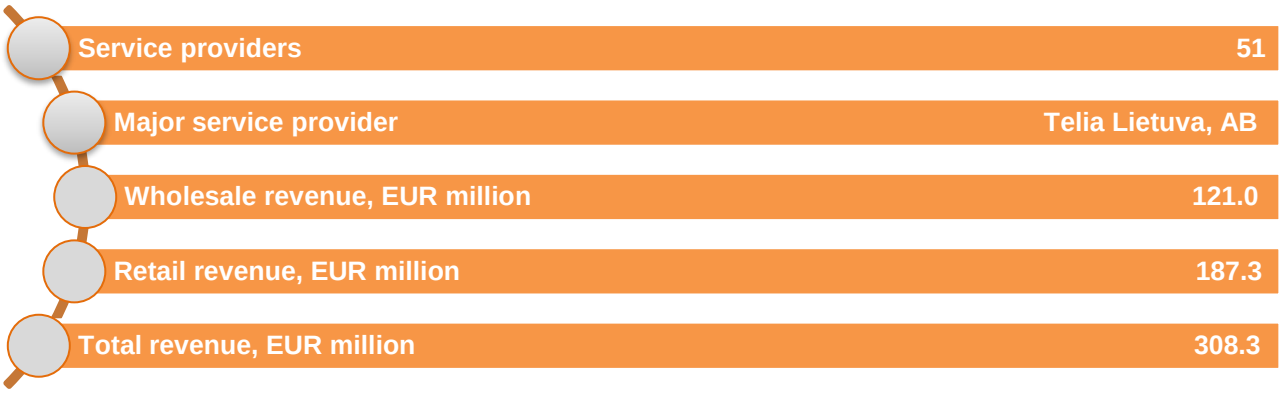


* Preliminary data which may be clarified in the future.
Fig. 11 **Share of residential premises accessed by fixed communications networks of at least 4 operators by 5 top best accessible municipalities, %, 2017-2019**
Source: RRT

In 2019, 121 operators were operating in the electronic communications market, i.e. by 5 operators more than in 2018. The revenue of the electronic communications market continued to grow in 2019: the growth accounted for 2.9%, whereas the revenue constituted EUR 713.5 million. In 2019, the revenue from data transmission exceeded the revenue from telecommunications services for the first time throughout the period in question. It must be considered that the future trends of the electronic communications sector will be inevitably affected by the quarantine introduced in the entire territory of the Republic of Lithuania due to the COVID-19 pandemic – where the revenue from some services may remain almost unchanged or may increase, the revenue from other services may decrease. In 2019, the public fixed communications networks were deployed in almost 77% of all residential premises in Lithuania, the optical fibre public fixed communications networks covered almost 61% of all residential premises. In 2019, the majority of the same residential premises were accessed by the fixed communications networks of at least 3 operators in the municipalities of Visaginas and Šiauliai City (97.6% and 72.4%, respectively, of all residential premises in that municipality). In other municipalities, such availability did not reach 70%.

2. Telephone Service

2.1. General Overview of the Market of Telecommunications Services



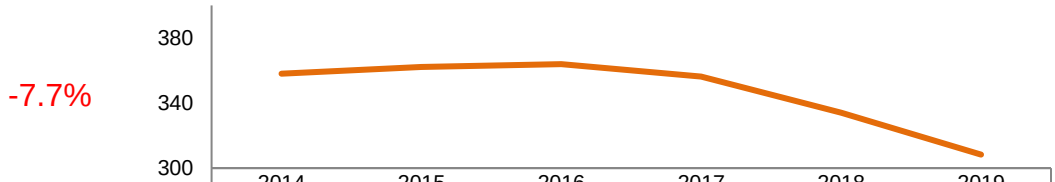
IMPORTANT!

- In this section of the report, other telecommunications service providers shall be all providers of telecommunications services, except for Telia Lietuva, AB, UAB Tele2, UAB Bitė Lietuva and UAB Mediafon Carrier Services (the “other providers”).

The telecommunications services provided in Lithuania in 2019 may be divided into retail public mobile and fixed telephone services and wholesale public communications networks provision and public telecommunications services (the “network interconnection services”).

Service providers. At the end of 2019, the telecommunications services were provided by 51 undertakings, i.e. by 5 undertakings more than at the end of 2018. Telecommunications service providers represented more 42.1% of all 121 undertakings engaged in electronic communications activities. As many as 29 telecommunications service providers, i.e. 56.9% of all undertakings providing telecommunications services, were providing public fixed telephone services.

Revenue. In 2019, the revenue gained from telecommunications services amounted to EUR 308.3 million, i.e. by 7.7% less than in 2018 (see Fig. 12). Such revenue constituted 43.2% of all revenue of the electronic communications market. The trend of decreasing revenue of all telecommunications service groups (mobile, fixed communications and network interconnection services) has been observed for the third year in a row.



	2014	2015	2016	2017	2018	2019
Total revenue	358,0	362,1	363,9	356,3	334,0	308,3
Mobile communications services	189,1	179,0	174,8	173,6	168,8	157,7
Fixed communications services	53,8	47,8	44,2	39,9	34,5	29,7
Network interconnection services	115,1	135,4	144,9	142,7	130,7	121,0

Fig. 12 **Revenue from telecommunications services, in EUR million, 2014-2019**
Source: RRT

In 2019, as was the case during the entire period between 2014 and 2019, the largest portion of the revenue (51.1%) was comprised of the revenue from public mobile telephone services (see Fig. 13). In 2019, compared to 2018, a portion of the revenue from retail public mobile telephone service slightly increased (by 0.6 percentage points) in the total revenue. A portion of the revenue received from network interconnection services constituted 39.2% in the structure of the total revenue in 2019 or by 7.1 percentage points more than in 2014.

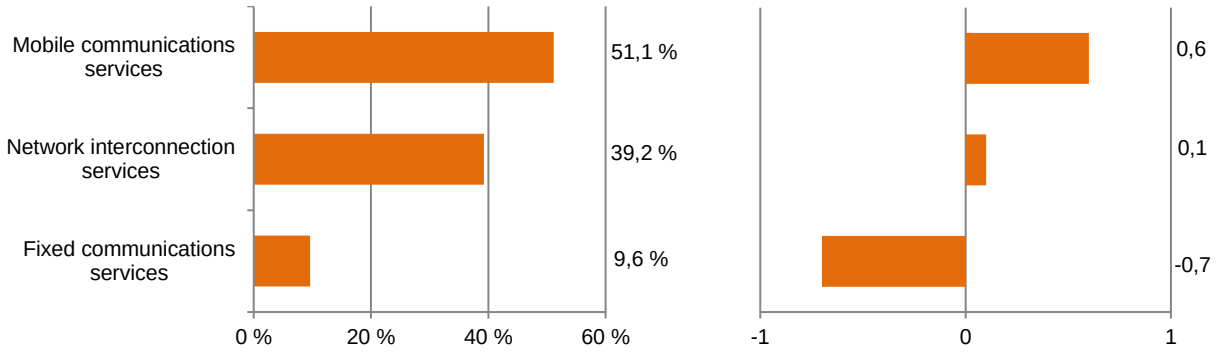


Fig. 13 **Structure of revenue from telecommunications services by service groups, %, and annual changes of the revenue structure, pp, 2019**
Source: RRT

In 2019, the revenue of the four major telecommunications service providers remained almost unchanged and constituted 94.5% of all revenue from telecommunications services. In 2019, as was the case in 2018, the largest portion of the revenue from telecommunications services was gained by Telia Lietuva, AB – 36.1% of all revenue from telecommunications services (see Fig. 14). Over the year, the market share of this undertaking shrank by 1.5 percentage points. The market share held by UAB Bitė Lietuva experienced the steepest growth – in terms of the revenue the market share held by that undertaking went up by 0.8 percentage points in 2019 and constituted 23.2%.

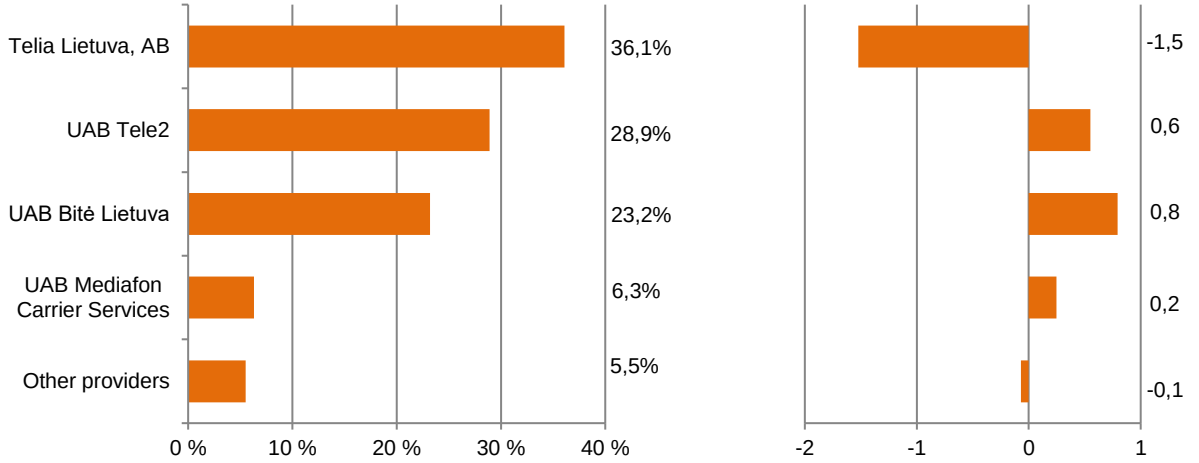


Fig. 14 **Structure of revenue from telecommunications services by service providers, %, and annual changes of the revenue shares, pp, 2019**
Source: RRT

In 2019, the decline was observed not only in the total revenue from telecommunications services but also in the revenue of all telecommunications service groups. This trend has been observed since 2017. Throughout the period between 2014 and 2019, the trend of declining revenue from fixed telephone services is observed.

2.2. Public Mobile Telephone Services

IMPORTANT!

- In this chapter of the report other public mobile telephone voice service providers shall be all public mobile telephone voice service providers, except for UAB Bitė Lietuva, Telia Lietuva, AB, and UAB Tele2 (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 (the "roaming calls"). This chapter also includes the Short Message Service (SMS) and Multimedia Messaging Service (MMS) sending services.

Information on the data transmission services via the mobile network by means of both telephones and computers is provided in the chapter "Data Transmission".

Service providers. At the end of 2019, public mobile telephone services were provided by 17 undertakings: 3 operators 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 10 undertakings were reselling the services provided by other public mobile telephone service providers to the service users.

Service Recipients. At the end of 2019, public mobile telephone services were provided to approximately 3.7 million active SIM (*Subscriber Identification Module*) cards[4] (see Table 3). The number of active SIM cards went down by 1.6% over the year. The number of active SIM cards per 100 residents (mobile service penetration) decreased by 2.2 percentage points due to a lower number of active SIM cards, and, at the end of 2019, 100 residents shared 132.6 active SIM cards.

In terms of the breakdown of active SIM cards by invoice settlement, the major share (64.8%) was comprised of active SIM cards paid under invoices ("post-paid") rather than in advance ("pre-paid") in 2019 (see Table 3). A continuous trend of the growing number of active post-paid SIM cards had been observed up till 2018 but in 2019, the number of such SIM cards went down by 1.2% or 28.5 thousand and stood at 2,440.3 thousand. Throughout the period between 2014 and 2019 in question, a decreasing trend in pre-paid SIM cards was evident (it went down by 2.4% or 31.9 thousand in 2019). These trends could have been associated

[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 referred to in this section of the report corresponds to the number of active SIM cards (used to send voice calls, SMS messages and/or MMS messages). An active SIM card shall mean a card which has been used to use a telecommunications service in the last 3 months (initiated or accepted call, sent or received a short text message or another service used).

with the flat rate service plans applied by the service providers, where a set duration of local calls (in most cases unlimited calls to all networks of Lithuania) and set duration of international calls as well as a certain amount of additional services (SMS/MMS/data transmission services) are offered for a regular fee.

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, 2014-2019**

	2014	2015	2016	2017	2018	2019
UAB Bitė Lietuva	846.3	840.2	812.4	880.0	858.5	864.3
Pre-paid	*398.6*	*385.7*	*356.8*	*338.4*	*301.5*	*274.5*
Post-paid	*447.7*	*454.5*	*455.6*	*541.6*	*557.0*	*589.8*
Telia Lietuva, AB	1,095.0	1,016.3	975.7	1,033.6	1,108.2	1,036.3
Pre-paid	*439.3*	*351.3*	*305.8*	*277.3*	*262.6*	*277.5*
Post-paid	*655.7*	*665.0*	*670.0*	*756.3*	*845.5*	*758.8*
UAB Tele2	1,780.5	1,713.2	1,724.5	1,704.2	1,715.2	1,723.6
Pre-paid	*959.9*	*893.5*	*863.8*	*815.7*	*771.3*	*751.5*
Post-paid	*820.6*	*819.7*	*860.7*	*888.5*	*943.8*	*972.1*
Other providers	78.2	79.6	87.5	82.5	82.8	80.1
Pre-paid	*1.3*	*1.3*	*1.3*	*0.7*	*0.4*	*0.5*
Post-paid	*76.8*	*78.3*	*86.2*	*81.8*	*82.4*	*79.6*
All providers	**3,800.0**	**3,649.3**	**3,600.1**	**3,700.3**	**3,764.7**	**3,704.3**
Pre-paid	*1,799.1*	*1,631.8*	*1,527.7*	*1,432.0*	*1,335.9*	*1,304.0*
Post-paid	*2,000.8*	*2,017.5*	*2,072.4*	*2,268.2*	*2,428.8*	*2,400.3*

Source: RRT

With a view to the breakdown of the number of public mobile telephone service users by providers, it is evident that the number of active SIM cards of Telia Lietuva, AB and other providers (see Table 3) decreased, whereas the number of active SIM cards of UAB Bitė Lietuva and UAB Tele2 slightly increased in 2019. As was the case in 2018, the major market share (46.5%) by the number of active SIM cards was held by UAB Tele2 in 2019. This operator owned 40.5% of all post-paid and 57.6% of all pre-paid SIM cards.

Number Portability Service. In 2019, this service was used 162.5 thousand times, i.e. by 3.5 thousand less than in 2018 (see Table 4). The major part of service users that used the number portability service came to UAB Bitė Lietuva network (36.0%), and most subscribers left UAB Tele2 network (33.0%). It must be noted that those companies switched places by the flows of ported numbers compared to 2018.

Table 4. **Flows of ported numbers by service providers, in units, in 2019**

	To	From	**Balance sheet**
UAB Bitė Lietuva	58,500	44,787	**13,713**
Telia Lietuva, AB	41,759	43,847	**-2,088**
UAB Tele2	47,883	53,685	**-5,802**
Other providers	14,310	20,133	**-5,823**

Source: RRT

Revenue. In 2019, compared to 2018, the revenue from public mobile telephone services shrank by 6.6% or EUR 11.2 million and stood at EUR 157.7 million (see Fig. 15). In 2019, such revenue accounted for one of the largest shares of the electronic communications service market revenue (22.1%). The trend of decreasing revenue from public mobile telephone services has been observed throughout the period between 2014 and 2019 in question.

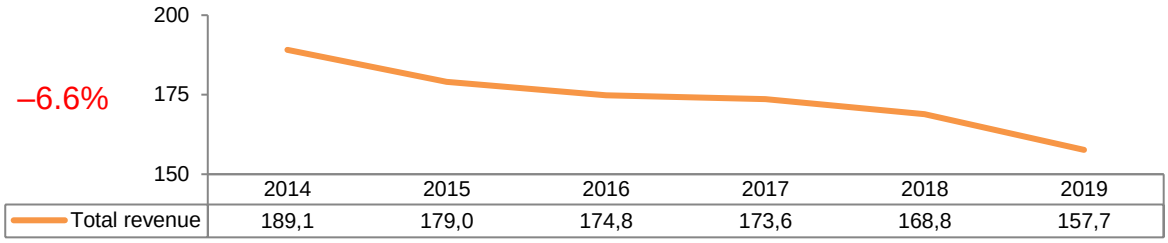


Fig. 15 **Revenue from public mobile telephone services, in EUR million, 2014-2019**
Source: RRT

In 2019, the total revenue of the three major mobile telephone service providers went down by 6.5% or EUR 10.6 million. However, the share of the revenue of the overall revenue from mobile telephone services remained almost unchanged and stood at 96.4%. In 2019, the largest market share (39.3%) by revenue from public mobile telephone services was held by UAB Tele2, as was the case in 2018 (see Fig. 16). In 2019, the market share held by UAB Bitė Lietuva was subject to the steepest growth (0.9 percentage points) and stood at 29.7%.

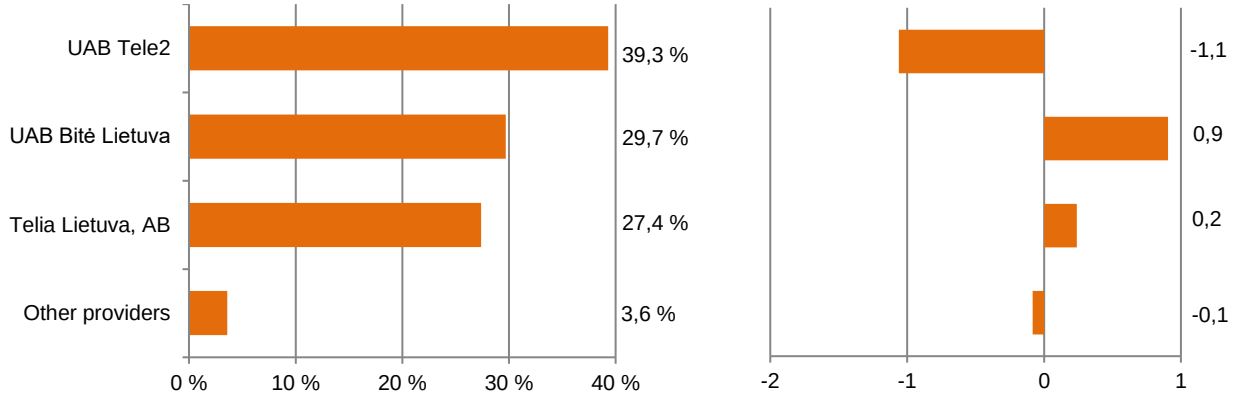


Fig. 16 **Structure of revenue from public mobile telephone services by service providers, %, and annual changes of the revenue shares, pp, 2019**
Source: RRT

The average revenue per user (ARPU) a month for public mobile telephone services was slightly decreasing in 2019 (EUR 0.1) and it stood at EUR 3.6 per month (see Table 5). It must be noted that in 2014-2019, ARPU variations were not high: between EUR 3.5 and 3.9 per month.

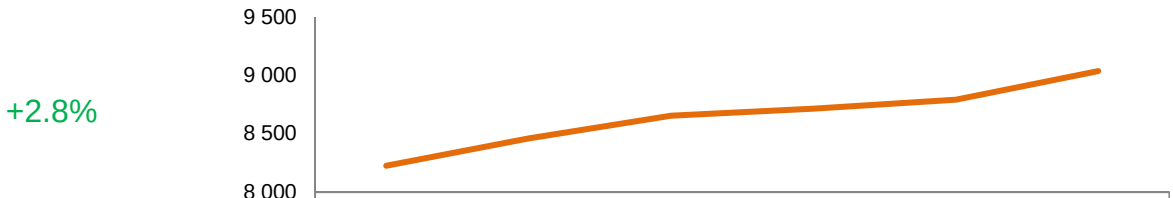
Table 5. **ARPU for public mobile telephone services, in EUR per month, 2014-2019***

	2014	2015	2016	2017	2018	2019
ARPU for public mobile telephone services	3.7	3.6	3.5	3.9	3.7	3.6

**Since 2017 the calculations have included the more accurate number of active SIM cards used to send only voice calls, SMS and/or MMS.*
Source: RRT

2.2.1. Mobile Telephone Voice Services

Call Duration. The duration of calls originated by Lithuanian public mobile telephone service users was further increasing in 2019. Compared to 2018, the duration of originated calls went up by 2.8% or by 243.8 million minutes in 2019 and totalled 9,036.3 million minutes (see Fig. 17). In 2019, the Lithuanian public mobile telephone voice service users originated 96.2% of the calls by duration in Lithuania. The duration of such calls grew by 1.9% in 2019, compared to 2018. The duration of calls originated in foreign countries, where the Lithuanian public mobile telephone service users, when being abroad, were using the roaming services significantly increased (by 31.6% or 82.1 million minutes).



	2014	2015	2016	2017	2018	2019
Calls originated in the Republic of Lithuania	8181,5	8405,1	8567,2	8529,1	8532,8	8694,6
Roaming calls	44,1	53,7	86,4	186,1	259,7	341,8
Originated calls, in total	8225,6	8458,8	8653,6	8715,1	8792,5	9036,3

Fig. 17 **Duration of calls originated by Lithuanian public mobile telephone voice service users, in million minutes, 2014-2019**
Source: RRT

With a view to the breakdown of the duration of the calls originated by the Lithuanian public mobile telephone service users by providers, it is evident that the longest duration (49.9%) remained that of the calls originated by UAB Tele2 service users in 2019 (see Table 6).

Table 6. **Duration of calls originated by Lithuanian public mobile telephone voice service users by service providers, in million minutes, 2014-2019**

	2014	2015	2016	2017	2018	2019
UAB Tele2	3,877.9	4,045.3	4,127.9	4,216.7	4,272.5	4,504.9
Telia Lietuva, AB	2,157.6	2,240.8	2,318.5	2,347.2	2,364.0	2,378.0
UAB Bitė Lietuva	1,930.7	1,947.3	1,972.3	1,939.4	1,945.5	1,954.9
Other providers	215.3	225.3	234.9	211.9	210.4	198.6
All providers	**8,181.5**	**8,458.7**	**8,653.6**	**8,715.1**	**8,792.5**	**9,036.3**

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, short-number or service number calls, in other public mobile communications networks, in public fixed communications networks and in foreign operators' networks. The major part (52.2%) of all public mobile telephone calls were terminated in the own network and in other Lithuanian public mobile networks (42.8%) in 2019 (see Table 7). In 2019, the duration of the public mobile telephone calls which were terminated in other public mobile and fixed communications networks increased by 5.1% and 6.8%, accordingly.

Table 7. **Structure of the duration of calls originated in Lithuanian public mobile communications networks by call destination, in million minutes, 2014-2019***

	2014	2015	2016	2017	2018	2019
Terminated in own network	5,144.7	4,969.3	4,866.7	4,692.3	4,580.0	4,535.1
Terminated by short-number and service number calls	-	-	-	31.7	35.3	40.4
Terminated in other public mobile communications networks	2,755.9	3,114.6	3,346.8	3,439.4	3,541.0	3,720.0
Terminated in public fixed communications networks	222.3	269.0	304.3	320.3	332.7	355.3
Terminated in foreign operators' networks	58.6	52.2	49.4	45.4	43.9	43.7
Total call duration	**8,181.5**	**8,405.1**	**8,567.2**	**8,529.1**	**8,532.8**	**8,694.6**

**The short-number calls or other premium or toll-free calls have been singled out since 2017.*
Source: RRT

When analysing the call structure by the way of settlement, most calls in Lithuania were originated by service users (legal and natural persons) which paid for the services under invoices (post-paid) in 2019, as was the case in 2018, – this accounted for 81.7% of the total duration of originated calls (see Table 8). The

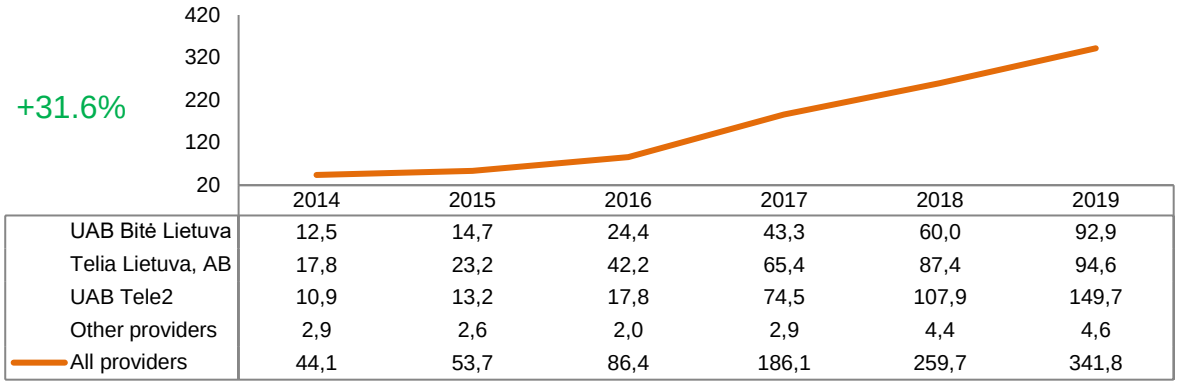
duration of such calls went up by 4.5% or by 309.0 million minutes in 2019, compared to 2018. It must be noted that the duration of calls of the pre-paid service users went down by 8.5% or by 147.2 million minutes over the year.

Table 8. **Structure of the duration of calls of various destinations originated in Lithuanian public mobile communications networks by way of settlement and type of service users, in million minutes, 2018-2019**

	2018			2019		
	Pre-paid	*Post-paid*		*Pre-paid*	*Post-paid*	
		Natural	Legal		Natural	Legal
Terminated in own network	1,139.3	2,586.6	854.0	996.3	2,646.6	892.3
Terminated by short-number and service number calls	1.9	19.9	13.6	3.1	22.9	14.5
Terminated in other public mobile communications networks	526.9	2 250.7	763.4	518.3	2,423.4	778.3
Terminated in public fixed communications networks	64.0	193.2	75.5	67.3	208.8	79.2
Terminated in foreign operators' networks	3.2	14.3	26.3	3.2	14.5	26.1
Total originated	**1,735.4**	**5,064.7**	**1,732.8**	**1,588.1**	**5,316.1**	**1,790.3**

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, significantly increased in 2019, compared to 2018 (by 31.6% or 82.1 million minutes). This growing trend has been observed throughout the entire period in question, i.e. since 2014. The most contributing factor was the increasing duration of mobile communications calls originated by the Lithuanian operators' service users travelling the EU countries as a result of the principle "Roam Like At Home" which came into force as of the middle of 2017 in the whole of the EU .



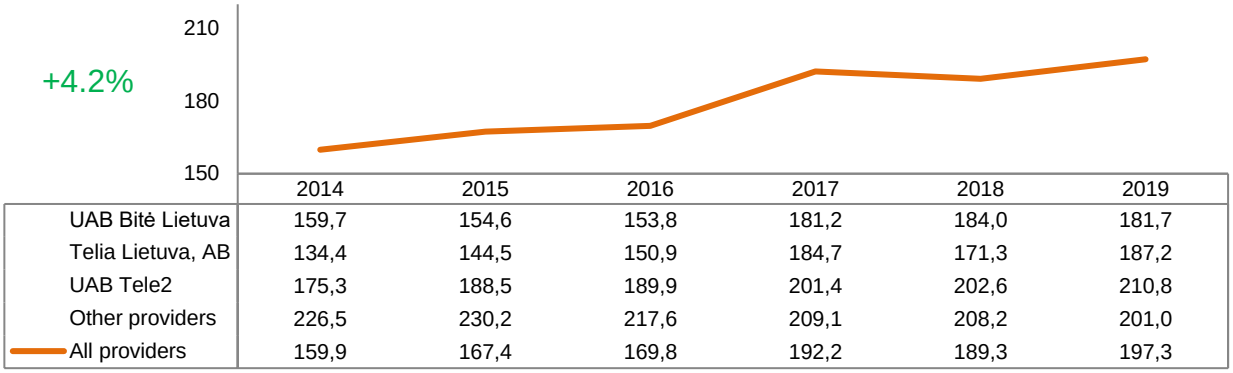
	2014	2015	2016	2017	2018	2019
UAB Bitė Lietuva	12,5	14,7	24,4	43,3	60,0	92,9
Telia Lietuva, AB	17,8	23,2	42,2	65,4	87,4	94,6
UAB Tele2	10,9	13,2	17,8	74,5	107,9	149,7
Other providers	2,9	2,6	2,0	2,9	4,4	4,6
All providers	44,1	53,7	86,4	186,1	259,7	341,8

Fig. 18 **Duration of calls originated by Lithuanian public mobile telephone service users using roaming services by service providers, in million minutes, 2014-2019**
Source: RRT

In 2019, UAB Tele2 remained the leader of roaming services, by the duration of calls, where service users of the Lithuanian public mobile telephone service providers are calling while being abroad (see Fig. 18): In 2019, by means of SIM cards of this operator, 43.8% of all roaming calls were originated. The duration of roaming calls originated by means of UAB Tele2 SIM cards increased by 38.7% or by 41.8 million minutes in 2019.

With a view to the calls originated in Lithuanian public mobile communications networks, without differentiating call destinations, the average monthly call duration per service user was 197.3 minutes in 2019 (slightly over 3 hours), i.e. by 8.0 minutes longer than in 2018 (see Fig. 19). The average longest duration of the calls (210.8 minutes or 3.5 hours) was of the UAB Tele2 service user in 2019, as was the case in 2018. It

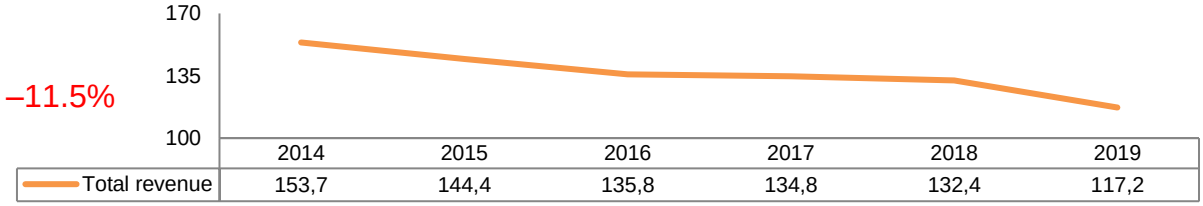
must be noted that in 2019, compared to 2018, the average monthly duration of calls of the service users of other providers shortened the most: by 3.4% or 7.2 minutes, whereas the average monthly duration of calls of the service users of Telia Lietuva, AB was subject to the steepest increase: by 9.3% or 15.9 minutes. The average monthly call duration per post-paid service user was 250.4 minutes in 2019 (natural person – 259.3 minutes, legal person – 227.2 minutes) or by 5.6% longer than in 2018, and the duration per pre-paid service user was 101.2 minutes or by 4.2% shorter than in 2018.



	2014	2015	2016	2017	2018	2019
UAB Bitė Lietuva	159,7	154,6	153,8	181,2	184,0	181,7
Telia Lietuva, AB	134,4	144,5	150,9	184,7	171,3	187,2
UAB Tele2	175,3	188,5	189,9	201,4	202,6	210,8
Other providers	226,5	230,2	217,6	209,1	208,2	201,0
All providers	159,9	167,4	169,8	192,2	189,3	197,3

Fig. 19 **Average monthly duration of calls originated by a single Lithuanian public mobile telephone voice service user by service providers, in minutes, 2014-2019**
Source: RRT

Revenue. In 2019, compared to 2018, the revenue from public mobile telephone voice services went down by 11.5% or EUR 15.2 million (see Fig. 20). It must be noted that the decreasing trend in the revenue remained throughout the entire period in question (2014-2019).



