

# 2022

ANNUAL

REPORT



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## **Kakha Bekauri**

**Chairman of the Communications Commission**

In 2022, the Communications Commission decided on and implemented important projects for the development of the telecommunications sector. We successfully executed noteworthy initiatives aimed at advancing media literacy within the country, resulting in international recognition. The mission and task of ComCom is to provide everyone with the opportunity for communication and an informed choice. You will learn more about the projects implemented in 2022 in the report, but before that, I would like to draw your attention to several important issues.

Last year, the Communications Commission started a complex study of the telecom sector. In the past few years, we have been constantly saying that the rules of the game in the telecom sector should be changed to remove barriers to market entry for small and medium-sized businesses and increase competition. The goal of the Communications Commission is to completely open the telecom market and allow new companies to operate without any barriers, and finally, to provide users with access to more interesting and diverse services. To achieve this goal, the Communications Commission team is actively working together with the Facility for the Implementation of the EU-Georgia Association Agreement. We want the mobile and fixed service markets to be thoroughly studied and the Communications Commission to take effective steps in accordance with European practice.



As for the field of broadcasting, we repeatedly say that the media in Georgia is pluralistic and diverse, but at the same time, it is highly polarized and politically biased. Hate speech, spreading of fake information and manipulation have been the main challenges of the media for many years now. The solution of some of the mentioned problems began in 2022 with the amendment made to the Law of Georgia “On Broadcasting”, in accordance with the requirements of the European Directive. In particular, the Parliament of Georgia adopted amendments according to which broadcasts and advertisements containing hate speech and incitements to terrorism were regulated; and the law also defined the right of reply. A person who believes that an inaccurate fact has been spread about him will be given the opportunity to demand from the broadcaster the right of reply. It is important that before the amendments to the law come into force, broadcasters were given a six-month transitional period to bring their activities in line with the requirements of the law. Despite the ongoing changes, the spread of false information, manipulation, and political bias have remained an acute problem and the main challenge of the media. Regarding this issue, we have repeatedly said that a broad discussion and elimination of the problem is necessary in accordance with European practice. It is necessary to establish a high media standard so that viewers can make a proper informed choice.

Over the years, along with the establishment of media standards, the Communications Commission and the Media Academy have been effectively promoting the development of media literacy in the country. We are glad that our results and successes are recognized not only within the country, but also at the international level. In 2022, the members of the European platform of regulatory bodies named the events and projects planned by the Communications Commission in the direction of media literacy, including the Global Media and Information Literacy Week, as the best example of raising awareness. Our primary objectives are to engage a wider range of stakeholders in the advancement of media literacy and strengthen media literacy in the country as a whole.

Traditionally, I would like to thank all the employees of the Communications Commission. The successes achieved in the past years have clearly shown us that we can respond to all challenges with dignity, efficiency and with high professionalism.

## Comprehensive analysis of telecom industry to remove barriers to entry to mobile and fixed markets

Increasing competition in the telecom market remains a priority issue for the Communications Commission. To remove the entry barriers to the markets of fixed and mobile communications services and to increase access to communications services for users, the Communications Commission, together with European experts, has started a full-fledged study of the telecom market.

Within the framework of a comprehensive study, the existing competition in the telecom sector will be assessed and, if necessary, specific obligations will be determined for operators with significant market power. The accessibility of communications services for users and the development opportunities of the sector will also be assessed.

Several major considerations necessitated an analysis of the mobile and fixed communications markets, including the present market structure in the telecom sector and the lack of competitive retail service offerings. To reiterate two important mergers of telecom operators were carried out in the past few years: Magticom's purchase of the retail segment of the largest Internet provider in Georgia, Caucasus Online, and the fixed network operator Silknet's purchase of Geocell. This has resulted in the formation of two large operators with strong market dominance in both the mobile and fixed Internet markets.

One of the main goals of the Communications Commission is to bring the legislative and regulatory framework and standards of the telecommunications field into full compliance with European successful practices, which in turn is an obligation assumed by the country under the Association Agreement. Based on this, in accordance to European recommendations, to improve the efficiency of competition in the telecom market and access to wholesale elements of the network, it is necessary to periodically conduct an analysis of the telecom market and services.

According to the European Commission's recommendation on relevant product and service markets, the wholesale part of the broadband Internet service market, namely Bitstream, is a market that must be analysed for regulatory purposes. Therefore, within the framework of the same analysis, it is required to identify the operators with significant market power in the mentioned market and to determine the regulatory framework that will ensure the removal of barriers to entry into the fixed services market and increase competition.

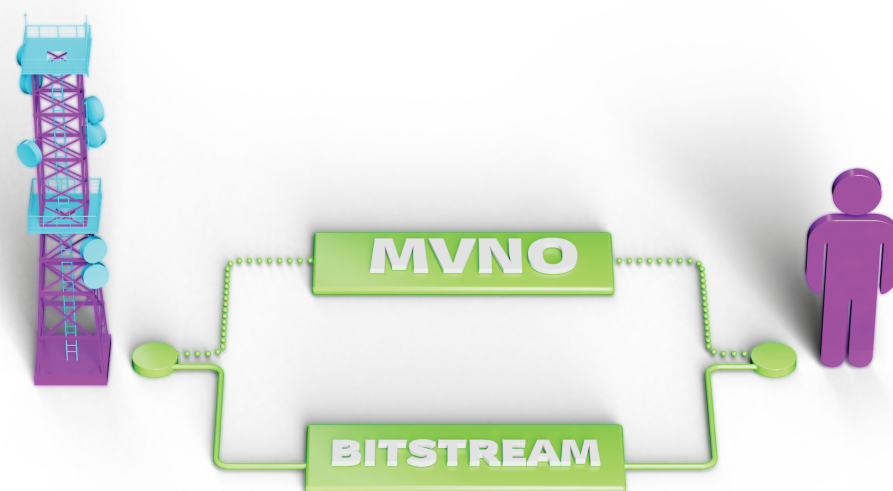
Along with the market analysis, the Communications Commission is working on updating the methodological rules for defining relevant segments of the service market and analysing competitiveness. As is known, the European Law on Electronic Communications, the European Commission's recommendation on relevant product and service markets in the electronic communications sector subject to prior regulation, as well as the methodological rules for defining these markets are the legislative and legal bases that European regulatory authorities should be guided by when analysing a market and defining the appropriate regulatory framework.

The project is implemented with the support of the EU funded "Facility for the implementation of the EU-Georgia Association Agreement - II" (AA Facility - II). Together with the Communications Commission, a group of European experts conducts analysis of the retail and wholesale segments of mobile and fixed services in the economic, legal, and technical directions. The experts have several years of experience in the implementation of European directives as well as research projects in the regulatory bodies of Belgium, Croatia, UK and Slovenia, the European Commission, BEREC and Cullen International.

The framework of the study, all key stages, and final results will be agreed with the experts of the European Commission, for which the Communications Commission has already received the support of the European Union within the Technical Assistance and Information Exchange Instrument (TAIEX). At the stage of developing the study framework as part of the TAIEX activity, with the support of the expert mission comprised of representatives of the regulatory authorities of Lithuania, Poland, and Italy, recommendations regarding the content of the comprehensive study were elaborated. These recommendations serve as the basis for the detailed schedule and action plan developed by the expert group of AA Facility II. Representatives of telecom companies were also involved in all stages of the project implementation.

Given the scale of the study, the project is being implemented in several stages. The first stage is the analysis of the competitive environment of the retail market of fixed and mobile communications services, and the second stage is the identification of operators with significant market power in the fixed and mobile markets.

The necessity for a requirement that Mobile Virtual Network Operators gain access will be evaluated as part of a thorough research in a separate significant direction. We remind you that the Communications Commission has been actively working on promoting the development of virtual network operators in the mobile service market in recent years.



At the end of 2022, the Communications Commission assessed the current environment and processes for the entry of Mobile Virtual Network Operators (MVNO) into the market. Negotiations and the process between the companies seeking access and the network operators have been delayed, although bilateral negotiations are ongoing, which require additional time. Accordingly, the ex-ante regulation regime of mandatory admission to the wholesale segment of the mobile network remained in force, therefore the Communications Commission extended the period of implementation of the regulation on mandatory admission of the mobile virtual operators for 6 months.

To reiterate the decision on MVNO access to the network was made by the Communications Commission in December 2019. However, the postponement of the implementation of the obligation for the companies was caused by several important circumstances. On the one hand, operators with significant market power have expressed their willingness to allow mobile virtual network operators into their networks, and on the other hand, operators wishing to gain access have expressed interest and steps have been taken to provide access to the mobile network. In addition, based on the amendments to the Law of Georgia “on Competition”, the functions of the Communications Commission have become more effective in terms of law enforcement. Accordingly, the Communications Commission considered it appropriate to observe the proceedings, and to give the parties the opportunity to carry out practical activities.

In the period following the decision on the operator's access to the mobile virtual network, only one precedent of the access on the basis of commercial negotiations was observed: – Silknet and Eclectic signed a contract for access to the mobile network, and Eclectic began operating under the brand name Hallo. As for other interested companies, they did not gain access to the network. The Association of Mobile Virtual Network Operators has made several public statements on this regard, and has also sent official letters to the Communications Commission, demanding not to revoke the decision on mandatory access.

The Communications Commission continues to monitor the negotiation process between companies willing to access the mobile virtual network and network operators, since the removal of barriers to entry into the telecommunications market is important both for creating a competitive environment and having affordable services in the retail services market, as well as for the development of innovative services. By removing entry barriers, the liberalization of telecom markets will allow small and medium-sized businesses to become operators of alternative services, boost the potential of telecommunications services, and provide customers with access to more diverse telecommunication offerings.

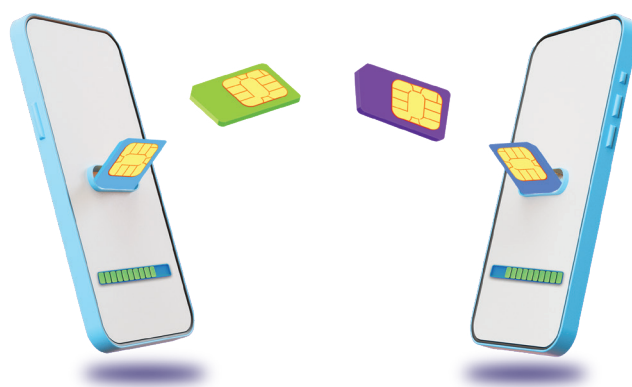
### Simplifying the number porting process for users

To make it easier for users to port mobile and fixed phone numbers, the Communications Commission has approved new rules that apply to companies providing services for both fixed and mobile communications networks.

According to the updated rules, the user can apply for mobile number porting remotely, without visiting the service centre of the desired mobile operator and receive the new operator's SIM card at any address. Before submitting an application, a hotline can provide users with information regarding the existence of circumstances that could hinder the porting.

Residential and business subscribers, when porting a fixed number to a new network, will be able to keep the phone number regardless of the change in network technology – be it a traditional, Internet, cellular or other technology fixed phone number.

The changes made to the "Regulation of Subscriber Number Portability" were developed considering the best practices of European countries and were prepared in accordance with the European Electronic Communications Code.



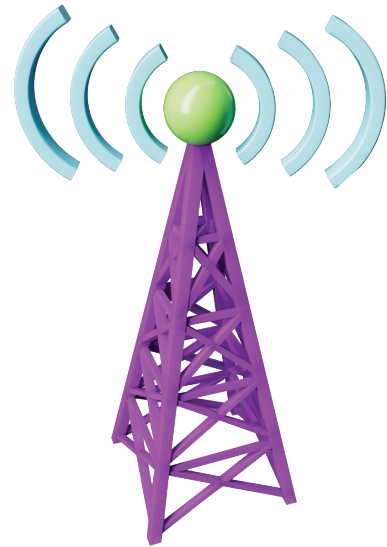
## **New National Frequency Plan to efficiently allocate radio frequency spectrum**

To provide innovative services to users and promote the introduction of modern radio frequency systems in the country, the Communications Commission has updated the National Frequency Plan (NFP) for Allocation of Radio Frequency Spectrum (hereinafter, the National Plan), which will promote the introduction of modern electronic communication services, as well as the effective use and management of limited resources.

The updated National Plan includes the allocation of new frequency bands for new technologies, including the development of 5G networks. Also, additional frequency bands have been provided for the operation of Fixed Wireless Access (FWA) and WiFi networks. For specific satellite services, bands have been defined, technological standards and types of services were specified.

The Communications Commission prepared and adopted amendments to the NFP based on the final acts adopted by the International Telecommunication Union (ITU) at the World Radiocommunication Conference (WRC-19), as well as on the basis of the decisions adopted by the Electronic Communications Committee (ECC) of the European Conference of Postal and Telecommunications (CEPT).

Amendments mostly follow European Commission decisions and recommendations.



## **Internetization of the country and digital support for citizens**

In 2022, within the framework of the state Internetization program, “Log-in Georgia”, which is being implemented with the co-financing of the World Bank and the European Investment Bank, several important measures were implemented with the active participation of the Communications Commission.

After the pilot project was implemented in the Ozurgeti municipality in 2022, Open Net, with the support of the Communications Commission, completed a second phase in Kobuleti and Lechkumi. A fiber optic network with a length of up to 50 km has been constructed in Kobuleti, which will provide additional opportunities for 10,500 residents as well as for private telecommunication operators. The infrastructure built in the territory of Tskaltubo-Tsageri-Lentekhi includes a 140 km fiber optic backbone and 29 access points.

The indicated backbone completely covers all the settlements of Lentekhi and Tsageri, as well as four additional locations in the Tskhaltubo municipality, where there are over 200 residents.

In total, the fiber optic infrastructure built in the direction of Tskaltubo-Tsageri-Lentekhi creates the opportunity for more than 11,000 residents to get access to high-quality Internet, broadcasting, and other digital services.

In 2022, the construction of a network began in the directions of Tkibuli-Ambrolauri-Oni, Tskaltubo-Tsageri-Lentekhi, Chokhatauri-Samtredia and Kobuleti-Khelvachauri. The targeted geographic areas altogether represent 570 km of infrastructure and new opportunities for 68,000 people.

Last year, to design and build the optical network in accordance with the World Bank's procurement procedures, four more tenders were announced in the following directions: Mestia-Jvari, Zugdidi-Khobi, Abasha-Senaki and Vartsikhe-Tskaltubo-Khoni. The resulting development of 810 kilometres of optical backbone infrastructure will allow 59,200 residents to access the Internet.



The second component of the project, the “Digital Adoption Program”, is being successfully implemented by the Communications Commission. The objective of the program is to promote the Internet and use of digital services among the population. The goal of the program is to raise the digital awareness of the population of the target municipalities, promote the beneficial use of the Internet, and increase the use of public electronic services. Within the framework of the program, the Communications Commission conducts informational meetings and seminars for the development of basic Internet skills. Thematic studies are based on the results of the population needs assessment, which has been conducted in the target regions of the project.

In 2022, the Communications Commission conducted 30 thematic seminars for residents of 49 settlements of Ozurgeti municipality. 350 beneficiaries were trained on creating and using e-mail, information search methods, useful online applications, online communication channels, and safely using the Internet. To promote the use of public electronic services, informational meetings were held on the use of the electronic auction portal (eAuction.ge) and users' rights.

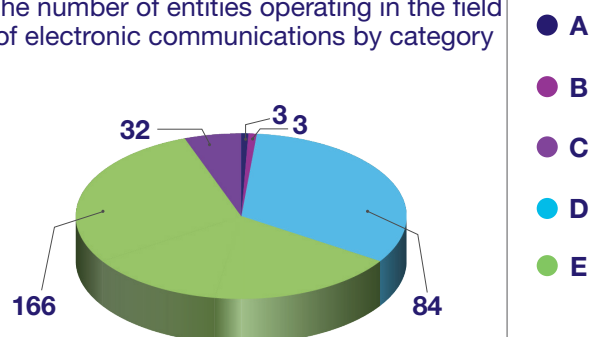
Ernst & Young, a consulting firm contracted as part of the Log-in Georgia project, prepared essential documentation for the Communications Commission and the Georgian Ministry of Economy and Sustainable Development. The assignment on universal service was completed to fulfil obligations of the EU-Georgia Association Agreement and introduce Universal Service in Georgia. The suggested amendments to the Law of Georgia “On Electronic Communications,” based on the new European Code of Electronic Communications, aim to provide affordable and high-quality Internet access to selected consumers. Along with the draft law, recommendations regarding the implementation of Universal Service have also been prepared.

The state Internetization program has been implemented since 2020 with the financial support of the World Bank and the European Investment Bank. Within the framework of the project, around 1,000 villages and 500,000 citizens of Georgia, including residents of high mountainous regions, will have the opportunity to receive high-quality Internet and use digital services such as: e-health care, distance learning, e-government, and more. In addition, the project aims to promote the development of digital skills and the use of digital services. The state internetization program, “Log-In Georgia”, was developed to promote the implementation of the 2020-2025 Broadband Infrastructure Development Strategy of Georgia.

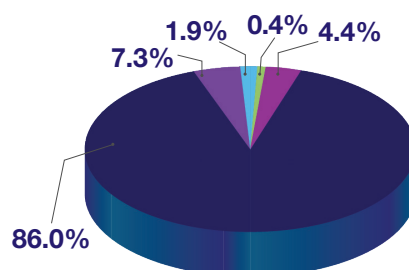


In 2022, 288 entities<sup>1</sup> were registered in the field of electronic communications. Only three companies: Magticom, Silknet and Veon Georgia (under the brand name Beeline) received more than 100 million GEL revenue (category A companies<sup>2</sup>) and their combined revenue amounted to 86% of the total revenue. The combined revenue of those companies that gained less than 100,000 GEL in 2022 (E category companies) was 0.4% of the total revenue of the industry.

The number of entities operating in the field of electronic communications by category

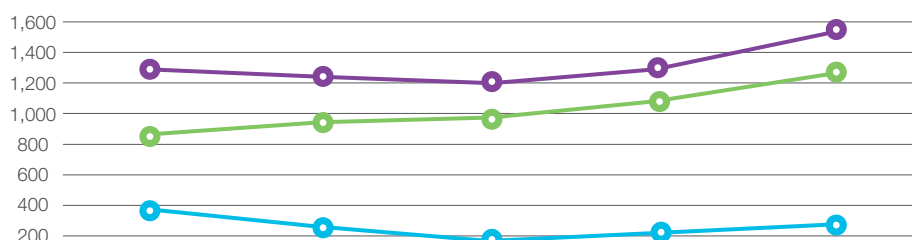


Distribution of revenue of entities operating in the field of electronic communications by category



In 2022, the revenue received by authorized persons for electronic communication services increased by 200 million GEL compared to the previous year and amounted to 1,469 million GEL, of which retail revenue was 1,202 million GEL. Retail revenue<sup>3</sup> grew by 9% over the last 5 years.

Revenue received by authorized persons in the field of electronic communications (Million GEL)



	2018	2019	2020	2021	2022
Retail	846	919	961	1,058	1,202
Other communications and non-communications	391	266	192	211	267
Total	1,237	1,185	1,153	1,269	1,469

The volume of the world's global telecommunications market in 2022 amounted to 1.8<sup>4</sup> trillion US dollars and by 2030, another 6.2% annual growth of the sector is expected. The main reason for this is the investments made in fiber optic and 5G technologies, the development of digital services, the creation and distribution of next generation devices and, as a result, the increased demand for high-speed Internet.

<sup>2</sup>The following categories are considered:

Category	Revenue received during the year
A	More or equal to 100 million GEL
B	From 10 million to 100 million GEL
C	From 1 million to 10 million GEL
D	From 100,000 to 1 million GEL
E	Less than 100,000 GEL

<sup>1</sup>An entity, which had any kind of revenue from electronic communications during the year

<sup>3</sup>CAGR – Compound Annual Growth Rate

<sup>4</sup>Source: [www.grandviewresearch.com](http://www.grandviewresearch.com)

## Mobile communications

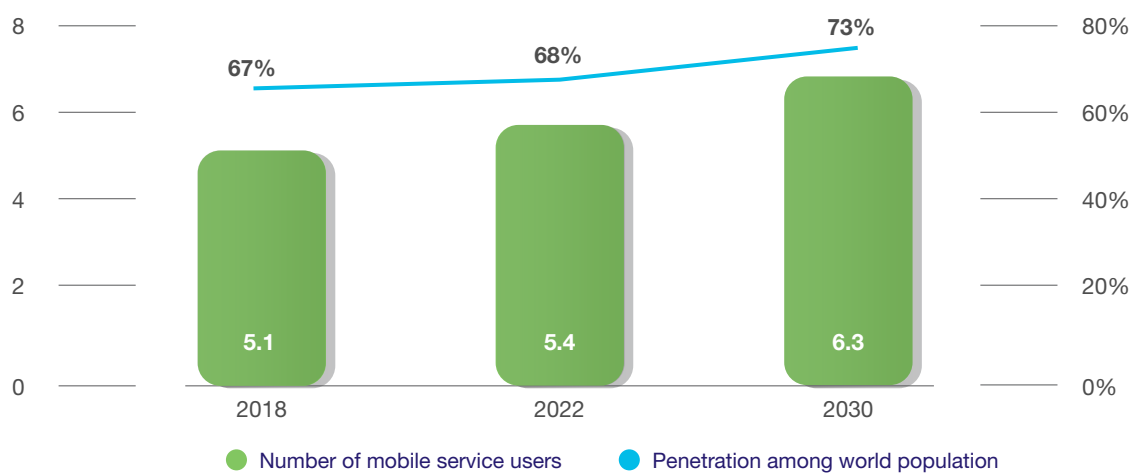
### Overview of world trends

Mobile communications services are rapidly evolving around the world, accelerating the digital transformation process and taking a critical role in developing many other sectors.

According to leading experts in the field, the introduction of 5G technology will be another turning point in the development of mobile communications services. It will quickly gain ground in many developed countries and will enable various industries to introduce innovative products.

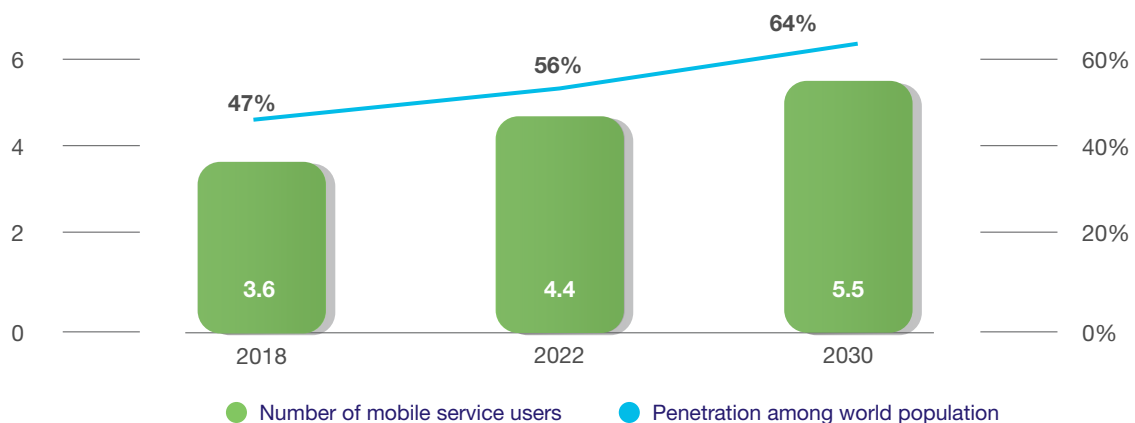
Mobile service users and the market penetration rate are increasing globally.

Global mobile service users and market penetration among the world population  
(2018, 2022 and forecast<sup>5</sup> for 2030, in billions)



The number of mobile Internet users has a significantly higher growth rate.

The number and penetration of global mobile Internet users  
(2018, 2022, and forecast for 2030, in billions)

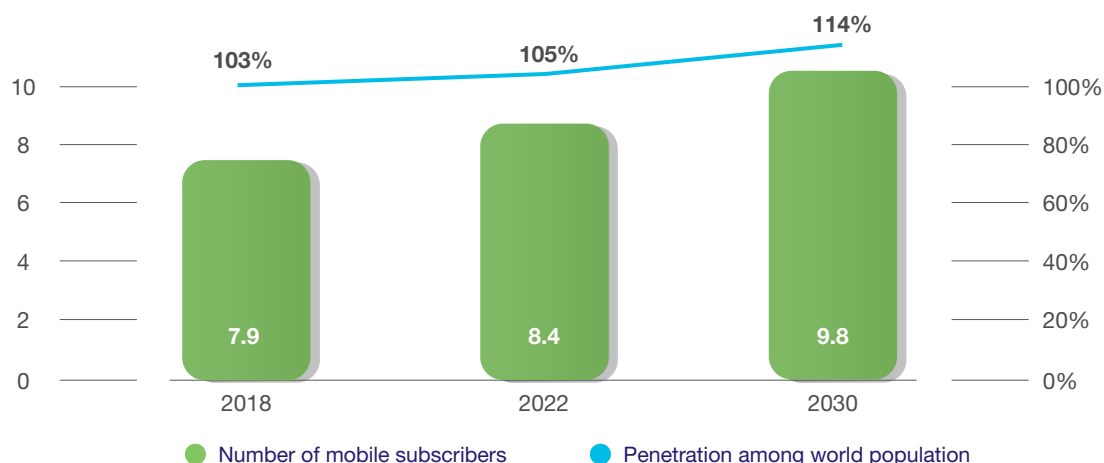


<sup>5</sup>Source: [www.gsma.com](http://www.gsma.com)  
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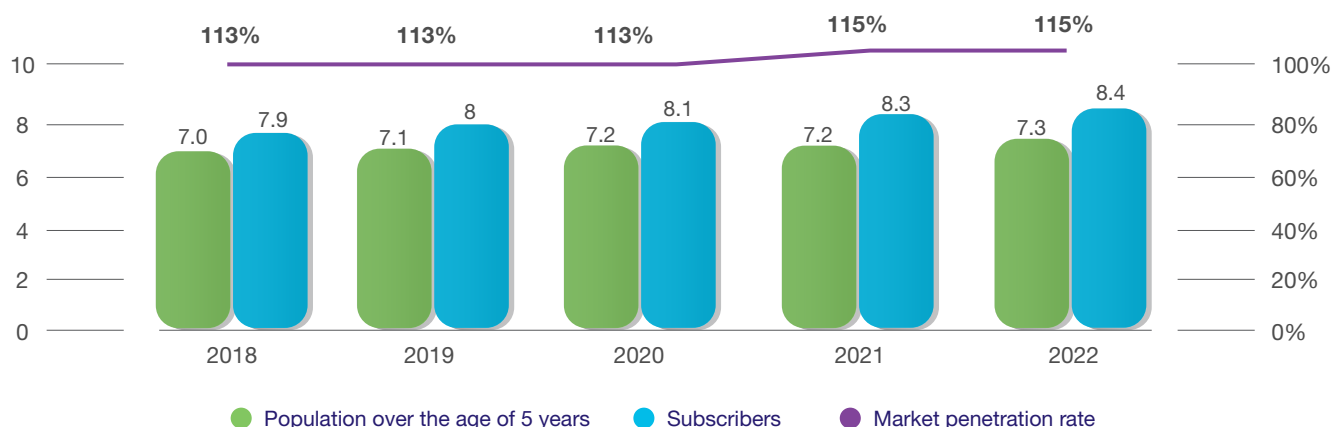
The penetration rate of mobile subscribers (SIM cards) has exceeded 100% since 2018 and is expected to increase further by 2030.

The number and penetration of mobile subscribers in the world  
(in 2018, 2022 and forecast for 2030, in billions)



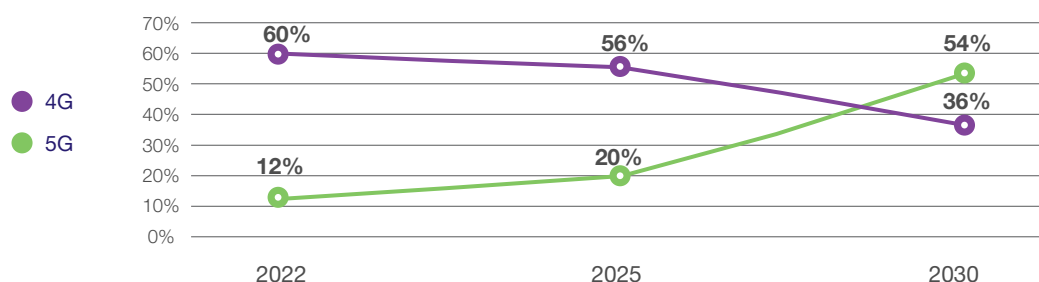
In the last 5 years, the market penetration rate among the population over 5 years of age has increased by 2% and reached 115%<sup>6</sup>.

