LITHUANIAN COMMUNICATIONS SECTOR 2021

28 July 2022 No ND-10
Vilnius

COMMUNICATIONS REGULATORY AUTHORITY OF THE REPUBLIC OF LITHUANIA

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Country	Lithuania
Capital	Vilnius
Area, km²	65,200
Population	2,794,961
Number of households	1,395,689
Country code	+370
Internet domain	.lt

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- The figures provided on the left-side of the charts (e.g. +3.2%; –4.5%) show the changes of respective indicators in 2021 (positive, negative), compared to 2020.
- The report 'Lithuanian Communications Sector 2021' 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. Moreover, the report uses the data of the survey of the internet television service providers as well as 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 one decimal place, 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	182
Major service provider	Telia Lietuva, AB
Wholesale revenue of the communications sector, EUR million	127.2
Retail revenue of the communications sector, EUR million	873.8
Total revenue of the communications sector, EUR million	1,001.0

NB!

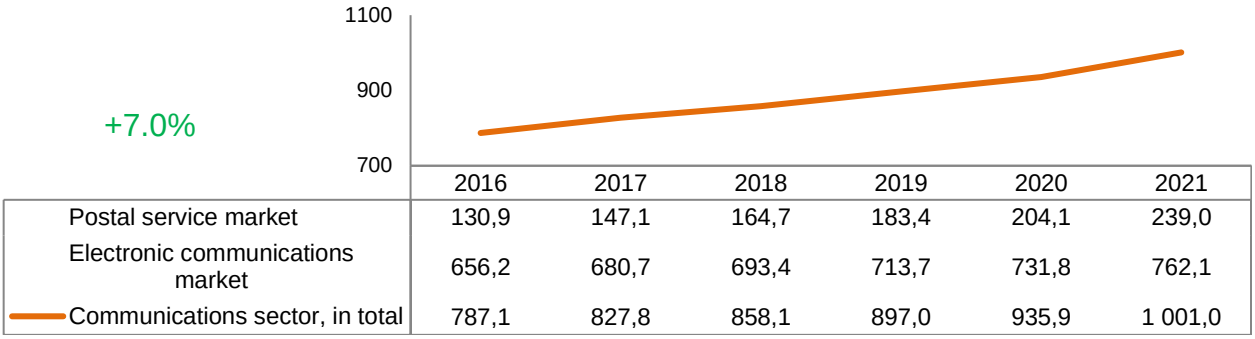
- In this section of the report, other communications service providers shall be all communications service providers, except for UAB Bitė Lietuva, UAB DHL Lietuva, UAB DPD Lietuva, AB Lietuvos Paštas, UAB Cgates, UAB Omniva LT, UAB Tele2, Telia Lietuva, AB, and UAB Venipak Lietuva (hereinafter in this section – the 'other providers').

The Lithuanian Communications Sector consists of two service markets: the electronic communications market and postal service market. In the context of both of these markets, it is evident that at the end of 2021 there were 182 undertakings which were engaged in electronic communications activities and were providing the postal service, which is by 4 undertakings more than in 2020 (see Table 1).

Table 1. **Number of undertakings engaged in electronic communications activities or providing the postal service by markets, units, 2016-2021**

	2016	2017	2018	2019	2020	2021
Electronic communications market	139	127	116	121	127	133
Postal service market	55	46	45	48	51	49
All providers	**194**	**173**	**161**	**169**	**178**	**182**

The revenue of the communications sector was growing throughout the entire period of 2016-2021 in question (see Fig. 1). In 2021, it stood at EUR 1,001.0 million and was by 7.0% or EUR 65.1 million higher than in 2020. Due to the *Covid-19* pandemic-related challenges, supply chain disruptions and more expensive raw material prices, the change in the gross domestic product (GDP) accounted to 4.9% in Lithuania in 2021. In 2021, the revenue of the Lithuanian communications sector grew faster than GDP. In 2021, the revenue of both markets slightly grew: postal service market – by 17.1% or EUR 34.9 million, electronic communications market – by 4.1% or EUR 30.2 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 2016-2021 in terms of the total revenue of the communications sector: in 2021, it stood at 23.9% (in 2020 – 21.8%).



	2016	2017	2018	2019	2020	2021
Postal service market	130,9	147,1	164,7	183,4	204,1	239,0
Electronic communications market	656,2	680,7	693,4	713,7	731,8	762,1
Communications sector, in total	787,1	827,8	858,1	897,0	935,9	1 001,0

Fig. 1. **Revenue of the communications sector in 2016-2021, in EUR million.**
Source: RRT.

During the period of 2016-2021, the structure of the communications sector by revenue and by lines of business shows that the electronic communications service providers were prevailing in the sector (see Table 1 and Fig. 2). In 2021, the major part of revenue was generated by electronic communications services provider Telia Lietuva, AB (29.3%) out of 182 undertakings operating in the communications sector, although its market share shrank by 0.9 percentage points during 2021. Other two providers which received the largest amount of revenue from the provision of communications services were UAB Tele2 and UAB Bitė Lietuva, which held the market shares of 19.7% and 15.2%, respectively. The revenue of AB Lietuvos Paštas – the largest postal service provider – constituted 6.8% of all sectoral revenue in 2021. Over the year, it lost the greatest market share – 1.4 percentage points.

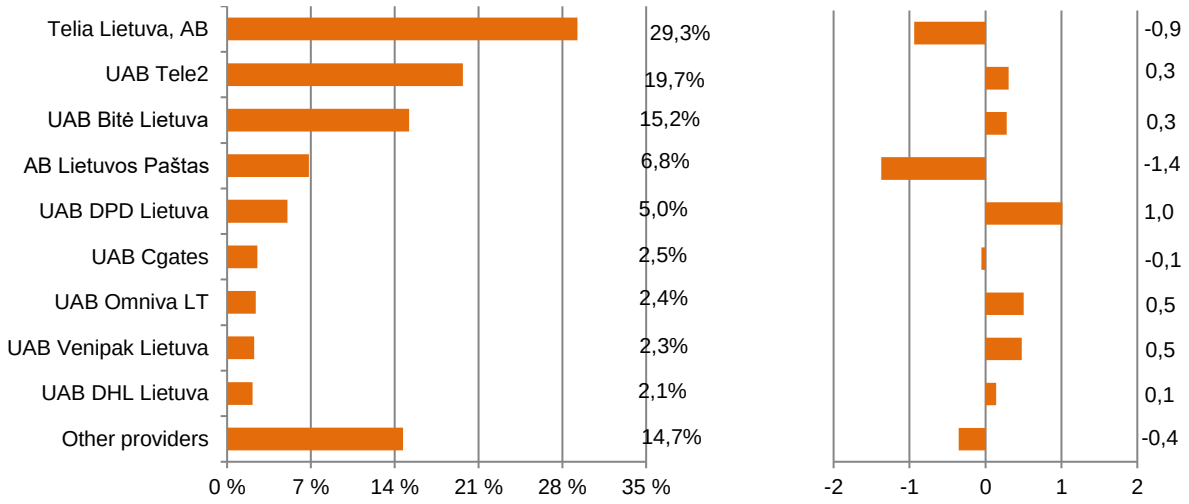
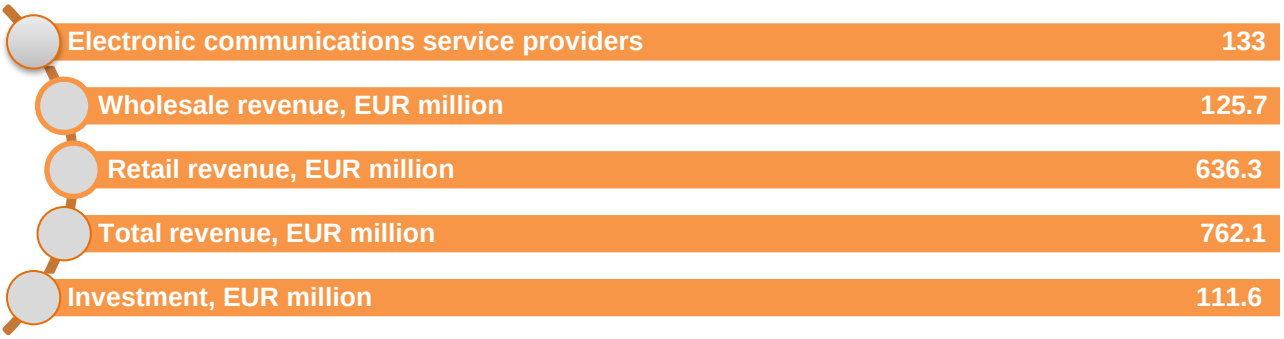


Fig. 2. **Market shares held by the communications sector service providers by revenue, %, and annual changes of the market shares, pp, 2021**
Source: RRT.

In 2021, both the postal service market and electronic communications market were expanding – this resulted in the growth of the annual revenue of the communications sector by 7.0%. This further growth would allow expecting positive future trends, but the ongoing geopolitical crisis due to the Russian military invasion of Ukraine may suppress the economic growth both in Lithuania and globally. The disrupted logistics chains, rising prices of raw materials, high uncertainty and impact of sanctions will affect the Lithuanian communications sector as well.

MARKET OF ELECTRONIC COMMUNICATIONS SERVICES

1. General Overview of the Electronic Communications Market



NB!

- 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, UAB Tele2 and Telia Lietuva, AB (hereinafter in this section – the 'other providers').

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

- telephone 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 6 undertakings in 2021 and stood at 133 (see Table 2). Most new service providers were providing telephone services. The largest share was that of data transmission service providers as was the case in the previous year. At the end of 2021, the company 'Starlink' began providing the satellite internet services in Lithuania. The satellite communications will enable having the better internet access in more remote areas. The restructured company UAB Eurocom was connected to UAB Bitė Lietuva and satellite television services which were provided by AS TV Play Baltics with the trademark 'Home3' were integrated.

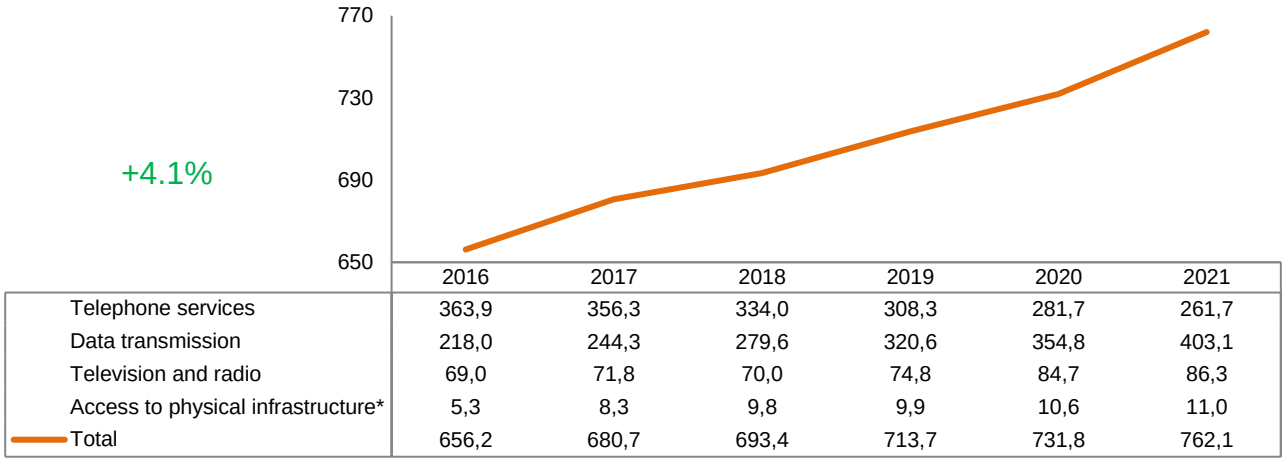
Table 2. **Number of electronic communications service providers that were providing the services, units, 2016-2021**

	2016	2017	2018	2019	2020	2021
Telephone services	53	49	46	51	55	62
Data transmission services	106	93	87	87	89	88
Television and radio services	42	40	41	40	43	42
Services of access to physical infrastructure	15	15	16	15	16	16
All services	**139**	**127**	**116**	**121**	**127**	**133**

Source: RRT.

Revenue. The revenue of the electronic communications market has continued to grow in 2021 (see Fig. 3). Compared to 2020, the revenue increased by 4.1% in 2021 or EUR 30.2 million and amounted to EUR 762.1 million. In 2021, the major portion of the electronic communications sector revenue (52.9%) was

the revenue from the provision of data transmission services, while the revenue from the provision of telephony services comprised 34.3% (in 2020, 48.5% and 38.5%, respectively). In 2021, the revenue from television and radio services comprised 11.3%, whereas the revenue from the provision of access to physical infrastructure stood at 1.4%.



	2016	2017	2018	2019	2020	2021
Telephone services	363,9	356,3	334,0	308,3	281,7	261,7
Data transmission	218,0	244,3	279,6	320,6	354,8	403,1
Television and radio	69,0	71,8	70,0	74,8	84,7	86,3
Access to physical infrastructure*	5,3	8,3	9,8	9,9	10,6	11,0
Total	656,2	680,7	693,4	713,7	731,8	762,1

Fig. 3. **Structure of electronic communications market revenue by service groups, EUR million, 2016-2021**
* Till 2017, it includes the revenue received only from the access to the dark fibre service.
Source: RRT.

In 2021, Telia Lietuva, AB remained a leader of the electronic communications market in terms of revenue, although its market share slightly shrank (by 0.2 percentage points) and represented 38.5% of the total revenue of the electronic communications market (see Fig. 4). The market share of UAB Tele2 grew most rapidly – by 1.1 percentage point. The change in the market share held by other providers was caused by the fact that after the sales of the services of 'Mezon' the market share (2.2%) of AB Lietuvos Radijo ir Televizijos Centras which withdrew from the retail telecommunications service market was added to the market share of other providers in 2020.

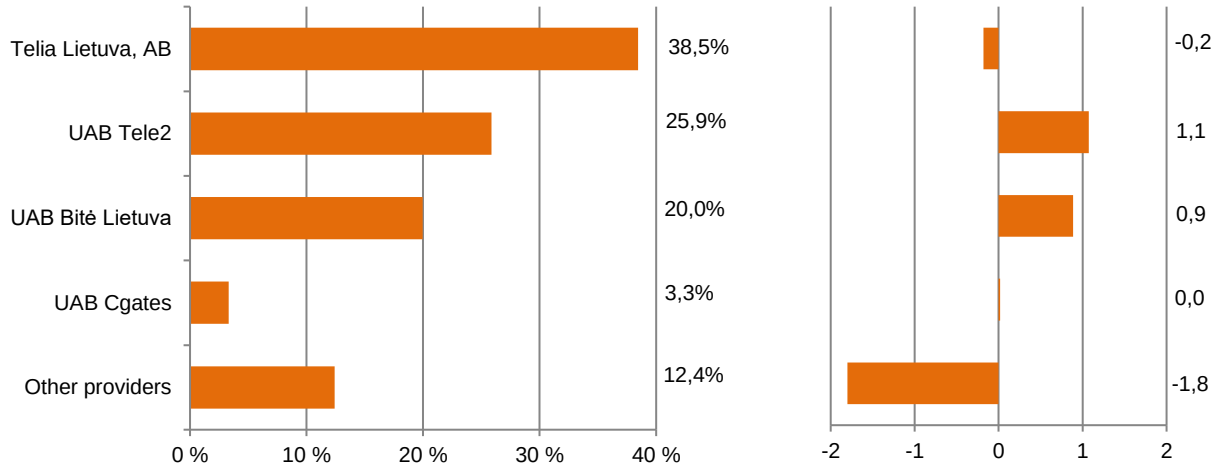
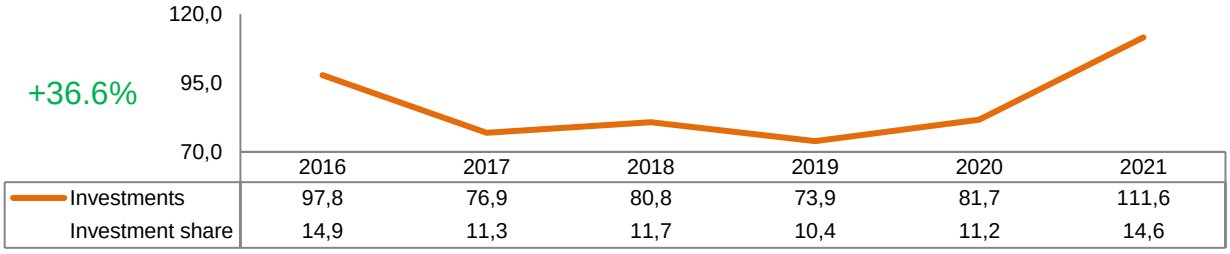


Fig. 4. **Structure of the electronic communications market revenue by service providers, %, and annual changes of the market shares, pp, 2021**
Source: RRT.

Investments. In 2021, compared to 2020, investments in the electronic communications infrastructure increased by EUR 29.9 million and stood at EUR 111.6 million (see Fig. 5). The largest amounts were invested in the upgrade and development of the mobile communications network (54.3% of all investments or EUR 60.5 million) 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 investments and total revenue of this market. In 2021, the ratio between investments in the electronic communications infrastructure and the total revenue of this market accounted to 14.6% and it was one of the highest ratios throughout the entire period in question.



	2016	2017	2018	2019	2020	2021
Investments	97,8	76,9	80,8	73,9	81,7	111,6
Investment share	14,9	11,3	11,7	10,4	11,2	14,6

Fig. 5. **Investments in the electronic communications infrastructure, EUR million, and ratio between investments in the electronic communications infrastructure and total revenue of the electronic communications market, %, 2016-2021**
Source: RRT.

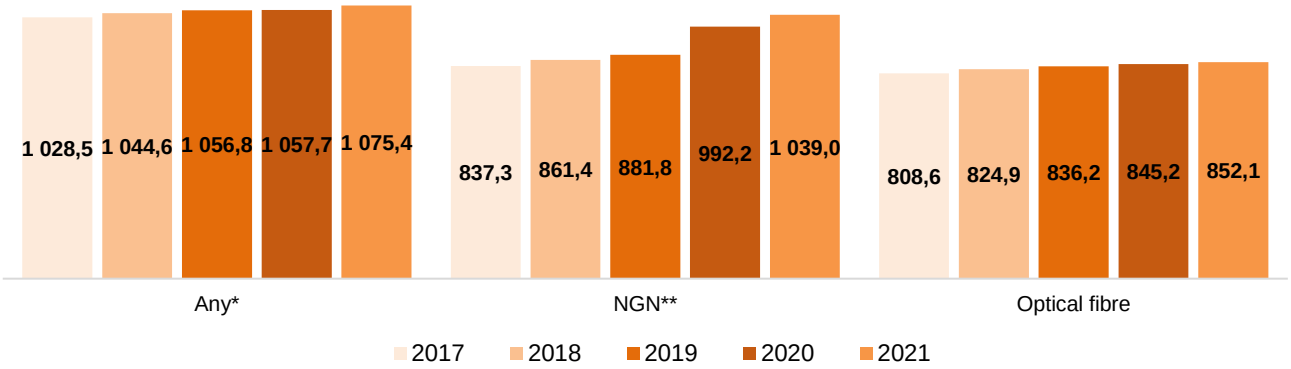
In 2021, all Lithuanian operators were actively preparing for a smoother deployment of 5G technology in Lithuania. In 2021, the first four 5G NR base stations were registered (see Table 3). In 2021, the steepest growth of LTE technology-based base stations was recorded in the 1800 MHz, 2100 MHz and 2600 MHz radio frequency bands. LTE technology further remains the key technology which is used to provide mobile services to the Lithuanian residents. Telia Lietuva, AB announced it was intending to switch off 3G mobile communications services by 2023 as it would use the frequencies for more advanced technologies.

Table 3. **Total number of registered mobile radiocommunication base stations in 2016-2021, units**

	2016	2017	2018	2019	2020	2021
GSM/DSC	4,394	3,812	3,915	3,884	4,015	4,022
UMTS	3,998	4,321	5,074	5,274	5,653	4,618
LTE	4,026	5,549	7,839	9,158	10,888	11,745
5G NR	-	-	-	-	-	4
Total	**12,418**	**13,682**	**16,828**	**18,316**	**20,556**	**20,389**

Source: RRT.

Development of public fixed communications networks. In 2017-2021, the public fixed communications networks reached 1,075.4 thousand residential premises (76.4%) by means of any lines (copper lines or optical fibre, or coaxial cable lines, as well as wireless communication lines as of 2021) in Lithuania (see Fig. 6). In 2021, compared to 2020, the coverage of public fixed communications networks grew by 17.7 thousand. In terms of the percentage, it is evident that this increase is not significant (by 0,4 pp) – this is mainly because of the fact that the coverage did not catch up with the growing number of the residential premises.



* Wireless communication lines shall be included as of 2021.
** NGN – the next-generation network covering the optical fibre line, copper line with VDSL technology and coaxial cable line with *Docsis 3.x* technology.
Fig. 6. **Development of fixed communications networks in Lithuania by communications lines, thousand units, 2017-2021**
Source: RRT.

Since 2021, the coverage of public fixed communications networks has included the wireless communication lines and their coverage in the residential premises in Lithuania stands at 2.8% – 40.0 thousand residential premises in total. It must be noted that operators invest strongly in the next-generation network (NGN) development. In 2021, compared to 2020, the development of the next-generation network (NGN) went up by 2.5 percentage points (46.8 thousand residential premises) – 1,039.0 thousand residential premises were accessed by this network in 2021 (73.8%). This rapid growth of NGN was mainly caused by the development of copper lines with VDSL technology (in 2019, they were used to access 3.8%, in 2020 – 27.1%, in 2021 – 50.4% of all residential premises). In 2021, optical fibre was used to access 852.1 thousand (60.5%) residential premises.

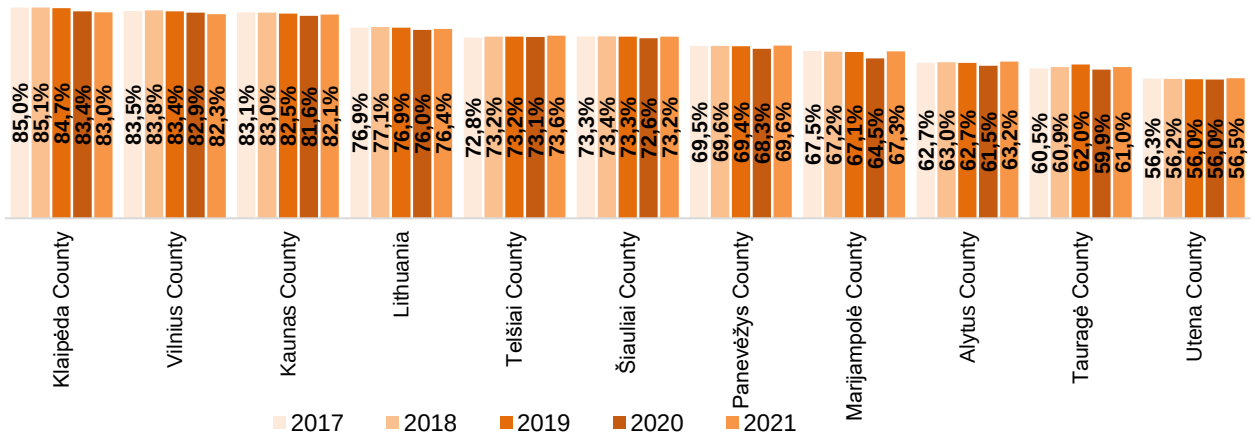


Fig. 7. **Development of fixed communications networks in Lithuania by counties and in the entire territory of Lithuania, %, 2017-2021**
Source: RRT.

In terms of the coverage of residential premises, it is evident that in 2017-2021, public fixed communications networks were best developed in Klaipėda County (83.0%), Vilnius County (82.3%) and Kaunas County (82.1%) (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. In 2021, compared to 2020, with regard to the number of covered residential premises, the development of fixed communications networks was increasing in all counties, whereas the steepest

growth was recorded in Kaunas County – 4.4 thousand, Vilnius County – 3.5 thousand and Marijampolė County – 1.9 thousand.

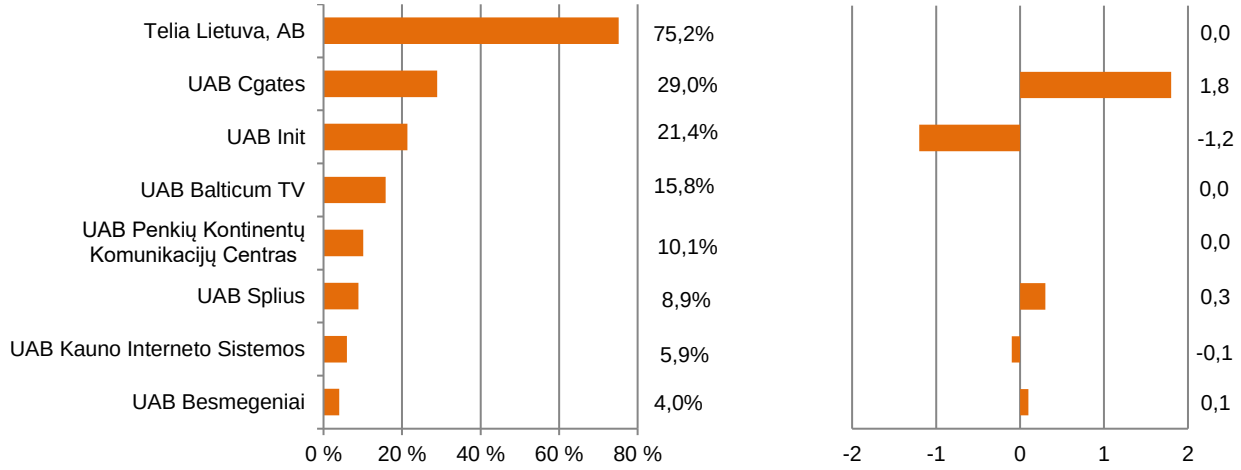


Fig. 8. **Development of fixed communications networks in Lithuania by operators, %, and annual changes in the network development, pp, 2021**
Source: RRT.

In 2017-2021, the public fixed communications networks were best developed by Telia Lietuva, AB in Lithuania – its public fixed communications network covered over 75% 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 29% of all residential premises. In 2021, compared to 2020, the steepest growth was observed in the public fixed communications network of UAB Cgates (by 1.8 pp), while the public fixed communications network of UAB Init shrank the most (by 1.2 pp). The network of UAB Init decreased due to the fact that on 1 July 2021 the internet and television network of UAB Init was taken over by UAB Besmegeniai in Mažeikiai District. 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 duplication of the networks allows the end users to receive retail electronic communications services from several providers.

In 2017-2021, the majority of the same residential premises accessed by the fixed communications networks of at least 2 operators were located in the municipalities of Visaginas and Klaipėda City (98.4% and 93.2%, respectively, of all residential premises in the municipality in 2021) (see Fig. 9). Top five municipalities by accessibility also included the municipalities of Šiauliai City, Alytus City and Vilnius City.

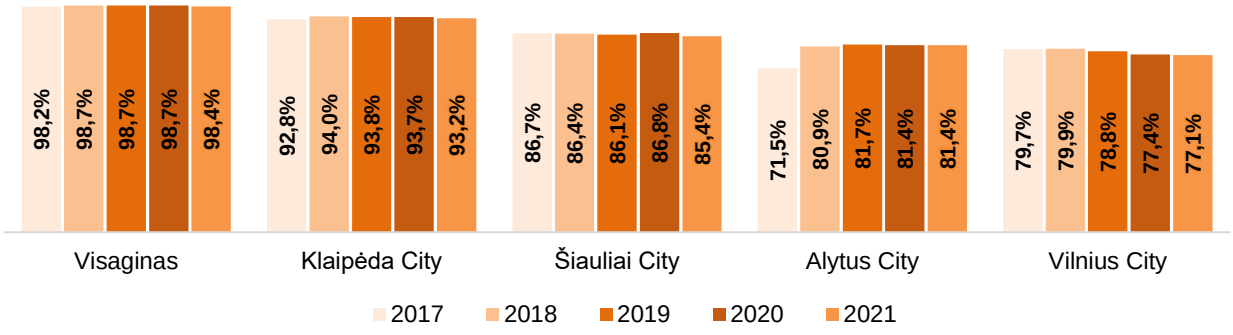


Fig. 9. **Share of residential premises accessed by fixed communications networks of at least 2 operators by top five municipalities with best accessibility, %, 2017-2021**
Source: RRT.

In 2017-2021, the majority of the same residential premises accessed by the fixed communications networks of at least 3 operators were located in the municipalities of Visaginas, Klaipėda City and Šiauliai City (97.3%, 72.3% and 69.8%, respectively, of all residential premises in the municipality in 2021) (see Fig. 10). Top five municipalities by accessibility also included the municipalities of 2 largest cities in Lithuania. It must be noted that in 2021, compared to 2020, the accessibility of fixed communications networks of at least 3 operators in the same residential premises increased by 1.0 percentage point in the municipality of Klaipėda City. In 2021, the accessibility of fixed communications networks of at least 3 operators in the same residential premises exceeded 70% in the municipalities of Visaginas and Klaipėda City (in 2020, this indicator exceeded 70% in 3 municipalities: Visaginas, Klaipėda City and Šiauliai City).

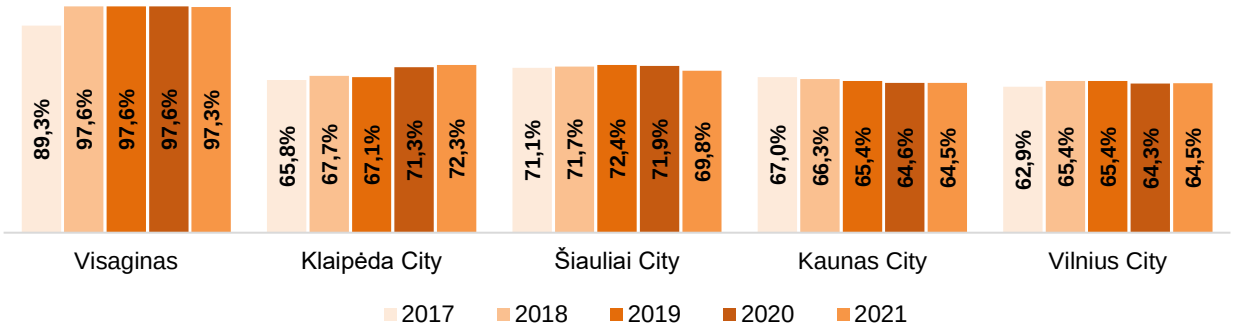


Fig. 10. **Share of residential premises accessed by fixed communications networks of at least 3 operators by top five municipalities with best accessibility, %, 2017-2021**
Source: RRT.

In 2017-2021, the majority of the same residential premises accessed by the fixed communications networks of at least 4 operators were located in the municipalities of Kaunas City and Vilnius City (54.1% and 46.4%, respectively, of all residential premises in the municipality in 2021) (see Fig. 11). Top five municipalities by accessibility also included the municipalities of Šiauliai City, Tauragė District and Jonava District. It must be noted that in 2021, compared to 2020, the accessibility of fixed communications networks of at least 4 operators in the same residential premises increased in the municipality of Vilnius City the most (by 2.9 percentage points).

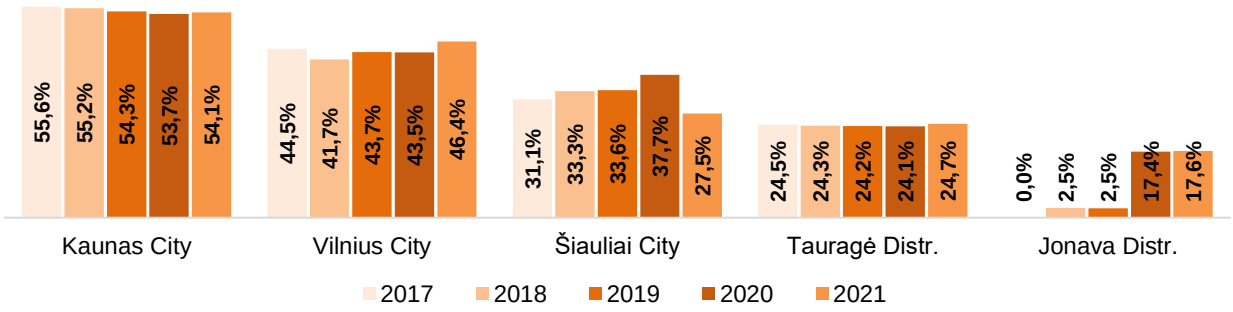


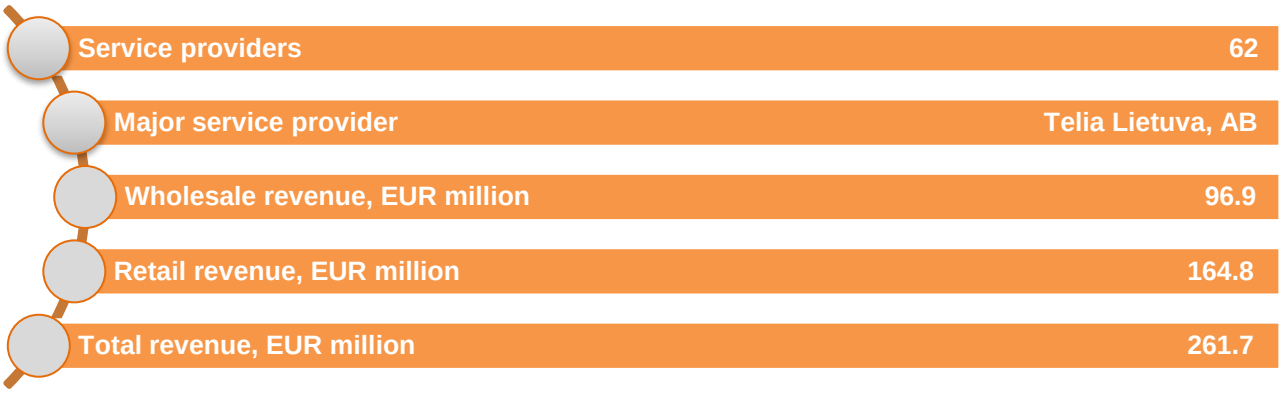
Fig. 11. **Share of residential premises accessed by fixed communications networks of at least 4 operators by top five municipalities with best accessibility, %, 2017-2021**
Source: RRT.

In 2021, 133 operators were operating in the electronic communications market, i.e. by 6 operators more than in 2020. The revenue of the electronic communications market continued to grow in 2021: the growth accounted for 4.1%, whereas the revenue constituted EUR 762.1 million. In 2021, the revenue from data transmission services went up by 13.6% and represented 52.9% of the total revenue of the electronic

communications sector. The positive future trends are a result of the growth of the data transmission segment, in particular in the field of mobile communications. In 2021, Lithuanian public fixed communications networks accessed 76.4% and optical fibre lines accessed almost 61% of all residential premises. The year of 2021, as was the case in the entire period of 2017-2021 in question, witnessed the rapid development of the next-generation network (NGN) whose coverage, compared to 2020, increased by 2.5 percentage points. In 2021, this network accessed 73.8% of all residential premises. In 2021, the majority of the same residential premises accessed by the fixed communications networks of at least 2 operators were located in the municipalities of Visaginas, Klaipėda City, Šiauliai City and Alytus City (98.4%, 93.2%, 85.4% and 81.4%, respectively, of all residential premises in the municipality). In other municipalities, such accessibility did not reach 80%.

2. Telephone service

2.1. General Overview of the Market of Telecommunications Services



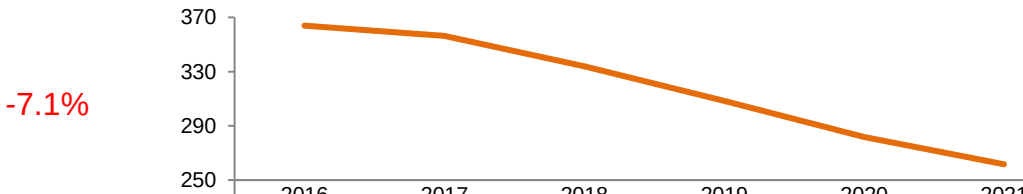
NB!

- 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 (hereinafter in this section – the "other providers").

The telephone services provided in Lithuania in 2021 may be divided into retail public mobile and fixed telephone services, and wholesale public communications network provision and public telephone services (hereinafter – the 'network interconnection services').

Service providers. At the end of 2021, the telephone services were provided by 62 undertakings, i.e. by 7 undertakings more than at the end of 2020. Telephone service providers represented 46.6% of all 133 undertakings engaged in electronic communications activities. As many as 40 telephone service providers, i.e. 64.5% of all undertakings providing telephone services, were providing retail public fixed telephone services.

Revenue. In 2021, the revenue gained from telephone services amounted to EUR 261.7 million, i.e. by 7.1% less than in 2020 (see Fig. 12). Such revenue constituted 34.3% of all revenue of the electronic communications market. The trend of decreasing revenue of all telephone service groups (mobile, fixed communications and network interconnection services) has been observed for the fifth year in a row.



	2016	2017	2018	2019	2020	2021
Total income	363,9	356,3	334,0	308,3	281,7	261,7
Mobile communications services	174,8	173,6	168,8	157,7	145,7	143,3
Fixed communications services	44,2	39,9	34,5	29,7	24,4	21,5
Network interconnection services	144,9	142,7	130,7	121,0	111,6	96,9

Fig. 12. **Revenue from telephone services, EUR million, 2016-2021**
Source: RRT.

In 2021, as was the case during the entire period between 2016 and 2021, the largest portion of the revenue (54.8%) was comprised of the revenue from retail public mobile telephone services (see Fig. 13). In 2021, compared to 2016, a portion of the revenue from retail public mobile telephone services increased by 6.7

percentage points in terms of the total revenue. In 2020, the revenue from fixed telephone services accounted for 8.2% of the total revenue or by 3.9 percentage points less than in 2016.

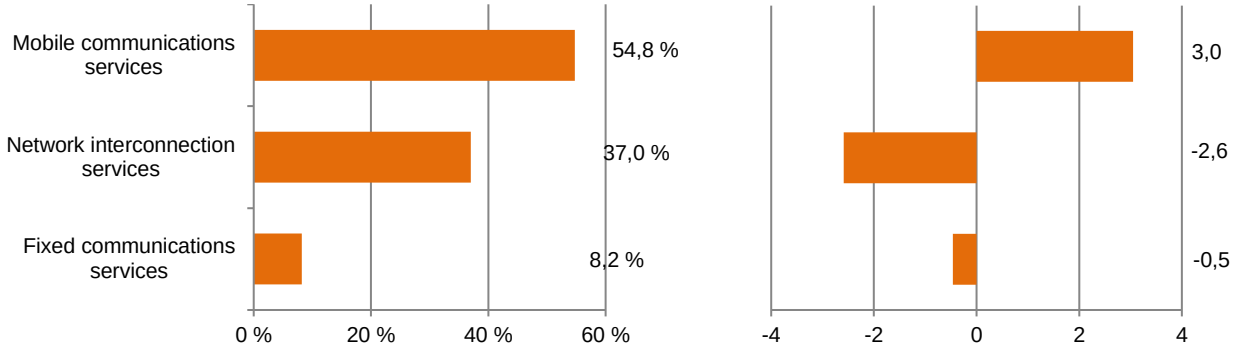


Fig. 13. **Structure of revenue from telephone services by service groups, %, and annual changes of the revenue structure, pp, 2021**
Source: RRT.

In 2021, the revenue of the four major telephone service providers remained almost unchanged and constituted 94.9% of all revenue from telephone services. In 2021, as was the case in 2020, the largest portion of the revenue from telephone services was gained by Telia Lietuva, AB – 37.2% of all revenue from telephone services (see Fig. 14). Over the year, the market share of this undertaking grew by 0.4 percentage points. The market share held by UAB Mediafon Carrier Services experienced the most radical decline – in terms of the revenue, the market share held by that undertaking went down by 0.3 percentage points in 2021 and constituted 3.6%.

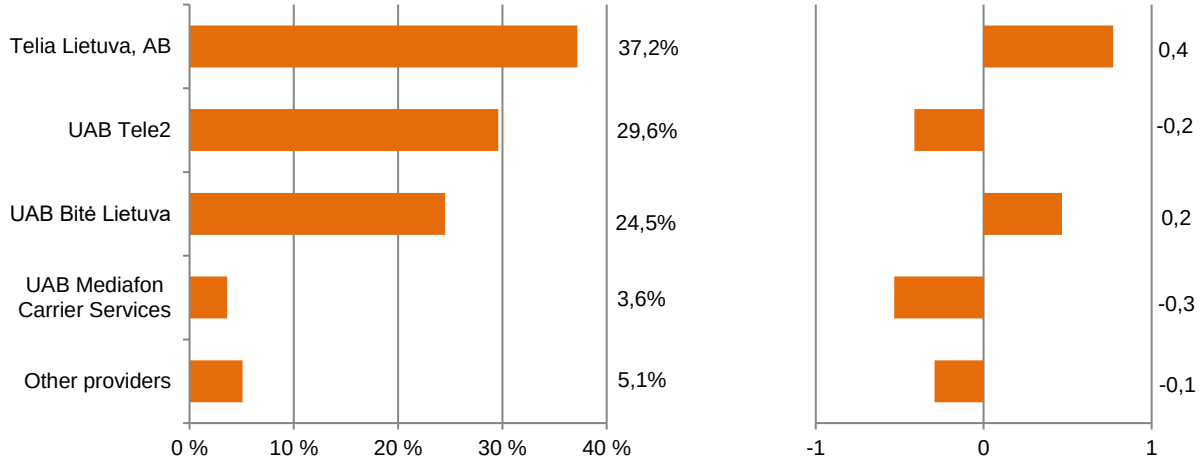


Fig. 14. **Structure of revenue from telephone services by service providers, %, and annual changes of the revenue shares, pp, 2021**
Source: RRT.