	2014	2015	2016	2017	2018	2019
Total revenue	153,7	144,4	135,8	134,8	132,4	117,2

Fig. 20 **Revenue from public mobile telephone voice services, in EUR million, 2014-2019**
Source: RRT

It is difficult to evaluate the structure of the revenue received by public mobile telephone voice service providers by call destinations, as one operator does not differentiate the revenue from local and international calls. With a view to the roaming call segment, however, it must be noted that the major share of the total revenue (by 12.1% or 3.1 percentage points less than in 2018) for roaming calls was held by Telia Lietuva, AB in 2019, 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, %, 2018-2019**

	2018			2019		
	Local	International	International roaming	Local	International	International roaming
UAB Bitė Lietuva	76.9	14.6	8.5	83.8	9.3	6.9
Telia Lietuva, AB	68.1	16.7	15.2	73.5	14.4	12.1
UAB Tele2*	90.5		9.5	90.7		9.3
Other providers	70.7	16.7	12.6	75.5	13.3	11.2

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

ARPU. In 2019, the average monthly revenue from public mobile telephone voice services per subscriber shrank by 9.5% or EUR 0.3 and stood at EUR 2.7 per month (see Table 10). It comprised 74.3% of ARPU for all public mobile telephone services. In 2019, the average revenue from both post-paid public mobile telephone service users and pre-paid service users was going down – by 7.0% or EUR 0.3 and 21.2% or EUR 0.4, respectively. The revenue from the post-paid users was by 2.5 times larger than that from the pre-paid users. It may be stated that the difference between the expenditure when paying under invoices or in advance was not significant, and the choice was determined by flat rate service plans which corresponded to the needs and enabled planning the expenses.

Table 10. **ARPU for public mobile telephone voice services by way of settlement, in EUR per month, 2014– 2019**

	2014	2015	2016	2017	2018	2019
ARPU for public mobile telephone voice services	3.0	2.9	2.7	3.0	2.9	2.7
From *post-paid*	*4.1*	*3.7*	*3.4*	*4.1*	*3.6*	*3.4*
From *pre-paid*	*1.5*	*1.6*	*1.5*	*1.4*	*1.7*	*1.4*
ARPU for all public mobile telephone services	3.7	3.6	3.5	3.9	3.7	3.6

Source: RRT

The comparison of ARPU received by major operators for public mobile telephone voice services shows that in 2019, the lowest ARPU was that of UAB Tele2 (EUR 1.9 or by 20.9% less than in 2018), the highest ARPU was of UAB Bitė Lietuva (EUR 3.5 or by 6.1% less than in 2018) (see Table 11). This trend is observed throughout the entire period in question (2014-2019).

Table 11. **ARPU for public mobile telephone voice services by providers, in EUR per month, 2014-2019**

	2014	2015	2016	2017	2018	2019
UAB Bitė Lietuva	3.5	3.2	3.4	3.9	3.8	3.5
Telia Lietuva, AB	3.0	2.9	2.9	3.5	3.2	3.2
UAB Tele2	2.8	2.7	2.4	2.4	2.4	1.9
Other providers	2.5	2.0	1.9	2.6	2.6	2.6
All providers	**3.0**	**2.9**	**2.7**	**3.0**	**2.9**	**2.7**

Source: RRT

Prices. In Lithuania, the so-called *flat rate* service plans were prevailing during the period in question, where a certain duration of local calls and international calls or unlimited calls to all networks of Lithuania and a certain amount of additional services (SMS, data transmission) were offered for a certain regular fee. Where different mobile telephone service plans with one fixed price for voice and data transmission services 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, in terms of the calculated average prices of voice services (the ratio between

the revenue from such services and duration of respective calls subject to received revenue), the decreasing trend in the price is evident throughout the period in question. In 2019, compared to 2018, the average price of voice services went down by 13.9% or 0.2 euro cent per minute (see Table 12). The average price of voice services of different public mobile communications service providers changed in 2019: the price offered by UAB Tele2 dropped the most (by 24.6% or 0.3 euro cent per minute), whereas the price of other providers slightly grew – by 0.2%.

Table 12. **Calculated average public mobile telephone voice service prices by service providers, in euro cents per minute, 2014-2019**

	2014	2015	2016	2017	2018	2019
UAB Bitė Lietuva	2.2	2.0	1.9	2.1	2.0	1.9
Telia Lietuva, AB	2.2	2.0	1.9	1.8	1.8	1.7
UAB Tele2	1.6	1.4	1.3	1.2	1.1	0.9
Other providers	1.1	0.8	0.9	1.2	1.2	1.3
All providers	**1.8**	**1.7**	**1.6**	**1.5**	**1.5**	**1.3**

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 scores[6] – the higher the score, the higher the quality of the service. In terms of different service providers, it is evident that the quality of services in 2019 was high and differed slightly (see Table 13).

Table 13. **Average value of public mobile telephone voice service transmission quality in MOS scores by service providers, in scores, 2017-2019**

	2017	2018	2019
UAB Bitė Lietuva	3.40	3.45	3.50
Telia Lietuva, AB	3.03	3.29	3.52
UAB Tele2	3.24	3.22	3.28

Source: RRT

2.2.2. Mobile Telephone SMS and MMS Services

The popularity of short-text messages (SMS), especially that of multimedia messages (MMS) which allow sending a video message supplemented with audio features and text has been gradually decreasing. Those technologies are replaced by new, more convenient and more advanced platforms, such as Viber, Facebook Messenger, etc.

Number of SMS and MMS. During the period between 2014 and 2019, the number of SMS was going down (see Table 14). In 2019, compared to 2018, the number of sent SMS declined by 18.3%. A single public mobile telephone service user sent 74 SMS per month on an average in 2019 (by 15 SMS fewer than in 2018), i.e. 2.4 SMS per day.

[5] For more information, see RRT website at: *https://www.rrt.lt/istekliai/rysio-paslaugu-kokybes-ataskaitos/viesuju-judriojo-telefono-rysio-paslaugu-kokybes-rodikliu-ataskaitos/*

[6] Voice transmission quality is a number showing the quality of voice transmitted over the network during a successful call expressed in MOS scores from 1 to 4.5: excellent quality from 3.7 and higher, good quality between 3.2 and 3.7, fair quality between 2.3 and 3.2, poor quality between 1.6 and 2.3, bad quality below 1.6. MOS assessment is carried out by means of specific software installed in the authority's measurement equipment that uses the wideband voice quality testing P.863-SWB 'POLQA'.

Table 14. **Number of sent SMS, in million units, and MMS, in thousand units, and market shares of service providers, %, 2014-2019**

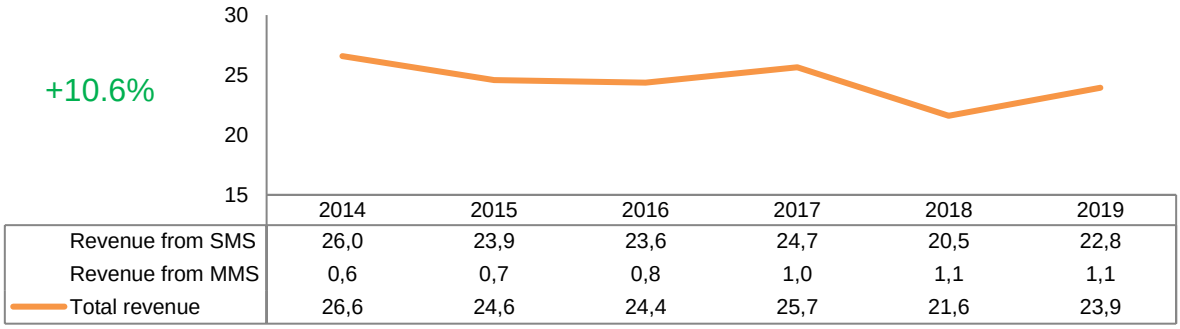
	2014	2015	2016	2017	2018	2019
Number of sent SMS, in million units	**7,107.9**	**6,350.2**	**5,259.3**	**4,489.7**	**3,978.0**	**3,248. 6**
UAB Tele2	*48.0*	*51.3*	*53.9*	*56.8*	*56.7*	*55.2*
Telia Lietuva, AB	*22.8*	*22.5*	*21.5*	*21.7*	*22.6*	*25.4*
UAB Bitė Lietuva	*28.5*	*25.1*	*22.9*	*19.7*	*18.9*	*18.2*
Other providers	*0.7*	*1.1*	*1.7*	*1.8*	*1.9*	*1.3*
Number of sent MMS, in thousand units	**6,785.3**	**8,071.5**	**9,430.7**	**10,944.3**	**13,128.4**	**11,551.5**
UAB Tele2	*47.7*	*47.4*	*46.3*	*47.7*	*49.7*	*44.6*
Telia Lietuva, AB	*28.4*	*30.3*	*30.9*	*27.1*	*23.2*	*26.5*
UAB Bitė Lietuva	*19.8*	*16.5*	*15.5*	*21.0*	*22.3*	*24.2*
Other providers	*4.1*	*5.8*	*7.4*	*4.2*	*4.8*	*4.8*

Source: RRT

In 2019, the number of MMS sent over public mobile telecommunications networks was lower by 12.0% than in 2018 (see Table 14). The average number of MMS sent in 2019 per public mobile telephone service user was 3.1. Despite greater possibilities of MMS, the popularity of this service is still significantly lower than that of SMS.

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 send the largest number of SMS and MMS every year (see Table 14).

Revenue. The revenue received from sent SMS and MMS messages increased by 10.6% and equalled EUR 23.9 million in 2019 (see Fig. 21). This was affected by redistribution of revenue from mobile communications services performed by UAB Tele2 in 2018. The major share of revenue from sent SMS and MMS (95.4%) consisted of the revenue from sent SMS in 2019. Compared to all revenue from public mobile telephone services, the revenue from SMS accounted for 14.5% of the total revenue[7].



	2014	2015	2016	2017	2018	2019
Revenue from SMS	26,0	23,9	23,6	24,7	20,5	22,8
Revenue from MMS	0,6	0,7	0,8	1,0	1,1	1,1
Total revenue	26,6	24,6	24,4	25,7	21,6	23,9

Fig. 21 **Revenue from SMS and MMS, EUR million, 2014-2019**

Source: RRT

Prices. The average price of SMS service (ratio between services and number of sent SMS) stood at 0.70 euro cent in 2019. Service users of UAB Bitė Lietuva had to pay the highest price per SMS (0.90 euro cent), whereas the lowest price (0.46 euro cent) for sending SMS was applied by Telia Lietuva, AB in 2019. UAB Tele2 service users had to pay on average 0.73 euro cent for sending SMS in 2019. The largest difference between the highest and lowest calculated average SMS price applied by the major mobile communications

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

operators stood at 0.43 euro cent in 2019. The average revenue received by other providers per sent SMS stood at 1.61 euro cent.

The average calculated price of sending MMS (ratio between services and number of sent MMS) stood at 9.6 euro cent in 2019. The difference between the highest and lowest calculated average MMS price applied by the major mobile communications operators stood at 12.4 euro cent. UAB Bitė Lietuva service users had to pay the highest price for sending an MMS, i.e. 16.9 euro cent; the lowest price was paid by Telia Lietuva, AB, service users (4.5 euro cent). UAB Tele2 service users had to pay 9.6 euro cent for sending MMS in 2019. The calculated average price of other providers per sent MMS stood at 0.9 euro cent.

The consistently growing duration of calls shows that the public mobile telephone voice services remain popular. The increasing trend in the duration of mobile voice calls originated by the Lithuanian operators' service users travelling in the EU countries is especially evident: as the principle "roam like at home" is effective in the whole of the EU, the duration of such calls grew by as many as 31.6% in 2019, compared to 2018. The decreasing number of active SIM cards, sent SMS and MMS and decreasing revenue from public mobile telephone services, however, demonstrates that the conventional services are gradually being replaced by the alternatives provided over the data transmission networks.

2.3. Public Fixed Telephone Services

IMPORTANT!

- In this section of the report, other public fixed telecommunications service providers shall be all public fixed telecommunications service providers, except for Telia Lietuva, AB, UAB CSC Telecom, UAB Baltnetos Komunikacijos, UAB Nacionalinis Telekomunikacijų Tinklas in Figure 22; Telia Lietuva, AB in Table 16, Tables 18 to 20, Figure 23; Telia Lietuva, AB, UAB Baltnetos Komunikacijos, UAB Cgates in Figure 25 (the "other providers").

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

Service providers. At the end of 2019, the public fixed telephone services were provided by 29 undertakings, i.e. by 3 undertakings fewer than at the end of 2018. Of which 27 undertakings indicated that they provided public fixed telephone services by means of VoIP (Voice Over Internet Protocol) technology.

Service Recipients. The overall number of public fixed telephone service users was decreasing throughout the entire period in question. In 2019, this number went down by 13.8% or 58.7 thousand and totalled 367.8 thousand at the end of 2019 (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 provided by means of different technologies. In 2019, the number of used public fixed telephone lines decreased by 14.7% or by 60.8 thousand lines and the total number equalled 351.3 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 2019, as many as 12.6 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), %, 2014-2019**

	2014	2015	2016	2017	2018	2019
Number of lines, in thousand units	**574.5**	**553.4**	**521.9**	**474.3**	**412.1**	**351.3**
Line penetration (per 100 residents), %	*19.7*	*19.4*	*18.3*	*16.9*	*14.7*	*12.6*
Line penetration (per 100 households), %	*44.2*	*43.4*	*41.0*	*37.8*	*31.3*	*26.8*
Number of service users, thousand units	**585.5**	**560.8**	**529.9**	**485.9**	**426.5**	**367.8**
Natural entities	*416.3*	*396.8*	*374.7*	*333.7*	*282.1*	*229.8*
Legal entities	*169.2*	*164.0*	*155.2*	*152.2*	*144.5*	*138.0*
Service users' penetration (per 100 residents), %	*20.0*	*19.7*	*18.6*	*17.3*	*15.3*	*13.2*
Service users' penetration (per 100 households), %	*45.1*	*44.0*	*41.7*	*38.7*	*31.8*	*28.0*

Source: RRT

Although the number of natural persons who used fixed telephone services dropped in 2019 (by 18.5% or 52.3 thousand compared to 2018), they still represented the greatest share of the number of public fixed telephone service users (62.5%) in 2019 (see Table 15). The number of legal persons using public fixed telephone services was not falling so dramatically – by 4.5% or 6.5 thousand, respectively.

The share of the market held by Telia Lietuva, AB in terms of the number of public fixed telephone services users was the greatest in 2019 and accounted for 80.5% (see Fig. 22). In 2019, compared to 2018, its market share shrank by 2.4 percentage points. The steepest growth was observed in the market shares held by UAB CSC Telecom and other providers (except for UAB CSC Telecom, UAB Baltnetos Komunikacijos and UAB Cgates) which, respectively, increased by 0.8 and 1.0 percentage points.

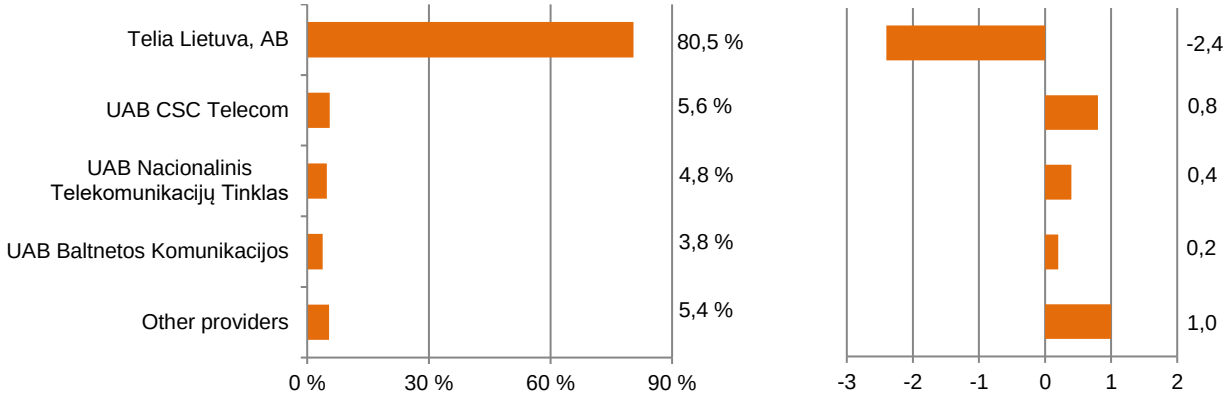


Fig. 22 **Structure of public fixed telephone service market by the number of service providers, %, and annual changes of the market shares, pp, 2019**
Source: RRT

The number of users of public fixed telephone services provided by Telia Lietuva, AB went down by 16.3% or by 57.5 thousand in 2019, compared to 2018 (see Table 16). The number of users of services provided by other providers slightly decreased in 2019 – by 1.7% or by 1.3 thousand.

Table 16. **Number of public fixed telephone service users by service providers, in thousands, and by types of service users, %, 2014-2019**

	2014	2015	2016	2017	2018	2019
Telia Lietuva, AB	**524.7**	**499.3**	**464.8**	**414.9**	**353.4**	**295.9**
Natural entities	*76.3*	*75.9*	*76.0*	*74.8*	*72.5*	*69.7*
Legal entities	*23.7*	*24.1*	*24.0*	*25.2*	*27.5*	*30.3*
Other providers	**60.8**	**61.4**	**65.1**	**71.0**	**73.1**	**71.9**
Natural entities	*26.2*	*28.6*	*32.6*	*32.7*	*35.5*	*32.7*
Legal entities	*73.8*	*71.4*	*67.4*	*67.3*	*64.5*	*67.3*

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 persons using public fixed telephone services provided by Telia Lietuva, AB dropped by 19.4% and stood at 206.3 thousand in 2019. The market share held by Telia Lietuva, AB in the segment of services provided to natural persons decreased by 1.0 percentage point and stood at 89.8% of the overall market. The number of natural persons using public fixed telephone services provided by other providers fell by 9.5% and stood at 23.5 thousand service users at the end of 2019, compared to 2018.

The number of legal persons using public fixed telephone services provided by Telia Lietuva, AB and other providers dropped by 7.9% (7.7 thousand) and 2.5% (1.2 thousand), respectively. Telia Lietuva, AB

whose public fixed telephone services were used by 89.6 thousand legal persons at the end of 2019 held 65.0% of the market of public fixed telephone services provided to legal persons.

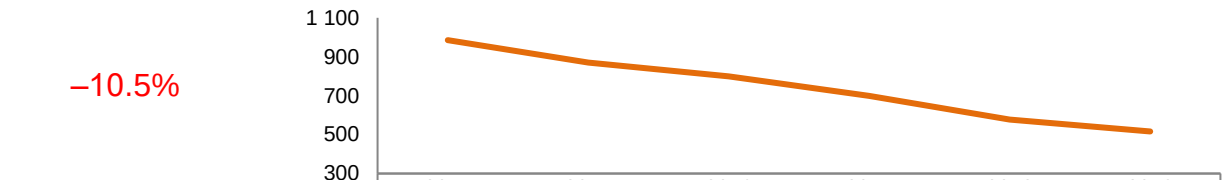
Number Portability Service. In 2019, this service was used 13.4 thousand times, i.e. by 20.3% more than in 2018 (see Table 17). The majority of the telephone numbers were ported from Telia Lietuva, AB network (5.1 thousand or 38.3% of all users who used the number portability service) and UAB CSC Telecom (3.6 thousand or 27.1%) to the other network. As many as 1.5 thousand telephone numbers (11.1%) were ported to Telia Lietuva, AB network from the networks of other providers, and 5.9 thousand or 43.9% of the numbers were ported to UAB CSC Telecom.

Table 17. **Number of ported numbers by service providers, in units, in 2019**

	To	From	**Balance sheet**
UAB CSC TELECOM	5,890	3,633	2,257
UAB Tele2	761	16	745
UAB Nacionalinis Telekomunikacijų Tinklas	1,299	586	713
AB Lietuvos Radijo ir Televizijos Centras	967	481	486
Teledema SIP, UAB	152	1	151
UAB EcoFon	2,257	2,256	1
Voxbone SA	0	13	-13
UAB Mediafon Carrier Services	595	1,292	-697
Telia Lietuva, AB	1,486	5,129	-3,643

Source: RRT

Call Duration. The size of the market of public fixed telephone services showing the duration of originated calls was further decreasing. In 2019, compared to 2018, the duration of calls originated by public fixed telephone service users dropped by 10.5%, and between 2014 and 2019 it decreased by 1.9 times (see Fig. 23). The duration of calls originated by means of pre-paid cards was dramatically decreasing. In 2019, it amounted to 0.1 million minutes, i.e. by 76.9% less than in 2018. 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 2019 as in the previous year: the major market share (83.4%) was held by Telia Lietuva, AB; however, its market share shrank by 3.9 percentage points over the year.



	2014	2015	2016	2017	2018	2019
Telia Lietuva, AB	915,2	802,9	715,1	619,9	503,4	430,2
Other providers	70,0	66,4	83,6	79,7	73,4	85,8
Total duration of originated calls	985,2	869,3	798,7	699,6	576,8	516,0

Fig. 23 **Duration of calls originated by public fixed telephone service users by service providers, in million minutes, 2014-2019**
Source: RRT

In 2019, the duration of calls in all destinations originated by Telia Lietuva, AB service users shortened (see Table 18). The users of services provided by Telia Lietuva, AB talked less on their own network: the duration of such calls decreased by 18.4% or 55.9 million minutes over the year, which is almost threefold during the period in question. In 2019, compared to 2018, the duration of calls originated in this network to fixed and mobile telecommunications networks dropped by 8.1% or 14.3 million minutes.

Table 18. **Structure of the duration of calls originated in individual public fixed telephone communications networks by call destination, in million minutes, 2014-2019***

Telia Lietuva, AB	2014	2015	2016	2017	2018	2019
Terminated in own network	726.2	591.8	497.1	395.1	303.6	247.8
Short-number and service number calls	-	-	-	11.8	9.5	9.0
Terminated in other public fixed communications networks	21.0	22.5	23.3	23.2	22.0	20.3
Terminated in public mobile communications networks	144.1	167.3	175.8	172.5	154.9	142.3
Terminated in foreign operators' networks	23.9	21.3	18.9	17.2	13.3	10.8
Other providers						
Terminated in own network	12.8	13.7	16.9	11.0	10.5	13.8
Short-number and service number calls				0.4	0.5	0.9
Terminated in other public fixed communications networks	23.8	22.5	24.5	23.0	21.8	21.6
Terminated in public mobile communications networks	20.5	20.5	21.4	20.7	23.4	38.8
Terminated in foreign operators' networks	12.9	9.7	20.9	24.6	17.1	10.7
All providers						
Terminated in own network	739	605.5	514	406.1	314.2	261.6
Short-number and service number calls				12.3	10.0	9.9
Terminated in other public fixed communications networks	44.8	45.0	47.8	46.3	43.9	41.9
Terminated in public mobile communications networks	164.6	187.8	197.2	193.2	178.3	181.2
Terminated in foreign operators' networks	36.8	31.0	39.8	41.8	30.4	21.5

**The short-number calls or other premium or toll-free calls have been singled out since 2017.*
Source: RRT

The duration of calls originated and terminated by the users of other service providers in own network grew by 31.3% or 3.3 million minutes in 2019, compared to 2018, whereas the duration of calls terminated in public mobile telecommunications networks went up by 65.8% or 15.4 million minutes (see Table 18).

Revenue. The trend of consistently decreasing revenue from public fixed telephone services has been observed throughout the period in question. In 2019, such revenue went down by 14.0% or EUR 4.8 million and amounted to EUR 29.7 million (which constituted 4.2% of the total revenue of the electronic communications market) (see Fig. 24).

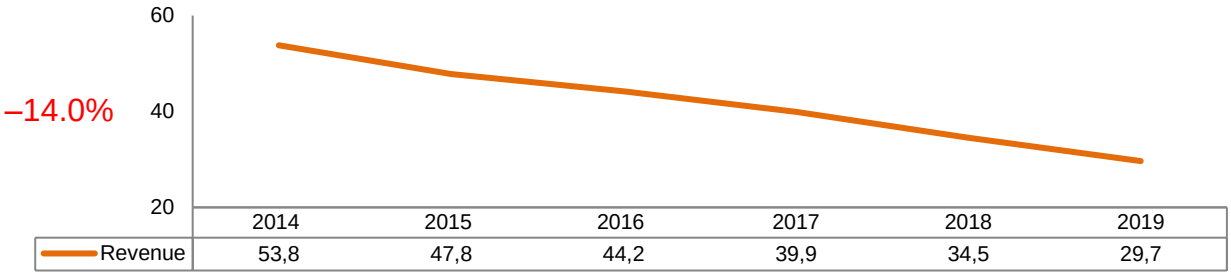


Fig. 24 **Revenue from public fixed telephone services, in EUR million, 2014-2019**
Source: RRT

In terms of the structure of revenue from public fixed telephone services by providers, the revenue received by Telia Lietuva, AB from the provision of public fixed telephone voice services constituted the major part (87.6%) (see Fig. 25). In 2019, compared to 2018, the revenue decreased by 16.7% and amounted to

EUR 29.7 million. In 2019, UAB Baltnetos Komunikacijos held 3.9% of the market or by 1.1 percentage points more than in 2018.

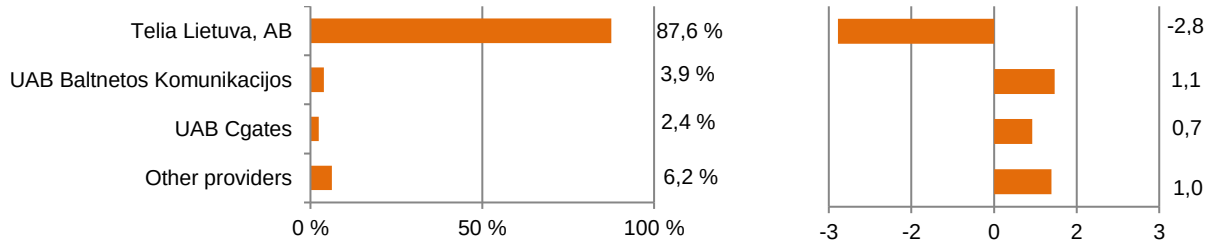


Fig. 25 **Structure of revenue from public fixed telephone services by service providers, %, and annual changes of the revenue shares, pp, 2019**
Source: RRT

ARPU. The average revenue from public fixed telephone services per subscriber per month (ARPU) remained unchanged and accounted for EUR 6.4 in 2019, compared to 2018 (see Table 19). In 2019, ARPU fell by 4.3% in the segment of legal persons, whereas it grew by 1.1% in the segment of natural persons. Compared to 2014, ARPU received from both legal persons (23.3%) and natural persons (15.4%) was going down. This may be associated with favourable conditions in terms of competition in the segment of both legal and natural persons.

Table 19. **ARPU for public fixed telephone services by service providers and type of service users, in EUR per month, 2014-2019**

	2014	2015	2016	2017	2018	2019
ARPU for public fixed telephone services*	7.6	7.1	7.0	6.6	6.4	6.4
ARPU by users						
Natural entities	*6.5*	*6.0*	*5.8*	*5.5*	*5.4*	*5.5*
Legal entities	*10.4*	*9.7*	*9.9*	*9.2*	*8.3*	*8.0*
ARPU by providers						
Telia Lietuva, AB	*8.8*	*8.1*	*7.5*	*7.0*	*6.9*	*6.9*
Other providers	*4.0*	*3.7*	*3.6*	*4.3*	*3.9*	*4.3*

***** Including the revenue from loops.
Source: RRT

In 2019, ARPU from public fixed telephone voice services exceeded ARPU from public mobile telephone voice services by 1.8 times. Since ARPU indirectly reflects the average monthly expense of a single service user as well, it must be concluded that the public mobile telephone voice services are more attractive to the service user not only duet to the functionality of fixed and mobile telephone voice services but also due to the difference in ARPU. This may be referred to as one of the reasons for the rapid shrinkage of the public fixed telephone service market.

Prices. The calculated average prices of different public fixed telephone service providers in 2019 (ratio between revenue for such services and duration of calls that revenue was generated from) per minute of a local and international call changed insignificantly (see Table 20). In 2019, compared to 2018, the calculated average price per minute of a call originated in the network of Telia Lietuva, AB network decreased by 0.1 euro cent or by 4.5%, while the calculated average prices of the said services provided by other providers remained the same.

Table 20. **Calculated average public fixed telephone service prices by service providers, in euro cents per minute, 2014-2019**

Local call	2014	2015	2016	2017	2018	2019
Telia Lietuva, AB	2.2	2.3	2.4	2.5	2.6	2.5
Other providers	2.0	2.0	1.7	1.3	1.1	1.1
All providers	2.2	2.3	2.4	2.4	2.5	2.3
International call						
Telia Lietuva, AB	12.1	11.8	12.4	12.2	13.2	15.0
Other providers	7.1	8.3	5.8	6.0	6.6	8.6
All providers	10.4	10.7	8.9	8.6	9.5	11.8

Source: RRT

When analysing the calculated average prices per international call minute by service providers, it is clear that the lowest calculated average prices were applied to the services provided by other providers (8.6 euro cent per minute) in 2019 as was the case in the previous periods. It grew by 2.0 euro cent or by 29.5% over the year. The prices of such services provided by Telia Lietuva, AB raised by 1.8 euro cent or 13.6% (see Table 20).

In 2019, the market of public fixed telephone services was further shrinking in terms of both the number of service users and call duration, and revenue. It must be noted that in 2019, compared to 2018, the number of legal persons using public fixed telephone services was not falling as dramatically (4.5% or 6.5 thousand) as the number of natural persons (18.5% or 52.3 thousand).

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

2.4.1. General Overview of the Market

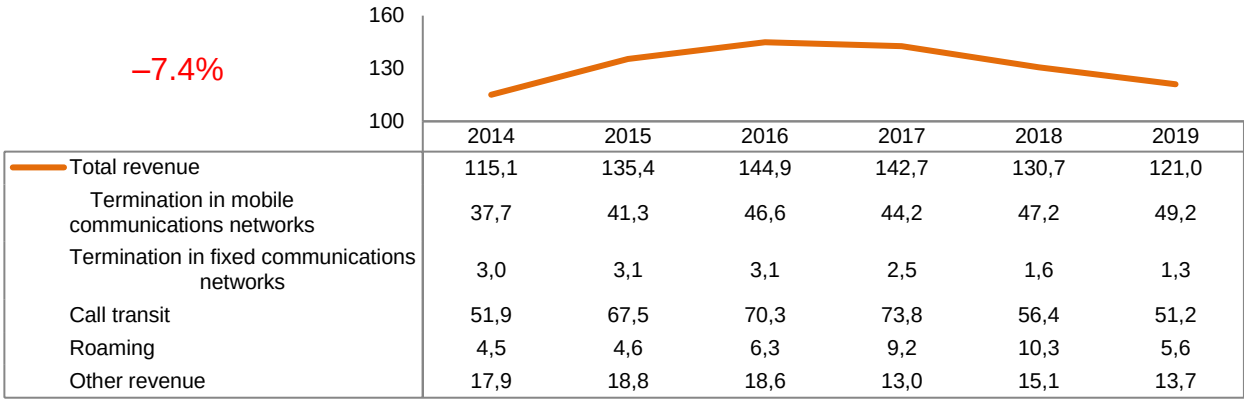
Service providers	17
Major service provider	Telia Lietuva, AB
Wholesale revenue, EUR million	121.1

IMPORTANT!

- In this section of the report, other network interconnection service providers shall be all providers of network interconnection services, except for Telia Lietuva, AB, UAB Tele2, UAB Bitė Lietuva, UAB Mediafon Carrier Services, and UAB Ecofon (the "other providers").

The wholesale public communications network 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 decrease trend in the revenue from network interconnection has been observed since 2017. The revenue received in 2019, compared to the revenue received in 2018, decreased by 7.4% and equalled EUR 121.0 million (see Fig. 26). The share of the market of the revenue from the network interconnection services in the overall structure of the revenue of the electronic communications service market shrank by 1.9 percentage points and accounted for 17.0%.



	2014	2015	2016	2017	2018	2019
Total revenue	115,1	135,4	144,9	142,7	130,7	121,0
Termination in mobile communications networks	37,7	41,3	46,6	44,2	47,2	49,2
Termination in fixed communications networks	3,0	3,1	3,1	2,5	1,6	1,3
Call transit	51,9	67,5	70,3	73,8	56,4	51,2
Roaming	4,5	4,6	6,3	9,2	10,3	5,6
Other revenue	17,9	18,8	18,6	13,0	15,1	13,7

Fig. 26 **Structure of revenue received from network interconnection services by service groups in 2014-2019, in EUR million**
Source: RRT

In terms of the structure of the revenue from network interconnection services by service groups, the revenue from call transit constituted the major share of the revenue from network interconnection services during the period in question. In 2019, it accounted for 42.3% of the total revenue from network interconnection

services (by 0.9 percentage points less than in 2018). The revenue from call termination in mobile communications networks represented 40.7% of the total revenue from network interconnection services in 2019, and this was by 4.6 percentage points more than in 2018. The revenue of this service group was growing during almost entire period considered.