Market penetration rate of global mobile subscribers among population over the age of 5 years



5G technology is expected to increase rapidly until 2030, replacing 4G technology to a large extent.

Penetration of total subscribers using 4G and 5G technologies  
(2022, forecast for 2025 and 2030)

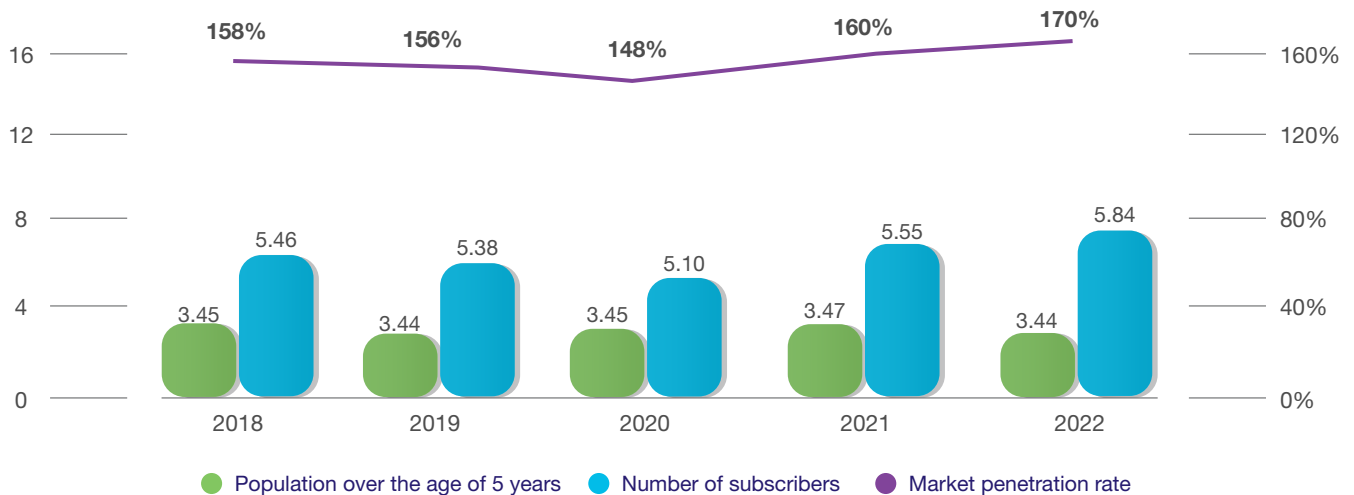


<sup>6</sup>Source: [www.gsma.com](http://www.gsma.com)  
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[www.ourworldindata.org](http://www.ourworldindata.org)

## Mobile communications in Georgia

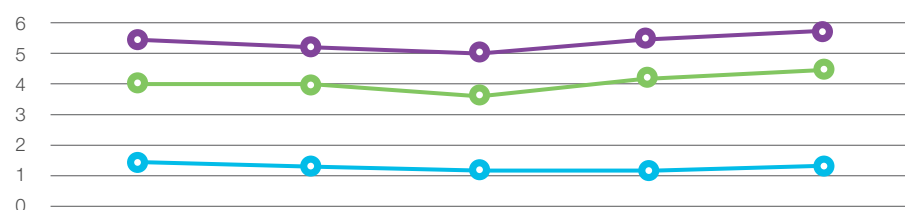
In 2022, the number of mobile service subscribers in Georgia exceeded 5.8 million<sup>7</sup> and the penetration rate among the population increased from 160% to 170%<sup>8</sup>. The record high rate observed in the last five years indicates that one user, on average, has more than one mobile number and uses different operators to get the desired mobile service offerings. In 2022, compared to the previous year, the number of mobile subscribers<sup>9</sup> increased and reached 5.84 million by the end of the year.

Subscribers and market penetration among population (over the age of 5 years)



In recent years, there has been an increase in the number of both residential and business subscribers. In the last quarter of 2022, the number of business subscribers accounted to 24% of the total.

Number of subscribers by type (millions)

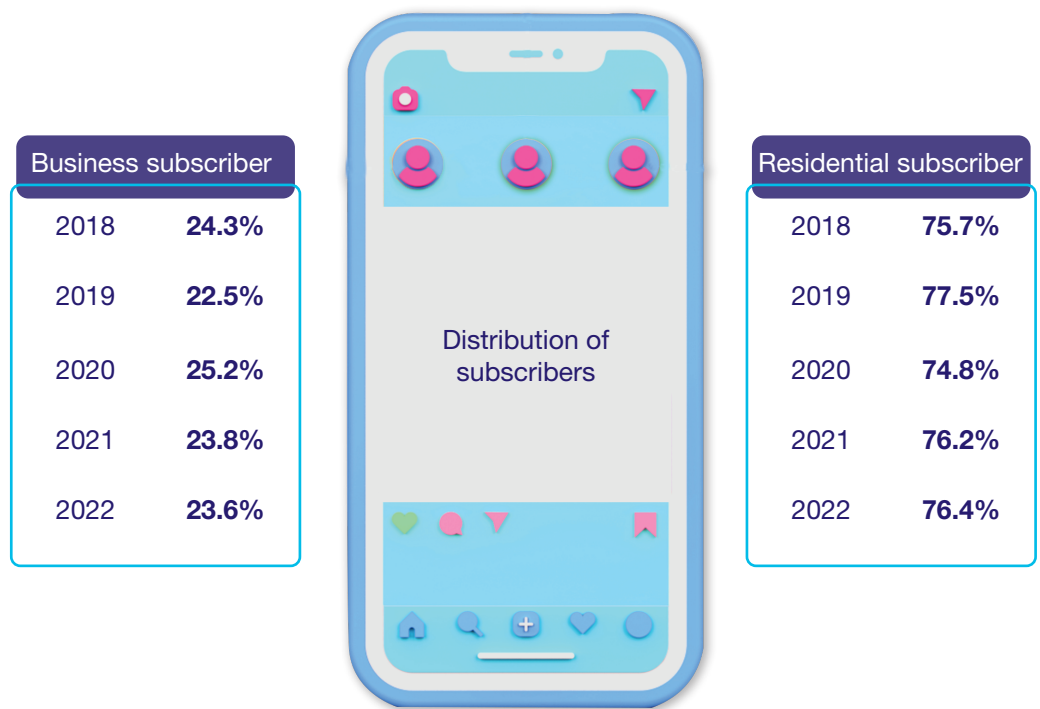


	2018	2019	2020	2021	2022
Residential subscriber	4	4,05	3,81	4,23	4,46
Business subscriber	1,45	1,33	1,29	1,32	1,38
Total	5,45	5,38	5,1	5,55	5,84

<sup>7</sup>Data as of February 15, 2023

<sup>8</sup>The population of Georgia includes persons over the age of 5 years




<sup>9</sup>A subscriber is considered as any SIM card that used a mobile service at least once during the quarter or was charged a subscription fee (including company employees and excluding test cards)



Magticom has the largest number of mobile service subscribers.

The market share of mobile operators in terms of the number of subscribers by the end of 2022 compared to 2021 did not change and was distributed as follows: Magticom – 42%, Silknet – 33%, and Beeline – 25%.

Number of subscribers and Market share by the number of subscribers

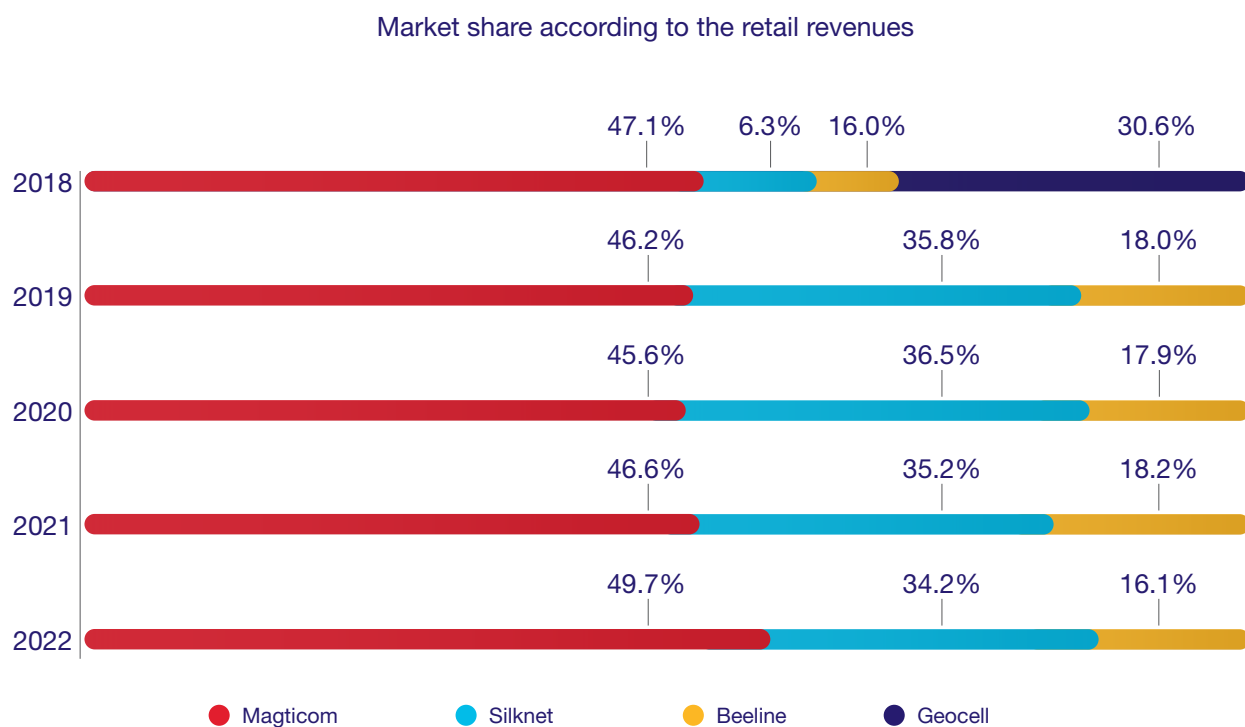
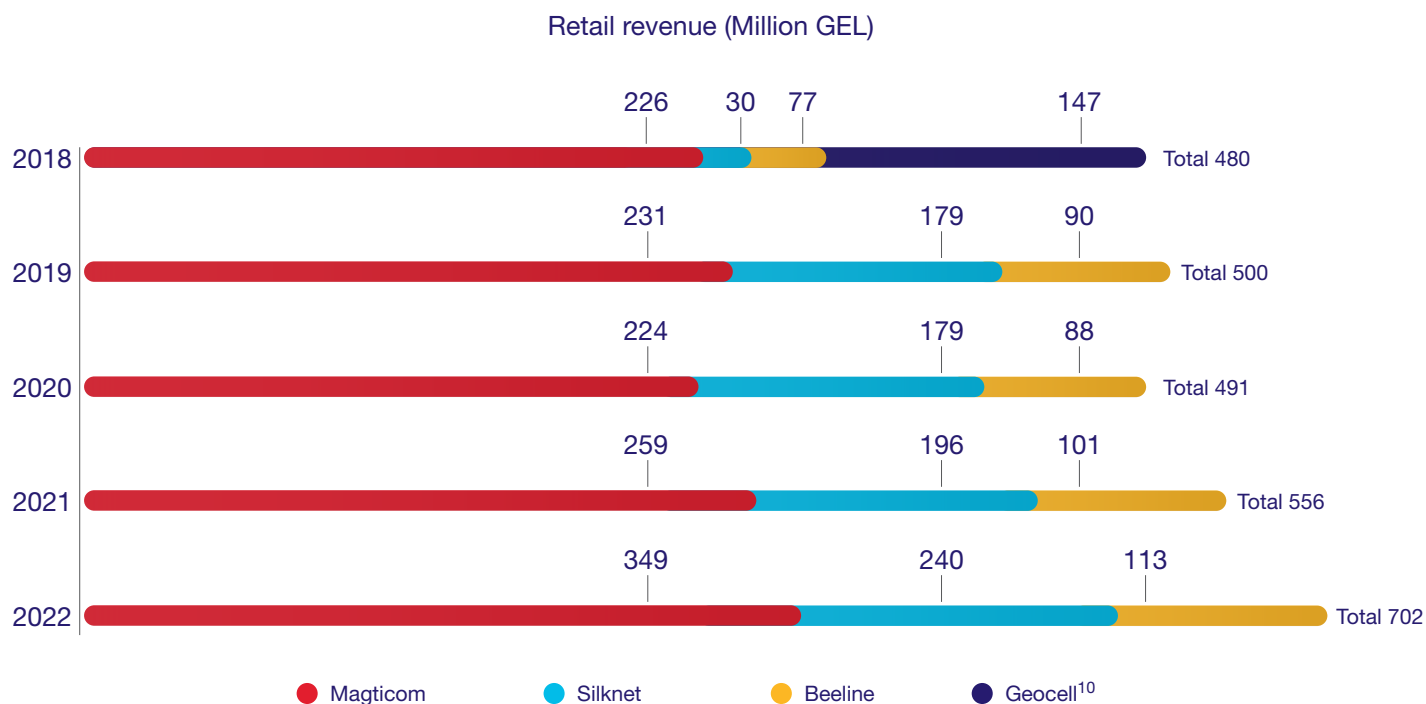
	2018	2019	2020	2021	2022
	<b>2.15</b> 41%	<b>2.04</b> 39%	<b>2.07</b> 41%	<b>2.31</b> 42%	<b>2.44</b> 42%
	<b>1.87</b> 35%	<b>1.79</b> 34%	<b>1.7</b> 33%	<b>1.85</b> 33%	<b>1.96</b> 33%
	<b>1.27</b> 24%	<b>1.4</b> 27%	<b>1.33</b> 26%	<b>1.4</b> 25%	<b>1.45</b> 25%

In 2022, the MVNO Eclectic began operating under the brand name Hallo. At the end of the year, there were 3,493 Hallo subscribers.

The number of residential and business subscribers by company

	Magticom	Silknet	Beeline	Total
Residential subscriber	1.8	1.5	1.1	4.4
Business subscriber	0.6	0.4	0.3	1.3

In 2022, the retail revenue of mobile operators amounted to 702 million GEL, which is 26% more than the retail revenue received in 2021. The market share of Magticom in retail revenue is 50%, Silknet – 34%, and Beeline – 16%. In the dynamics, the share of the market players, both in terms of the number of subscribers and revenues, changes insignificantly.



<sup>10</sup>In 2018, the merger of Silknet and Geocell was carried out

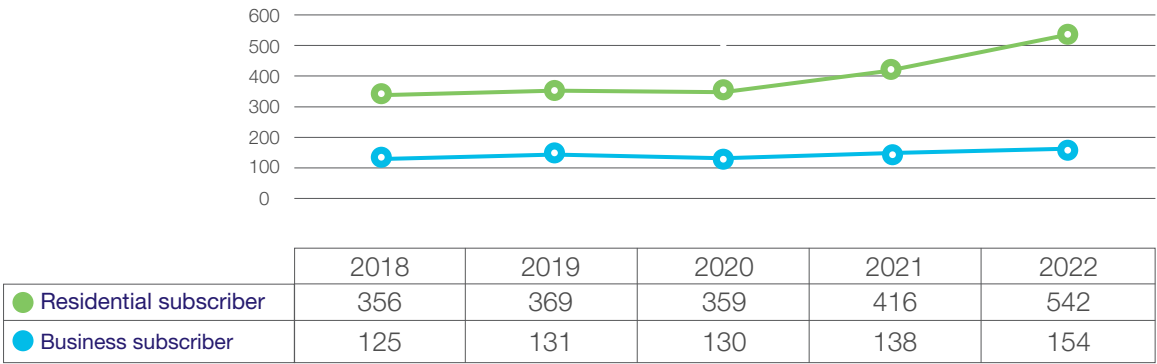
The different distribution of market shares by revenues and subscribers among the companies indicates that Magticom subscribers pay more for mobile services on average than Beeline subscribers, while in the case of Silknet, the shares of subscribers and revenue are almost equal, which means that Silknet subscribers, on average, pay more than Beeline subscribers, but less than Magticom subscribers.

Distribution of operators shares according to revenues and subscribers during 2022



In 2022, 78% of revenues from mobile services were generated by residential subscribers, and 22% by business subscribers. The revenues from residential subscribers, compared to the revenues from business subscribers, are growing more.

Revenue by subscriber types  
(Million GEL)



The distribution of subscribers by type shows that this ratio for companies is more or less similar, only the business subscribers share of Magticom is ahead of its residential subscribers share, and for Beeline and Silknet this ratio is the opposite:

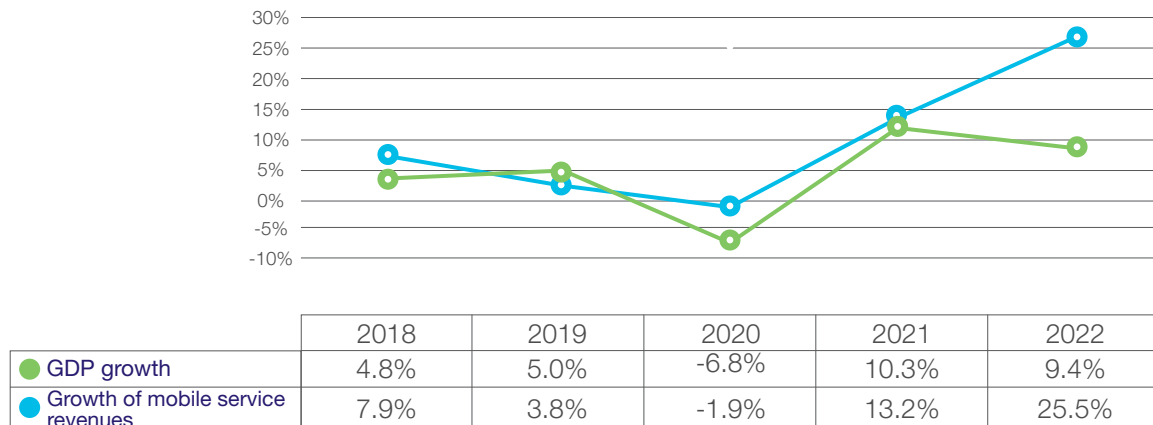
Distribution of residential and business subscribers  
according to the companies

	Magticom	Silknet	Beeline
Residential subscriber	41%	34%	25%
Business subscriber	44%	32%	24%

## Mobile service revenues in relation to GDP

In 2022, the growth rate of mobile service revenues in Georgia increased compared to the GDP growth<sup>11</sup> rate.

Growth of mobile service revenues in relation to GDP growth



According to 2022 data, the information and communication industry has the highest 5-year average growth rate in the gross domestic product.

Average growth rate of gross domestic product over the last 5 years by types of economic activity



<sup>11</sup>Data source: National Statistical Service of Georgia. For GDP 2022, the data of the III quarter is taken

<sup>12</sup>Includes: mining industry; water supply; sewerage, waste management, and pollution control; administrative and support service activities; activities of households as tenants; production of undifferentiated goods and services by households for their own consumption

## ARPU<sup>13</sup>

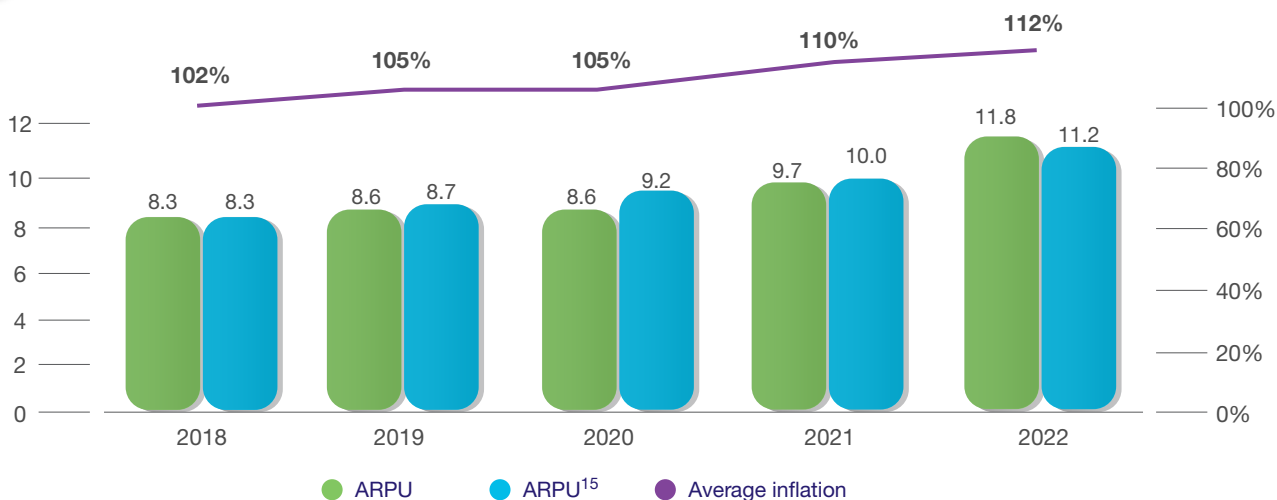


ARPU (GEL)	
2018	<b>8.3</b>
2019	<b>8.6</b>
2020	<b>8.6</b>
2021	<b>9.7</b>
2022	<b>11.8</b>

According to the data of 2022, the average revenue received from one subscriber during the month (excluding VAT) amounted to 11.8<sup>14</sup> GEL.

A comparison of the ARPU rate to the average rate of inflation indicates that in the last five years, especially in 2020 and 2021, the average revenue received from subscribers fell behind inflation rates, though in 2022 it is ahead of it, which means that the ARPU increase in 2022 is out of line with the possible impact of price increase caused by inflation.

ARPU and average annual inflation



In terms of operators, according to the data of the fourth quarter of 2022, Magticom has the highest ARPU rate, followed by Silknet, while Beeline subscribers spend the least amount of money on mobile services. In addition, this index of operators compared to the same period of the previous year has increased for all three operators.

ARPU by the companies

	Magticom	Silknet	Beeline
2021	<b>10.9</b>	<b>10.1</b>	<b>6.8</b>
2022	<b>14.1</b>	<b>12.1</b>	<b>7.7</b>

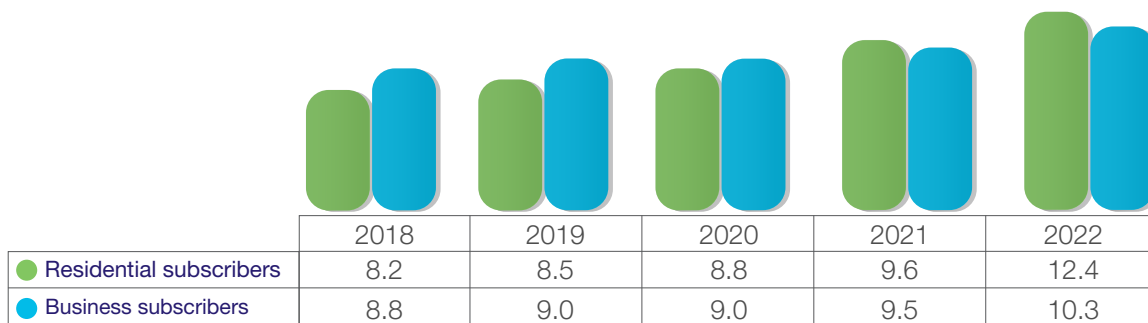
<sup>13</sup>ARPU – Average Revenue per User

<sup>14</sup>As of December

<sup>15</sup>2018 ARPU multiplied by average annual inflation

In recent years, business subscribers, on average, generated more revenue than residential subscribers. However, in 2022, against the background of the increase of tariffs for residential subscribers, we have the opposite picture – the ARPU of residential subscribers is almost 20% higher than that of business subscribers.

ARPU by subscriber type



## Voice traffic and MOU



Voice traffic  
(in billions of minutes)

2018	<b>9.88</b>
2019	<b>9.92</b>
2020	<b>10.18</b>
2021	<b>10.23</b>
2022	<b>9.17</b>

Following the global trend, the reduction of Voice Traffic provided by traditional technologies was also noticeable in Georgia. The reason for this is the increasing use of OTT (Over The Top) services for making voice calls, which in turn increases the importance of the Internet and leads to an increase in its traffic.

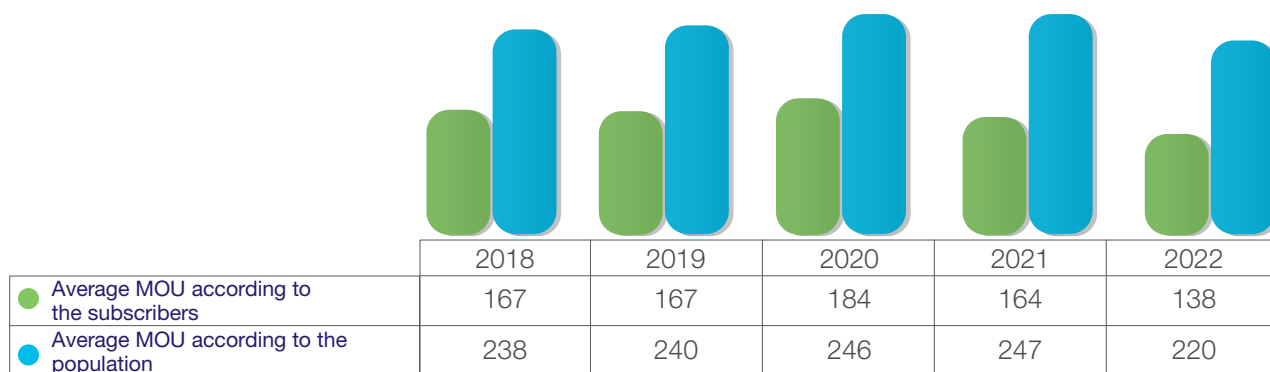
In 2022, the total outgoing voice traffic, compared to the previous year, decreased by 10% and amounted to 9.17 billion minutes. The MOU<sup>16</sup> rate has also been reduced. The average MOU<sup>17</sup> in 2022 was 138 minutes.

<sup>16</sup>MOU – Minutes Of Use – average number of minutes per month used by a subscriber (refers only to outgoing calls)

<sup>17</sup>Fourth quarter average

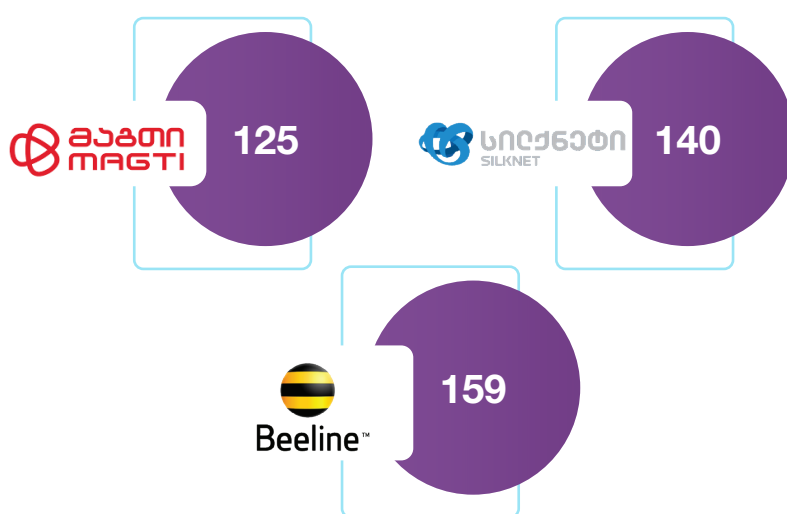


## Average MOU according to the number of subscribers and population



In terms of mobile operators, the MOU data for the fourth quarter of 2022 is different. On average, Beeline subscribers talk the most per month, which is due to the relatively low rates offered by the company, followed by Silknet users, while Magticom subscribers talk the least.