Throughout the entire period of 2016-2021, the downward trend has been observed not only in the revenue from telecommunications services but also in the revenue of all telephone service groups. In 2021, the total revenue from telecommunications services went down by 7.1%

2.2. Public mobile telephone services

NB!

- In this section of the report, other public mobile telecommunications service providers shall be all public mobile telecommunications service providers, except for UAB Bitė Lietuva, Telia Lietuva, AB, and UAB Tele2 (hereinafter in this section – 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 section 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 section 'Data Transmission'.

Service providers. At the end of 2021, public mobile telephone services were provided by 24 undertakings: 3 operators were providing public mobile telephone services over their own network, 3 service providers had concluded the wholesale service agreements with the mobile operators.

Service users. At the end of 2021, 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 slightly increased over the year (by 1.5%). Mobile communications penetration[5] went up by 2.7 percentage points in 2021, and, at the end of 2021, 100 residents shared 133.3 active SIM cards.

In terms of the breakdown of active SIM cards by the way of invoice settlement, it is evident that the major share (68.4%) in 2021 was comprised of active SIM cards whose users paid under invoices ('post-paid') rather than in advance ('pre-paid"') (see Table 4). Over 2021, the number of active post-paid SIM cards increased by 4.3% or 104.2 thousand and stood at 2,547.3 thousand. Throughout the period between 2016 and 2021 in question, a decreasing trend in pre-paid SIM cards was observed (it went down by 4.0% or 49.5 thousand in 2021). These trends could be associated with the flat rate service plans applied by the service providers, where set duration of local calls (usually unlimited calls to all networks of Lithuania) and set duration

[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 short text message or another service used).
[5] Mobile communications penetration is the number of active SIM cards per 100 residents.

of international calls as well as a certain amount of additional services (SMS/MMS/data transmission services) are offered for a regular fee.

Table 4. **Number of active SIM cards used to provide public mobile telephone services by service providers and method of payment, thousand pcs., 2016-2021**

	2016	2017	2018	2019	2020	2021
UAB Tele2	1,724.5	1,704.2	1,715.2	1,723.6	1,690.5	1,719.6
Pre-paid	863.8	815.7	771.3	751.5	699.9	682.8
Post-paid	860.7	888.5	943.8	972.1	990.5	1,036.7
Telia Lietuva, AB	975.7	1,033.6	1,108.2	1,036.3	1,051.2	1,064.3
Pre-paid	305.8	277.3	262.6	277.5	293.7	282.1
Post-paid	670.0	756.3	845.5	758.8	757.5	782.2
UAB Bitė Lietuva	812.4	880.0	858.5	864.3	853.7	866.9
Pre-paid	356.8	338.4	301.5	274.5	235.2	214.1
Post-paid	455.6	541.6	557.0	589.8	618.6	652.8
Other providers	87.5	82.5	82.8	80.1	76.6	75.9
Pre-paid	1.3	0.7	0.4	0.5	0.03	0.3
Post-paid	86.2	81.8	82.4	79.6	76.6	75.5
All providers	**3,600.1**	**3,700.3**	**3,764.7**	**3,704.3**	**3,672.0**	**3,726.7**
Pre-paid	1,527.7	1,432.0	1,335.9	1,304.0	1,228.8	1,179.3
Post-paid	2,072.4	2,268.2	2,428.8	2,400.3	2,443.1	2,547.3

Source: RRT.

When it comes 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 all three major mobile service providers was growing in 2021 (see Table 4), whereas the number of active SIM cards of other providers slightly decreased. In 2021, as was the case in 2020, the major market share (46.1%) by the number of active SIM cards was held by UAB Tele2. This operator owned 40.7% of all post-paid SIM cards and 57.9% of all pre-paid SIM cards.

Number Portability Service. In 2021, this service was used 173.9 thousand times, i.e. by 10.6% more than in 2020 (see Table 5). In 2021, the major part of service users that used the number portability service came to (39.0%), and left the network (34.2%) of UAB Tele2.

Table 5. **Flows of ported numbers by service providers, pcs., 2021**

	To	From	**Balance**
UAB Tele2	67,773	59,545	**8,228**
UAB Bitė Lietuva	58,766	55,346	**3,420**
Telia Lietuva, AB	39,245	47,893	**-8,648**
Other providers	8,152	11,152	**-3,000**

Source: RRT.

Revenue. In 2021, compared to 2020, the revenue from public mobile telephone services shrank by 1.6% or EUR 2.4 million and stood at EUR 143.3 million (see Fig. 15). In 2021, such revenue accounted for one of the largest shares of the electronic communications service market revenue (18.8%). The trend of decreasing revenue from public mobile telephone services has been observed throughout the period between 2016 and 2021 in question.

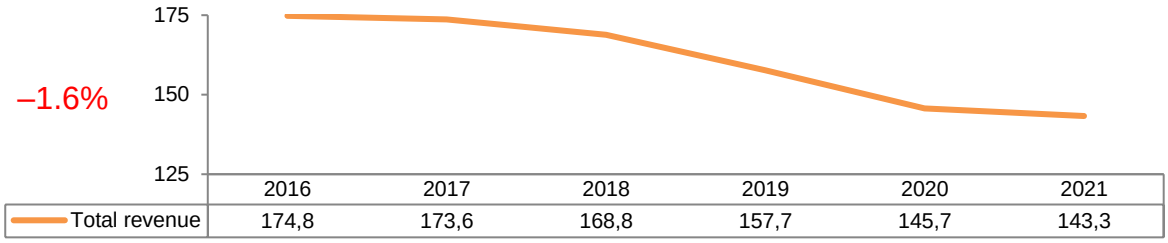


Fig. 15. **Revenue from public mobile telephone services, EUR million, 2016-2021**
Source: RRT.

In 2021, the overall revenue of the three major mobile telephone service providers slightly decreased (by 1.6% or EUR 2.3 million). The share of the revenue of the overall revenue from mobile telephone services stood at 96.1%, as was the case in 2020. In 2021, as was the case in 2020, the largest market share (37.0%) in terms of the revenue received from public mobile telephone services was held by UAB Tele2 (see Fig. 16), whereas the market share of UAB Bitė Lietuva was subject to the steepest growth (by 0.5 pp) and stood at 31.0%.

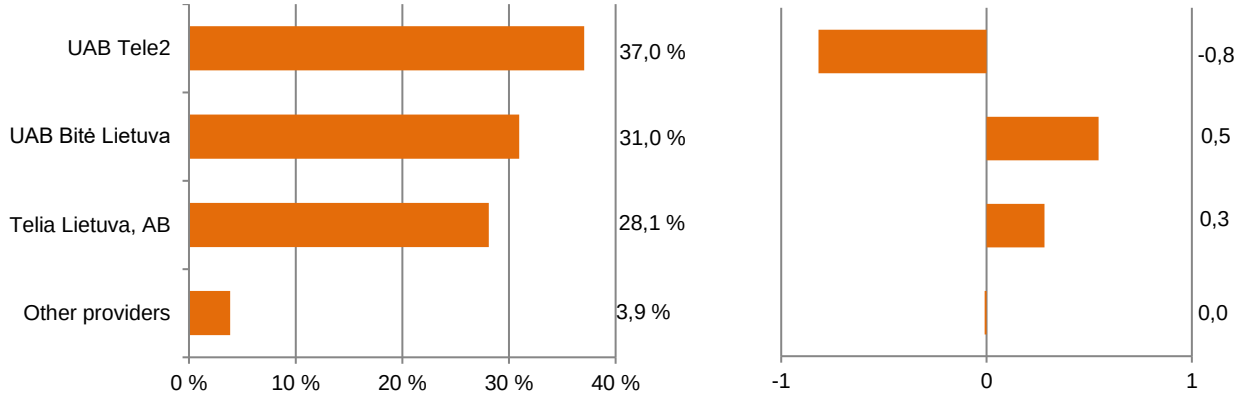


Fig. 16. **Structure of revenue from public mobile telephone services by service providers, %, and annual changes of the revenue shares, pp, 2021**
Source: RRT.

The average revenue received from a user per month (ARPU) for public mobile telephone services was slightly decreasing in 2021 (EUR 0.1) and it stood at EUR 3.2 per month (see Table 6). It must be noted that in 2016-2021, ARPU variations were not high: between EUR 3.2 and 3.9 per month.

Table 6. **ARPU for public mobile telephone services, EUR per month, 2016-2021***

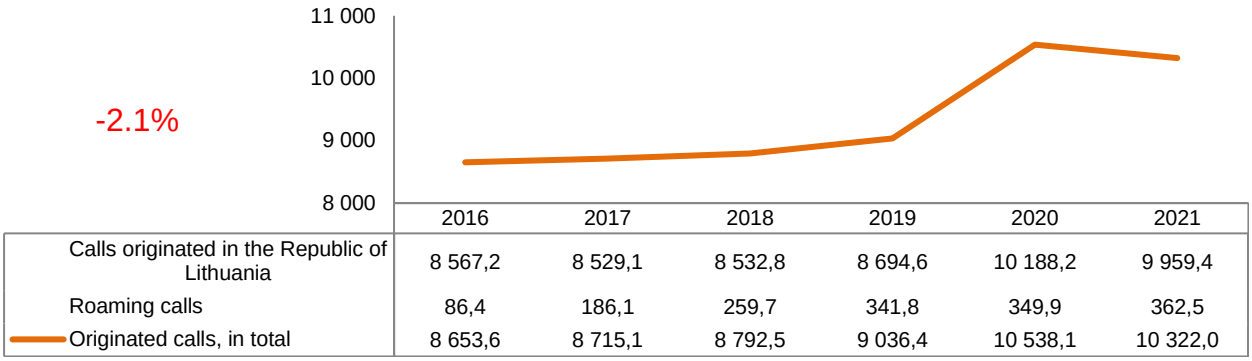
	2016	2017	2018	2019	2020	2021
ARPU for public mobile telephone services	3.5	3.9	3.7	3.6	3.3	3.2

**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 which was increasing till 2020 went down by 2.1% in 2021, compared to 2020, or by 216.1 million minutes and totalled 10,322.0 million minutes (see Fig. 17). In 2021, the Lithuanian public mobile telephone voice service users originated 96.5% of the calls by duration in Lithuania. The duration of such calls decreased by 2.2% in 2021, compared to 2020. The duration of calls originated in foreign countries, where the Lithuanian public mobile

telephone service users, when being abroad, were using the roaming services slightly increased (by 3.6% or 12.6 million minutes).



	2016	2017	2018	2019	2020	2021
Calls originated in the Republic of Lithuania	8 567,2	8 529,1	8 532,8	8 694,6	10 188,2	9 959,4
Roaming calls	86,4	186,1	259,7	341,8	349,9	362,5
Originated calls, in total	8 653,6	8 715,1	8 792,5	9 036,4	10 538,1	10 322,0

Fig. 17. **Duration of calls originated by Lithuanian public mobile telephone voice service users, million minutes, 2016-2021**
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 was that of the calls originated by UAB Tele2 service users in the entire period of 2016-2021. In 2021, it accounted for 48.6% of the overall duration of originated calls (see Table 7).

Table 7. **Duration of calls originated by Lithuanian public mobile telephone voice service users by service providers, million minutes, 2016-2021**

	2016	2017	2018	2019	2020	2021
UAB Tele2	4,127.9	4,216.7	4,272.5	4,504.9	5,298.7	5,019.6
Telia Lietuva, AB	2,318.5	2,347.2	2,364.0	2,378.0	2,777.3	2,797.1
UAB Bitė Lietuva	1,972.3	1,939.4	1,945.5	1,954.9	2,249.5	2,297.6
Other providers	234.9	211.9	210.4	198.7	212.6	207.8
All providers	**8,653.6**	**8,715.1**	**8,792.5**	**9,036.4**	**10,538.1**	**10,322.0**

Source: RRT.

When assessing the call structure, the call destinations must be taken into account as well. There are the following destinations of the calls originated in the Lithuanian public mobile communications networks: the calls are terminated in the networks of the Republic of Lithuania (calls are terminated in own networks, by short-number or service number calls, in other public mobile communications networks, in public fixed communications networks) and the call are terminated in foreign operators' networks. The major share of all Lithuanian public mobile telephone calls was terminated in the networks of the Republic of Lithuania in 2021 (99.5%) (see Table 8).

Table 8. **Duration of calls originated in Lithuanian public mobile communications networks by call destination, million minutes, 2016-2021***

	2016	2017	2018	2019	2020	2021
Terminated in the networks of the Republic of Lithuania	8,517.8	4,483.7	8,489.0	8,650.8	10,134.4	9,907.1
Of which terminated by short-number and service number calls	-	31.7	35.3	40.4	56.1	66.4
Terminated in foreign operators' networks	49.4	45.4	43.9	43.8	53.8	52.3
Total call duration	**8,567.2**	**8,529.1**	**8,532.8**	**8,694.6**	**10,188.2**	**9,959.4**

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

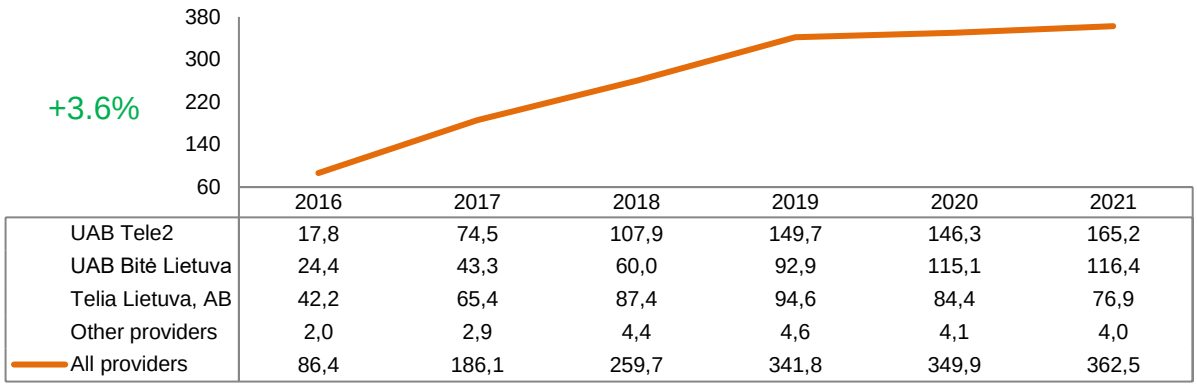
When analysing the call structure by the way of settlement, most calls in Lithuania were originated by service users (legal and natural persons) which paid for the services under invoices in 2021 – such calls accounted for 84.2% of the duration of all originated calls (see Table 9), and their duration went down by 2.3% or 194.4 million minutes in 2021, compared to 2020. The duration of pre-paid calls made by service users decreased by 2.1% or by 34.4 million minutes over the year.

Table 9. **Duration of calls of various destinations originated in Lithuanian public mobile communications networks by the way of settlement and type of service users, million minutes, 2020-2021**

	2020			2021		
	Pre-paid	Post-paid		Pre-paid	Post-paid	
		Natural	Legal		Natural	Legal
Terminated in the networks of the Republic of Lithuania	1,604.7	6,387.0	2,142.7	1,570.1	6,129.8	2,207.2
Of which terminated by short-number and service number calls	4.7	32.4	18.9	6.0	37.9	22.5
Terminated in foreign operators' networks	3.5	17.1	33.2	3.7	16.0	32.5
Total originated	**1,608.2**	**6,404.1**	**2,175.9**	**1,573.9**	**6,145.8**	**2,239.7**

Source: RRT.

The duration of calls originated in foreign countries, where the Lithuanian public mobile telephone service users, when being abroad, were using roaming services, was growing throughout the entire period of 2016-2021. The duration of such calls went up by 3.6% or by 12.6 million minutes in 2021, compared to 2020.



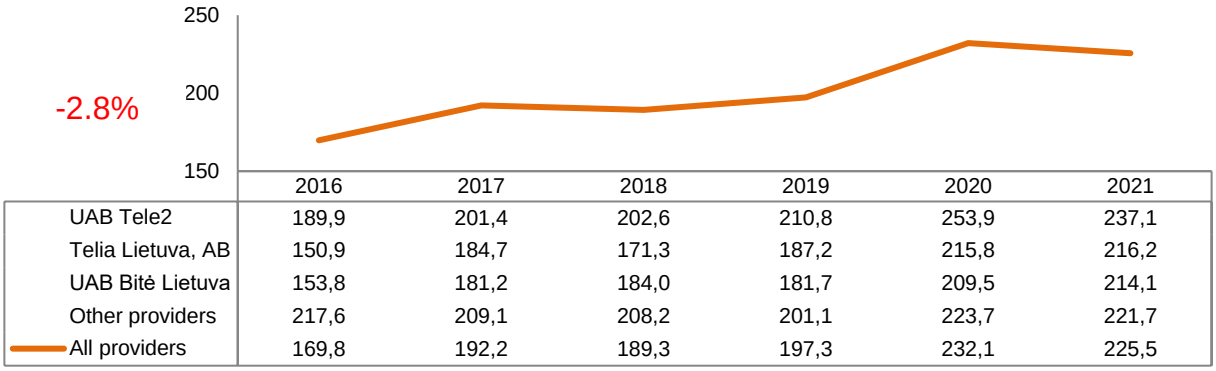
	2016	2017	2018	2019	2020	2021
UAB Tele2	17,8	74,5	107,9	149,7	146,3	165,2
UAB Bitė Lietuva	24,4	43,3	60,0	92,9	115,1	116,4
Telia Lietuva, AB	42,2	65,4	87,4	94,6	84,4	76,9
Other providers	2,0	2,9	4,4	4,6	4,1	4,0
All providers	86,4	186,1	259,7	341,8	349,9	362,5

Fig. 18. **Duration of calls originated by Lithuanian public mobile telephone service users using roaming services by service providers, million minutes, 2016-2021**
Source: RRT.

In 2021, UAB Tele2 remained the leader of roaming services, where service users of the Lithuanian public mobile telephone service providers are calling while being abroad, by the duration of calls (see Fig. 18): 45.6% of all roaming calls were originated by means of SIM cards of this operator in 2021. The duration of roaming calls originated by means of UAB Tele2 SIM cards increased by 12.9% or by 18.9 million minutes in 2021.

As far as the calls originated in Lithuanian public mobile communications networks are concerned, without differentiating call destinations, it is evident that the average monthly call duration per service user was 225.5 minutes in 2021 (almost 4 hours), i.e. by 6.6 minutes shorter than in 2020 (see Fig. 19). The average longest duration of the calls (237.1 minutes or 4.0 hours) was of the UAB Tele2 service user in 2021, as was the case in 2020. The average monthly duration of calls of the service users of UAB Bitė Lietuva was subject to the greatest increase in 2021: by 2.2% or 4.6 minutes. The average monthly call duration per post-paid service user was 279.5 minutes in 2021 (natural person – 293.4 minutes, legal person – 247.2 minutes) or by 5.3%

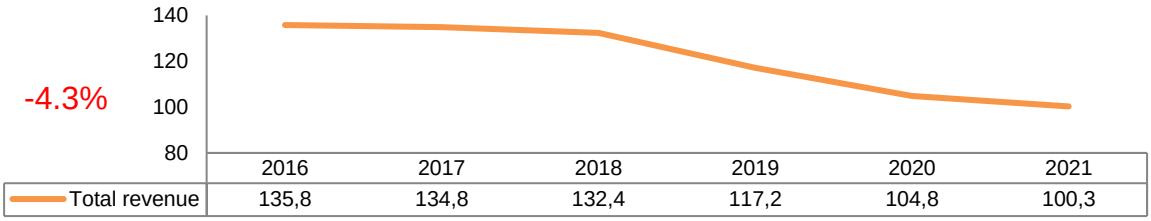
shorter than in 2020, and the duration per pre-paid service user was by 112.2 minutes or by 2.3% longer than in 2020.



	2016	2017	2018	2019	2020	2021
UAB Tele2	189,9	201,4	202,6	210,8	253,9	237,1
Telia Lietuva, AB	150,9	184,7	171,3	187,2	215,8	216,2
UAB Bitė Lietuva	153,8	181,2	184,0	181,7	209,5	214,1
Other providers	217,6	209,1	208,2	201,1	223,7	221,7
All providers	169,8	192,2	189,3	197,3	232,1	225,5

Fig. 19 **Average monthly duration of calls originated by a single Lithuanian public mobile telephone service user by service providers, minutes, 2016-2021**
Source: RRT.

Revenue. In 2021, compared to 2020, the revenue received from public mobile telephone voice services went down by 4.3% or EUR 4.5 million (see Fig. 20). It must be noted that the decreasing trend in the revenue remained throughout the entire period in question (2016-2021).



	2016	2017	2018	2019	2020	2021
Total revenue	135,8	134,8	132,4	117,2	104,8	100,3

Fig. 20. **Revenue from public mobile telephone voice services, EUR million, 2016-2021**
Source: RRT.

In terms of the revenue structure by the way of settlement, it is evident that in 2021, the major part of the revenue from public mobile telephone voice services was comprised of the revenue received from the service users (legal and natural persons) who paid for the services under the invoices – 82.4% or EUR 82.7 million.

ARPU. In 2021, the average monthly revenue received from public mobile telephone voice services per subscriber (ARPU) shrank by 4.9% or EUR 0.1 and stood at EUR 2.3 per month (see Table 10). It comprised 70.0% of ARPU received from all public mobile telephone services. In 2021, the average revenue received from both public mobile telephone post-paid service users (6.0% or EUR 0.2) and pre-paid service users (5.5% or EUR 0.1) went down. The revenue received from post-paid service users were 2.2 times higher than the revenue from pre-paid service users.

Table 10. **ARPU for public mobile telephone voice services by the way of settlement, EUR per month, 2016-2021**

	2016	2017	2018	2019	2020	2021
ARPU for public mobile telephone voice services	2.7	3.0	2.9	2.7	2.4	2.3
Post-paid	3.4	3.7	3.6	3.4	2.9	2.8
Pre-paid	1.5	1.4	1.7	1.4	1.3	1.2
ARPU for all public mobile telephone services	3.5	3.9	3.7	3.6	3.3	3.2

Source: RRT.

The comparison of ARPU received by major operators for public mobile telephone voice services shows that in 2021, the lowest ARPU was that of UAB Tele2 (EUR 1.4 or by 12.8% less than in 2020), and the highest ARPU was of UAB Bitė Lietuva (EUR 3.3), as was the case in 2020 (see Table 11). This trend is observed throughout the entire period in question (2016-2021).

Table 11. **ARPU for public mobile telephone voice services by providers, EUR per month, 2016-2021**

	2016	2017	2018	2019	2020	2021
UAB Bitė Lietuva	3.4	3.9	3.8	3.5	3.3	3.3
Telia Lietuva, AB	2.9	3.5	3.2	3.2	2.9	2.8
UAB Tele2	2.4	2.4	2.4	1.9	1.6	1.4
Other providers	1.9	2.6	2.6	2.6	2.7	2.8
All providers	**2.7**	**3.0**	**2.9**	**2.7**	**2.4**	**2.3**

Source: RRT.

Prices. In Lithuania, the so-called *flat rate* service plans were prevailing during the period in question, whereby 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. 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 downward trend has been observed throughout the period of 2016-2021. In 2021, compared to 2020, the average price of voice services remained unchanged and stood at 1.0 euro cents per minute (see Table 12).

Table 12. **Calculated average prices of public mobile telephone voice services by service providers, euro cents per minute, 2016-2021**

	2016	2017	2018	2019	2020	2021
UAB Bitė Lietuva	1.9	2.1	2.0	1.9	1.5	1.5
Telia Lietuva, AB	1.9	1.8	1.8	1.7	1.3	1.3
UAB Tele2	1.3	1.2	1.1	0.9	0.6	0.6
Other providers	0.9	1.2	1.2	1.3	1.2	1.2
All providers	**1.6**	**1.5**	**1.5**	**1.3**	**1.0**	**1.0**

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[6] 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[7] – 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 was high in 2021 (see Table 13). In 2020-2021, the voice quality in the

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

[7] Voice transmission quality is a figure which shows the quality of a voice transmitted over the network during a successful call expressed in MOS scores from 1 to 5: 1 – poor, 2 – low, 3 – medium, 4 – high, 5 – best. MOS assessment is carried out by means of specific software installed in the authority's measurement equipment that uses the wideband voice quality testing standard P.863-SWB 'POLQA'.

network of Telia Lietuva, AB was assessed by making a call using the VoLTE (*Voice over LTE*) technology – this led to a significantly improved MOS score.

Table 13. **Average value of public mobile telephone voice service transmission quality expressed in MOS scores by service providers, scores, 2017-2021**

	2017	2018	2019	2020	2021
Telia Lietuva, AB	3.03	3.29	3.52	4.56	4.56
UAB Bitė Lietuva	3.40	3.45	3.50	3.66	3.65
UAB Tele2	3.24	3.22	3.28	3.49	3.57

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 being replaced by new, more convenient and more advanced platforms, such as Viber, Facebook Messenger, etc.

Number of SMS and MMS. During the entire period in question (2016-2021), the number of SMS was going down (see Table 14). In 2021, compared to 2020, the number of sent SMS declined by 6.6%. A single public mobile telephone service user sent 61 SMS per month on an average in 2021 (by 5 SMS fewer than in 2020), i.e. 2 SMS per day. In 2021, compared to 2020, the number of sent A2P (*Application to Person*) SMS grew by 71.9% and stood at 67.4 million. They constituted 2.5% of all SMS sent in 2021.

Table 14. **Number of sent SMS, million units, and MMS, thousand units, and market shares of service providers, %, 2016-2021**

	2016	2017	2018	2019	2020	2021
Number of sent SMS, in million units	**5,259.3**	**4,489.7**	**3,978.0**	**3,248.6**	**2,869.6**	**2,680.1**
UAB Tele2	53.9	56.8	56.7	55.2	52.8	55.1
Telia Lietuva, AB	21.5	21.7	22.6	25.4	29.9	29.2
UAB Bitė Lietuva	22.9	19.7	18.9	18.2	16.0	14.5
Other providers	1.7	1.8	1.9	1.3	1.3	1.2
Number of sent MMS, in thousand units	**9,430.7**	**10,944.3**	**13,128.4**	**11,551.5**	**11,496.2**	**10,028.1**
UAB Tele2	46.3	47.7	49.7	44.6	45.0	47.3
UAB Bitė Lietuva	15.5	21.0	22.3	24.2	24.3	26.4
Telia Lietuva, AB	30.9	27.1	23.2	26.5	26.4	21.1
Other providers	7.4	4.2	4.8	4.8	4.3	5.2

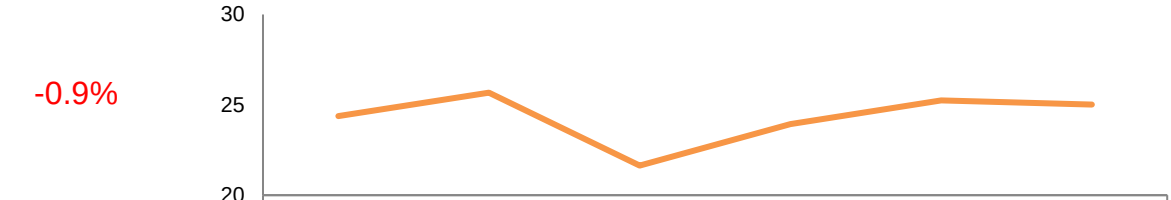
Source: RRT.

In 2021, compared to 2020, the number of sent MMS declined by 12.8% (see Table 14). The average number of MMS sent per public mobile telephone service user in 2021, as was the case in 2020, was 3. 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. This trend is observed throughout the entire period in question (2016-2021).

Revenue. The revenue received from sent SMS and MMS messages decreased by 0.9% and equalled EUR 25.0 million in 2021 (see Fig. 21). The major share of revenue received from sent SMS and MMS (95.4%) consisted of the revenue received from sent SMS in 2021. Compared to all revenue from public mobile telephone

services, the revenue from SMS accounted for 16.6% of all revenue[8]. In 2021, compared to 2020, the revenue gained from sent A2P SMS grew by 80.6 and stood at EUR 3.7 million or 15.4% of all revenue received from sent SMS.



	2016	2017	2018	2019	2020	2021
Revenue from SMS	23,6	24,7	20,5	22,8	24,0	23,9
Revenue from MMS	0,8	1,0	1,1	1,1	1,2	1,2
Total revenue	24,4	25,7	21,6	23,9	25,2	25,0

Fig. 21 **Revenue from SMS and MMS, EUR million, 2016-2021**
Source: RRT.

Prices. The average price of the SMS service (ratio between the revenue from such services and number of sent SMS) stood at 0.89 euro cents in 2021. Service users of UAB Bitė Lietuva had to pay the highest price per SMS (1.24 euro cents), whereas the lowest price (0.60 euro cents) for sending SMS was applied by Telia Lietuva, AB in 2021. UAB Tele2 service users had to pay, on average, 0.93 euro cents for sending SMS in 2021. The largest difference between the highest and lowest calculated average SMS prices applied by the major mobile communications operators on the market stood at 0.64 euro cents in 2021. The average revenue received by other providers per sent SMS stood at 1.73 euro cents.

The average calculated price for sending MMS (ratio between revenue from such services and number of sent MMS) stood at 11.5 euro cents in 2021. The difference between the highest and lowest calculated average MMS prices applied by the major mobile communications operators stood at 5.0 euro cents. UAB Bitė Lietuva service users had to pay the highest price for sending an MMS (17.0 euro cents); the lowest price was paid by UAB Tele2 service users (9.5 euro cents). Telia Lietuva, AB service users had to pay 12.0 euro cents for sending MMS in 2021. The average price per sent MMS calculated by other providers stood at 0.4 euro cents.

The trend of decreasing revenue received from public mobile telephone services has been observed throughout the entire period between 2016 and 2021. The duration of calls originated by mobile telephone service users which was rapidly growing in 2020 due to the *Covid-19* pandemic went down by 2.1% in 2021. The decreasing number of SMS and MMS demonstrates that the conventional services are gradually being replaced by the alternatives provided over the data transmission networks.

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

2.3. Public fixed telephone services

NB!

- In this section of the report, other public fixed telephone service providers shall be all public fixed telephone service providers, except for Telia Lietuva, AB indicated in Table 16, Tables 18-20 and Figure 23; UAB Baltnetos Komunikacijos, UAB CSC Telecom, UAB Nacionalinis Telekomunikacijų Tinklas, Telia Lietuva, AB indicated in Figure 22; UAB Baltnetos Komunikacijos, UAB Cgates, Telia Lietuva, AB indicated in Figure 25; UAB CSC Telecom, UAB Ecofon, UAB Mediafon Carrier Services, UAB Nacionalinis Telekomunikacijų Tinklas, UAB Tele2, Telia Lietuva, AB indicated in Table 17 (hereinafter in this section – the 'other providers').

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

Service providers. At the end of 2021, the public fixed telephone services were provided by 40 undertakings, i.e. by 5 undertaking more than at the end of 2020. Of which 38 undertakings provided public fixed telephone services by means of VoIP (Voice Over Internet Protocol) technology.

Service users. 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. In 2021, the number of used public fixed telephone lines decreased by 12.5% or by 38.0 thousand and the total number equalled 266.8 thousand lines (see Table 15).

Table 15. **Number of public fixed telephone service users and of used lines, thousand units, and penetration (per 100 residents and 100 households), %, 2016-2021**

	2016	2017	2018	2019	2020	2021
Number of lines, thousand units	**521.9**	**474.3**	**412.1**	**351.3**	**304.8**	**266.8**
Line penetration (per 100 residents), %	18.3	16.9	14.7	12.6	10.9	9.5
Line penetration (per 100 households), %	41.0	37.8	31.3	26.8	22.6	19.1
Number of service users, thousand	**529.9**	**485.9**	**426.5**	**367.8**	**321.9**	**290.6**
Natural persons	374.7	333.7	282.1	229.8	193.4	171.7
Legal persons	155.2	152.2	144.5	138.0	128.5	118.9
Service users' penetration (per 100 residents), %	18.6	17.3	15.3	13.2	11.5	10.4
Service users' penetration (per 100 households), %	41.7	38.7	31.8	28.0	23.9	20.8

Source: RRT.

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 2021, as many as 9.5 lines per 100 residents were available. 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. The total number of public fixed telephone service users was decreasing throughout the entire period in question. In 2021, this number went down by 9.7% or 31.3 thousand and totalled 290.6 thousand at the end of 2021.

In 2021, natural persons who used fixed telephone services represented the major share of public fixed telephone service users – 59.1% (see Table 15). In 2021, this number dropped by 11.2% or 21.7 thousand. The number of legal persons using public fixed telephone services was not falling that rapidly – by 7.5% or 9.6 thousand, respectively. Their share with respect to the overall number of public fixed telephone service users was growing throughout the entire period in question (2016-2021).

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 2021 and accounted for 79.2% (see Fig. 22). Compared to 2021, its market share shrank the most – by 2.0 percentage points.

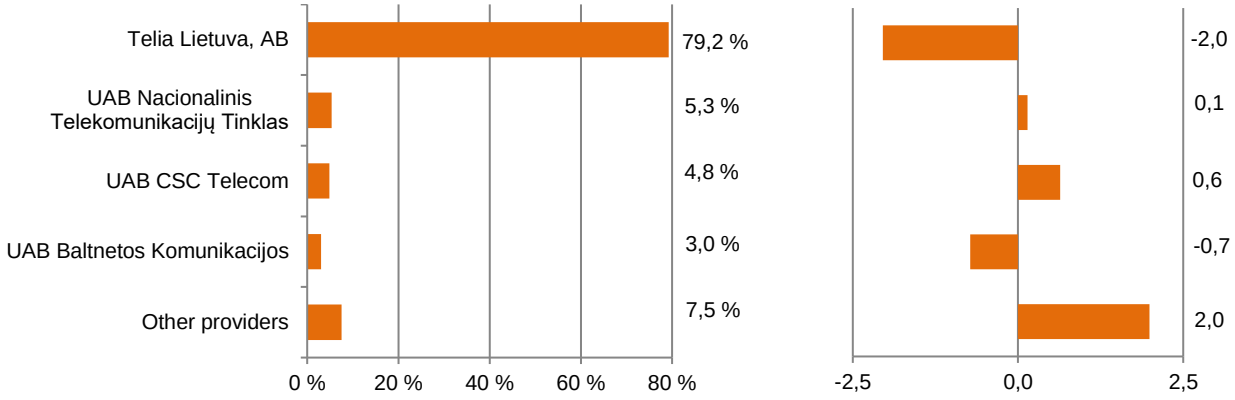


Fig. 22. **Structure of public fixed telephone service market by the number of service providers, %, and annual changes of the market shares, pp, 2021**
Source: RRT.

The number of public fixed telephone service users of Telia Lietuva, AB decreased by 12.0% or 31.4 thousand in 2021, and the number of service users of other providers slightly rose by 0.1 thousand (see Table 16).

Table 16. **Number of public fixed telephone service users by service providers, thousand, and by types of service users, %, 2016-2021**

	2016	2017	2018	2019	2020	2021
Telia Lietuva, AB	**464.8**	**414.9**	**353.4**	**295.9**	**261.7**	**230.3**
Natural persons	76.0	74.8	72.5	69.7	68.1	65.9
Legal persons	24.0	25.2	27.5	30.3	31.9	34.1
Other providers	**65.1**	**71.0**	**73.1**	**71.9**	**60.2**	**60.3**
Natural persons	32.6	32.7	35.5	32.7	25.5	33.1
Legal persons	67.4	67.3	64.5	67.3	74.5	66.9

Source: RRT.

The number of natural persons using public fixed telephone services provided by Telia Lietuva, AB dropped by 14.8% and stood at 151.8 thousand in 2021. The market share held by Telia Lietuva, AB in the segment of services provided to natural persons decreased by 3.7 percentage points and stood at 88.4% of the overall market of public fixed telephone services. The number of natural persons using public fixed telephone services provided by other providers grew by 30.2% and stood at 20.0 thousand in 2021, compared to 2020.

The number of legal persons using public fixed telephone services provided by Telia Lietuva, AB and other providers dropped accordingly by 6.1% (5.1 thousand) and 10.1% (4.5 thousand) in 2021. Telia Lietuva,

AB whose public fixed telephone services were used by 78.5 thousand legal persons at the end of 2021 held 66.0% of the market of public fixed telephone services provided to legal persons.

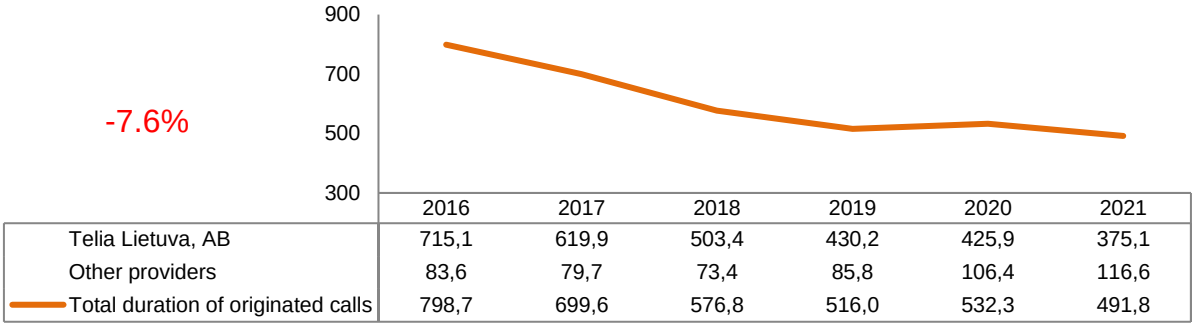
Number Portability Service. In 2021, this service was used 8.6 thousand times, i.e. by 6.7% less than in 2020 (see Table 17). The majority of telephone numbers were ported from the network of UAB CSC Telecom (2.8 thousand or 32.2% of all ported telephone numbers) and from the network of Telia Lietuva, AB (2.5 thousand or 29.7%, respectively) to another network. As many as 4.0 thousand or 47.3% of telephone numbers were ported to UAB CSC Telecom network from the networks of other providers, and 2.4 thousand or 27.8% of the numbers were ported to UAB EcoFon.

Table 17. **Number of ported numbers by service providers, units, 2021**

	To	From	**Balance**
UAB CSC Telecom	4,048	2,753	**1,295**
UAB Nacionalinis Telekomunikacijų Tinklas	720	193	**527**
UAB Tele2	403	158	**245**
UAB EcoFon	2,381	2,369	**12**
UAB Mediafon Carrier Services	390	436	**-46**
Telia Lietuva, AB	513	2,543	**-2030**
Other providers	97	100	**-3**

Source: RRT.

Call Duration. The duration of calls originated by public fixed telephone service users decreased by 7.6% in 2021, compared to 2020 (see Fig. 23). 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 2021 as in the previous year: the major market share (76.3%) was held by Telia Lietuva, AB, although its market share shrank by 3.7 percentage points over the year.



	2016	2017	2018	2019	2020	2021
Telia Lietuva, AB	715,1	619,9	503,4	430,2	425,9	375,1
Other providers	83,6	79,7	73,4	85,8	106,4	116,6
Total duration of originated calls	798,7	699,6	576,8	516,0	532,3	491,8

Fig. 23. **Duration of calls originated by public fixed telephone service users by service providers, million minutes, 2016-2021**
Source: RRT.

In 2021, the total duration of calls terminated in the networks of the Republic of Lithuania and in the networks of foreign operators decreased (see Table 18). The decreasing trend of calls terminated in the networks of foreign operators is observed during the entire period of 2016-2021. In 2021, the duration of calls of other providers terminated in the networks of foreign operators represented 65.5% of all those calls. During the period of 2016-2021, the major part of calls terminated in the networks of the Republic of Lithuania was comprised of calls originated in the network of Telia Lietuva, AB – in 2021, they represented 77.6%.

Table 18. **Duration of calls originated in individual public fixed telephone networks by call destination, million minutes, 2016-2021***

Telia Lietuva, AB	2016	2017	2018	2019	2020	2021
Terminated in the networks of the Republic of Lithuania	696.2	602.7	490.1	419.4	417.9	370.1
Of which terminated by short-number and service number calls	-	11.8	9.5	9.0	9.6	7.0
Terminated in foreign operators' networks	18.9	17.2	13.3	10.8	8.0	5.1
Other providers						
Terminated in the networks of the Republic of Lithuania	62.7	55.1	56.2	75.1	98.1	107.0
Of which terminated by short-number and service number calls	-	0.4	0.5	0.9	0.5	0.6
Terminated in foreign operators' networks	20.9	24.6	17.1	10.7	8.3	9.6
All providers						
Terminated in the networks of the Republic of Lithuania	758.9	657.8	546.4	494.5	516.0	477.0
Of which terminated by short-number and service number calls	-	12.3	10.0	9.9	10.0	7.6
Terminated in foreign operators' networks	39.8	41.8	30.4	21.5	16.2	14.7

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

Revenue. The trend of consistently decreasing revenue from public fixed telephone services has been observed throughout the entire period in question. In 2021, such revenue went down by 12.1% or EUR 2.9 million and amounted to EUR 21.5 million (which constituted 2.8% of the total revenue of the electronic communications market) (see Fig. 24).