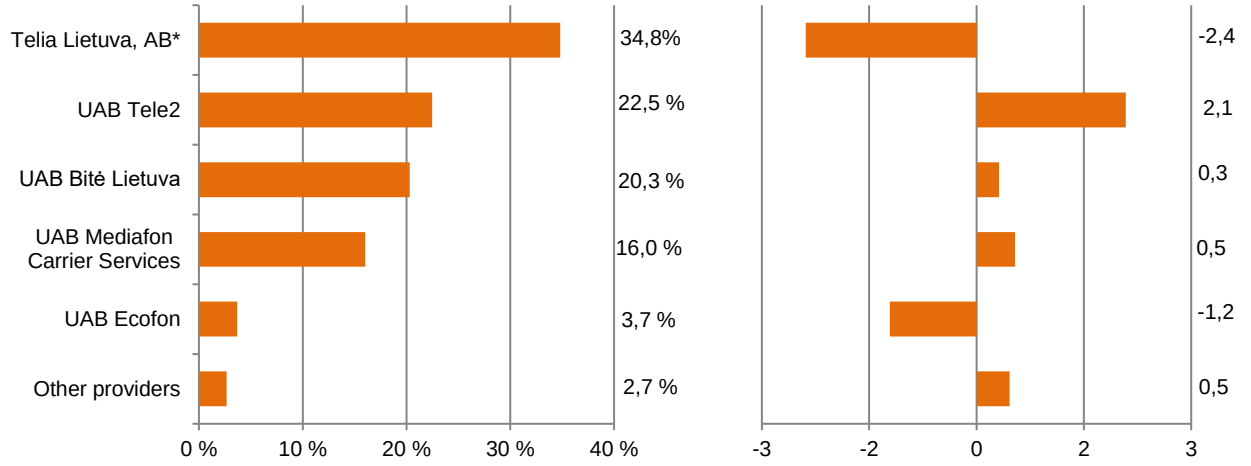


Fig. 27 **Structure of the network interconnection services market in terms of revenue received by service providers, %, and annual changes of the market shares, pp, 2019**
Source: RRT

In 2019, as was the case in 2018, the market share held by UAB Tele2 experienced the speediest growth in terms of the revenue from network interconnection services – by 2.1 percentage points (see Fig. 27). Although the market share held by Telia Lietuva, AB decreased by 2.4 percentage points in 2019, it still represented the major share of the revenue (34.8%).

In 2019, the revenue from network interconnection services continued to go down. The greater share of the revenue from network interconnection services comprised of the revenue from call termination in mobile communications networks (40.7%) and this was by 4.6 percentage points more than in 2018. The revenue of this service group was growing during almost entire period considered.

2.4.2. Call Transit Services

Service providers	**11**
Major service provider	**UAB Mediafon Carrier Services**
Duration of calls, billion minutes	**1.4**
Wholesale revenue, EUR million	**51.2**

IMPORTANT!

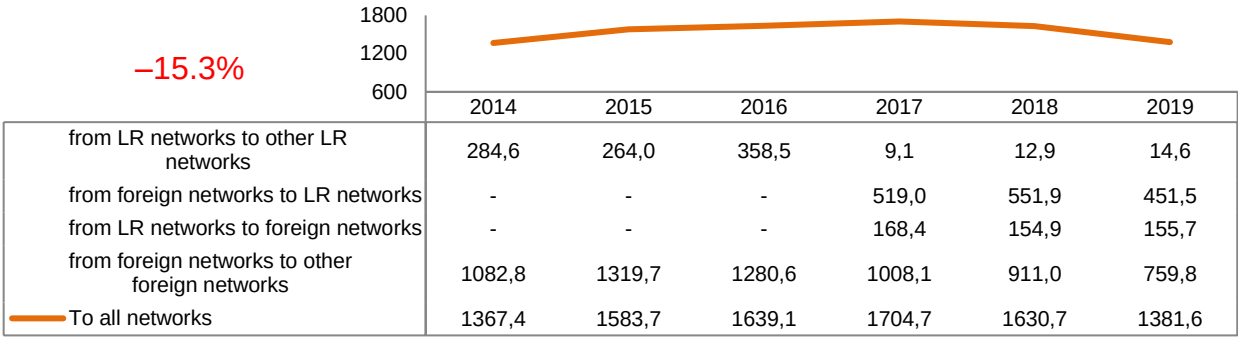
- The call transit services discussed in this section include pure transit only, i.e. where the calls are not originated or terminated in the network where a transit service is provided.
- In this section of the report, other call transit service providers shall be all providers of call transit services,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

Telekomunikacijų Tinklas, UAB Raystorm, UAB Ecofon in Figure 209; Telia Lietuva, AB, UAB Mediafon Carrier Services, UAB Bitė Lietuva, UAB Ecofon in Figure 31 (the “other providers”).

The call transit service is significant to public telephone service providers for the purpose of making a more effective use of 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 2019, call transit services were provided by 11 undertakings[8], i.e. by one undertaking more than at the end of 2018.

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.



	2014	2015	2016	2017	2018	2019
from LR networks to other LR networks	284,6	264,0	358,5	9,1	12,9	14,6
from foreign networks to LR networks	-	-	-	519,0	551,9	451,5
from LR networks to foreign networks	-	-	-	168,4	154,9	155,7
from foreign networks to other foreign networks	1082,8	1319,7	1280,6	1008,1	911,0	759,8
To all networks	1367,4	1583,7	1639,1	1704,7	1630,7	1381,6

Fig. 28 **Duration of calls forwarded by transit to public communications networks of Lithuanian and foreign operators, in million minutes, 2014-2019**
Source: RRT

In 2019, the duration of calls forwarded by transit to foreign operators’ public communications networks shrank (14.1%), whereas the duration of calls forwarded by transit to other public telephone communications networks of the Republic of Lithuania decreased by 17.5%. Irrespective of this, the trend remained that the largest share (66.3%) of all calls forwarded by transit in 2019 was forwarded to the networks of foreign operators (see Fig. 28).

[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

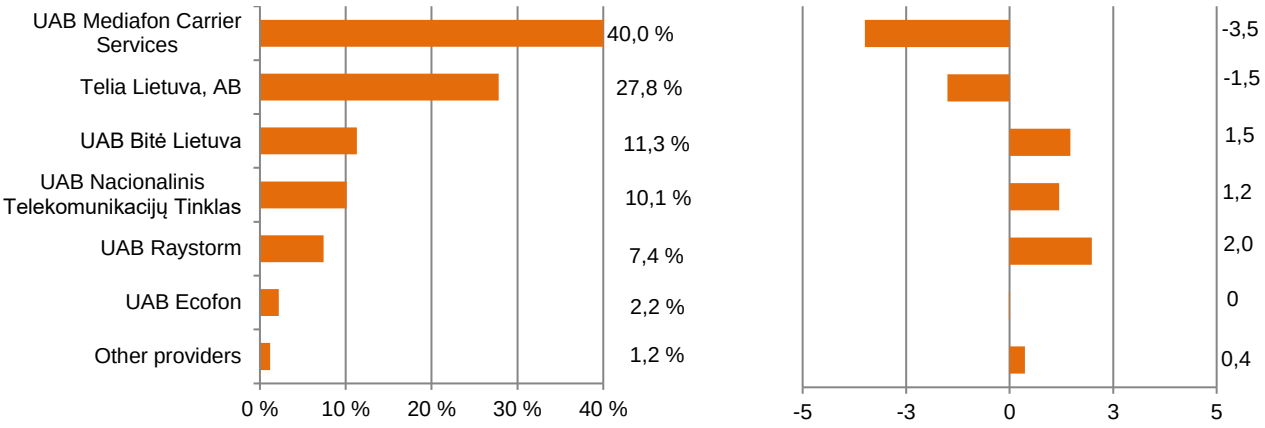


Fig. 29 **Structure of the market of call transit services by duration of forwarded calls, %, and annual changes of the market shares, pp, 2019**
Source: RRT

The largest share on the market of call transit by the duration of forwarded calls (40.0%) was held by UAB Mediafon Carrier Services in 2019 – its share decreased by 3.5 percentage points over the year (see Fig. 29). The market share held by UAB Raystorm was subject to the steepest growth (2.0 percentage points) and stood at 7.4%.

Revenue. Since 2018, the falling trend in the revenue from call transit services has been observed (see Fig. 30). In 2019, compared to 2018, the revenue decreased by 9.3% or EUR 5.3 million. The fall of the revenue from call transit services was influenced by the shorter duration of calls forwarded by transit in 2019 (15.3%).

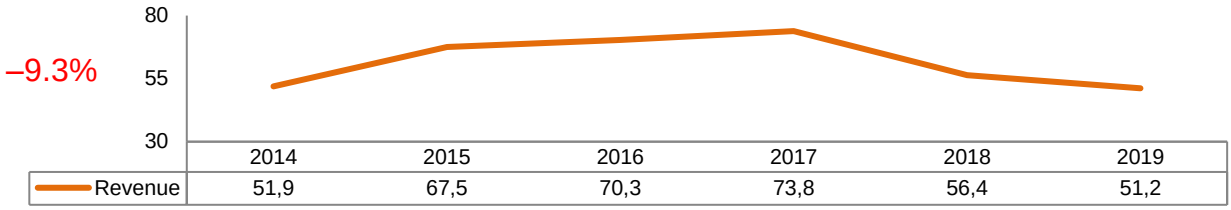


Fig. 30 **Revenue from call transit services, in EUR million, 2014-2019**
Source: RRT

With a view to the market of call transit services by revenue, it is evident that the major portion (45.0%) of the revenue was generated by Telia Lietuva, AB in 2019, as was the case in 2018 (see Fig. 31). Over the year, its market share remained almost unchanged (grew by 0.3 percentage points). The market share held by UAB Mediafon Carrier Services was subject to the most rapid growth, as was the case in 2018 (by 2.1%).

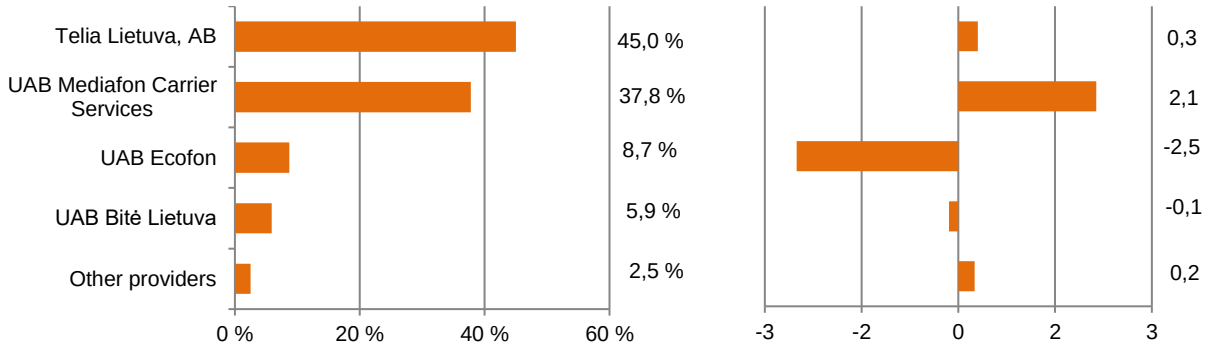


Fig. 31 **Structure of the market of call transit services by revenue, %, and annual changes of the market shares, pp, 2019**

Source: RRT

In 2019, as was the case in 2018, two undertakings Telia Lietuva, AB and UAB Mediafon Carrier Services were leading in the market of call transit services. In terms of the revenue, the major market share (45.0%) was held by Telia Lietuva, AB, whereas in terms of the duration of forwarded calls (40.0%) – by UAB Mediafon Carrier Services.

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 (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 2019, the services of call termination in public mobile communications networks were provided by 9 operators[9].

Duration of terminated calls. In 2019, the overall duration of calls terminated in public mobile communications networks was 4,324.9 million minutes, i.e. by 2.0% more than in 2018 (see Table 21). During this period, most calls were terminated in UAB Tele2 network and this accounted for 42.6% of all calls terminated in public mobile communications networks. The duration of calls terminated in UAB Tele2 public mobile communications networks went up by 5.2% or by 91.4 million minutes in 2019. The duration of calls terminated in the public mobile communications networks of other providers increased by 67.8% or by 11.6 million minutes in 2019. In 2019, as was the case in 2018, the largest share of calls terminated in public mobile communications networks (81.5%) by call duration was originated in public mobile communications networks.

[9] Telia Lietuva, AB, UAB Bitė Lietuva, UAB Tele2, UAB CSC Telecom, UAB Mediafon Carrier Services, UAB Ecofon, UAB Nacionalinis Telekomunikacijų Centras, Nord Connect OU, Compatel Limited

Table 21. **Duration of calls terminated in public mobile communications networks by service providers, in million minutes, and call origination network, %, 2014-2019**

UAB Bitė Lietuva	2014	2015	2016	2017	2018	2019
Originated in public mobile communications networks	88.6	88.9	87.5	87.8	84.0	84.9
Originated in public fixed communications networks	8.8	7.7	8.5	6.5	7.2	6.8
Originated in foreign operators' networks	2.6	3.4	4.0	5.7	8.8	8.3
Total originated	**880.2**	**979.8**	**1,041.3**	**1,064.3**	**1,135.5**	**1,134.7**
Telia Lietuva, AB						
Originated in public mobile communications networks	83.8	84.0	84.0	82.5	82.1	84.8
Originated in public fixed communications networks	4.7	4.8	4.8	4.6	4.1	3.9
Originated in foreign operators' networks	11.5	11.2	11.2	12.9	13.8	11.3
Total originated	**1,012.6**	**1,129.8**	**1,226.0**	**1,288.4**	**1,335.2**	**1,317.4**
UAB Tele2						
Originated in public mobile communications networks	80.7	83.7	82.5	82.2	79.1	77.3
Originated in public fixed communications networks	6.6	5.3	5.4	5.0	4.8	4.0
Originated in foreign operators' networks	12.7	11.0	12.1	12.7	16.1	18.7
Total originated	**1,280.7**	**1,455.1**	**1,594.8**	**1,664.3**	**1,752.7**	**1,844.1**
Other providers						
Originated in public mobile communications networks	92.8	93.0	95.1	47.8	58.9	55.4
Originated in public fixed communications networks	4.8	5.0	3.1	42.4	28.9	26.2
Originated in foreign operators' networks	2.4	2.0	1.8	9.9	12.3	18.4
Total originated	**11.0**	**37.5**	**3.1**	**11.5**	**17.1**	**28.8**
Originated of all providers	**3,184.5**	**3,602.1**	**3,865.2**	**4,028.6**	**4,240.6**	**4,324.9**

Source: RRT

Revenue. The revenue from call termination in public mobile communications networks grew by 30.6% in 2014-2019. In 2019, compared to 2018, the revenue from call termination in public mobile communications networks went up by 4.2% or EUR 2.0 million (see Fig. 32).

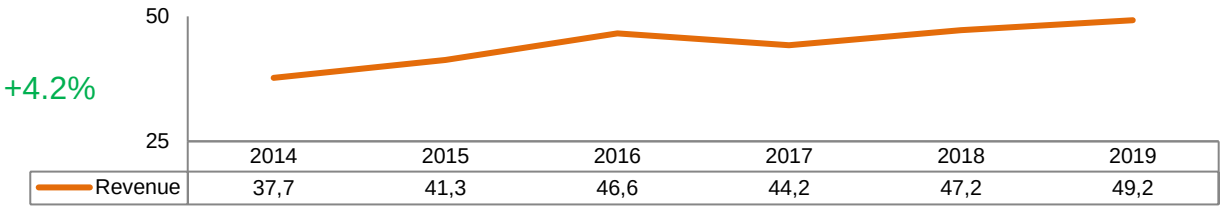


Fig. 32 **Revenue from call termination in public mobile communications networks, in EUR million, 2014-2019**
Source: RRT

In 2019, as was the case in 2018, the major portion of such revenue (40.6%) was received by UAB Tele2. The revenue of UAB Tele2 from call termination in public mobile communications networks went up by 6.5% or EUR 1.2 million over the year (see Fig. 33). Although the revenue of Telia Lietuva, AB from call termination in public mobile communications networks slightly decreased (1.5%) but its share in the structure of the revenue shrank the most, i.e. by 0.9 percentage points.

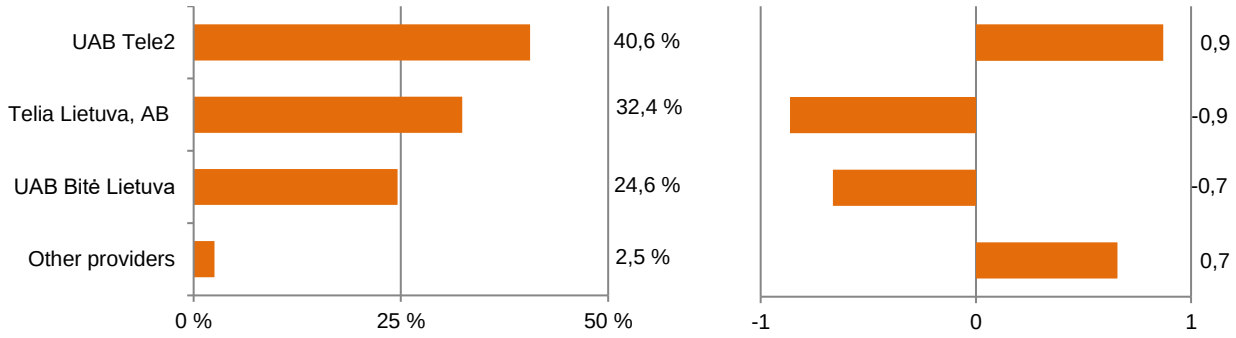


Fig. 33 **Structure of revenue from termination of calls in public mobile communications networks by service providers, %, and annual changes of the market shares, pp, 2019**
Source: RRT

Prices. In 2019, the price of call termination in public mobile communications networks did not change due to the regulation applied by RRT. Taking account of 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 cents 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 in Table 22, Telia Lietuva, AB, UAB Nacionalinis Telekomunikacijų Tinklas and UAB CSC Telecom in Figure 35 (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 2019, as was the case in 2018, the services of call termination in public fixed communications networks were provided by 7 operators[11].

Duration of terminated calls. In 2019, compared to 2018, the duration of calls terminated in public fixed communications networks went down by 19.7% and accounted for 326.3 million minutes (see Table 22). In 2019, the largest share of calls terminated in public fixed communications networks (73.2%) by call duration was originated in public mobile communications networks, the duration of such calls shortened by 22.9% or 71.0 million minutes in 2019.

[10] Norway, Island 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

Table 22. **Structure of the duration of calls terminated in individual public fixed communications networks by call origination network, in million minutes, 2014-2019**

Telia Lietuva, AB	2014	2015	2016	2017	2018	2019
Originated in public mobile communications networks	212.9	235.6	252.9	211.0	248.5	186.5
Originated in public fixed communications networks	55.9	43.6	52.4	49.6	42.2	29.8
Originated in foreign operators' networks	54.6	81.3	40.1	30.1	24.6	21.3
Total originated	**323.4**	**360.5**	**345.4**	**290.7**	**315.3**	**237.7**
Other providers						
Originated in public mobile communications networks	25.9	31.8	45.9	50.7	61.5	52.5
Originated in public fixed communications networks	24.9	26.0	31.9	26.6	25.2	32.0
Originated in foreign operators' networks	4.9	5.6	4.3	5.6	4.5	4.1
Total originated	**55.7**	**63.4**	**82.1**	**82.9**	**91.2**	**88.6**
Duration of terminated calls	**379.1**	**423.9**	**427.6**	**373.6**	**406.5**	**326.3**

Source: RRT

With a view to the structure of the market of call termination in public fixed communications networks by service providers, it is evident that most calls (72.8%) were terminated in Telia Lietuva, AB public fixed communications network in 2019 (see Table 22). The largest share (78.5%) of calls terminated in Telia Lietuva, AB network was comprised of the calls originated in public mobile communications networks. The duration of calls terminated in the networks of other providers shortened by 2.9% or by 2.6 million minutes in 2019. The largest share (59.2%) of calls terminated in the networks of other providers was comprised of the calls originated in public mobile communications networks.

Revenue. The trend of decreasing revenue from call termination in public fixed telecommunications networks has been observed since 2018. In 2019, compared to 2018, such revenue decreased by 21.7% or by EUR 0.4 million (see Fig. 34). This was caused by the revenue from termination of the calls originated in public mobile communications networks in public fixed telecommunications networks which was lower by 42.9% or EUR 0.3 million in 2019, compared to 2018.

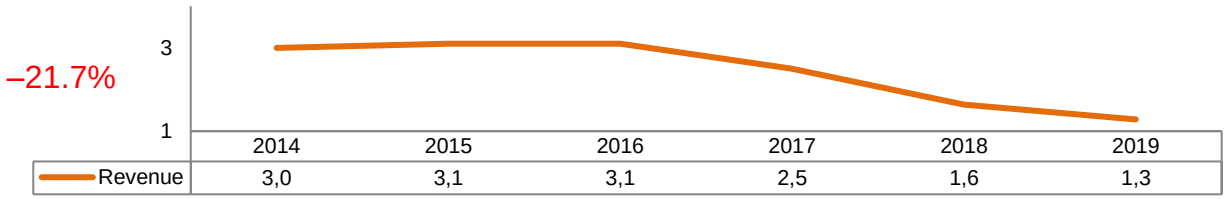


Fig. 34 **Revenue from call termination in public fixed communications networks, in EUR million, 2014-2019**
Source: RRT

The largest portion of such revenue (86.0%) was generated by Telia Lietuva, AB (see Fig. 35) in 2019, as was the case in 2018 (see Fig. 35). In 2019, the market share held by UAB Nacionalinis Telekomunikacijų Tinklas shrank the most (by 3.1 percentage points) and stood at 4.2%, whereas the share held by UAB CSC Telecom increased by 2.5 percentage points and accounted for 7.7%. The market share held by other providers, except for UAB CSC Telecom and UAB Nacionalinis Telekomunikacijų Tinklas, dropped insignificantly.

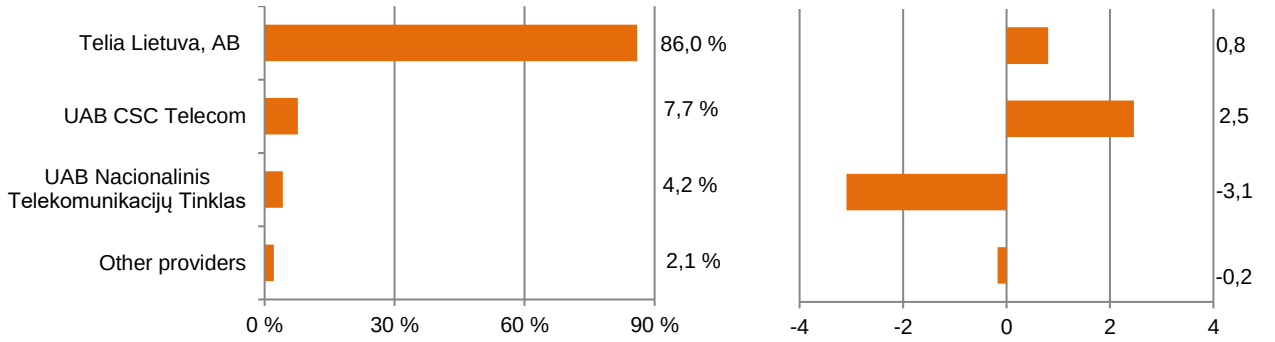


Fig. 35 **Structure of revenue from termination of calls in public fixed communications networks by service providers, %, and annual changes of the market shares, pp, 2019**
Source: RRT

Prices. Since 1 July 2019, the price of call termination in public fixed communications networks has decreased by 0.04 euro cent. Due to the Regulation applied by RRT 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 0.09 euro cent per minute (VAT excl.).

In 2019, the duration of calls terminated in the public mobile communications network exceeded the duration of calls terminated in the public fixed communications network by 13.3 times. The revenue from call termination in public mobile communications networks represented 97.5% of all revenue from call termination services. The revenue from call termination services accounted for 41.7% of the total revenue from network interconnection services.

[12] Norway, Island 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.

3. Data Transmission

3.1. General Overview of the Market of Data Transmission Services

Service providers	87
Major service provider	Telia Lietuva, AB
Wholesale revenue, EUR million	16.6
Retail revenue, EUR million	303.9
Total revenue, EUR million	320.5

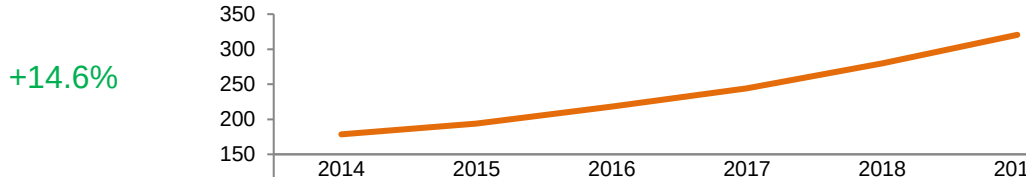
IMPORTANT!

- 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 in Figure 38 (the “other providers”).

In 2019, 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 has been going down due to concentrations between undertakings. At the end of 2019, the data transmission services were provided by 87 undertakings (at the end of 2018, the number of the undertakings was the same). Data transmission services were provided by 71.9% of all 121 undertakings engaged in the electronic communications activities. The majority (82) of data transmission service providers were providing retail Internet access services in 2019 as well as in the previous periods (in 2018 – 81).

Revenue. In 2019, the revenue from data transmission services amounted to EUR 320.5 million, i.e. by 14.6% more than in 2018 (see Fig. 36). The provision of data transmission services remains one of the most important components of the electronic communications sector generating almost 44.9% of the total revenue of the electronic communications market. It must be noted that the revenue from data transmission services were growing during the entire period from 2014 to 2019.



	2014	2015	2016	2017	2018	2019
Retail Internet Access Services	141,0	161,2	190,3	215,6	252,2	290,2
Wholesale Internet Access Services	7,8	10,9	6,8	5,8	3,7	7,1
Retail other data transmission services	23,4	16,1	15,3	16,2	14,4	13,7
Wholesale other data transmission services	6,3	5,6	5,6	6,7	9,3	9,5
Data transmission services, in total	178,5	193,8	218,0	244,3	279,6	320,5

Fig. 36 **Structure of revenue received from data transmission services by service groups in 2014-2019, in EUR million**
Source: RRT

In 2019, as was the case during the entire period between 2014 and 2019, the largest portion of the revenue (90.5%) was comprised of the revenue from retail Internet access services (see Fig. 37). In 2019, compared to 2018, a portion of the revenue from retail Internet access services grew by 0.3 percentage points in the total revenue of data transmission services. This was mainly affected by the increased demand for the retail Internet access services.

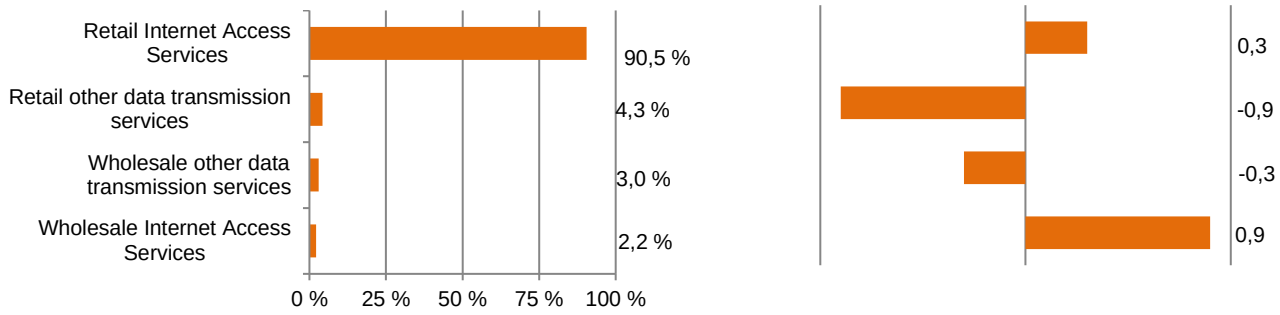


Fig. 37 **Structure of revenue from data transmission services by service groups, %, and annual changes of the revenue structure, pp, 2019**
Source: RRT

In 2019, as was the case in 2018, the largest portion of the revenue from data transmission services was gained by Telia Lietuva, AB – the received revenue represented 40.2% of all revenue from data transmission services (see Fig. 38). The second largest operator, in terms of revenue from data transmission services, was UAB Tele2 in 2019, which received 24.5% of all revenue from data transmission services; its revenue was subject to the largest increase in 2019, compared to 2018 (by 3.2 pp). UAB Bitė Lietuva was the largest third operator by gained revenue and it received 19.5% of all revenue from data transmission services. In 2019, AB Lietuvos Radijo ir Televizijos Centras and UAB Cgates received 3.2% and 3.0% of all revenue from data transmission services, respectively.

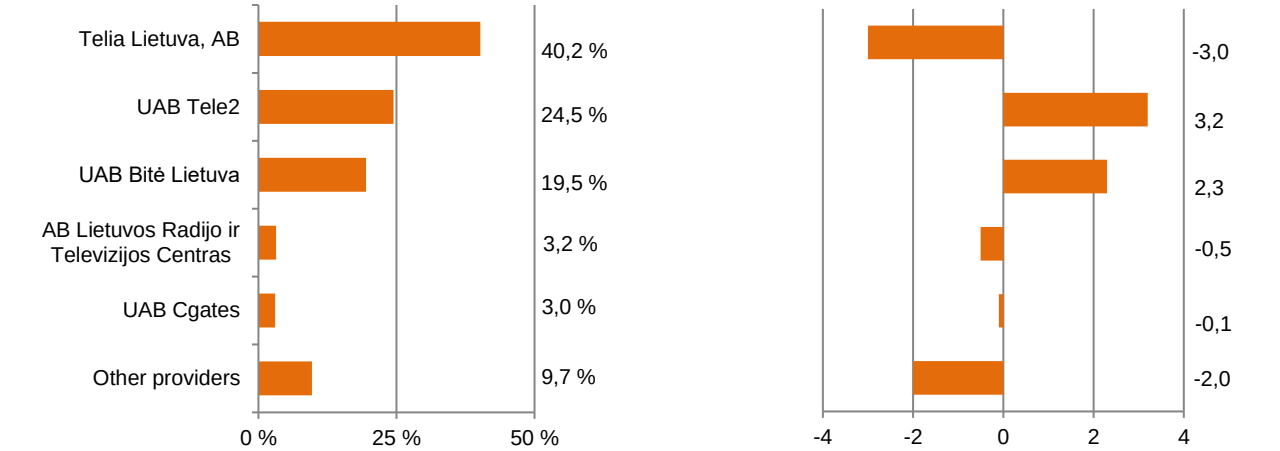


Fig. 38 **Structure of revenue from data transmission services by service providers, %, and annual changes of the revenue portions, pp, 2019**
Source: RRT

The market of data transmission services has been growing since 2014 in terms of revenue. In 2019, the revenue of that market grew by 14.6%. This growth was 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 despite the evident shrinking trend in its market share.

3.2. Retail Internet Access Services

Service providers	82
Service users*, thousand	1422.1
Retail revenue, EUR million	290.2
ARPU*, Eur per month	17.5

*Internet access services using a computer

Methods of the Service Provision. In 2019, 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 2019 as was the case in the previous periods. At the end of 2019, the Internet access services were provided by 82 undertakings (by 1 undertakings more than in 2018).

Service Recipients. According to the data of the European Commission, the use of retail Internet access services[13] in Lithuanian households grew by 3.6 percentage points in 2019, compared to 2014, i.e. from 77.9% to 81.5%[14] (see Fig. 39). The overall average of the use of the Internet by the EU Member States grew by 4.4 percentage points and stood at 90.5% in 2019, compared to 2018, which is by 9.0 percentage points more than in Lithuania. With a view to the use of such services in the households, Lithuania remained at the lower positions in the European Union. The Lithuanian indicator was also the lowest compared to the closest neighbouring countries Estonia, Poland and Latvia, where this indicator, respectively, stood at 90.4%, 86.8% and 85.4%. The retail Internet access services were used the most in the Netherlands, the lowest use was recorded in Bulgaria. In these countries, the share of households using the Internet accounted for 98.4% and 75.1%, respectively, in 2019.