## Voice traffic (in billions of Minutes)



## Mobile Internet

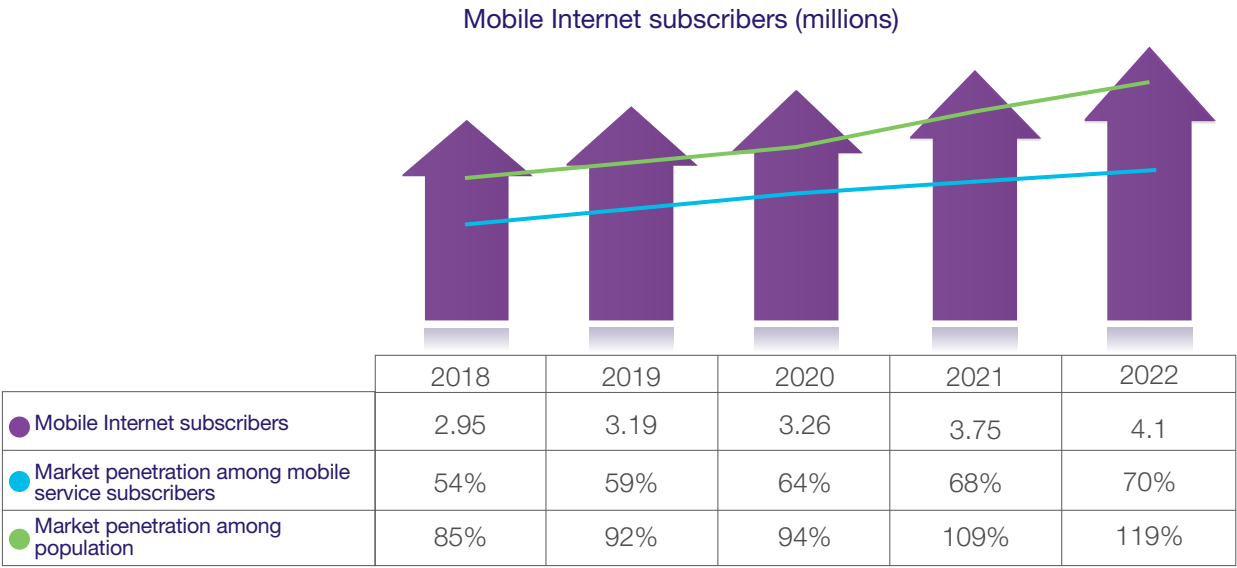
The number of mobile Internet users and traffic is growing at a rapid pace, which is due to various factors. In particular, the skills of the population in the use of modern technologies have improved and almost all generations are actively using the mobile Internet; there is an increased demand for online access to information with more and more services moving to online/digital formats, in itself contributing to the growth of consumption; and traditional voice communication services have been replaced by audio-video calls made using various mobile applications. The mentioned processes have accelerated even more since 2019 under the influence of the Covid pandemic.

The number of mobile Internet users is growing significantly every year. From 2018 to 2022, the Compound Annual Growth Rate of the number of mobile Internet users amounted to 8.6%<sup>18</sup>.

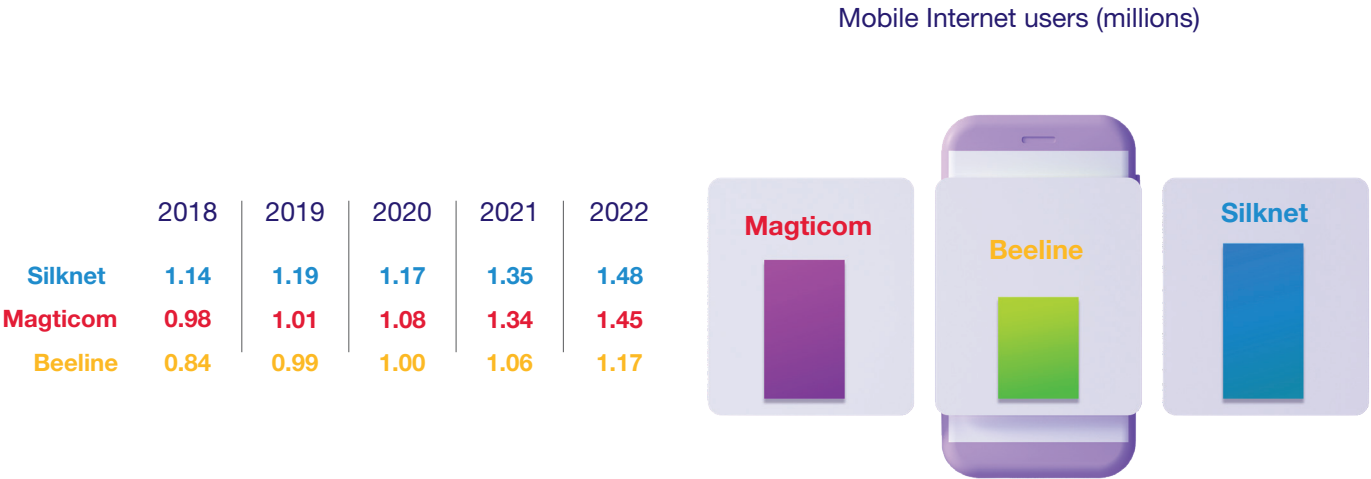
By the end of 2022, 4.1 million subscribers use mobile Internet services, which is 70% of the total number of subscribers.

<sup>18</sup>CAGR – Compound Annual Growth Rate

The market penetration rate of mobile Internet users in relation to the population<sup>19</sup> of Georgia is even higher and reached 119% by the end of 2022.



Silknet had the most mobile Internet customers - 1.48 million at the end of 2022, followed by Magticom - 1.45 million and Beeline - 1.17 million.



In terms of company, the share of mobile Internet users of the total number of subscribers is different. Beeline is in the first place with 81% of the company’s subscribers using mobile Internet. Such a high rate is due to the tariffs offered for the mobile Internet and the target audience.

Penetration rate of mobile Internet users by company

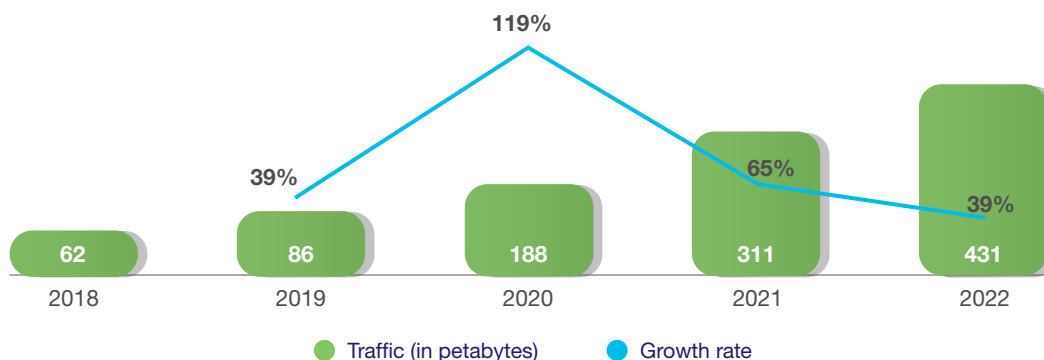


<sup>19</sup>The population number of Georgia includes persons over the age of 5 years

In 2022, mobile Internet traffic increased again. Mobile service subscribers used up to 431 petabytes of mobile Internet. This fact is due to the increase in the number of mobile Internet users and next generation phones on the market, as well as the expansion of 4G network coverage and the increased demand for Internet connections.

From 2018 through the end of 2022, the average annual growth rate of consumed Internet traffic was 62%. However, after 2020, the rate of growth of mobile Internet traffic decreases, although it grows almost the same annually by about 100-120 petabytes.

Volume of Internet used (in petabytes) and growth rate

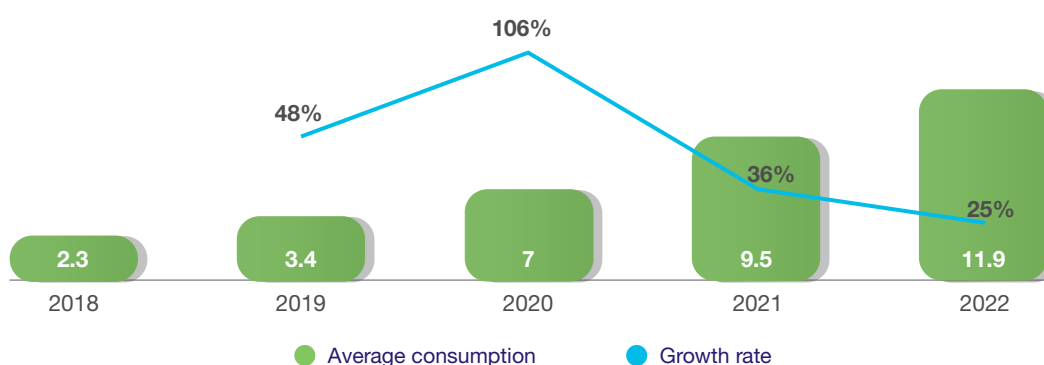


More than half of mobile Internet traffic is consumed by Magticom subscribers.

Share of operators in mobile Internet traffic

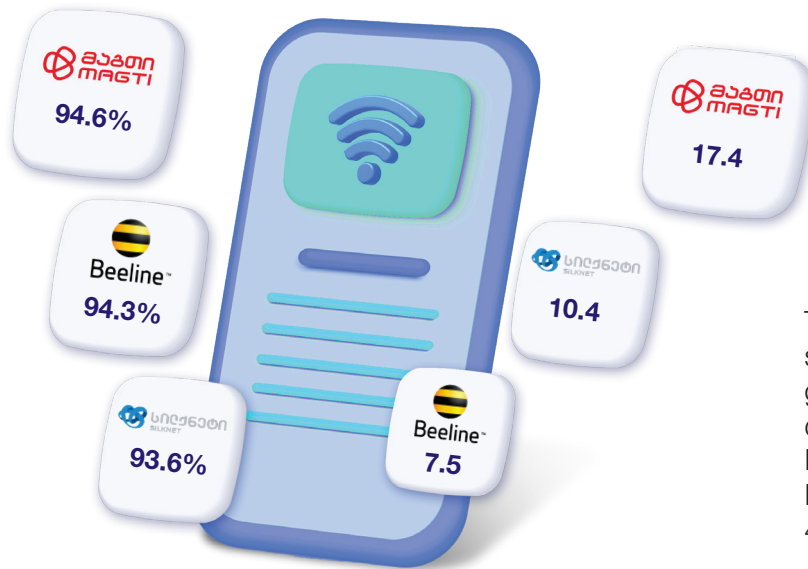


Average monthly mobile Internet consumption per subscriber (in GBs)



Share of 4G traffic in total mobile traffic

Average consumption of mobile Internet per subscriber per month by company (in GBs)

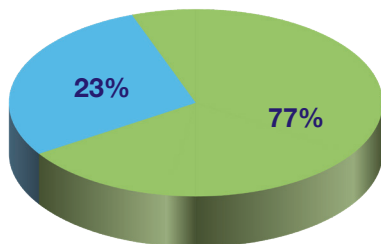


The volume of Internet traffic consumed by 2G and 3G technologies is decreasing as a result of development of 4G technology. In 2022, 94% of the total mobile Internet traffic was generated by 4G technology.

## Business subscriber segment

By the end of 2022, the number of active subscribers acquired under the state consolidated<sup>20</sup> tender amounted to 290 thousand, which is 23% of the total number of business subscribers.

Distribution of business subscribers

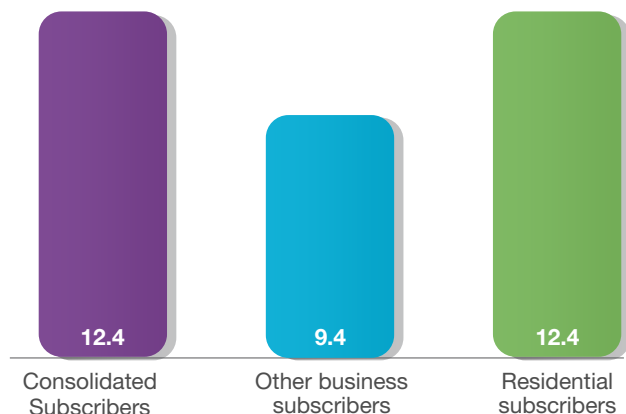


- Consolidated tender subscriber
- Other business subscriber

In 2022, out of the total revenue of 154 million GEL received from business subscribers, 41.7 million GEL was from subscribers of the consolidated tender.

The monthly ARPU of the consolidated tender subscribers is 3 GEL more than the ARPU<sup>21</sup> of other business subscribers. The difference between the ARPU of consolidated tender subscribers and residential subscribers is 3 GEL.

Average ARPU (GEL)

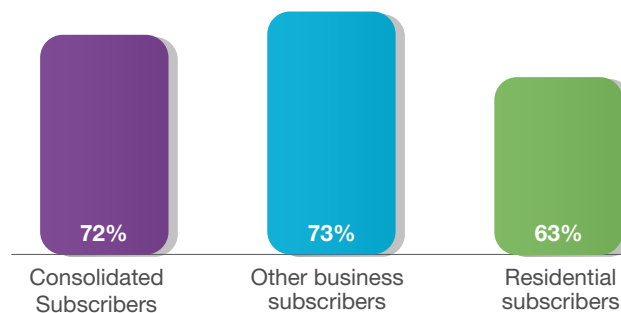


<sup>20</sup>Procurement of mobile services for public companies through a state consolidated tender

<sup>21</sup>Average fourth quarter ARPU

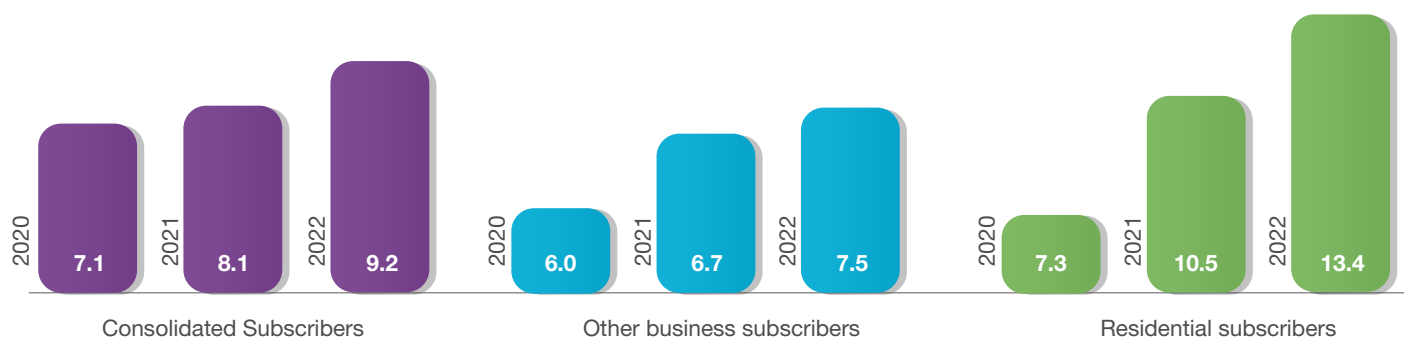
By the end of 2022, the penetration rate of mobile Internet users among consolidated tender subscribers was 72%, and 73% for other business subscribers. The penetration rate of mobile Internet users among residential subscribers is 63%.

Penetration rate of mobile Internet users



Consolidated tender subscribers consume a larger volume of mobile Internet compared to other business entities, although it is worth noting that the volume of mobile Internet consumed by residential subscribers exceeded 367 petabytes in 2022.

Average consumption of mobile Internet by one subscriber per month (in GBs)



Voice services are used the most by consolidated tender subscribers in 2022 as well, even though the MOU for all three categories is lowered.

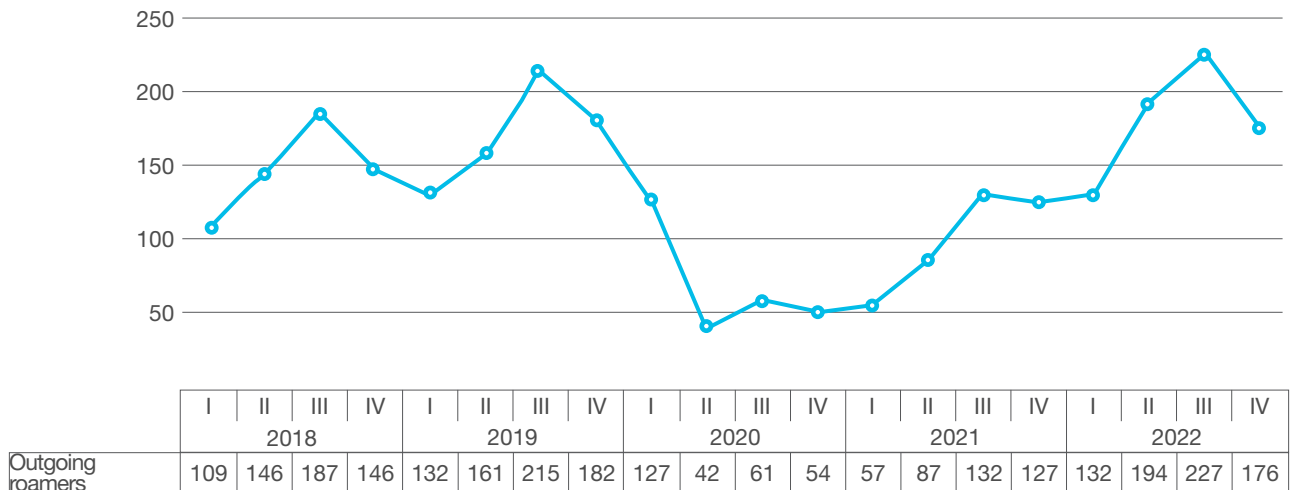
Average MOU (minutes)



## Roaming

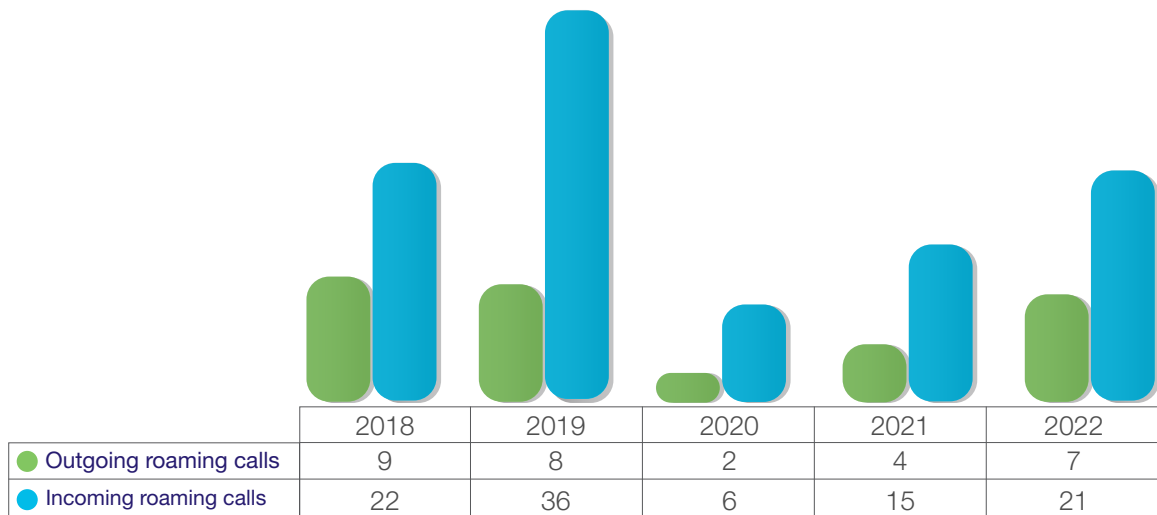
Roaming has become more affordable in recent years due to reduced tariffs. In 2020, due to the COVID-19 pandemic, usage of roaming reduced, but there was a significant increase in 2021 and 2022.

Number of outgoing roaming users (in thousands)

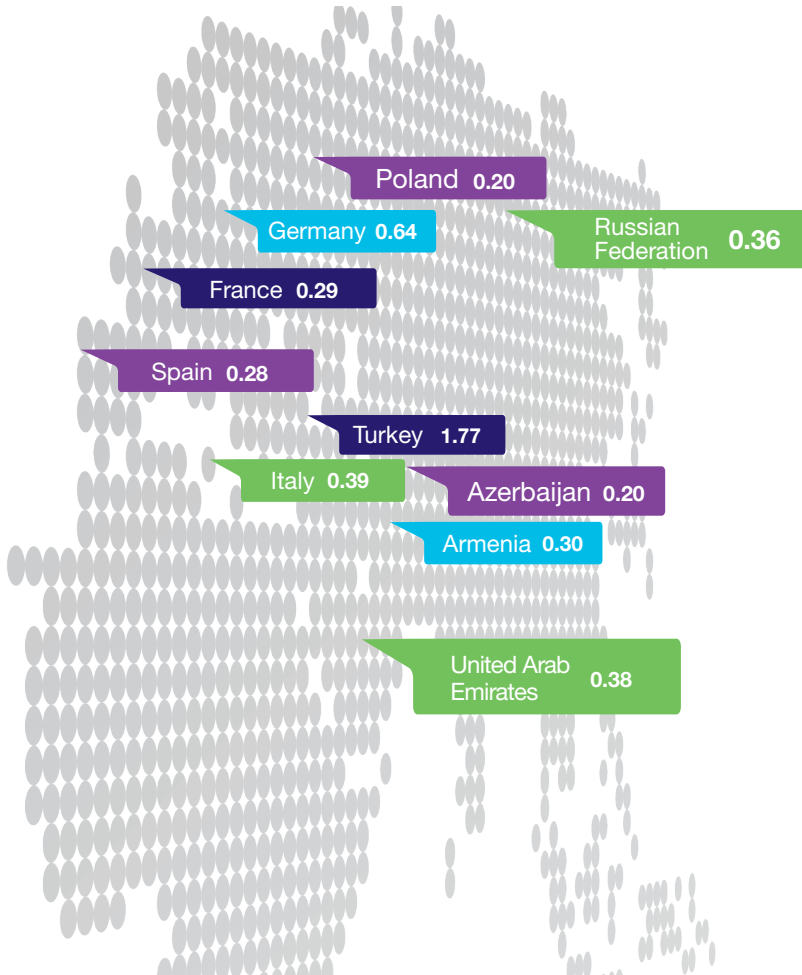


The revenue received from roaming services in 2022 amounted to 28 million GEL, of which 7 million is the retail revenue received from outgoing roaming users, and 21 million is the revenue received from serving incoming roaming calls. The revenue of 2022, compared to the previous year, increased by 47%.

Revenue from roaming (Million GEL)

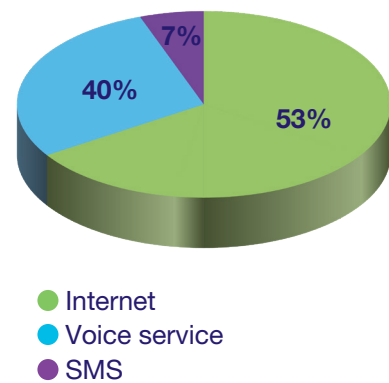


#### Top countries for outgoing roamers (million GEL)

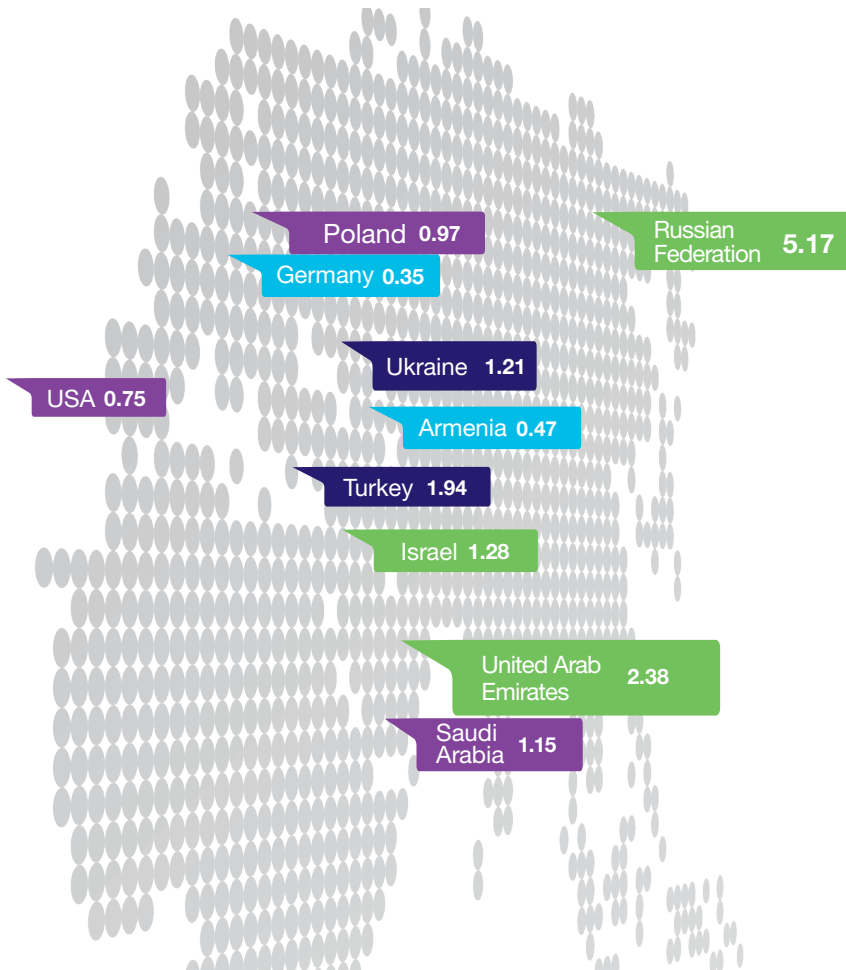


Outbound Georgian roamers in Turkey spent the most money on roaming services in 2022, totalling 1.77 million GEL, owing mostly to the usage of Turkey as a connecting nation when traveling to other countries. Germany, Italy, and the United Arab Emirates are the top three after Turkey.

#### Distribution of revenues generated by outgoing roamers according to services

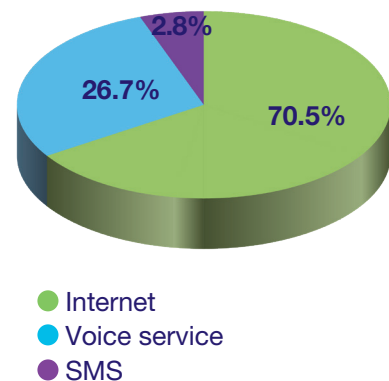


#### Top countries for Incoming roaming calls (Million GEL)



Roamers from the Russian Federation and the United Arab Emirates spent the most money on mobile services during their stay in Georgia.

#### Distribution of revenues generated by incoming roamers according to the services



## Mobile number porting

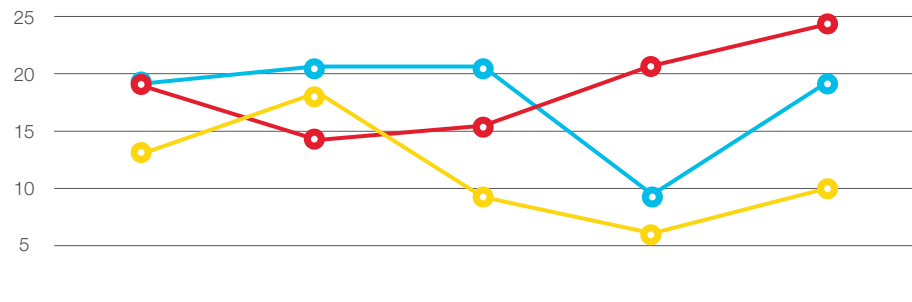
In 2022, 52,000 numbers were ported to mobile operator networks, which is 15,000 higher than in 2021 and represents 1% of total customers. The majority of subscribers were transferred to the Magticom network.