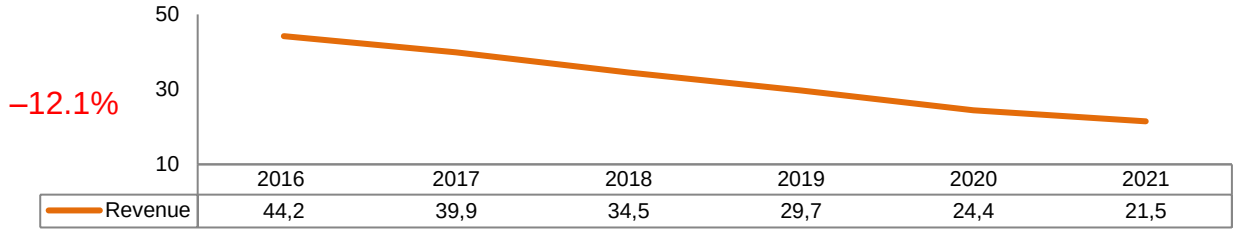


Fig. 24. **Revenue from public fixed telephone services, EUR million, 2016-2021**
Source: RRT.

In terms of the breakdown of revenue from public fixed telephone services by providers, it is evident that the revenue received by Telia Lietuva, AB from the provision of public fixed telephone voice services constituted the major part (85.1%) (see Fig. 25). In 2021, compared to 2020, the market share held by Telia Lietuva, AB shrank by 0.7 percentage points.

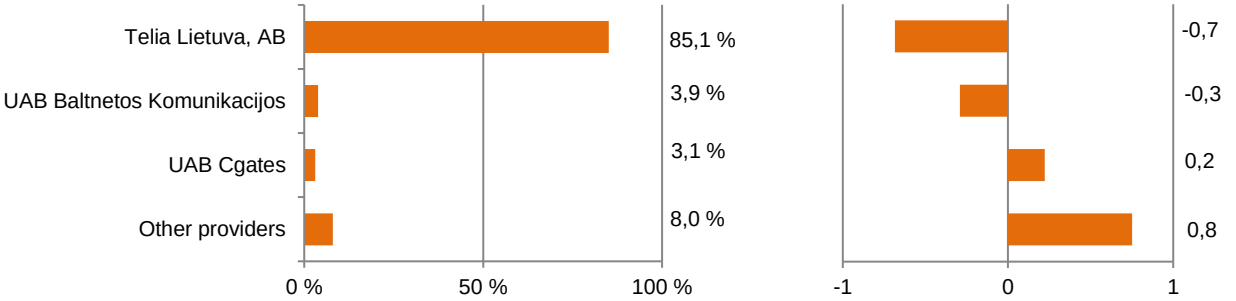


Fig. 25. **Structure of revenue from public fixed telephone services by service providers, %, and annual changes of the revenue shares, pp, 2021**
Source: RRT.

ARPU. The average revenue from public fixed telephone services per subscriber per month (ARPU) accounted for EUR 6.0 in 2021, as was the case in 2020 (see Table 19). ARPU remained unchanged in the segment of both legal and natural persons.

Table 19. **ARPU for public fixed telephone services by service providers and types of service users, in EUR per month, 2016-2021**

	2016	2017	2018	2019	2020	2021
ARPU for public fixed telephone services*	7.0	6.6	6.4	6.4	6.0	6.0
ARPU by users						
Natural persons	5.8	5.5	5.4	5.5	5.2	5.2
Legal persons	9.9	9.2	8.3	8.0	7.1	7.1
ARPU by providers						
Telia Lietuva, AB	7.5	7.0	6.9	6.9	6.4	6.3
Other providers	3.6	4.3	3.9	4.4	4.3	4.6

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

In 2021, ARPU from public fixed telephone voice services exceeded ARPU from public mobile telephone services by 1.8 times. Having calculated the average monthly expenses per service user based on ARPU, it is to be concluded that the public mobile telephone voice services are more attractive to the service users not only due to the difference between the functionality of fixed and mobile telephone voice services but also due to lower expenses. 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 public fixed telephone service providers in 2021, compared to 2020 (ratio between revenue from such services and duration of calls that revenue was generated from) per minute of a local and international call decreased (see Table 20) by 2.8% and 9.8%, respectively. In 2021, compared to 2020, the calculated average price per minute of an international call originated in the networks of other providers decreased by 2.0 euro cents or by 29.1%, while it went up by 4.9 euro cents or by 27.5% in the network of Telia Lietuva, AB.

Table 20. **Calculated average prices of public fixed telephone services by service providers, euro cents per minute, 2016-2021**

Local call	2016	2017	2018	2019	2020	2021
Telia Lietuva, AB	2.4	2.5	2.6	2.5	2.5	2.5
Other providers	1.7	1.3	1.1	1.1	0.8	0.9
All providers	2.4	2.4	2.5	2.3	2.2	2.1
International call						
Telia Lietuva, AB	12.4	12.2	13.2	15.0	17.7	22.5
Other providers	5.8	6.0	6.6	8.6	6.8	4.9
All providers	8.9	8.6	9.5	11.8	12.1	10.9

Source: RRT.

The decreasing trend of both income and number of service users is observed during the entire period of 2016-2021. This fall is also caused by the average monthly costs for public fixed telephone services per service user which exceeded the costs for public mobile telephone services by 1.8 times in 2021. In 2021, the market of public fixed telephone services was shrinking in terms of the number of service users, the revenue and duration of calls.

2.4. Wholesale services of the provision of public communications networks and wholesale public telephone services

2.4.1. General overview of the market

Service providers	23
Major service provider	Telia Lietuva, AB
Wholesale revenue, EUR million	96.9

NB!

- 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 (hereinafter in this section – 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. These 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, also 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.

Revenue. The trend of decreasing revenue received from network interconnection services has been observed during the entire period of 2016-2021. The revenue received in 2021, compared to the revenue received in 2020, decreased by 13.2% and equalled EUR 96.9 million (see Fig. 26). The share of the revenue received from the network interconnection services in the total structure of the revenue of the electronic communications service market shrank by 2.5 percentage points and accounted for 12.7%.

	2016	2017	2018	2019	2020	2021
Total income	144,9	142,7	130,7	121,0	111,6	96,9
Termination in mobile communications networks	46,6	44,2	47,2	49,2	52,1	41,5
Termination in fixed communications networks	3,1	2,5	1,6	1,4	1,4	1,1
Call transit	70,3	73,8	56,4	51,1	38,9	36,6
Roaming	6,3	9,2	10,3	5,6	5,2	4,8
Other revenue	18,6	13,0	15,6	13,7	13,9	12,9

Fig. 26. **Structure of revenue from network interconnection services by service groups, EUR million, 2016-2021**
Source: RRT.

In terms of the structure of the revenue received from network interconnection services by service groups, it is evident that the revenue from call transit services and call termination in the mobile communications networks represented the major share during the entire period of 2016-2021. In 2021, the revenue received from call termination in mobile communications networks accounted for 42.8% of the total revenue from network interconnection services and it was by 3.9 percentage points less than in 2020. The revenue received from call transit services represented 37.8% of the total revenue from network interconnection services in 2021, and this

was by 2.8 percentage points more than in 2020. The revenue from SMS termination services grew by 2.4 times and stood at EUR 4.3 million in 2021, compared to 2020.

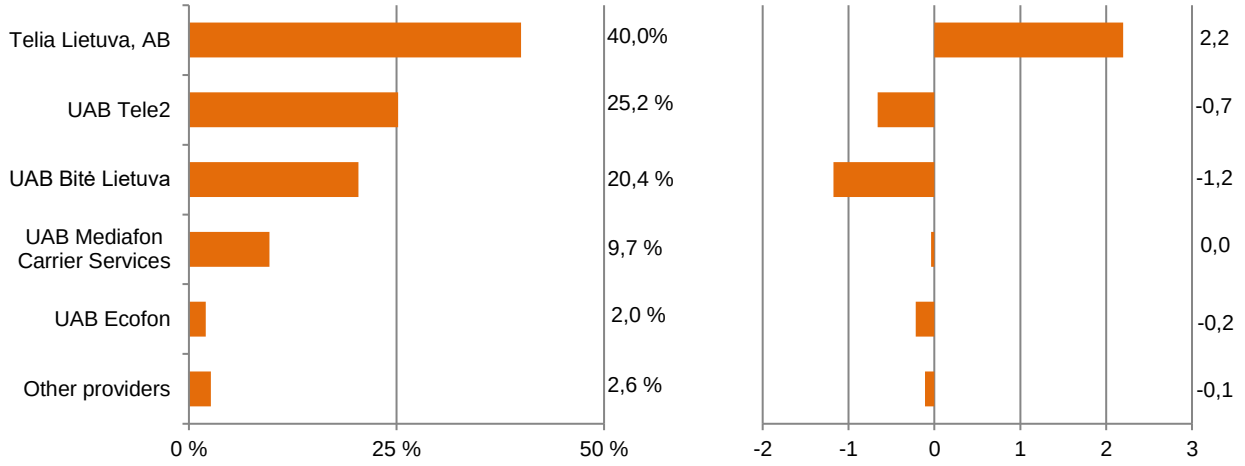


Fig. 27. **Structure of the network interconnection service market in terms of revenue received by service providers, %, and annual changes of the market shares, pp, 2021**
Source: RRT.

In 2021, the most rapid growth was observed in the market share held by Telia Lietuva, AB in terms of the revenue from network interconnection services – 2.2 percentage points (see Fig. 27) which represented the major part of the revenue (40.0%). The market share of UAB Bitė Lietuva shrank most radically – by 1.2 pp.

The trend of decreasing revenue from network interconnection services has been observed during the entire period of 2016-2021. In 2021, the drop of the revenue was mainly affected by the lower revenue from call termination in the mobile communications networks. During the period in question, the major part of revenue from network interconnection services has been represented by the revenue from call termination in the mobile communications networks and call transit services.

2.4.2. Call Transit Services

NB!

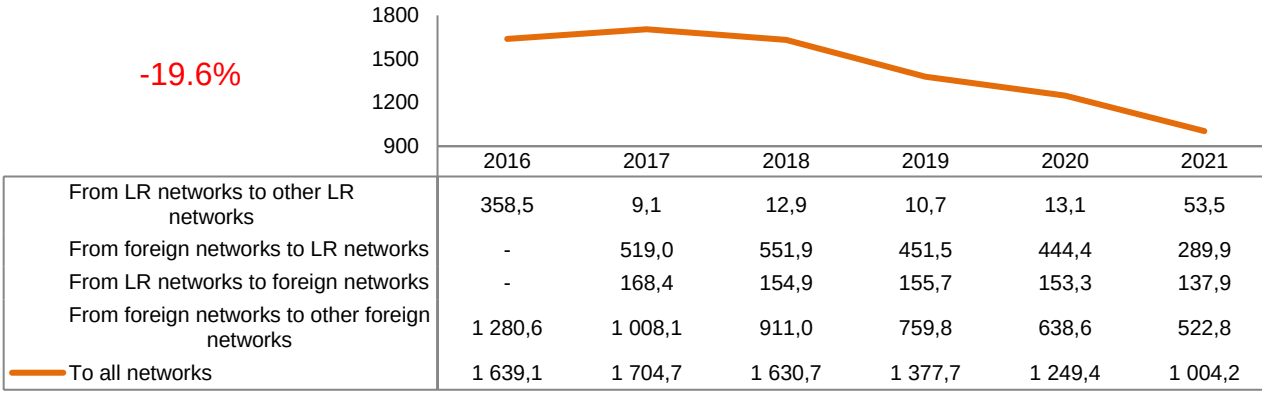
- The call transit services discussed in this section include net transit only, i.e. where the calls are originated or terminated in another network and the transit service is not provided.
- In this section of the report, other call transit service providers shall be all providers of call transit services,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

UAB Raystorm, Telia Lietuva, AB indicated in Figure 29; UAB Bitė Lietuva, UAB Ecofon, UAB Mediafon Carrier Services, Telia Lietuva, AB indicated in Figure 31 (hereinafter in this section – 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 enable transferring calls inside the country, send calls originated inside the country to foreign countries as well as transferring 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 2021, call transit services were provided by 10 undertakings[9] – the same number as at the end of 2020.

Duration of transferred calls. When 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.



	2016	2017	2018	2019	2020	2021
From LR networks to other LR networks	358,5	9,1	12,9	10,7	13,1	53,5
From foreign networks to LR networks	-	519,0	551,9	451,5	444,4	289,9
From LR networks to foreign networks	-	168,4	154,9	155,7	153,3	137,9
From foreign networks to other foreign networks	1 280,6	1 008,1	911,0	759,8	638,6	522,8
To all networks	1 639,1	1 704,7	1 630,7	1 377,7	1 249,4	1 004,2

Fig. 28 **Duration of calls forwarded by transit to public communications networks of Lithuanian and foreign operators, million minutes, 2016-2021**
Source: RRT.

The downward trend in the duration of calls forwarded by transit has been observed since 2018; the duration of calls forwarded by transit went down in 19.6% in 2021. The following trend remained: the largest share (65.8%) of all calls forwarded by transit in 2021 was forwarded to the networks of foreign operators (see Fig. 28).

[9] Telia Lietuva, AB, UAB Bitė Lietuva, UAB Ecofon, UAB Mediafon Carrier Services, UAB Nacionalinis Telekomunikacijų Tinklas, UAB Raystorm, UAB TCG Telecom, UAB Teleksas, UAB Moremins Lietuva, UAB M-Connectus.

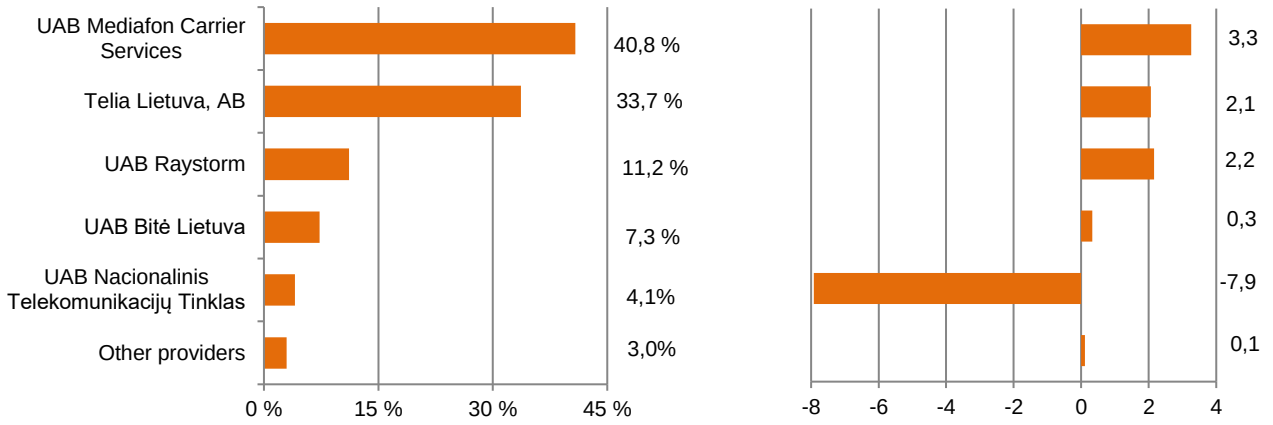


Fig. 29. **Structure of the market of call transit services by duration of forwarded calls, %, and annual changes of the market shares, pp, 2021**
Source: RRT.

On the market of call transit services, the major share (by the duration of forwarded calls) was held by UAB Mediafon Carrier Services in 2021, as was the case in 2020 – its share grew the most (by 3.3 percentage points) (see Fig. 29).

Revenue. Since 2018, the downward trend in the revenue received from call transit services has been observed (see Fig. 30). In 2021, compared to 2020, such revenue decreased by 6.1% or EUR 2.4 million. The fall of the revenue from call transit services was influenced by the shorter duration of calls forwarded by transit in 2021 (19.6%).

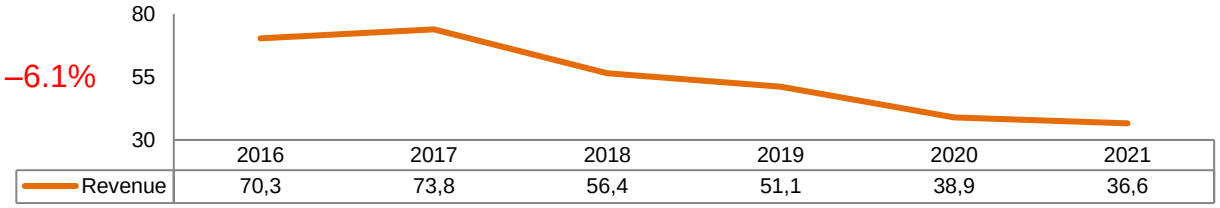


Fig. 30. **Revenue from call transit services, EUR million, 2016-2021**
Source: RRT.

With regard to the market of call transit services by revenue, it is evident that the major part (61.1%) of the revenue was generated by Telia Lietuva, AB in 2021, as was the case in the several previous years (see Fig. 31). Over the year, its market share grew by 3.7 percentage points.

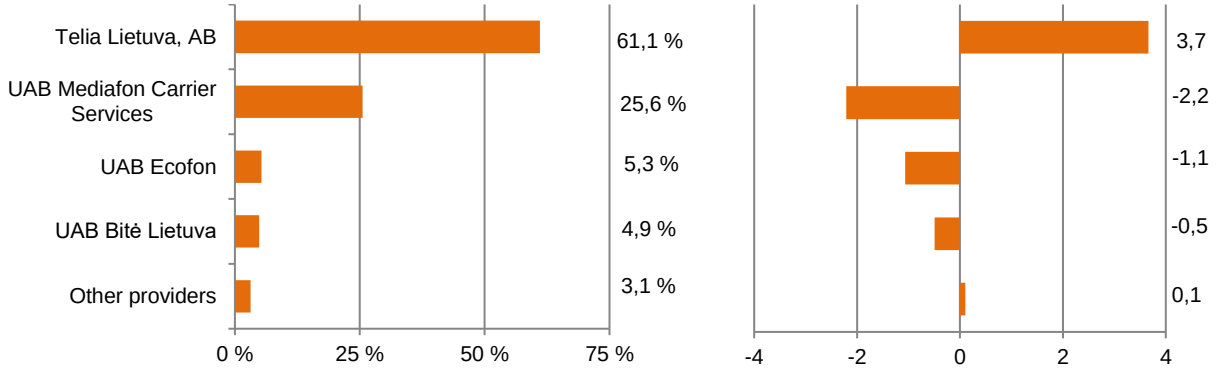


Fig. 31. **Structure of the market of call transit services by revenue, %, and annual changes of the market shares, pp, 2021**
Source: RRT.

The downward trend in the duration of calls forwarded by transit and in revenue received from call transit services has been observed since 2018. In 2021, as was the case in the several previous years, two undertaking were leading on the market of call transit services: Telia Lietuva, AB and UAB Mediafon Carrier Services. In terms of the revenue, the major market share (61.1%) was held by Telia Lietuva, AB, whereas in terms of the duration of forwarded calls (40.8%) – by UAB Mediafon Carrier Services.

2.4.3. Call Termination Services

2.4.3.1. Call termination in public mobile communications networks

NB!

- The services of call termination in public mobile communications networks discussed in this section include the termination of calls originated in other networks only, whereas the 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 networks shall be all service providers of call termination in public mobile communications networks, except for UAB Bitė Lietuva, Telia Lietuva, AB, and UAB Tele2 (hereinafter in this section – the 'other providers').

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

Service Providers. In 2021, the services of call termination in public mobile communications networks were provided by 10 operators[10].

Duration of terminated calls. In 2021, the total duration of calls terminated in public mobile communications networks was by 0.6% or by 28.6 minutes longer than in 2020 (see Table 21). During the entire period of 2016-2021, most calls were terminated in the network of UAB Tele2. In 2021, the calls terminated in UAB Tele2 network accounted for 42.3% of all calls terminated in public mobile communications networks. In 2021, as was the case in 2020, the largest share of calls terminated in public mobile communications networks (84.7%) by call duration was originated in public mobile communications networks.

Table 21. **Duration of calls terminated in public mobile communications networks by service providers, million minutes, and shares of the duration of terminated calls by call origination network, %, 2016-2021**

UAB Tele2	2016	2017	2018	2019	2020	2021

[10] Telia Lietuva, AB, UAB Bitė Lietuva, UAB Tele2, UAB CSC Telecom, UAB Mediafon Carrier Services, UAB Ecofon, UAB Nacionalinis Telekomunikacijų Centras, ONOFFAPP OÜ, Compatel Limited, UAB M-Connectus.

Originated in public mobile communications networks	82.5	82.2	79.1	77.3	78.0	81.0
Originated in public fixed communications networks	5.4	5.0	4.8	4.0	3.9	5.9
Originated in foreign operators' networks	12.1	12.7	16.1	18.7	18.1	13.0
Duration of terminated calls	**1,594.8**	**1,664.3**	**1,752.7**	**1,844.1**	**2,127.8**	**2,123.8**
Telia Lietuva, AB						
Originated in public mobile communications networks	84.0	82.5	82.1	84.8	88.7	88.7
Originated in public fixed communications networks	4.8	4.6	4.1	3.9	0.02	0.03
Originated in foreign operators' networks	11.2	12.9	13.8	11.3	11.3	11.2
Duration of terminated calls	**1,226.0**	**1,288.4**	**1,335.2**	**1,317.4**	**1,505.3**	**1,526.3**
UAB Bitė Lietuva						
Originated in public mobile communications networks	87.5	87.8	84.0	84.9	85.7	86.6
Originated in public fixed communications networks	8.5	6.5	7.2	6.8	6.7	5.9
Originated in foreign operators' networks	4.0	5.7	8.8	8.3	7.6	7.5
Duration of terminated calls	**1,041.3**	**1,064.3**	**1,135.5**	**1,134.7**	**1,326.0**	**1,334.9**
Other providers						
Originated in public mobile communications networks	95.1	47.8	58.9	55.6	58.7	56.4
Originated in public fixed communications networks	3.1	42.4	28.9	26.2	31.6	38.8
Originated in foreign operators' networks	1.8	9.9	12.3	18.2	9.7	4.8
Duration of terminated calls	**3.1**	**11.5**	**17.1**	**28.7**	**35.0**	**37.7**
Duration of terminated calls	**3,865.2**	**4,028.6**	**4,240.6**	**4,324.9**	**4,994.0**	**5,022.6**

Source: RRT.

Revenue. The revenue received from call termination in public mobile communications networks which was growing till 2020 (see Fig. 32) went down by 20.4% or EUR 10.6 million over 2021, compared to 2020. The decrease in the revenue was affected by the regulated price of call termination in public mobile communications networks which was going down by 19.1% in the first half of 2021 and by 25.5% in the second half of 2021, compared to 2020.

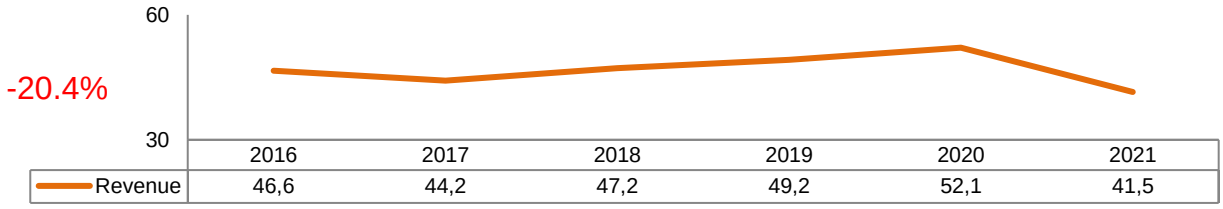


Fig. 32. **Revenue from call termination in public mobile communications networks, EUR million, 2016-2021**
Source: RRT.

In 2021, as was the case in 2020, the major part of such revenue (42.7%) was received by UAB Tele2 (see Fig. 33). Although the breakdown of the market shares, in terms of revenue, remained almost unchanged, due to lower total revenue from call termination in public mobile communications networks, the revenue of all three major mobile communications operators received from call termination in public mobile communications networks decreased in 2021.

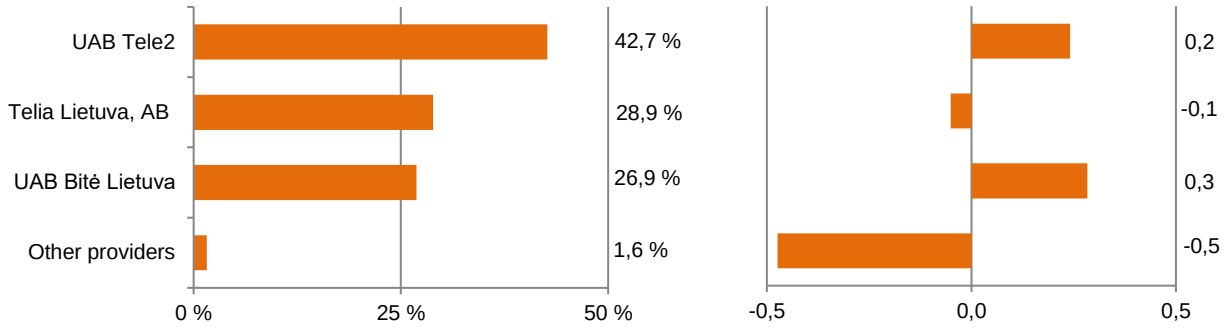


Fig. 33. **Structure of revenue from termination of calls in public mobile communications networks by service providers, %, and annual changes of the market shares, pp, 2021**
Source: RRT.

Prices. Due to the regulation applied by RRT (the Communications Regulatory Authority) the price of call termination in public mobile communications networks, where calls are originated in the Member States of the European Economic Area[11], went down by 19.1% and could not exceed 0.76 euro cent per minute (VAT excl.) as of 1 January 2021. By the European Commission Delegated Act[12] the common maximum prices for voice call termination in public mobile communications networks were set and they are to be applied to all providers of services of voice call termination in public mobile communications networks in all Member States of the European Union. Taking this into account, as of 1 July 2021 the prices for the services of voice call termination in public mobile communications networks, the procedure for their application and conditions have been set at a level of the European Union, i.e. by the Delegated Act. Between 1 July 2021 and 31 December 2021, the price for voice call termination in public mobile communications networks could not exceed 0.7 euro cents per minute (VAT excl.). This price will go down on an annual basis until it reaches 0.2 euro cents per minute (VAT excl.) in 2024.

2.4.3.2. Call termination in public fixed communications networks

NB!

- 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 (hereinafter in this section – the 'other providers').

[11] Norway, Iceland and Liechtenstein are not the Member States of the European Union, but said three countries and the Member States of the European Union constitute the European Economic Area.
[12] Commission Delegated Regulation (EU) 2021/654 of 18 December 2020 supplementing Directive (EU) 2018/1972 of the European Parliament and of the Council by setting a single maximum Union-wide mobile voice termination rate and a single maximum Union-wide fixed voice termination rate.

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 2021, as was the case in 2020, the services of call termination in public fixed communications networks were provided by 8 operators[13].

Duration of terminated calls. In 2021, compared to 2020, the duration of calls terminated in public fixed communications networks remained almost unchanged and accounted for 401.2 million minutes (see Table 22). In 2021, the largest share of calls terminated in public fixed communications networks (80.1%) by call duration was originated in public mobile communications networks – the duration of such calls increased by 3.9% or 12.1 million minutes in 2021.

[13] Telia Lietuva, AB, AB LTG Infra, UAB CSC Telecom, UAB Ecofon, UAB Mediafon Carrier Services, UAB Nacionalinis Telekomunikacijų Tinklas, Voxbone SA, Twilio Ireland Limited.

Table 22. **Durations of calls terminated in individual public fixed communications networks by call origination network, million minutes, 2016-2021**

Telia Lietuva, AB	2016	2017	2018	2019	2020	2021
Originated in public mobile communications networks	252.9	211.0	248.5	186.5	240.4	245.7
Originated in public fixed communications networks	52.4	49.6	42.2	29.8	24.1	22.7
Originated in foreign operators' networks	40.1	30.1	24.6	21.3	22.4	19.4
Duration of terminated calls	**345.4**	**290.7**	**315.3**	**237.7**	**287.0**	**287.8**
Other providers						
Originated in public mobile communications networks	45.9	50.7	61.5	52.5	69.1	75.8
Originated in public fixed communications networks	31.9	26.6	25.2	35.9	41.9	35.0
Originated in foreign operators' networks	4.3	5.6	4.5	4.1	3.3	2.6
Duration of terminated calls	**82.1**	**83.0**	**91.2**	**92.5**	**114.2**	**113.4**
Duration of terminated calls	**427.6**	**373.6**	**406.5**	**330.1**	**401.2**	**401.2**

Source: RRT.

When it comes to the structure of the market of call termination in public fixed communications networks by service providers, it is evident that most calls (71.7%) were terminated in Telia Lietuva, AB public fixed communications network in 2021 (see Table 22). The major part of calls terminated in the networks of Telia Lietuva, AB (85.4%) and other providers (66.9%) consisted of calls originated in public mobile communications networks.

Revenue. In 2021, the revenue received from call termination in public fixed telephone networks decreased by 19.3% or EUR 0.3 million (see Fig. 34). The decrease in the revenue was affected by the regulated price of call termination in public fixed communications networks which was going down by 20.0% in the second half of 2021, compared to 2020. The downward trend of the revenue from call termination in public fixed telephone networks was observed during the entire period of 2016-2021.

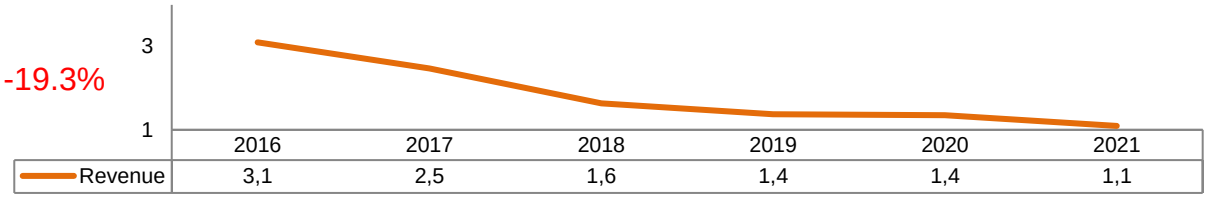


Fig. 34. **Revenue from call termination in public fixed communications networks, EUR million, 2016-2021**
Source: RRT.

The largest part of revenue received from call termination in public fixed telephone networks (79.7%) was generated by Telia Lietuva, AB in 2021, as was the case in 2020 (see Fig. 35).

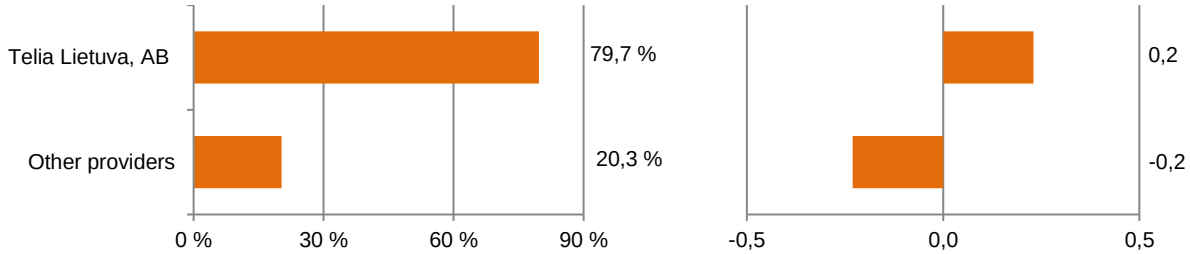


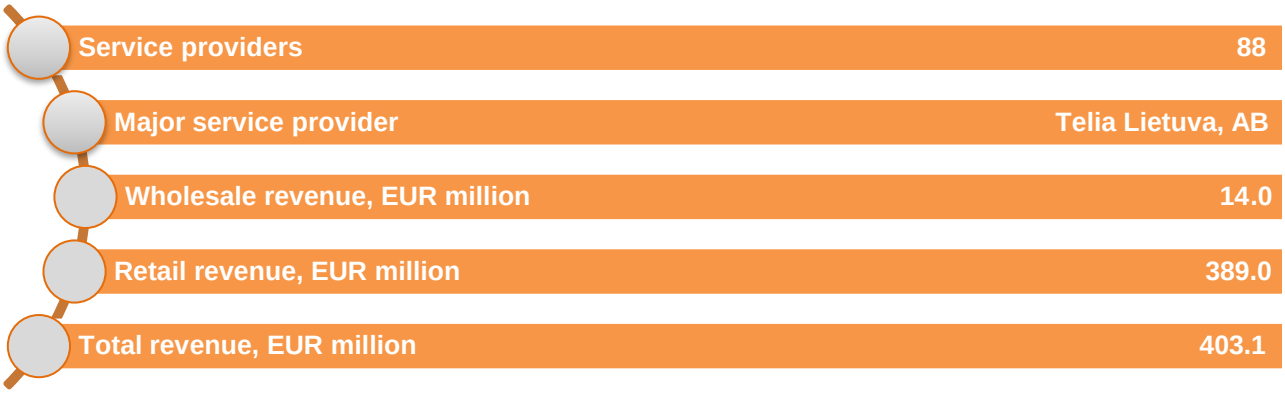
Fig. 35. **Structure of revenue from termination of calls in public fixed communications networks by service providers, %, and annual changes of the market shares, pp, 2021**
Source: RRT.

Prices. Due to the regulation applied by RRT till 1 July 2021 the price of call termination in public fixed communications networks, which were originated in the Member States of the European Economic Area, could not exceed 0.09 euro cents per minute (VAT excl.). By the European Commission Delegated Act the common maximum prices for call termination in public fixed communications networks were set and they are to be applied to all providers of services of call termination in public fixed communications networks in all Member States of the European Union. Taking this into account, as of 1 July 2021 the prices for the services of call termination in public fixed communications networks, the procedure for their application and conditions have been set at a level of the European Union, i.e. by the Delegated Act. Between 1 July 2021 and 31 December 2021, the price for call termination in public fixed communications networks could not exceed 0.072 euro cents per minute (VAT excl.). As of 1 January 2022, the price for call termination in public fixed communications networks cannot exceed 0.07 euro cents per minute (VAT excl.).

The revenue received from call termination services accounted for 43.9% of all revenue received from network interconnection services. In 2021, the decrease in revenue was affected by lower regulated prices of call termination in public mobile communications networks and public fixed communications networks. The revenue from call termination in public mobile communications networks represented 97.4% of all revenue received from call termination services.

3. Data transmission

3.1. General Overview of the Market of Data Transmission Services



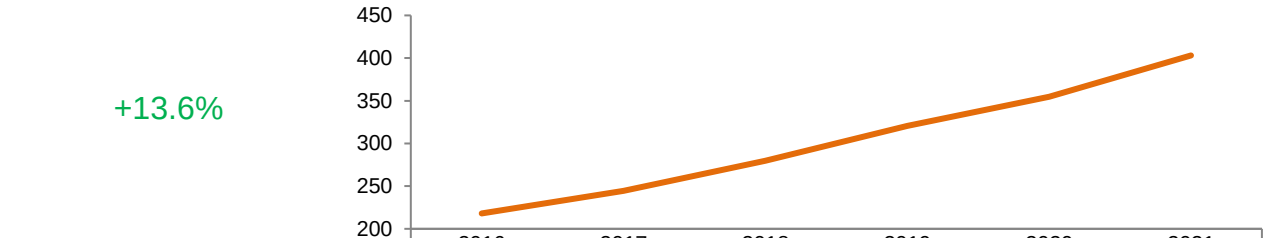
NB!

- 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 Cgates and UAB Mezon indicated in Figure 38 (hereinafter in this section – the 'other providers').

In 2021, 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 went down by 1 undertaking, compared to 2020. At the end of 2021, the data transmission services were provided by 88 undertakings (at the end of 2020, there were 89 undertakings). Data transmission services were provided by 66.2% of all undertakings engaged in the electronic communications activities (133). The majority of data transmission service providers were providing retail internet access services in 2021, as was the case in the previous periods. Over the year, the number of retail internet access service providers went down by 2 service providers and stood at 81 at the end of 2021. After the selling of Mezon services and after the withdrawal of AB Lietuvos Radijo ir Televizijos Centras from the market of retail services at the end of 2020, the reports on electronic communications activities have been provided by the newly established UAB Mezon as of 1 January 2021.

Revenue. The revenue received from data transmission services were growing during the entire period in question (2016-2021). In 2021, such revenue amounted to EUR 403.1 million, i.e. by 13.6% or by EUR 48.3 million more than in 2020 (see Fig. 36). The provision of data transmission services remains one of the most important activities of the electronic communications sector generating 52.9% of all revenue of the electronic communications market.



	2016	2017	2018	2019	2020	2021
Retail Internet access services	190,3	215,6	252,2	290,3	328,5	375,9
Wholesale Internet access services	6,8	5,8	3,7	7,1	5,3	5,9
Retail other data transmission services	15,3	16,2	14,4	13,7	12,8	13,2
Wholesale other data transmission services	5,6	6,7	9,3	9,5	8,2	8,2
Data transmission services, in total	218,0	244,3	279,6	320,6	354,8	403,1

Fig. 36. **Structure of revenue from data transmission services by service groups, EUR million, 2016-2021**
Source: RRT.

In 2021, as throughout the entire period between 2016 and 2021, the largest part of the revenue (93.2%) was comprised of the revenue received from retail internet access services (see Fig. 37). In 2021, compared to 2020, a part of the revenue from retail internet access services grew by 0.7 percentage points in terms of the total revenue of data transmission services. This was mainly caused by the *Covid-19* pandemic which led to the increasing demand for retail internet access services. In 2021, the restrictions introduced due to the *Covid-19* pandemic were more limited, although quite a number of residents were still working or learning remotely.

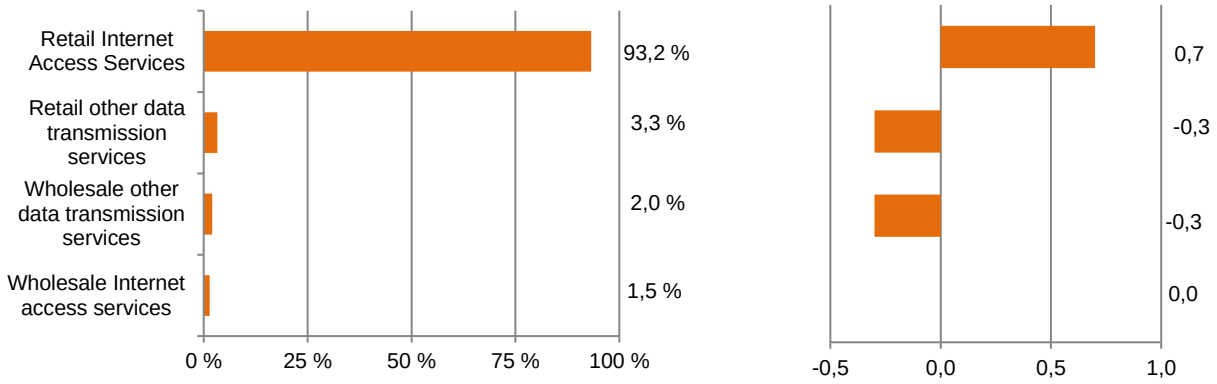


Fig. 37. **Structure of revenue from data transmission services by service groups, %, and annual changes of the revenue structure, pp, 2021**
Source: RRT.

In 2021, as was the case in 2020, the largest part of the revenue from data transmission services was gained by Telia Lietuva, AB – the received revenue represented 37.3% of all revenue from data transmission services (see Fig. 38). In 2021, compared to 2020, the revenue of UAB Tele2 increased the most (by 2.2 percentage points) and stood at 29.7% of all revenue of data transmission services. The change in the market share held by other providers was caused by the fact that after the selling of Mezon services the market share previously held by AB Lietuvos Radijo ir Televizijos Centras, which withdrew from the retail telecommunication service market, was added to the market share of other providers (3.0%) in 2020.

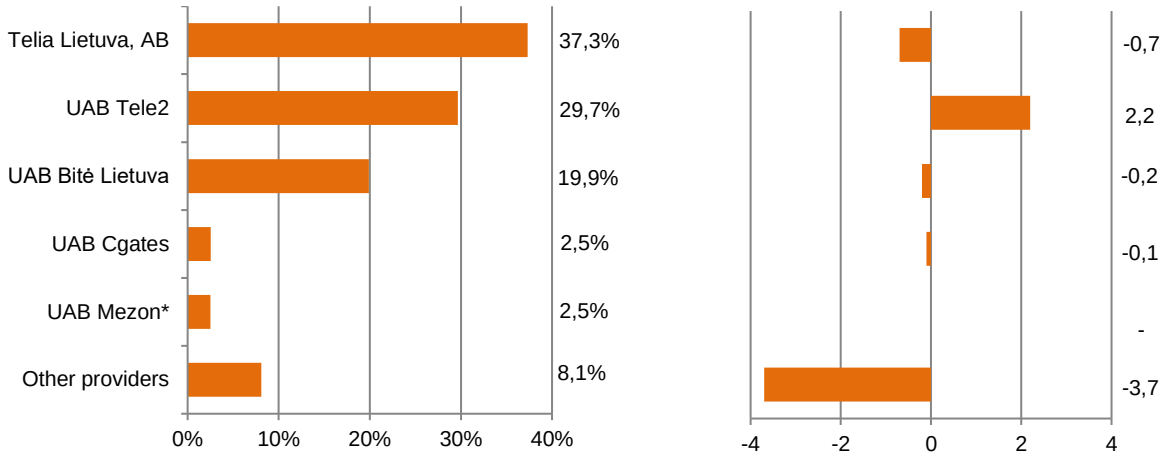
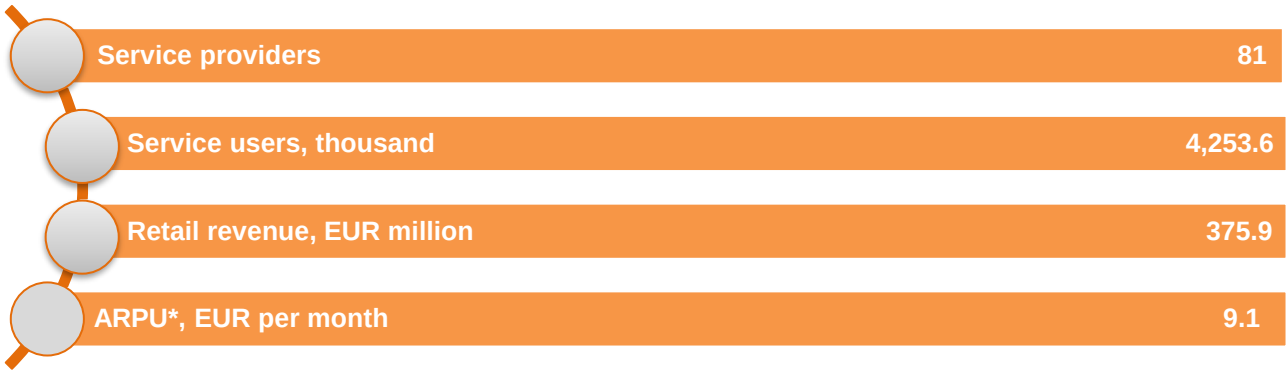


Fig. 38. **Structure of revenue from data transmission services by service providers, %, and annual changes of the revenue shares, pp, 2021**
***** *Data as of 1 January 2021*
Source: RRT.