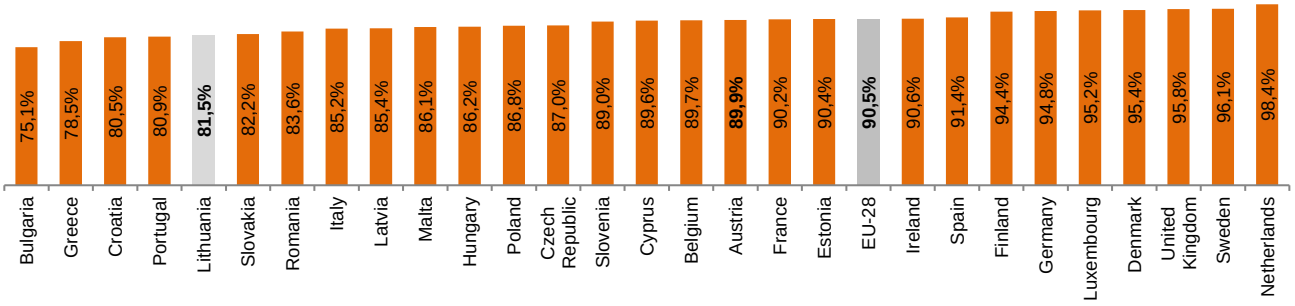


Fig. 39 **Share of households using Internet access services in the EU Member States, %, 2019**
Source: European Commission[15]

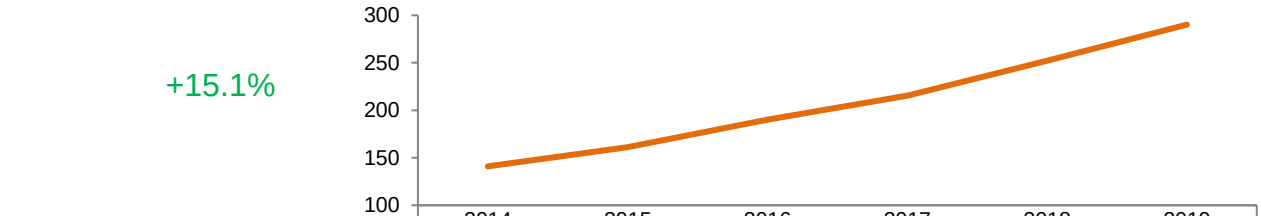
[13] Including retail Internet access services provided via xDSL loops, wireless communication lines, CaTV networks, FTTx lines, LAN lines and mobile communications technologies (by means of computers).

[14] *European Comminssion, Digital Scoreboard*, calculated according to the Eurostat information.

[15] https://digital-agenda-data.eu/charts/analyse-one-indicator-and-compare-countries#chart={"indicator-group":"internet-usage","indicator":"h_iacc","breakdown":"hh_total","unit-measure":"pc_hh","ref-area":["AT","BE","BG","HR","CY","CZ","DK","EE","EU","FI","FR","DE","EL","HU","IS","IE","IT","LV","LT","LU","MT","NL","NO","PL","PT","RO","SK","SI","ES","SE","UK"]}

According to the information of the Department of Statistics[16], at the beginning of 2019, 82% of the households were using the Internet in Lithuania, which was by 2 percentage points more than in 2019. The Internet was mainly used for communications, search for information and banking services.

Revenue. The total revenue from retail Internet access grew throughout the entire period between 2014 and 2019. In 2019, compared to 2018, such revenue increased by 15.1% and accounted for EUR 290.2 million (see Fig. 40). In 2019, the revenue from retail Internet access services provided by means of mobile communications technologies represented 68.1% or by 5.1 percentage points less than in 2018 in the total revenue from retail Internet access services, whereas the revenue from retail Internet access services provided by means of fixed communications technologies accounted for, respectively, 31.9% or by 5.1 percentage points less than in 2018 in the total revenue from retail Internet access services.



	2014	2015	2016	2017	2018	2019
Retail Internet access services provided by means of fixed communications technologies	93,8	95,4	99,6	95,0	93,3	92,4
Retail Internet access services provided by means of mobile communications technologies	47,2	65,8	90,7	120,6	159,0	197,8
Retail Internet access services, total	141,0	161,2	190,3	215,6	252,2	290,2

Fig. 40 **Structure of revenue received from retail Internet access services by service provision technologies in 2014-2019, in EUR million**
Source: RRT

In 2019, the revenue from the provision of retail Internet access services continued to grow (the growth of 15.1%). The major revenue share – 68.1% – was comprised of the revenue from retail Internet access services provided by means of mobile communications technologies. Such revenue has been annually growing, whereas the revenue received from retail Internet access services provided by means of fixed communications technologies has been annually going down since 2017.

[16] https://osp.stat.gov.lt/informaciniai-pranesimai?articleId=6545199

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 in Figure 44; 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, UAB Besmegeniai, UAB Kvartalo tinklas, UAB Magnetukas, UAB Etanetas 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 in Figure 47 (the “other providers”).

Methods of the Service Provision. In 2019, retail Internet access services were provided by means of fixed communications technologies using the following methods in Lithuania:

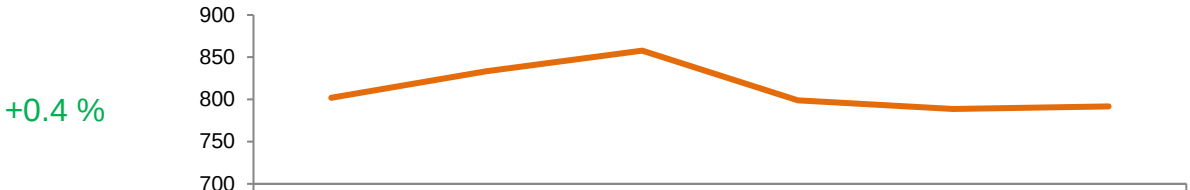
- metallic twisted pair loops using xDSL technology (“xDSL loops”);
- wireless communication lines using Wi-Fi (Wireless Fidelity) and other wireless communication technologies (“wireless communication lines”);
- coaxial cable lines (“CaTV networks”);
- optical fibre lines using FTTB[17] (Fibre to the Building) and FTTH[18] (Fibre to the Home) technologies (“FTTH lines and FTTB lines”, jointly to be referred to as FTTx lines);
- by means of other technologies (shielded twisted pair, STP) and unshielded twisted pair, UTP lines in LAN (Local Area Network) networks (the “LAN lines”) (leased lines, etc.).

Service providers. In 2019, retail Internet access services by means of fixed communications technologies were provided by 78 undertakings in Lithuania (by 1 undertakings more than in 2018).

Service Recipients. At the end of 2019, compared to the data at the end of 2018, the number of users of retail Internet access services provided by means of fixed communications technologies grew by 3.1 thousand or by 0.4% and stood at 791.8 thousand subscribers (see Fig. 41). The penetration of retail Internet access services provided by means of fixed communications technologies (number of service users per 100 residents) went up by 0.1 pp in 2019 and accounted for 28.3%. In 2014-2016, the number of the service users and penetration were going up, whereas in 2017 and 2018 both indicators were decreasing. 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.

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

In 2019, the number of users of retail Internet access services provided by means of fixed communications technologies slightly grew.



	2014	2015	2016	2017	2018	2019
Number of service users	801,9	833,3	857,8	798,8	788,7	791,8
Penetration	27,4 %	28,8 %	30,1 %	28,0 %	28,2 %	28,3 %

Fig. 41 **The number of users of retail Internet access services provided by means of fixed communications technologies, in thousands, and penetration, %, 2014-2019**
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 28.2% in the middle of 2019 in Lithuania[19] (see Fig. 42). The average penetration of the EU Member States amounted to 35.6% in the middle of 2019. Based on this indicator, Lithuania outperforms two neighbouring countries, Latvia and Poland (26.5% and 20.0%, respectively). Estonia where the penetration of the said services stood at 32.8% in the middle of 2019 is ahead of Lithuania. The highest penetration of Internet access services provided by means of fixed communications technologies in the European Union was recorded in France (45.4%) and Denmark (43.9%).

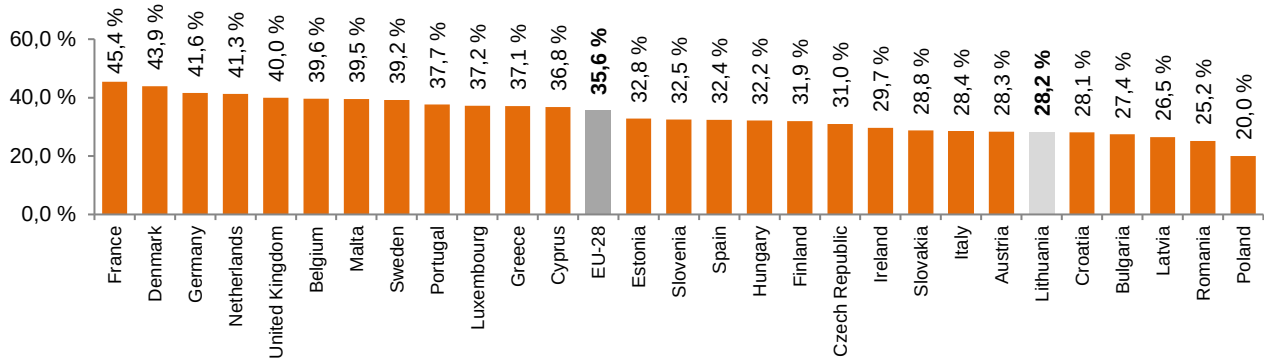


Fig. 42 **The number of users of retail Internet access services provided by means of fixed communications technologies per 100 residents, in the EU Member States, %, June 2019**
Source: European Commission[20]

The structure of the market of retail Internet access services by fixed communications technologies used by service users maintained the similar proportions in 2019 as was the case in the previous periods (see Table 23); FTTx lines were used most often (75.3% or 596.1 thousand users). 52.2 % (311.2 thousand) of all users of retail Internet access service provided via FTTx lines used the Internet access services provided via FTTH lines, and 47.8% (284.9 thousand) users used services provided via FTTB lines. In 2014, these indicators were 40.2% and 59.8%, respectively. During the period between 2014 and 2019, the number of

[19] The penetration of Lithuanian retail Internet access services provided by means of fixed communications technologies in Figure 41 differs from that in Figure 42 because of the different period and calculation methodology applied by the European Commission.
[20] https://digital-agenda-data.eu/charts/analyse-one-indicator-and-compare-countries#chart={"indicator-group":"broadband","indicator":"bb_penet","breakdown":"total_fbb","unit-measure":"subs_per_100_pop","ref-area":["BE","BG","CZ","DK","DE","EE","IE","EL","ES","FR","IT","CY","LI","LV","LT","LU","HU","MT","NL","AT","PL","PT","RO","SI","SK","FI","SE","UK","EU","HR","IS","NO"]}

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. For this reason, the number of users of retail Internet access services provided by means of FTTH lines has exceeded the number of users of services provided by means of FTTB lines since the end of 2018.

In 2019, compared to 2014, the number of the users of retail Internet access services provided by means of FTTx technology grew by 15.7 percentage points. In 2019, as was the case in the previous periods, the number of users of retail Internet access services provided by means of xDSL lines, wireless communication lines and CaTV continued to go down. In 2019, compared to 2018, the number of users of retail Internet access services provided via xDSL lines went down by 8.0 thousand and totalled 124.5 thousand users at the end of the year. The number of users of retail Internet access services provided via CaTV networks decreased by 2.0 thousand in 2018 and, at the end of the year, the number stood at 20.6 thousand. The decrease of the number of the users of retail Internet access services provided via CaTV networks is the outcome of continuous investments in FTTx line networks, where a large number of service users, who used to receive retail Internet access service via CaTV networks, switched to the services provided via FTTx lines.

Table 23. **Structure of service users by used fixed communications technologies to receive retail Internet access services, %, 2014-2019**

	2014	2015	2016	2017	2018	2019
FTTx	59.6	62.1	63.6	70.8	73.6	75.3
xDSL	21.2	19.8	18.3	17.9	16.8	15.7
Wireless communication lines	13.1	13.1	13.4	7.2	6.0	5.7
CaTV network	4.6	3.8	3.5	3.1	2.9	2.6
Other technologies (UTP, STP, leased line, etc.)	1.5	1.3	1.3	1.0	0.7	0.7

Source: RRT

According to the data of the [21] study[22] conducted by association "FTTH Council Europe" and IDATE in September 2019, Lithuania was ranked sixth by the penetration of broadband provided by means of optical fibre in Europe (48.2 connections per 100 households) (see Fig. 43). Iceland is ranked first with the penetration of 65.9%, Belarus is ranked second in the European rating (62.8%), Sweden is in top three European Union countries (56.8%) and Spain is ranked fourth (54.3%). Latvia, which was top first in this rating, was ranked fifth with the penetration of 53.9%. The average penetration of the EU Member States (17.1%) was by 3.2 percentage points higher than in 2018. In 2019, the European ratings did not include any new country. More and more European countries switch from outdated copper networks to optical fibre.

When assessing in absolute numbers, the steepest annual growth in the European Union was that in France (3.5 million new optical fibre lines), in Italy – 1.9 million lines, Spain – 1.5 million lines.

[21] The conference of Association "FTTH Council Europe" which had to be held in Berlin in March 2020 was rescheduled to December 2020 due to *Covid-19* pandemic.
[22] https://www.ftthcouncil.eu/documents/FTTH%20Council%20Europe%20-%20Panorama%20at%20September%202019%20-%20Webinar%20Version4.pdf

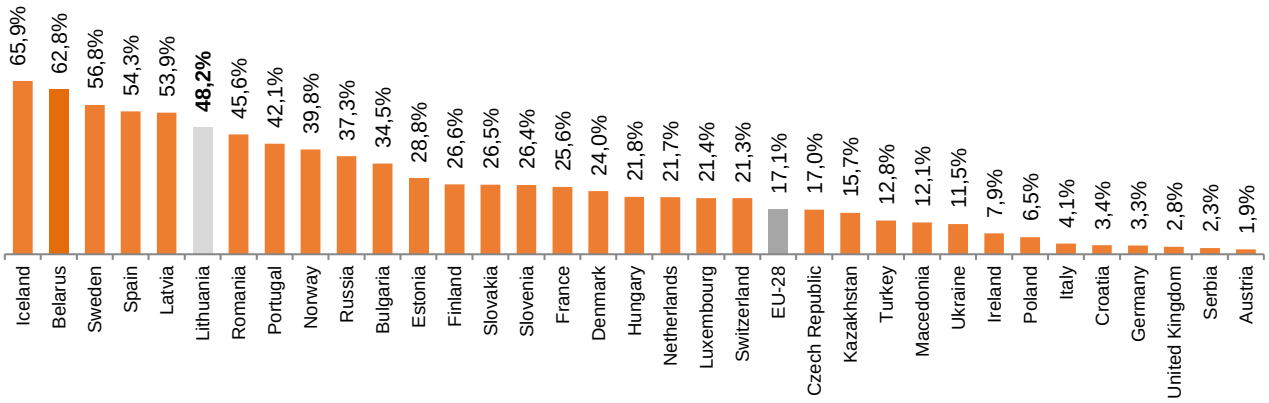


Fig. 43 **Number of subscribers to broadband access by means of optical fibre per 100 households in European countries in September 2019, units**
Source: Association "FTTH Council Europe" and IDATE

As many as 52.2% 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. 44), 14.2% preferred UAB Cgates, 5.9% – UAB Init, 5.2% – Splius, UAB. Over the year, the market share held by Telia Lietuva, AB grew by 0.2 percentage points, whereas the share held by UAB Cgates shrank by 0.2 percentage points, and the share of UAB Init and Splius, UAB remained unchanged.

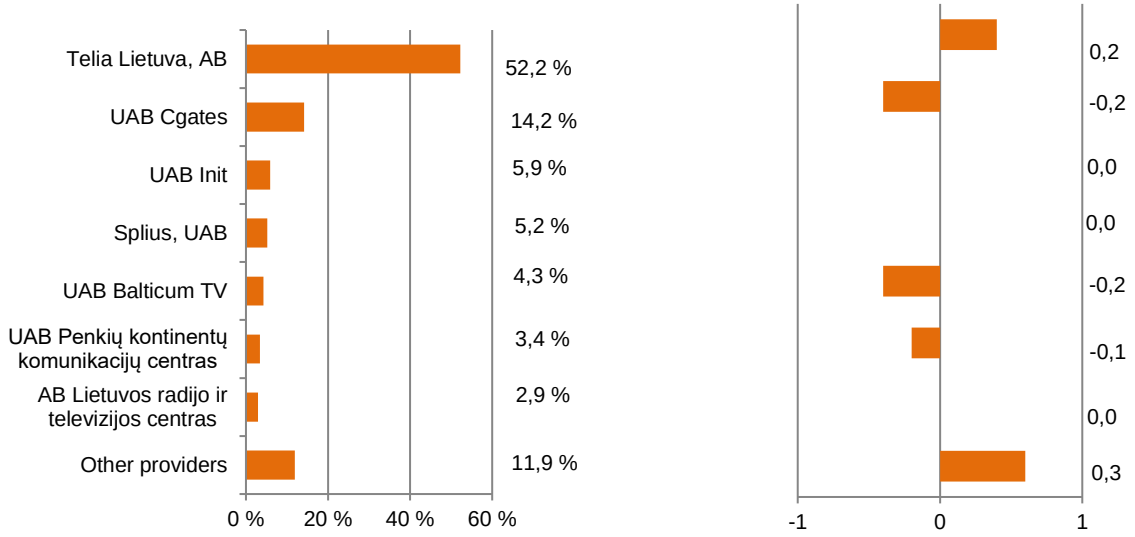


Fig. 44 **Structure of the number of subscribers by service providers, %, and annual changes of the market shares, pp, 2019**
Source: RRT

With a view to the breakdown of the number of the users of retail Internet access services provided by the service providers by fixed communications technologies used to provide retail Internet access services, it is apparent that in 2019, as was the case 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 2019, accordingly, 48.3% (in the case of FFTx lines) and 99.5% (in the case of xDSL lines) of all Internet access service users were using the services provided by Telia Lietuva, AB. In 2019, AB Lietuvos Radijo ir Televizijos Centras held the greatest share of the market of retail Internet access services provided by means of wireless communication lines (49.5%). The largest share of the market of Internet access services provided via CaTV networks (77.7%) was held by UAB Init.

Table 24. **Structure of service providers by the number of service users using certain technologies, %, 2019**

	FTTx	Wireless communication	CaTV networks	xDSL
Telia Lietuva, AB	48.3	3.2	-	99.5
UAB Cgates	18.5	3.6	2.2	-
Splius, UAB	6.2	3.2	14.4	-
UAB Balticum TV	5.1	7.1	2.4	-
UAB Init	5.2	-	77.7	-
UAB Penkių Kontinentų Komunikacijų Centras	4.5	-	-	-
UAB Kauno Interneto Sistemos	2.2	-	-	-
AB Lietuvos Radijo ir Televizijos Centras	-	49.5	-	-
UAB Baltnetos Komunikacijos	-	2.8	-	-
UAB Besmegeniai	-	3.8	-	-
UAB Kvartalo Tinklas	-	2.3	-	-
UAB Magnetukas	-	6.0	-	-
UAB Etanetas	-	4.1	-	-
Other providers	10.0	14.3	3.4	0.5
Total number of providers	**53**	**53**	**10**	**6**

Source: RRT

Speed rate. The number of service users using high-speed Internet access services has been annually increasing. In 2019, the speed rate higher than 100 Mb/s was selected by 2.2 pp more service users than in 2018. Accordingly, the speed rate went up from 30 Mb/s to 100 Mb/s by 0.5 pp in terms of users in 2019. In 2019, mere 3.7% of all users of Internet access services provided by means of fixed communications technologies used Internet access services of a speed lower than 10 Mb/s, accordingly, i.e. almost hald the number of the users than in 2018.

Table 25. **Structure of users of retail Internet access services provided by means of fixed communications technologies by speed rate, %, 2014-2019**

	2014	2015	2016	2017	2018	2019
up to 2 Mb/s	3.2	2.1	1.4	0.6	0.3	0.2
2 Mb/s to 10 Mb/s	24.4	21.7	19.8	14.7	5.1	3.5
10 Mb/s to 30 Mb/s	15.6	16.1	15.9	12.7	19.4	18.4
30 Mb/s to 100 Mb/s	44.6	42.4	36.0	27.9	28.7	29.2
More than 100 Mb/s	12.2	17.7	26.8	44.0	46.5	48.7

Source: RRT

According to 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” is designed to have 50% of all Lithuanian households using 100 Mb/s and higher speed broadband Internet by 2020.

Until 2017, the number of households using broadband Internet of the speed higher than 100 Mb/s provided by means of fixed communications technologies rapidly grew, but it has decelerated since 2018. In

2019, the number of households using broadband Internet of the speed higher than 100 Mb/s increased by 2.1 percentage points.

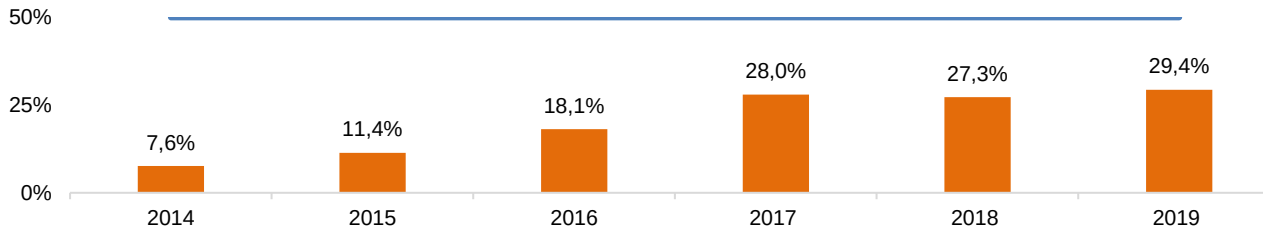


Fig. 45 **Implementation of the Next Generation Internet Access Development Plan for 2014-2020 of the Republic of Lithuania so that 50% of the households were using at least 100 Mb/s speed Internet in Lithuania**
Source: RRT

Revenue. In 2019, compared to 2018, the service providers' revenue from retail Internet access services provided by means of fixed communications technologies went down by 0.9% or by EUR 0.8 million. In 2019, that revenue stood at EUR 92.4 million (see Fig. 46). During the earlier period of 2014-2016, the increasing trend in the revenue from retail Internet access services provided by means of fixed communications technologies was observed: the highest revenue from that service was received in 2016. Since 2017, the revenue has been gradually going down.

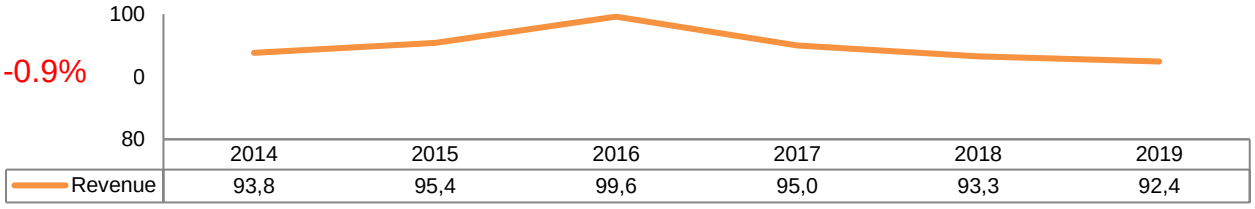


Fig. 46 **Revenue received from retail Internet access services provided by means of fixed communications technologies in 2014-2019, in EUR million**
Source: RRT

With a view to the service providers by received revenue (see Fig. 47), the structure of the market was not subject to the significant changes in 2019, as was the case in 2018: the leader's position (the largest portion of the revenue gained) was maintained by Telia Lietuva, AB. Its market share stood at 59.5% but compared to 2018 it shrank by 1.1 percentage points. Over the year, the market share of UAB Cgates grew by 1.0 pp. The market share held by UAB Baltnetos Komunikacijos also increased by 0.2 percentage points, Splius, UAB – by 0.1 percentage point, and other providers – by 0.5 percentage points. In 2019, compared to 2018, the market shares held by the following undertakings were shrinking: UAB Init – by 0.3 percentage points, UAB Penkių Kontinentų Komunikacijos Centras and AB Lietuvos Radijo ir Televizijos Centras – by 0.2 percentage points.

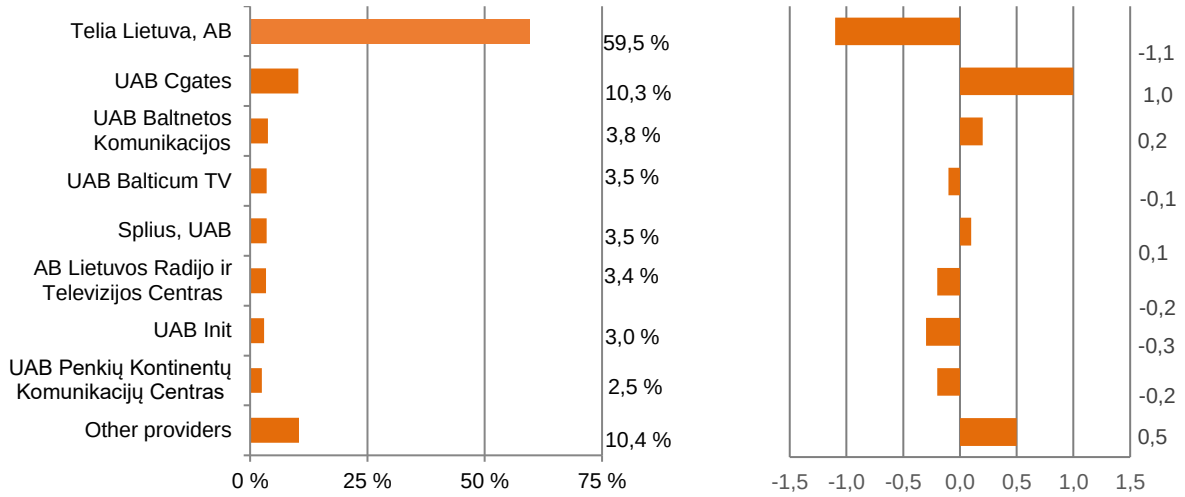


Fig. 47 **Structure of the revenue by service providers, %, and annual changes of the market shares, pp, 2019**
Source: RRT

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 2019 and it was the same as in 2018 (see Fig. 48). As was the case 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 2019, compared to 2018, ARPU of this service went up by 51.1% or by EUR 14.7 per month.

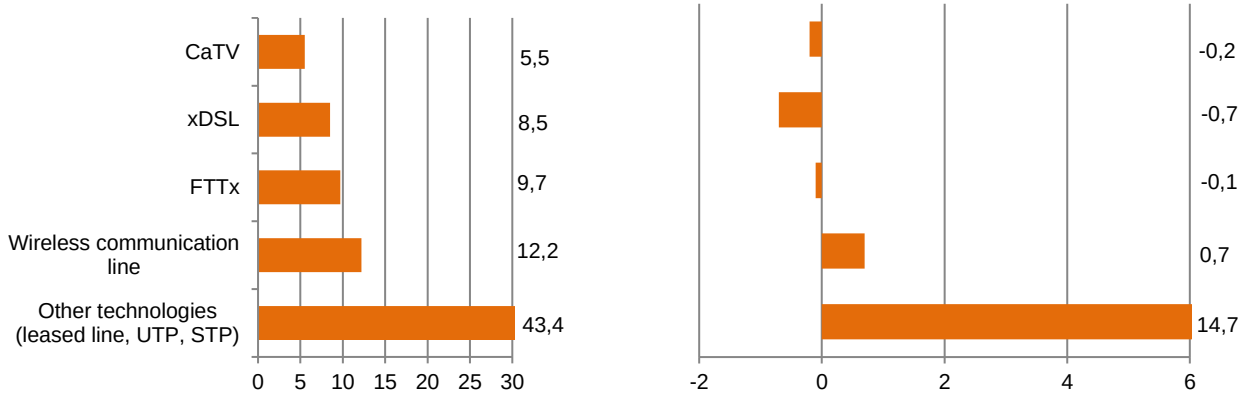


Fig. 48 **ARPU by used technologies, in EUR per month, and ARPU annual changes, in EUR per month, 2019**
Source: RRT

The lowest revenue (EUR 5.5) per service user per month in 2019, as was the case in 2018, was received from retail Internet access services provided by means of CaTV networks. ARPU of the most popular retail Internet access services provided via FTTx lines decreased by EUR 0.1 to EUR 9.7 per month in 2019. ARPU of retail Internet access services provided via xDSL lines dropped by EUR 0.7 in 2019, compared to 2018.

The structure of the market of retail Internet access services by fixed communications technologies used by service users maintained the similar proportions in 2019 as was the case in the previous periods – FTTx lines were used most often (75.3% of the users). In 2019, compared to 2014, the number of the users of retail Internet access services provided by means of FTTx technology grew by 15.7 percentage points.

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 in Table 26, Table 27 and Figures 52, 53 and 54 (the “other providers”).

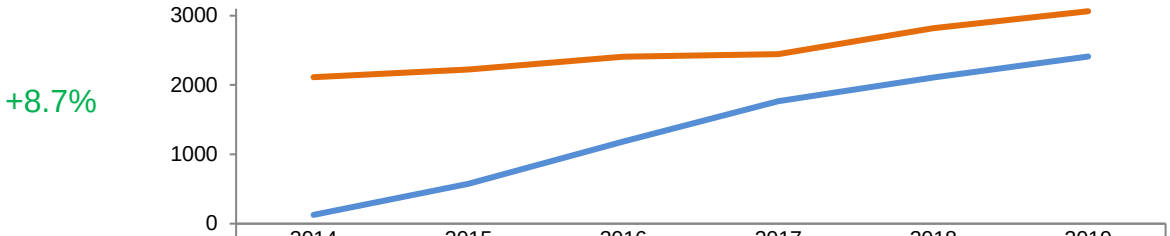
Methods of the Service Provision. Retail Internet access services were provided by means of GPRS, EDGE, UMTS, UMTS HSDPA, UMTS HSUPA, LTE[23] and other mobile communications technologies ensuring higher speed.

Service providers. In 2019, retail Internet access services provided by means of mobile communications technologies were provided by 8 service providers in 2019 (compared to 2018, the number remained unchanged[24]).

Service Recipients. It must be noted that the number of active SIM cards to provide Internet access services has been growing on a yearly basis. Over 2019, the number of active SIM cards for the provision of Internet access services increased by 246.0 thousand, or by 8.7% and stood at 3,064.2 thousand at the end of 2019 (see Fig. 49). Moreover, in 2019, compared to 2018, the number of LTE technology-based active SIM cards grew by 14.4% and equalled 2,410.9 thousand. It must be noted that since 2014 the penetration of active SIM cards used to provide Internet access services has been annually increasing (active SIM cards per 100 residents) which exceeded 100% in 2018 (i.e. one person used more than one card). At the end of 2019, LTE penetration was 109.7, which is by 8.8 percentage points more than in 2018.