Number of ported numbers  
(in thousands)

2018	49
2019	52
2020	46
2021	37
2022	52



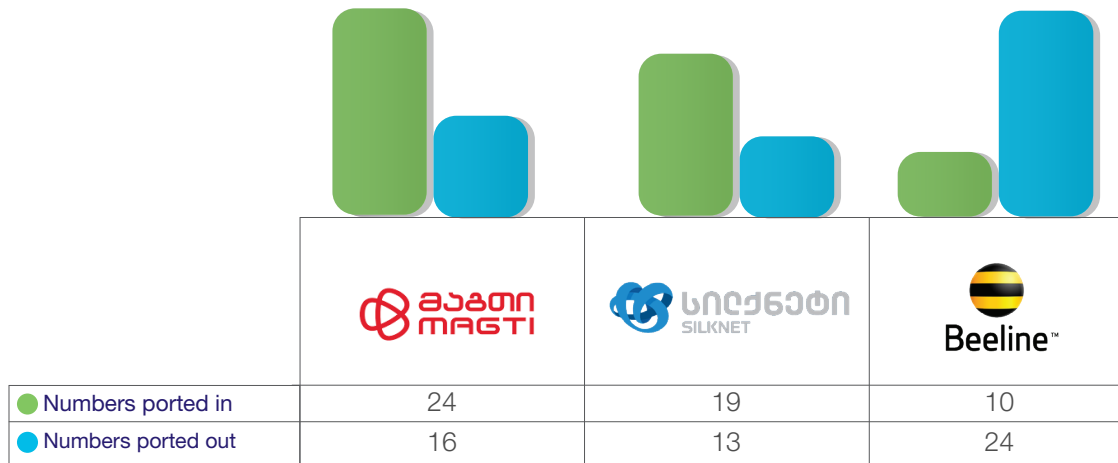
Number of ported subscribers (in thousands)



	2018	2019	2020	2021	2022
 <b>მაგთი</b> MAGTI	18	14	16	21	24
 <b>სილქნეტი</b> SILKNET	18	21	21	9	19
 <b>Beeline™</b>	13	17	9	6	10

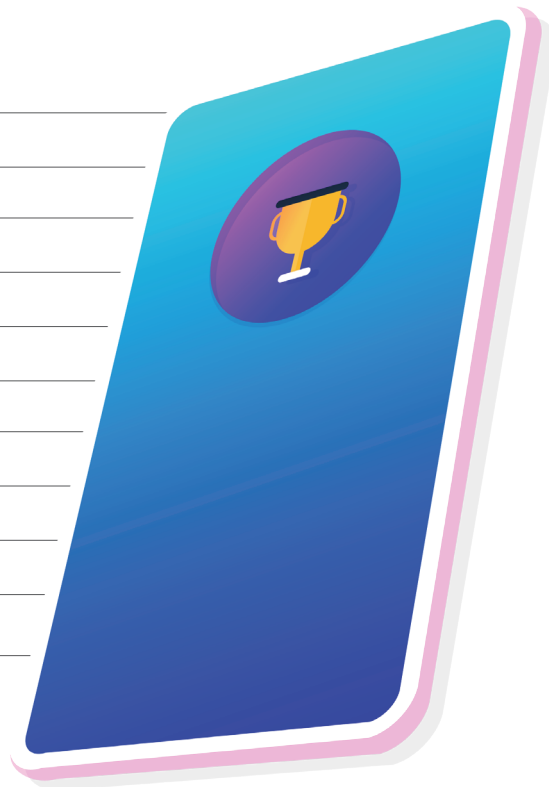


Number of ported subscribers according to company (in thousands)



### Distribution of mobile devices according to manufacturer

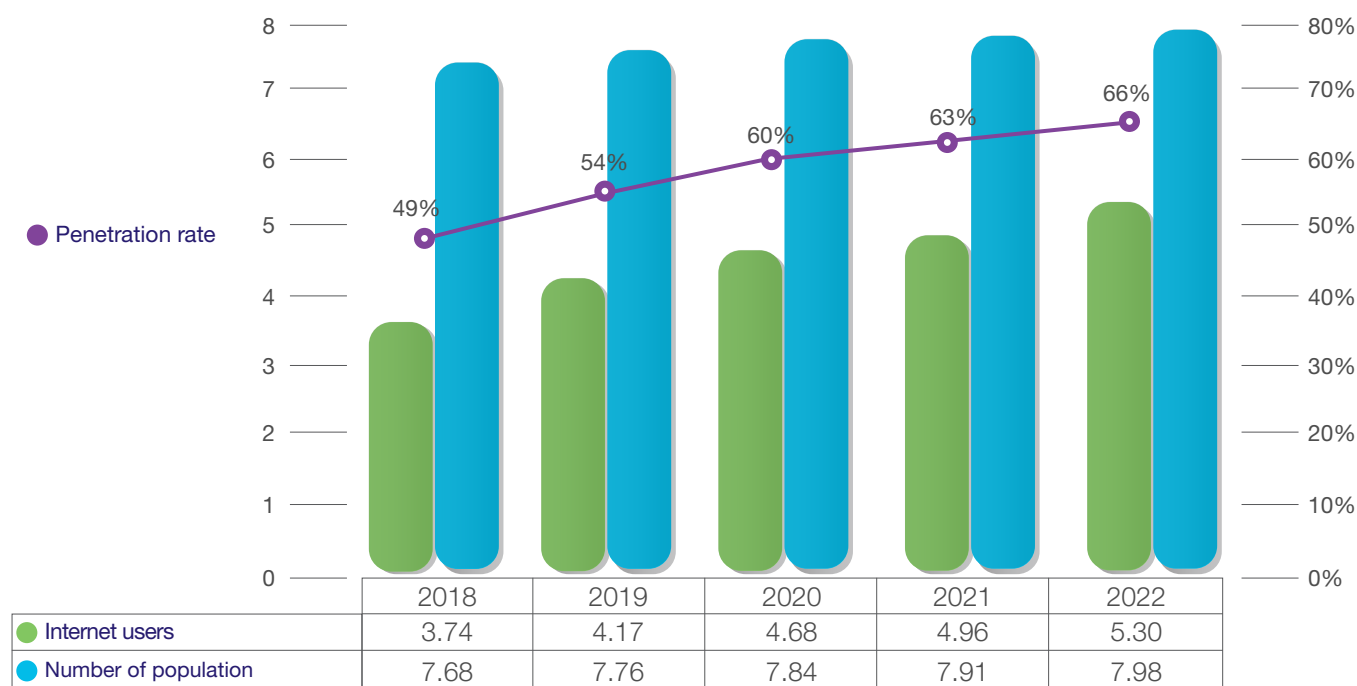
Samsung	38.4%
Other	18.2%
Apple	18.0%
Xiaomi	14.6%
Huawei	5.2%
Microsoft/Nokia	4.0%
Lenovo	0.7%
LG	0.3%
Sony/Ericsson	0.2%
ZTE	0.2%
HTC	0.1%



## Availability of Internet services worldwide

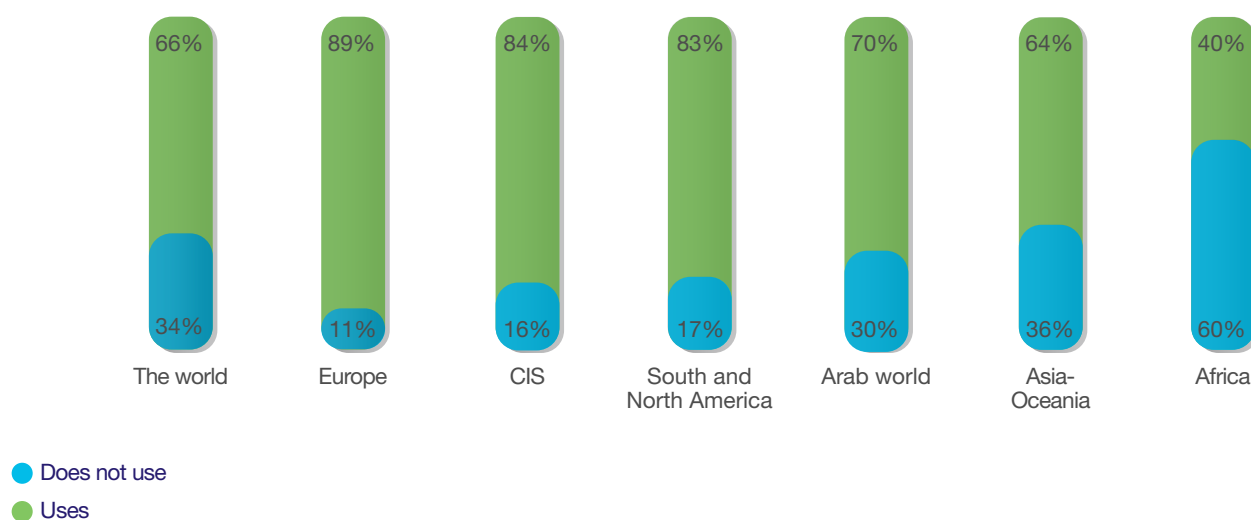
In 2022, the Internet was used by 5.3 billion<sup>22</sup> individuals (66% of the world's population). Compared to the data of the previous year, the number of Internet users increased by 6.1%. However, despite this, 2.7 billion people in the world are still without regular access to the Internet.

Statistics of the world<sup>23</sup> Internet users (billion)



The highest number of Internet users, 89%, is in Europe.

Distribution of Internet users according to the regions



<sup>22</sup>It means both fixed and mobile internet usage

<sup>23</sup>Source: [www.itu.int](http://www.itu.int)  
[www.macrotrends.net](http://www.macrotrends.net)

Availability of communication services in non-urban settlements, the so-called “Digital divide”, remains a big challenge in the world. The challenge involves not only impediments to the physical accessibility of the Internet and other communications services, but also the problem of education and awareness. This is also indicated by the share of Internet users in urban and rural areas. However, it should be noted that in Europe the data is much better.

Share<sup>24</sup> of Internet users according to settlement type



Fixed broadband<sup>25</sup> Internet service

The development of fixed broadband Internet services in Georgia is defined by a rapid growth trend and is marked by the advancement of fiber optic technology. Among other broadband technologies available in the country, optical technology has the largest share of 80%. Since fixed broadband Internet services in the capital and many large cities are nearly saturated, growth rates are higher in rural areas.

As of the fourth quarter of 2022, there were 1.08 million fixed broadband Internet service subscribers. Compared to the previous year, the number of subscribers increased by 7% to 70.6 thousand subscribers: the number of residential subscribers by 7%, and the number of business subscribers by 11%. During the last five years, the annual growth rate of the number of subscribers, both for residential and business subscribers, was 6%.

The total share of residential subscribers is 95.2%, and the share of business subscribers is 4.8%.

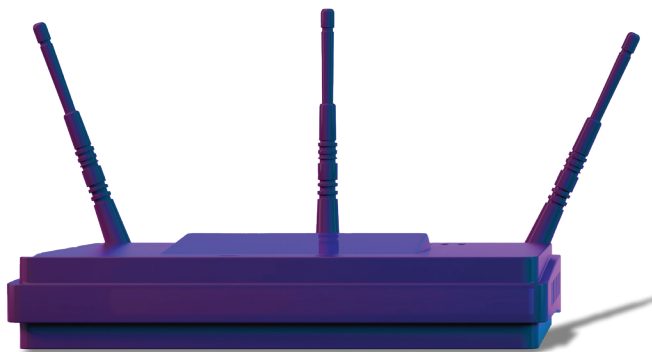
Number of subscribers by contract type  
(in thousands)



<sup>24</sup>Source: [www.oecd.org](http://www.oecd.org)

<sup>25</sup>According to the ITU definition, it is a technology that allows data to be transmitted at a speed of 256 Kb/s or more

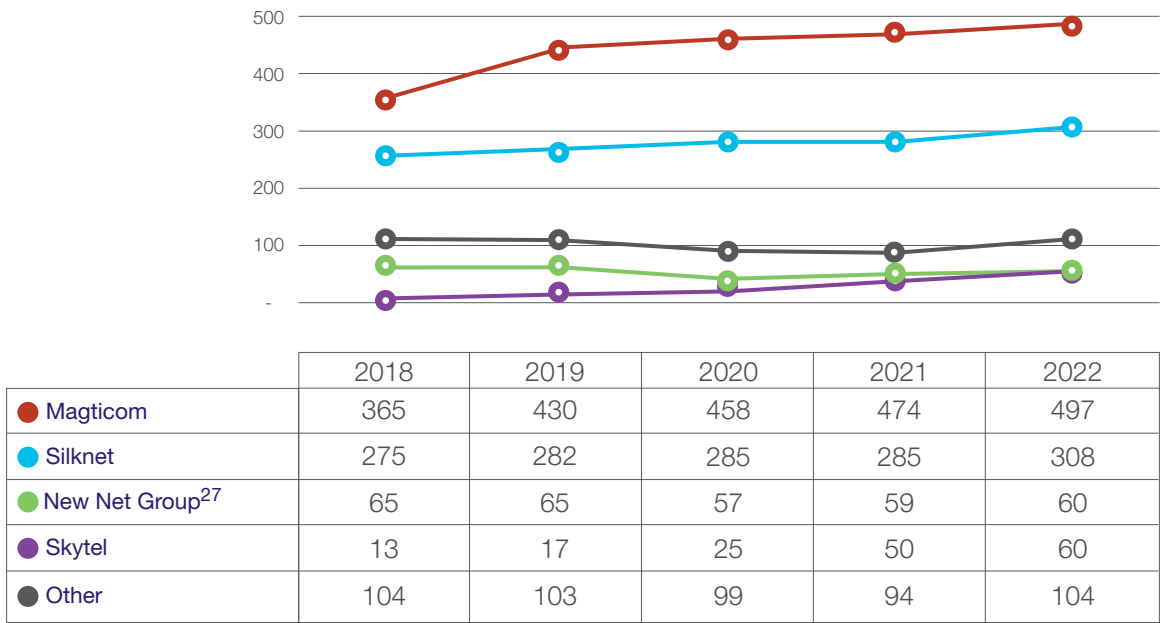
In 2022, the number of residential customers surpassed one million, reaching 1.03 million, an increase of 66.4 thousand subscribers over the previous year. Accordingly, the penetration rate of fixed broadband Internet service subscribers in households<sup>26</sup> increased to 92.7%.



Subscriber penetration rate among households	
2018	74.2%
2019	80.9%
2020	83.3%
2021	86.7%
2022	92.7%

In 2022, the highest rise in the number of residential subscribers - with 22.7 thousand subscribers- was at Magticom, with 22.4 thousand subscribers at Silknet, but the largest - 21.8 % increase of these subscribers was at Skytel, with 10.3 thousand subscribers.

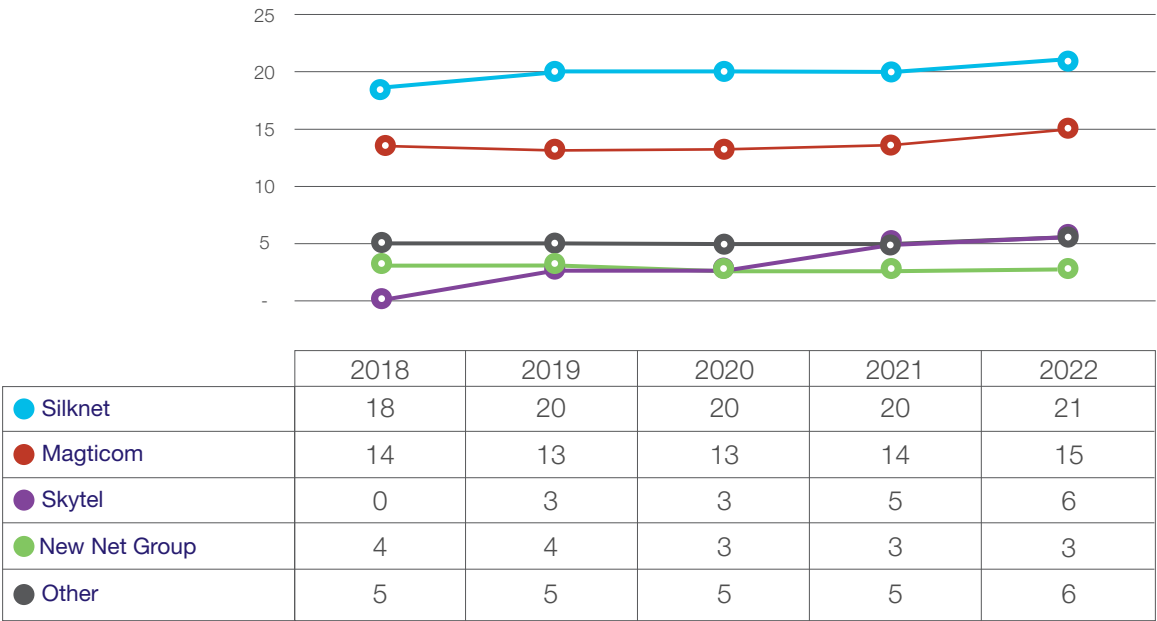
Number of residential subscribers according to the companies (thousands)



<sup>26</sup>The percentage ratio of the number of subscribers of fixed broadband Internet services to the number of households in the country  
<sup>27</sup>New Net group includes the number of subscribers of New Net and Central Georgian Communications Cooperation. They are interdependent entities

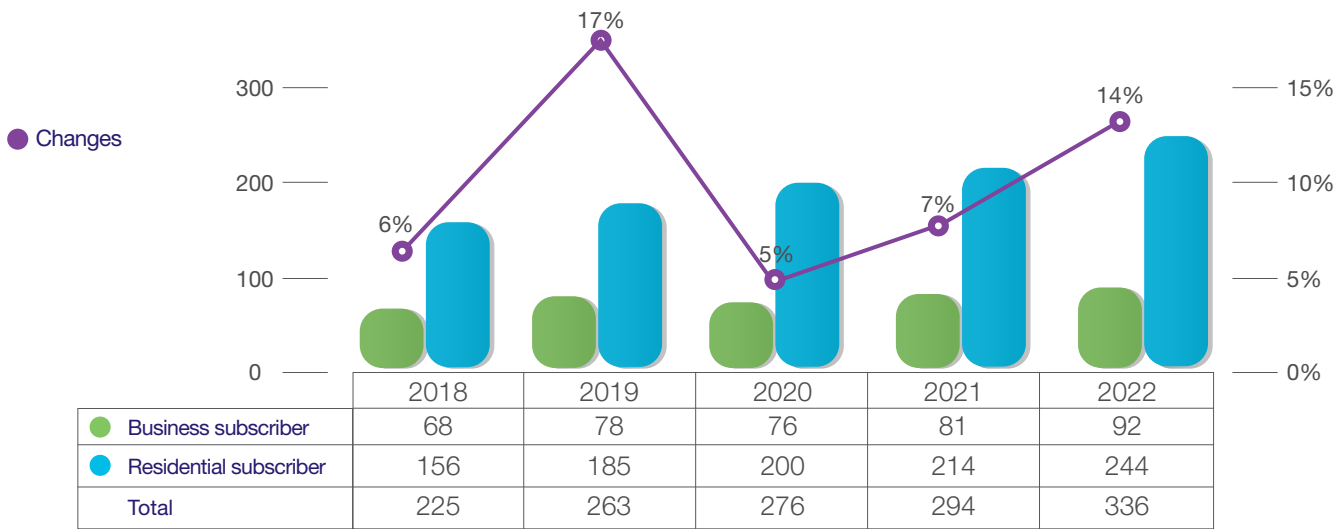
As of the fourth quarter 2022, Silknet had the largest number of business subscribers, Magticom was holding the second place, and Skytel, subscribers of which are mostly public schools, was in the third place, as in the previous year.

Number of business subscribers by company (in thousands)

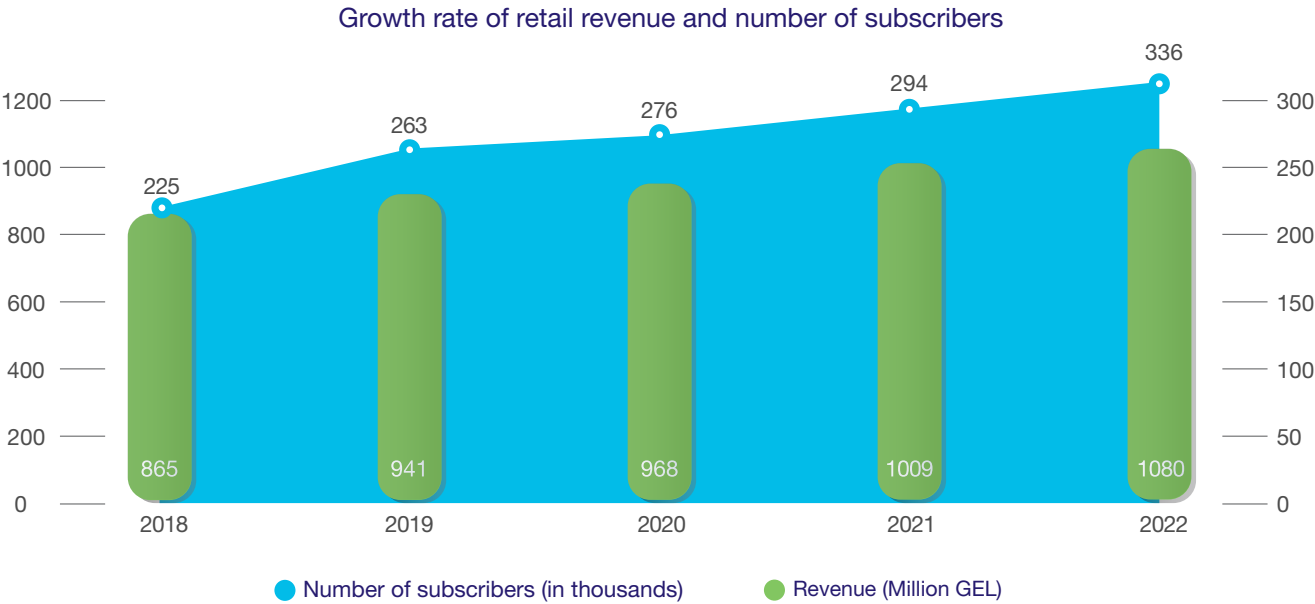


Retail revenue from fixed broadband Internet services climbed by 14% in 2022 compared to the previous year, totalling 336 million GEL.

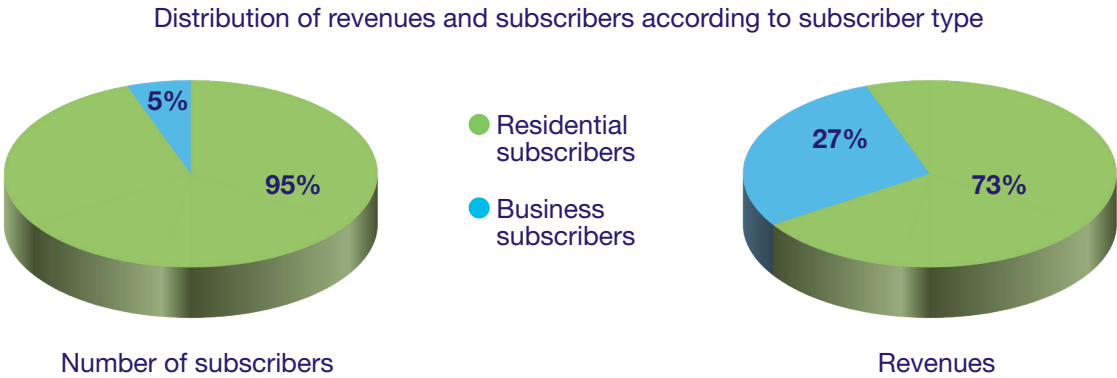
Retail revenue (million GEL)



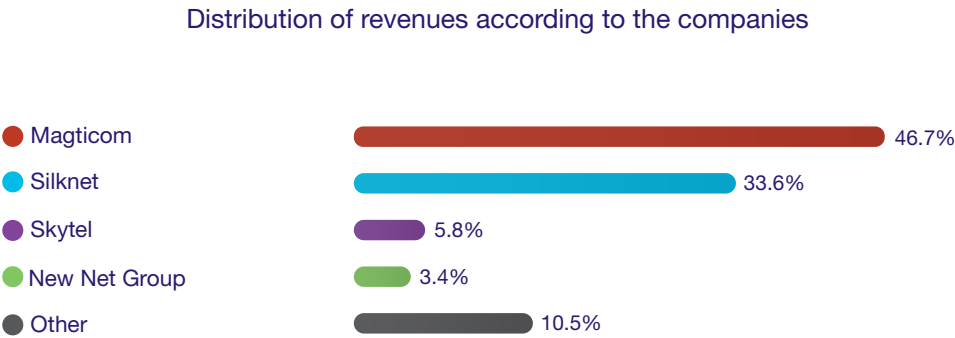
The average growth rate of revenues and number of subscribers is different. The average 5-year revenue growth rate is 11%, and the growth rate of the number of subscribers is 6%, which indicates that on average, the fee paid by one subscriber for Internet services increased from year to year. Within the framework of the analysis of this trend, the Communications Commission is conducting a benchmark analysis of retail prices of Internet services in Georgia with those of the European countries.



The revenue received from business subscribers is 27% of the total amount, while the number of subscribers of this type is only 5% of the market. This indicates that the service fee for business subscribers is significantly higher than the fee paid by residential subscribers.

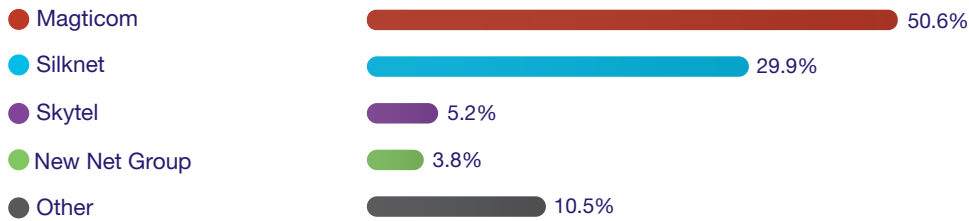


It should be noted that in 2022, 90% of the revenue was generated by four market players, and the remaining 10% was distributed among 154 companies. In terms of the revenue, Magticom has 46.7% market share, Silknet has 33.6%, Skytel has 5.8%, and New Net Group holds 3.3%.

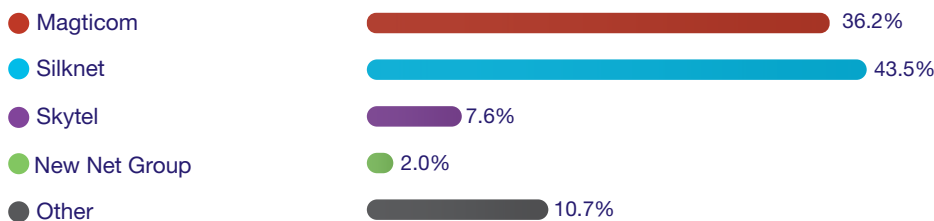


Separately, according to the shares of revenue received from residential and business subscribers, Magticom has the largest share among residential subscribers, and Silknet among business subscribers.