In 2021, the revenue received from data transmission services represented more than a half of all revenue of the electronic communications market for the first time (52.9%). In terms of revenue, the market of data transmission services was growing throughout the entire period between 2016 and 2021. In 2021, the revenue of this market went up by 13.6%. As a numerical expression, it was the largest growth during the entire period in question and it stood at EUR 48.3 million. This rapid 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 downward trend in its market share which continued during the entire period of 2016-2021.

3.2. Retail Internet Access Services



* household internet service providers[14]

Methods of the Service Provision. In 2021, the retail internet access services were provided by means of fixed communications or mobile communications technologies in Lithuania.

On 3 December 2021, the USA company engaged in space exploration technologies SpaceX launched the satellite internet Starlink services in Lithuania. The satellite communications will allow having better access to the internet in more remote areas and it is a good alternative to the already existing means of communication. The Starlink service users may expect the 100-150 Mb/s data transmission speed rate in the near future.

Service providers. The Lithuanian market of retail internet access services was characteristic of the high number of service providers in 2021, as was the case in the previous periods. At the end of 2021, the internet access services were provided by 81 undertakings (by 2 undertakings fewer than in 2020).

Service users. At the end of 2021, internet access services were used by 4,253.6 thousand service users, of which 802.4 thousand service users were using fixed communications technologies and 3,451.2 thousand were using 0mobile communications technologies (of which 764.1 thousand – where the internet access service plan is applied instead of the telephony plan).

According to the data of the European Commission, in 2021, the use of retail internet access services[15] in Lithuanian households grew by 4.1 percentage points, compared to 2020, i.e. from 81.8% to 85.9%[16] (see Fig. 39). The total average of the use of the Internet by the EU Member States grew by 0.8 percentage points and stood at 90.2% in 2021, compared to 2020, i.e. by 4.3 percentage points more than in Lithuania. With regard to the use of such services in the households, Lithuania remained at the lower positions in the European Union, as was the case last year. The Lithuanian indicator was also the lowest one compared to the closest neighbouring countries Poland, Estonia and Latvia where this indicator, respectively, stood at 91.7%, 90.9% and 89.5%. The retail Internet access services were used in the Netherlands most actively, the lowest use was recorded in Bulgaria. In these countries, the share of households using the Internet accounted for 98.6% and 83.5%, respectively, in 2021.

[14] Users of retail internet access services provided by means of fixed communications technologies and SIM cards used to provide internet access services, where the plan for the provision of internet access services (using a computer) is used instead of the telephony plan (1,566.5 thousand service users in total).
[15] Including retail Internet access services provided via xDSL loops, wireless communication lines, CTV networks, FTTx lines, LAN lines and mobile communications technologies (by means of computers).
[16] Calculated based on Eurostat information provided in the report of the European Commission 'Digital Scoreboard' (https://digital-agenda-data.eu/charts/analyse-one-indicator-and-compare-breakdowns#chart={%22indicator-group%22:%22broadband%22,%22indicator%22:%22h_broad%22,%22breakdown-group%22:%22total%22,%22unit-measure%22:%22pc_hh%22,%22time-period%22:%222021%22,%2).

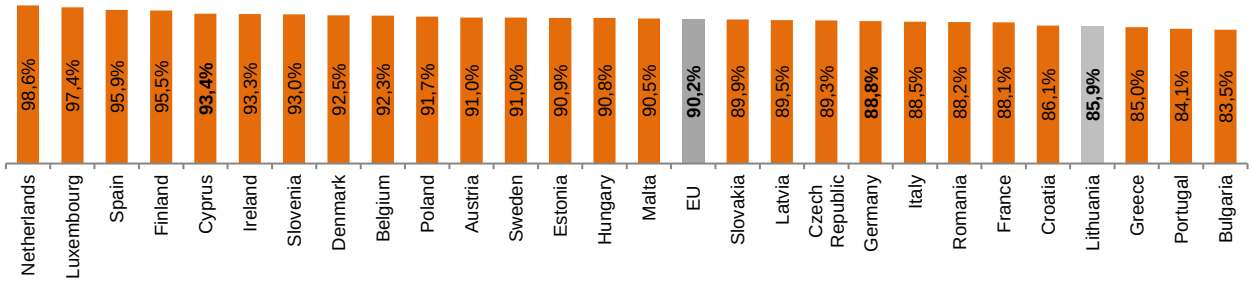
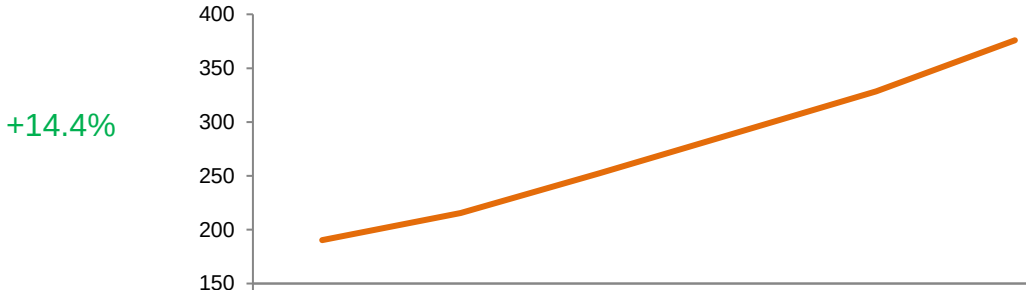


Fig. 39. **Share of households using internet access services in the EU Member States, %, 2021**
Source: European Commission.

Based on the data of Statistics Lithuania[17], at the beginning of 2021, 86.9% of Lithuanian residents were using internet access services, i.e. by 3.8 percentage point more than at the beginning of 2020. Internet access services were mainly used for the search for information, communications, entertainment, e-commerce and banking.

Revenue. The total revenue from retail internet access grew throughout the entire period between 2016 and 2021. In 2021, compared to 2020, such revenue increased by 14.4% and accounted for EUR 375.9 million (see Fig. 40). In 2021, the revenue from retail internet access services provided by means of mobile communications technologies represented 72.6% of the total revenue from retail internet access services or by 1.8 percentage points more than in 2020, whereas the revenue from retail internet access services provided by means of fixed communications technologies accounted for, respectively, 27.4% of the total revenue from retail internet access services or by 1.8 percentage points less than in 2020.



	2016	2017	2018	2019	2020	2021
Retail Internet access services provided by means of fixed communications technologies	99,6	95,0	93,3	92,6	95,7	102,9
Retail Internet access services provided by means of mobile communications technologies	90,7	120,6	159,0	197,8	232,8	273,0
Retail Internet access services, total	190,3	215,6	252,2	290,3	328,5	375,9

Fig. 40. **Structure of revenue from retail Internet access services by service provision technologies, EUR million, 2016-2021**
Source: RRT.

To determine the intensity of competition on the markets of retail internet access services provided by means of fixed and mobile communications technologies, the indicator showing the market concentration[18] – HHI (*Hirschman-Herfindahl index)* – is analysed[19]. In terms of the market of retail internet access services

[17] https://osp.stat.gov.lt/statistiniu-rodikliu-analize#/ (Table 'Persons who were using information technologies')
[18] 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 hold the major share of a particular market.
[19] 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 on the market. HHI is directly proportional to concentration (i.e. when the latter increases, the former increases as well, and

provided by means of fixed communications technologies by revenue, HHI index is 3,829.1, whereas in terms of the market of retail internet access services provided by means of mobile communications technologies by revenue, HHI index stands at 3,328.6. Such high values of the index reveal that despite the sufficiently large number of active retail internet access service providers, both markets are concentrated, and their structure is similar to that of an oligopolistic market, where the major share of the market is held and dominated by several providers.

In 2021, as was the case every year since 2016, the revenue from the provision of retail Internet access services continued to grow – it went up by 14.4%. The major revenue share – 72.6% – was comprised of the revenue from retail Internet access services provided by means of mobile communications technologies. Such revenue has been growing rapidly on an annual basis during entire period in question (2016-2021), whereas the revenue received from retail Internet access services provided by means of fixed communications technologies has remained stable – there has been an insignificant downward or upward change.

3.2.1. Retail Internet access services provided by means of fixed communications technologies

NB!

- 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, UAB Splius, UAB Balticum TV, UAB Penkių Kontinentų Komunikacijų Centras, UAB Mezon indicated in Figure 44; Telia Lietuva, AB, UAB Cgates, UAB Init, UAB Splius, UAB Balticum TV, UAB Penkių Kontinentų Komunikacijų Centras“, UAB Kauno Interneto Sistemos indicated in Figure 45; Telia Lietuva, AB, UAB Cgates, UAB Splius, UAB Balticum TV, UAB Init, UAB Penkių Kontinentų Komunikacijų Centras, UAB Kauno Interneto Sistemos, UAB Mezon, UAB Baltnetos Komunikacijos, UAB Besmegeniai, UAB Bitė Lietuva, UAB Kvartalo Tinklas, UAB Magnetukas, UAB Etanetas indicated in Table 25; Telia Lietuva, AB, UAB Cgates, UAB Splius, UAB Mezon, UAB Balticum TV, UAB Baltnetos Komunikacijos, UAB Init, UAB Bitė Lietuva, UAB Penkių Kontinentų Komunikacijų Centras indicated in Figure 48; Telia Lietuva, AB, UAB Cgates, UAB Init, UAB Splius, UAB Balticum TV, UAB Penkių Kontinentų Komunikacijų Centras, UAB

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 the decrease in competition and the 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.

Kauno Interneto Sistemos, UAB Baltnetos Komunikacijos indicated in Figure 49 (hereinafter in this section – the 'other providers').

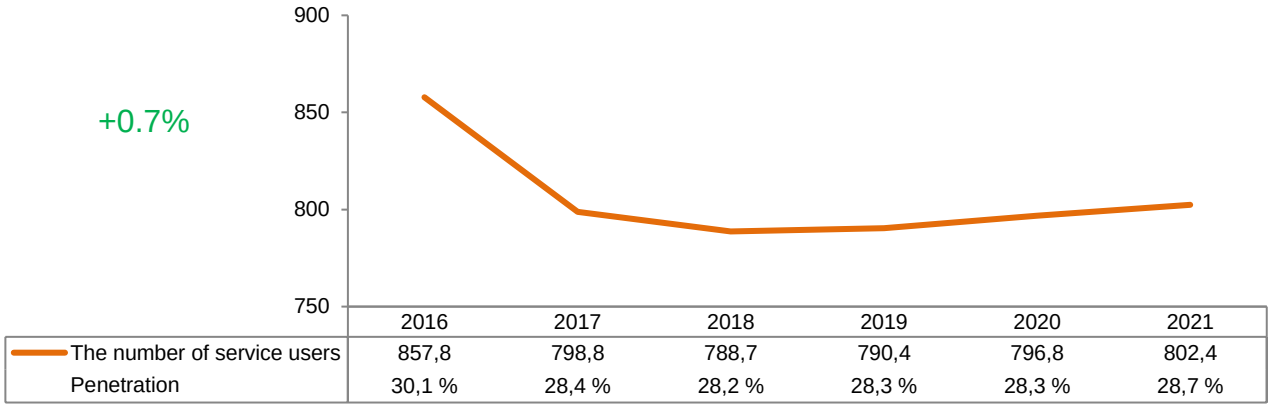
Methods of the Service Provision. In 2021, retail Internet access services were provided by means of fixed communications technologies using the following methods in Lithuania:

- 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 ('CTV networks');
- optical fibre lines using FTTB[20] (Fibre to the Building) and FTTH[21] (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.).

At the beginning of 2022, Telia Lietuva, AB completed the copper network upgrading activities which lasted for four years. This enabled increasing the broadband DSL internet speed more than tenfold – up to 250 Mb/s. The actual speed depends on the length and quality of the copper line connecting the substation and terminal equipment of Telia Lietuva, AB.

Service providers. In 2021, 79 undertakings (the same number as in 2020) were providing retail internet access services by means of fixed communications technologies in Lithuania.

Service users. At the end of 2021, compared to the data at the end of 2020, the number of users of retail Internet access services provided by means of fixed communications technologies grew by 5.6 thousand or by 0.7% and stood at 802.4 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 0.4 percentage points in 2021 and accounted for 28.7%. Although the number of service users and penetration decreased in 2017-2018, in 2019-2021, the number of users of retail Internet access services provided by means of fixed communications technologies slightly increased.



	2016	2017	2018	2019	2020	2021
The number of service users	857,8	798,8	788,7	790,4	796,8	802,4
Penetration	30,1 %	28,4 %	28,2 %	28,3 %	28,3 %	28,7 %

Fig. 41. **The number of users of retail Internet access services provided by means of fixed communications technologies, thousand, and penetration, %, 2016-2021**
Source: RRT.

During the period of 2016-2021, the major share of users of all retail Internet access services provided by means of fixed communications technologies consisted of natural persons. Their share ranged from 93.2%

[20] Fibre to the Building.
[21] Fibre to the Home.

to 94.2% and stood at 93.6% in 2021 (751.3 thousand natural persons). The share of FTTx natural persons ranged from 93.6% to 94.5% during the period of 2016-2021 and stood at 93.8% in 2021 (586.2 thousand natural persons). A share of xDSL natural persons was subject to a slight annual increase – from 92.0% in 2016 to 95.3% (111.1 thousand natural persons) in 2021 m.(see Table 23).

Table 23. **The number of service users by used fixed communications technologies to receive retail Internet access services, thousand, 2016-2021**

	2016	2017	2018	2019	2020	2021
Total number	**857.8**	**798.8**	**788.7**	**790.4**	**796.8**	**802.4**
Natural persons	799.3	750.9	742.0	743.3	750.9	751.3
Legal persons	58.4	47.9	46.8	47.1	45.9	51.1
FTTx	545.3	565.6	580.2	597.7	610.1	624.9
Natural persons	510.5	534.1	547.9	564.1	576.6	586.2
Legal persons	34.8	31.4	32.3	33.6	33.5	38.6
xDSL	157.3	143.2	132.5	124.5	120.2	116.6
Natural persons	144.7	133.1	124.0	117.1	113.9	111.1
Legal persons	12.6	10.0	8.5	7.4	6.3	5.6
Wireless communication lines	114.6	57.2	47.7	43.4	43.0	38.8
CTV network	29.9	25.0	22.6	20.6	19.9	18.8
Other technologies (UTP, STP, leased line, etc.)	10.6	7.9	5.7	4.3	3.7	3.3

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 28.6% in the middle of 2021 in Lithuania[22] (see Fig. 42). The average penetration of the EU Member States amounted to 37.2% in the middle of 2021. Based on this indicator, Lithuania outperforms two closest neighbours: Latvia and Poland whose penetration stood at 25.5% and 22.4%, respectively, while Estonia where the penetration of said services stood at 37.0% in the middle of 2021 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 (47.7%) and Denmark (44.4%).

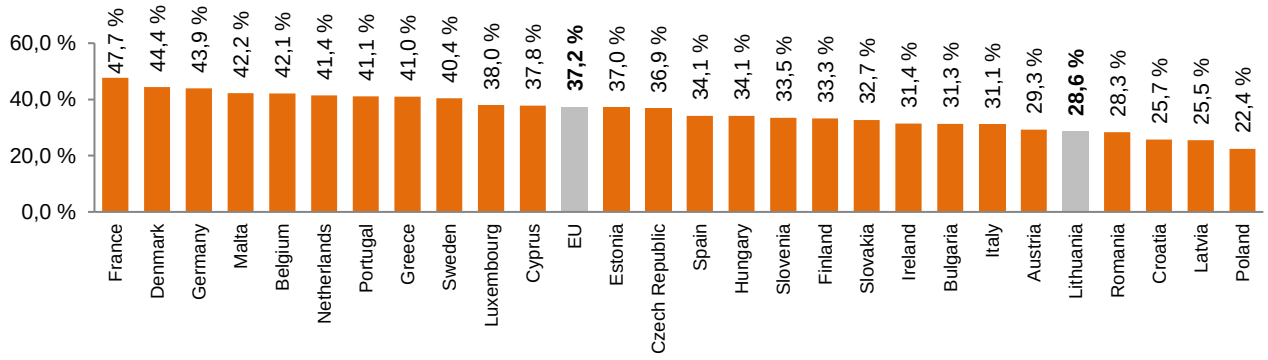


Fig. 42. **The number of users of retail Internet access services provided by means of fixed communications technologies per 100 residents, in the EU Member States, %, June 2021**
Source: European Commission[23]

[22] 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.
[23]https://digital-agenda-data.eu/charts/analyse-one-indicator-and-compare-countries#chart={%22indicator-group%22:%22broadband%22,%22indicator%22:%22bb_penet%22,%22breakdown%22:%22total_fbb%22,%22unit-measure%22:%22subs_per_100_pop%22,%22ref-

The structure of the market of retail Internet access services by fixed communications technologies used by service users maintained the similar proportions in 2021, as was the case in the previous periods (see Table 24); FTTx lines were used most often (77.9% or 624.9 thousand users). 55.4% or 346.5 thousand of all users of retail Internet access service provided via FTTx lines used Internet access services provided via FTTH lines, and 44.6% or 278.4 thousand users used services provided via FTTB lines. In 2016, these indicators were 44.4% and 55.6%, respectively. During the period between 2016 and 2021, the number of users of retail Internet access services provided via FTTH lines was increasing more rapidly than the number of users of retail Internet access services provided via FTTB lines. 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 2021, compared to 2016, the share of the users of retail Internet access services provided by means of FTTx technology grew by 14.3 percentage points. In 2021, 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 CTV networks continued to go down (see Table 24). In 2021, compared to 2020, the number of users of retail Internet access services provided via xDSL lines went down by 3.5 thousand and totalled 116.6 thousand users at the end of the year. At the end of 2021, 41.8 thousand service users were using hybrid Internet services (xDSL combined with mobile communications LTE access), and 25.9 thousand – high-speed xDSL service (VDSL).

The number of users of retail Internet access services provided via CTV networks decreased by 1.0 thousand in 2021 and, at the end of the year, the number stood at 18.8 thousand. The decrease of the number of the users of retail Internet access services provided via CTV networks is the outcome of continuous investments in FTTx networks: a large number of service users who used to receive retail Internet access service via CTV networks switched to the services provided via FTTx lines.

Table 24. **Share of the number of service users by employed fixed communications technologies to receive retail Internet access services, %, 2016-2021**

	2016	2017	2018	2019	2020	2021
FTTx	63.6	70.8	73.6	75.6	76.6	77.9
xDSL	18.3	17.9	16.8	15.7	15.1	14.5
Wireless communication lines	13.4	7.2	6.0	5.5	5.4	4.8
CTV network	3.5	3.1	2.9	2.6	2.5	2.3
Other technologies (UTP, STP, leased line, etc.)	1.3	1.0	0.7	0.5	0.5	0.4

Source: RRT.

According to the data of the [24] study conducted by association 'FTTH Council Europe' and IDATE in September 2021, Lithuania was ranked eighth by the penetration of broadband provided by means of optical fibre in Europe (49.7 connections per 100 households) (see Fig. 43). Iceland was ranked first with the penetration of 78.4%, Spain – second in the European rating (68.4%), Sweden – third (64.6%) and Portugal was ranked fourth (64.1%). In this rating, Norway was ranked fifth with the penetration of 56.5%. The average penetration of European countries stood at 31.5%. In 2021, Russia and Belarus were no longer included in the European ratings.

area%22:[%22AT%22,%22BE%22,%22BG%22,%22HR%22,%22CY%22,%22CZ%22,%22DK%22,%22EE%22,%22EU%22,%22FI%22,%22FR%22,%22DE%22,%22EL%22,%22HU%22,%22IE%22,%22IT%22,%22LV%22,%22LT%22,%22LU%22,%22MT%22,%22NL%22,%22PL%22,%22PT%22,%22RO%22,%22SK%22,%22SI%22,%22ES%22,%22SE%22]}

[24] https://www.ssnf.org/globalassets/sveriges-stadsnat/fakta-och-statistik/internationell-statistik/market-panorama-2022.pdf

More and more European countries switch from outdated copper networks to optical fibre. The largest penetration of broadband provided by means of optical fibre is observed in Eastern and Northern European countries. This was a result of active national intervention in the development of optical fibres. In some largest European countries (except for Spain and Portugal), the penetration is low due to copper and coaxial cable networks prevailing in those countries.

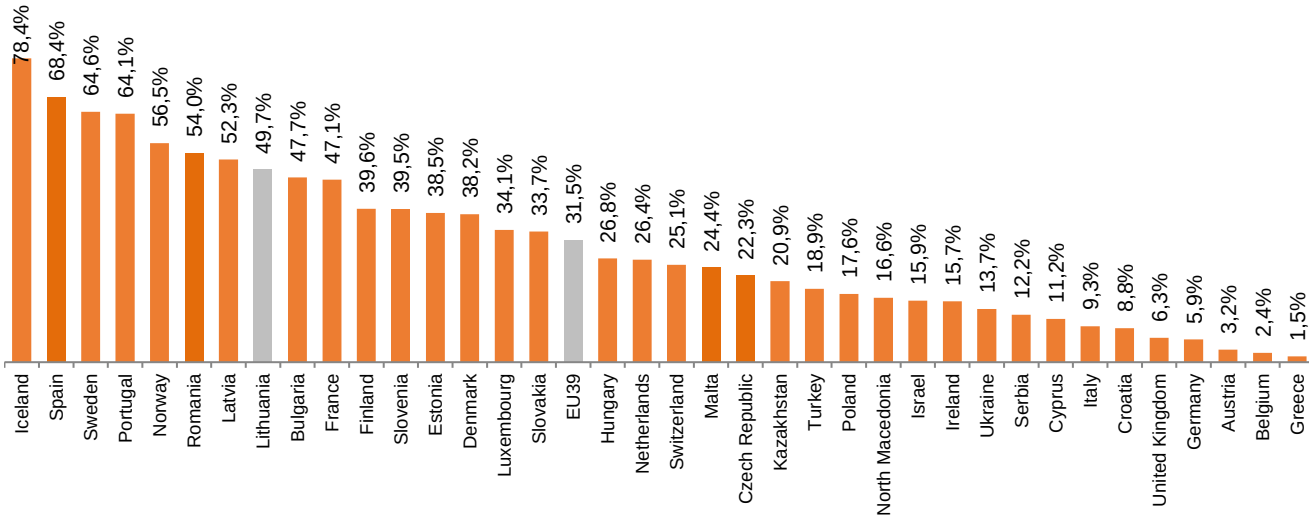


Fig. 43. **Number of subscribers to broadband access by means of optical fibre per 100 households in the European countries in September 2021, units**
Source: Association 'FTTH Council Europe' and IDATE.

As many as 52.4% 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% of such users opted in for the services of UAB Cgates, 5.6% – UAB Init, 5.3% – UAB Splius. Over the year, the market share of Telia Lietuva, AB, grew by 0.1 pp. The market share of UAB Init changed most radically – shrank by 0.3 pp. The change in the market share held by other providers was caused by the fact that, as mentioned above, the market share (2.9%) of AB Lietuvos Radijo ir Televizijos Centras was added to the market share of other providers in 2020.

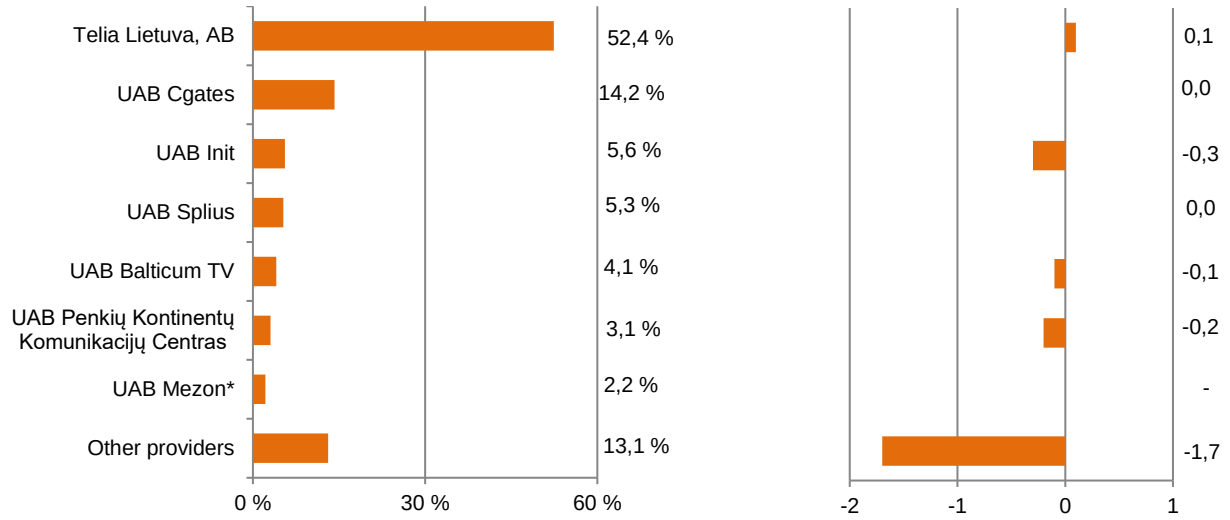


Fig. 44. Breakdown of users of retail Internet access services provided by means of fixed communications technologies by service providers, %, and annual changes of the market shares, pp, 2021
***** *Data as of 1 January 2021*
Source: RRT.

When it comes 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 such services, it is apparent that in 2021, 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 25). In 2020, accordingly, 48.7% (where services were provided by FTTx lines) and 99.4% (where services were provided by xDSL lines) of all Internet access service users were using the services provided by Telia Lietuva, AB. In 2021, UAB Mezon held the greatest share of the market of retail Internet access services provided by means of wireless communication lines (42.5%). The largest share of the market of Internet access services provided via CTV networks (78.3%) was held by UAB Init.

Table 25. **Share of the number of service users who used fixed communications technologies by service providers, %, 2021**

	FTTx	Wireless communication	CTV networks	xDSL
Telia Lietuva, AB	48.8	-	-	99.6
UAB Cgates	18.0	3.5	-	-
UAB Splius	6.2	3.2	15.3	-
UAB Balticum TV	4.7	7.5	-	-
UAB Init	4.8	-	78.3	-
UAB Penkių Kontinentų Komunikacijų Centras	3.9	-	-	-
UAB Kauno Interneto Sistemos	2.1	-	-	-
UAB Mezon	-	42.5	-	-
UAB Baltnetos Komunikacijos	-	3.3	-	-
UAB Besmegeniai	-	4.4	-	-
UAB Bitė Lietuva		5.4		
UAB Kvartalo Tinklas	-	2.9	-	-
UAB Magnetukas	-	6.5	-	-
UAB Etanetas	-	4.1	-	-
Other providers	11.5	16.7	6.4	0.4

Source: RRT.

When analysing the market shares in terms of the breakdown of the users of retail internet access services provided by means of FTTx lines, the major share (48.8%) was held by Telia Lietuva, AB (see Fig. 45). 18.0% of such users opted in for the services of UAB Cgates, 6.2% – for UAB Splius, 4.8% – for the services of UAB Init. Over the year, the market shares of all providers, except for Telia Lietuva, AB, slightly shrank, whereas that of other providers grew by 1.1 pp.

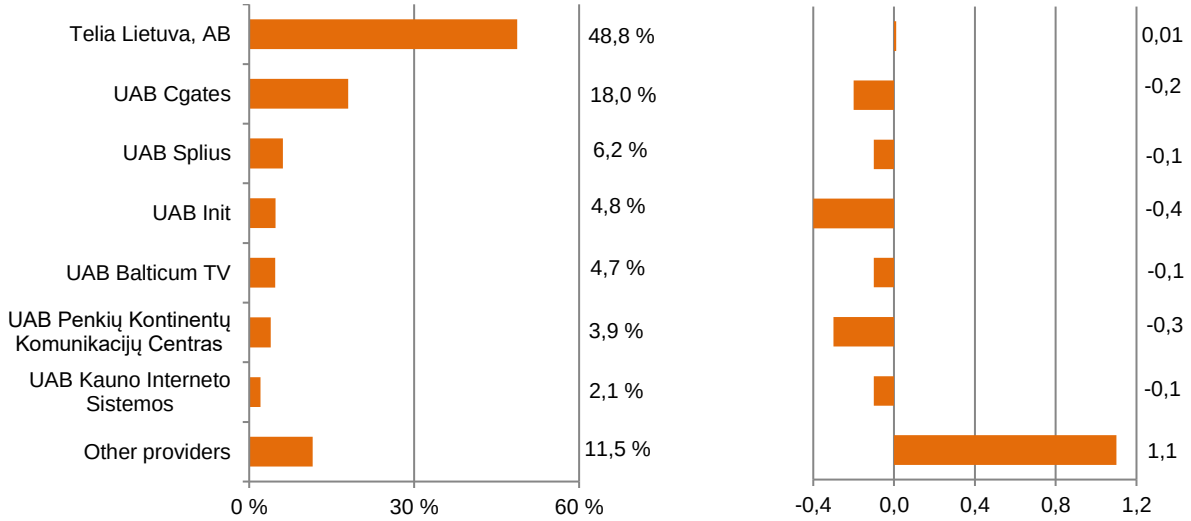


Fig. 45. Breakdown of users of retail Internet access services provided by means of FTTx lines by service providers, %, and annual changes of the market shares, pp, 2021
Source: RRT.

Speed rate. The number of service users using high-speed Internet access services has been annually increasing. In 2021, the speed rate higher than 100 Mb/s was selected by 6.5 pp more service users than in 2020 (Table 26), i.e. by 56.4% (452.7 thousand) of all service users using fixed communications technologies. 1.6% (12.9 thousand) of all service users were using the speed rate of 1 Gb/s and higher. The greatest impact on the use of the higher speed rate was made by FTTx service users whose share comprised 95.7% of all service users using the speed rate higher than 100 Mb/s in 2021.

In 2021, the number of users of the speed rate between 30 Mb/s and 100 Mb/s went down by 4.0 percentage points, 15.7% of all users of Internet access services provided by means of fixed communications technologies used Internet access services of a speed rate lower than 30 Mb/s, accordingly, i.e. by 2.5 percentage points less than in 2020.

Table 26. **Share of the number of users of retail Internet access services provided by means of fixed communications technologies by speed rate, %, 2016-2021**

	2016	2017	2018	2019	2020	2021
up to 2 Mb/s	1.4	0.6	0.3	0.2	-	-
2 Mb/s to 10 Mb/s	19.8	14.7	5.1	3.3	-	-
10 Mb/s to 30 Mb/s	15.9	12.7	19.4	18.4	18.2*	15.7*
30 Mb/s to 100 Mb/s	36.0	27.9	28.7	29.4	31.8	27.8
More than 100 Mb/s	26.8	44.0	46.5	48.7	50.0	56.4

* In 2020 and 2021, the data includes all subscribers with data downstream rate of up to 30 Mb/s.
Source: RRT.

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 2019 (see Fig. 46). In 2021, the share of such households stood at 32.4%.

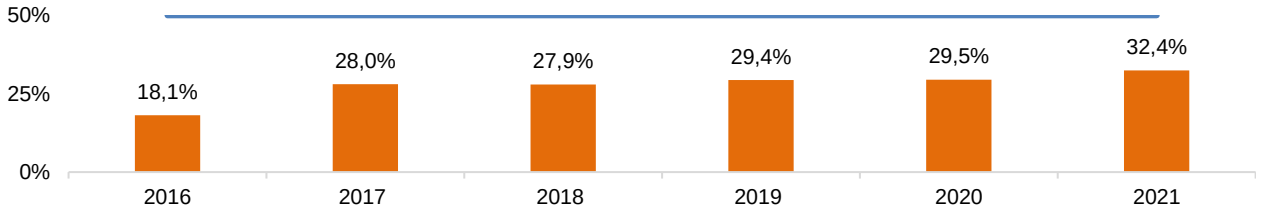
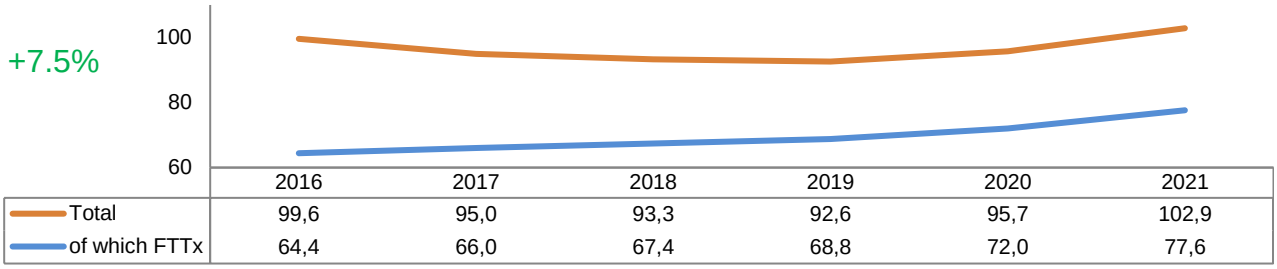


Fig. 46. **Percentage of Lithuanian households which used Internet with the speed of at least 100 Mb/s, 2016– 2021**
Source: RRT.

Revenue. In 2021, compared to 2020, the service providers' revenue from retail Internet access services provided by means of fixed communications technologies went up by 7.5% or by EUR 7.1 million. In 2021, that revenue stood at EUR 102.9 million (see Fig. 47). During the period of 2016-2019, the downward trend in the revenue from retail Internet access services provided by means of fixed communications technologies was observed but it has been increasing since 2020. This was also affected by the *Covid-19* pandemic which led to the increasing demand for Internet access services.



	2016	2017	2018	2019	2020	2021
Total	99,6	95,0	93,3	92,6	95,7	102,9
of which FTTx	64,4	66,0	67,4	68,8	72,0	77,6

Fig. 47. **Revenue from retail Internet access services provided by means of fixed communications technologies and FTTx in 2016-2021, in EUR million**
Source: RRT.

The structure of the market of the revenue received from retail Internet access services provided by means of fixed communications technologies in terms of the fixed communications technologies used by service users maintained the similar proportions in 2021, as was the case in the previous periods (see Table 27); FTTx lines were used most often (75.5% or EUR 77.6 million). During the entire period in question (2016-2021), a share of the revenue received from retail internet access services provided by means of FTTx lines grew by 10.8 percentage points. In 2021, 65.0% (EUR 50.5 million) of all revenue received from retail internet access services provided by means of FTTx lines were received using FTTH lines, whereas 35.0% (EUR 27.1 million) – using FTTB lines. The revenue received from retail Internet access services provided by means of xDSL lines represented 14.8% of all revenue in 2021, as was the case in 2020. The revenue received from retail internet access services provided by means of wireless communication lines and CTV network was going down during the period of 2016-2021, whereas the revenue received from retail internet access services provided by means of other technologies (UTP, STP, leased line, etc.) was ranging, but in 2021, compared to 2016, it decreased by 1.0 pp.

Table 27. **Structure of the revenue from retail Internet access services provided by means of fixed communications technologies by technologies, %, 2016-2021**

	2016	2017	2018	2019	2020	2021
FTTx	64.7	69.5	72.3	74.3	75.3	75.5
xDSL	18.6	17.7	16.1	13.9	14.8	14.8
Wireless communication lines	12.7	8.6	7.5	7.2	8.0	7.7
CTV network	2.2	1.9	1.7	1.5	1.4	1.2
Other technologies (UTP, STP, leased line, etc.)	1.8	2.4	2.4	3.0	0.6	0.8

Source: RRT.

During the entire period of 2016-2021, the major share of recipients of the revenue received from retail Internet access services provided by means of fixed communications technologies consisted of the revenue received from natural persons. In terms of the total revenue, it is evident that the share of revenue received from natural persons was ranging from 77.5% to 79.0% and, in 2021, it stood at 78.7% (EUR 80.9 million). The share of FTTx revenue received from natural persons ranged from 77.2% to 78.6% during the period of 2016-2021 and stood at 78.6% in 2021 (EUR 61.0 million). Although the revenue received from retail internet access services provided by means of xDSL lines was ranging, the share of revenue received from xDLS natural persons was annually growing – from 80.1% in 2016 to 92.8% in 2021 (EUR 14.1 million) (see Table 28).

Table 28. **Structure of the revenue from retail Internet access services provided by means of fixed communications technologies by technologies and types of users, in EUR million, 2016-2021**

	2016	2017	2018	2019	2020	2021
Total revenue	**99.6**	**95.0**	**93.3**	**92.6**	**95.7**	**102.9**
Natural persons	78.7	74.7	72.8	71.8	74.7	80.9
Legal persons	20.9	20.3	20.5	20.8	21.0	21.9
FTTx	64.4	66.0	67.4	68.8	72.0	77.6
Natural persons	50.6	51.7	52.2	53.4	55.6	61.0
Legal persons	13.8	14.3	15.2	15.4	16.4	16.6
xDSL	18.6	16.8	15.0	12.9	14.2	15.2
Natural persons	14.9	14.2	13.1	11.6	13.1	14.1
Legal persons	3.6	2.6	1.8	1.2	1.1	1.1
Wireless communication lines	12.7	8.1	7.0	6.7	7.6	7.9
CTV network	2.2	1.8	1.6	1.4	1.3	1.2
Other technologies (UTP, STP, leased line, etc.)	1.8	2.3	2.2	2.8	0.6	0.8

Source: RRT.

With regard to the service providers by revenue gained (see Fig. 48), the structure of the market was not subject to the significant changes in 2021, as was the case in 2020: the leader's position was maintained and the largest share of the revenue was gained by Telia Lietuva, AB. Its market share stood at 60.6% and, compared to 2020, it increased by 0.7 percentage points. In 2021, it was only the market share of UAB Cgates which also increased (by 0.3 percentage points). The market shares held by other providers and UAB Baltnetos Komunikacijos shrank most radically (by 5.3 and 0.7 percentage points, respectively).

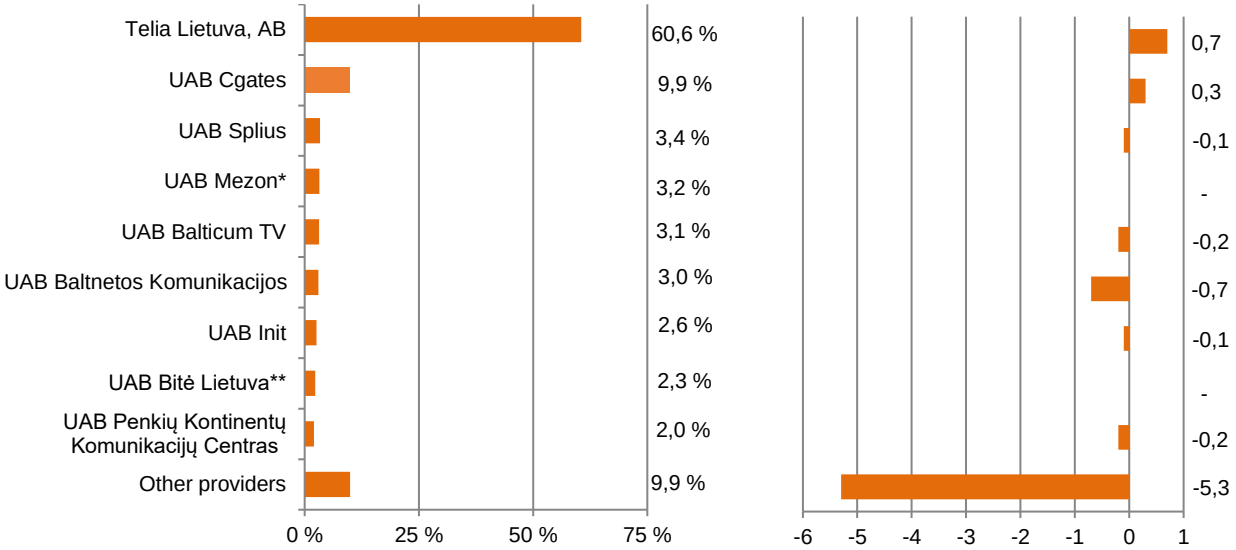


Fig. 48. **Structure of the revenue by service providers, %, and annual changes of the market shares, pp, 2021**
***** *Data as of 1 January 2021*
** In *2020, the market share was below 2%.*
Source: RRT.