[23] 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)

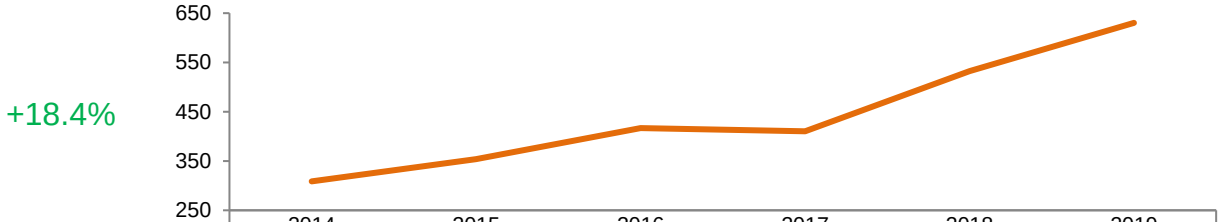
[24] Telia Lietuva, AB, UAB Bitė Lietuva, UAB Tele2, AB Lietuvos Radijo ir Televizijos Centras, UAB CSC Telecom, UAB Eurocom, UAB Teledema and AS TV Play Baltics



	2014	2015	2016	2017	2018	2019
Number of SIM cards	2 113,1	2 225,8	2 409,0	2 444,3	2 818,2	3 064,2
Change	10,3 %	5,3 %	8,2 %	1,5 %	15,3 %	8,7 %
Penetration	72,3 %	77,1 %	84,6 %	87,0 %	100,9 %	109,7 %
of which LTE technology	126,8	573,1	1 184,2	1 765,2	2 107,2	2 410,9
change in LTE techn. users	2848,8%	352,0%	106,6%	49,1%	19,4%	14,4%
LTE penetration	4,3 %	19,8 %	41,6 %	62,8 %	75,4 %	86,3 %

Fig. 49 **Annual change in the number of active SIM cards of retail Internet access services through mobile communications technologies used to provide Internet access, in thousands, %, and penetration (number of active SIM cards for Internet access services per 100 residents), %, 2014-2019**
Source: RRT

In 2019, compared to 2018, 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 plan is used, grew by 18.4% and it amounted to 630.3 thousand (see Fig. 50). Since the end of 2017, the growing trend in the number of such SIM cards has been observed.



	2014	2015	2016	2017	2018	2019
The number of service users	308,7	353,9	417,1	410,1	532,2	630,3
Change	4,3 %	14,6 %	17,9 %	-1,7 %	29,8 %	18,4 %

Fig. 50 **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, %, 2014-2019**
Source: RRT

In 2019, in the market of retail Internet access services provided by means of mobile communications technologies the most active competitors were three major players: Telia Lietuva, AB, UAB Bitė Lietuva and UAB Tele2 (see Table 26). The largest market share (38.2%) by the number of active SIM cards used to provide Internet access services was held by UAB Tele2 in 2019. In 2014-2019, these market shares changed insignificantly, and a new market player – AB Lietuvos Radijo ir Televizijos Centras – stepped in only in 2017.

Table 26. **Structure of active SIM cards used to provide Internet access services by service providers, %, 2014-2019**

	2014	2015	2016	2017	2018	2019
UAB Bitė Lietuva	26.6	27.6	28.3	28.4	28.2	29.3
Telia Lietuva, AB	35.1	30.7	29.4	31.2	28.5	28.5
UAB Tele2	36.8	40.0	40.5	35.8	39.0	38.2
AB Lietuvos Radijo ir Televizijos Centras	-	-	-	2.6	2.6	2.4
Other providers	1.5	1.6	1.7	1.9	1.7	1.5

Source: RRT

Revenue. In 2019, as was the case in the previous periods, the service providers' revenue from retail Internet access services provided by means of mobile communications technologies was growing. In 2019, such revenue amounted to EUR 197.8 million, i.e. by 24.4% or by EUR 38.8 million more than in 2018 (see Fig. 51). It must be noted that the growth of such revenue, in terms of EUR, was the largest in 2019, compared to the previous periods.

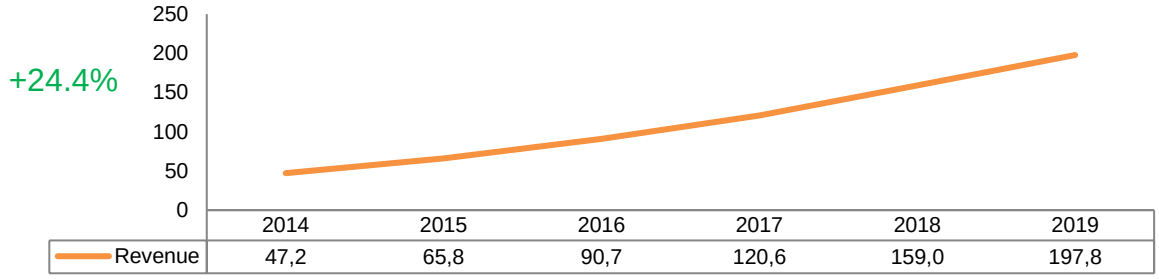


Fig. 51 **Revenue received from retail Internet access services provided by means of mobile communications technologies in 2014-2019, in EUR million**
Source: RRT

UAB Tele2 held the leader's position (39.3%) in the structure of the market of retail Internet access services provided by means of mobile communications technologies in 2019, in terms of the revenue received by individual undertakings, i.e. by 2.3 percentage points more than in 2018 (see Fig. 52). The second largest operator in this segment was UAB Bitė Lietuva in 2019, and it held 29.2% of the market – its market share grew by 1.0 pp over the year. Telia Lietuva, AB held 27.4% of the market – its share shrank by 2.5 percentage points over the year. As mentioned afore, a new market player emerged in this segment in 2017 – AB Lietuvos Radijo ir Televizijos Centras which held 3.3% of the market in 2019, i.e. by 0.7 percentage points less than in 2018.

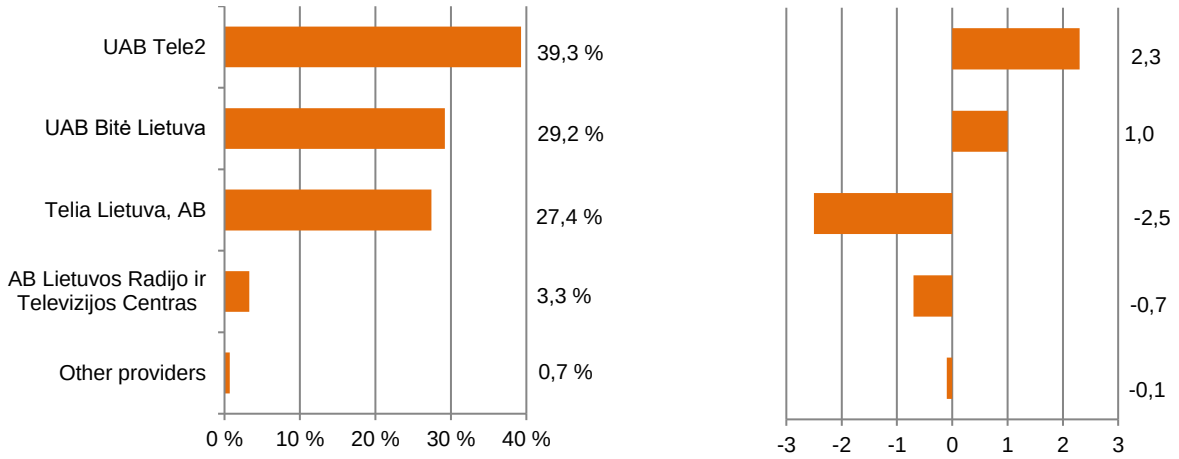


Fig. 52 **Structure of revenue from retail Internet access services provided by means of mobile communications technologies by service providers, %, and annual changes of the market shares, pp, 2019**
Source: RRT

ARPU. The ARPU per user of a SIM card for retail Internet access services provided by means of mobile communications technologies accounted for EUR 5.6 in 2019 and, compared to 2018, it was by EUR 0.6 larger (see Fig. 53). In 2019, the highest ARPU was that of AB Lietuvos Radijo ir Televizijos Centras – EUR 7.4, ARPU of Telia Lietuva, AB stood at EUR 5.4, UAB Bitė Lietuva – EUR 5.6, UAB Tele2 – EUR 5.7.

In 2019, compared to 2018, the largest growth of ARPU was that of UAB Tele2 (EUR 0.8).

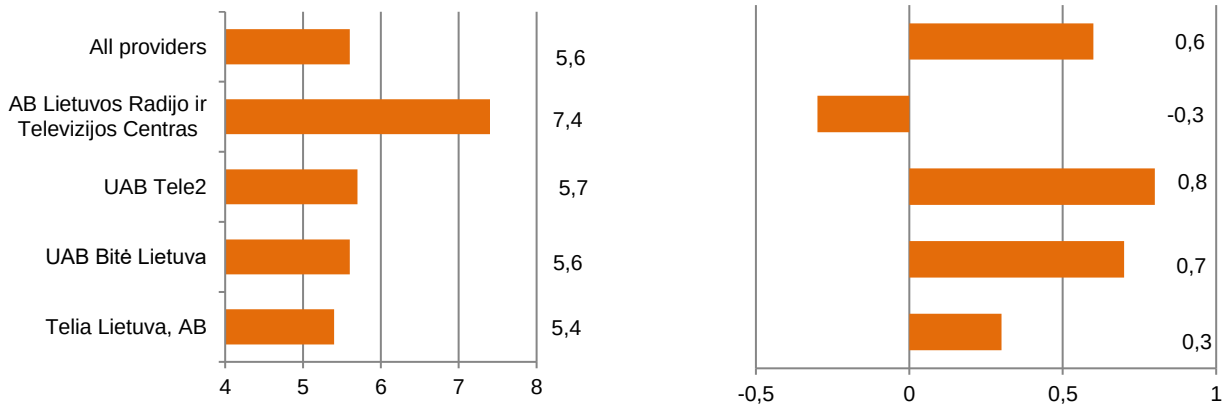


Fig. 53 **ARPU of all service providers and of each of the major providers, EUR per month, and ARPU annual changes, EUR per month, 2019**
Source: RRT

The monthly ARPU per SIM card user, where the Internet access service provision plan is applied instead of the telephony plan, accounted for EUR 7.1 in 2019 and it was by 0.2 pp lower than in 2018 (see Fig. 54). In 2019, the highest ARPU was that of AB Lietuvos Radijo ir Televizijos Centras – EUR 7.4 per month. ARPU of UAB Bitė Lietuva constituted EUR 7.2, ARPU of UAB Tele2 accounted for EUR 7.1, whereas ARPU of Telia Lietuva, AB was the lowest – EUR 6.7.

When comparing ARPU for retail Internet access services provided by means of fixed communications technologies and by means of mobile communications technologies presented in Fig. 54 and Fig. 48, it is clear that the average ARPU from the provision of services by means of fixed communications technologies, as specified in Figure 48. exceeds the aaverage ARPU from the provision of services by means of mobile communications technologies, as specified in Figure 54, by EUR 4.2.

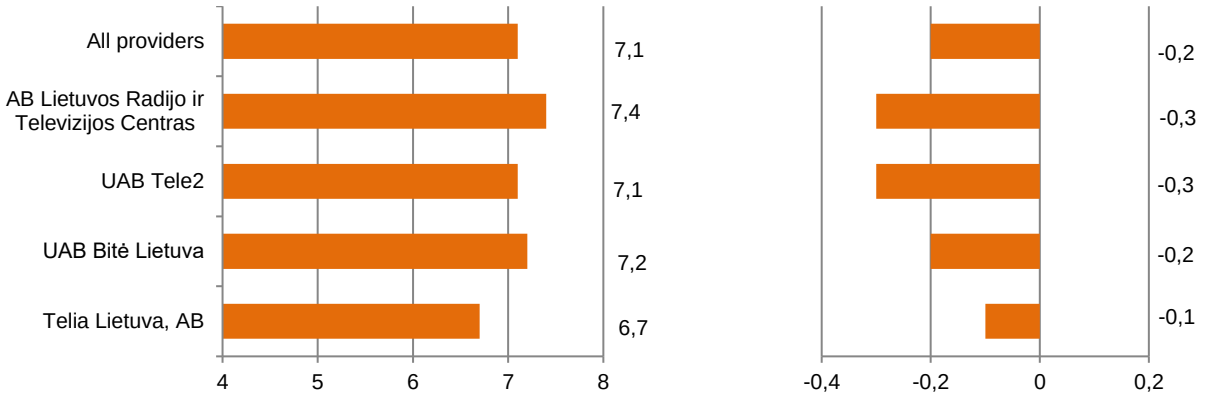


Fig. 54 **ARPU of all service providers and each of the major providers, where the Internet access service provision plan is applied instead of that of telephony, EUR per month, and ARPU annual changes, EUR per month, 2019**
Source: RRT

Data Volume. In 2019, compared to 2018, the volume of sent and received data per service user per moth grew by 35.4% and it stood at 13,599.7 MB (see Table 27). The greatest volume of data (122,354.1 MB) per month per service user was transmitted by means of Internet access services of AB Lietuvos Radijo ir Televizijos Centras in 2019 as this undertaking provided such services only to SIM card users, where the Internet access service provision plan is used instead of the telephony plan. The largest growth of other service providers providing the services in 2019 was of the volume of sent and received data per user per moth of Telia Lietuva, AB and it stood at 11,510.8 MB. The monthly volume of sent and received data per service user of UAB Bitė Lietuva and UAB Tele2 also increased, respectively, by 46.2% and 30.0% and, accordingly, constituted 9,183.4 MB and 11,946.0 MB.

Table 27. **Monthly volume of data sent and received by a single service user, MB, and their changes, %, 2019**

Service Provider	Data volume per month in 2018	Data volume per month in 2019	Change per year, %
AB Lietuvos Radijo ir Televizijos Centras	100,315.3	122,354.1	22.0
UAB Tele2	9,190.0	11,946.0	30.0
Telia Lietuva, AB	7,220.4	11,510.8	59.4
UAB Bitė Lietuva	6,281.3	9,183.4	46.2
Other providers	1,965.5	2,714.4	38.1
All providers	10,042.1	13,599.7	35.4

Source: RRT

Quality. Speed rate. The measurements conducted by the Authority confirm the continuously growing speed of data download. During 2019, the data download speed measurements were performed with regard to all mobile communications operators (UAB Bitė Lietuva, Telia Lietuva, AB, UAB Tele2 and Lithuanian Radio and Television Centre). Fig. 55 presents the comparison of average values of the speed of data receipt in the cities and on the roads in 2018 and 2019, Mb/s. The data receipt speed of all operators, except for Lithuanian Radio and Television Centre, was going up in 2019, compared to 2018; the speed of Telia Lietuva, AB was growing most rapidly – by 75.8%, the speed of UAB Tele2 and UAB Bitė Lietuva increased, respectively, by 71.4% and 20.8%.[25]

[25] The data of the measurements performed by the Authority and respective maps are published on the website http://matavimai.rrt.lt/

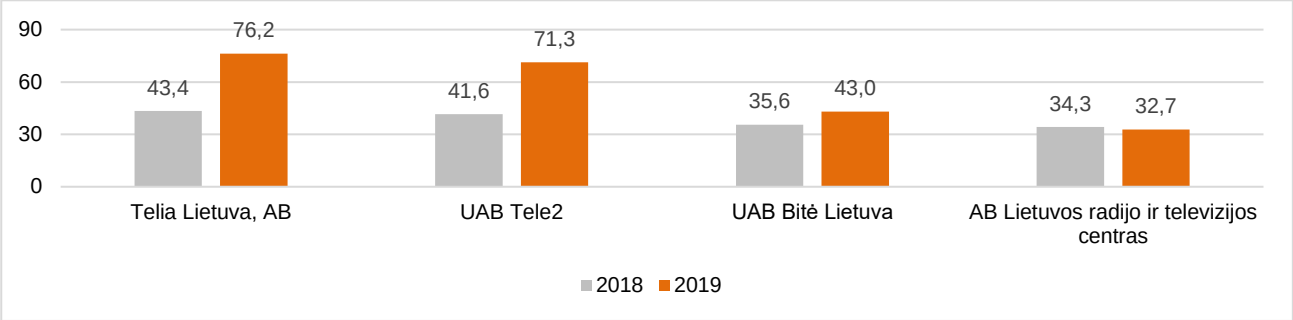


Fig. 55 **Comparison of average values of the speed of data receipt in the cities and on the roads in 2018 and 2019, Mb/s**
Source: RRT

In order to determine which part of the population has an opportunity to use high-speed (30 Mb/s and 100 Mb/s) LTE technology data transmission services, the Authority carried out the calculations of the mobile communications network coverages and speeds[26]. The calculations were made by applying the 10% network load designed to assess and compare the theoretical capacity of the operators' networks when downloading data at the low load of the network, and by applying the 50% network load when the data are downloaded under usual load conditions. The calculation results are presented in Table 28.

Table 28. **Part of the population able to use LTE technology data transmission services, %, 2019**

Data download speed	30 Mb/s	100 Mb/s
At 10% network load	99%	87.9%
At 50% network load	92.7%	35.6%

Source: RRT

According to the data of portal "Global Spped Test (Ookla)"[27], in February 2020, Lithuania was ranked 14th by data download speed of Internet access services (3G/4G) provided by means of mobile communications technologies in Europe – data download speed was 47.1 Mb/s in Lithuania (see Fig. 56). The highest upload speed was recorded in the Netherlands – 70.2 Mb/s. In terms of data upload speed, Lithuania outperformed its neighbouring countries Latvia and Estonia whose data download speed was 33.2 Mb/s and 46.4 Mb/s, respectively, and Poland whose data download speed was 32.9 Mb/s.

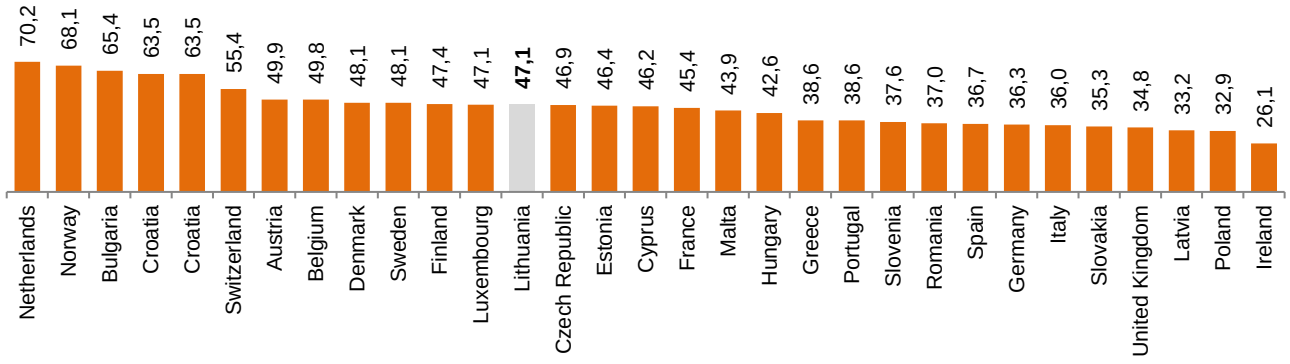


Fig. 56 **Data receipt speed (Mb/s) of Internet access services provided by means of mobile communications technologies (3G/4G) in European countries**
Source: Data of "Global Speed Test" ("Ookla") of February 2020

[26] The data of the calculations performed by the Authority and respective maps are published on the Authority's website https://www.rrt.lt/judriojo-rysio-tinklu-tiketinos-aprepties-zonos/.
[27] https://www.speedtest.net/global-index#mobile

5G network accessibility. According to the data of the company "OpenSignal" established in London[28], more and more countries launch the operation of 5G networks. Based on its information, by September 2019 there were 4 countries which had exceeded the speed of 1 Gb/s of the data downloaded from the Internet (United States of America, Australia, South Korea and Switzerland, the only European country) (Fig. 57). The number of service users is still low in many countries but in South Korea it has already reached 2 million.

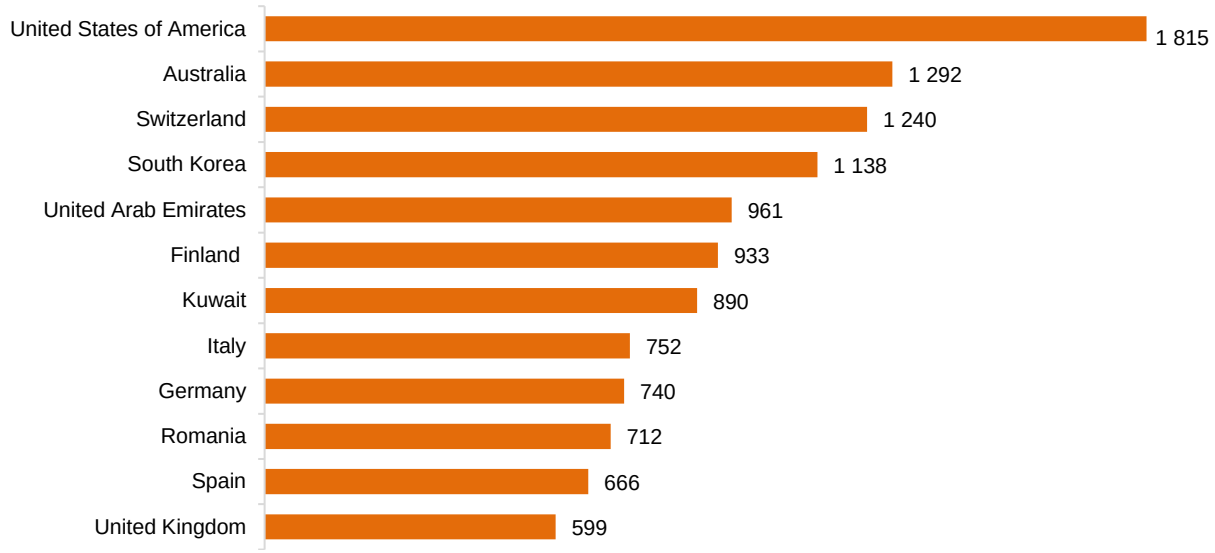


Fig. 57 **Maximum possible speed of downloaded data by means of 5G smart phones in the world**, **Mbps, September 2019**
Source: OpenSignal

The global trends show that the development of Information and Communications technology (ICT) is an integral part of the development of the fifth-generation mobile communications technology. In Lithuania, taking account of the Opinion on spectrum related aspects for next-generation wireless systems (5G) of the European Commission Radio Spectrum Policy Group, the 3400-3800 MHz (3.6 GHz), 24.25-27.50 GHz (26 GHz) and 694-790 MHz (700 MHz) frequency bands are firstly prepared. The public consultations regarding the plans for the use and development of radio frequencies (channels) are being conducted. The market players have an option of testing next-generation network elements. In Q3 2020, a public auction in the 3.6 GHz and 700 MHz frequency bands is planned in Lithuania, whereas the auction in the 26 GHz band will be held based on the demand. It is likely that by 2022 at least one the largest cities of the Republic of Lithuania, by population, will start providing electronic communications services via electronic communications networks suitable for 5G, and a year later such services will be provided in all cities of the country.

In 2019, the revenue from retail Internet access services provided by means of mobile communications technologies totalled EUR 197.8 million, i.e. by 24.4% more than in 2018. The number of active SIM cards used to provide Internet access services grew by 246.0 thousand or 8.7%. The number of active SIM cards per 100 residents used for LTE services grew by 10.9 percentage points and stood at 86.3%.

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

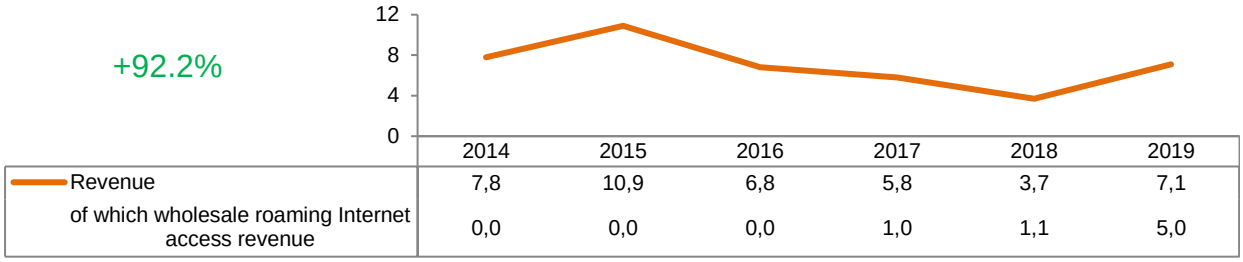
3.3. Wholesale Internet Access Services

Service providers	9
Major service provider	Telia Lietuva, AB
Wholesale revenue, EUR million	7.1

IMPORTANT!

- In this section of the report, other wholesale Internet access service providers shall be all providers of such services, except for UAB Arcus Novus, Telia Lietuva, AB, UAB Bitė Lietuva, UAB Nacionalinis Telekomunikacijų Tinklas, UAB Ektra, SIA Tet branch in Figure 59 (the "other providers").

Revenue. In 2019, compared to 2018, the revenue from wholesale Internet access services went up almost twice (92.2%) and amounted to EUR 7.1 million. With a view to the changing trend in the revenue between 2014 and 2019, it must be noted that from 2015 to 2018, the revenue from wholesale Internet access services was dropping (see Fig. 58) but in 2019, that revenue increased – this was a result of the wholesale roaming revenue growth.



	2014	2015	2016	2017	2018	2019
Revenue	7,8	10,9	6,8	5,8	3,7	7,1
of which wholesale roaming Internet access revenue	0,0	0,0	0,0	1,0	1,1	5,0

Fig. 58 **Revenue from wholesale Internet access services, in EUR million, 2014-2019**
Source: RRT

In 2019, wholesale Internet access services were provided by 9 service providers. In 2019, the largest market share, in terms of revenue from the provision of wholesale Internet access services, was held by Telia Lietuva, AB (67.8%) (see Fig. 59). The other major providers were as follows: UAB Bitė Lietuva with 15.1% of the market, UAB Nacionalinis Telekomunikacijų Tinklas with 6.5% of the market, UAB Arcus Novus with 3.8% of the market, UAB Ektra with 3.1% of the market and SIA Tet affiliate with 2.3% of the market. In 2019, compared to 2018, the market share held by Telia Lietuva, AB was subject to the largest increase (by 41.3 pp).

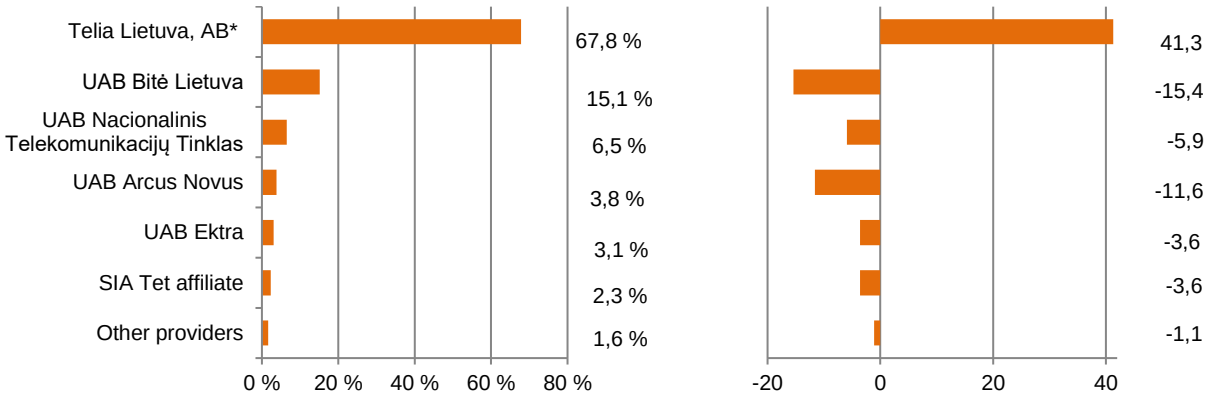
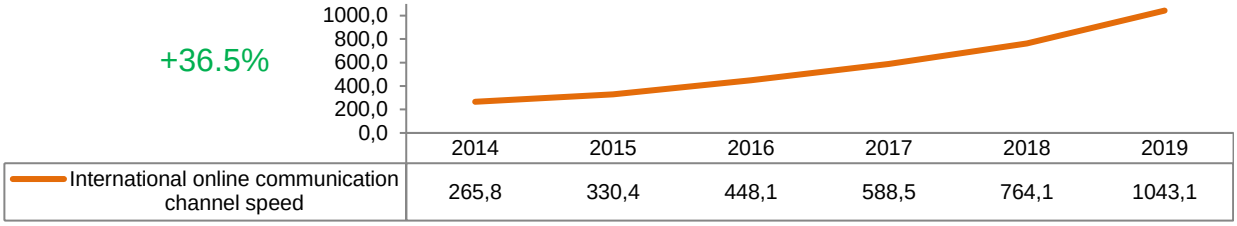


Fig. 59 **Structure of revenue from wholesale Internet access services by service providers, %, and annual changes of the market shares, pp, 2019**
Source: RRT

*As of Q2 2019, Telia Lietuva, AB has included the revenue from wholesale roaming Internet access in the revenue from wholesale Internet access services. UAB Tele2 does not distinguish such revenue.

With the rapidly growing use of Internet data, the Internet access service providers have been raising the speed of international online communication channels. The overall speed of direct international online communication channels increased by 36.5% in 2019 and stood at 1,043.1 Gb/s.



	2014	2015	2016	2017	2018	2019
International online communication channel speed	265,8	330,4	448,1	588,5	764,1	1043,1

Fig. 60 **Overall direct international online communication channel speed, thousand Mb/s, 2014-2019**
Source: RRT

In 2019, the revenue from wholesale Internet access services went up by 92.2%. The largest market share was held by Telia Lietuva, AB in 2019.

3.4. Other Data Transmission Services

Service providers	18
Service users, thousand*	15.1
Revenue, EUR million	23.2

* Illegible active SIM cards used to receive 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 2019, the revenue from other data transmission services totalled EUR 23.2 million or by 2.1% less than in 2018 (see Fig. 61). During the period between 2014 and 2016, the revenue from other data transmission services was going down, whereas since 2017, with the more active provision of certain (e.g. wholesale central access) services, it has started to grow, but in 2019, it remained almost stable (went down by 2.1%).

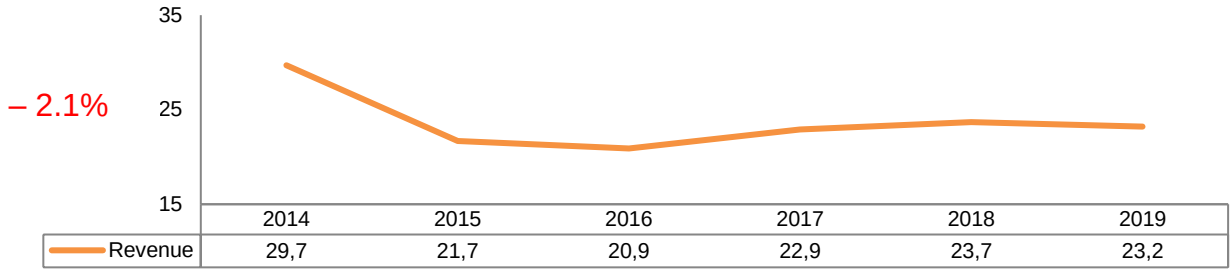


Fig. 61 **Revenue from other data transmission services, in EUR million, 2014-2019**

Source: RRT

3.4.1. Retail Other Data Transmission Services

Service providers	12
Service users, thousand	15.1
Number of M2M SIM cards, thousand	324.3
Retail revenue, except for M2M, EUR million	10.4
Revenue from M2M services, EUR million	3.4

IMPORTANT!

- In this section of the report, other retail other data transmission service providers shall be all providers of such services, except for Telia Lietuva, AB, UAB Dekbera, UAB Bitė Lietuva, UAB Baltnetos Komunikacijos in Figure 63; Telia Lietuva, AB, UAB Bitė Lietuva, UAB Tele2 in Figures 65 and 68; Telia Lietuva, AB, UAB Bitė Lietuva, UAB Tele2, UAB Dekbera, AB Lietuvos Radijo ir Televizijos Centras in Figure 67 (the "other providers").

Service Recipients. In 2019, compared to 2018, the number of users increased by 16.9% up to 15.1 thousand users[29] (see Fig. 62). In 2014-2016, the number of leased lines was added to the number of other data transmission service users considering, with reservation, that 1 leased line equals 1 service user.