Distribution of revenues received from residential subscribers according to the companies

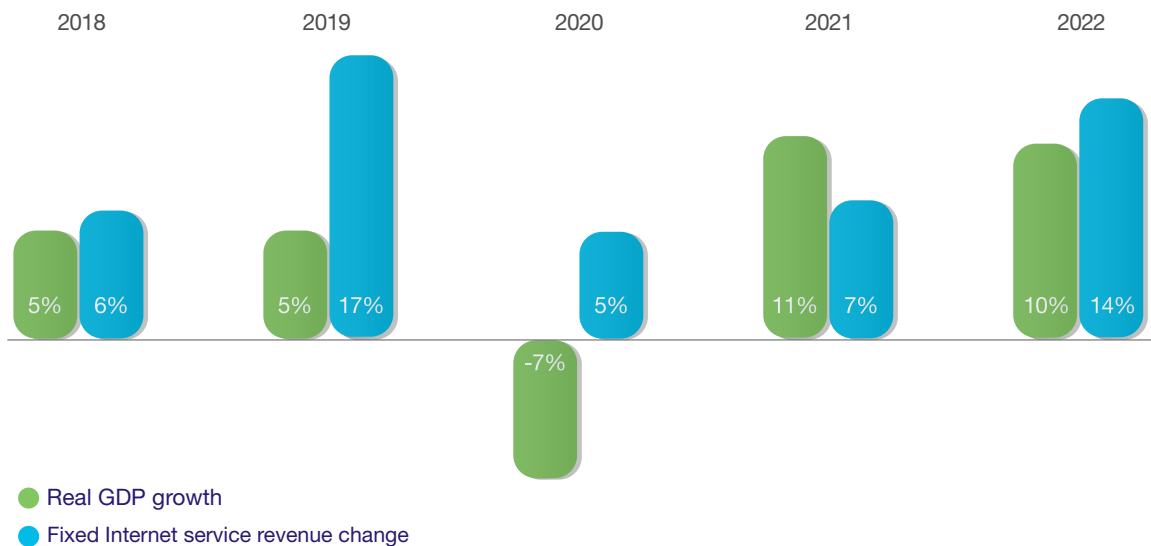


Distribution of revenues received from business subscribers according to the companies

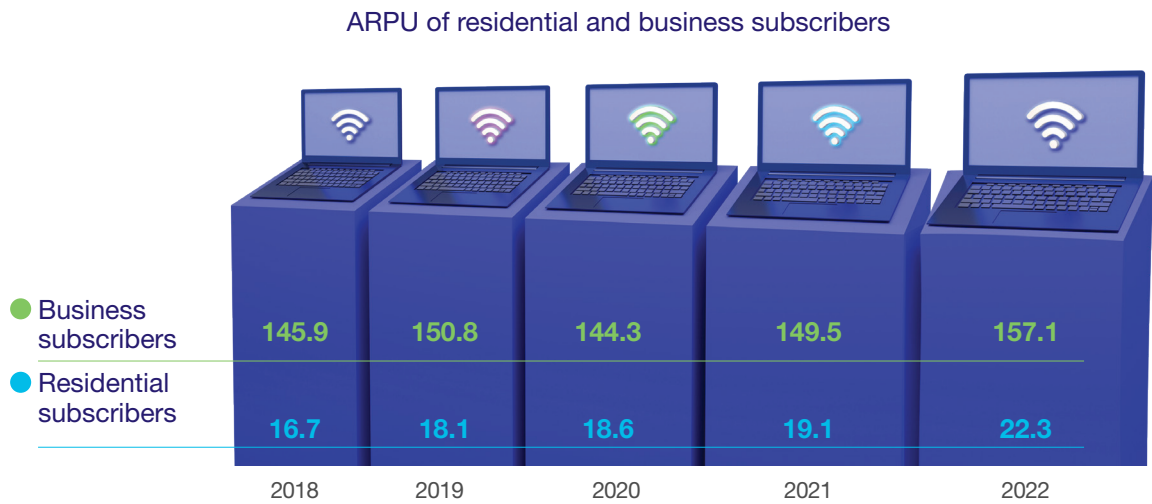


The percentage of change of revenues from fixed broadband Internet services and GDP in 2022 are still positive. However, the GDP growth rate decreased from 11% to 10%, and the growth rate of fixed broadband Internet service revenue increased from 7% to 14%.

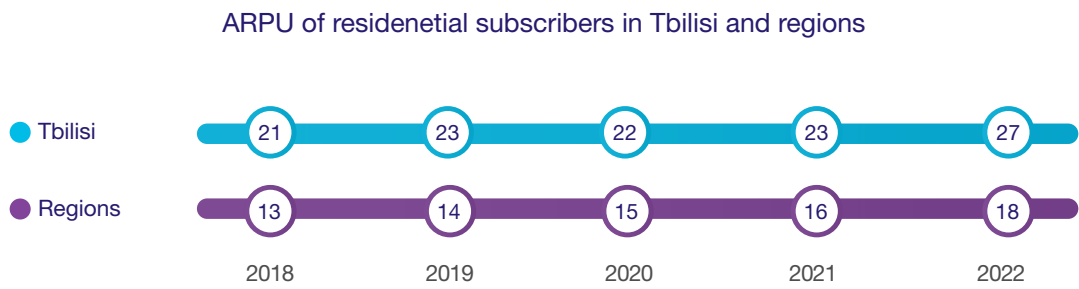
GDP and Fixed Broadband Internet Service Revenue Growth Rate



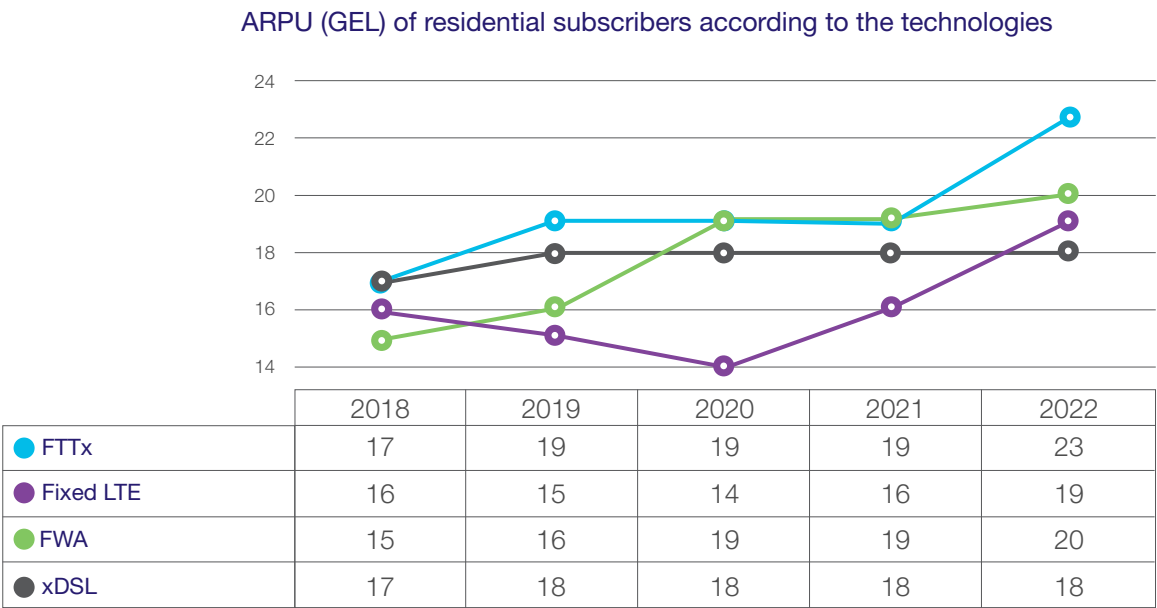
In 2022, the ARPU of residential subscribers amounted to 22.3 GEL, and the ARPU of business subscribers was 157.1 GEL, which, compared to the previous year, represents an increase of ARPU of residential subscribers by 17%, and an increase of that of business subscribers by 5%.



According to the data of the IV quarter of 2022, the ARPU of residential subscribers in Tbilisi exceeds that of subscribers in the regions by 50%. Compared to the previous year, the ARPU in the capital and regions grew almost equally - by 16.9% and 17.4%, respectively.



The ARPU of residential subscribers is the highest for fiber optic technology and it amounts to 22.7 GEL, and the average monthly expenditure of one subscriber for Fixed Wireless Internet (FWA) technology is 19.6 GEL. It should be noted that compared to the previous year, the ARPU increased for all technologies. The largest - 20.2% increase was observed for fixed LTE technology, for optical fiber technology - 18.4%, for FWA - 4.6% increase, while for xDSL there was a 0.2% increase





An analysis of ARPU, the average revenue generated per month by one subscriber in fixed broadband Internet services, indicates that the ARPU of residential subscribers has increased significantly in 2022 compared to the previous 5-year period. If the average growth of the previous years was 3%, this year this figure was 17%. This is due to the change in the terms of service by the two largest companies operating in the mentioned market - Magticom and Silknet. In particular, in the case of Magticom, the minimum 20 Mbps fixed Internet speed package, the price of which was 30 GEL, was replaced by the 30 Mbps speed offer, the price of which was set at 37 GEL. In the case of Silknet, a similar offer was replaced by a 35 GEL package with a speed of 25 Mbps.

In Georgia in 2022, the penetration rate of fiber optic technology subscribers among households amounted to 82.1%<sup>28</sup>, which is 6% higher than it was in the previous year.

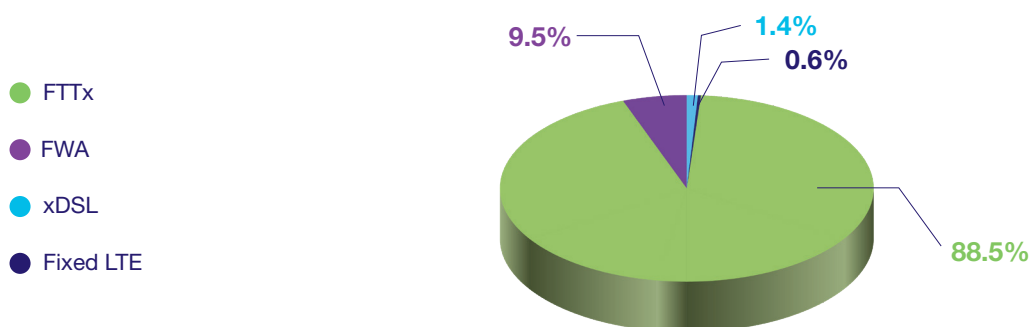
According to data at the end of 2022, a total of 135 authorized persons<sup>29</sup> provided fixed broadband services. 78 companies provided services with fiber optic technology, 95 - with FWA, 6 - with xDSL, and only Silknet provided services with fixed LTE technology.

The increase of the penetration rate of fiber optic technology subscribers among the households and the increase of the number of companies providing this technology indicate the development of the fiber optic technology market.

It should be noted that compared to previous year, the number of providers of fixed broadband services with fiber optic technology increased by 7%. Fixed wireless service providers, which are unable to keep pace with the development of fiber optic technologies and therefore are not competitive, are trying to develop fiber optic Internet services themselves. They mainly use the infrastructure of energy companies and local municipalities to build the network. These dynamics indicate that relatively small companies are trying to keep up with the development of the market, but achieving this goal is associated with barriers, which makes them even to leave the market. The number of companies providing fixed wireless services decreased by 13% (14 companies) compared to the previous year. This indicates that in order to promote the development of small and medium-sized operators and increase competition it is important to study the wholesale service segment of the broadband Internet market Bitstream for the purposes of regulation, and based on the results, if necessary, to introduce appropriate regulatory mechanisms, which will ensure the removal of entry barriers to this segment of the service market and growth of competition.

Most of the residential subscribers - 88.5% - use fiber optic technology Internet services. The largest share of other technologies is FWA.

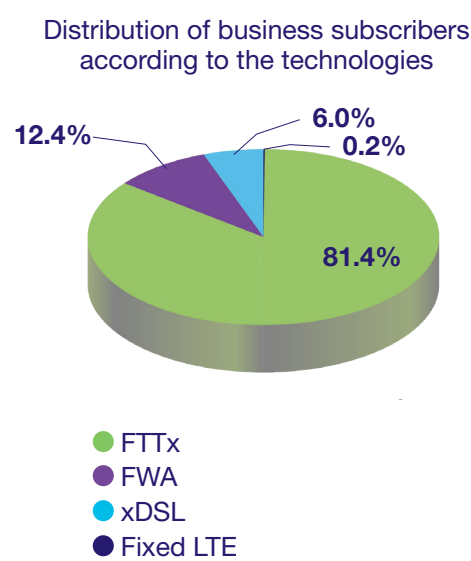
Distribution of residential subscribers according to the technologies



<sup>28</sup>The number of residential subscribers using fiber optic technologies divided by the number of households

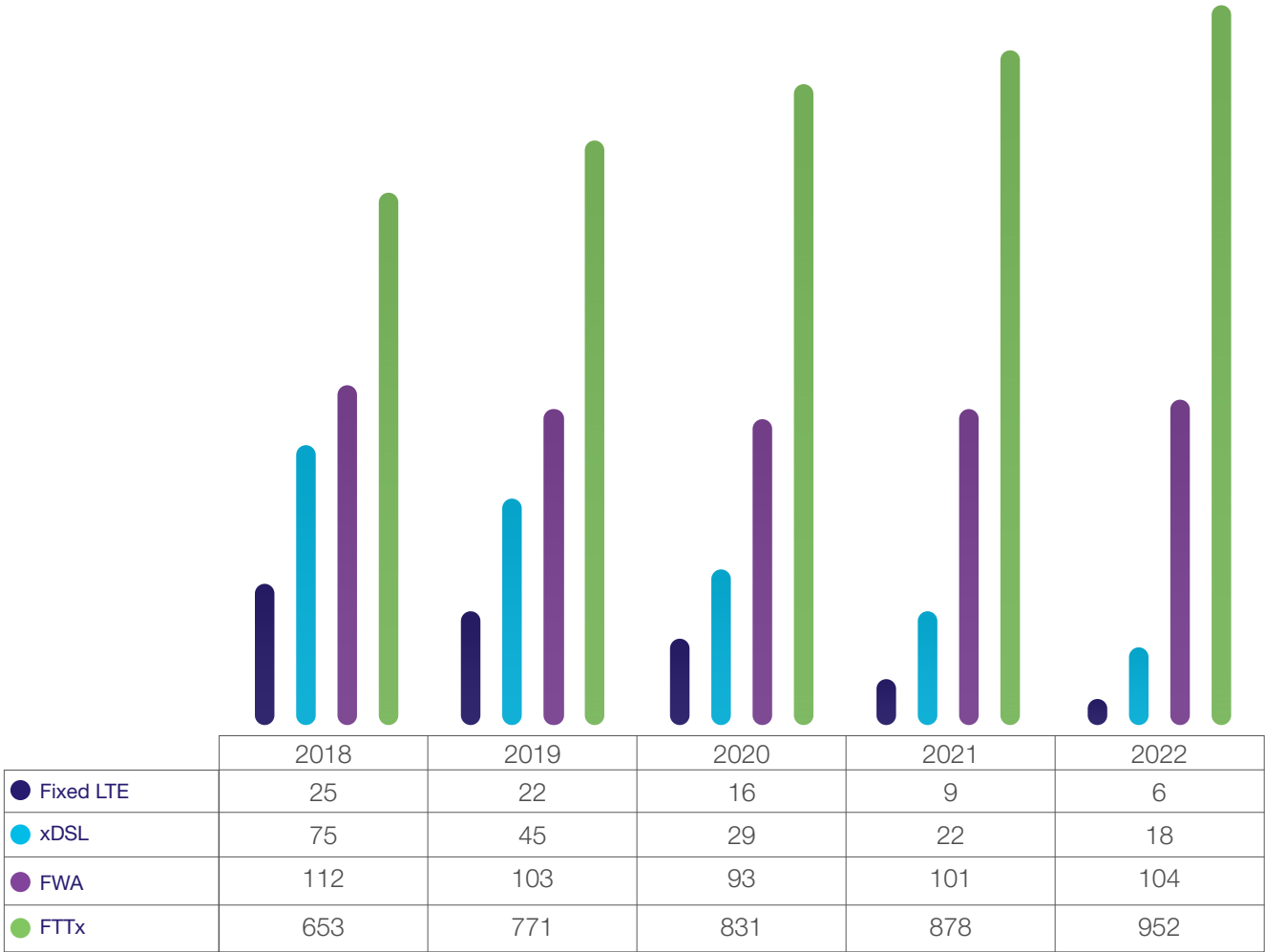
<sup>29</sup>Includes companies that had at least 1 subscriber in the IV quarter of 2022

Distribution of business subscribers according to the technologies is slightly different. Here, FWA and xDSL technology have a relatively larger share than in the segment of residential subscribers.



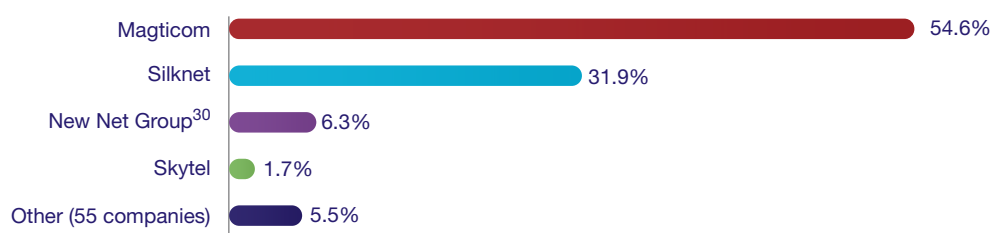
Over the past 5 years, the number of residential and business subscribers using fiber optic technology continues to grow, and its annual growth rate is 9.9%. Compared to the previous year, the number of subscribers of this technology increased by 8.5% - 74.4 thousand subscribers. It should be noted that the mentioned data is much higher in 2022 than the previous year, when the increase of subscribers amounted to 47 thousand. In terms of the number of subscribers, FWA technology is on the second place. It is also in the second place according to the growth rate of subscribers. It should be noted that the increase of the number of fiber optic technology subscribers compared to FWA was 19.5 times higher, which is due to the development of the fiber optic technology Internet service network and, accordingly, the increase of its availability. Since 2018, the number of subscribers of xDSL technology and fixed LTE technology has decreased by an average of 30.4% per year. Authorized entities actively try to replace the technologies with outdated and limited technical capabilities with fiber optic technology.

Number of subscribers according to the technologies (thousands)



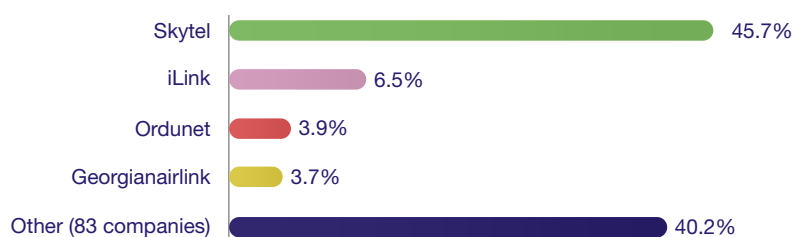
According to the data of the IV quarter of 2022, 54.6% of the residential subscribers of fiber optic services used the services of Magticom, 31.9% - of Silknet, the share of other operators in total is 13.5%.

#### Distribution of residential subscribers using fiber optic technologies by the companies



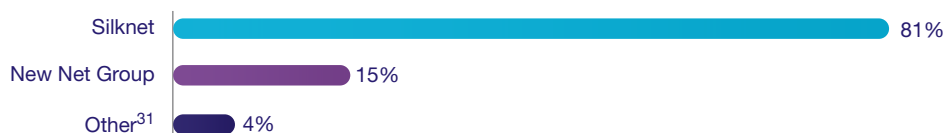
Unlike fiber optic and xDSL technologies, the number of market players providing Internet services using FWA technology is much larger. As of the IV quarter of 2022, out of 87 companies Skytel has the largest share - 45.7%, of the number of subscribers of this technology.

#### Distribution of residential subscribers of Fixed wireless technology (FWA) by the companies



As for xDSL technology, 80.9% of residential subscribers were Silknet users, and 14.9% were New Net Group users, while the share of all other operators was 4.3%.

#### Distribution of residential subscribers of xDSL technology according to the companies

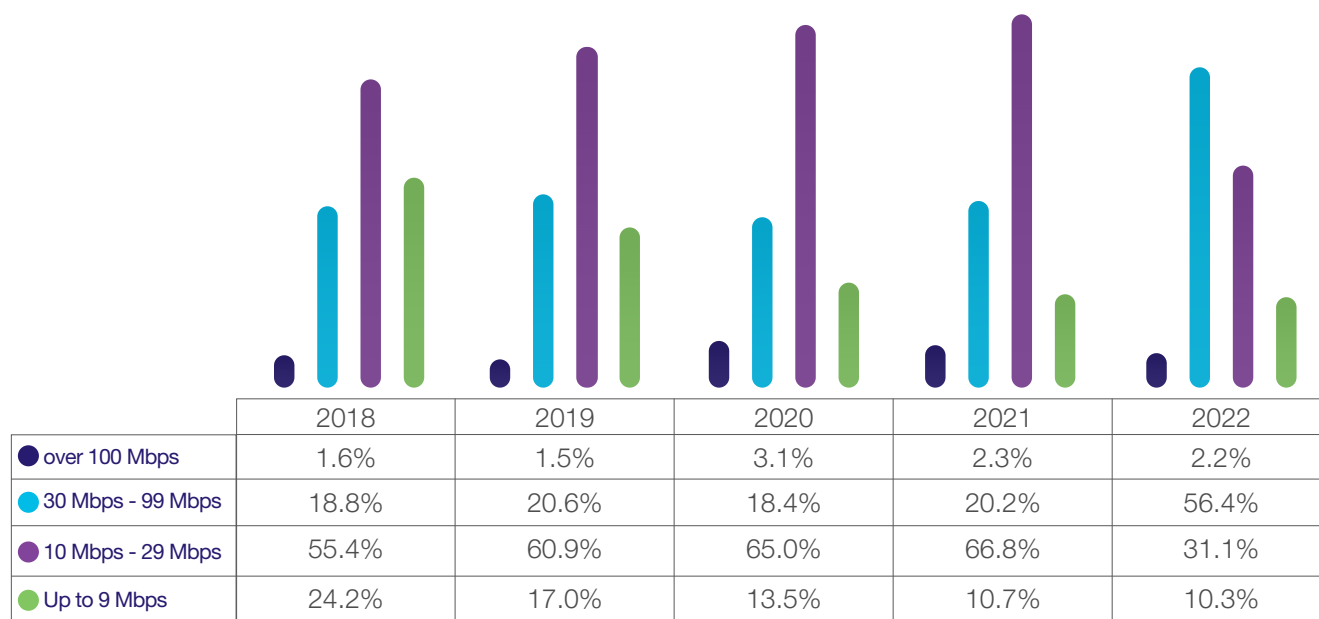


<sup>30</sup>New Net and Central Georgian Communications Cooperation are interdependent affiliated entities

<sup>31</sup>Other companies include: Global Erti, ServiceNet and GRENA

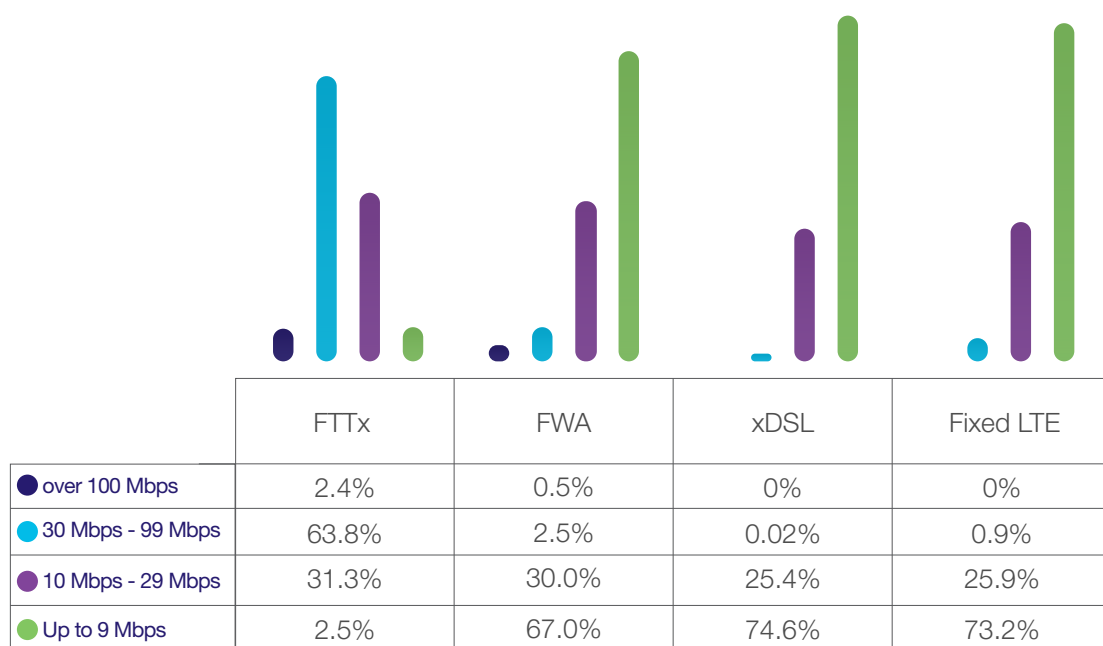
The development of fiber optic technologies makes higher speed Internet services available for subscribers. At the end of 2022, the largest number of subscribers - 56.4% used Internet services with a declared speed<sup>32</sup> in the range of 30 Mbps to 99 Mbps, while in the previous year the largest number (67%) of subscribers used the speeds in the range of 10 Mbps to 29 Mbps. This was caused by Magticom changing the conditions of the most demanded, minimum package of fixed broadband Internet provided to residential subscribers via fiber optic technology - increasing the speed from 20 Mbps to 30 Mbps. As for the lowest declared speed range, up to 9 Mbps, the share of subscribers with this speed range continues to decrease and can mostly be found in the regions.

Distribution of the number of subscribers according to the declared speed ranges



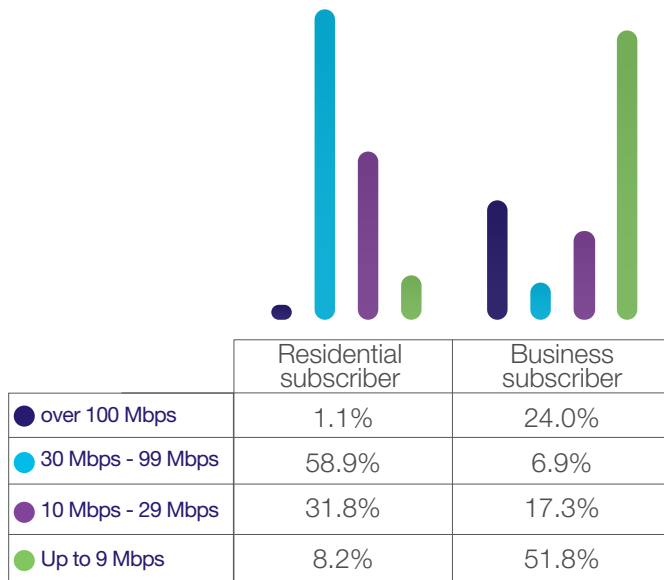
The share of subscribers with a speed range above 30 Mbps is higher in fiber optic technology and amounts to 63.8%. FWA, fixed LTE and xDSL technologies are dominated by the range up to 9 Mbps and account for 68.4%, which is due to the technical limitations and characteristics of these technologies.

Distribution of the number of subscribers according to the technologies and speed range



<sup>32</sup>The analysis of the speeds in the part of the fixed broadband Internet service is based on the declared data offered by the companies to the subscribers

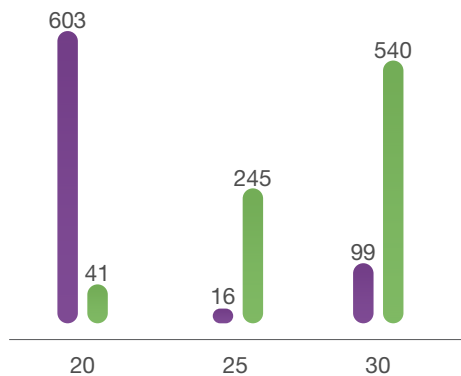
Distribution of the number of business and residential subscribers according to the speed ranges of Internet services



The distribution of the number of business and residential subscribers differs according to the speed ranges of Internet services. In the case of business subscribers, the range up to 9 MB/s prevails, and in the case of residential subscribers - the range from 30 MB/s to 99 MB/s. It should be noted that in the case of business subscribers, in contrast to the offers of residential subscribers, companies declare the speed of access to global Internet resources, which in some cases is lower than the speed of access to local Internet resources.

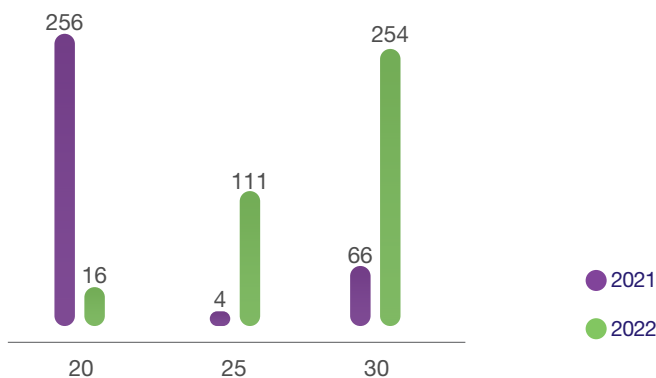
The analysis of the distribution of declared speeds among residential subscribers, separately, not according to the ranges, in 2022, compared to previous years, shows a different picture, namely, if in previous years Internet packages of 20 Mbps prevailed, now 30 Mbps Internet packages are the most popular (53.7%), both in Tbilisi (56.9%) and in the regions (51.2%), and the second prevailed speed is 25 MBps. This is due to the increase in the maximum speed of the minimum package for fiber optic technology by the largest companies operating in the mentioned market, in the case of Magticom - from 20 Mb/s to 30 Mb/s, and in the case of Silknet - up to 25 Mb/s.