In terms of the service providers by the received FTTx revenue (see Fig. 49), it is evident that three major shares are held by the same service providers as in the case of the assessment by the total revenue. The major part (60.0%) of FTTx revenue was received by Telia Lietuva, AB. Its market share grew by 0.8 percentage points, compared to 2020. UAB Cgates was the second and its market share stood at 12.9% and increased by

0.3 pp over the year. The market shares held by all other service providers shrank over the year. The steepest decline was in the market shares of other providers (1.5 pp) and UAB Baltnetos Komunikacijos (0.9 pp).

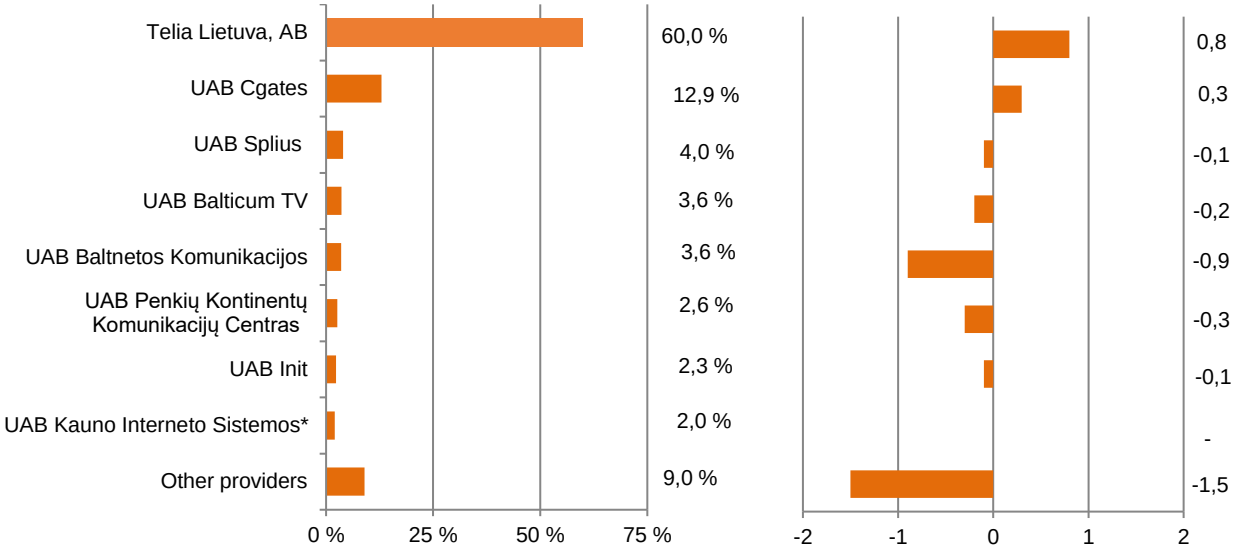


Fig. 49. **Structure of the FTTx revenue by service providers, %, and annual changes of the market shares, pp, 2021**
* In *2020, the market share was below 2%.*
Source: RRT.

ARPU. The average monthly revenue per user of retail Internet access services provided by means of fixed communications technologies (ARPU) accounted for EUR 10.7 in 2021 and it was by EUR 0.6 larger than in 2020 (see Fig. 50). As was the case in the previous periods, one of the highest ARPU was received from service users who connected to the Internet by means of other technologies (via leased lines, UTP, STP). In 2021, compared to 2020, ARPU of this service was subject to the steepest growth – by 57.2% or EUR 7.4 per month.

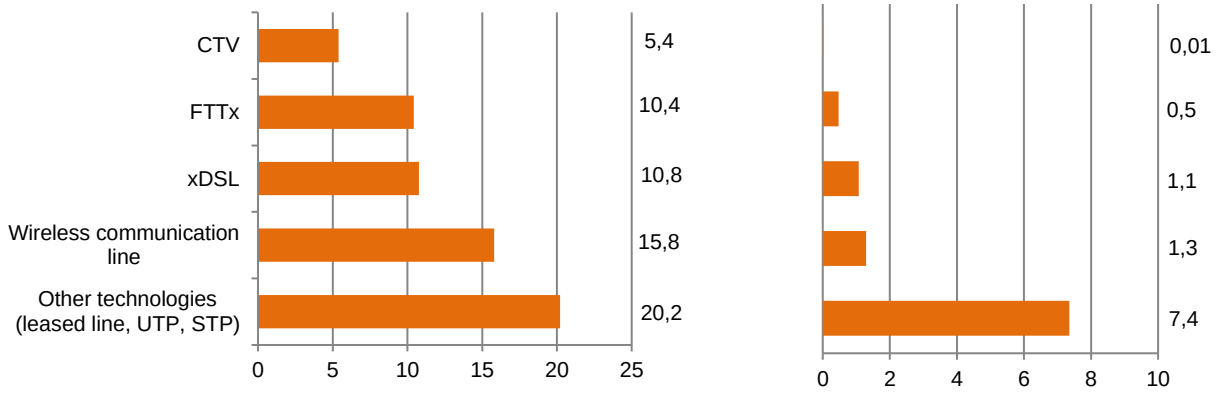


Fig. 50. **ARPU by employed technologies, EUR per month, and ARPU annual changes, EUR per month, 2021**
Source: RRT.

The lowest revenue (EUR 5.4) per service user per month in 2021, as was the case in 2020, was received from retail Internet access services provided by means of CTV networks. ARPU of the most popular retail Internet access services provided via FTTx lines increased by EUR 0.5 up to EUR 10.4 per month in 2021. ARPU of retail Internet access services provided via xDSL lines rose by EUR 1.1 in 2021, compared to 2020, and ARPU of retail Internet access services provided via wireless communication lines increased by EUR 1.3.

In 2021, as was the case in 2020, retail internet access services were mainly provided by means of FTTx lines. Over the year, the number of users of retail Internet access services provided by means of FTTx technology grew by 2.4%, and, compared to 2016, – by 14.6%. The service users are using the increasingly higher speed rate. 2021, the speed rate higher than 100 Mb/s was selected by 6.5 pp more service users than in 2020 (i.e. 56.4% of all service users using fixed communications technologies).

3.2.2. Retail Internet access services provided by means of mobile communications technologies

NB!

- 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, UAB Mezon indicated in Table 30 and Table 31; UAB Bitė Lietuva, Telia Lietuva, AB, UAB Tele2, UAB Mezon indicated in Figures 54, 55, 56 and 57 (hereinafter in this section – 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[25] and other mobile communications technologies ensuring higher speed. At the end of May 2022, Telia Lietuva, AB completed the first phase of switching of 3G connection: it switched off around one third of base 3G stations installed in Lithuania our of 3,500. Till the end of the end of 2022, 3G will be completely switched off in the company's network. The frequencies allocated to this technology will be assigned to more advanced and speedier 4G connection. In 2021, the first four 5G NR base stations were registered.

Service providers. In 2021, retail Internet access services provided by means of mobile communications technologies were provided by 9 service providers (compared to 2020, the number went down by one provider[26]).

Service users. The number of active SIM cards used to provide internet access services has been rapidly growing on an annual basis. In 2021, the number of active SIM cards for the provision of Internet access services increased by 214.8 thousand, or by 6.6% and stood at 3,451.2 thousand at the end of 2020 (see Fig. 51). When analysing the number of active SIM cards by the way of settlement, it is evident that most service

[25] 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).

[26] Telia Lietuva, AB, UAB Bitė Lietuva, UAB Tele2, UAB CSC Telecom, UAB Teledema, UAB Televizijos Komunikacijos, UAB Vilniaus Radijo Studija, UAB Mezon and Cubic Telecom Limited.

users (legal and natural persons) paid for the services under invoices – this accounted for 83.7% of all active SIM cards. The share of pre-paid services stood at 16.3%.

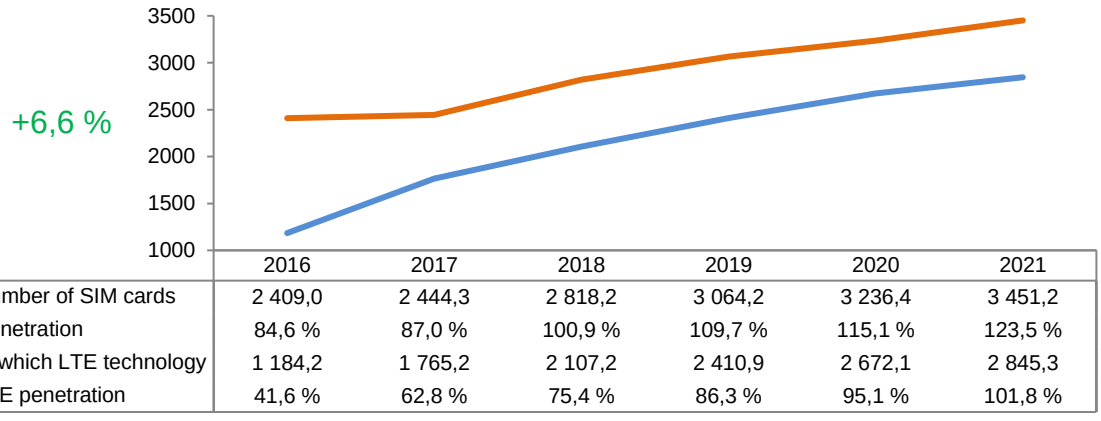
In 2021, the number of active SIM cards of all service groups was growing. The largest increase is observed in the group of active SIM cards used to provide internet services where the volume of sent and received data is paid for ('SIM cards to pay for the data volume'). In 2021, compared to 2020, the number of such SIM cards went up by 9.8% and amounted to 191.1 thousand. The number of active SIM cards used to provide internet access services where the plan for the provision of internet access services instead of the telephony plan is applied ('SIM cards for internet only') increased by 9.2% over the year and, in 2021, it equalled 764.1 thousand, whereas the number of active SIM cards used to provide internet access services where the additional plan for the provision of internet services is acquired alongside the telephony service plan or service packages are used ('SIM cards for an additional plan') went up by 6.1% and stood at 2,457.3 thousand. SIM cards for an additional plan represent the major share of SIM cards used to provide internet access services (71.2%).

Table 29. **Number of active SIM cards used to provide Internet access services by service groups and method of payment, thousand units, 2016-2021**

	2016	2017	2018	2019	2020	2021
Number of SIM cards	**2,409.0**	**2,444.3**	**2,818.2**	**3,064.2**	**3,236.4**	**3,451.2**
Pre-paid	751.9	569.3	536.7	558.6	547.0	560.9
Post-paid	1,657.1	1,875.0	2,281.5	2,505.5	2,689.3	2,890.3
SIM cards to pay for the data volume	-	230.9	192.8	313.7	174.1	191.1
SIM cards for internet only	417.1	410.1	532.2	630.3	700.1	764.1
SIM cards for an additional plan	-	1,704.6	2,035.7	2,067.6	2,316.4	2,457.3

Source: RRT.

It must be noted that since 2016 the penetration[27] of active SIM cards used to provide Internet access services has been annually increasing which exceeded 100% in 2018 already (i.e. one person used more than one card). At the end of 2021, this penetration was 123.5%, i.e. by 8.3 percentage points more than in 2020. Also, in 2021, compared to 2020, LTE penetration increased by 6.7 percentage points which exceeded 100% in 2021 and stood at 101.8%. The number of LTE technology-based active SIM cards grew by 6.5% over the year and totalled 2,845.3 thousand in 2021.

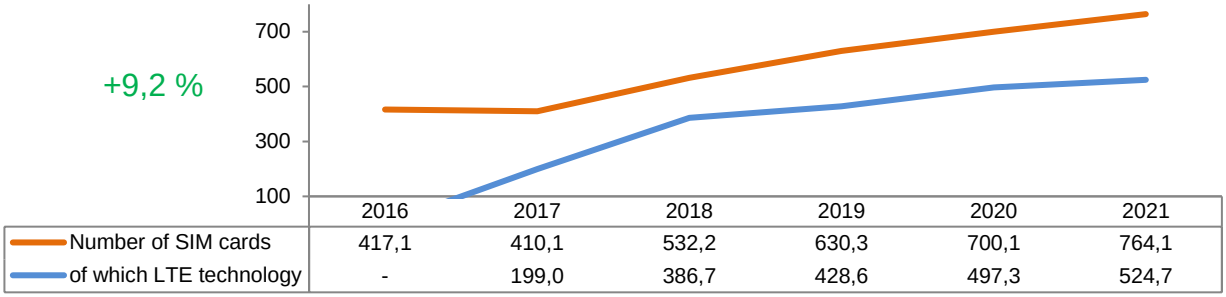


	2016	2017	2018	2019	2020	2021
Number of SIM cards	2 409,0	2 444,3	2 818,2	3 064,2	3 236,4	3 451,2
Penetration	84,6 %	87,0 %	100,9 %	109,7 %	115,1 %	123,5 %
of which LTE technology	1 184,2	1 765,2	2 107,2	2 410,9	2 672,1	2 845,3
LTE penetration	41,6 %	62,8 %	75,4 %	86,3 %	95,1 %	101,8 %

[27] Penetration is the total number of active SIM cards used to provide internet access services per 100 residents.

Fig. 51. **The number of SIM cards used to provide Internet access services, thousand units, and penetration, %, 2016-2021**
Source: RRT.

In 2021, compared to 2020, 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 applied, grew by 9.2% and it amounted to 764.1 thousand (see Fig. 52). Since 2018, the rapidly growing trend in the number of such SIM cards has been observed.



	2016	2017	2018	2019	2020	2021
Number of SIM cards	417,1	410,1	532,2	630,3	700,1	764,1
of which LTE technology	-	199,0	386,7	428,6	497,3	524,7

Fig. 52. **The number of SIM cards used to provide Internet access services, where the internet access service plan is applied instead of the telephony plan, thousand units, 2016-2021**
Source: RRT.

In 2021, on 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 30). The largest market share (37.7%) by the number SIM cards used to provide Internet access services was held by UAB Tele2 in 2021. In 2016-2021, the shares held by the service providers in terms of the number of SIM cards used to provide internet access services changed insignificantly. In 2017-2020, the services were provided by one more participant – AB Lietuvos Radijo ir Televizijos Centras – which, as mentioned above, was replaced by UAB Mezon in 2021.

Table 30. **Share of the number of SIM cards used to provide Internet access services by service providers, %, 2016-2021**

	2016	2017	2018	2019	2020	2021
UAB Tele2	40.5	35.8	37.8	38.2	37.6	37.7
UAB Bitė Lietuva	28.3	28.4	28.3	29.3	30.0	30.9
Telia Lietuva, AB	29.4	31.2	29.6	28.5	28.6	28.2
AB Lietuvos Radijo ir Televizijos Centras	-	2.6	2.6	2.4	2.3	-
UAB Mezon	-	-	-	-	-	1.8
Other providers	1.7	1.9	1.7	1.5	1.6	1.4

Source: RRT.

In terms of the market shares by the number of SIM cards for internet only, it is evident that the same market players prevailed as was in the case of SIM cards used to provide internet access services. It was only that in 2021, the first place was held by UAB Bitė Lietuva whose market share stood at 43.2%, the second – UAB Tele2 which held 29.5% of the market, whereas Telia Lietuva, AB was ranked third with 19.0% of the market (see Table 31).

Table 31. **Share of the number of SIM cards for internet only, %, 2016-2021**

	2016	2017	2018	2019	2020	2021
UAB Bitė Lietuva	41.6	33.2	35.1	39.1	40.7	43.2
UAB Tele2	11.5	21.3	27.4	27.1	27.6	29.5
Telia Lietuva, AB	46.5	28.8	23.3	21.4	20.3	19.0
AB Lietuvos Radijo ir Televizijos Centras	-	15.8	13.5	11.7	10.6	-
UAB Mezon	-	-	-	-	-	8.2
Other providers	0.4	1.0	0.7	0.6	0.7	0.2

Source: RRT.

Revenue. in terms of the revenue received from retail Internet access services provided by means of mobile communications technologies, it is evident that it was rapidly growing throughout the entire period in question (2016-2021). The total revenue received from retail Internet access services provided by means of mobile communications technologies was higher threefold in 2021, compared to 2016, and stood at EUR 273.0 million. Compared to 2020, it increased by 17.3% and accounted for EUR 40.3 million (see Fig. 53). In 2021, 23.7% (EUR 64.7 million) of all revenue was represented by the revenue received from internet access services provided by means of SIM cards for internet only, whereas 3.1% (EUR 8.5 million) of the revenue came from roaming internet access services.

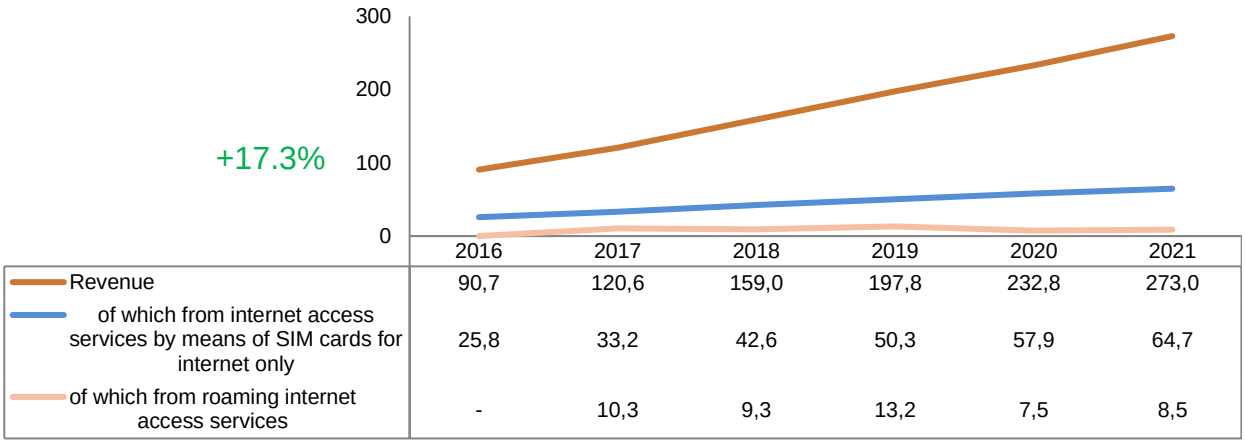


Fig. 53. **Revenue from retail Internet access services provided by means of mobile communications technologies, EUR million, 2016-2021**
Source: RRT.

In 2021, as was the case in the previous periods, the major share of the revenue was represented by the revenue received from service users which were paying under invoices (89.6% or EUR 244.7 million). The share of revenue received from pre-paid services comprised 10.4% or EUR 28.3 million (see Table 32). In 2021, all revenue received from services using SIM cards for internet only were received from post-paid service users.

Table 32. **Revenue from retail Internet access services provided by means of mobile communications technologies by the way of settlement, EUR million, 2016-2021**

	2016	2017	2018	2019	2020	2021
Total revenue	**90.7**	**120.6**	**159.0**	**197.8**	**232.8**	**273.0**
Pre-paid	-	15.6	17.4	19.4	22.3	28.3
Post-paid	-	104.9	141.6	178.3	210.5	244.7

Source: RRT.

UAB Tele2 held the leader's position market (43.4%) in the structure of the market of retail Internet access services provided by means of mobile communications technologies in 2021, in terms of the revenue received by individual undertakings, i.e. by 1.9 percentage points more than in 2020 (see Fig. 54). Over the year, the market share held by UAB Bitė Lietuva shrank most radically – by 1.4 pp.

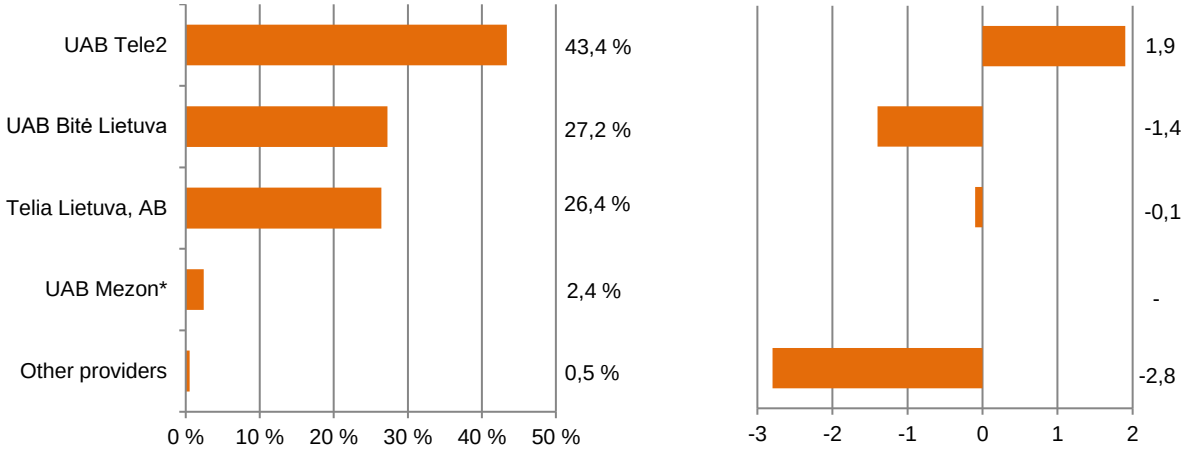


Fig. 54. **Structure of revenue from retail Internet access services provided by means of mobile communications technologies by service providers, %, and annual changes of the market shares, pp, 2021**
***** *Data as of 1 January 2021*
Source: RRT.

When analysing the market structure in terms of the revenue received from retail internet access services provided by means of SIM cards for internet only, it is evident that, in 2021, the major market share was held by UAB Bitė Lietuva – 38.0%, but, over the year, its market share shrank most radically (by 1.8 pp) (see Fig. 55). The market share of UAB Tele2 grew most rapidly – by 2.3 percentage points. As mentioned above, the significant change in the market share held by other providers was caused by the fact that after the selling of Mezon services the market share previously held by AB Lietuvos Radijo ir Televizijos Centras, which withdrew from the retail telecommunication service market, was added to the market share of other providers (11.4%) in 2020.

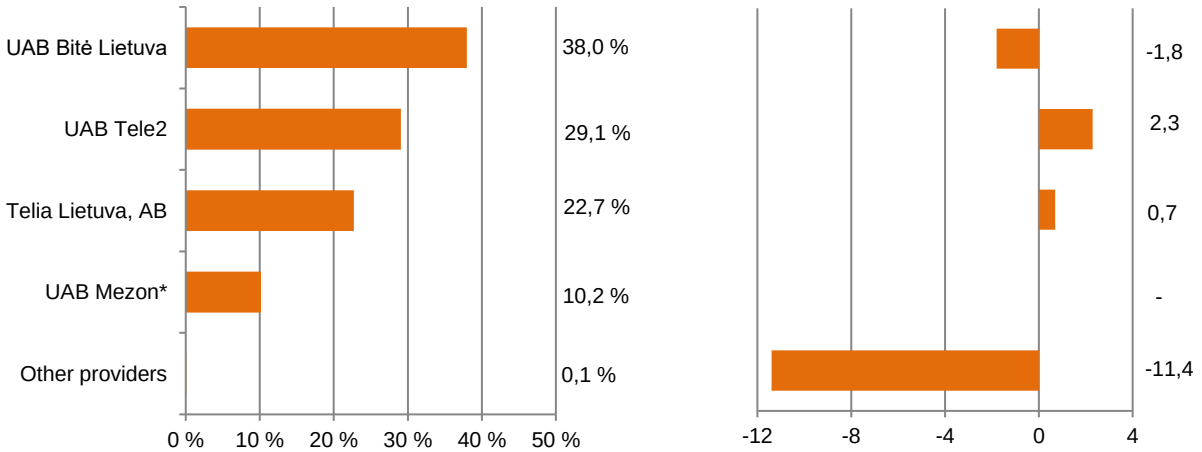


Fig. 55. **Structure of revenue from retail Internet access services provided by means of SIM cards for internet only by service providers, %, and annual changes of the market shares, pp, 2021**
***** *Data as of 1 January 2021*
Source: RRT.

ARPU. The ARPU per user of a SIM card for retail Internet access services provided by means of mobile communications technologies accounted for EUR 6.8 in 2021 and, compared to 2020, it was by EUR 0.6 larger (see Fig. 56). In 2021, UAB Mezon received the highest ARPU – EUR 8.1. In 2021, compared to 2020, the largest growth of ARPU was that of UAB Tele2 (EUR 1.0).

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. 56 and Fig. 50, it is clear that the average ARPU from the provision of services by means of fixed communications technologies, as specified in Figure 50 exceeds the average ARPU from the provision of services by means of mobile communications technologies, as specified in Figure 56, by EUR 3.9.

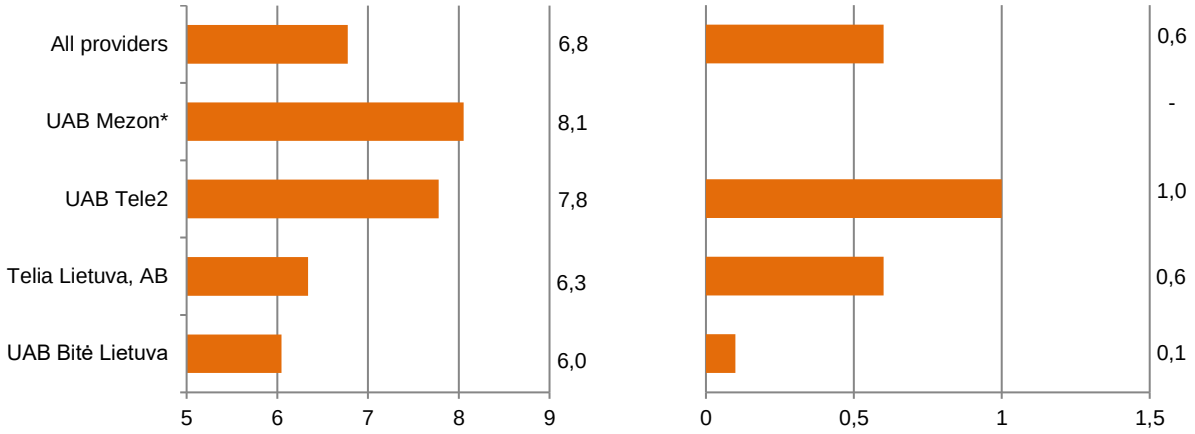


Fig. 56. **ARPU of all service providers and of each of the major providers, EUR per month, and ARPU annual changes, EUR per month, 2021**
***** *Data as of 1 January 2021*
Source: RRT.

The monthly ARPU per user of a SIM card for internet only accounted for EUR 7.4 in 2021 and it was by 0.1 pp higher than in 2020 (see Fig. 57). In 2021, Telia Lietuva, AB received the highest ARPU – EUR 8.6 per month, UAB Bitė Lietuva had the lowest ARPU – EUR 6.6 per month.

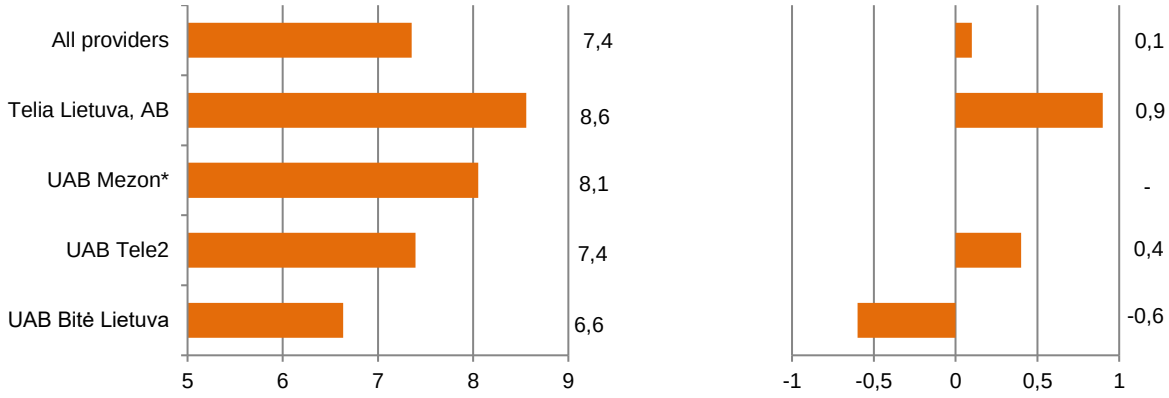
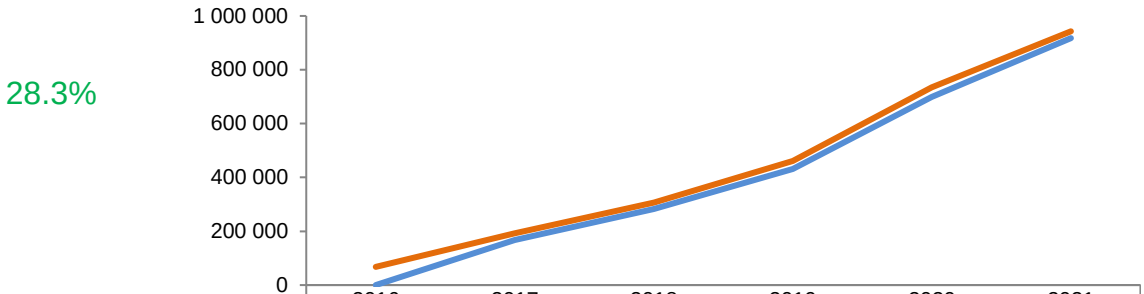


Fig. 57. **ARPU of all service providers and major service providers when using SIM cards for internet only, EUR per month, and ARPU annual changes, EUR per month, 2021**
***** *Data as of 1 January 2021*
Source: RRT.

Data Volume. Throughout the entire period in question (2016-2021), the total volume of sent and received data was rapidly growing in Lithuania. In 2021, it exceeded the data volume of 2016 by 14 times, and, compared to 2020, it increased by 28.3% and stood at 942,858 TB (see Fig. 58). The major part of such data (in 2021 – 97.3%) was sent by means of LTE and high-speed technologies. Out of all data, the volume of 653,657 TB (69.3%) was sent by means of SIM cards for internet only.



	2016	2017	2018	2019	2020	2021
Total volume of data sent and received in Lithuania	67 607	192 665	306 183	460 767	734 972	942 858
- by means of SIM cards for internet only	-	94 646	142 225	330 923	526 920	653 657
- by means of LTE and high-speed technologies	-	167 353	283 161	431 508	699 056	917 444
Monthly data volume per service user	2 452	7 229	10 042	13 977	20 355	24 532

Fig. 58. **Total annual volume of data sent and received in Lithuania, TB, and monthly data volume sent and received by a single service user, MB, 2016-2021**
Source: RRT.

In 2021, compared to 2020, the monthly volume of sent and received data per service user grew by 20.5% and it stood at 24,531.5 MB (see Table 33). The greatest volume of data (159,856.5 MB) per month per service user was transmitted by means of Internet access services of UAB Mezon in 2021 as this undertaking provided such services only to the users of SIM cards for internet only. The largest growth of other service providers providing the services in 2021 was of the volume of sent and received data per user per moth of UAB Bitė Lietuva (29.2%) and it stood at 18,978.2 MB. The monthly volume of sent and received data per service user of UAB Tele2 and Telia Lietuva, AB also increased, respectively, by 28.7% and 23.6% and, accordingly, constituted 22,395.4 MB and 24,716.8 MB.

Table 33. **Monthly volume of data sent and received by a single service user, MB, and their changes, %, 2021**

Service Provider	Data volume per month in 2020	Data volume per month in 2021	Change per year, %
UAB Mezon*	-	159,856.5	-
AB Lietuvos Radijo ir Televizijos Centras	155,064.6	-	-
Telia Lietuva, AB	20,000.8	24,716.8	23.6
UAB Tele2	17,395.0	22,395.4	28.7
UAB Bitė Lietuva	14,683.9	18,978.2	29.2
Other providers	2,767.4	3,463.9	25.2
All providers	20,355.4	24,531.5	20.5

***** *Data as of 1 January 2021*
Source: RRT.

Quality. Speed rate. The measurements performed by the RRT help evaluate the development of the service quality in the operators' networks. The growth of the values of the average data download speed has been observed as a result of the progress of technologies. During 2021, the data download speed measurements were performed with regard to all mobile communications operators (UAB Bitė Lietuva, Telia Lietuva, AB, UAB Tele2 and Mezon) in Lithuanian cities and on the roads. Fig. 59 presents the comparison of average values of data download speed recorded during those measurements in 2020 and 2021, Mb/s. The data download speed of mobile internet access services of Telia Lietuva, AB changed most significantly – it went up by 22.8%. Also, the result of UAB Bitė Lietuva increased by 13.7%. The average data download speed

of UAB Tele2 went down by 6.7% in 2021, compared to 2020, whereas the average data download speed of the services of Mezon dropped by 14.9% over the year. The decrease in the average data download speed in the networks of some operators may be a result, among other factors, of the users' more intense use of the internet access services.[28]

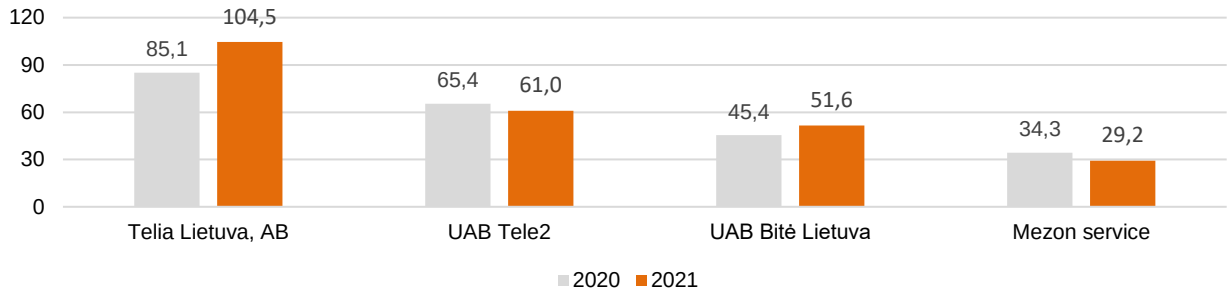


Fig. 59. **Comparison of average values of data download speed in the cities and on the roads in 2020 and 2021, Mb/s**
Source: RRT.

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 RRT carried out the calculations of the mobile communications network coverages and speeds in October 2021[29]. The calculations were made by applying the 10% network load designed to assess and compare the data transmission capacity of the operators' networks, namely 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 (see Table 34.).

Table 34. **Share of the population with access to LTE technology data transmission services, %, 2021**

Data download speed	30 Mb/s	100 Mb/s
At 10% network load	96.9%	85.8%
At 50% network load	87.9%	46.3%

Source: RRT.

According to the data of portal 'Global Spped Test (Ookla)'[30], in December 2021, Lithuania was ranked 22nd (9 places lower than in 2020) by data download speed of Internet access services (3G/4G) provided by means of mobile communications technologies in Europe – data download speed was 47.2 Mb/s in Lithuania (see Fig. 60), i.e. by 18.2% lower than in 2020. Norway had the highest data download speed – 119.1 Mb/s. In terms of data upload speed, Lithuania outperformed its neighbouring countries Latvia and Poland whose data download speed was 35.2 Mb/s and 39.1 Mb/s, respectively, but it lagged behind Estonia whose data download speed was 54.2 Mb/s.

[28] The data of the measurements performed by the RRT and respective maps are published on the website http://matavimai.rrt.lt/.
[29] The data of the calculations performed by the RRT and respective maps are published on the RRT's website https://www.rrt.lt/mobiliojo-rysio-tinklu-teoriniai-spartos-skaiciavimai/.
[30] https://www.speedtest.net/global-index#mobile

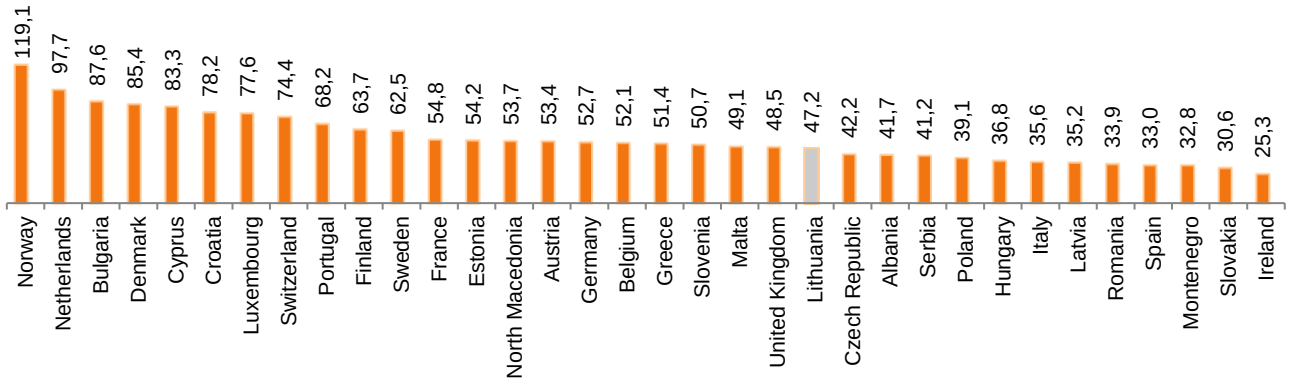


Fig. 60. **Data download speed (Mb/s) of Internet access services provided by means of mobile communications technologies (3G/4G) in European countries**
Source: Data of 'Global Speed Test' ('Ookla') of April 2022.

5G network accessibility. Based on the data of the company OpenSignal established in London[31], the data download speed increased in many countries upon deployment of 5G technologies. According to the survey published in February 2022, the highest data download speed in Q4 2021 was recorded in South Korea (129.7 Mb/s). Based on this indicator, Lithuania was ranked as high as 16th in the world (see Fig. 61). In Lithuania, the data download speed went up from 29.5 Mb/s in Q1 2019 to 44.6 Mb/s in Q4 2021.

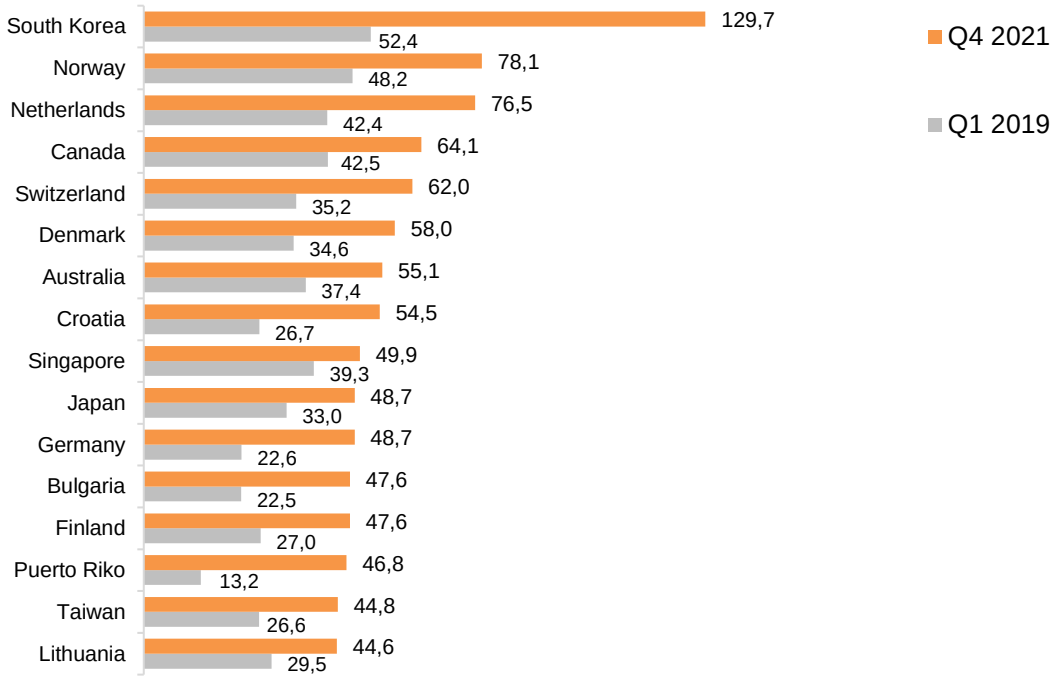


Fig. 61. **Data download speed**, **Mb/s, Q1 2019- Q4 2021**
Source: OpenSignal.

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. At the beginning of 2019, Telia Lietuva, AB started testing 5G network and provided the residents of three major cities (Vilnius, Kaunas and Klaipėda) to participate in the testing of 5G network. At the beginning of 2022, as many as 224 5G base stations were already operating in the 694-790 MHz (700 MHz) and 3400-3800 MHz (3.6 GHz) radio frequency bands but later the number of operating stations was reduced to 89. Also, at the beginning of 2022,

[31] https://cdn.opensignal.com/public/data/reports/pdf-only/data-2022-02/202202_opensignal_5gimpactonglobalmobileexperience_0.pdf

Telia Lietuva, AB launched 60 5G base stations in the 2100 Mhz radio frequency band, and UAB Mezon switched on 18 5G base stations in the town of Jonava.

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 694-790 MHz (700 MHz), 3400-3800 MHz (3.5 GHz) and 24.25-27.50 GHz (26 GHz) frequency bands are firstly prepared. The auctions of the 700 Mhz and 3.6 Ghz radio frequency bands are currently ongoing. In Q3 2022, the auction procedures are going to be completed in Lithuania and the auction winners will be allocated these radio frequencies afterwards. It is likely that in the second half of 2022 the auction winners will launch the provision of commercial electronic communications services for 5G connection via the respective electronic communications networks. The auction for the 26 Ghz radio frequency band will be commenced later when there will be a demand for this band on the market.