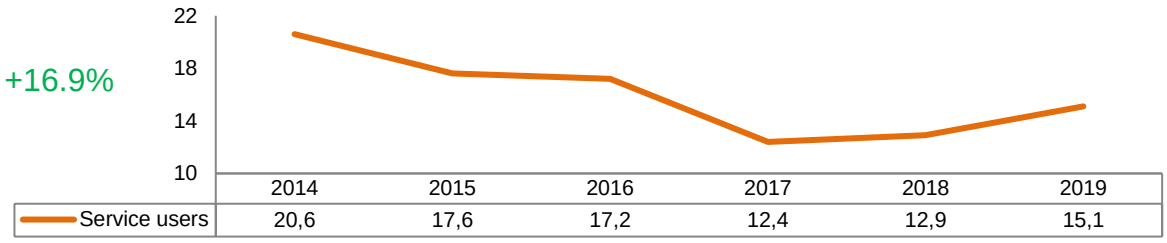


Fig. 62 **Number of retail other data transmission service users in 2013-2018, in thousands**
Source: RRT

The majority of retail other data transmission service users were using the services provided by Telia Lietuva, AB. At the end of 2019, Telia Lietuva, AB was providing retail other data transmission services to 82.9% of such service users, which was by 2.5 pp less than in 2018 (see Fig. 63).

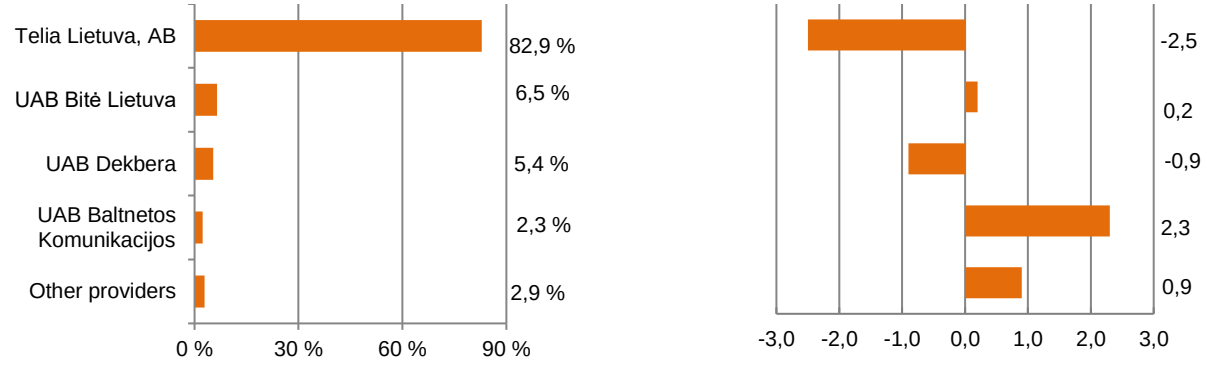


Fig. 63 **Structure of the number of service users by service providers, %, and annual changes of the market shares, pp, 2019**
Source: RRT

[29] Illegible active SIM cards used to receive M2M services

Number of M2M SIM cards. Between 2014 and 2019, the number of active SIM cards used to provide M2M (*Machine to Machine, Man to Machine, Machine to Man*) services was continuously growing. In 2019, there were 324.3 thousand SIM cards for M2M services, which was by 10.5% or by 30.7 thousand more than in 2018 (see Fig. 64).

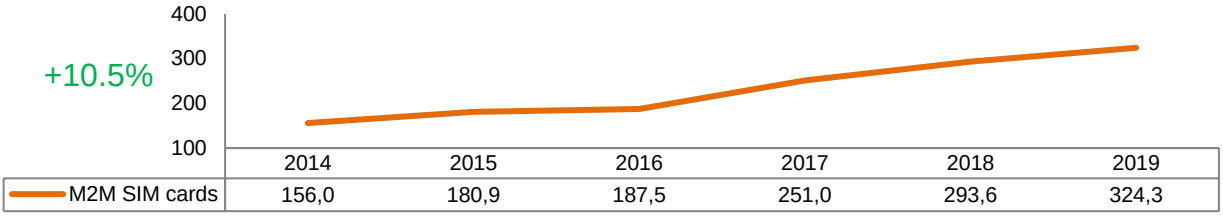


Fig. 64 **Number of SIM cards for the provision of M2M services in 2014-2019, in thousands**
Source: RRT

Over 2019, Telia Lietuva, AB held 54.0% of the market by the number of SIM cards for the provision of M2M services. UAB Bitė Lietuva held 24.7% of the market and UAB Tele2 held 19.5% of the market (see Fig. 65). In 2019, the market share held by UAB Tele2 grew by 2.2 percentage points, the share of Telia Lietuva, AB increased by 0.6 pp, whereas the share held by Bitė Lietuva, AB shrank by 4.5 percentage points.

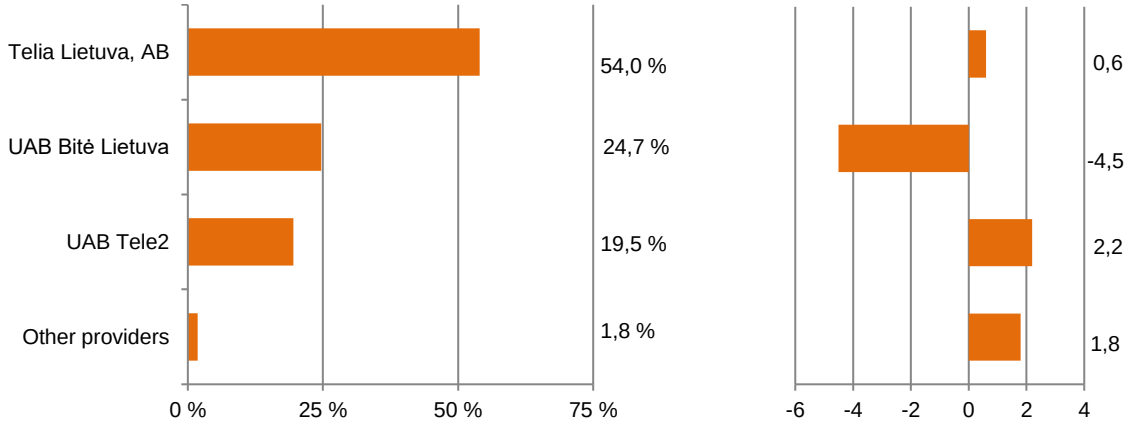


Fig. 65 **Structure of the number of SIM cards for the provision of M2M services by service providers, %, and annual changes of the market shares, pp, 2019**
Source: RRT

Revenue. Between 2014 and 2019, the revenue from retail other data transmission services were consistently decreasing – in 2017, a slight growth was recorded (5.6%) – in 2019, that revenue was at the lowest point since 2014 and stood at EUR 13.7 million (see Fig. 66). In 2019, compared to 2018, the revenue from retail other data transmission services went down by 5.0% and amounted to EUR 13.7 million. With a view to the revenue from the provision of M2M services, it is evident that such revenue had grown since 2014 till 2018. In 2019, the revenue from M2M services slightly decreased (1.4%) and stood at EUR 3.4 million. Since the number of SIM cards used to provide M2M services increased by 10.5% and the revenue fell by 1.4%, it may be assumed that more and more services may be received for a lower price.

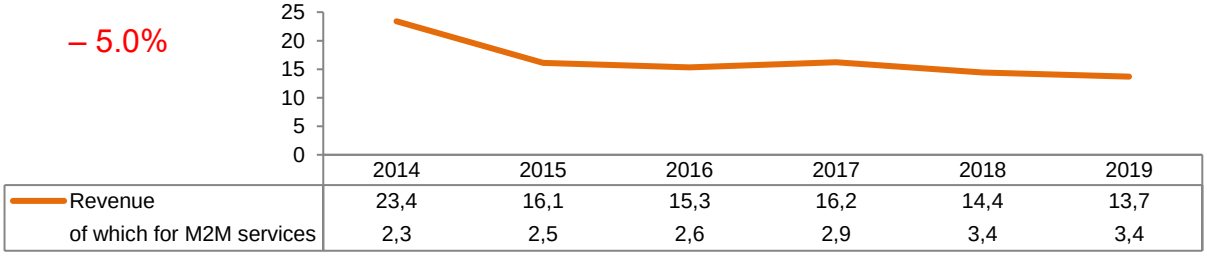


Fig. 66 **Revenue from retail other data transmission services, in EUR million, 2014-2019**

Source: RRT

In 2019, the largest market share, in terms of revenue from the provision of other retail data transmission services, was held by Telia Lietuva, AB (65.2%) (see Fig. 67). It must be noted, however, that the market share held by Telia Lietuva, AB shrank most significantly in 2019, compared to 2018 (by 4.9 pp). In 2019, UAB Bitė Lietuva held 17.2% of the market, the other larger providers were UAB Tele2, which held 5.0% of the market, AB Lietuvos Radijo ir Televizijos Centras – 2.5% of the market, and UAB Dekbera – 2.4% of the market. In 2019, compared to 2018, the market share held by UAB Tele2 was subject to the largest increase (1.2 pp).

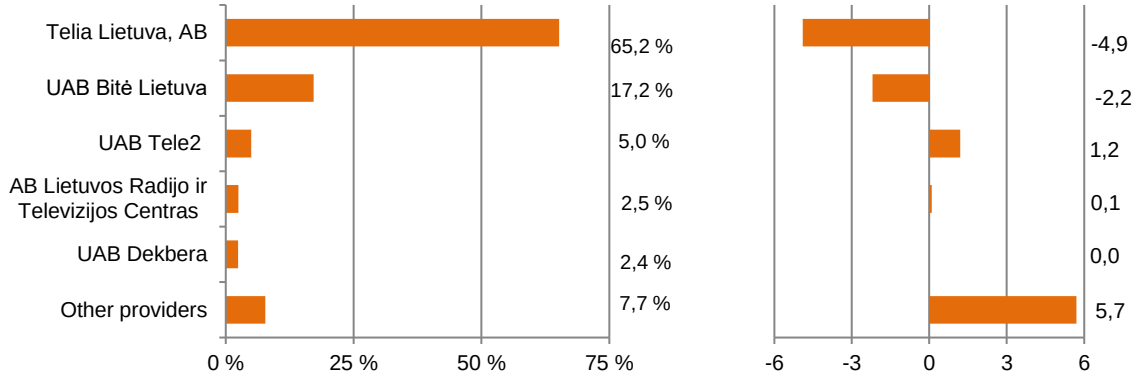


Fig. 67 **Structure of revenue from retail other data transmission services by service providers, %, and annual changes of the market shares, pp, 2019**
Source: RRT

In 2019, the largest market share, in terms of revenue from the provision of M2M services, was held by Telia Lietuva, AB (46.2%). The revenue generated by UAB Bitė Lietuva constituted 31.7% and UAB Tele2 received 21.6% of the market revenue (see Fig. 68). The market share held by UAB Tele2 was subject to the largest growth (by 5.6 pp) in 2019, compared to 2018, and the market share held by UAB Bitė Lietuva significantly decreased (by 6.9 pp).

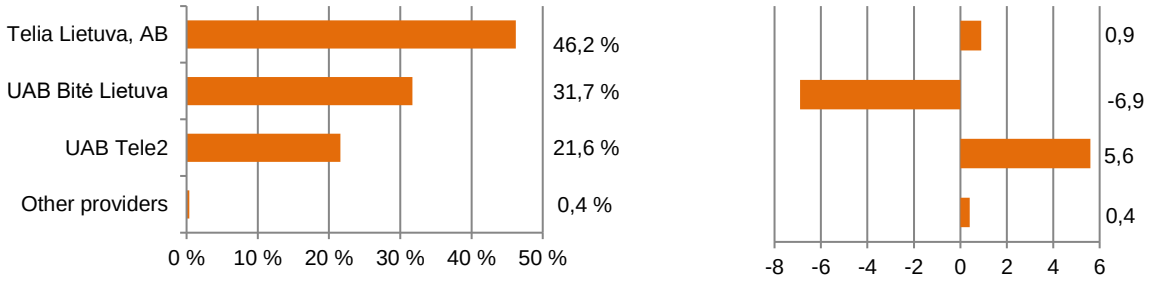


Fig. 68 **Structure of revenue from M2M services by service providers, %, and annual changes of the market shares, pp, 2019**
Source: RRT

In 2019, the number of retail other data transmission service users grew by 16.9%, and the revenue dropped by 5.0%. In 2019, as many as 324.3 thousand SIM cards were used to provide M2M services, which was by 10.5% more than in 2018. Although the number of M2M SIM cards was increasing in 2019, the revenue from the provision of M2M services slightly decreased (1.4%).

3.4.2. Wholesale Other Data Transmission Services

Service providers	7
Granted wholesale central accesses at a fixed location, thousand	8,917
Wholesale revenue, EUR million	9.48

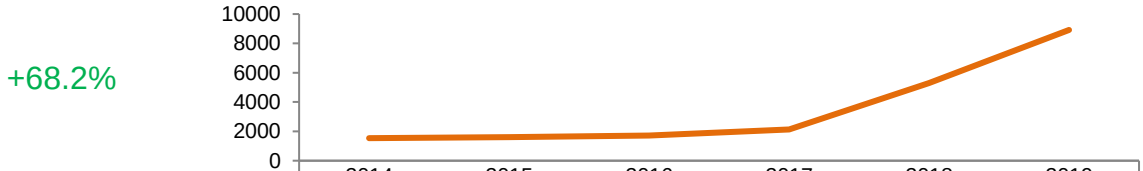
IMPORTANT!

- In this section of the report, the other 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 in Figure 71 (the "other providers").

Service providers. In 2019, the wholesale other data transmission services were provided by 7 undertakings (in 2018, such services were provided by 7 undertakings as well).

Wholesale central access at a fixed location for mass-market products (the "wholesale central access"). Wholesale central access is the service of wholesale data transmission which is used by the electronic communications service provider to provide retail services by means of fixed communications technologies (Internet access, pay-TV and fixed telephone services) to the end-user.

At the end of 2019, the service of wholesale central access was provided by 1 undertaking – Telia Lietuva, AB. At the end of 2019, Telia Lietuva, AB had granted 8,917 wholesale central accesses in total. The number of such accesses went up by 68.2% over the year. As many as 88.2% of wholesale central accesses (7,865 wholesale accesses) were granted by means of FTTx technology and 11.8% (1,058 wholesale accesses) – by means of xDSL technology (see Fig. 69). The demand for the services provided by means of FTTx technology has continuously grown: In 2019, compared to 2018, the number of wholesale central accesses by means of FTTx technology was higher by 88.5%, and the number of accesses granted by means of xDSL technology fell by 6.7%. The demand for wholesale central access services by means of xDSL technology is likely to go down in the future, and the provision of such services by means of FTTx technology is likely to go down.



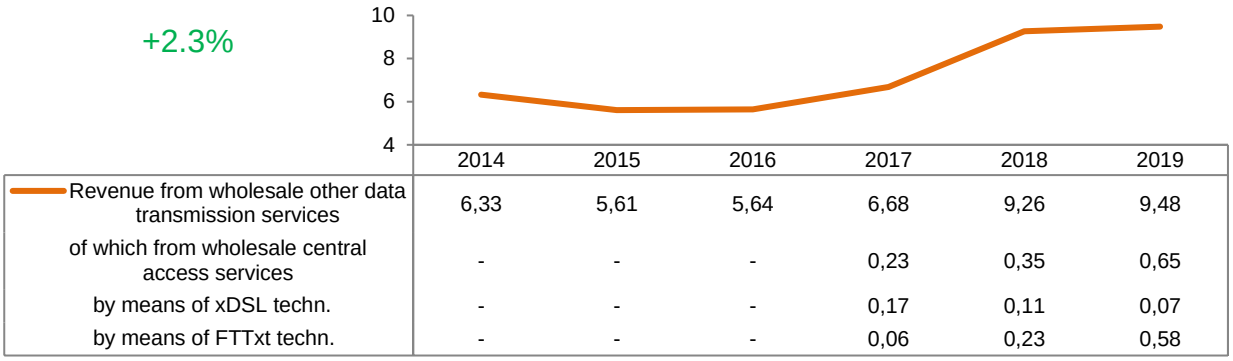
	2014	2015	2016	2017	2018	2019
Wholesale central accesses	1 538	1 611	1 725	2 138	5 300	8 917
of which by means of xDSL techn.	1 538	1 611	1 725	1 223	1 127	1 052
of which by means of FTTx techn.	-	-	-	915	4 173	7 865

** Between 2014 and 2016, there are no data on the number of granted wholesale central accesses by means of "FTTx" technology.*

Fig. 69 **Number of granted wholesale central accesses, 2014-2019**

Source: RRT

Revenue. In 2019, compared to 2018, the revenue from the provision of wholesale other data transmission services increased by EUR 0.21 million or by 2.3% and accounted for EUR 9.48 million (see Fig. 70). In 2019, the revenue from the provision of wholesale central access services accounted for EUR 0.65 million or 6.9% of the total revenue from the provision of wholesale other data transmission services.



	2014	2015	2016	2017	2018	2019
Revenue from wholesale other data transmission services	6,33	5,61	5,64	6,68	9,26	9,48
of which from wholesale central access services	-	-	-	0,23	0,35	0,65
by means of xDSL techn.	-	-	-	0,17	0,11	0,07
by means of FTTxt techn.	-	-	-	0,06	0,23	0,58

** Between 2014 and 2016, there are no data on the revenue from the services of wholesale central accesses provided by means of both xDSL and "FTTx" technologies.*

Fig. 70 **Revenue from wholesale other data transmission services, in EUR million, 2014-2019**

Source: RRT

In 2019, the largest market share, in terms of revenue from the provision of wholesale other data transmission services, was held by Telia Lietuva, AB (55.8%) (see Fig. 71). It must be noted, however, that the market share held by Telia Lietuva, AB shrank by 2.8 pp in 2019, compared to 2018. In 2019, Public Enterprise Plačiajuostis Internetas held 24.7% of the market, UAB Duomenų Logistikos Centras with the market share of 18.2% was the third major provider. In 2019, compared to 2018, the market share held by UAB Duomenų Logistikos Centras was subject to the largest increase (6.0 pp).

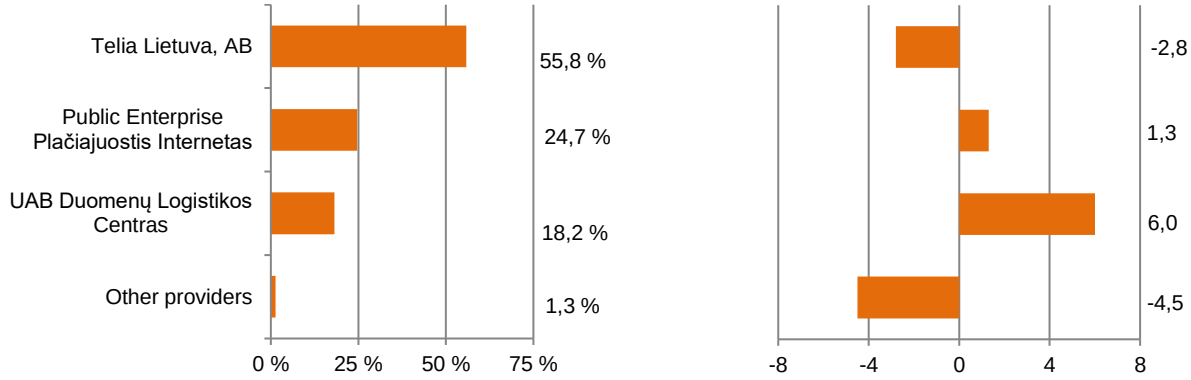


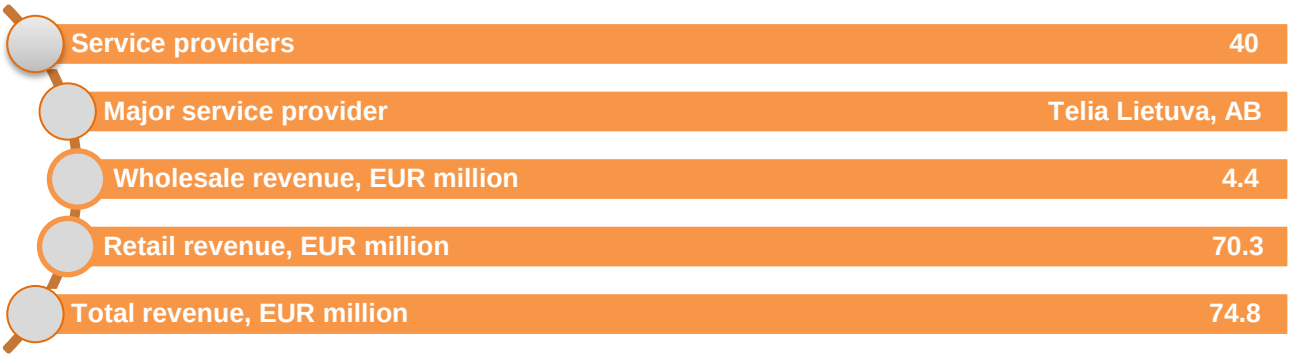
Fig. 71 **Structure of revenue from wholesale other data transmission services by service providers, %, and annual changes of the market shares, pp, 2019**

Source: RRT

In 2019, the revenue from the provision of wholesale other data transmission services increased by 2.3% and accounted for EUR 9.48 million. The number of granted wholesale central accesses at a fixed location for mass-market products grew by 68.2% and stood at 8,917 in 2019.

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 (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 to provide retail radio and television services.

Service providers. At the end of 2019, television and radio activities, insofar as it relates to the electronic communications activities, were carried out by 40 undertakings, i.e. by 1 undertaking fewer than at the end of 2018 (see Table 29).

In 2019, there were 39 retail pay-TV service providers (in 2018 – 40). At the end of 2019, as was the case at the end of 2018, wholesale radio and 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 broadcasting services. UAB Balticum TV was providing both retail pay-TV services and television broadcasting services. UAB Satgate was providing only television broadcasting services outside the territory of the Republic of Lithuania.

Table 29. **The number of television and radio service providers by services provided, in units, 2014-2019**

	2014	2015	2016	2017	2018	2019
Radio and television broadcasting	6	4	4	3	3	3
Pay-TV services	45	41	42	39	40	39
Total	**46**	**45**	**44**	**40**	**41**	**40**

Source: RRT

Revenue. In 2019, compared to 2018, the revenue from the provision of retail pay- and wholesale television and radio services grew by EUR 4.8 million or 6.9% and stood at EUR 74.8 million (see Fig. 72). This was the highest revenue received during the entire period in question. This growth in the revenue was mainly caused by the higher revenue from pay-TV services.

In 2019, as was the case in the previous periods, the largest portion of the revenue was earned from retail pay-TV services. The revenue generated from this activity stood at EUR 70.3 million or 94.0% of the total revenue received from the provision of television and radio services (in 2018, such revenue accounted for 93.9% of the total revenue from the provision of television and radio services). In 2019, compared to 2018, the share of revenue from retail pay-TV services increased in the total revenue from the provision of television and

radio services. In 2019, the revenue from wholesale television and radio broadcasting services amounted to EUR 4.4 million or 5.9% of the total revenue (by 0.2 pp less than in 2018), of which: 4.4% from television broadcasting services (in 2018 – 4.6%), and 1.5%, as was the case in 2018, from radio broadcasting services.

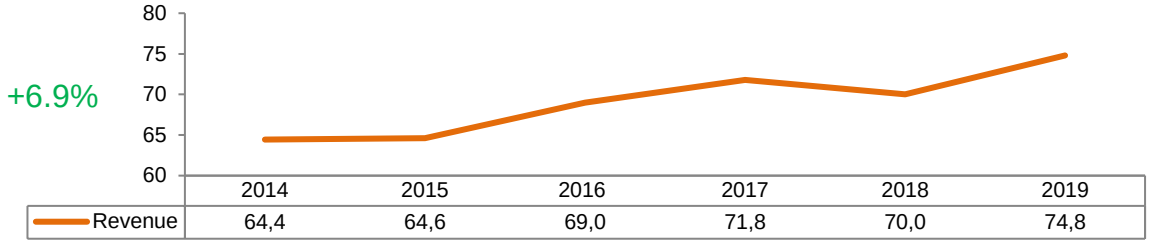


Fig. 72 **Revenue from television and radio services, in EUR million, 2014-2019**
Source: RRT

With a view to the structure of the market of television and radio services by revenue of service providers in 2019, the same 7 undertakings remained the major service providers that jointly held 94.3% of the market (in 2018 – 93.9%) (see Fig. 73). Telia Lietuva, AB remained the major service provider and its market share stood at 40.6% or by 3.7 pp more than in 2018. The market shares held by other 6 providers remained almost unchanged in 2019, and the market share held by AB Lietuvos Radijo ir Televizijos Centras grew the most (by 0.3 pp).

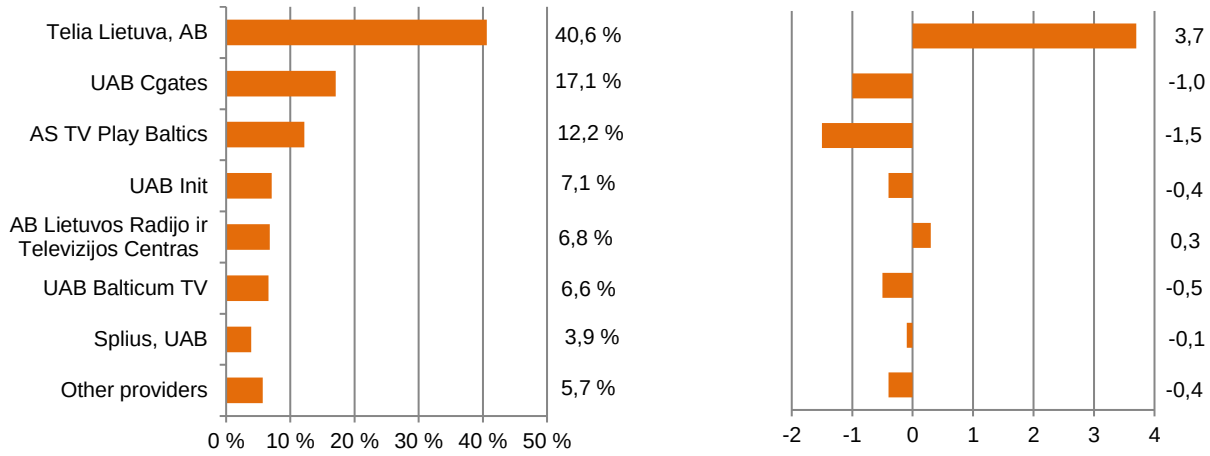


Fig. 73 **Structure of revenue from television and radio services by service providers, %, and annual changes of the market shares, pp, 2019**
Source: RRT

In 2019, compared to 2018, the revenue from television and radio services grew by 6.9% and stood at EUR 74.8 million. This was the highest revenue received during the entire period in question. With a view to the structure of the market of television and radio services by revenue of service providers in 2019, the same 7 undertakings remained the major service providers that jointly held 94.3% of the market (in 2018 – 93.9%).

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 (the "other providers").

Methods of the Service Provision. In 2019, pay-TV services were provided by employing 5 different methods in Lithuania:

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

Service providers. In 2019, compared to 2018, the number of pay-TV service users changed insignificantly. The changes are recorded in CaTV and IPTV segments (see Table 30). In 2019, the number of undertakings providing IPTV services grew by 2 undertakings and stood at 22. The number of undertakings providing CaTV services was further dropping – from 25 to 24 service providers in 2019. In 2019, however, compared to 2018, the number of digital CaTV service providers went up by 1 undertaking – in 2019, 16 undertakings were engaged in the provision of digital CaTV services. In 2019, as was the case 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 30. **Structure of pay-TV service providers by service provision methods, in units, between 2014 and the end of 2019**

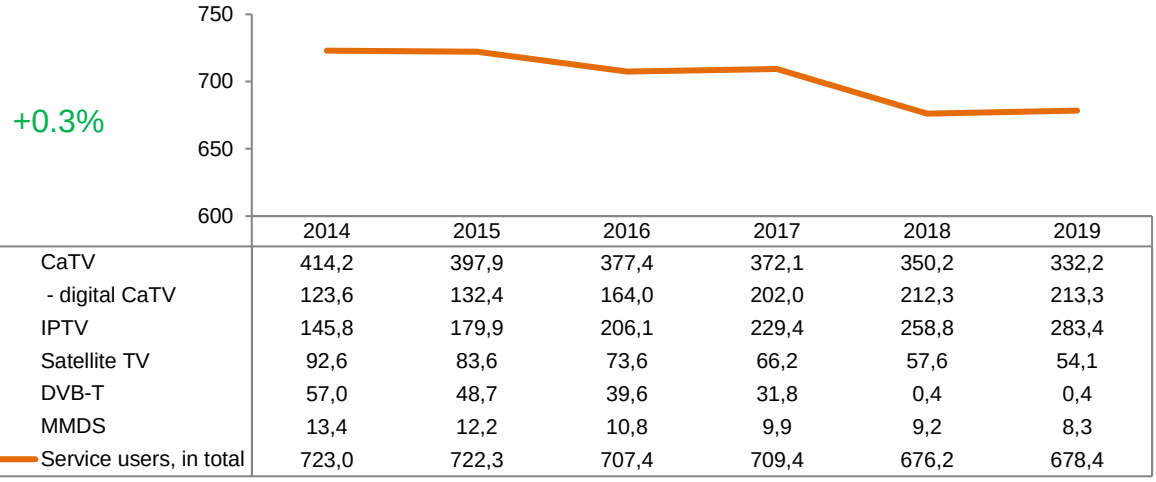
	2014	2015	2016	2017	2018	2019
IPTV	16	15	16	18	20	22
CaTV	35	32	30	26	25	24
- digital CaTV	17	17	17	14	15	16
MMDS	2	2	2	2	2	2
DVB-T	2	2	2	2	2	2
Satellite TV	1	1	1	1	1	1

Source: RRT

Service Recipients. At the end of 2019, the number of pay-TV service users stood at 678.4 thousand service users or by 0.3% more than in 2018 (see Fig. 74). That growth was basically affected by the continuously growing number of IPTV service users (as discussed below). The largest share (49.0%) of television service users were still preferring CaTV services, but their number was dropping. In 2019, compared

to 2018, the share of CaTV service subscribers decreased by 5.1%. In 2019, IPTV and satellite TV services were used by 41.8% and 8.0% of all pay-TV service users, respectively. In 2019, as was the case in 2018, the DVB-T service further remained the least popular service whose users accounted for mere 0.1%.

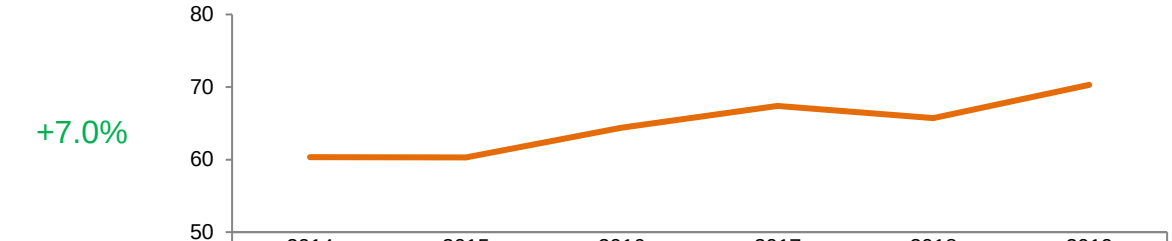
With a view to the structure of pay-TV service users by methods of the television service provision, the number of the users of services provided by all methods, except for IPTV and digital CaTV, was decreasing in 2019, as was the case 2018. The number of IPTV subscribers continued to go up in 2019, as was the case in the previous periods – in 2019, compared to 2018, the number of IPTV subscribers grew by 24.6 thousand or 9.5%. The growth of the demand for IPTV services may be related to the fact that the end-users have further valued the value added of these services – such services are conveniently provided in a single service package together with the Internet access services and, in addition, IPTV services ensure high-quality of the video. In 2019, compared to 2018, the number of digital CaTV subscribers also slightly increased (0.5%). In 2019, the number of MMDS and satellite TV service users was dropping the most (in percentage) and, at the end of the year, it, accordingly, stood at 8.3 thousand and 54.1 thousand service users.