Distribution of residential subscribers according to the maximum speeds of the most consumed package

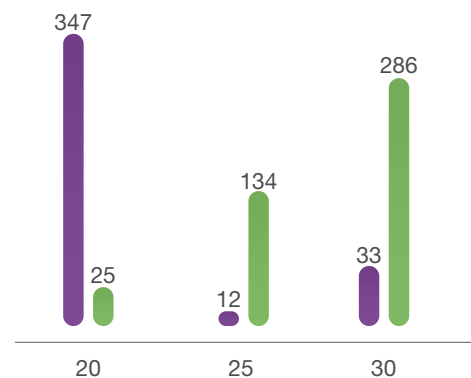


The demand for high-speed Internet is growing in the regions. 419,000 subscribers use 25-30 Mb/s Internet service.

Distribution of residential subscribers according to the maximum speeds of the most consumed package (Tbilisi)

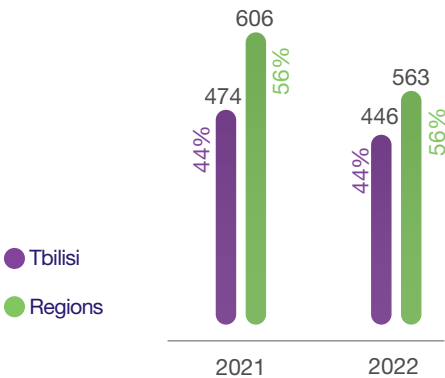


Distribution of residential subscribers according to maximum speeds of the most consumed package (regions)

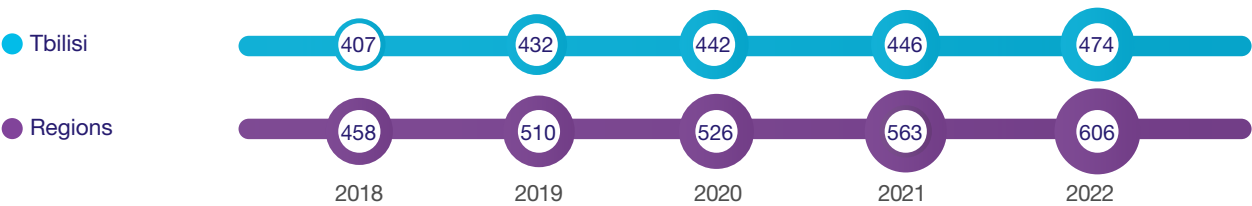


As of the IV quarter of 2022, the distribution of the number of fixed broadband Internet service subscribers in Tbilisi and regions has not changed compared to the previous year.

The number of fixed broadband Internet service subscribers in Tbilisi and regions (share, thousand subscribers)

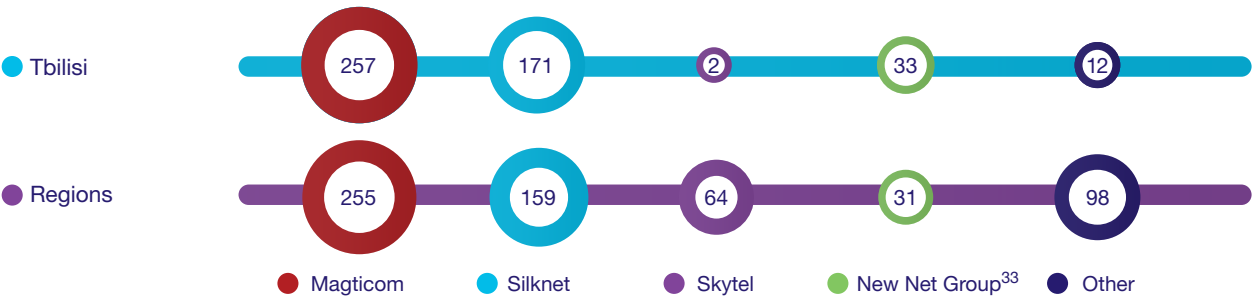


Trend of subscribers growth in Tbilisi and regions (number of subscribers, thousand)

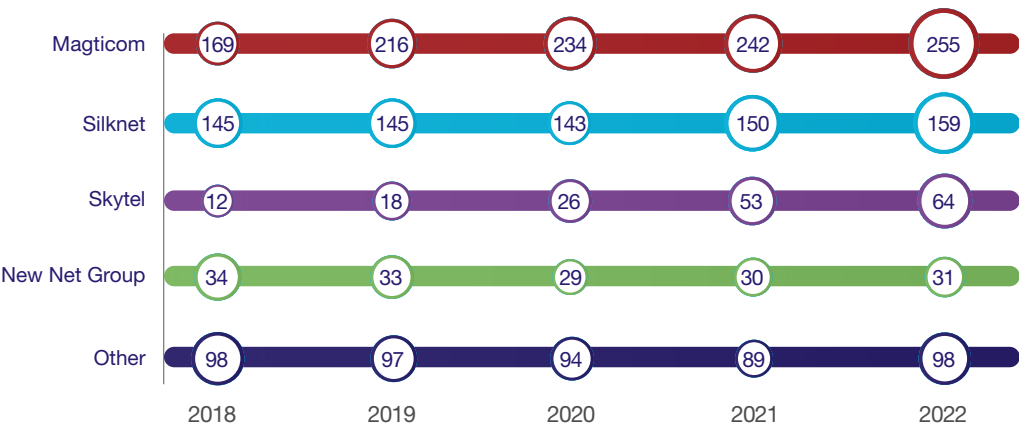


In 2022, compared to the previous year, a 7.6% increase in the number of subscribers was recorded in the regions, and while the figure was 6.3% in Tbilisi.

Distribution of subscribers according to the companies in Tbilisi and regions



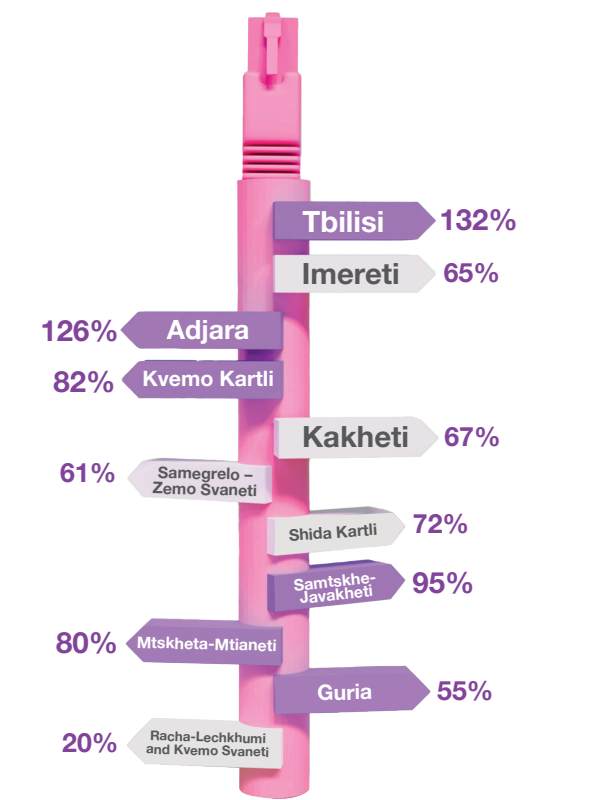
Number of subscribers in regions according to the companies (thousand)



<sup>33</sup>New Net group includes the number of subscribers of New Net and Central Georgian Communications Cooperation

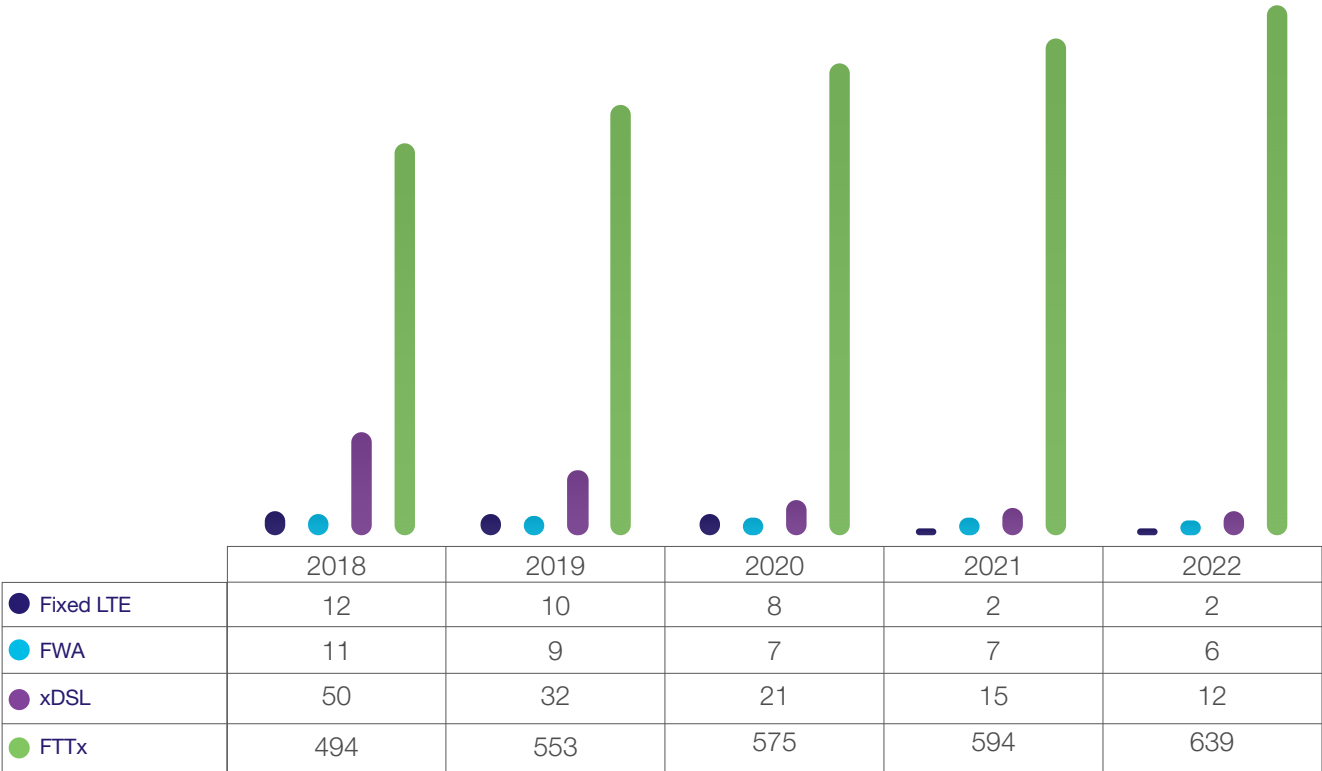
As of the IV quarter of 2022, the penetration rate of fixed broadband Internet services in Georgia is 92.7%. Penetration rate is highest in Tbilisi and varies according to the regions. The penetration rate of fixed broadband Internet services in Tbilisi is 132%, which is mainly caused by the Internet services available in leased/rented real estate, the accounting of the registered and actual population, and the presence of several Internet services from different providers in one family. Due to the mentioned reasons, the rate of Internet penetration under the influence of Batumi and Kobuleti is also high in Adjara - 126%. The lowest rate in the regions - 20%, is again in Racha-Lechkhumi and Kvemo Svaneti.

Broadband Internet service penetration according to the regions

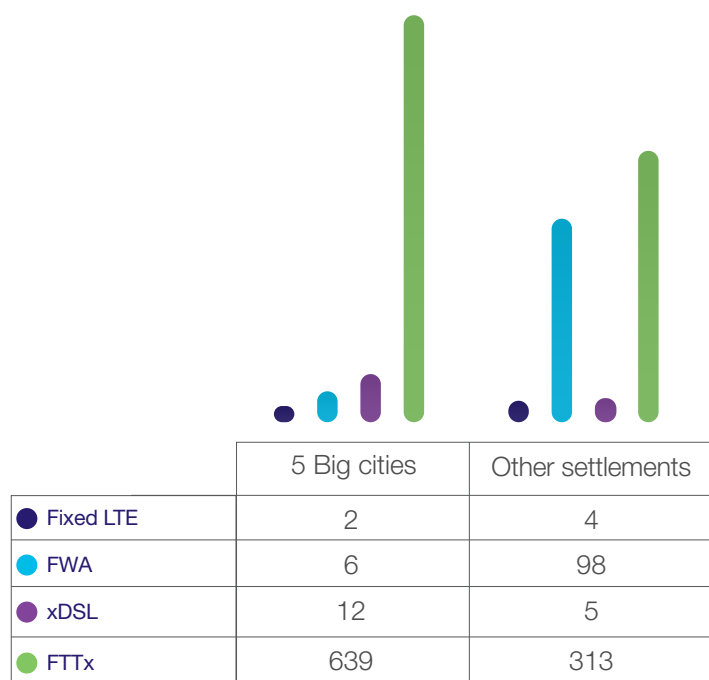


By the end of 2022, 61% of Georgia’s fixed broadband Internet service subscribers were in the five big cities (Tbilisi, Kutaisi, Batumi, Rustavi, and Poti). In the aforementioned cities, the fiber optic network is expanding, and consequently, the number of subscribers to this technology is growing.

Number of subscribers in 5 big cities of Georgia according to the technologies



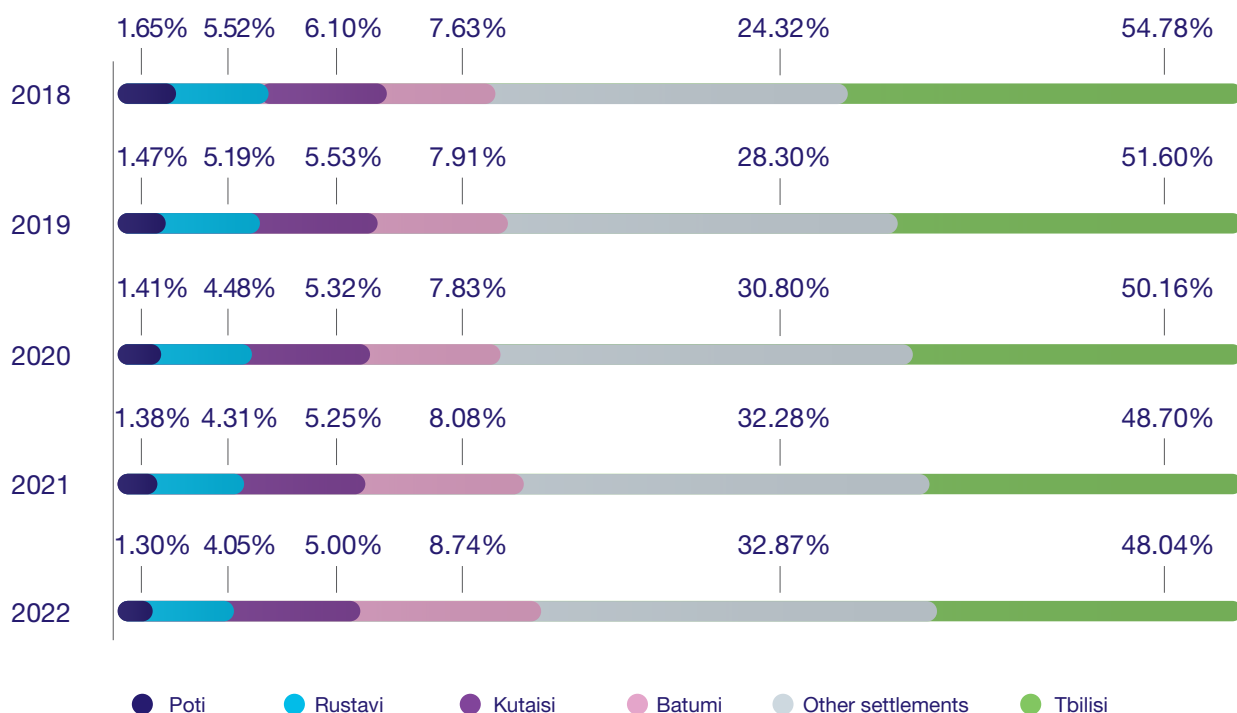
## Distribution of subscribers in 5 biggest cities and other settlements of Georgia by technology



It should be emphasized that 97% of the total number of broadband Internet service subscribers in all five cities are fiber optic subscribers.

The largest part of subscribers using fiber-optic technology, namely 48% (457 thousand subscribers) are in Tbilisi. In total, 67% of the users of this technology (639 thousand subscribers) are in the five big cities of Georgia: Tbilisi, Kutaisi, Batumi, Rustavi, and Poti, and 33%, or 313 thousand, of all subscribers are in other cities and villages.

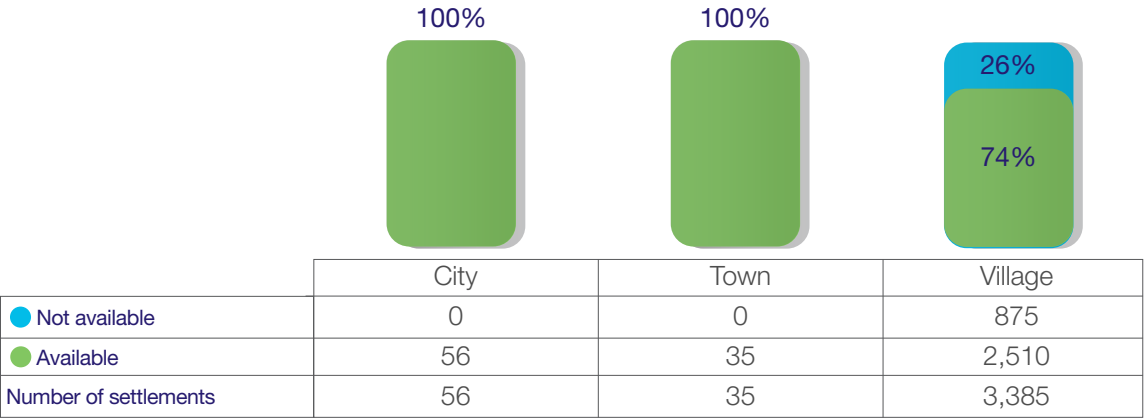
## Distribution of subscribers of optical technology in 5 biggest cities and other towns and villages of Georgia





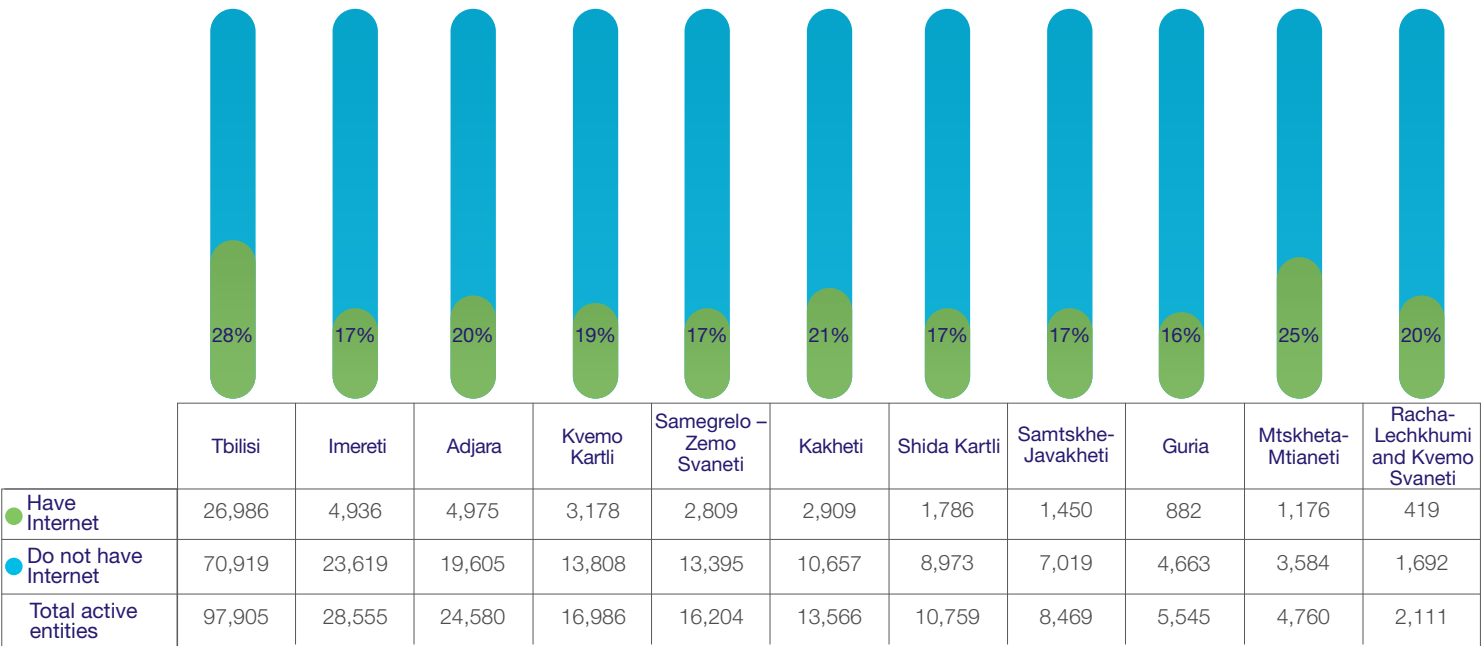
Fixed broadband Internet services are available<sup>34</sup> in all cities of Georgia. As for villages, there are a total of 3,385 villages in Georgia, of which in 2,510 there is at least one subscriber of Internet services. Last year this service was available in only 2,487 villages of Georgia.

Availability of fixed broadband Internet services in settlements  
(the table shows the number of settlements)



There are 229 thousand organizations operating in Georgia<sup>35</sup>, while there are 51.5 thousand business subscribers of fixed broadband Internet services. This means that only 22.5% of organizations have this type of Internet service. The reason for this may be that the services intended for business subscribers, in contrast to the residential subscribers, are expensive, and therefore, it is possible that small and medium-sized organizations use the offers or mobile Internet services intended for residential subscribers. According to the mentioned data, 28% of organizations operating in Tbilisi have Internet services.

The number of operating business entities and the availability of fixed broadband Internet among them



<sup>34</sup>Availability means the existence of at least 1 subscriber of fixed broadband Internet service in the settlement (residential or business subscriber)

<sup>35</sup>Source: National Statistics Office of Georgia

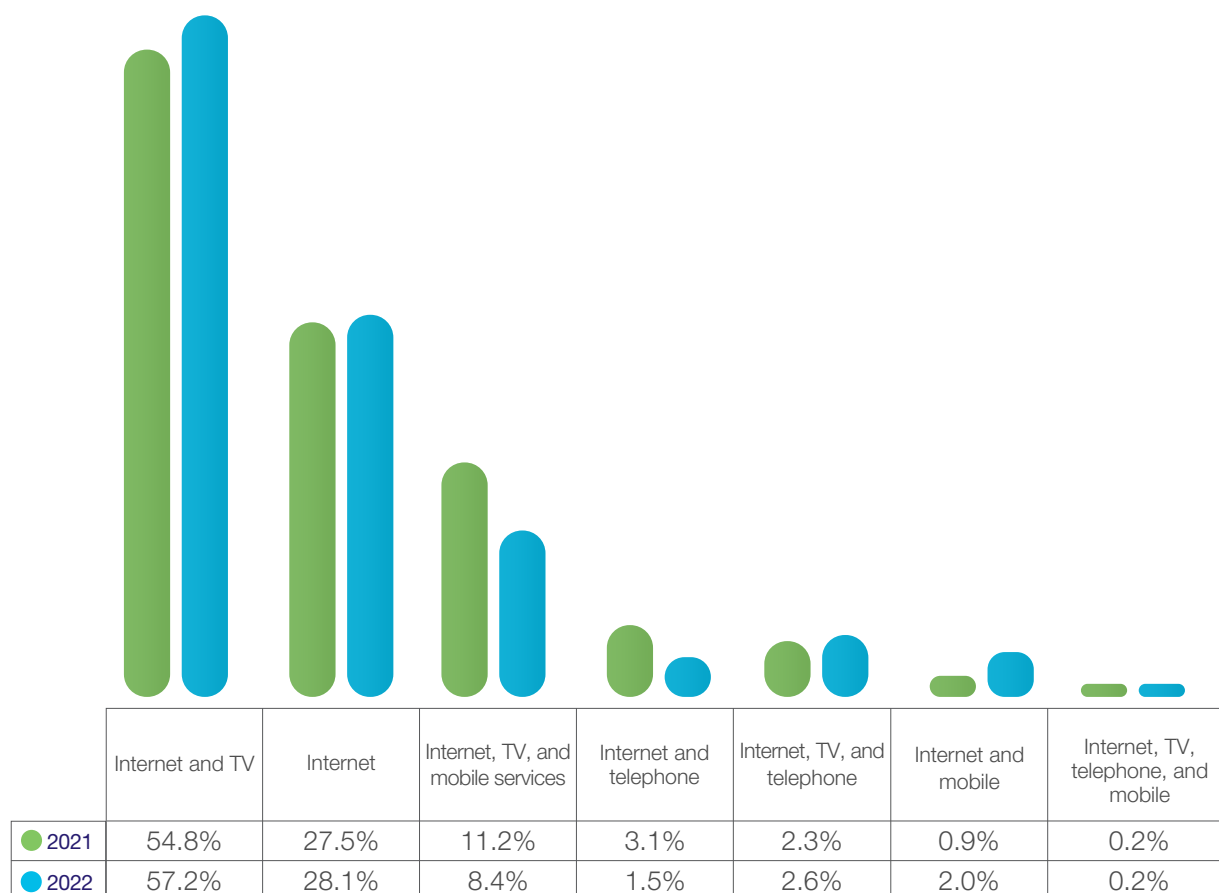
## Use of other communications services in combination with fixed Internet

Along with the fixed broadband Internet service in Georgia, subscribers also use other Internet services provided by other means. Several services in bundles are offered mainly by Silknet, Magticom and New Net Group.

The use of broadcast transit (IPTV technology), fixed telephone services (PSTN or VoIP technology) and mobile services in combination with Internet services, according to the data of December 2022, compared to the previous year, still gives us a similar picture<sup>36</sup>: The largest share of residential subscribers using the Internet, 57.3%, also uses the transit broadcasting services along with the Internet. Triple services are dominated by the Internet, television, and mobile communications (8%). Although compared to the previous year, it has decreased by 3%. Similar to the previous year, a small part of subscribers, 0.2%, use quadruple services of one provider.

It should be noted that the share of Internet service provider companies, which offer other services in combination with the Internet, makes up 85% of the entire market of broadband Internet services (according to the number of subscribers).