In 2021, on the market of retail Internet access services provided by means of mobile communications technologies was growing very rapidly: The number of active SIM cards for the provision of Internet access services increased by 6.6% and stood at 3,451.2 thousand at the end of 2021. The penetration of these SIM cards stood at 123.5%. In 2021, compared to 2020, LTE penetration went up by 6.7 percentage points, which exceeded 100% in 2021 and stood at 101.8%. The total volume of data sent and received in Lithuania was increasing rapidly. In 2021, it exceeded the data volume of 2016 by almost 14 times, and, compared to 2020, it increased by 28.3% and stood at 942,858 TB.

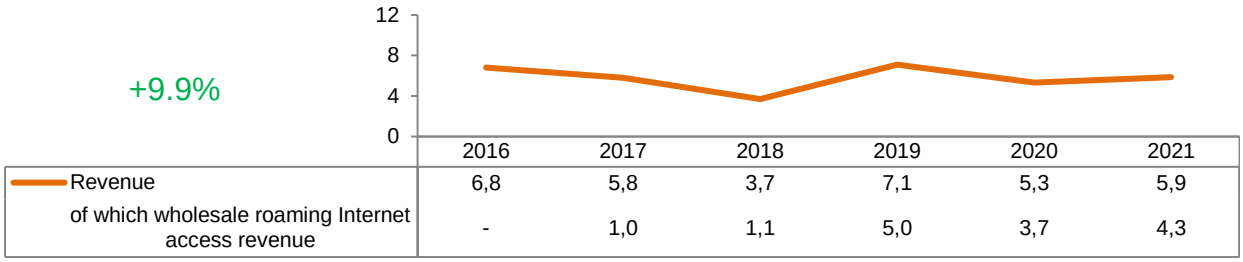
3.3. Wholesale Internet Access Services

Service providers	8
Major service provider	Telia Lietuva, AB
Wholesale revenue, EUR million	5.9

NB!

- In this section of the report, other wholesale Internet access service providers shall be all providers of such services, except for Telia Lietuva, AB, UAB Bitė Lietuva, UAB Nacionalinis Telekomunikacijų Tinklas indicated in Figure 63 (hereinafter in this section – the 'other providers').

Revenue. In 2021, compared to 2020, the revenue received from wholesale Internet access services went up by 9.9% and amounted to EUR 5.9 million. When analysing the change in the revenue during the period of 2016-2021, it must be noted that, in the period of 2016-2018, the revenue received from wholesale Internet access services (see Fig. 62) went down, whereas, in 2019, with the lower revenue from roaming services, the total revenue from wholesale Internet access services decreased again (24.9%) but it rose in 9.9% in 2021.



	2016	2017	2018	2019	2020	2021
Revenue	6,8	5,8	3,7	7,1	5,3	5,9
of which wholesale roaming Internet access revenue	-	1,0	1,1	5,0	3,7	4,3

Fig. 62. **Revenue from wholesale Internet access services, EUR million, 2016-2021**
Source: RRT.

In 2021, wholesale Internet access services were provided by 8 service providers. The largest market share, in terms of the revenue received from the provision of wholesale Internet access services, was held by Telia Lietuva, AB (74.9%) (see Fig. 63). In 2021, compared to 2020, the market share held by other providers was subject to the largest increase (by 1.6 percentage points).

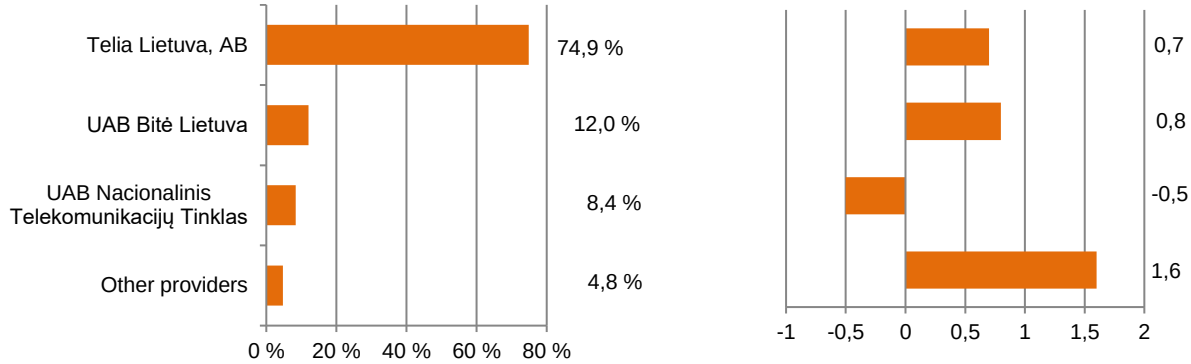


Fig. 63. **Structure of the revenue from wholesale Internet access services by service providers, %, and annual changes of the market shares, pp, 2021**
Source: RRT.

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 4.3% in 2021 and stood at 1,679.9 Gb/s (see Fig. 64).

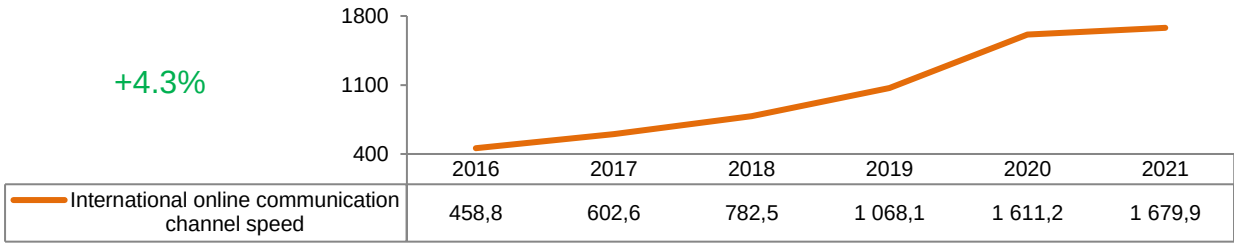


Fig. 64. **Overall speed of direct international online communication channels, Gb/s, 2016-2021**
Source: RRT.

Overall speed of direct international online communication channels increased by 4.3% in 2021. The major international online communication channel was possessed by Telia Lietuva, AB which held around 50% of the common channel.

3.4. Other Data Transmission Services

Service providers	18
Service users, thousand*	14.3
Revenue, EUR million	21.3

* 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 (IP) 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 2021, the revenue from other data transmission services totalled EUR 21.3 million or it was by 1.7% more than in 2020 (see Fig. 65). Throughout the entire period of 2016-2021, the revenue received from other data transmission services went up insignificantly.

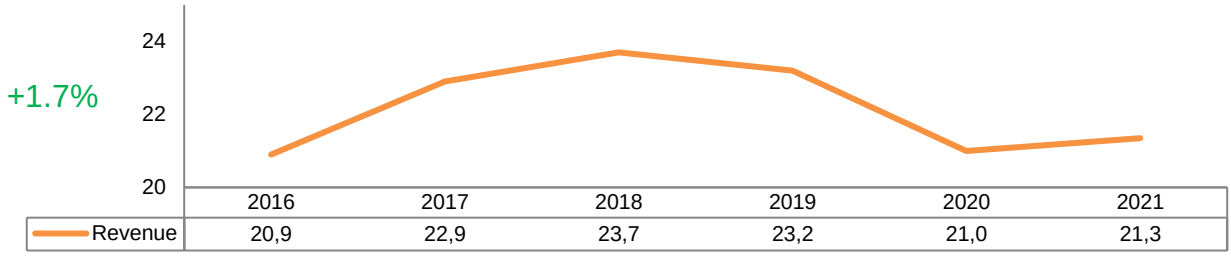


Fig. 65. **Revenue from other data transmission services, EUR million, 2016-2021**
Source: RRT.

3.4.1. Retail other data transmission services

Service providers	13
Service users, thousand	14.3
Number of M2M SIM cards, thousand	488.9
Retail revenue, except for M2M, EUR million	9.4
Revenue from M2M services, EUR million	3.8

NB!

- 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 Bitė Lietuva, UAB Dekbera indicated in Figure 67; Telia Lietuva, AB, UAB Bitė Lietuva, UAB Tele2 indicated in Figures 69 and 72; Telia Lietuva, AB, UAB Bitė Lietuva, UAB Tele2, AB Lietuvos Radijo ir Televizijos Centras, UAB Dekbera indicated in Figure 71 (hereinafter in this section – the 'other providers').

Service users. In 2021, compared to 2020, the number of users decreased by 8.6% to 14.3 thousand users[32] (see Fig. 66). In 2016, the number of users that are provided services through leased lines was added to the number of other transmission service users by applying the reservation that 1 leased line equals 1 service user.

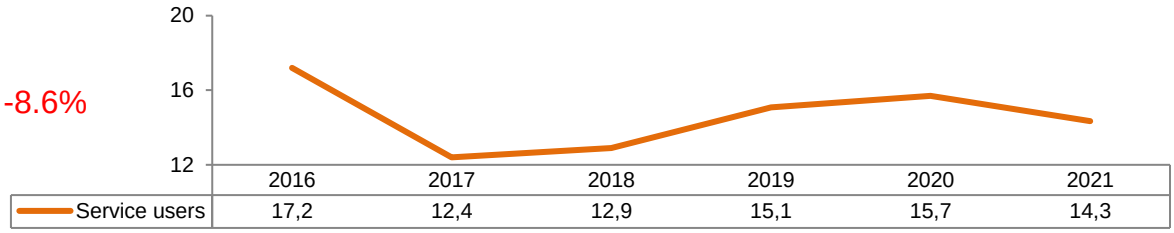


Fig. 66. **Number of retail other data transmission service users, thousand, 2016-2021**
Source: RRT.

The majority of retail other data transmission service users were using the services provided by Telia Lietuva, AB. At the end of 2021, Telia Lietuva, AB was providing retail other data transmission services to 77.7% of such service users, which was by 3.7 percentage points less than in 2020 (see Fig. 67).

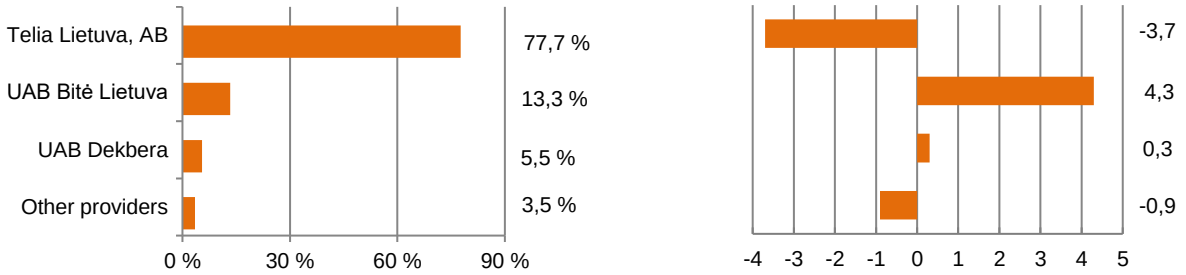


Fig. 67. **Share of the number of service users by service providers, %, and annual changes of the market shares, pp, 2021**
Source: RRT.

Number of M2M SIM cards. Between 2016 and 2021, the number of active SIM cards used to provide M2M (*Machine to Machine, Man to Machine, Machine to Man*) services was continuously growing. In 2021, there were 488.9 thousand SIM cards used to provide M2M services, i.e. by 32.0% or by 118.6 thousand more than in 2020 (see Fig. 68). 169.3 thousand or 34.6% of all M2M services were Machine to Machine services.

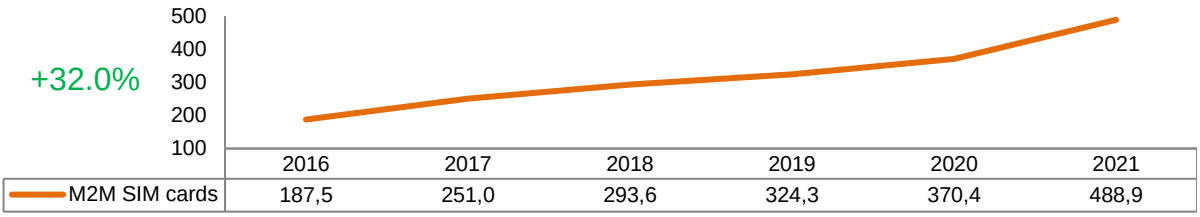


Fig. 68. **Number of SIM cards used to provide M2M services, thousand units, 2016-2021**
Source: RRT.

In 2021, Telia Lietuva, AB held 63.2% of the market by the number of SIM cards for the provision of M2M services (by 8.0 pp more than in 2020). UAB Bitė Lietuva held 17.5% of the market and UAB Tele2 – 17.1% of the market (see Fig. 69). The market share of UAB Bitė Lietuva shrank most radically in 2021, compared to 2020 (by 5.9 pp).

[32] Illegible active SIM cards used to receive M2M services.

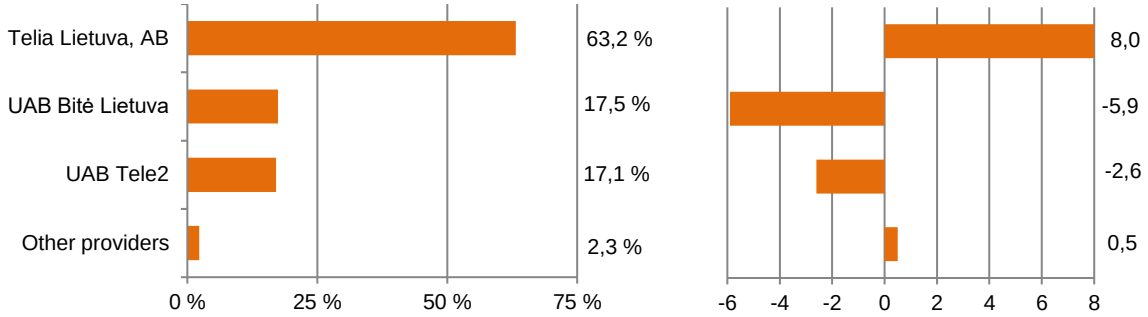
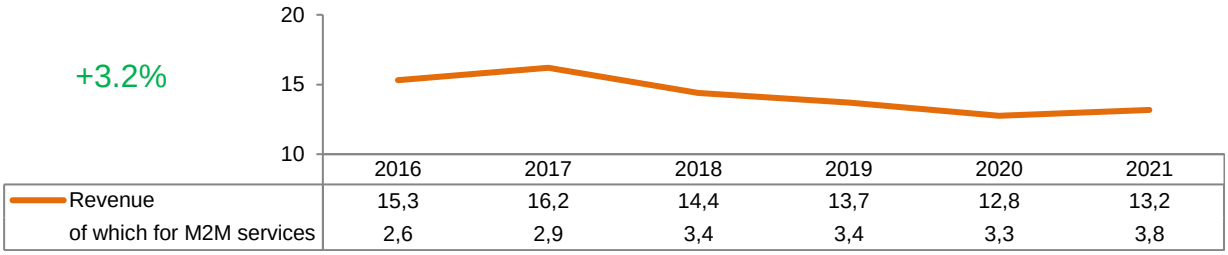


Fig. 69. **Share of the number of SIM cards for the provision of M2M services by service providers, %, and annual changes of the market shares, pp, 2021**
Source: RRT.

Revenue. In 2021, compared to 2020, the revenue from retail other data transmission services went up by 3.2% and amounted to EUR 13.2 million (see Fig. 70). In 2021, 28.8% (EUR 3.8 million) of such revenue came from the provision of M2M services.



	2016	2017	2018	2019	2020	2021
Revenue	15,3	16,2	14,4	13,7	12,8	13,2
of which for M2M services	2,6	2,9	3,4	3,4	3,3	3,8

Fig. 70. **Revenue from retail other data transmission services, EUR million, 2016-2021**
Source: RRT.

In 2021, the largest market share, in terms of the revenue received from the provision of other retail data transmission services, was held by Telia Lietuva, AB (60.0%) (see Fig. 71). It must be noted, however, that the market share held by Telia Lietuva, AB shrank most significantly in 2021, compared to 2020– by 3.9 pp. In 2021, the steepest growth was observed in the market share held by UAB Bitė Lietuva (by 2.2 pp) as it held 21.2% of the market.

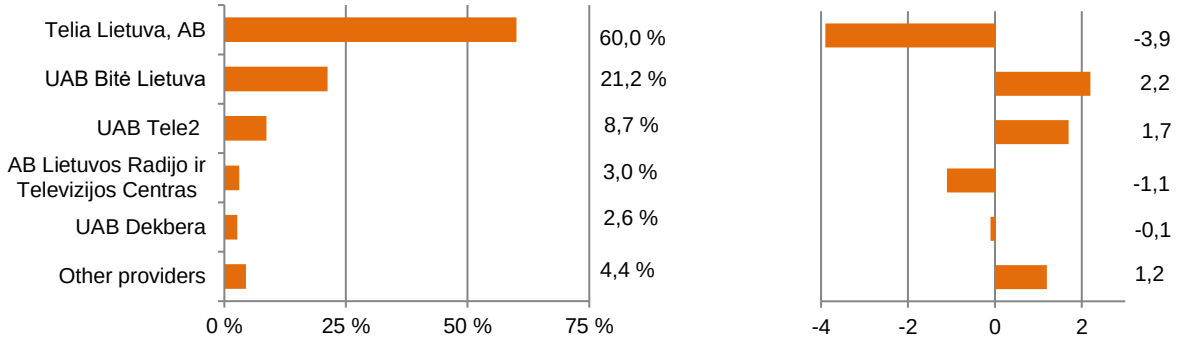


Fig. 71. **Structure of the revenue from retail other data transmission services by service providers, %, and annual changes of the market shares, pp, 2021**
Source: RRT.

In terms of the revenue received from M2M services, the market was shared by the same three market players in 2021, as was the case in 2020. The largest market share was held by Telia Lietuva, AB (43.9%). The revenue generated by UAB Tele2 constituted 30.0% and UAB Bitė Lietuva received 25.6% of the market revenue (see Fig. 72).

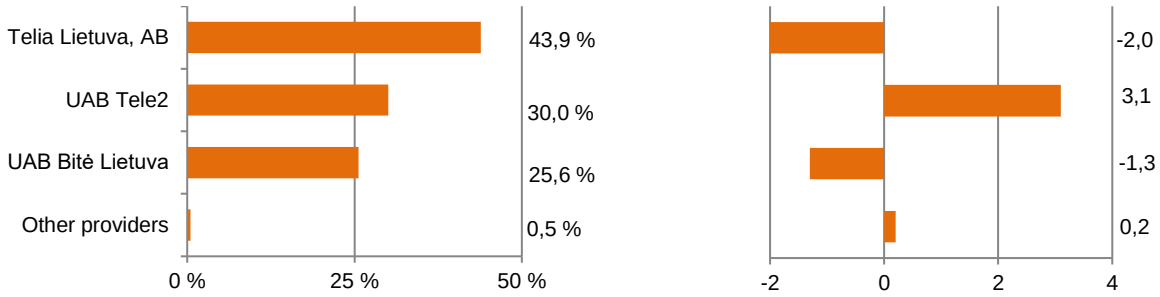
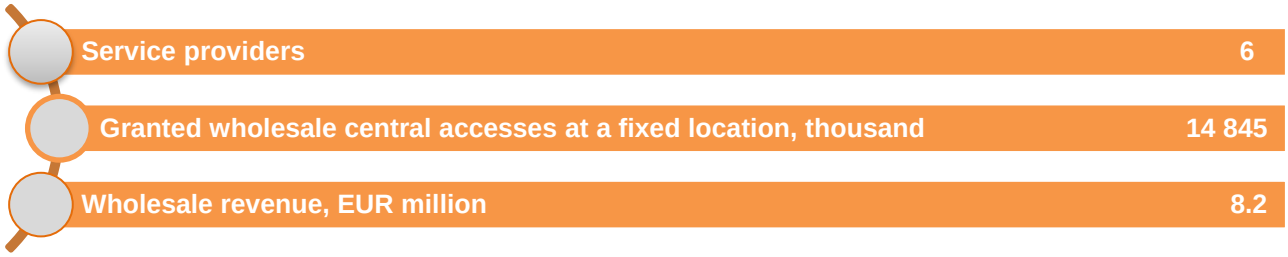


Fig. 72. **Structure of the revenue from M2M services by service providers, %, and annual changes of the market shares, pp, 2021**
Source: RRT.

Between 2016 and 2021, the number of active SIM cards used to provide M2M services was growing very rapidly. In 2021, there were 488.9 thousand SIM cards used to provide M2M services, i.e. by 32.0% or by 118.6 thousand more than in 2020. The revenue received from the provision of M2M services was also going up but not as steadily as the number of M2M SIM cards. In 2021, the revenue received from the provision of M2M services increased by 15.8% and accounted for EUR 3.8 million.

3.4.2. Wholesale other data transmission services



NB!

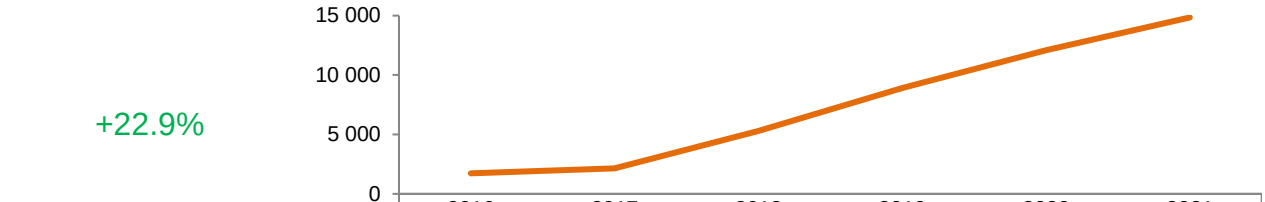
- In this section of the report, the other wholesale other data transmission service providers shall be all providers of such services, except for Telia Lietuva, AB, Public Enterprise Plačiajuostis Internetas, UAB Duomenų Logistikos Centras in Figure 75 (hereinafter in this section – the 'other providers').

Service providers. In 2021, the wholesale other data transmission services were provided by 6 undertakings (in 2020, such services were provided by 7 undertakings).

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

At the end of 2021, the service of wholesale central access was provided by 2 undertakings – Telia Lietuva, AB and UAB Balticum TV. At the end of 2021, Telia Lietuva, AB had granted 14,844 wholesale central accesses in total. The number of such accesses went up by 22.9% over the year. 95.8% or 14,219 of wholesale central accesses were granted by means of FTTx technology, and 4.2% or 626 wholesale accesses were granted by means of xDSL technology (see Fig. 73). The demand for the services provided by means of FTTx technology has continuously grown: in 2021, compared to 2020, the number of wholesale central accesses by means of FTTx technology was higher by 24.4%, and the number of accesses granted by means of xDSL technology fell by 3.8%. The demand for wholesale central access services by means of xDSL technology is

likely to go down in the future as well, and the provision of such services by means of FTTx technology is likely to go up.

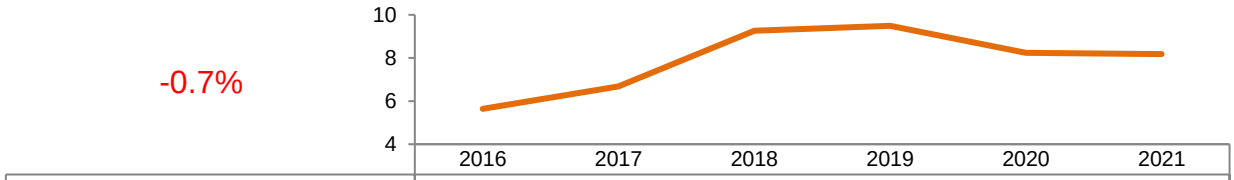


	2016	2017	2018	2019	2020	2021
Wholesale central accesses	1 725	2 138	5 300	8 917	12 078	14 845
of which by means of xDSL techn.	1 725	1 223	1 127	1 052	651	626
of which by means of FTTx techn.	-	915	4 173	7 865	11 427	14 219

** In 2016, there are no data on the number of granted wholesale central accesses granted by means of 'FTTx' technology.*

Fig. 73. **Number of granted wholesale central accesses, 2016-2021**
Source: RRT.

Revenue. In 2021, compared to 2020, the revenue received from the provision of wholesale other data transmission services decreased by EUR 0.06 million or by 0.7% and accounted for EUR 8.2 million (see Fig. 74). In 2021, the revenue received from the provision of wholesale central access services accounted for EUR 1.3 million or 16.2% of the total revenue from the provision of wholesale other data transmission services.



	2016	2017	2018	2019	2020	2021
Revenue from wholesale other data transmission services	5,64	6,68	9,26	9,49	8,24	8,18
of which from wholesale central access services	-	0,23	0,35	0,65	0,99	1,33
by means of xDSL techn.	-	0,17	0,11	0,07	0,07	0,04
by means of FTTxt techn.	-	0,06	0,23	0,58	0,92	1,29

Fig. 74. **Revenue from wholesale other data transmission services, EUR million, 2016-2021**
In 2016, there are no data on the revenue received from the services of wholesale central accesses provided by means of both xDSL and 'FTTx' technologies.
Source: RRT.

In 2021, the largest market share, in terms of the revenue received from the provision of wholesale other data transmission services, was held by Telia Lietuva, AB (45.2%) (see Fig. 75) but its market share shrank by 1.3 pp in 2021, compared to 2020. In 2021, compared to 2020, the market share held by Public Enterprise Plačiajuostis Internetas was subject to the largest increase (3.1 percentage points).

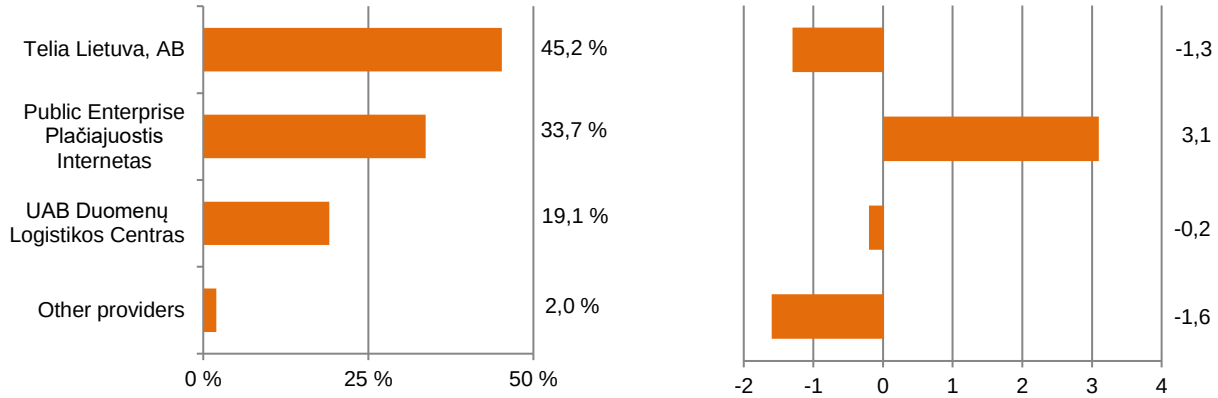
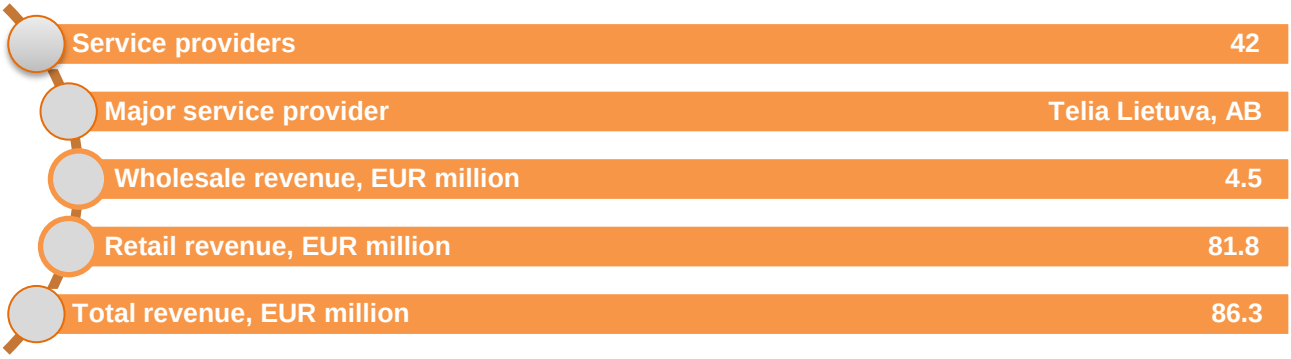


Fig. 75. **Structure of the revenue from wholesale other data transmission services by service providers, %, and annual changes of the market shares, pp, 2021**
Source: RRT.

The number of wholesale central accesses granted at a fixed location for mass-market products grew rapidly in 2021, as was the case during the entire period of 2016-2021, and it went up by 22.9% and stood at 14,845. The revenue received from the provision of wholesale other data transmission services slightly dropped (by 0.7%) and accounted for EUR 8.2 million.

4. Television and Radio

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



NB!

- 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, UAB Splius, UAB Bitė Lietuva, Telia Lietuva, AB and "AS TV Play Baltics (hereinafter in this section – 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 2021, the television and radio activities related to the electronic communications, were carried out by by 42 undertakings (see Table 35).

In 2021, there were 41 retail pay-TV service providers (in 2020 – 42). Wholesale radio and television broadcasting services were provided by 1 undertaking in total at the end of 2021 – AB Lietuvos Radijo Centras which was providing radio and television broadcasting services.

Table 35. **The number of television and radio service providers by services provided, units, 2016-2021**

	2016	2017	2018	2019	2020	2021
Radio and television broadcasting	4	3	3	3	1	1
Pay-TV services	42	39	40	39	42	41
Total	**44**	**40**	**41**	**40**	**42**	**42**

Source: RRT.

Revenue. In 2021, compared to 2020, the revenue from the provision of retail pay- and wholesale television and radio services grew by 1.9% and stood at EUR 86.3 million (see Fig. 76).

In 2021, as was the case in the previous periods, the largest share of the revenue was gained from retail pay-TV services. The revenue generated from this activity stood at EUR 81.8 million of the total revenue received from the provision of television and radio services (in 2020, such revenue accounted for 94.6% of the total revenue received from the provision of television and radio services). In 2021, the revenue from wholesale television and radio broadcasting services amounted to EUR 4.5 million or 5.2% of the total revenue (by 0.1 percentage points less than in 2020), of which: 3.6% of the revenue received from television broadcasting services, 1.3% – from radio broadcasting services and 0.4% – from other services related to television and radio broadcasting.

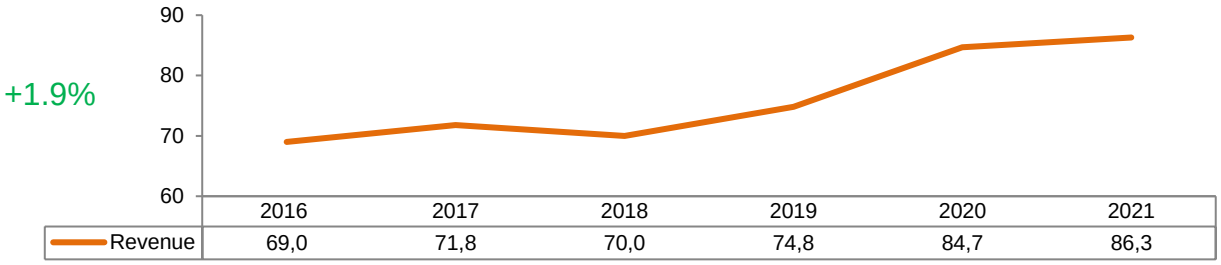


Fig. 76. **Revenue from television and radio services, EUR million, 2016-2021**
Source: RRT.

With a view to the structure of the market of television and radio services by revenue of service providers in 2021, it is evident that Telia Lietuva, AB remained the major service provider which held 45.2% of the market or by 0.5 pp more than in 2020 (see Fig. 77). The second place in terms of the revenue of service providers was held by UAB Cgates whose market share equalled 16.5% or by 0.1 pp less than in 2020. The third place was held by UAB Bitė Lietuva: satellite television services provided by AS TV Play Baltics with the trademark 'Home3' were integrated as of 1 April 2021.

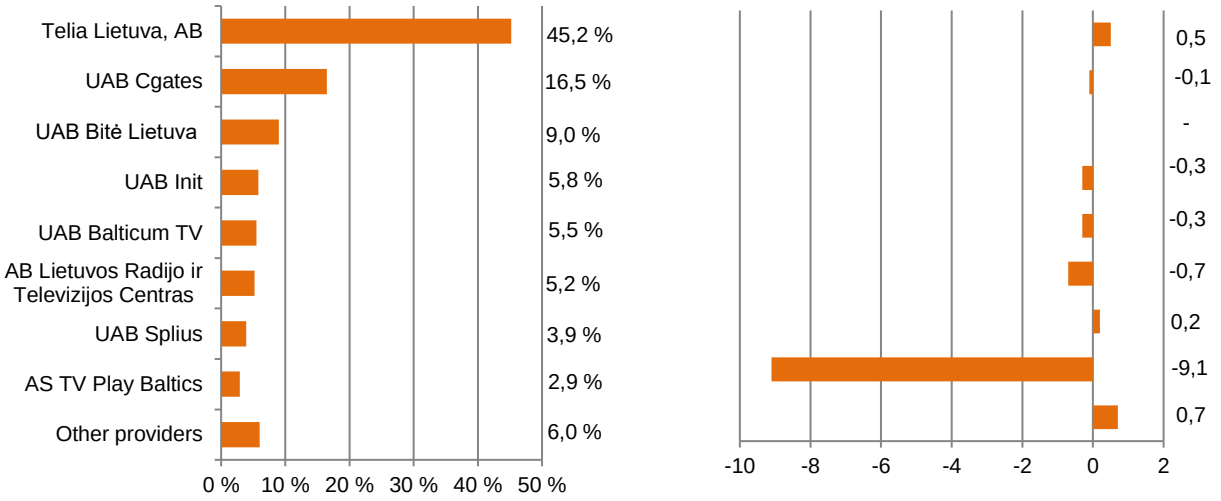


Fig. 77. **Structure of revenue from television and radio services by service providers, %, and annual changes of the market shares, pp, 2021**
Source: RRT.

During the period between 2016 and 2021, the revenue received from television and radio services which stood at EUR 86.3 million in 2021 was growing and it represented the largest revenue throughout the entire period in question. In 2021, the market share of the seven major service providers accounted for 94.0% (in 2020 – 94.6%).

4.2. Retail Pay-TV Services

NB!

- 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, UAB Splius, Telia Lietuva, AB, UAB Bitė Lietuva and AS TV Play Baltics (hereinafter in this section – the 'other providers').

Methods of the Service Provision. In 2021, pay-TV services were provided by employing 4 different methods in Lithuania:

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

Service providers. In 2021, compared to 2020, the number of pay-TV service users changed insignificantly. The changes were recorded in IPTV, CTV and DVB-T segments (see Table 36). 26 undertakings provided their services by means of fixed communications technologies (FTTx technology – 22, xDSL technology – 2, other technology – 8), whereas 2 undertakings used mobile communications technologies. Satellite TV services were provided by one company (UAB Bitė Lietuva). When UAB Balticum TV terminated the provision of retail pay-DVB-T services, such services were no longer provided.

Table 36. **Number of pay-TV service providers by service provision methods, units, from 2016 to the end of 2021**

	2016	2017	2018	2019	2020	2021
IPTV	16	18	20	22	26	27
CTV	30	26	25	24	26	25
- Digital CTV	17	14	15	16	20	20
MDTV	2	2	2	2	2	2
Satellite TV	1	1	1	1	1	1
DVB-T	2	2	2	2	1	-

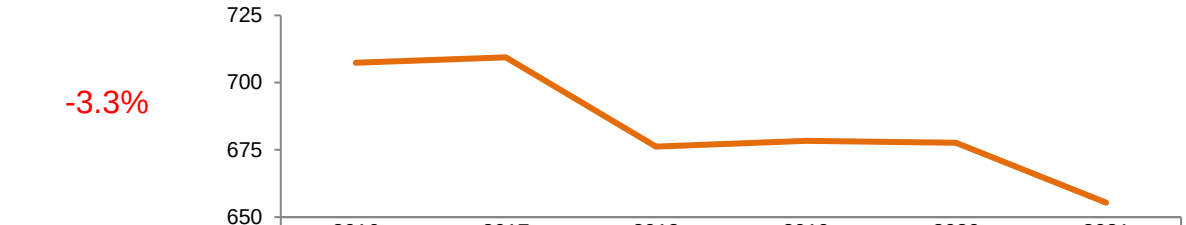
Source: RRT.

Service users. At the end of 2021, the number of pay-TV service users was the lowest during the period of 2016-2021 and stood at 655.5 thousand service users or by 3.3% less than in 2020 (see Fig. 78). This is likely a result of the growth of supply of non-electronic communications services, i.e. Internet tele vision[33]. At

[33] The service of dissemination of television programmes and/or individual programmes online is defined in Article 2(64) of the Republic of Lithuania Law on Provision of Information to the Public: 'selection of television programmes or individual programmes to be broadcast, provision of such services to be disseminated and simultaneous transmission of such unchanged programme online, including such transmission to the public by means of the service of video material sharing platform and transmission of protected television programmes or individual programmes to the public online by means of conditional access.'

the end of 2021, 29.3 thousand service users were using the services of internet television and video content on the platform Megogo. Other internet television service providers[34] indicated that they had 1.5 thousand internet television service providers. Video content internet platform Go3 has over 350.0 thousand service users who use internet television and video content services in the Baltic countries.

In 2021, the number of IPTV service users exceeded the number of CTV service users. Most (47.5%) of television service users opted in for IPTV services. With regard to the structure of pay-TV service users by methods of the television service provision, it is evident that only the number of IPTV service users was growing in 2021, compared to 2020. In 2021, compared to 2020, the number of IPTV service users went up by 2.0% or by 6.2 thousand. The consistent growth of the demand for IPTV services may be related to the fact that the end-users still appreciate the value added of these services – such services are conveniently provided in a single service package together with the Internet access services, moreover, IPTV services ensure high video quality. In 2021, CTV and satellite TV services were used by 43.7% and 7.9% of all pay-TV service users, respectively. In 2021, the number of CTV subscribers dropped by 8.6%, and that of digital CTV – by 4.4%. As of 2021, pay-DVB-T services are no longer provided.

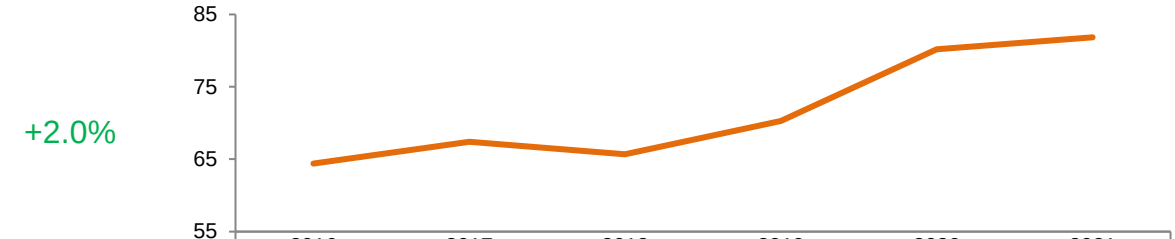


	2016	2017	2018	2019	2020	2021
IPTV	206,1	229,4	258,8	283,4	304,9	311,2
CTV	377,4	372,1	350,2	332,2	313,0	286,2
- Digital CTV	164,0	202,0	212,3	213,3	216,9	207,4
Satellite TV	73,6	66,2	57,6	54,1	52,0	51,7
MDTV	10,8	9,9	9,2	8,3	7,4	6,5
DVB-T	39,6	31,8	0,4	0,4	0,3	-
Service users, in total	707,4	709,4	676,2	678,4	677,6	655,4

Fig. 78. **Number of pay-TV service users by service provision methods, thousand, 2016-2021**
Source: RRT.

Revenue. In 2021, compared to 2020, the revenue received from the provision of pay-TV services went up by 2.0% and amounted to EUR 81.8 million. This represented the most substantial revenue throughout the entire period in question (2016-2021). In 2021, the growth of the revenue from pay-TV services was largely impacted by the increase of the revenue received from IPTV services: in 2021, compared to 2020, such revenue went up by 5.1% and stood at EUR 43.0 million (of which EUR 42.0 million were received from services using fixed communications technologies, and EUR 1.0 million – using mobile communications technologies). The revenue from IPTV services accounted for over a half (52.5%) of the total revenue received from pay-TV services (see Fig. 79). In 2021, compared to 2020, the revenue received from CTV services went down (by 1.9%). The revenue from MDTV services fell by 6.4%, whereas the revenue from DVB-T services was no longer received as the provision of such services was terminated.

[34] UAB Balticum TV, Telia Lietuva, AB and UAB Consilium optimum.



	2016	2017	2018	2019	2020	2021
IPTV	20,6	24,2	25,3	32,4	40,9	43,0
CTV	27,0	27,7	27,6	27,5	28,2	27,6
- Digital CTV	13,2	16,9	19,0	20,2	21,6	21,9
Satellite TV	11,4	10,8	9,6	9,1	10,1	10,3
MDTV	1,1	1,0	1,0	1,0	1,0	0,9
DVB-T	4,3	3,6	2,2	0,4	0,03	-
Revenue, in total	64,4	67,4	65,7	70,3	80,2	81,8

Fig. 79. **Structure of revenue from pay-TV services by service provision methods, EUR million, 2016-2021**
Source: RRT.