	2014	2015	2016	2017	2018	2019
CaTV	414,2	397,9	377,4	372,1	350,2	332,2
- digital CaTV	123,6	132,4	164,0	202,0	212,3	213,3
IPTV	145,8	179,9	206,1	229,4	258,8	283,4
Satellite TV	92,6	83,6	73,6	66,2	57,6	54,1
DVB-T	57,0	48,7	39,6	31,8	0,4	0,4
MMDS	13,4	12,2	10,8	9,9	9,2	8,3
Service users, in total	723,0	722,3	707,4	709,4	676,2	678,4

Fig. 74 **Number and structure of pay-TV service users by service provision methods in 2014-2019, in thousand units**
Source: RRT

Revenue. In 2019, compared to 2018, the revenue from the provision of pay-TV services went up by 7.0% and amounted to EUR 70.3 million. In 2019, the growth of the pay-TV revenue basically resulted from the growth of the revenue from IPTV services – in 2019, the largest share of the revenue from pay-TV services (46.1%) was generated by IPTV services whose revenue, compared to 2018, continued to increase (28.1%) for the first time during the period in question. (see Fig. 75). In 2019, compared to 2018, the revenue of digital CaTV also increased (6.3%). In 2019, the revenue from DVB-T services (by as many as 81.8%), CaTV services, satellite TV continued to go down.



	2014	2015	2016	2017	2018	2019
IPTV	12,9	16,0	20,6	24,2	25,3	32,4
CaTV	27,2	26,3	27,0	27,7	27,6	27,5
- digital CaTV	9,9	10,4	13,2	16,9	19,0	20,2
Satellite TV	13,5	12,1	11,4	10,8	9,6	9,1
DVB-T	5,4	4,8	4,3	3,6	2,2	0,4
MMDS	1,3	1,2	1,1	1,0	1,0	1,0
Revenue, in total	60,3	60,3	64,4	67,4	65,7	70,3

Fig. 75 **Structure of revenue received from pay-TV services by service provision methods in 2014-2019, in EUR million**
Source: RRT

The structure of the pay-TV service market by the revenue received by service providers was as follows in 2017 (see Fig. 76): Telia Lietuva, AB remained in the lead on the market by holding 43.1%. The second position was held by UAB Cgates, as was the case in 2018, and it had 18.2% of the market. The market share held by AS TV Play Baltics stood at 12.9% in 2019.

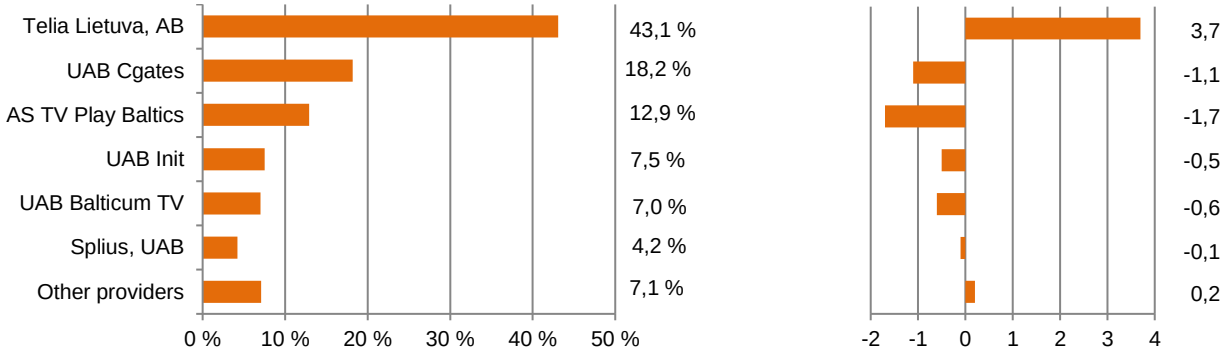
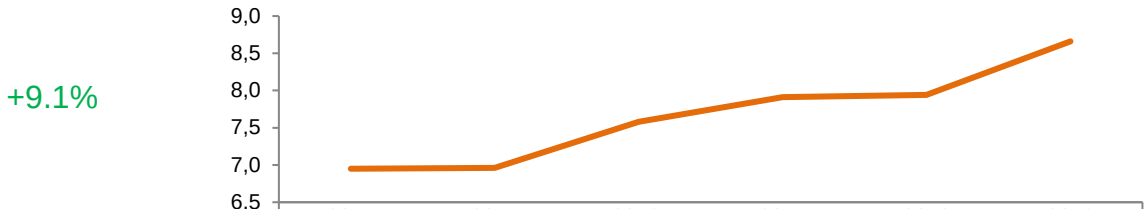


Fig. 76 **Structure of revenue from pay-TV services by service providers, %, and annual changes of the market shares, pp, 2019**
Source: RRT

ARPU. The monthly revenue per pay-TV service user (ARPU) accounted for EUR 8.66 in 2019 and it was by EUR 0.72 more than in 2018 (see Fig. 77). In 2019, as was the case in the previous periods, the greatest ARPU was earned by satellite TV service providers. The lowest ARPU was earned by CaTV service providers in 2019, as was the case in 2018. In 2019, IPTV ARPU was by 24.1% higher than digital CaTV ARPU.



	2014	2015	2016	2017	2018	2019
CaTV	5,48	5,50	5,97	6,14	6,41	6,80
- digital CaTV	6,87	6,83	7,23	7,42	7,50	7,93
IPTV	7,37	7,40	8,33	9,16	8,58	9,84
Satellite TV	12,19	12,01	12,86	13,07	13,06	13,88
MMDS	8,14	8,06	8,55	8,43	8,85	10,13
Of all pay- TV services ARPU*	6,95	6,96	7,58	7,91	7,94	8,66

* - DVB-T data were not used for the calculations in 2019.
Fig. 77 **ARPU from pay-TV services by service provision methods in 2014-2019, in EUR per month**
Source: RRT

In 2019, compared to 2018, the total number of pay-TV service users grew and amounted to EUR 678.4 thousand. In 2019, compared to 2018, the revenue from the provision of pay-TV services went up by 7.0% as well. In 2019, both the number of IPTV and digital CaTV service users and the revenue of the services providers from the provision of IPTV and digital CaTV services went up. In 2019, the largest share of the revenue from pay-TV services (46.1%) was generated by IPTV for the first time during the entire period in question. In 2019, ARPU of all methods of the television provision was increasing.

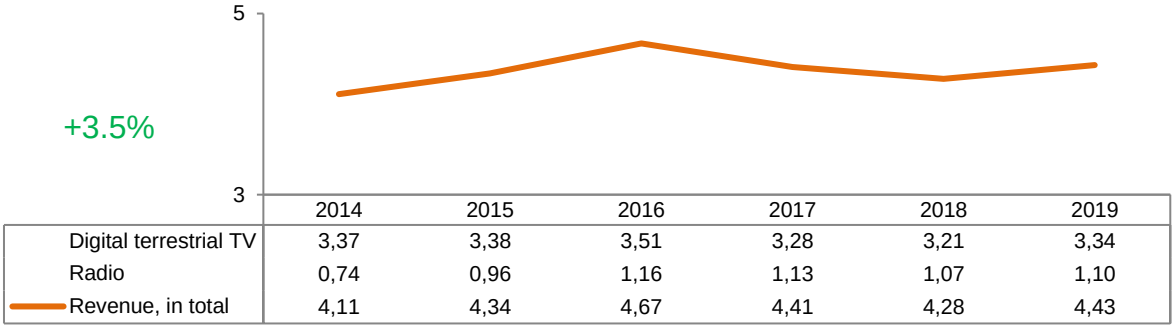
4.3. Wholesale Television and Radio Broadcasting Services

Service providers	3
Major service provider	AB Lietuvos Radijo ir Televizijos Centras
Wholesale revenue, EUR million	4.4

Service providers. In 2019, as was the case in 2018, 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 2019, as was the case previously, wholesale radio broadcasting services were provided by only one undertaking – AB Lietuvos Radijo ir Televizijos Centras.

Revenue. In 2019, compared to 2018, the revenue from the provision of television and radio broadcasting services grew by 3.5% and stood at EUR 4.43 million (see Fig. 78). The increase of the revenue resulted from the growth of the revenue from radio broadcasting services and the revenue from digital terrestrial television broadcasting services. The largest portion of the revenue from television and radio broadcasting services in 2019, as was the case in the previous periods, was generated by AB Lietuvos Radijo ir Televizijos Centras. In 2019, this undertaking generated 99.9% (in 2018 – 97.8%) of the total revenue from television and radio broadcasting services.



	2014	2015	2016	2017	2018	2019
Digital terrestrial TV	3,37	3,38	3,51	3,28	3,21	3,34
Radio	0,74	0,96	1,16	1,13	1,07	1,10
Revenue, in total	4,11	4,34	4,67	4,41	4,28	4,43

Fig. 78 **Revenue from television and radio broadcasting services by service groups, in EUR million, 2014-2019**
Source: RRT

Digital terrestrial television broadcasting stations. At the end of 2019, as was the case in 2018, 87 digital terrestrial television stations were operating in Lithuania, 14 stations were used to transmit TV programmes of local and regional broadcasters, the remaining 73 stations were used to transmit the programmes of two networks of national coverage (the first network of AB Lietuvos Radijo ir Televizijos Centras and the network of Public Enterprise Lithuanian National Radio and Television).

In 2019, the revenue from wholesale television and radio broadcasting services increased by 3.5% and amounted to 5.9% of the total revenue of the television and radio market. In 2019, AB Lietuvos Radijo ir Televizijos Centras generated 99.9% of the total revenue from television and radio broadcasting services.

5. Access to Physical Infrastructure

Service providers	15
Major service provider	Telia Lietuva, AB
Wholesale revenue, EUR million	9.9

IMPORTANT!

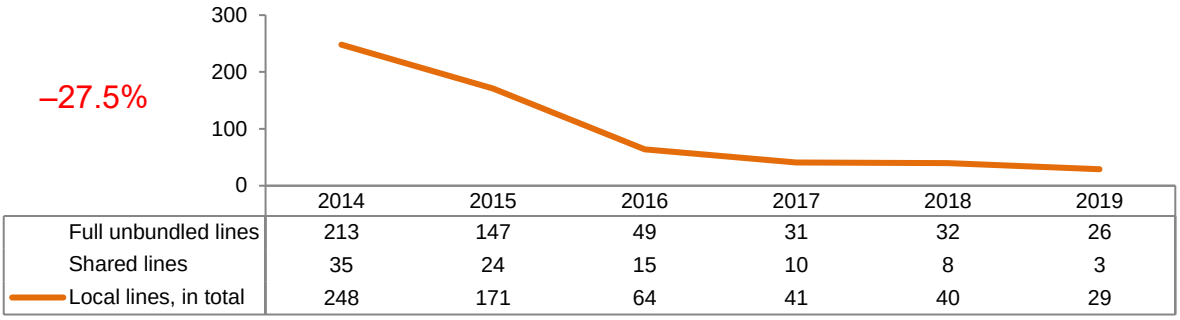
- As the information possessed by RRT until 2017 includes the access to unused dark fibre and full unbundled and shared access to the local metallic twisted pair loop services only, the information contained in this section reflects the provision of the said services throughout the entire period of 2014-2019. Information on other services of access to physical infrastructure shall cover the period of 2017-219 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 in Figure 79, UAB Duomenų Logistikos Centras, Public Enterprise Plačiajuostis Internetas, UAB Skaidula and Telia Lietuva, AB in Figure 81 (the “other providers”).

In 2019, 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 by the operator ;
- access to unused dark fibre (“Dark Fibre”) service;
- service of full unbundled and shared access to the local line;
- service of access to communications cable duct system;
- services of access to other physical infrastructure.

Providers. Wholesale access to physical infrastructure services were provided by 15 undertakings in 2019, i.e. by 1 undertaking fewer than in 2018. In 2019, as was the case in the previous year, shared access to the local metallic twisted pair loop services were provided by only one undertaking – Telia Lietuva AB. In 2019, 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 by the operator. In 2019, the full unbundled access to local metallic twisted pair loop services were provided by 3 undertakings (by 1 undertaking more than in 2018) – Telia Lietuva, AB and AB Lietuvos Geležinkeliai, and AB Lietuvos Radijo ir Televizijos Centras. In 2019, the full unbundled access to local dark fibre services were provided by 1 undertaking AB Lietuvos Geležinkeliai. At the end of 2019, access to dark fibre services were provided by 13 undertakings, i.e. by 1 undertaking fewer than in 2018. Access to communications cable duct system were provided by 3 undertakings in 2019, as was the case in 2018 (Telia Lietuva, AB, AB Lietuvos Geležinkeliai and UAB Balticum TV).

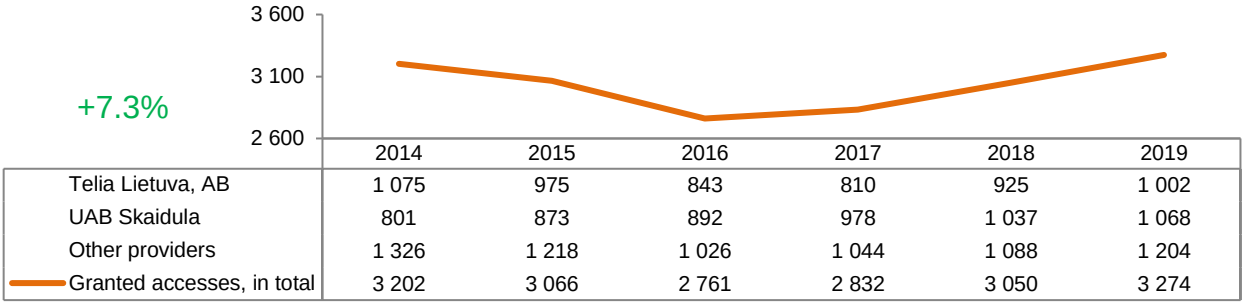
Number of Granted Accesses. During the period between 2014 and 2019, the demand for full unbundled and shared access to the local line services was gradually decreasing (see Fig. 79). At the end of 2019, the total number of granted accesses to the local line stood at 29 units or by 27.5% less than in 2018.



	2014	2015	2016	2017	2018	2019
Full unbundled lines	213	147	49	31	32	26
Shared lines	35	24	15	10	8	3
Local lines, in total	248	171	64	41	40	29

Fig. 79 **Number of granted accesses to full unbundled and shared local line, in units, 2014-2019**
Source: RRT

At the end of 2019, the service providers had provided 3,274 dark fibres (see Fig. 80). The number of accesses granted to dark fibre was going down in 2014-2016 but since 2017, the number of granted accesses has been rising. At the end of 2019, the number of dark fibres assigned was by 7.3% or by 224 fibres higher than at the end of 2018. It is to be assumed that the growth in the number of granted accesses to dark fibre results in the decrease of the popularity of granted accesses to full unbundled and shared local line, as presented in Fig. 79. In 2019, 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 2019, compared to 2018, the market share held by UAB Skaidula shrank by 1.4 percentage points and accounted for 32.6%.



	2014	2015	2016	2017	2018	2019
Telia Lietuva, AB	1 075	975	843	810	925	1 002
UAB Skaidula	801	873	892	978	1 037	1 068
Other providers	1 326	1 218	1 026	1 044	1 088	1 204
Granted accesses, in total	3 202	3 066	2 761	2 832	3 050	3 274

Fig. 80 **The number of granted accesses to dark fibre, in units, 2014-2019**
Source: RRT

At the end of 2019, as many as 816 wholesale local lines were assigned for the provision of public fixed telephone services by way of pre-selection by the operator (by 6 lines more than in 2018) as well as access to the communications cable duct system of 8,827 km long.

Revenue. The revenue from the provision of services of access to physical infrastructure equalled EUR 9.9 million in 2019 or by 1.0% more than in 2018. 50.5% of the revenue from the provision of services of access to physical infrastructure or EUR 5.0 million (see Fig. 81) were received from the provision of access to dark fibre services. The access to dark fibre service providers earned by 2.0% less revenue in 2019, compared to 2018. As many as EUR 2.9 million were received from the provision of services of access to communications cable duct system. The largest portion of the revenue from the provision of services of access to physical infrastructure was gained by Telia Lietuva, AB, i.e. 60.4% of all revenue from the provision of services of access to physical infrastructure.

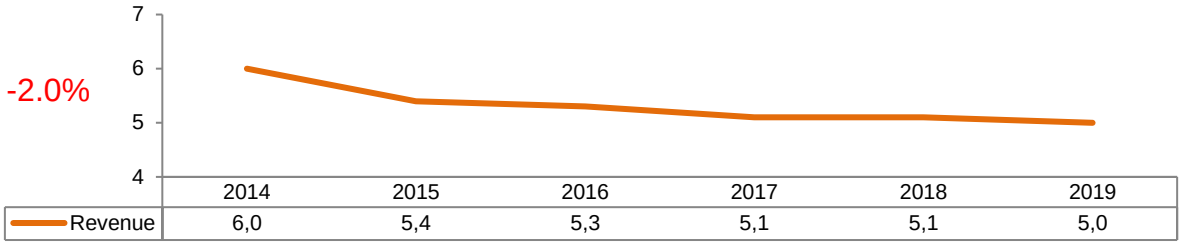


Fig. 81 **Revenue from access to dark fibre services, in EUR million, 2014-2019**
Source: RRT

In 2019, UAB Skaidula not only remained the leader of the market of the provision of access to dark fibre services by revenue gained, but its market share also increased by 0.8 percentage points (see Fig. 82). In 2019, compared to 2018, the market share held by Public Enterprise Plačiajuostis Internetas also went up (by 1.8 percentage points) which stood at 19.0%.

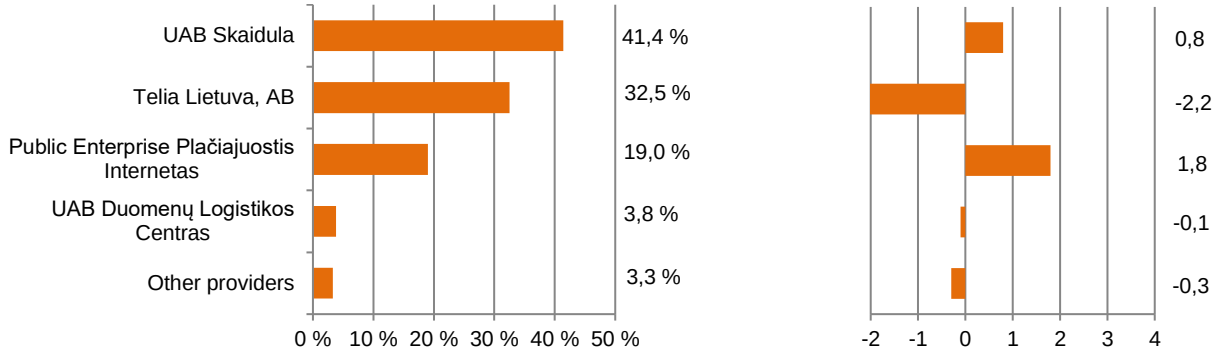


Fig. 82 **Structure of revenue from access to dark fibre services by service providers, %, and annual changes of the market shares, pp, 2019**
Source: RRT

In 2019, the revenue received from the provision of services of access to physical infrastructure equalled EUR 9.9 million and it exceeded the relevant revenue in 2018 by 1.0%. The service providers had provided 3,274 dark fibres at the end of 2019, i.e. by 7.3% more than in 2018.

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 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 LT, UAB Nėgė, Federal Express Corporation affiliate, UAB Itella Logistic (the "other providers").

The postal service – clearance, sorting, transport and delivery – still remains a significant part of the national economic and social development. This has been one of the oldest and most widespread communications measures, this has been also one of the most rapidly changing services. The development of new technologies is promoting the changes in the postal service sector the most – an especially increasing use and automation of electronic means. The scales of e-commerce, which have been significantly growing both nationwide and worldwide, lead to the increase of the flow of postal parcels. In Lithuania, the postal service market has been rapidly growing for eleven years – since 2009. During this period, the market has grown by 191.8% and in 2019, its revenue accounted for EUR 191.1 million, i.e. 21.1% of the total revenue of the Lithuanian communications sector.

The provision of postal service consists of the following three main activities: sending of items of correspondence[30] (letters and small packages), sending postal parcels (articles and merchandise of up to 50 kg), other postal and related services. Moreover, the postal service is divided into universal postal service and non-universal postal service.

Service Providers. At the end of 2019, there were 55 registered undertakings having indicated that they intend to carry out the postal service activity in Lithuania, i.e. by 2 postal service providers fewer than at the end of 2018 (see Table 31). In 2019, the postal service was launched by 5 undertakings, and 7 undertakings terminated this activity. However, there were 48 out of 55 undertakings that were actually engaged in the provision of postal service at the end of 2019, i.e. by 3 undertakings more than in 2018.

Table 31. **Number of postal service providers in 2014-2019, in units**

	2014	2015	2016	2017	2018	2019
Number of actual postal service providers	56	47	55	46	45	48
Total number of postal service providers	69	66	67	65	57	55

Source: RRT

[30] An item of correspondence is a postal item to be dispatched and delivered bearing a recipient's address, which contains a notice inscribed on any physical material, including small packages (books, catalogues, newspapers and other periodicals are not considered items of correspondence).

Revenue. In 2019, all postal service providers earned the revenue amounting to EUR 191.1 million, which was by 11.7% or by EUR 20.1 million more than in 2018 (see Fig. 83). It must be noted that the revenue from the provision of postal service was annually increasing between 2014 and 2019 by over 8.5%, and the largest growth was recorded in 2018 – 16.3%.

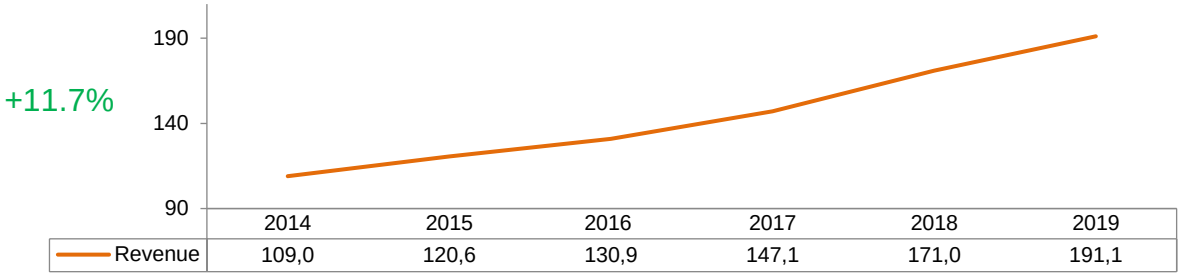


Fig. 83 **Revenue from the provision of postal service, EUR million, 2014-2019**
Source: RRT

As has been the case every year since 2014, the same trends are observed in the postal service market in 2019: the major revenue share (56.6%) was comprised of the revenue from the dispatch of postal parcels (see Table 32), the revenue share from the dispatch of items of correspondence stood at 39.2%, the revenue from other postal services[31] – 4.2%.

The revenue from the provision of non-universal postal service has further constituted the major share of the postal service revenue (82.9%) in 2019 which increased by 0.8 percentage points over the year (see Table 32). The revenue from the provision of the universal postal service has been rapidly growing[32] since 2014. During 2019, it went up by 6.6%, and during the entire period in question, it almost doubled (94.6%).

Table 32. **Structure of revenue of the postal service by types of postal items and services, in EUR million, 2014-2019**

	2014	2015	2016	2017	2018	2019
By types of postal items:						
items of correspondence	45.4	49.0	49.5	55.4	68.6	75.0
postal parcels	53.8	59.7	72.3	83.1	95.9	108.1
other	9.8	11.9	9.1	8.6	6.5	8.0
By types of the service:						
universal	16.8	18.7	20.4	24.1	30.6	32.7
non-universal	92.2	101.9	110.5	123.0	140.4	158.4
Total revenue	**109.0**	**120.6**	**130.9**	**147.1**	**171.0**	**191.1**

Source: RRT

In terms of the revenue, the greatest postal service market share (36.3%) was held by AB Lietuvos Paštas in 2019 (see Fig. 84). Over the year, its market share grew the most – by 2.7 pp. This was also affected by the fact that AB Lietuvos Paštas officially joined in with its subsidiary UAB Baltic Post on 1 July 2019. The

[31] The revenue from other postal services: revenue from selling postage, envelopes, packages, etc. Such revenue does not include the revenue from delivery of periodical publications.

[32] 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.

second largest undertaking in terms of the share of the postal service market was UAB DPD Lietuva holding 18.0% of the market, and UAB DHL Lietuva with the market share of 12.1% was ranked third.

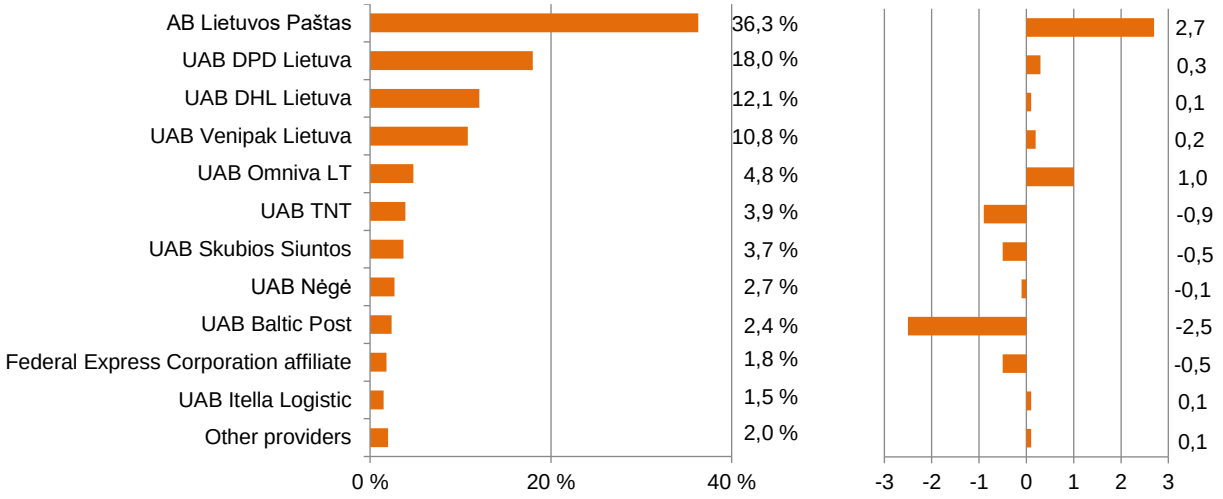


Fig. 84 **Structure of revenue of the postal service market by service providers, %, and annual changes of the market shares, pp, 2019**
Source: RRT

The increasing volumes of online shopping lead to the growth of the postal service market which has continued for 11 years in a row, In light of the revenue, the postal service market has been rapidly increasing both by the type of items and by the types of services.

2. Items of Correspondence

IMPORTANT!

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

Service Providers. In 2019, items of correspondence were provided by 35 undertakings, i.e. by 3 undertakings more than in 2018.

Total volume of items. In 2019, as many as 64.1 million items of correspondence were sent. This accounts for by 0.5% more than in 2018 (see Table 33). Although the total volume of items of correspondence declined by 7.5 million units or 10.5% throughout the period from 2014 to 2019, the volume of such items has grown by 3.4 million units since 2016. During the period in question, the major share of items of correspondence was comprised of non-universal items of correspondence, and their share in the overall volume of items stood at 67.8% in 2019. It must be noted that since 2014 the volume of items of correspondence has been going up in the universal service segment (18.3%) and going down in the non-universal service segment (19.8%).

Table 33. **Volumes of items of correspondence, in million units, 2014-2019**

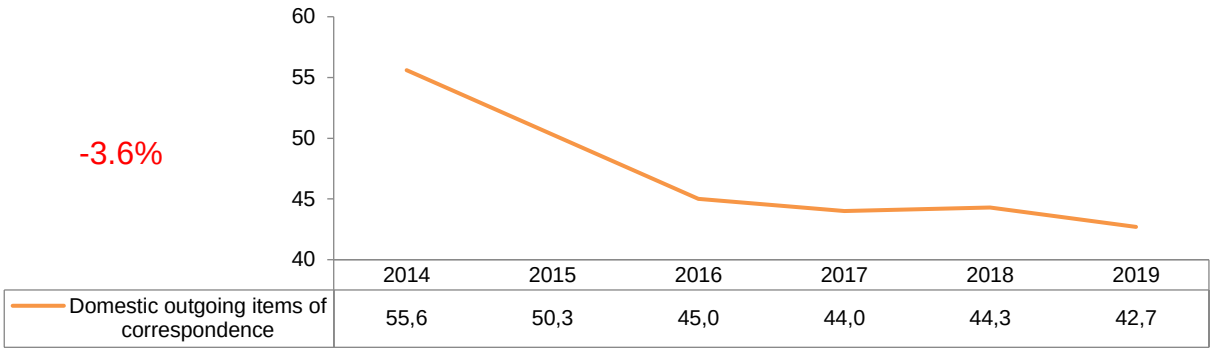
	2014	2015	2016	2017	2018	2019
Universal items of correspondence	17.5	16.8	17.2	18.8	19.7	20.7
Non-universal items of correspondence	54.1	57.5	43.5	42.6	44.1	43.4
All items	**71.6**	**74.3**	**60.7**	**61.4**	**63.8**	**64.1**

Source: RRT

The greatest share (86.3%) of all items of correspondence was sent and received via AB Lietuvos Paštas but this is by 3.9 pp less than in 2018. UAB Pašto Paslaugos sent and received 3.0% (by 1% less than in 2018), UAB DHL Lietuva – 2.2% (by 0.3 percentage points more than in 2018), UAB Araneum – 1.7% (by 0.7 percentage points more than in 2018), UAB Apskonta and UAB Venipak – 1.1% each (as was the case in 2018 m.), UAB Šiaulių Naujienos – 1.0% (in 2018 it was below 1%) of items of correspondence.

Number of items by destination. By destination, the items of correspondence are divided into domestic outgoing, domestic incoming, cross-border outgoing and cross-border incoming items of correspondence. In 2019, the volume amounting to 42.7 million units of domestic outgoing items of correspondence was sent, which was by 3.6% less compared to 2018 (see Fig. 85). During the entire period between 2014 and 2019, the decreasing trend in the volume of domestic outgoing items of correspondence is observed (12.9 million units or 23.2%). In 2019, the volume of domestic incoming items of correspondence equalled 1.0 million units (by 17.5% 0.1 million units more than in 2018). The greatest market share, in terms of domestic outgoing items of correspondence, was held by AB Lietuvos Paštas in 2019 – 83.3%, UAB Pašto

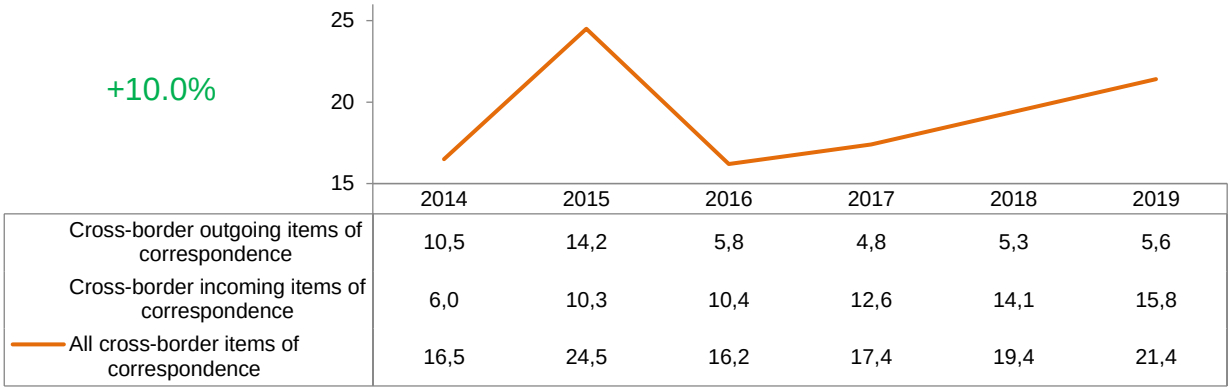
Paslaugos held 4.6%, UAB Araneum – 2.5%, UAB Apskonta – 1.7%, UAB DPD Lietuva – 1.6%, UAB Šiaulių Naujienos – 1.4%, UAB Venipak Lietuva – 1.3%, UAB Litpost – 1.0%.