Use of fixed broadband Internet services separately and in combination with other services



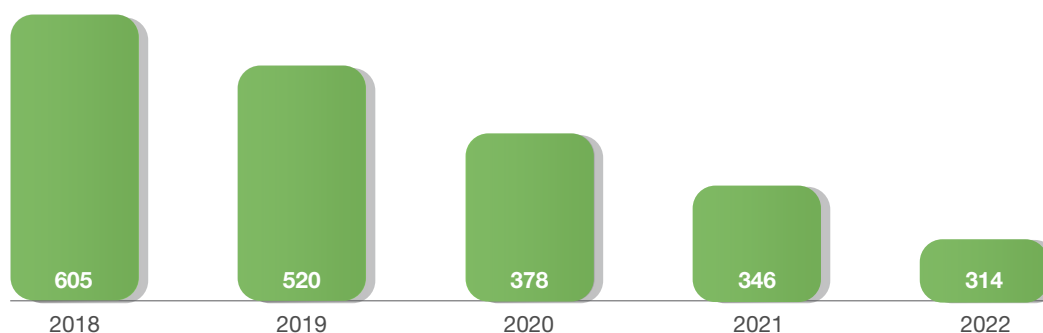
<sup>36</sup>The analysis includes residential subscribers of Magticom, Silknet and New Net Group

## Fixed telephone service<sup>37</sup>

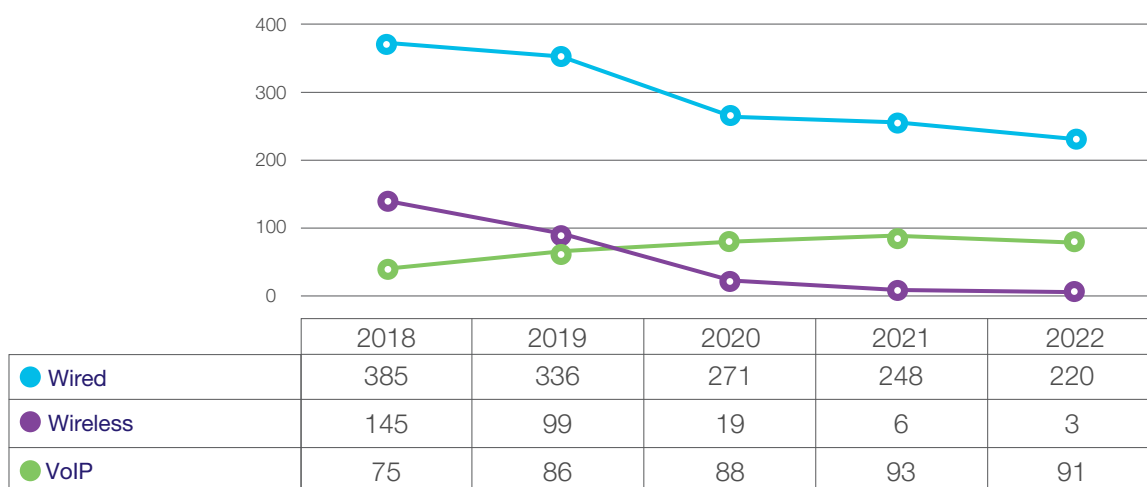
In 2022, fixed telephone services were provided by wired, wireless (CDMA), and VoIP (Voice over IP) technologies. According to fourth quarter data, 25 companies were operating in the market of fixed telephone services. 8 authorized persons provided services using fixed wired technology, 1 company – wireless technology and 21<sup>38</sup> companies – VoIP.

At the end of 2022, there were 314 thousand fixed telephone service subscribers, which was 13% or 45 thousand, subscribers less than the previous year. The decrease of the number of fixed telephone subscribers and, accordingly, revenue and traffic, is a worldwide trend, which is primarily a consequence of the development of mobile services, the availability of the Internet and growth of the consumption of OTT (Over-The-Top) services.

Number of subscribers (in thousands)



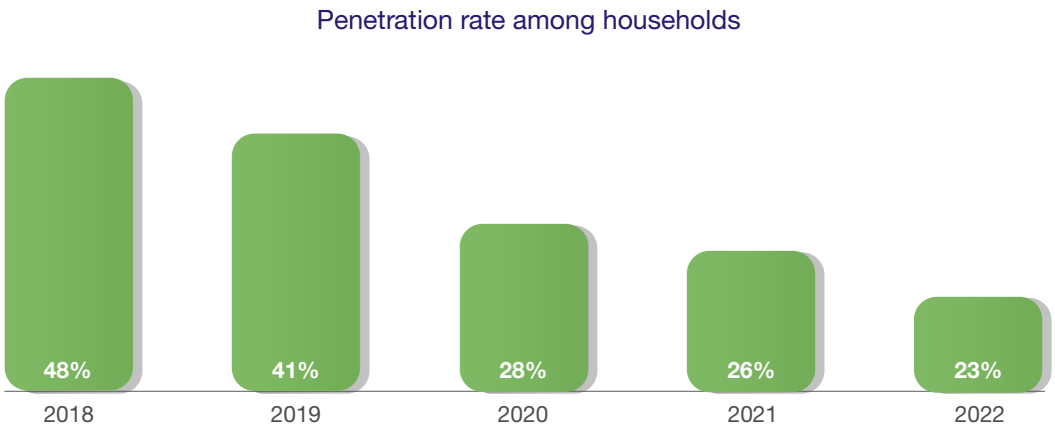
Number of subscribers by technology (in thousands)



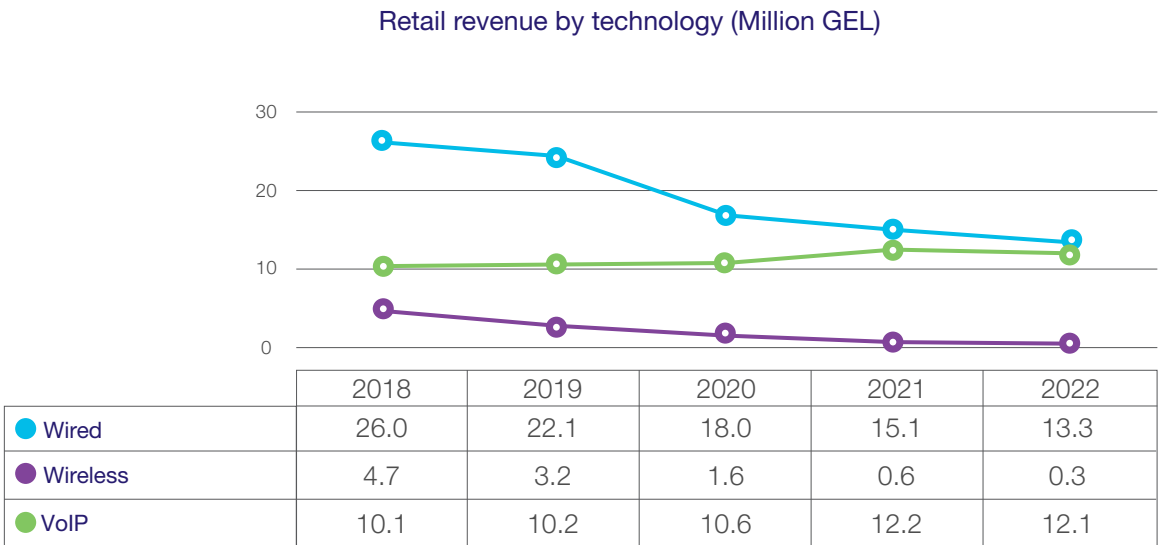
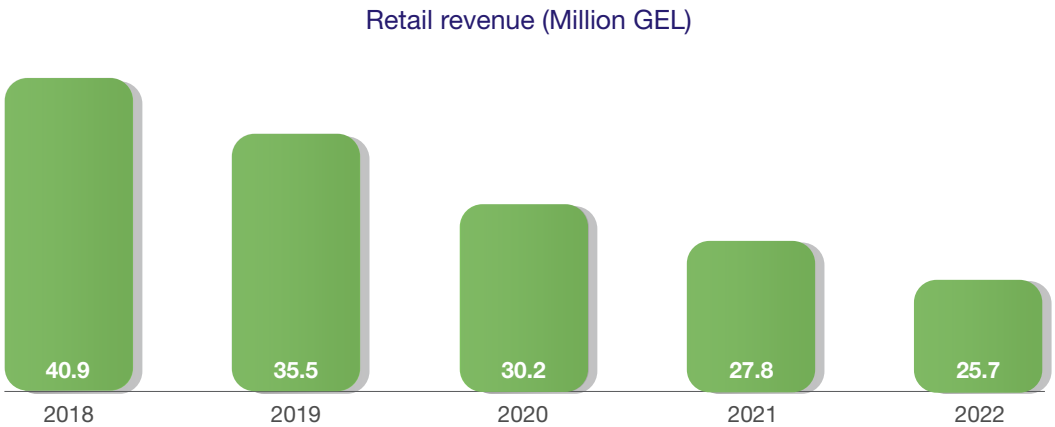
<sup>37</sup>Data taken as of February 15, 2023

<sup>38</sup>Some companies use several technologies at the same time. Therefore, the total number of operators based on the technologies does not equal the total number of running operators

Accordingly, the market penetration rate of fixed telephone service subscribers among households is decreasing and as of the fourth quarter of 2022, it is 22%<sup>39</sup>. Unlike the conditions of mobile services, if a subscriber does not use fixed services, fixed telephone service providers do not cancel their telephone number/line in a short period of time, which contributes to the number of subscribers remaining the same. Otherwise, the mentioned indicator would be even lower.

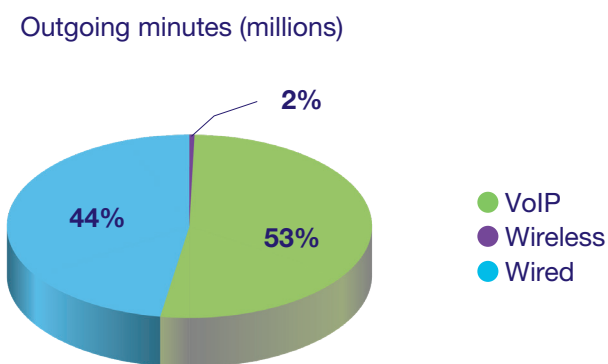
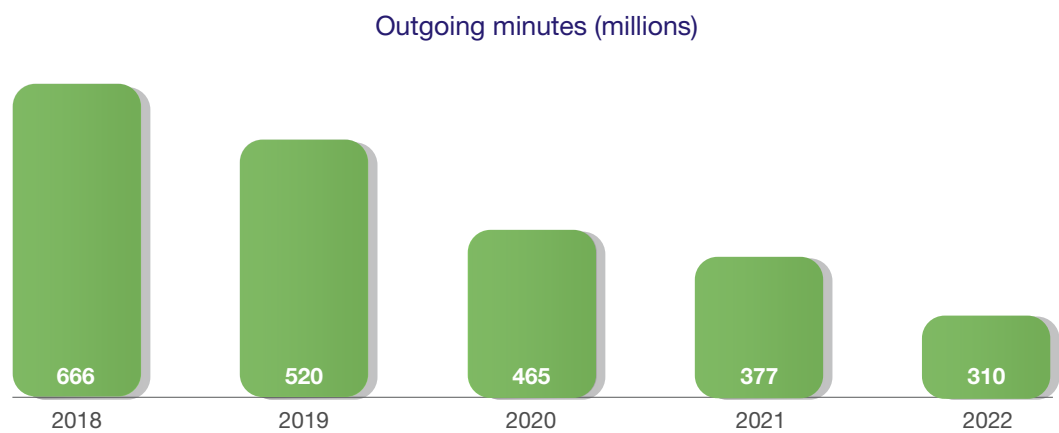


Along with the decrease in the number of subscribers, the total retail revenue from fixed-line telephone services is characterized by a decreasing trend.

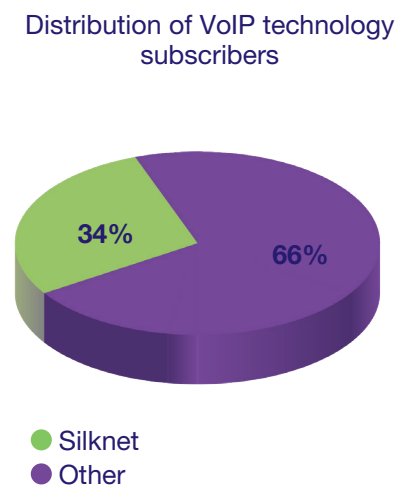
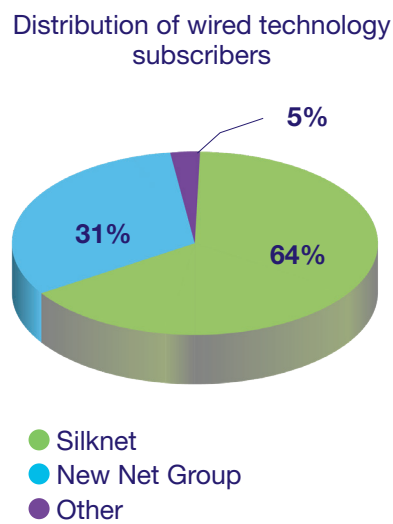


<sup>39</sup>The number of residential subscribers using fixed telephone services is correlated with the number of households in the country

The decreasing trend of the outgoing traffic of fixed telephone services continues. If in 2021 the volume of traffic was 377 million minutes, in 2022 it decreased to 310 million minutes.



In 2022, Silknet had the most subscribers of fixed wired and VoIP telephone services. In terms of VoIP technology, Lagi, Geonet, MyPhone, and Inexphone are also relatively large players on the market.



## Broadcast transit<sup>40</sup>

In the fourth quarter of 2022, 755 thousand subscribers receiving broadcasting transit were registered, which is 0.5%, or 4 thousand, subscribers more than in the corresponding period of the previous year. After 2018, the average yearly growth of the subscriber base will be 2.1%.

Accordingly, the subscriber penetration rate increased as well: The market penetration of broadcasting transit subscribers per household<sup>41</sup> amounted to 68.1%.



The annual amount of retail revenue received from broadcasting transit amounted to 136.2 million GEL, which is 6%, or 7.1 million GEL, more than the figure of the previous year. The average annual growth of retail revenues over the last five years is 9.5%.



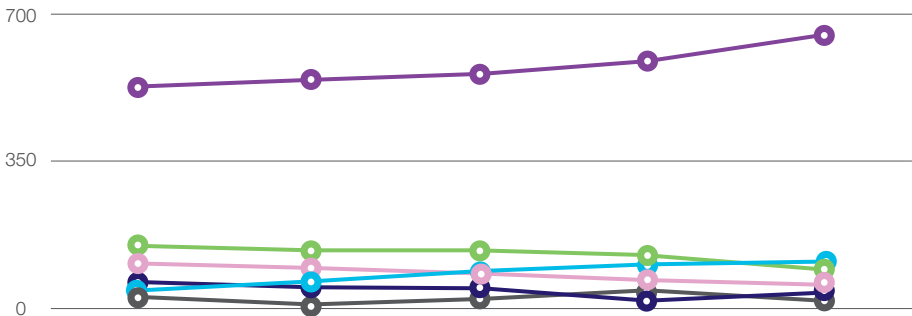
<sup>40</sup>Data presented as of February 17, 2023

<sup>41</sup>The ratio of broadcasting transit subscribers to households in the country

<sup>42</sup>The given information differs from the data specified in last year's report, as some of the companies have adjusted the information

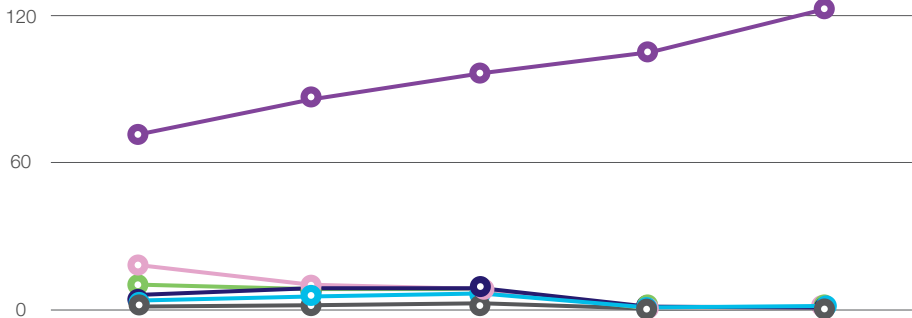
As of the fourth quarter of 2022, IPTV remains the most used method of broadcasting transit. Its share climbed by 3 percentage points from the prior year to 81,3 percent. The share of IPTV retail revenues in total revenue also increased by 3% and amounts to 90%.

Number of subscribers by technology (in thousands)



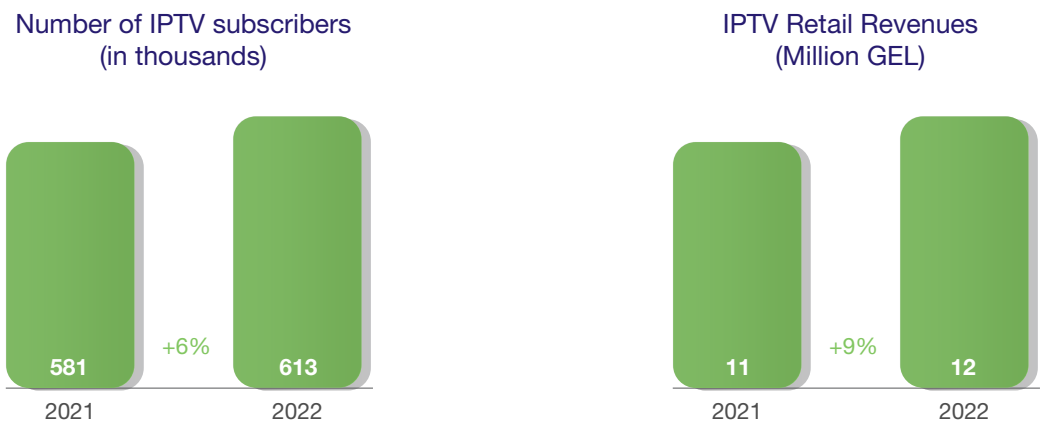
	2018	2019	2020	2021	2022
DVB-T	18.8	33.2	39.6	42.6	43.9
IPTV	482.9	547.2	556.6	581.3	613.9
Satellite	93.6	69.1	54.5	46.1	35.0
Internet TV	16.7	8.6	15.5	27.2	15.0
Coaxial	25.6	28.0	26.5	20.8	18.4
Radio frequency	56.8	44.8	39.3	33.0	28.9

Retail revenue by technology  
(Million GEL)

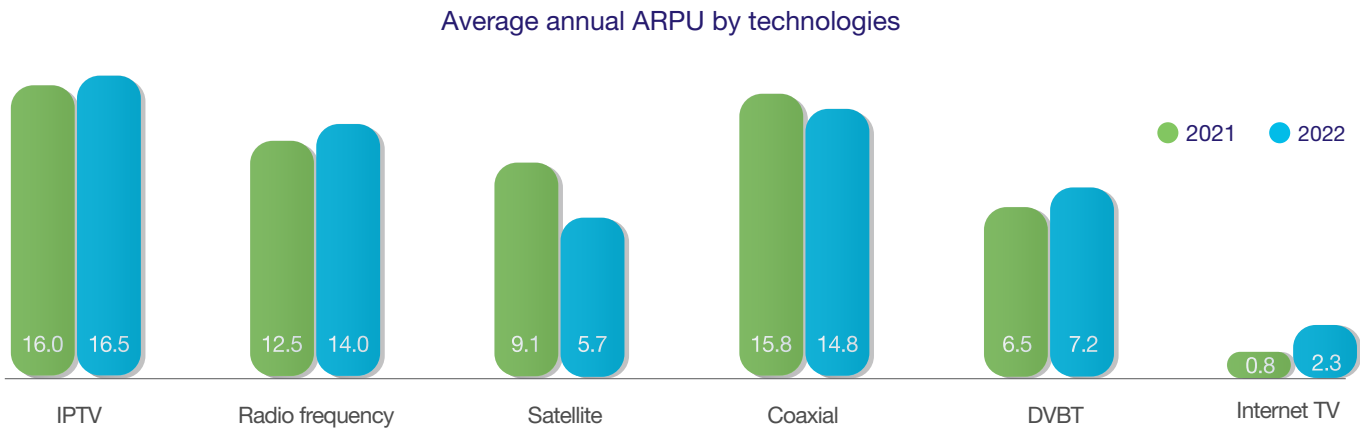


	2018	2019	2020	2021	2022
IPTV	72.6	93.9	103.1	112.0	121.5
Radio frequency	9.3	6.6	5.6	0.4	0.4
Satellite	6.9	6.0	5.6	0.4	0.2
Coaxial	5.7	4.0	3.3	0.3	0.2
DVB-T	1.2	2.3	2.8	0.3	0.4
Internet TV	0.2	0.5	0.7	0.02	0.03

According to data from the last quarter of 2022, the number of IPTV subscribers climbed by 6% compared to the same period in 2021, and the annual amount of retail revenues increased by 9%.



Over the course of the year, average monthly ARPU grew in IPTV, DVBT, radio frequency and Internet TV technologies.

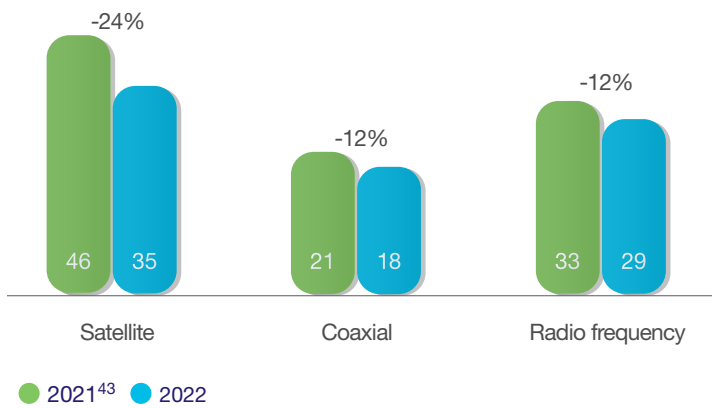


In the last quarter of 2022, IPTV services were mainly provided by two operators, Magticom and Silknet.



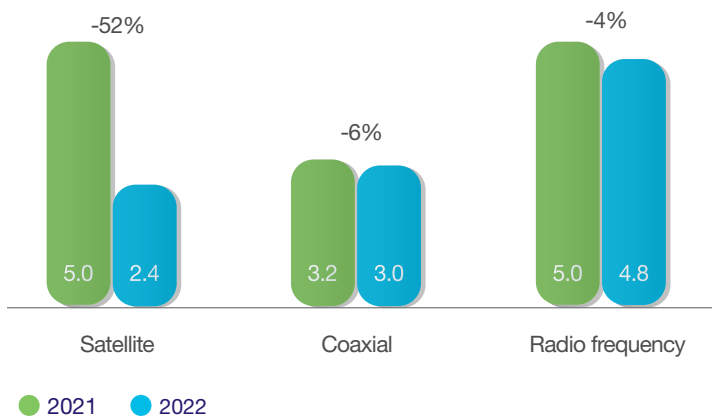


### Number of satellite, coaxial and radio frequency broadcasting transit subscribers (in thousands)



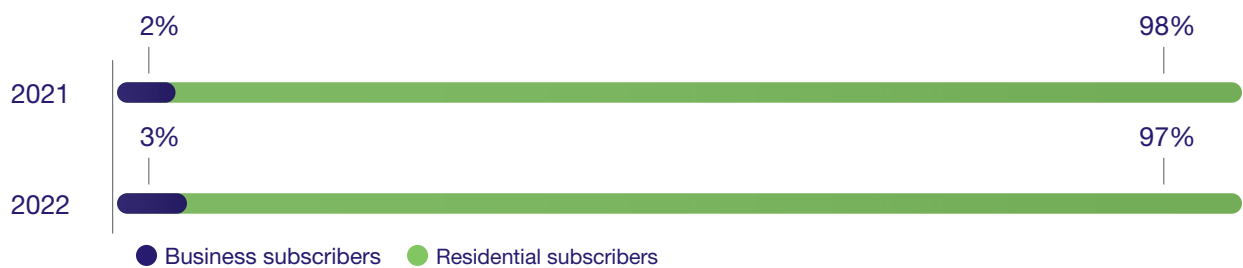
According to data from the final quarter of 2022, the number of transit subscribers for satellite technologies decreased by 24% compared to the same indicator for 2021, while the number of transit subscribers for coaxial and radio frequency technologies decreased by 12% and 12%, respectively.

### Retail revenues (Million GEL)

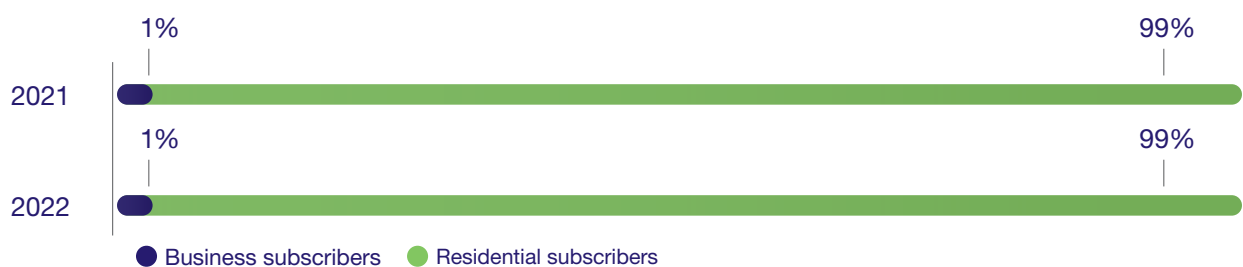


The annual retail revenues of satellite, coaxial, and radio frequency transit technologies declined by 52%, 6%, and 4%, respectively.

### Distribution of subscription revenues according to the contract type



### Distribution of subscribers according to the contract type



<sup>43</sup>The provided information differs from the data mentioned in the previous year's report, since a number of companies updated their records

## Multiplex services

In December 2020, there were a total of 28 multiplex operators in Georgia, but only 11 operators received commercial revenue from the multiplex service. The rest of the operators distributed their own channel(s) and therefore did not provide commercial services through the multiplex.

The operators received 7.3 million GEL from the multiplex services during the year, the main part of which was generated by Stereo + and Georgian TV and Radio Center.

### Distribution of revenue generated by multiplexes

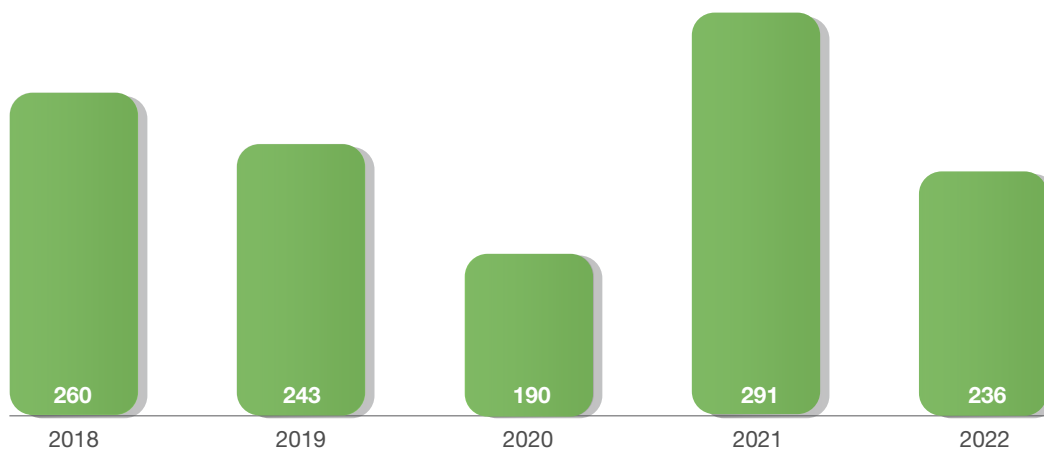
Stereo+	<b>72.55%</b>
Georgian TV and Radio Center	<b>23.64%</b>
Other	<b>3.81%</b>



## Capital investments in electronic communications

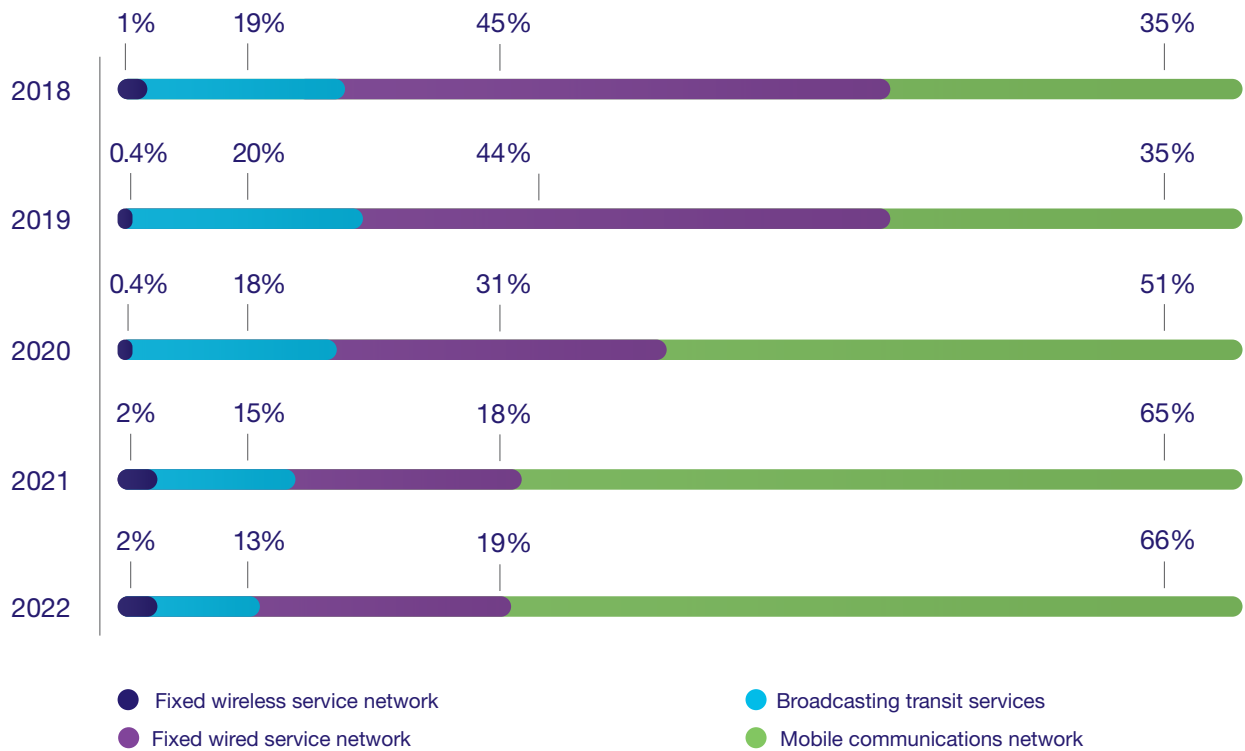
In 2022, 236 million GEL was invested<sup>44</sup> in electronic communications capital expenditures.