Telia Lietuva, AB remained the leader of the market of pay-TV services by the revenue received by service providers in 2021 and it held 47.7% of the market, UAB Cgates was the second with 17.4% of the market, UAB Bitė Lietuva held the third position with 9.5% of the market (see Fig. 80). As already mentioned in the section above, pay-TV services of AS TV Play Baltics are provided by UAB Bitė Lietuva as of 1 April 2021.

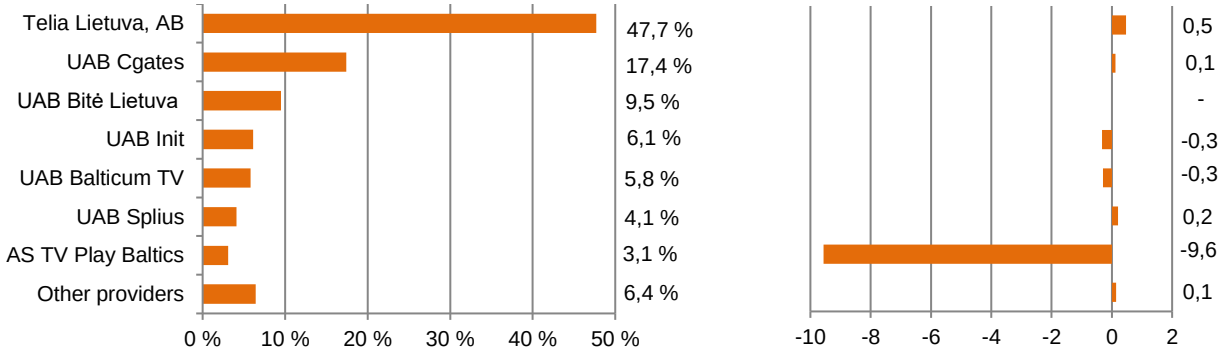
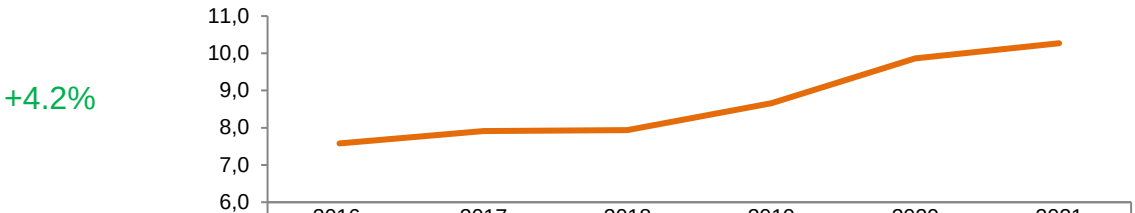


Fig. 80. **Structure of revenue from pay-TV services by service providers, %, and annual changes of the market shares, pp, 2021**
Source: RRT.

ARPU. The monthly revenue per pay-TV service user was going up throughout the entire period in question (2016-2021). In 2021, it amounted to EUR 10.27 or by EUR 0.41 more than in 2020 (see Fig. 81). In 2021, as was the case in the previous periods, the greatest ARPU was earned by satellite TV service providers. The lowest ARPU was earned by CTV service providers in 2021, as was the case in 2020. In 2021, IPTV ARPU was by 32.1% higher than digital CTV ARPU. In 2021, ARPU of IPTV provided by means of fixed communications technologies reached EUR 11.61, whereas in case of mobile communications technologies it stood at EUR 7.83.



	2016	2017	2018	2019	2020	2021
CTV	5,97	6,14	6,41	6,80	7,36	7,85
- Digital CTV	7,23	7,42	7,50	7,93	8,35	8,69
IPTV	8,33	9,16	8,58	9,84	11,42	11,48
Satellite TV	12,86	13,07	13,06	13,88	15,95	16,53
MDTV	8,55	8,43	8,85	10,13	10,64	11,27
Of all pay- TV services ARPU	7,58	7,91	7,94	8,66	9,86	10,27

Fig. 81. **ARPU from pay-TV services by service provision methods, EUR per month, 2016-2021**
Source: RRT.

In 2021, the revenue received from the provision of pay-TV services went up by 2.0% and amounted to EUR 81.8 million. In 2021, compared to 2020, the number of both IPTV service providers and IPTV service users as well as the revenue received from the provision of IPTV went up. The significant increase of the market of IPTV services is evident throughout the entire period in question (2016-2021). In 2021, the total ARPU was increasing as well as the ARPU of television services provided by means of different methods.

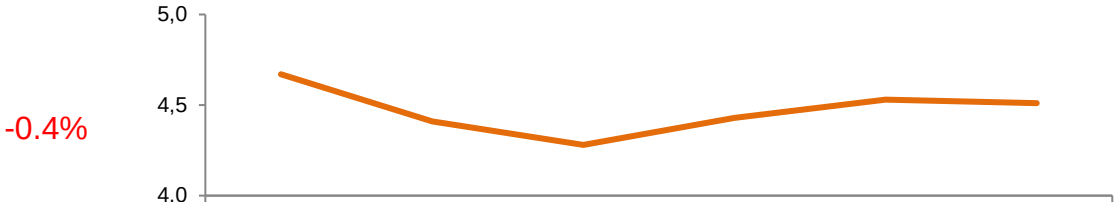
4.3. Wholesale Television and Radio Broadcasting Services

Service providers	1
Major service provider	AB Lietuvos Radijo ir Televizijos Centras
Wholesale revenue, EUR million	4.5

Service providers. In 2021, wholesale television broadcasting services were provided by 1 undertaking – AB Lietuvos Radijo ir Televizijos Centras which was providing such services over national networks.

In 2021, as was the case previously, wholesale radio broadcasting services were provided by one undertaking only – AB Lietuvos Radijo ir Televizijos Centras.

Revenue. In 2021, compared to 2020, the revenue from the provision of television and radio broadcasting services dropped by 0.4% and stood at EUR 4.51 million (see Fig. 82). Since 2020, the revenue received from other services related to television and radio broadcasting has been singled out – in 2021, compared to 2020, it fell by 14.8% and stood at EUR 0.34 million.



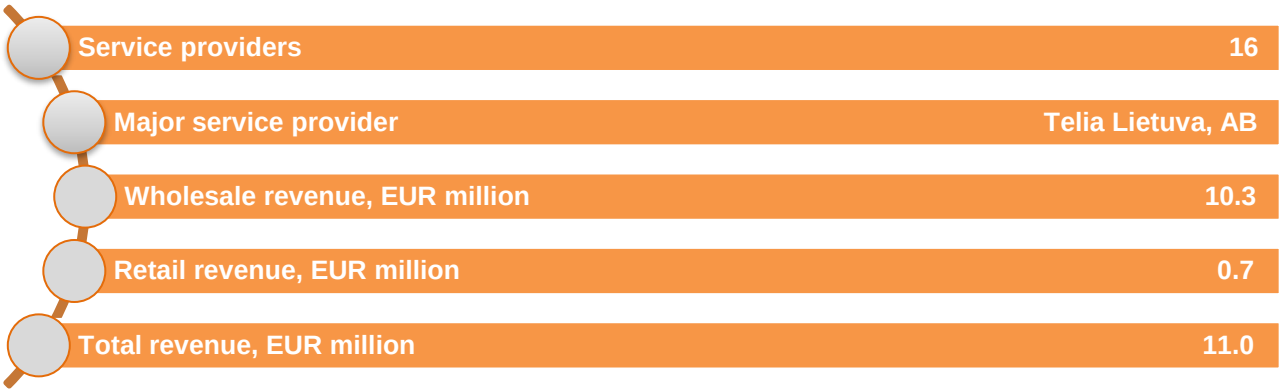
	2016	2017	2018	2019	2020	2021
Digital terrestrial TV	3,51	3,28	3,21	3,34	3,19	3,09
Radio	1,16	1,13	1,07	1,10	0,95	1,08
Other related revenue	-	-	-	-	0,40	0,34
Revenue, in total	4,67	4,41	4,28	4,43	4,53	4,51

Fig. 82. **Revenue from television and radio broadcasting services by service groups, EUR million, 2016-2021**
Source: RRT.

Digital terrestrial television broadcasting stations. In 2021, as was the case in 2020, as many as 91 digital terrestrial television stations were operating in Lithuania. 16 stations were used to transmit TV programmes of local and regional broadcasters, the remaining 75 stations were used to transmit the programmes of two networks of national coverage (the network of Public Enterprise Lithuanian National Radio and Television and the first network of Lietuvos Radijo ir Televizijos Centras).

In 2021, the revenue received from wholesale television and radio broadcasting services shrank by 0.4% and amounted to 5.2% of all revenue of the television and radio market. All revenue from these services was gained by AB Lietuvos Radijo ir Televizijos Centras.

5. Access to Physical Infrastructure



NB!

- As the information possessed by RRT until 2017 includes the access to dark fibre and full unbundled and shared access to the local metallic twisted pair loop services only, the information contained in this section reflects the provision of the said services throughout the entire period of 2016-2021, whereas information on other services of access to physical infrastructure covers the period of 2017-2021 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, Public Enterprise Plačiajuostis Internetas and Telia Lietuva, AB indicated in Figure 84; UAB Duomenų Logistikos Centras, Public Enterprise Plačiajuostis Internetas, UAB Skaidula and Telia Lietuva, AB indicated in Figure 86 (hereinafter in this section – the 'other providers').

In 2021, the following wholesale access to physical infrastructure services were provided in Lithuania:

- access to wholesale line rental services (WLR) for the provision of public fixed telephone services by means of pre-selection by the operator;
- access to optical fibre;
- service of full unbundled and shared access to the local loop (local metallic twisted pair loop, local fibre loops);
- service of access to communications cable duct system;
- services of access to other physical infrastructure.

Providers. At the end of 2021, wholesale access to physical infrastructure services were provided by 16 undertakings, as was the case previously. In 2021, as was the case in 2020, Telia Lietuva, AB was the only undertaking which was providing wholesale line rental services (WLR) for the provision of public fixed telephone services by means of pre-selection by the operator. In 2021, the services of access to local metallic twisted pair loop were provided by Telia Lietuva, AB and AB LTG Infra, whereas AB Lietuvos Radijo ir Televizijos Centras and AB LTG Infra were providing access to local fibre loop services. At the end of 2021, access to optical fibre services were provided by 14 undertakings, i.e. by 1 undertaking more than in 2020. Access to communications cable duct system was provided by 3 undertakings in 2021 (Telia Lietuva, AB, AB LTG Infra and UAB Balticum TV).

Number of Granted Accesses. During the period between 2016 and 2021, the demand for full unbundled and shared access to the local line services was gradually decreasing (see Fig. 83). At the end of 2021, the total number of granted accesses to the local line stood at 16 units or by 36.0% less than in 2020: of which 8 accesses were granted to the local metallic twisted pair loop and 8 – to local fibre loop. It is assumed

that the decrease in the popularity of full unbundled and shared accesses to the local loop is caused by the growth of the number of accesses to dark fibre, as is shown in Fig. 84.

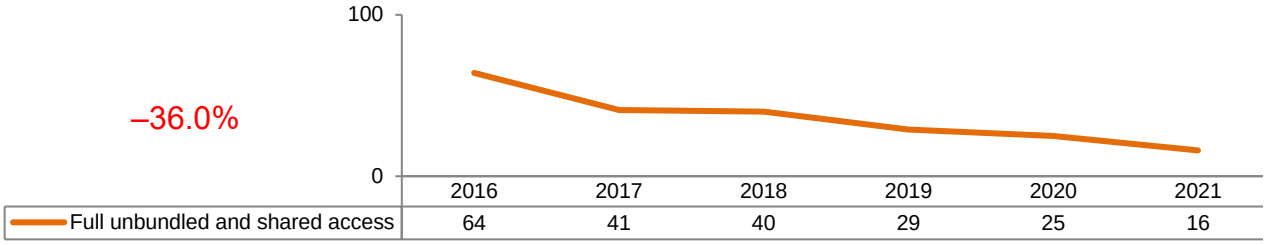
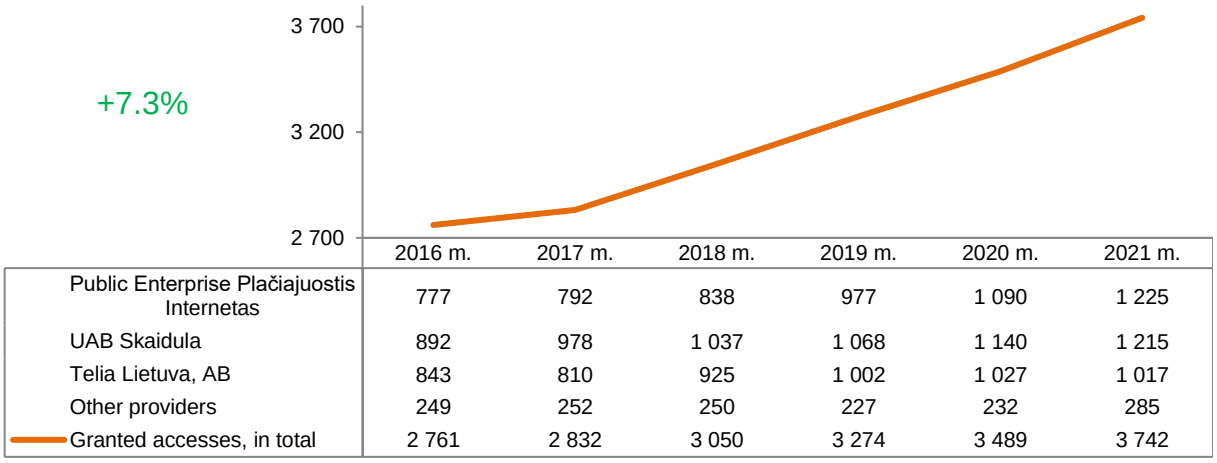


Fig. 83. **Number of granted accesses to full unbundled and shared local line, units, 2016-2021**
Source: RRT.

At the end of 2021, the service providers had provided 3.7 thousand accesses to optical fibres (see Fig. 84). The number of granted accesses to optical fibres has been growing since 2016. At the end of 2021, the number of fibres assigned was by 7.3% or by 253 fibres higher than at the end of 2020. The number of retail accesses to optical fibre stood at 623 at the end of 2021. In 2021, Public Enterprise Plačiajuostis Internetas maintained the leader's position on the market of access to optical fibre services in terms of the number of accesses granted. In 2021, compared to 2020, the market share held by Public Enterprise Plačiajuostis Internetas grew by 1.5 percentage points and stood at 32.7%.



	2016 m.	2017 m.	2018 m.	2019 m.	2020 m.	2021 m.
Public Enterprise Plačiajuostis Internetas	777	792	838	977	1 090	1 225
UAB Skaidula	892	978	1 037	1 068	1 140	1 215
Telia Lietuva, AB	843	810	925	1 002	1 027	1 017
Other providers	249	252	250	227	232	285
Granted accesses, in total	2 761	2 832	3 050	3 274	3 489	3 742

Fig. 84. **The number of granted accesses to optical fibre, units, 2016-2021**
Source: RRT.

At the end of 2021, as many as 804 wholesale local lines were assigned for the provision of public fixed telephone services by means of pre-selection by the operator (by 39 lines fewer than in 2020) as well as the access to the communications cable duct system of 9,056 km in length.

Revenue. The total revenue received from the provision of services of access to physical infrastructure equalled EUR 11.0 million in 2021 or by 3.3% more than in 2020. 51.1% of the revenue received from the provision of services of access to physical infrastructure or EUR 5.6 million (see Fig. 85) were received from the provision of access to optical fibre services. The revenue received from the provision of retail access to optical fibre services equalled EUR 0.7 million. In 2021, compared to 2020, the providers of access to optical fibre services earned by 5.4% more revenue. The amount of EUR 3.0 million was received from the provision of

services of access to communications cable duct system. The largest share of the revenue from the provision of services of access to physical infrastructure was gained by Telia Lietuva, AB, i.e. 57.1% of all revenue received from the provision of services of access to physical infrastructure.

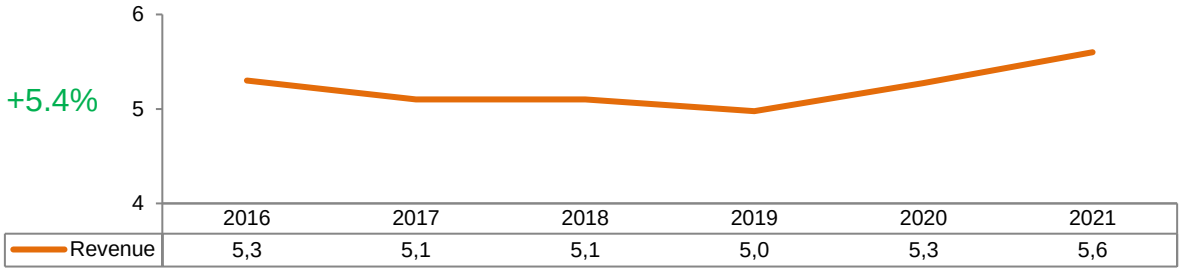


Fig. 85. **Revenue from access to optical fibre services, EUR million, 2016-2021**
Source: RRT.

In 2021, UAB Skaidula remained the leader of the market of the provision of access to optical fibre services by revenue gained, although its market share shrank by 1.0 percentage point. In 2021, compared to 2020, the market share held by Public Enterprise Plačiajuostis Internetas grew the most (by 1.3 pp) and it stood at 21.1%, whereas the market share held by Telia Lietuva, AB shrank most radically (by 2.5 pp) and it represented 5.1% (Fig. 86).

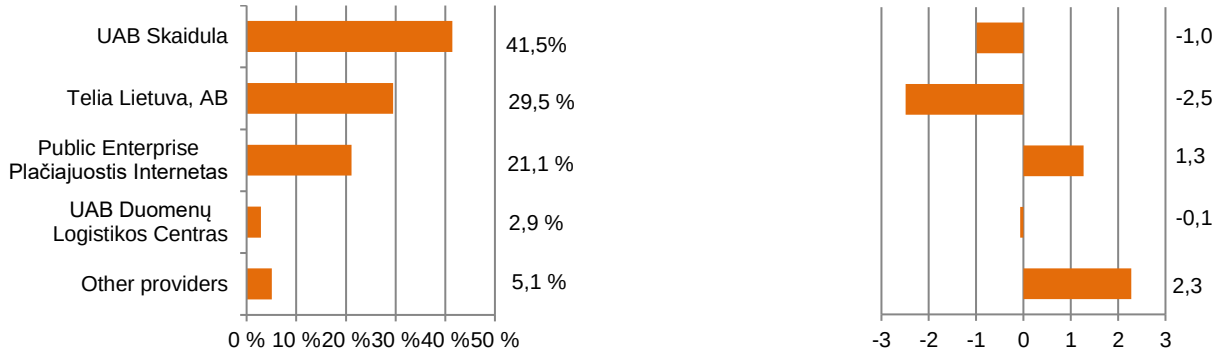
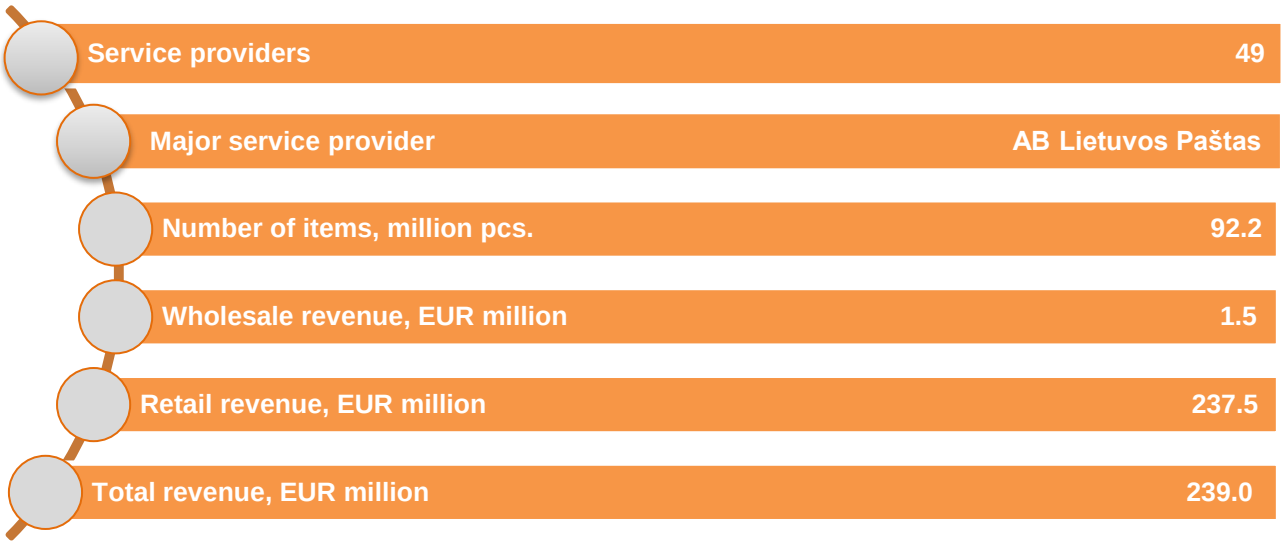


Fig. 86. **Structure of revenue from access to optical fibre services by service providers, %, and annual changes of the market shares, pp, 2021**
Source: RRT.

In 2021, the revenue received from the provision of services of access to physical infrastructure equalled EUR 11.0 million and it exceeded the relevant revenue in 2020 by 3.3%. The service providers had provided 3,742 optical fibres at the end of 2021, i.e. by 7.3% more than in 2020.

POSTAL SERVICE MARKET

1. General Overview of the Postal Service Market



NB!

- 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 Omniva LT“, UAB Venipak Lietuva, UAB Pašto Paslaugos, UAB Itella Logistic, UAB DHL Lietuva, UAB Skubios Siuntos, UAB Šiaulių Naujienos indicated in Figure 88; AB Lietuvos Paštas, UAB DPD Lietuva, UAB Omniva LT, UAB Venipak Lietuva, UAB DHL Lietuva, Federal Express Corporation Affiliate, UAB TNT, UAB Skubios Siuntos, UAB Itella logistic, UAB Nėgė indicated in Figure 90 (hereinafter in this section – 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, and 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 market of postal services was growing during the entire period in question. In 2021, the revenue received from the provision of postal service stood at EUR 239.0 million or 23.9% of all revenue of the Lithuanian communications sector.

The provision of postal service may be divided into the following three main activities: sending of items of correspondence[35] (letters and small packages), sending of postal parcels (articles and merchandise up to 50 kg), provision of other postal and post service-related services (advertising information, newspapers, magazines, other periodicals, etc.). Moreover, the postal service may be broken down by universal postal service and non-universal postal service.

Service Providers. At the end of 2021, 64 undertakings had notified of the provision of the postal service, i.e. by 2 postal service providers more than at the end of 2020 (see Table 37). However, there were

[35] 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).

only 49 undertakings out of 64 that were actually engaged in the provision of postal service at the end of 2021, i.e. by 2 undertakings fewer than in 2020.

Table 37. **Number of postal service providers, units, 2016-2021**

	2016	2017	2018	2019	2020	2021
Number of providers actually engaged in the provision of the postal service	55	46	45	48	51	49
Total number of postal service providers	67	65	57	55	62	64

Source: RRT.

Total volume of items. In 2021, the volume of the postal items amounting to 92.2 million was sent, which was by 10.4% (or by 8.7 million) more than in 2020 (see Fig. 87). During the entire period between 2016 and 2021, the total volume of postal items went up by 19.5 million units or 26.8%. During the entire period in question, the major part of postal items consisted of items of correspondence but it was annually decreasing with regard to the total amount of postal items: In 2016 it stood at 83.5%, in 2021 – 50.5%. Recently, the share of items of correspondence almost equalled the share of postal parcels (49.5%). In 2021, compared to 2016, the volume of postal items grew almost threefold when considering the total volume of postal items.

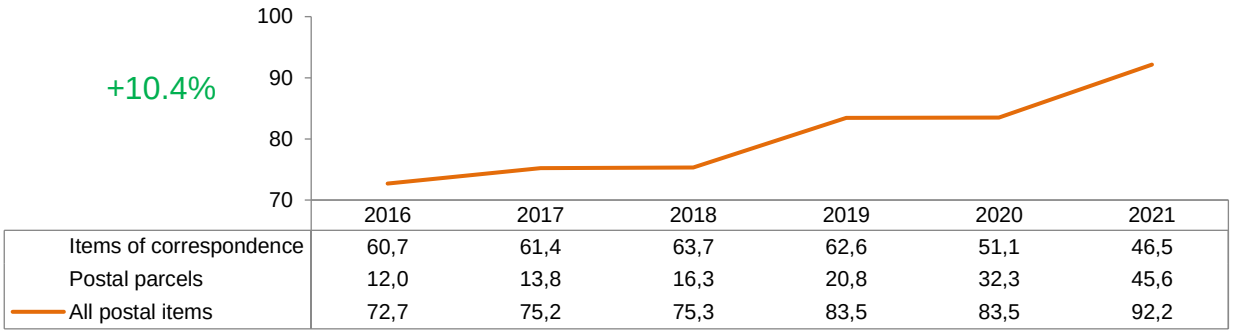


Fig. 87. **Dynamics of the total number of postal items, million units, 2016–2021**
Source: RRT.

In 2021, the largest share of the postal market in terms of sent postal items was held by AB Lietuvos Paštas (52.8%) (see Fig. 88). It must be noted that the market share held by AB Lietuvos Paštas shrank most significantly in 2021, compared to 2020 – by 8.0 pp. The market shares held by UAB DPD Lietuva and UAB Omnitel LT grew most radically (by 3.4 and 2.9 percentage points, respectively).

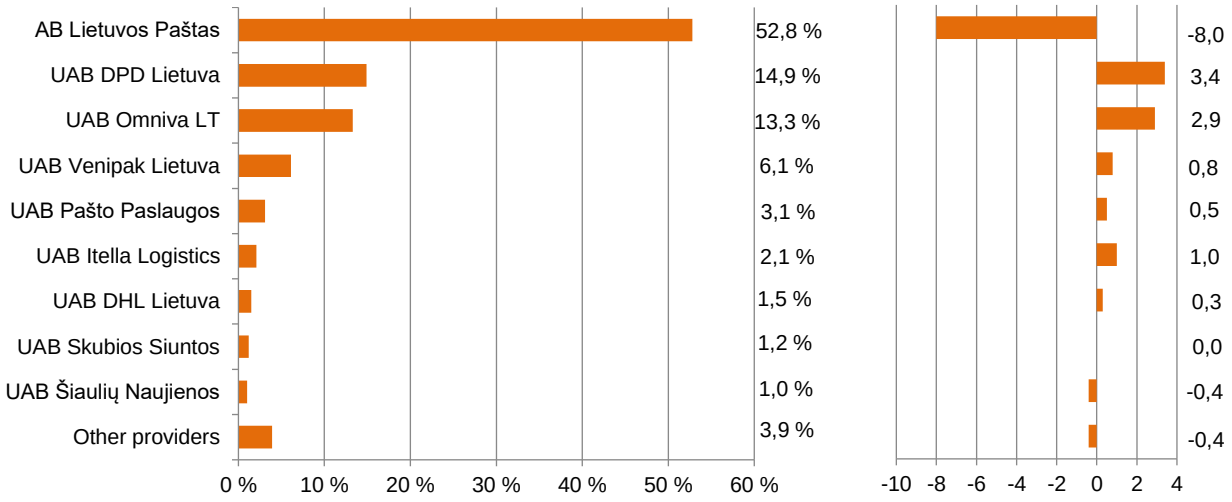


Fig. 88**. Structure of the market shares of the postal service provider by volumes of sent postal items, %, and annual changes of the market shares, pp, 2021**
Source: RRT.

Revenue. In 2021, all postal service providers earned the revenue amounting to EUR 239.0 million, which was by 17.1% or by EUR 34.9 million more than in 2020 (see Fig. 89). It must be noted that the revenue received from the provision of postal service was annually increasing by over 11.3% between 2016 and 2021. In terms of both the percentage and monetary value, the steepest growth was recorded in 2021.

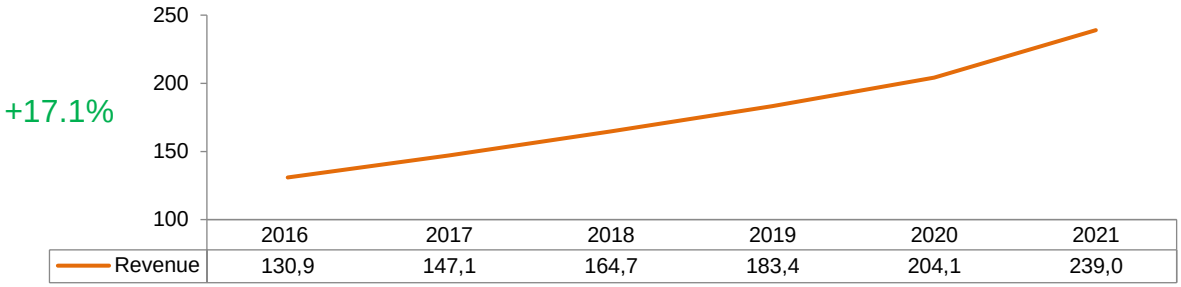


Fig. 89. **Revenue from the provision of postal service, EUR million, 2016-2021**
Source: RRT.

In 2021, the postal service market maintained the same proportions of the revenue structure since 2016: the major revenue share (76.6%) was comprised of the revenue received from the dispatch of postal parcels (see Table 38), the revenue share from the dispatch of items of correspondence stood at 21.4%, the revenue from other postal services[36] – 1.4%, for wholesale postal service[37] – 0.6%.

The revenue received from the provision of non-universal postal service has further constituted the major share of the postal service revenue (90.5%) in 2021 which increased by 5.9 percentage points over the year (see Table 38). The revenue received from the provision of universal postal service[38] which was annually growing during the period of 2016-2019 started to go down in 2020. In 2021, compared to 2020, the revenue decreased by 29.9% and amounted to EUR 21.3 million.

Table 38. **Structure of revenue of the postal service by types of postal items and services, EUR million, 2016-2021**

	2016	2017	2018	2019	2020	2021
By types of postal items:						
items of correspondence	49.5	55.4	67.8	68.9	59.1	51.1
postal parcels	72.3	83.1	90.4	106.4	135.1	183.0
other	9.1	8.6	6.5	8.0	8.7	3.4
wholesale postal service*	-	-	-	-	1.1	1.5
By types of the service:						
universal	20.4	24.1	30.6	32.7	30.3	21.3
non-universal	110.5	123.0	134.1	150.7	172.7	216.2
wholesale postal service*	-	-	-	-	1.1	1.5
Total	**130.9**	**147.1**	**164.7**	**183.4**	**204.1**	**239.0**

** Data as of 2020.*

[36] 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.
[37] Revenue from wholesale postal service means revenue from the delivery of postal items received by the postal service provider from another postal service provider carrying out the activities of the provision of postal service in the Republic of Lithuania to the recipient.
[38] 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 of 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.

Source: RRT.

In 2021, AB Lietuvos Paštas remained the leader of the postal service market in terms of both the volumes of postal items and revenue, although its market share shrank significantly based on the revenue (by 9.0 percentage points) and represented 28.6% of the all revenue of the postal service market (see Fig. 90). In 2021, the market share held by UAB DPD Lietuva grew the most – by 2.6 percentage points, whereas the share held by UAB Omniva LT and UAB Venipak Lietuva equally grew – by 1.3 percentage points each.

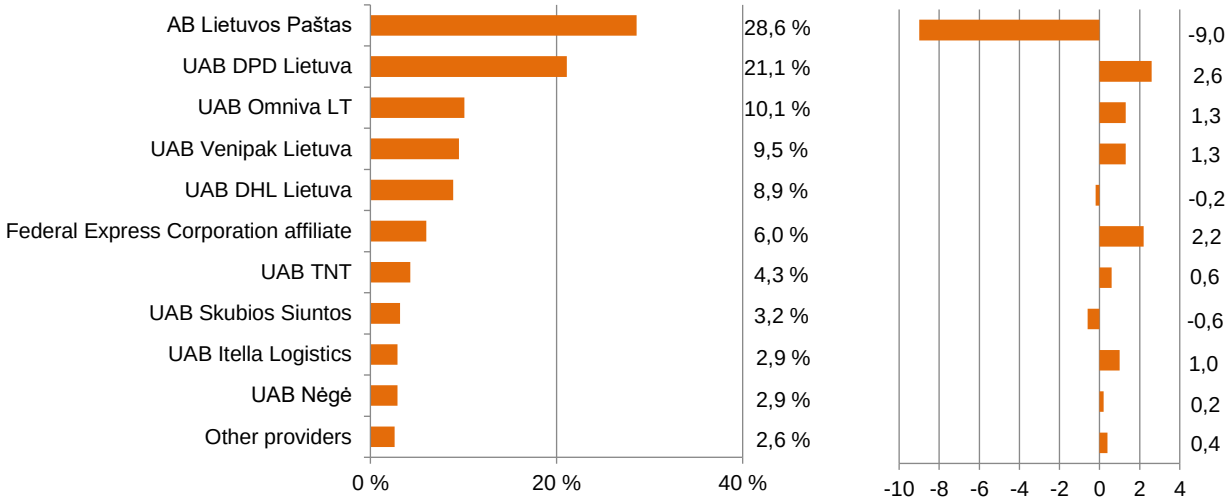


Fig. 90**. Structure of the revenue of the postal service market by service providers, %, and annual changes of the market shares, pp, 2021**
Source: RRT.

Investments. To provide the users with the services as expedient and high-quality as possible, postal service providers invested in the development and modernisation of the postal network, especially of self-service terminals, as well as in the innovative solutions of logistics software. The investments decreased by 13.3% in 2021, compared to 2020. This has been the second largest amount of investments (EUR 19.4 million) since the beginning of collection of information on investments related to the provision of postal services in 2018 (see Fig. 91). In 2021, the ratio of such investments and total revenue of the postal service market stood at 8.1%.

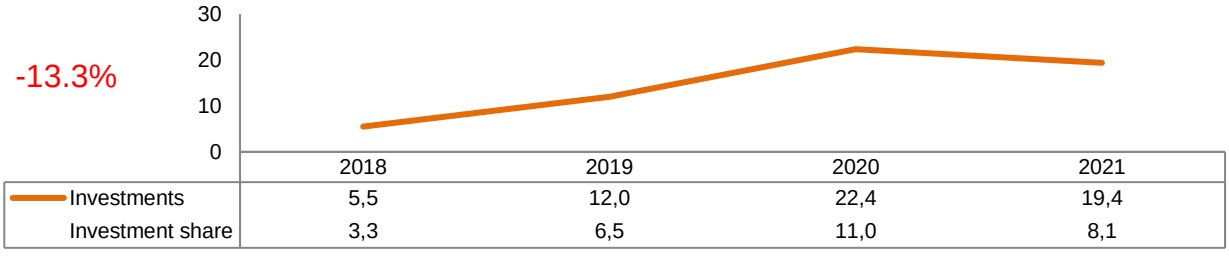


Fig. 91. **Investments related to the provision of postal service, EUR million, and ratio between those investments and total revenue of the postal service market, %, 2018-2021**
Source: RRT.

The major investment share or 34.4% (EUR 6.7 million) consisted of the investments made by UAB DPD Lietuva, it was followed by the investments of AB Lietuvos Paštas – 32.3% (EUR 6.3 million), whereas UAB Miesto Logistika invested the amount of almost EUR 3.5 million.

Postal network. In 2021, the downward trend of traditional postal service access points, such as stationary postal service access points, post boxes, and upward trend of modern postal service access points were observed. In 2021, compared to 2020, the number of self-service terminals grew by 58.3%: from 836 to 1,323 units. At the end of 2021, UAB Omniva LT had the highest number of such terminals – 35.9% (300 units),

as was the case last year. AB Lietuvos Paštas had 21.5% (285 units), UAB DPD Lietuva – 20.0% (265 units), UAB Itella Logistics – 14.3% (189 units) of the terminals. The major upward trend in the number of self-service terminals is observed in the network of UAB Venipak Lietuva – from 12 units in 2020 to 235 units in 2021 (17.8%). In 2021, self-service terminals were built in rural areas as well (72 terminals were built over the year).

The last thirteen years were subject to the prominent upward trend of the postal service market and the increasingly larger share of the postal service revenue in the Lithuanian communications sector shows that people are very active in sending and receiving various postal items. This was caused by advanced electronic communications means, growing scales of online shopping, and in 2020-2021, a greater demand for postal services due to the *Covid-19* pandemic.

2. Items of correspondence

NB!

- 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 Pašto paslaugos, UAB Venipak Lietuva, UAB Šiaulių Naujienos indicated in Figure 92; AB Lietuvos Paštas, UAB Venipak Lietuva, UAB DHL Lietuva, UAB TNT indicated in Figure 96 (hereinafter in this section – the 'other providers').

Service Providers. In 2021, items of correspondence were provided by 29 undertakings, i.e. by 2 undertakings fewer than in 2020.

Total volume of items. In 2021, as many as 46.5 million items of correspondence were sent. It was by 9.0% less than in 2020. During the entire period between 2016 and 2021, the total volume of items of correspondence went down by 14.2 million units or 15.8%. During the entire period in question, the major part of items of correspondence consisted of non-universal items of correspondence, and, in 2021, their share of the total volume of items stood at 75.7%. In 2021, as many as 0.14 million units of all non-universal items of correspondence were sent by means of the provision of express postal services[39]. It must be noted that since 2016 the volume of items of correspondence has been gradually decreasing in the segment of non-universal services (except for a slight growth in 2018). The volume of universal items of correspondence was gradually going up between 2016 and 2019 but it started declining since 2020 and dropped by 27.7% over the year (see Table 39).

Table 39. **Volumes of items of correspondence, million units, 2016-2021**

	2016	2017	2018	2019	2020	2021
Universal items of correspondence	17.2	18.8	19.7	20.7	15.6	11.3
Non-universal items of correspondence	43.5	42.6	44.0	42.0	35.5	35.2
Total	**60.7**	**61.4**	**63.7**	**62.6**	**51.1**	**46.5**

Source: RRT.

The greatest share (85.2%) of all items of correspondence was sent and received via AB Lietuvos Paštas, which is by 1.5 percentage points less than in 2020 (see Fig. 92). The market share held by UAB Pašto Paslaugos experienced the steepest growth – in terms of sent volumes of items of correspondence, the market share held by this provider went up by 1.8 percentage points in 2021 and constituted 6.1%.

[39] Express postal service is a postal service with certain characteristics related to shorter delivery of postal items than usual and higher charges paid by the users.

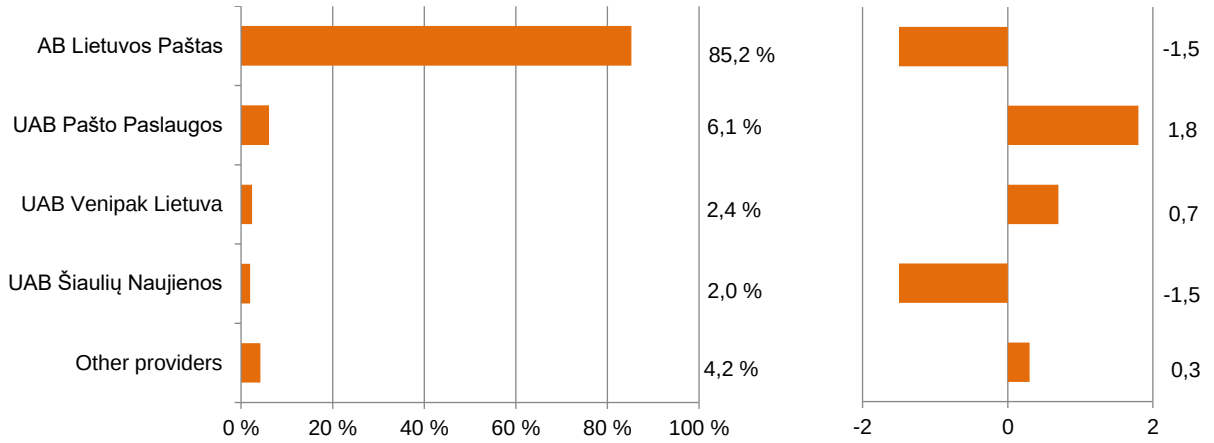


Fig. 92**. Structure of the market shares of the postal service providers by volumes of sent items of correspondence, %, and annual changes of the market shares, pp, 2021**
Source: RRT.

Number of items by destination. By destination, the items of correspondence are divided into domestic outgoing, cross-border outgoing and cross-border incoming items of correspondence. In 2021, the volume amounting to 31.3 million units of domestic outgoing items of correspondence was sent, which was by 1.8% less compared to 2020 (see Fig. 93). During the entire period between 2016 and 2021, the downward trend in the volume of domestic outgoing items of correspondence is observed (it went down by 13.7 million units or 30.4% in total).