	2014	2015	2016	2017	2018	2019
Domestic outgoing items of correspondence	55,6	50,3	45,0	44,0	44,3	42,7

Fig. 85 **Dynamics of the number of domestic outgoing items of correspondence, in million units, 2014-2019**
Source: RRT

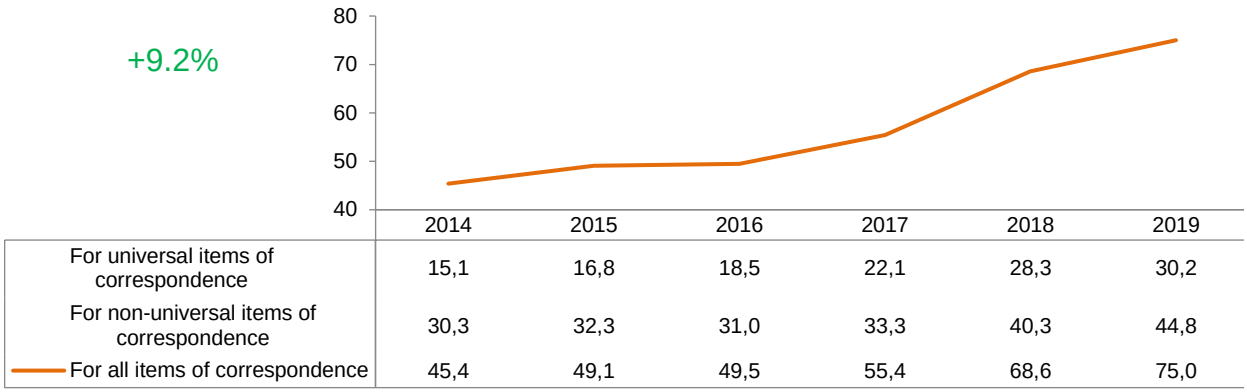
The number of cross-border items of correspondence increased by 4.9 million units or 29.7% during the period between 2014 and 2019. In 2019, as many as 21.4 million units of items of correspondence were sent and received (by 10.0% more than in 2018) (see Fig. 86), of which 5.6 million units or 26.1% of cross-border outgoing items of correspondence and 15.8 million units or 73.9% of cross-border incoming items of correspondence. In 2019, as many as 9.9 million units or 46.1% of all cross-border items of correspondence were sent/received to/from EU Member States. The largest market shares, in terms of the revenue from cross-border items of correspondence, were shared between AB Lietuvos Paštas, which held 92.2% in 2019, UAB DPD Lietuva – 3.3%, and UAB DHL Lietuva – 2.7%.



	2014	2015	2016	2017	2018	2019
Cross-border outgoing items of correspondence	10,5	14,2	5,8	4,8	5,3	5,6
Cross-border incoming items of correspondence	6,0	10,3	10,4	12,6	14,1	15,8
All cross-border items of correspondence	16,5	24,5	16,2	17,4	19,4	21,4

Fig. 86 **Dynamics of the number of cross-border items of correspondence, in million units, 2014-2019**
Source: RRT

Revenue from dispatch of items of correspondence. In 2019, the revenue received from the dispatch of items of correspondence increased by 9.2% and equalled EUR 75.0 million (see Fig. 87). The largest portion of the revenue (59.7%) was generated from the provision of the services of delivery of items of correspondence. The revenue from the provision of these services grew by 11.0% over the year. Revenue from the dispatch of universal items of correspondence went up by 6.7%.



	2014	2015	2016	2017	2018	2019
For universal items of correspondence	15,1	16,8	18,5	22,1	28,3	30,2
For non-universal items of correspondence	30,3	32,3	31,0	33,3	40,3	44,8
For all items of correspondence	45,4	49,1	49,5	55,4	68,6	75,0

Fig. 87 **Revenue from sending items of correspondence, in EUR million, 2014-2019**
Source: RRT

AB Lietuvos Paštas received most revenue from the dispatch of items of correspondence (see Fig. 88). The market share held by this undertaking represented 74.8% in 2019 and it was by 1.9 pp larger than in 2018. UAB DHL Lietuva received 10.7%, UAB DPD Lietuva – 6.1% of the total revenue from the dispatch of items of correspondence in 2019.

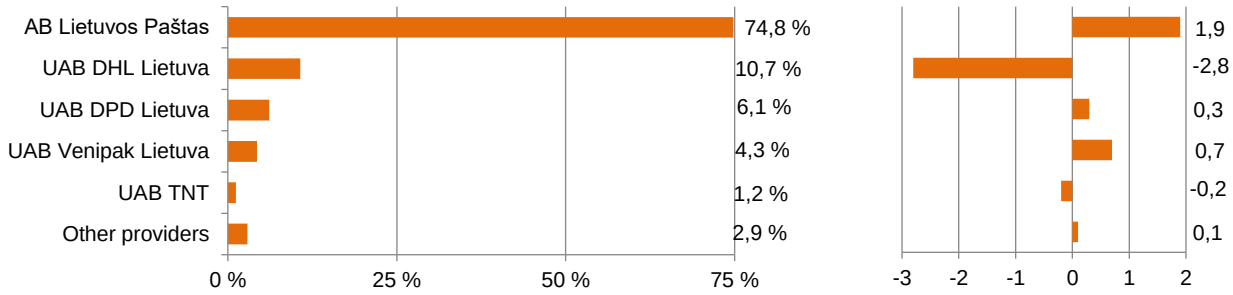


Fig. 88 **Structure of the postal service provider market shares by revenue for the dispatch of items of correspondence, %, and annual changes of the market shares, pp, 2019**
Source: RRT

The most rapidly growing type of items of correspondence is the provision of universal items of correspondence. Between 2014 and 2019, the volume of items of correspondence went up by 18.3%, whereas the revenue from such services increased twice. In terms of all items of correspondence by destination, the most rapid growth is that of the number of cross-border incoming items of correspondence: in 2019, compared to 2018, it grew by 12.1%, and during the entire period in question it went up by 163.3%.

3. Postal Parcels

IMPORTANT!

- In this section of the report, other postal parcel service providers shall be all 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 LT, UAB Nėgė, Federal Express Corporation affiliate, UAB Itella Logistic (the "other providers").

Service Providers. In 2019, the postal parcel services were provided by 31 undertakings, i.e. by 3 undertakings more than in 2018.

Number of parcels. During the period between 2014 and 2019, the number of parcels was continuously growing. In 2019, as many as 20.57 million units of postal parcels were handed over, i.e. by 20.3% more than in 2018. In 2019, 20.37 million units of non-universal postal parcels were sent and received, i.e. by 20.5% more than in 2018, and the number of universal postal parcels stood at 0.21 million units, i.e. by 7.1% more than in the previous year (see Table 34).

Table 34. **Volumes of universal and non-universal postal parcels, in million units, 2014-2019**

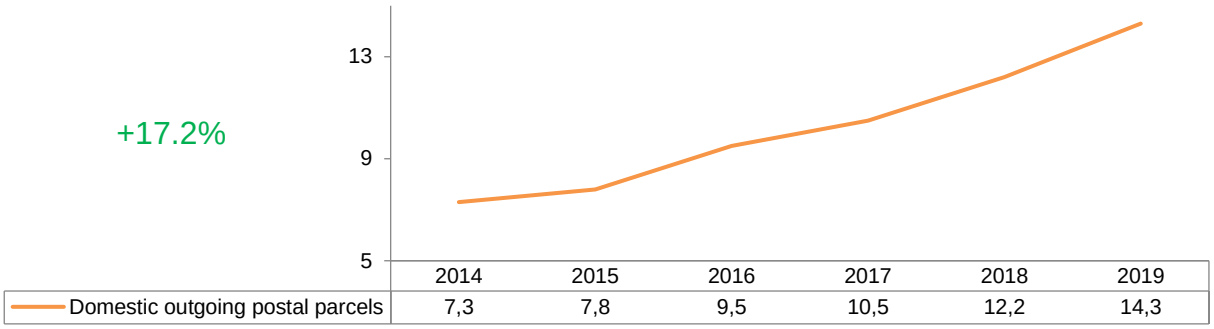
	2014	2015	2016	2017	2018	2019
Universal postal parcels	0.20	0.19	0.18	0.17	0.19	0.21
Non-universal postal parcels	8.48	9.36	11.79	13.65	16.91	20.37
All postal parcels	**8.68**	**9.55**	**11.97**	**13.82**	**17.10**	**20.57**

Source: RRT

The major share (27.8%) of the market, by the number of postal parcels, was held by UAB DPD Lietuva (by 1.4 percentage points less than in 2018). UAB Venipak Lietuva held 18.8% of the market (by 0.7 percentage points less than in 2018), UAB Omniva LT – 17.4% (by 3.1 percentage points more than in 2018), UAB Lietuvos Paštas – 12.7% (by 8.8 percentage points more than in 2018), UAB Baltic Post – 9.9% (by 9.2 percentage points less than in 2018), UAB Skubios Siuntos – 4.2% (by 0.6 percentage points less than in 2018), UAB Itella Logistics – 3.9% (by 1.0 percentage point more than in 2018), UAB Nėgė – 2.1% (by 0.7 percentage points less than in 2018), UAB DHL Lietuva – 1.4% (by 0.1% percentage point more than in 2018). The remaining undertakings shared 1.8% of the market. As already mentioned in the chapter above, AB Lietuvos Paštas officially joined in with its subsidiary UAB Baltic Post on 1 July 2019. For this reason, the share of AB Lietuvos Paštas went up and that of UAB Baltic Post shrank.

Number of parcels by destination. By destination, the postal parcels are divided into domestic outgoing, domestic incoming, cross-border outgoing and cross-border incoming postal parcels. In 2019, the volume amounting to 14.3 million units of domestic outgoing postal parcels was sent, which was by 17.2% more compared to 2018 (see Fig. 89). During the entire period between 2014 and 2019, the volume of domestic outgoing postal parcels almost doubled – by 7.0 million units or 95.9%. In 2019, the volume of domestic incoming postal parcels equalled 0.1 million units (by 46.6% less or by 0.1 million units fewer than in 2018). The largest (26.8%) market share, in terms of the volume of domestic outgoing postal parcels, was held by

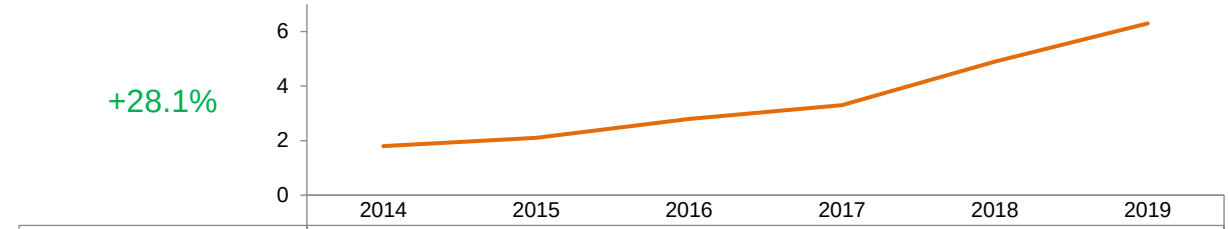
UAB DPD Lietuva in 2019, UAB Omniva held 22.6%, UAB Venipak Lietuva – 16.8%, AB Lietuvos Paštas – 16.6%, UAB Baltic Post – 12.3%, UAB Nėgė – 3.1%, UAB Itella Logistics – 1.4%.



	2014	2015	2016	2017	2018	2019
Domestic outgoing postal parcels	7,3	7,8	9,5	10,5	12,2	14,3

Fig. 89 **Dynamics of the number of domestic outgoing postal parcels, in million units, 2014-2019**
Source: RRT

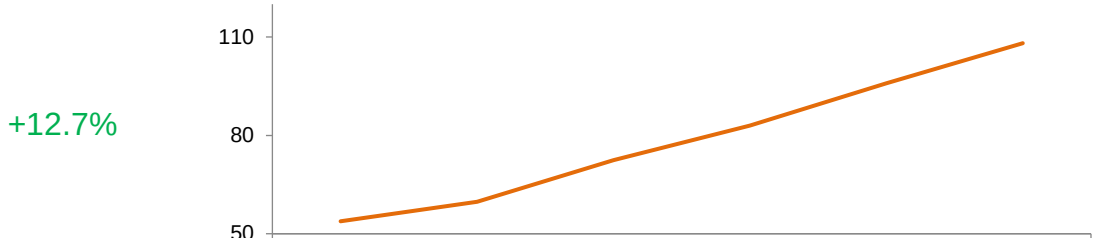
The number of cross-border postal parcels went up by 3.5 times between 2014 and 2019, i.e. by 4.5 million units. In 2019, as many as 6.3 million units of cross-border postal parcels were sent and received (by 28.1% more than in 2018) (see Fig. 90). Of the total number of cross-border postal parcels in 2019, the sent postal parcels constituted 53.4% and received postal parcels amounted to 46.6%. The major share of cross-border postal parcels (5.4 million units or 85.1%) was sent/received to/from EU Member States. In terms of the number of cross-border postal parcels UAB DPD Lietuva held 30.1% of the market in 2019, UAB Venipak Lietuva – 23.5%, UAB Skubios Siuntos – 13.4%, UAB Itella Logistics – 9.5%, UAB Omniva LT – 5.5%, UAB DHL Lietuva – 4.6%, UAB Baltic Post – 4.5%, AB Lietuvos Paštas – 3.9%, UAB TNT – 2.5%, Federal Express Corporation affiliate – 1.4%.



	2014	2015	2016	2017	2018	2019
Cross-border outgoing postal parcels	0,8	0,9	1,2	1,4	2,5	3,4
Cross-border incoming postal parcels	1,0	1,2	1,6	1,9	2,4	2,9
All cross-border postal parcels	1,8	2,1	2,8	3,3	4,9	6,3

Fig. 90 **Dynamics of the number of cross-border postal parcels, in million units, 2014-2019**
Source: RRT

Revenue from postal parcel dispatch services. During the period from 2014 to 2019, the revenue from postal parcel dispatch services doubled (100.9%). In 2019, the revenue amounting to EUR 108.1 million was received from postal parcel dispatch services, which was by EUR 12.2 million or by 12.7% more than in 2018 (see Fig. 91). That rapidly increasing demand for the postal parcel service was considerably affected by a greater scale of e-commerce.



	2014	2015	2016	2017	2018	2019
Universal postal parcels	1,7	1,8	1,9	2,1	2,4	2,5
Non-universal postal parcels	52,1	57,9	70,4	80,9	93,5	105,6
Revenue from postal parcels	53,8	59,7	72,4	83,0	95,9	108,1

Fig. 91 **Revenue from postal parcel dispatch services, in EUR million, 2014-2019**
Source: RRT

In 2019, 97.7% of the revenue was received from non-universal postal parcels, and 2.3% from the dispatch of universal postal parcels. The revenue received from the provision of non-universal postal parcels grew by 12.9% in 2019, compared to 2018. The revenue from the provision of universal postal parcels increased by 5.8% or EUR 0.14 million over the year (see Fig. 91).

The largest market shares, in terms of the revenue from the dispatch of postal parcels, were shared between UAB DPD Lietuva, which held 27.7% in 2019, UAB Venipak – 16.1%, and UAB DHL Lietuva – 11.3% (see Fig. 92).

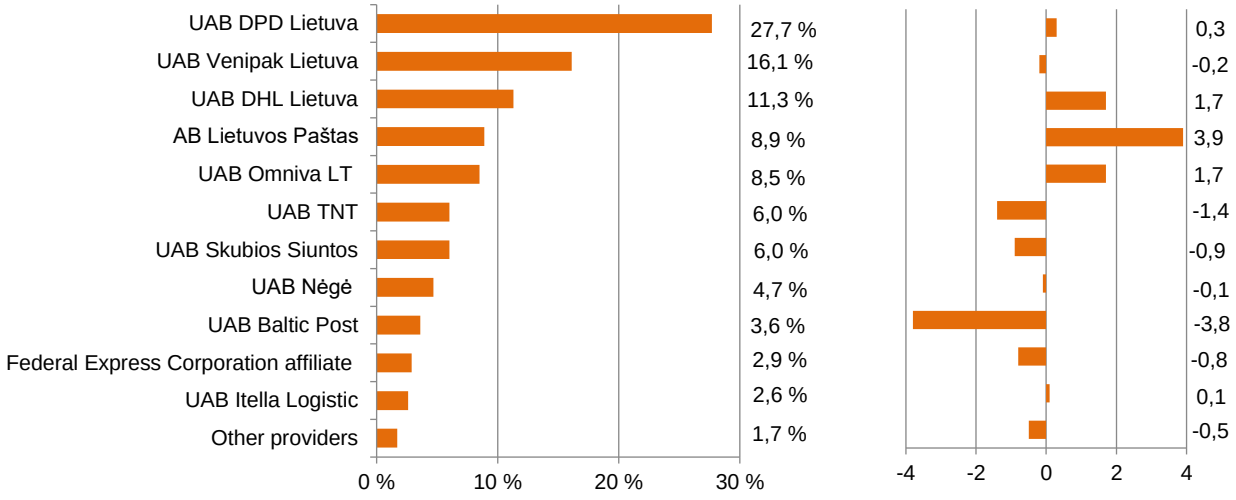


Fig. 92 **Structure of the postal service provider market shares by revenue for dispatch of postal parcels, %, and annual changes of the market shares, pp, 2019**
Source: RRT

Significantly increasing scopes of e-commerce and changing shopping habits promote the rapid growth of the market of postal parcels. Between 2014 and 2019, the volume of postal parcels grew by 2.4 times, whereas the revenue from the dispatch increased twice. Postal parcels held the major share (56.6%) of the postal service market in terms of the revenue.

4. Universal Postal Service

Service provider	AB Lietuvos Paštas
Points of access, units	672
Number of items, million pcs.	20.9
Retail revenue, EUR million	32.7

Service Provision. In 2019, as was the case in the previous years, the universal postal service in Lithuania was provided solely by AB Lietuvos Paštas. There were 672 points of access to universal postal services, i.e. by 60 points of access fewer than in 2018 (see Table 35). Between 2014 and 2019, the number of mobile points of access to universal postal service increased by 2.4 times (191 units), whereas the number of stationary ones went down almost twofold (330 units). At the end of 2019, the number of stationary and mobile points of access to postal service became very similar (48.1 and 51.9%, respectively).

Table 35. **Number of points of access to universal postal services, in units, 2014-2019**

	2014	2015	2016	2017	2018	2019
Mobile access points	132	133	128	156	187	323
Stationary access points	679	659	627	564	545	349
All points of access	**811**	**793**	**755**	**720**	**732**	**672**

Source: RRT

Between 2014 and 2019, the number of post boxes for outgoing mail was annually declining. In 2019, there were 1,376 post boxes for outgoing mail in Lithuania, i.e. by 207 post boxes fewer or by 13.1% less than in 2018 (see Table 36).

Table 36. **Number of post boxes for outgoing mail, in units, 2014-2019**

	2014	2015	2016	2017	2018	2019
Post boxes for outgoing mail	1,838	1,687	1,670	1,606	1,583	1,376

Source: RRT

Volume of service. In 2019, the volume amounting to 20.9 million of the universal postal service items was sent and received, which was by 5.1% more than in 2018 (see Fig. 93).

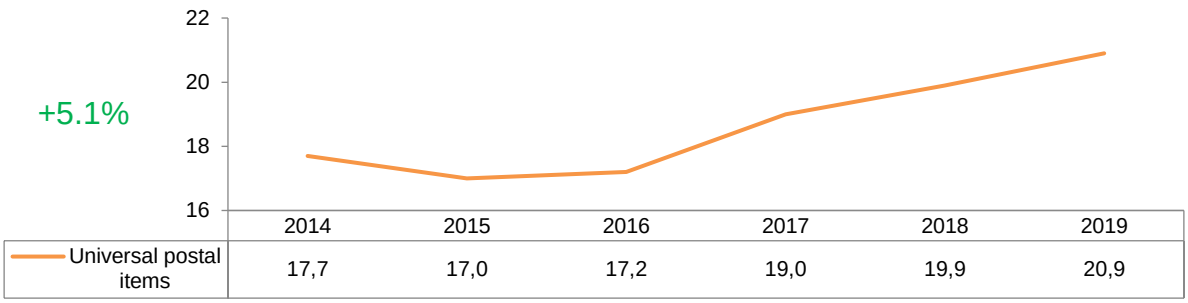
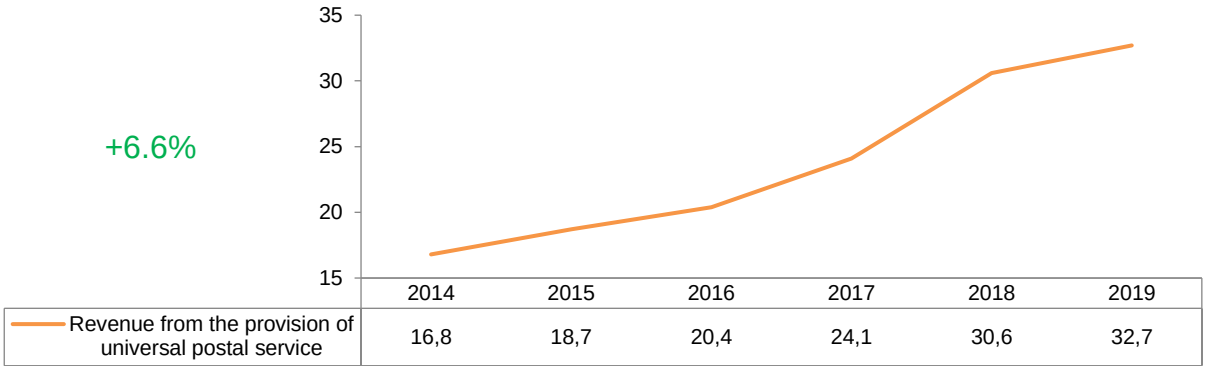


Fig. 93 **Scale of provided universal postal service, in million units, 2014-2019**
Source: RRT

Revenue. The revenue received from the provision of the universal postal service stood at EUR 32.7 million in 2019 and, compared to 2018, it grew by 6.6%. Throughout the entire period between 2014 and 2019,

such revenue doubled, and the most rapid growth was observed in 2018 – this mainly resulted from the changed (higher) tariffs of the provision of the universal postal service (see Fig. 94).



	2014	2015	2016	2017	2018	2019
Revenue from the provision of universal postal service	16,8	18,7	20,4	24,1	30,6	32,7

Fig. 94 **Revenue from the provision of universal postal service, EUR million, 2014-2019**
Source: RRT

The only Lithuanian universal postal service provider AB Lietuvos Paštas plays an especially important social role in assuring that the residents are provided with an opportunity to send and receive postal items under the same conditions in the whole of the territory of the Republic of Lithuania. The scale of the universal postal service, which grew between 2014 and 2019, shows that the residents are actively using this service.

5. Competition in the Postal Market

When measuring the intensity of competition in the postal market, the factors indicating market concentration[33] are analysed: market structure indicators CR_4[34] and CR_8[35] and Hirschman-Herfindahl index HHI[36].

Concentration by volume of letter-post items. Where the concentration of the postal market is evaluated by the volume of letter-post items, CR_4 and CR_8 ratios show that during the period between 2014 and 2019, the market was highly concentrated and the level remained stable (see Table 37). These ratios, being that high, reveal that despite the sufficiently large number of active postal service providers, the market of letter-post items is concentrated, and its structure is similar to that of an oligopolistic market, where the major share of the market is held and dominated by several postal service providers.

The dynamics of the CR_4 ratio of the market share held by the four largest service providers demonstrates that the values are quite stable and range between 91.1 and 94.3%. In 2019, compared to 2018, the ratio declined by 1.2 percentage points. It must be noted that CR_4 remained almost unchanged when comparing its value between 2014 and 2019.

The dynamics of the CR_8 ratio of the market share held by the eight largest service providers during the period between 2014 and 2019 shows that the highest concentration in the market was in 2018, when the eight largest service providers occupied 97.7% of the letter-post item market. In 2019, compared to 2018, the ratio declined by 0.5 percentage points and stood at 97.2%. Taking account of the fact that CR_4 and CR_8 values do not differ much, it may be stated that the letter-post item market is shared by four market players.

Table 37. **Market concentration indices in terms of the volume of letter-post items in 2014-2019**

Index	2014	2015	2016	2017	2018	2019
CR_4, %	93.0	93.2	91.1	93.2	94.3	93.1
CR_8, %	97.1	97.4	96.2	97.2	97.7	97.2
HHI	5,007.5	5,933.4	7,181.5	7,645.1	8,149.6	7,462.0

Source: RRT

[33] Concentration means a market situation in which economic activity is concentrated under the control of one or several firms, in other words, when a small number of firms occupy the largest share of a particular market.
[34] The concentration level ratio CR4 indicates the market share of the four largest market players in an industry as a percentage.
[35] The concentration level ratio CR8 indicates the market share of the eight largest market players in an industry as a percentage. CR values:

- A value of 0% means perfect competition, excellent conditions for competing or a very low monopolistic competition, i.e. the four largest undertakings do not have any significant market power.
- A value below 40% means effective competition and low concentration in the market.
- A value below 70% means moderate concentration, the market is similar to an oligopolistic market.
- A value above 70% means high concentration, the market ranges from oligopoly to monopoly.
- 100% means an extremely concentrated oligopoly. If, for example, CR1 = 100%, the market is a monopoly.

[36] HHI shows an uneven distribution of market powers of all market players and is the best known and most important index of the intensity of competition in the market. HHI is directly proportional to concentration (i.e. when the latter increases, the former increases as well, and when the former decreases, the latter decreases). The lower the HHI, the higher the level of competition, and vice versa: the increase in the HHI indicates a decrease in competition and an increase in market power. HHI values:

- HHI < 1,000 indicates an unconcentrated market;
- HHI between 1,000 and 2,000 – moderate concentration;
- HHI above 2,000 – high concentration.

According to the information provided in Table 37, HHI index also shows a high concentration level in the letter-post item market. It must be noted that the HHI index value was increasing between 2014 and 2018: in 2018, it exceeded the threshold of 8 000 and reached 8 149.6, whereas in 2019 it went down to 7462.0 again. Such a high HHI value demonstrates a great inconsistency in the layout of the capacities of the actors operating on the letter-post item market as well as concentration of the letter-post item service in one undertaking.

Concentration by volume of postal parcels. The evaluation of the concentration of the postal market by the volumes of postal parcels shows that the market of postal parcels in Lithuania is less concentrated than the market of letter-post items (see Table 38).

CR_4 ratio of the market share held by the four major service providers shows the concentration level which is higher than moderate but does not exceed the level of concentration of 85%: in 2015, this indicator went up by 4.6 percentage points and reached 84.9%, in 2016-2018 it remained almost unchanged and stood at around 82%, whereas in 2019 it fell to 76.7%. Throughout the period considered, this indicator dropped by 3.6 percentage points.

CR_8 ratio of the market share held by the eight largest service providers during the period between 2014 and 2019 ranged between 95 and 97%. Although the CR_4 ratio fluctuated around the average and high concentration limit, another indicator of the intensity of competition CR_8 showed the highly concentrated market of postal parcels, since in 2019 the eight major postal service providers held 96.7% of the market of postal parcels.

It must be noted that in 2014-2019, the HHI index value dropped by 449.1 points. The sharpest fall was observed in 2018 – by 253.3 points, and in 2019, HHI went down by 132.5 points. Taking account of the decreasing values of HHI index, it may be stated that more and more competing providers of this service emerge on the market of postal parcels.

Table 38. **Market concentration indices in terms of the volume of postal parcels in 2014-2019**

Index	2014	2015	2016	2017	2018	2019
CR_4, %	80.3	84.9	81.2	82.4	82.2	76.7
CR_8, %	97.1	96.9	95.3	96.4	96.5	96.7
HHI	2,178.1	2,265.1	2,020.9	2,114.8	1,861.5	1,729.0

Source: RRT

Concentration by revenue of postal service providers. In terms of the market concentration by the revenue of the postal service providers, CR_4 and CR_8 indicators also demonstrate a high level of concentration. The market share held by four major postal service providers grew by 3.3 percentage points in 2019, compared to 2018, whereas that of eight major providers went up by 0.6 percentage points (see Table 39). Between 2014 and 2019, CR_4 and CR_8 went up by over 2 percentage points and reached the highest point during the period considered. Throughout the period in question, these indicators exceeded 70%, which means a highly concentrated market.

When measuring the competition in the postal market by HHI, the value of this indicator dropped between 2014 and 2019. The decreasing indicator shows the declining concentration of postal service providers and growing competition in the postal service market. Although the HHI value reached the threshold of 2 000 in 2019, it did not overstep it, therefore it may be concluded that the postal service market is subject to moderate concentration by this index.

Table 39. **Market concentration indices by revenue in 2014-2019**

Index	2014	2015	2016	2017	2018	2019
CR_4, %	74.9	75.4	73.6	74.6	73.9	77.2
CR_8, %	90.0	90.8	90.9	91.0	91.6	92.2
HHI	2,189.0	2,235.8	1,965.2	1,793.1	1,789.5	1,975.2

Source: RRT

The highest concentration of the analysed markets in Lithuania is in the market of letter-post items. When assessing the markets of revenue received by providers of postal parcels and postal service by HHI index, it is clear that their concentration is medium.

Annex 1

Electronic communications service providers that were providing services in 2019

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.	UAB Teletel	•			
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.	UAB Besmegeniai (former KLI LT, UAB)	•	•	•	
19.	KTU Department of Information Technology		•		
20.	L. Bulovas' firm Elektromedija		•		
21.	UAB Inetas LT		•		
22.	SIA Tet affiliate (former SIA Lattelecom Ltd.)		•		
23.	Splius, UAB	•	•	•	•
24.	Teleline LT, UAB	•			

Item No.	Service providers	Telephone service	Data transmission	Radio and television	Access to physical infrastructure
25.	UAB Internetas Vilniuje		•	•	
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 Mediafon Technology	•			
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 Ignalinos Televizija		•	•	
53.	UAB Ilora		•	•	

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

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

Item No.	Service providers	Telephone service	Data transmission	Radio and television	Access to physical infrastructure
111.	Public Enterprise Plačiajuostis Internetas		•		•
112.	UAB Blue Bridge		•		
113.	Vytautas Ričkauskas' Company		•		
114.	Voxbone SA	•			
115.	Public Enterprise Comtel		•		
116.	UAB Ukmergės IT		•		
117.	UAB Moremins Lietuva	•			
118.	Alantic, UAB	•			
119.	ONOFFAPP OÜ	•			
120.	Nord Connect OU	•			
121.	Compatel Limited	•			
		51	**87**	**40**	**15**

Annex 2

Postal Service Providers at the end of 2019

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

* Only unaddressed advertisements are sent.

Annex 3

Number of residents and households in Lithuania on 1 January, 2014-2019

	2014	2015	2016	2017	2018	2019
Number of residents	2,943,472	2,921,262	2,888,582	2,849,317	2,794,184	2,794,329
Number of households	1,308,210	1,298,339	1,289,546	1,272,017	1,318,011	1,311,892

Source: Statistics Department of Lithuania

Annex 4

Maximum Tariffs of the Universal Postal Service[37]

I. Maximum Tariffs of the Universal Postal Service in Lithuania

Item of correspondence[1] up to 500 grams

Item No.	Universal postal service	Postage tariff per one postal item, in EUR (exclusive of VAT)	
		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

Bulky items of correspondence[2] up to 2 kilograms

Item No.	Universal postal service	Postage tariff per one postal item, in EUR (exclusive of VAT)	
		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	Postage tariff per one postal item, in EUR (exclusive of VAT)
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], bulky items of correspondence[2] or postal parcels[3, 4]

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

[37] 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	Postage tariff per one postal item, in EUR (exclusive of VAT)			
		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

Bulky items of correspondence[2] up to 2 kilograms

Item No.	Universal postal service	Postage 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	Postage tariff per one postal item, in EUR (exclusive of VAT)	
		to the European Union Member States	to other states
	Cross-border postal parcel tariffs apply to postage of postal parcels. The share of processing 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, 6] or postal parcels[3, 4]

Item No.	Universal postal service	Postage tariff per one postal item, in EUR (VAT excl.)
1.	Registration of priority items of correspondence or priority bulky items of correspondence	2.03
2.	Registration and insurance of priority items of correspondence or priority bulky items of correspondence	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 bulky item of correspondence shall be the following: 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” (“Bulky”) 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” (“Bulky”) 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 bulky items of correspondence 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.