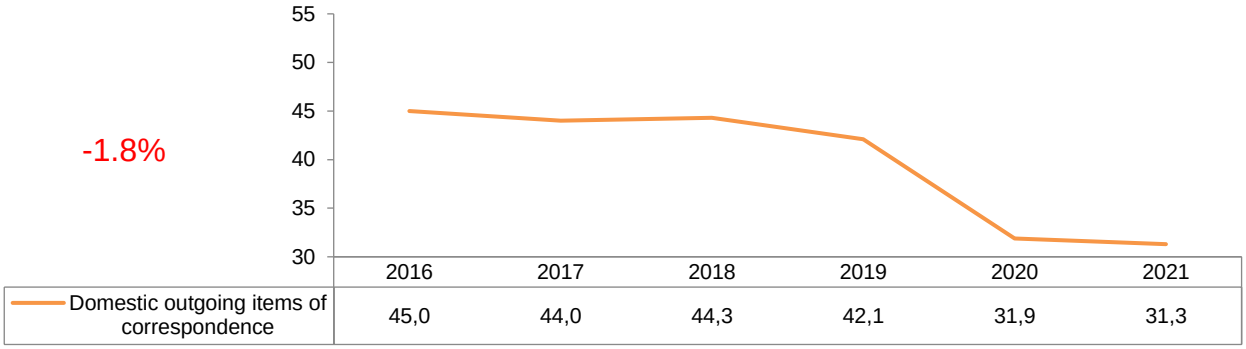
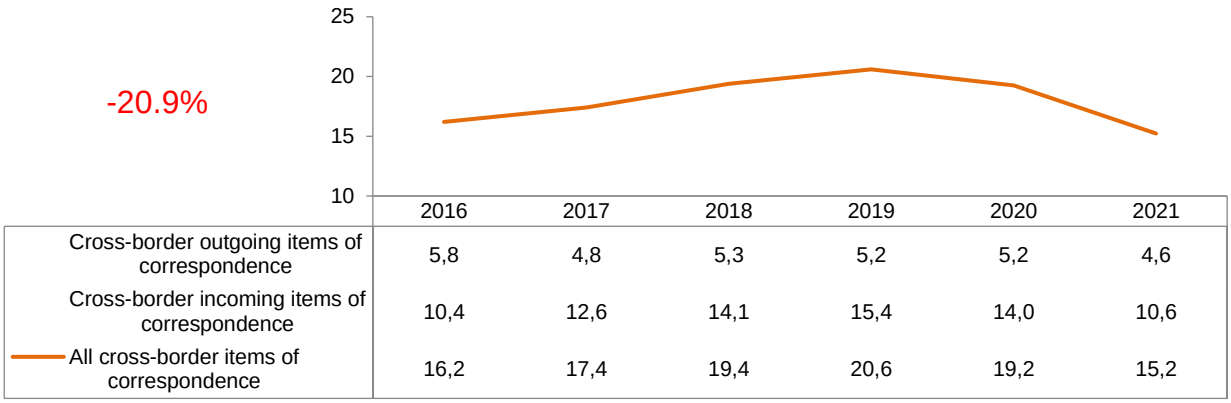


Fig. 93. **Dynamics of the number of domestic outgoing items of correspondence, million units, 2016-2021**
Source: RRT.

The major share (79.5%) of the market in terms of the number of domestic outgoing items of correspondence was held by AB Lietuvos Paštas in 2021. UAB Pašto Paslaugos held 9.1% of the market – the market share of this provider grew the most in 2021, compared to 2020 – by 2.2 pp.

The number of cross-border items of correspondence decreased by 1.0 million units or 6.2% during the period between 2016 and 2021. In 2021, the volume amounting to 15.2 million of the cross-border items of correspondence was sent and received (by 20.9% less than in 2020): 30.4% (4.6 million units) of cross-border outgoing items of correspondence and 69.6% (10.6 million units) of cross-border incoming items of correspondence (see Fig. 94). In 2021, 62.0% (9.4 million units) of all cross-border items of correspondence were sent/received to/from the EU Member States.



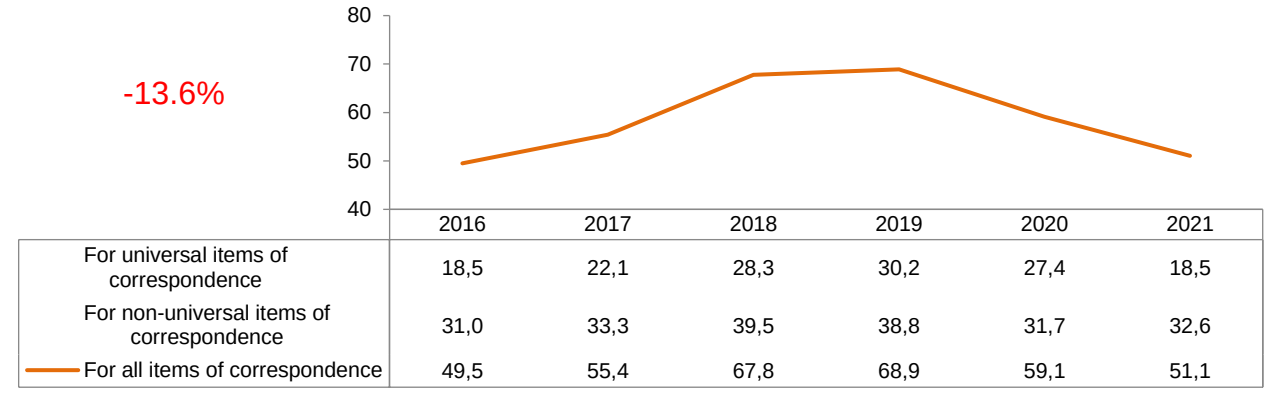
	2016	2017	2018	2019	2020	2021
Cross-border outgoing items of correspondence	5,8	4,8	5,3	5,2	5,2	4,6
Cross-border incoming items of correspondence	10,4	12,6	14,1	15,4	14,0	10,6
All cross-border items of correspondence	16,2	17,4	19,4	20,6	19,2	15,2

Fig. 94. **Dynamics of the number of cross-border items of correspondence, million units, 2016-2021**
Source: RRT.

The largest market share in terms of the number of cross-border items of correspondence (97.1%) was held by AB Lietuvos Paštas, whereas the market shares of other providers did not cross the threshold of 1%.

Items of correspondence are mainly delivered by placing them in the incoming mail boxes. In 2021, 42.9% of items of correspondence delivered within the territory of Lithuania were delivered to the incoming mail boxes, 30.0% were collected from post office divisions, 24.1% were delivered to the recipient at the residential or registered office address. Increasingly fewer items of correspondence are collected from post office divisions. In 2021, compared to 2020, the number of items of correspondence collected from post office divisions went down by 2.5 pp.

Revenue received from dispatch of items of correspondence. In 2021, compared to 2020, all revenue received from the dispatch of items of correspondence decreased by 13.6% and equalled EUR 51.1 million (see Fig. 95) but, compared to 2016, it went up by 3.2%. The largest share of the revenue (53.8%) was generated from the provision of the services of delivery of non-universal items of correspondence in 2021. The revenue received from the provision of these services went up by 2.9% over the year. Revenue received from the dispatch of universal items of correspondence dropped by 32.6%.



	2016	2017	2018	2019	2020	2021
For universal items of correspondence	18,5	22,1	28,3	30,2	27,4	18,5
For non-universal items of correspondence	31,0	33,3	39,5	38,8	31,7	32,6
For all items of correspondence	49,5	55,4	67,8	68,9	59,1	51,1

Fig. 95. **Revenue from the services of dispatch of items of correspondence, EUR million, 2016-2021**
Source: RRT.

AB Lietuvos Paštas received the major share of revenue from the dispatch of items of correspondence (see Fig. 96). The market share held by this undertaking represented 84.1% in 2021 and it was by 4.8

percentage points smaller than in 2020. The market share held by UAB Venipak Lietuva grew most rapidly over the year (by 2.1 pp) and it constituted 6.0%.

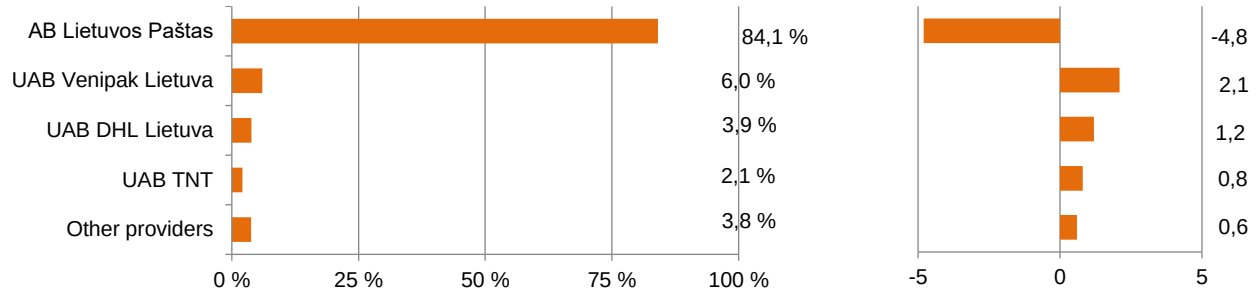


Fig. 96**. Structure of the market shares of the postal service providers by revenue from the dispatch of items of correspondence, %, and annual changes of the market shares, pp, 2021**
Source: RRT.

The revenue received from the dispatch of cross-border outgoing items of correspondence constituted the major share of the revenue from items of correspondence (42.4%) in 2021 and stood at EUR 21.6 million (see Table 40). The revenue from items of correspondence was going down in all segments in 2021, compared to 2020, but the greatest decline, i.e. by more than a third (36.7%), was observed in the field of cross-border incoming items of correspondence.

Table 40. **Revenue from the services of dispatch of items of correspondence by destination, EUR million, 2020-2021***

	2020	2021
Domestic outgoing items of correspondence	18.7	18.2
Cross-border outgoing items of correspondence	22.7	21.6
Cross-border incoming items of correspondence	17.7	11.2
Total	**59.1**	**51.1**

** Data as of 2020.*
Source: RRT.

In 2021, 46.4% (EUR 15.2 million) of all revenue from cross-border items of correspondence was received from items of correspondence which were sent/received to/from the EU Member States.

In 2016–2021, the significance of items of correspondence on the postal service market decreased. In 2021, as many as 46.5 million items of correspondence were sent, i.e. by 9.0% less than in 2020 and by 23.4% less than in 2016. The decrease can be observed in the segment of both universal and non-universal services. In 2021, compared to 2020, the revenue received from the dispatch of items of correspondence dropped by 13.6% but it went up by 3.2% during the entire period of 2016-2021. It is likely that this was caused by the dispatch of heavier and more expensive items and higher tariffs set by the postal service providers.

3. Postal parcels

NB!

- In this section of the report, other postal parcel service providers shall be all postal parcel service providers, except for UAB DPD Lietuva, UAB Omniva LT, AB Lietuvos Paštas, UAB Venipak Lietuva, UAB Itella logistic, UAB DHL Lietuva, UAB Skubios Siuntos indicated in Figure 97; UAB DPD Lietuva, UAB Omniva LT, AB Lietuvos Paštas, UAB Venipak Lietuva, UAB DHL Lietuva, Federal Express Corporation affiliate, UAB TNT, UAB Skubios Siuntos, UAB Itella logistic, UAB Nėgė indicated in Figure 101 (hereinafter in this section – the 'other providers').

Service Providers. In 2021, the postal parcel services were provided by 38 undertakings, i.e. by 2 undertakings more than in 2020.

Number of parcels. During the entire period of 2016-2021, the volume of postal parcels increased over 3.8 times. In 2021, as many as 45.62 million units of postal parcels were handed over, i.e. by 41.1% more than in 2020. In 2021, 45.40 million units of non-universal postal parcels were sent and received, i.e. by 41.4% more than in 2020, and the number of universal postal parcels stood at 0.22 million units, i.e. by 4.0% less than in the previous year (see Table 41). In 2021, as many as 9.47 million units of all non-universal postal parcels or 20.8% of parcels were sent by means of the provision of express postal services.

Table 41. **Volumes of universal and non-universal postal parcels, million units, 2016-2021**

	2016	2017	2018	2019	2020	2021
Universal postal parcels	0.18	0.17	0.19	0.21	0.23	0.22
Non-universal postal parcels	11.79	13.65	16.14	20.63	32.10	45.40
Total	**11.97**	**13.82**	**16.33**	**20.84**	**32.33**	**45.62**

Source: RRT.

The major share (30.0%) of the market, by the number of postal parcels, was held by UAB DPD Lietuva (by 0.5 percentage points more than in 2020). The market share held by UAB Omniva LT remained unchanged and stood at 26.8%. The market share held by UAB Itella Logistics was subject to the largest growth – by 1.3 percentage points in 2021, and the market share held by UAB Venipak Lietuva shrank the most – by 1.2 percentage points (see Fig. 97).

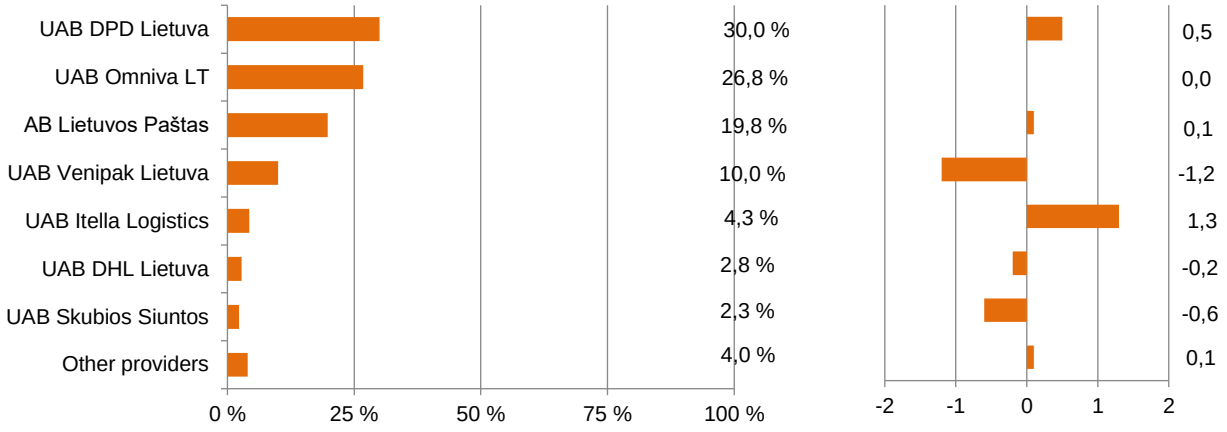


Fig. 97**. Structure of the market shares of the postal service providers by volumes of sent postal parcels, %, and annual changes of the market shares, pp, 2021**
Source: RRT.

Number of parcels by destination. By destination, the postal parcels are divided into domestic outgoing, cross-border outgoing and cross-border incoming postal parcels. In 2021, the volume amounting to 30.9 million units of domestic outgoing postal parcels was sent, which was by 37.2% more, compared to 2020 (see Fig. 98). During the entire period between 2016 and 2021, the volume of domestic outgoing postal parcels almost tripled – by 21.4 million units. The major share (83.5%) of the market in terms of the number of domestic outgoing postal parcels was held by three providers in 2021: UAB DPD Lietuva held 29.6%, AB Lietuvos Paštas – 28.0%, UAB Omniva LT – 25.9% of the market.

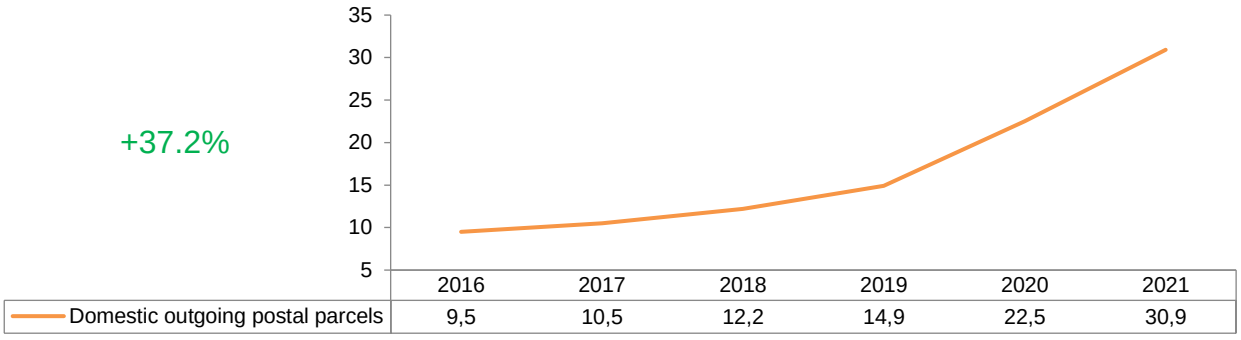
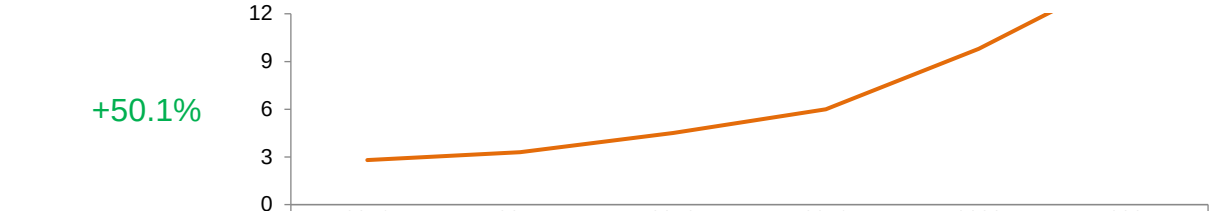


Fig. 98. **Dynamics of the number of domestic outgoing postal parcels, million units, 2016-2021**
Source: RRT.

The number of cross-border postal parcels went up more than fivefold between 2016 and 2021, i.e. by 11.9 million units. In 2021, as many as 14.7 million units of cross-border postal parcels were sent and received (by 50.1% more than in 2020) (see Fig. 99). 66.7% of all cross-border postal parcels was comprised of incoming parcels, and 33.3% – outgoing postal parcels. The major share of cross-border postal parcels (13.4 million units or 91.1%) was sent/received to/from the EU Member States.

The share of the market held by UAB DPD Lietuva in terms of the number of cross-border postal parcels was the greatest in 2021 and accounted for 30.7% However, in 2021, compared to 2020, its market share shrank the most – by 5.1 percentage points. The market share held by UAB Omniva LT grew most significantly (by 6.2 pp) – in this category, it was the second largest provider which held 28.8% of the market.

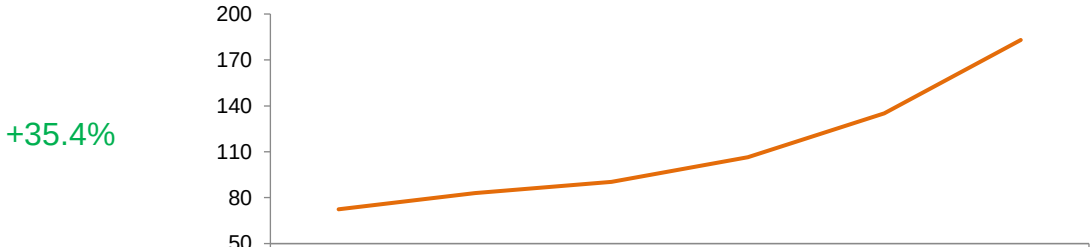


	2016	2017	2018	2019	2020	2021
Cross-border outgoing postal parcels	1,2	1,4	2,0	2,4	3,5	4,9
Cross-border incoming postal parcels	1,6	1,9	2,5	3,6	6,3	9,8
All cross-border postal parcels	2,8	3,3	4,5	6,0	9,8	14,7

Fig. 99. **Dynamics of the number of cross-border postal parcels, million units, 2016-2021**
Source: RRT.

The most popular method of the dispatch of postal parcels was the use of self-service terminals for postal items in 2021. In 2021, 49.7% or 20.2 million units of postal parcels were delivered to the self-service terminals for postal items. In 2021, compared to 2020, this number grew by 6.9 percentage points. 49.1% of postal parcels delivered within the territory of Lithuania were delivered to the recipient in their residential place or at the registered office address.

Revenue received from postal parcel dispatch services. During the period from 2016 to 2021, the revenue received from the dispatch of postal parcels increased by 2.5 times (152.8%). In 2021, the revenue amounting to EUR 183.0 million was received from the services of postal parcel dispatch, which was by EUR 47.9 million or by 35.4% more than in 2020 (see Fig. 100). The increasingly higher demand for the postal parcel service was significantly affected by e-commerce which became even more intensive due to the impact of the *Covid-19* pandemic.



	2016	2017	2018	2019	2020	2021
Universal postal parcels	1,9	2,1	2,3	2,5	2,9	2,8
Non-universal postal parcels	70,4	80,9	88,1	103,9	132,3	180,2
Revenue from postal parcels	72,4	83,0	90,4	106,4	135,1	183,0

Fig. 100. **Revenue from postal parcel dispatch services, EUR million, 2016-2021**
Source: RRT.

In 2021, 98.5% of the revenue was received from the dispatch of non-universal postal parcels, and 1.5% – from the dispatch of universal postal parcels. The revenue received from the dispatch of non-universal postal parcels grew by 36.3% or by EUR 48.0 million in 2021, compared to 2020. The revenue from the provision of universal postal parcels decreased by 3.8% or EUR 0.1 million over the year (see Fig. 100).

When it comes to the structure of the postal service market by the revenue received from the dispatch of postal parcels in 2021, it is evident that the same 5 undertakings remained the major postal service providers that jointly held 73.1% of the market (in 2020 – 74.9%) (see Fig. 101). UAB DPD Lietuva generated most revenue in this segment, as was the case last year, and it held 27.5% of the market or by 0.3 percentage points less than in 2020. The market shares held by other 4 providers in 2021 remained unchanged or slightly decreased. The

steepest growth of the market share was that of Federal Express Corporation affiliate – by 2.2 percentage points up to 7.7%.

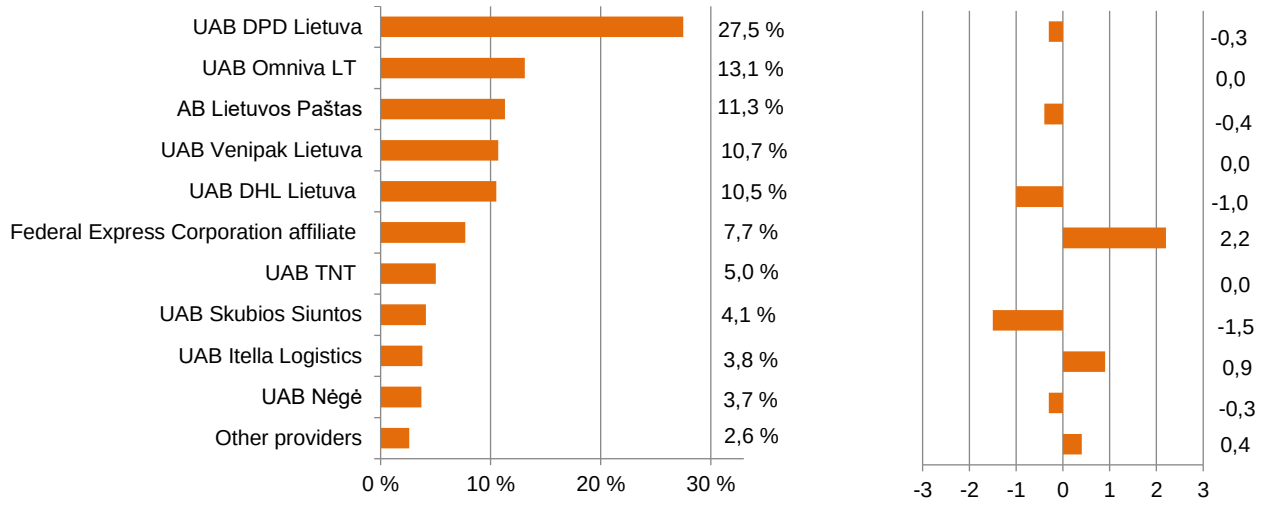


Fig. 101**. Shares of the market held by postal service providers by revenue from the dispatch of postal parcels, %, and annual changes of the market shares, pp, 2021**
Source: RRT.

The revenue received from the dispatch of domestic outgoing postal parcels constituted the major share of the revenue from postal parcels (45.4%) in 2021 and stood at EUR 83.1 million (see Table 42). The revenue received from postal parcels was growing in all segments in 2021, compared to 2020, but the major growth, in percentage (70.1%), is observed in the field of cross-border incoming postal parcels, whereas, in monetary terms (EUR 21.1 million), it was increasing in the segment of domestic outgoing postal parcels.

Table 42. **Revenue from the services of dispatch of postal parcels by destination, EUR million, 2020-2021**

	2020	2021
Domestic outgoing postal parcels	62.0	83.1
Cross-border outgoing postal parcels	49.0	58.9
Cross-border incoming postal parcels	24.2	41.1
Total	**135.1**	**183.0**

**Data as of 2020.*
Source: RRT.

In 2021, 60.5% (EUR 100.0 million) of all revenue from cross-border postal parcels was received from postal parcels which were sent/received to/from the EU Member States.

In 2021, the growth of the postal parcel market was the steepest over the entire period of 2016-2021. This rapid increase was caused by the *Covid-19* pandemic which led to more intense e-commerce, different habits of the customers, improved availability of the postal service. Between 2016 and 2021, the volume of postal parcels grew by 3.8 times, whereas the revenue from the dispatch increased by 2.5 times. Postal parcels held the major share (76.6%) of the postal service market in terms of the revenue.

4. Universal Postal Service

Service provider	AB Lietuvos Paštas
Points of access, units	562
Number of items, million pcs.	11.5
Retail revenue, EUR million	21.3

Service Provision. In 2021, as was the case in the previous periods, the sole universal postal service provider in Lithuania was AB Lietuvos Paštas. There were 562 points of access to this service, i.e. by 14 points of access fewer than in 2020 (see Table 43). Between 2016 and 2021, the number of mobile points of access to universal postal service increased by 2.5 times (198 units), whereas the number of stationary ones went down by almost 2.7 times (391 units). At the end of 2021, 58.0% of all access points were mobile, and 42.0% were stationary ones.

Table 43. **Number of points of access to universal postal services, units, 2016-2021**

	2016	2017	2018	2019	2020	2021
Mobile access points	128	156	187	323	323	326
Stationary access points	627	564	545	349	253	236
Total	**755**	**720**	**732**	**672**	**576**	**562**

Source: RRT.

In 2021, there were 938 post boxes for outgoing mail boxes in Lithuania, i.e. by 23.6% (290 mail boxes) less than in 2020 (see Table 44). During the entire period between 2016 and 2021, the number of post boxes for outgoing mail was decreasing.

Table 44. **Number of post boxes for outgoing mail, units, 2016-2021**

	2016	2017	2018	2019	2020	2021
Post boxes for outgoing mail	1,670	1,606	1,583	1,376	1,228	938

Source: RRT.

Volume of Service. In 2021, the volume amounting to 11.5 million of the universal postal service items was sent and received, which was by 27.4% less than in 2020 (see Fig. 102).

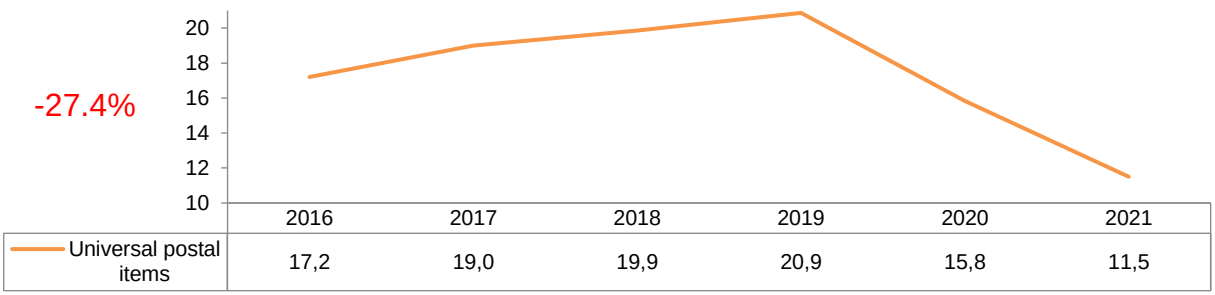
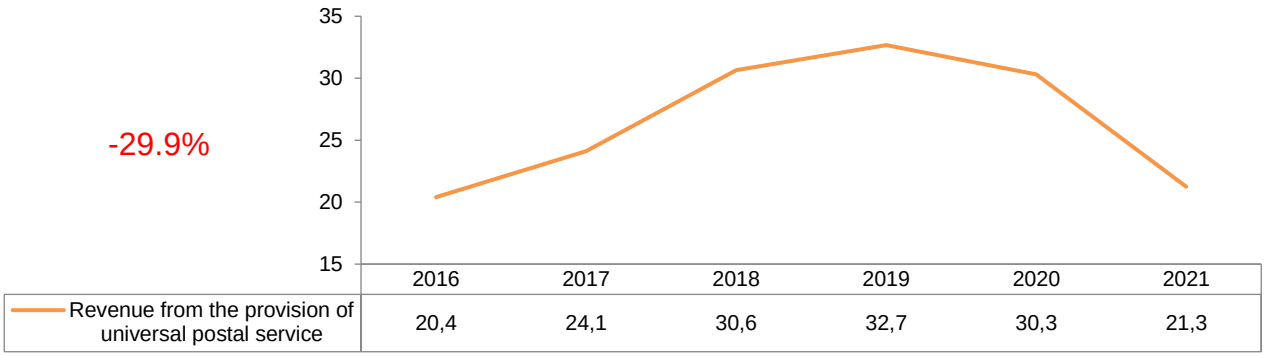


Fig. 102. **Scale of universal postal service provided, million units, 2016-2021**
Source: RRT.

Revenue. The revenue from the provision of universal postal service which has been growing for three years in a row started to go down in 2020: in 2021, compared to 2020, it dropped by 29.9% and stood at

EUR 21.3 million, nevertheless, it was by 4.4% or EUR 0.9 million higher than in 2016. The highest increase was recorded in 2018 – this was mainly caused by higher tariffs of the provision of the universal postal service (see Fig. 103).



	2016	2017	2018	2019	2020	2021
Revenue from the provision of universal postal service	20,4	24,1	30,6	32,7	30,3	21,3

Fig. 103. **Revenue from the provision of universal postal service, EUR million, 2016-2021**
Source: RRT.

The universal postal service in Lithuania is provided by AB Lietuvos Paštas. This service is of a relevance to the residents of remote areas who are provided with an opportunity to send and receive various postal parcels or items of correspondence. However, with the decreasing number of items of correspondence, the number of universal postal service items, which was annually growing in 2016-2019, started to go down in 2020.

5. Competition in the postal market

To determine the intensity of competition on the postal market, the factors indicating market concentration are analysed: market structure indicators CR_4[40] and CR_8[41] and Hirschman-Herfindahl index (HHI).

Concentration by volume of items of correspondence. Where the concentration of the postal market is evaluated by the volume of items of correspondence, CR_4 and CR_8 ratios show that during the period between 2016 and 2021, the market was highly concentrated and the level remained stable (see Table 45). These ratios, being that high, reveal that despite the sufficiently large number of active postal service providers, the market of items of correspondence 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 four major service providers demonstrates that the values of this index are quite stable and range between 91.1% and 95.8%. In 2021, compared to 2020, the ratio went up by 0.7 percentage points. When comparing the values of the index in 2016-2021, it is clear that CR_4 increased by 4.7 percentage points.

The dynamics of the CR_8 ratio of the market share held by eight major service providers during the period between 2016 and 2021 shows that the highest concentration on the market was in 2021, when eight major service providers occupied 98.2% of the market of items of correspondence. In 2021, compared to 2020, the ratio went up by 0.3 percentage points. Taking account of the fact that CR_4 and CR_8 values do not differ much, it may be stated that the market of items of correspondence is shared by four market players.

Table 45. **Market concentration indices in terms of the volume of items of correspondence in 2016-2021**

Index	2016	2017	2018	2019	2020	2021
CR_4, %	91.1	93.2	94.4	94.3	95.1	95.8
CR_8, %	96.2	97.2	97.7	97.8	97.9	98.2
HHI	7,181.5	7,645.1	8,169.4	7,811.7	7,554.8	7,314.4

Source: RRT.

As it is shown in Table 37, HHI index also demonstrates that the market of items of correspondence is highly concentrated. It must be noted that between 2016 and 2018 the HHI value continued to go up, in 2018, it crossed the threshold of 8,000 and stood at 8,169.4, whereas in 2019, it started to go down again and it equalled 7,314.4 in 2021. Such a high HHI value demonstrates a great inconsistency in the layout of the

[40] The concentration level ratio CR4 indicates the market share of the four largest market players in an industry as a percentage.
[41] 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.

capacities of the actors operating on the market of items of correspondence as well as concentration of the service of items of correspondence 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 46). CR_4 ratio of the market share held by four major service providers shows the concentration level which is higher than moderate but does not exceed the level of concentration of 90%: In 2016-2018, this value ranged between 81.2 and 82.4%, in 2019, it dropped to 77.0%, then it started to go up again and it reached 86.6% in 2021. Throughout the period in question (2016-2021), CR_4 index increased by 5.4 percentage points.

CR_8 ratio of the market share held by eight major service providers during the period between 2016 and 2021 remained almost unchanged and ranged between 95% and 98%. 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 2021, eight major postal service providers held 96.9% of the market of postal parcels.

It must be noted that in 2016-2021, the HHI index value increased by 122.8 points; in 2021, compared to 2020, HHI increased by mere 13.3 points.

Table 46. **Market concentration indices in terms of the number of postal parcels, 2016-2021**

Index	2016	2017	2018	2019	2020	2021
CR_4, %	81.2	82.4	81.3	77.0	87.2	86.6
CR_8, %	95.3	96.4	96.3	96.8	97.5	96.9
HHI	2,020.9	2,114.8	1,870.1	1,912.5	2,130.4	2,143.7

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 shrank by 4.7 percentage points in 2021, compared to 2020, whereas that of eight major providers decreased by 1.6 percentage points (see Table 47). Between 2016 and 2021, CR_4 fell by 4.4 percentage points, CR_8 increased by 0.7 percentage points. Taking account of CR_4 and CR_8 values, some positive developments on the postal service market can be observed – the revenue is less concentrated in the hands of four major postal service providers, and the most active competition as well as sharing of the market take plce between eight major service providers.

When measuring the competition on the postal market by HHI, it is clear that the value of this index dropped by 350.1 points between 2016 and 2021. The decreasing indicator shows the declining concentration of postal service providers and growing competition on the postal service market. In 2021, compared to 2020, the HHI value dropped by 417.9 points and this constituted the major change during the entire period in question.

Table 47. **Market concentration indices by revenue, 2016-2021**

Index	2016	2017	2018	2019	2020	2021
CR_4, %	73.6	74.6	72.9	76.3	73.9	69.2
CR_8, %	90.9	91.0	91.3	91.9	93.2	91.6
HHI	1,965.2	1,793.1	1,861.5	2,051.5	2,033.0	1,615.1

Source: RRT.

The highest concentration of the analysed markets in Lithuania is on the market of items of correspondence. The market of postal parcels is less concentrated than the market of items of correspondence. When assessing the markets of the revenue received by providers of postal parcels and of all postal services by HHI index, it may be concluded that they are subject to a high level of concentration.

Annex 1

Electronic communications service providers that were providing services in 2021

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	A. Zaica's Individual Enterprise | VIPI		•		
4	AB LTG Infra	•			•
5	AB Ogmios Centras	•	•		
6	AB Lietuvos Radijo ir Televizijos Centras		•	•	•
7	Dainius Kamarauskas' company Davgita		•		
8	DIDWW Ireland Ltd	•			
9	G. Pečiulis' company		•		
10	H. Abramavičius' company		•		
11	Individual Enterprise IT Kubas		•		
12	Individual Enterprise Satinet		•		
13	Inmarsat Global Limited		•		
14	Ivančikas' Individual Enterprise Žaibas		•	•	
15	J. Jasiulionis' Individual Enterprise			•	
16	UAB Vilniaus Radijo Studija		•	•	
17	UAB Besmegeniai (former UAB KLI LT)	•	•	•	
18	Public Enterprise Kaunas University of Technology (former KTU Department of Information Technology)		•		
19	L. Bulovas' firm Elektromedija		•		
20	SIA Tet affiliate (former SIA Lattelecom Ltd.)		•		
21	UAB Splius	•	•	•	•
22	UAB Teleline LT	•			
23	UAB Internetas Vilniuje		•	•	
24	UAB Agon Networks	•			
25	UAB AirnetTV		•	•	•

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

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

Item No	Service providers	Telephone service	Data transmission	Radio and television	Access to physical infrastructure
83	UAB Radijo Elektroninės Sistemos	•	•	•	
84	UAB Raystorm	•			
85	UAB Roventa	•	•	•	
86	UAB Arcus Novus (former UAB Satgate)		•		
87	UAB SauleNet		•		
88	UAB Skaidula				•
89	UAB Skylink LT	•			
90	UAB Socius		•	•	•
91	UAB Sugardas		•	•	•
92	UAB Šilutės Internetas		•		
93	UAB TCG Telecom	•			
94	UAB Tele2	•	•		
95	UAB Teledema SIP	•			
96	UAB Teledema	•	•		
97	UAB Telekomunikaciniai Projektai	•	•		
98	UAB Teleksas	•			
99	UAB Telemeta	•			
100	UAB Televizijos Komunikacijos	•	•	•	
101	UAB Verslo Tiltas		•		
102	UAB Viltuva		•	•	
103	UAB Vinetika		•		
104	MB VIP Sprendimai		•		
105	UAB Zirzilė		•	•	
106	Public Enterprise Plačiajuostis Internetas		•		•
107	UAB Blue Bridge		•		
108	Vytautas Ričkauskas' Company		•		
109	Voxbone SA	•			
110	UAB Ukmergės IT		•		

Item No	Service providers	Telephone service	Data transmission	Radio and television	Access to physical infrastructure
111	UAB Moremins Lietuva	•			
112	UAB Altic IT (former UAB Alantic)	•			
113	Onoffapp OÜ	•			
114	Nord Connect OU	•			
115	Compatel Limited	•			
116	Cubic Telecom Limited		•		
117	Telvox Global B. V. (Telserv Compliance)	•			
118	IP Telecom Bulgaria	•			
119	Belgacom international carrier services SA	•			
120	Zoom Voice Communications, Inc.	•			
121	UAB Mezon		•	•	
122	Pure IP Europe BV	•			
123	Sinch Sweden AB	•			
124	Twilio Ireland Limited	•			
125	Viber Media S.a.r.l.	•			
126	MB Kasluta	•			
127	Starlink Internet Services Limited		•		
128	BSG Estonia OÜ	•			
129	UAB M-Connectus	•			
130	Microsoft Ireland Operations Limited	•			
131	Mantas Andrišiūnas' self-employment activities	•	•		
132	Retarus GmbH	•			
133	Vonage B. V.	•			
		62	**88**	**42**	**16**

Annex 2

Postal service providers in 2021

Item No	Service Providers	Items of correspondence	Postal parcels
1	AB Lietuvos Paštas	•	•
2	A. Safošina's Individual Enterprise		•
3	UAB Apskonta	•	
4	UAB Autopašto terminalas	•	•
5	UAB Avaneta (only unaddressed advertisements are sent)		
6	Individual Enterprise Britlita		•
7	UAB DHL Lietuva	•	•
8	UAB DPD Lietuva	•	•
9	UAB Drusvilma	•	
10	MB Eagleship		•
11	Edvin Mironovič	•	•
12	UAB Emduva	•	
13	UAB EU Broker		•
14	Federal Express Corporation affiliate	•	•
15	UAB Finansinės Strategijos		•
16	UAB Gosenda		•
17	UAB HRES		•
18	UAB Investbaltija	•	
19	UAB Invicte	•	•
20	UAB Itella Logistics	•	•
21	UAB Jurbarko Mažieji Autobusai		•
22	UAB Kastinida		•
23	UAB Kautra	•	•
24	UAB Kodas	•	
25	UAB Linkera group		•
26	UAB Litera	•	
27	UAB Litgina	•	•
28	UAB LTG Link		•
29	UAB Miesto Logistika		•
30	UAB MBE Baltic	•	•
31	UAB Nėgė		•
32	UAB Omniva LT		•
33	UAB Pašto Paslaugos	•	
34	MB Patikima Siunta	•	•
35	UAB Prima Line		•
36	UAB RECARAS		•
37	UAB Rusko	•	•
38	UAB Samus	•	•
39	UAB Skubios Siuntos	•	•
40	UAB Šiaulių Naujienos	•	
41	UAB Šiaurės Siunta		•
42	UAB TNT	•	•
43	UAB Toras LT		•
44	UAB Utenos Diena	•	
45	UAB Velo Kurjeris		•
46	UAB Venipak Lietuva	•	•
47	UAB Verslo Spaudos Centras	•	•
48	UAB VIM Agentūra	•	•
49	UAB Zenesa	•	
	Total	**29**	**38**

Annex 3

Number of residents and households in Lithuania, 2016-2021

	2016	2017	2018	2019	2020	2021
Number of residents	2,888,582	2,849,317	2,794,184	2,794,090	2,810,761	2,794,961
Number of households	1,289,546	1,272,017	1,318,011	1,308,286	1,347,898	1,395,689

Source: Statistics Department of Lithuania.

Annex 4

Maximum tariffs of the universal postal service in 2021[42]

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

Large 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], large 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 large items of correspondence	0.58
2.	Registration and insurance of items of correspondence or large items of correspondence	3.48
3.	Insurance of postal parcels	3.48

[42] 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

Large 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], large 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 large items of correspondence	2.03
2.	Registration and insurance of priority items of correspondence or priority large 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 large 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” (“Large”) shall be as follows: any dimension shall be no greater than 1.50 m, while the sum of the length and the largest dimension measured in any other direction than the length shall be no greater than 3 m.

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

6. Only priority items of correspondence or priority large 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.