Capital investments in electronic communications field (Million GEL)



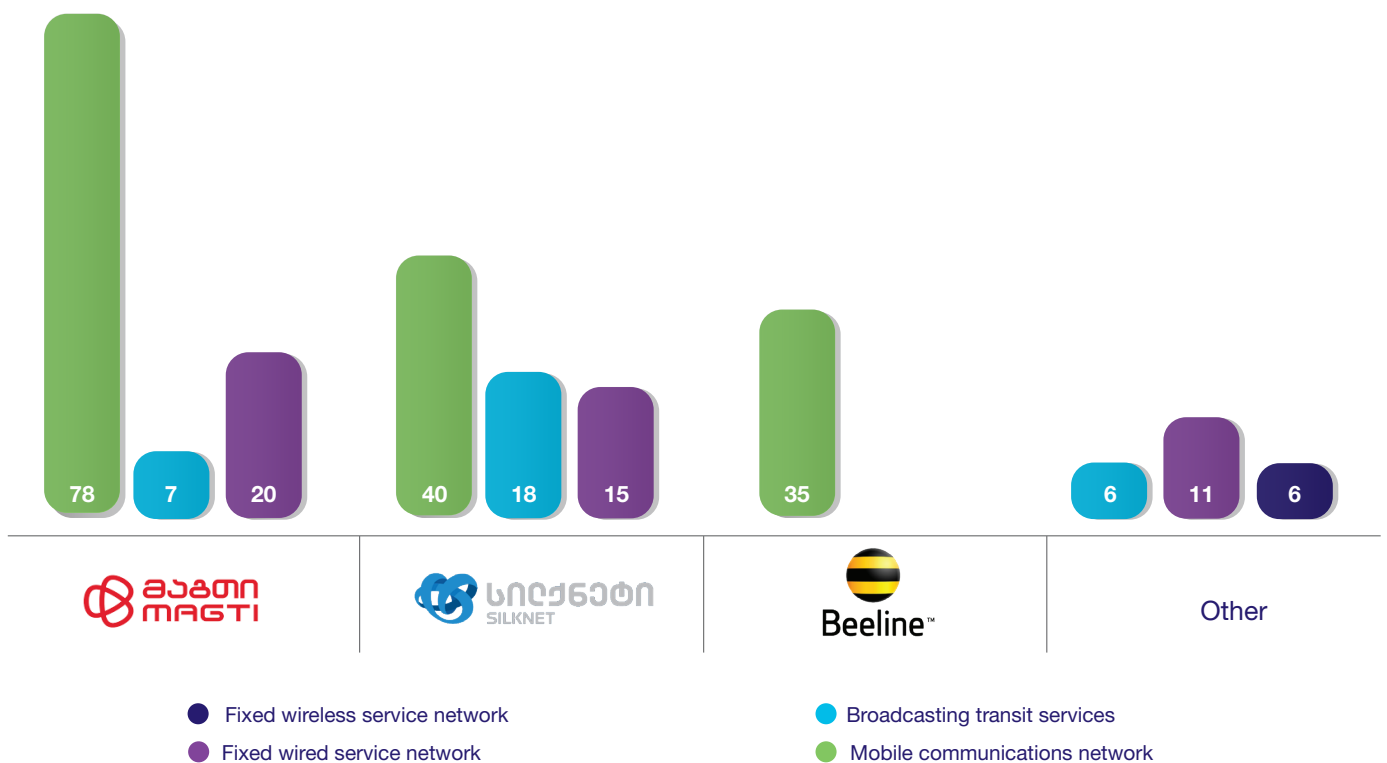
<sup>44</sup>Includes the amount of capital investments made in mobile and fixed (wired and wireless) service networks and broadcast transit services. The amount of capital investments includes the data of authorized persons in the field of electronic communications, who received an annual income of more than one million GEL

Distribution of capital investment in electronic communications according to network type

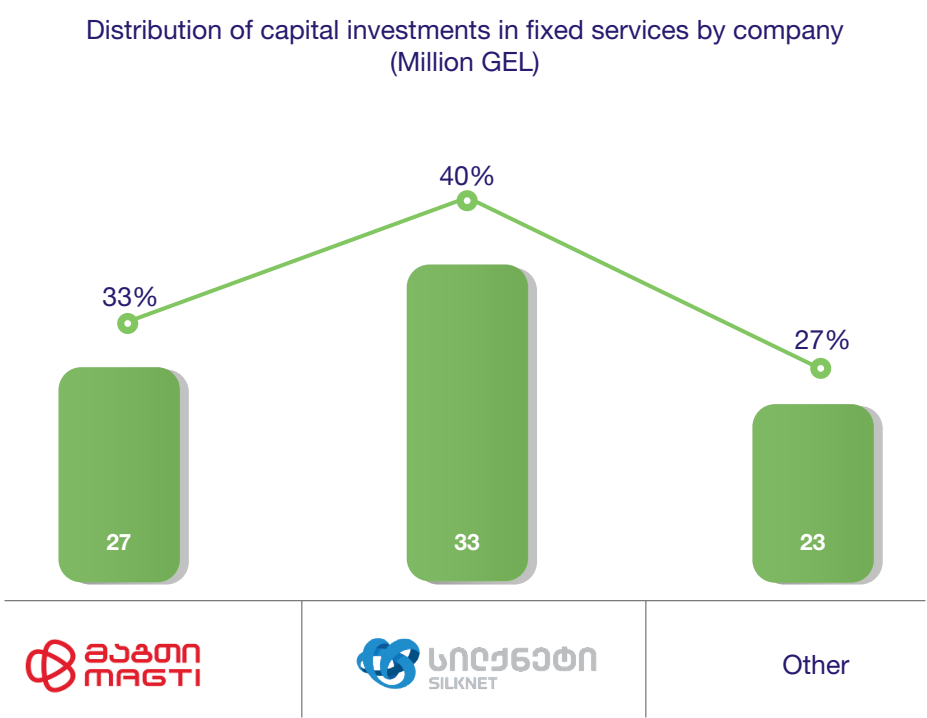
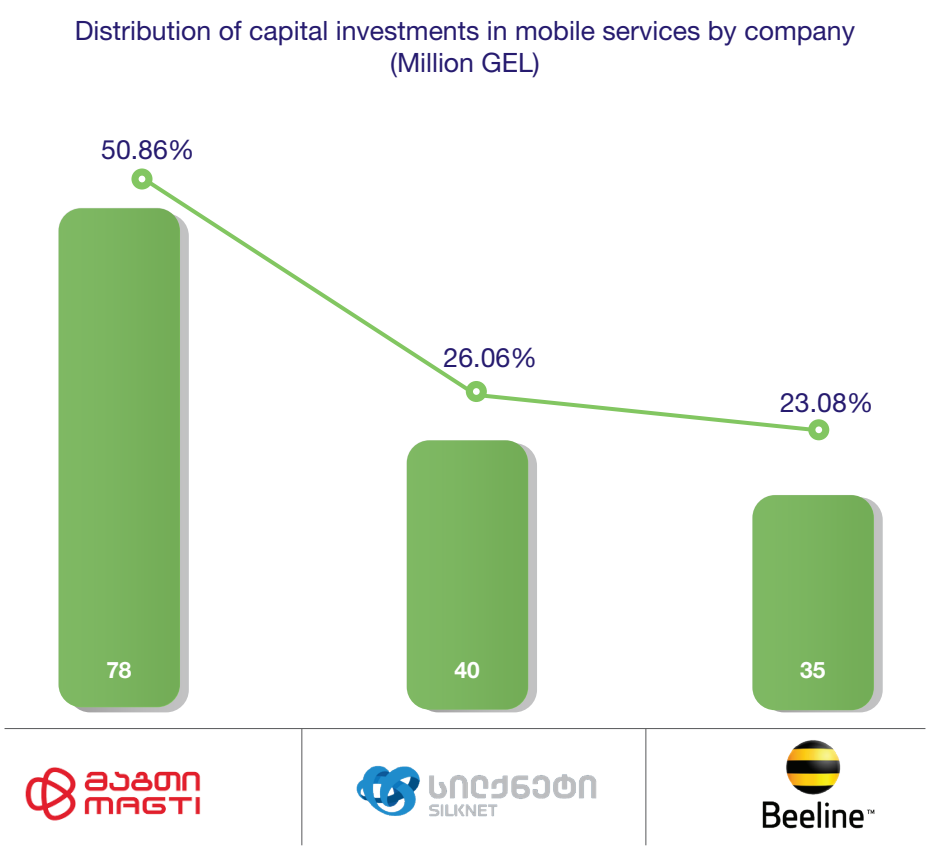


The top three firms in terms of capital investments in electronic communications are Magticom, Silknet, and Beeline. 90% of total investments were made by them.

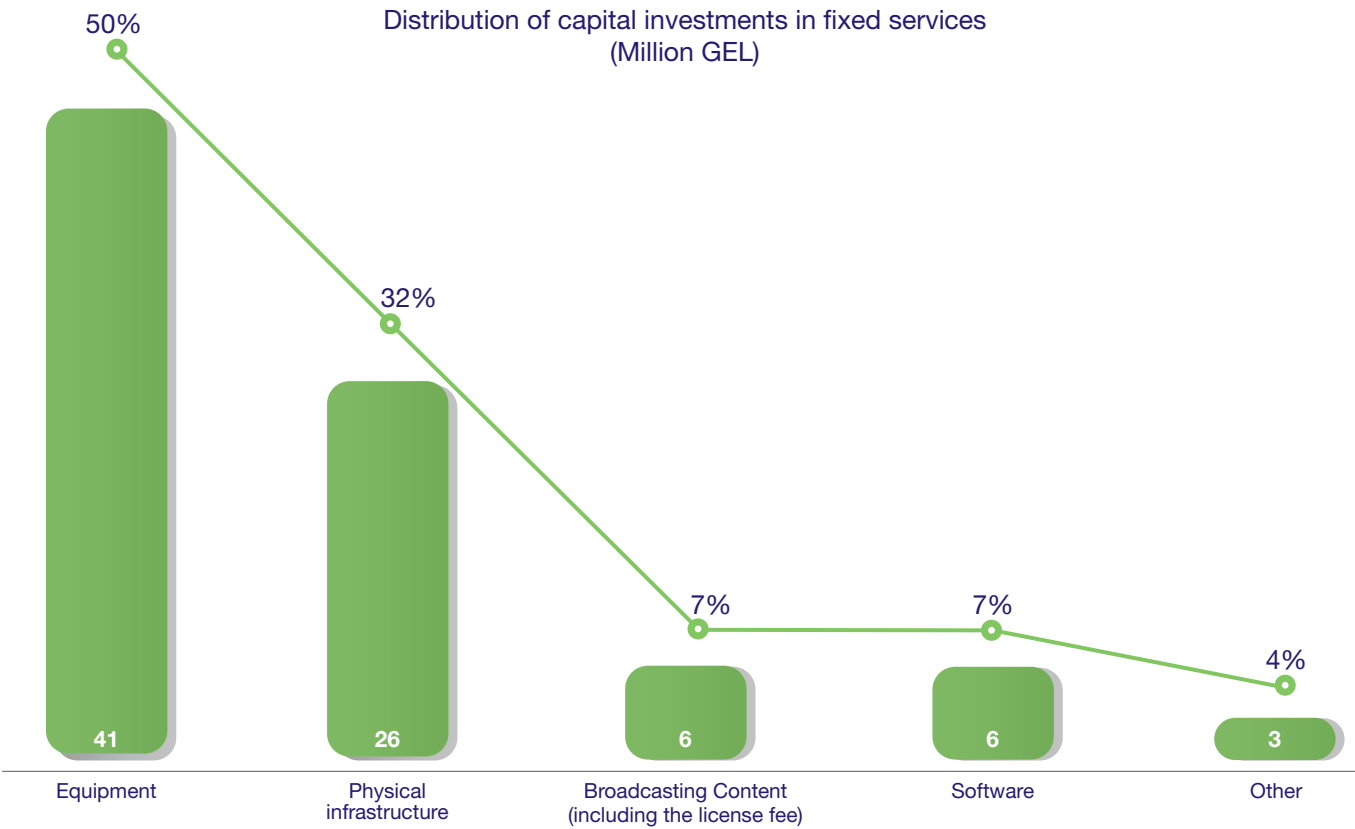
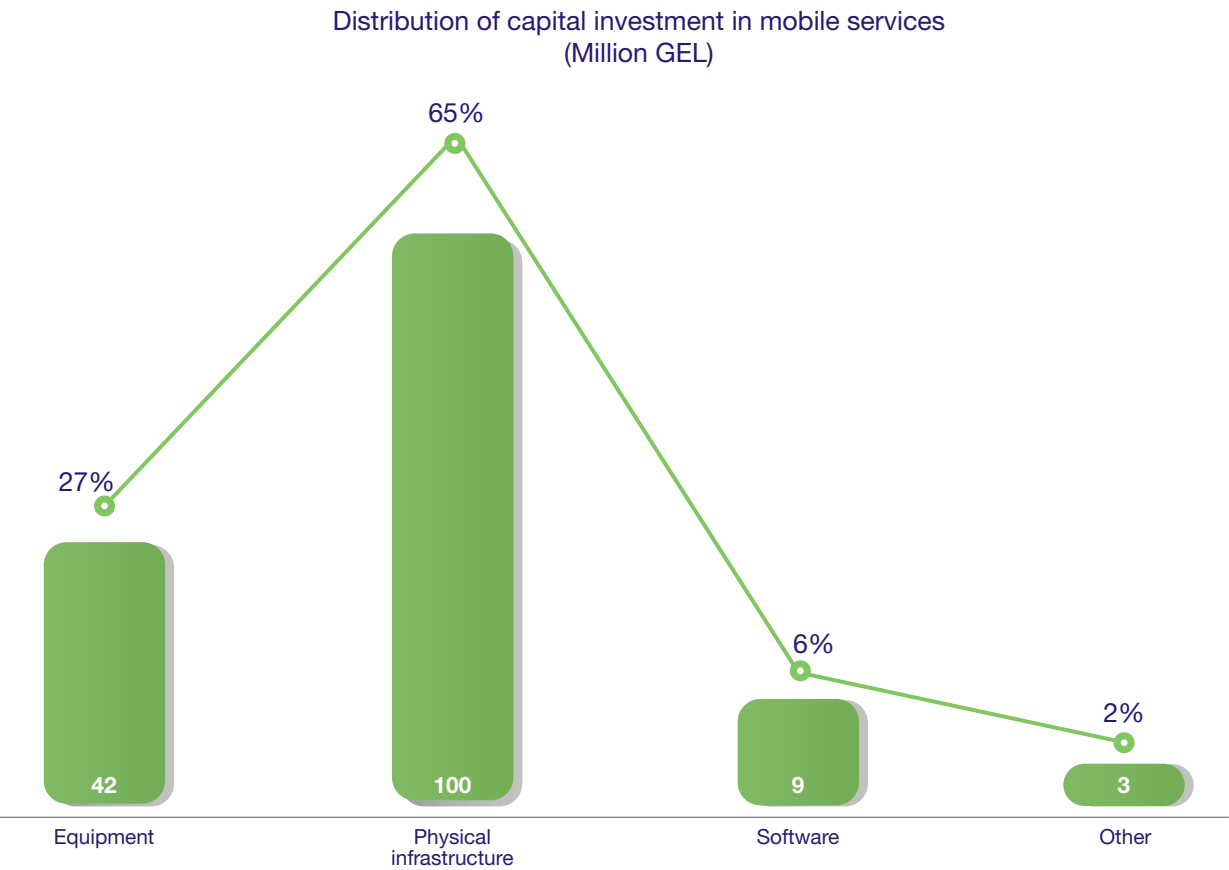
Distribution of capital investments in electronic communications by company  
(Million GEL)



In 2022, Magticom received the largest share of capital investment in mobile services with 51%, while Silknet led in fixed services (fixed wired service network, fixed wireless service network, and broadcasting transit service) with 40%.



In mobile services, physical infrastructure<sup>45</sup> accounts for 65% of capital expenditures, while in fixed services, equipment accounts for 49%.



<sup>45</sup>Physical infrastructure means network cables and channels, while hardware means all types of hardware, including network hardware

In 2022, 111 actors<sup>46</sup> were registered in the broadcasting sector. Their total revenue, including state funding and other non-broadcasting revenues, is 281.4 million GEL. Compared to the last year, the significant increase in revenues is due to the sale of the Public Broadcaster building, which amounted to 65.1 million GEL.

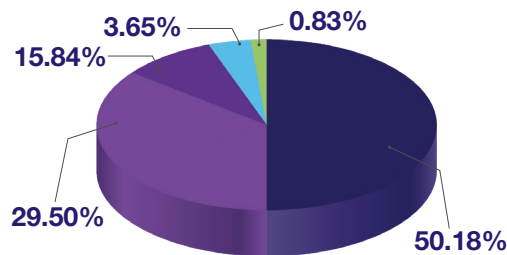
The Public Broadcaster received more than 100 million GEL of revenue and it is the only broadcaster in category A<sup>47</sup> with 50% of the total revenue.

And the combined revenue of those entities who received less than 100,000 GEL in 2022 (63 actors of category E) amounted to 1% of total revenues.

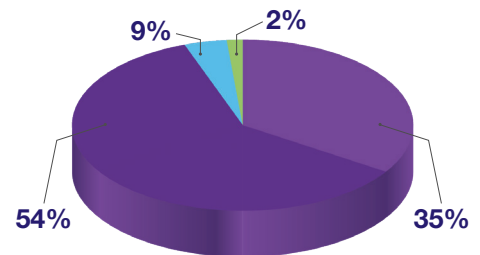
In 2022, there were 107 active broadcasters who recorded revenue<sup>48</sup> from broadcasting. Their combined revenue was 101 million GEL.

Only 2 entities received revenue of more than 10 million GEL from broadcasting: - Telemedi and Mtavari Ahari (category B companies) and the combined revenue received by them amounted to 35% of the total revenue. And the combined revenue of those entities who in 2022 received less than 100,000 GEL (64 entities of category E), amounted to 2.4% of the total revenue.

Distribution of operating broadcasters by combined revenue



Distribution of active broadcasters according to revenues received from broadcasting

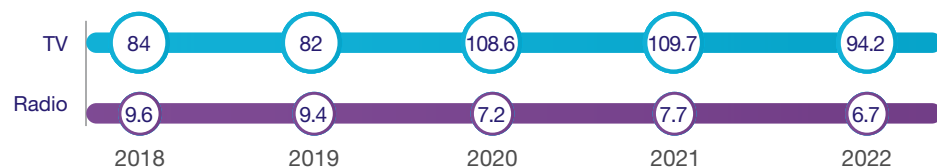


As of December 2022, 116 television broadcasting channels are authorized in the country while 43 are licensed, and 6 radio broadcasters are authorized. Of these, there were 19 open-air national television broadcasters. In addition to this there are three channels of Public Broadcaster and Adjara TV. Accordingly, in 2022, a total of 22 open air national broadcasting channels were broadcasting.

During 2022, 75 TV and 40 radio broadcasters have recorded revenues.

In 2022, the combined revenues received from broadcasting amounted to 101 million GEL, of which 94.2 million GEL was received by television companies and 6.7 million GEL by radio companies.

Revenues received from broadcasting (Million GEL)<sup>49</sup>



<sup>47</sup>Categories by revenue:

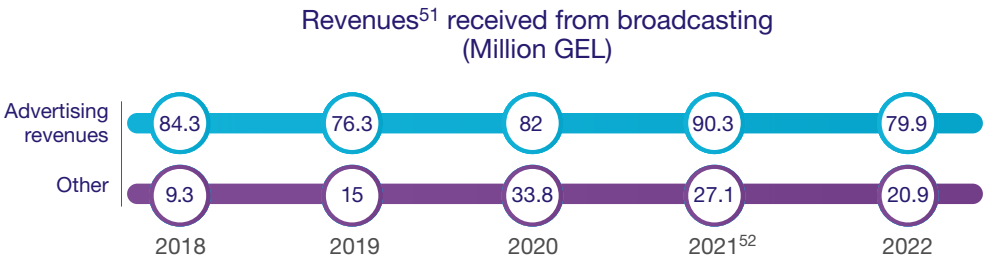
Category	Revenue received during the year
A	More than or equal to 100 million GEL
B	From 10 million GEL to 100 million GEL
C	From 1 million GEL to 10 million GEL
D	From 100,000 GEL to 1 million GEL
E	Less than 100,000 GEL

<sup>46</sup>An actor is an entity which had some kind of revenue from broadcasting during the year

<sup>48</sup>Broadcasting revenue is the revenue received by the broadcaster in addition to state funding and other non-broadcasting revenues

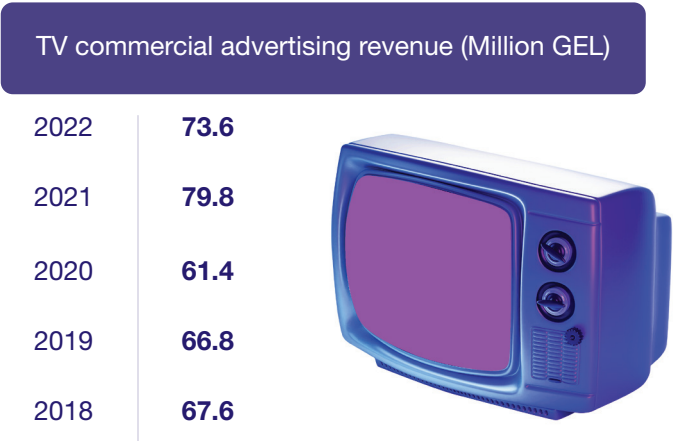
<sup>49</sup>The given information differs from the data specified in last year's report, as some of the broadcasters corrected their information

In 2022, the total advertising<sup>50</sup> revenue of TV and radio companies decreased by 7.6% compared to the previous year and amounted to 79.9 million GEL.

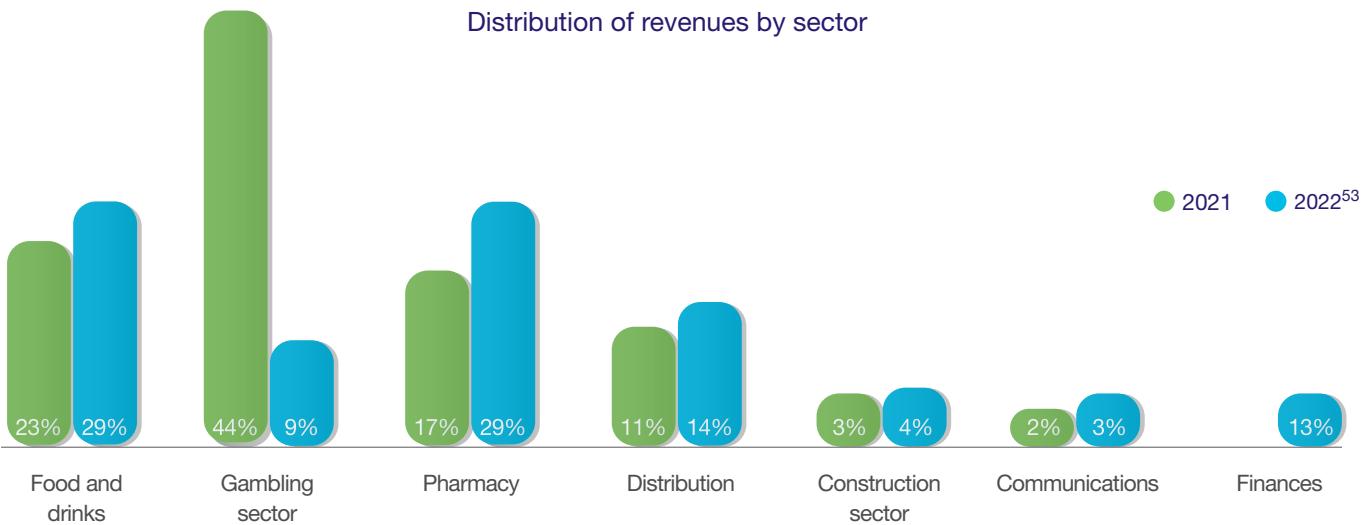


In 2022, the amount received from commercial advertising revenues by TV companies is 73.6 million GEL, which is 7.8% less than the previous year.

From the second quarter of 2022, broadcast advertising of gambling has been banned. Prior to the introduction of the regulation, gambling companies were major funders of broadcasters. In 2022, advertising revenue received from the gambling sector amounted to 4.8 million GEL, and in 2021, 17.9 million GEL.



It should be noted that the number of advertising subscribers increased by 36.8% compared to 2022. Due to the prohibition of gambling advertising, the structure of sponsors (in terms of the business sector) has changed dramatically. In particular, in 2021 the main source of advertising revenues of broadcasters was revenue from the gambling business (44%), in 2022 the leading business sector in terms of advertising orders was food and beverages with a share of 29%, pharmaceuticals was in the second place with 28.56%, and the third and the fourth places were held by the distribution and finance sectors respectively.



<sup>50</sup>Advertising includes 5 categories: direct advertising (including paid political advertising), sponsorship, teleshopping, advertisements, and product placement

<sup>51</sup>It means all types of revenues, not including government funding and other non-broadcasting revenues

<sup>52</sup>The given information differs from the data specified in last year's report, as some of the broadcasters corrected their information

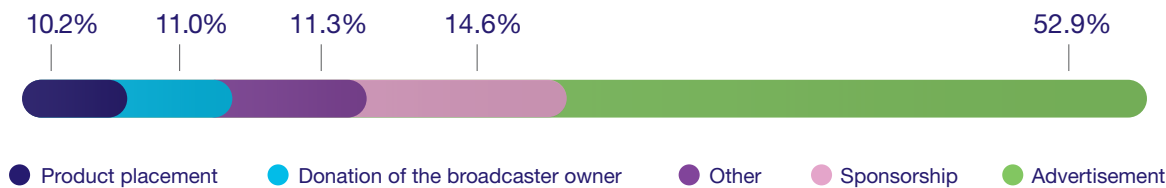
<sup>53</sup>Data does not add up to 100 due to rounding

It should be noted that the most affected by the prohibition of gambling advertising were those channels which, according to the data of the previous year, were more dependent on the revenues received from the gambling sector. The top broadcasters lost a total of 13.1 million GEL in income due to financiers working in the gambling industry.

The ban of gambling advertising has had a negative effect on advertising revenues. However, the significant increase in the number of advertising customers from quarter to quarter gives a certain positive effect, and if this trend continues, the said effect is expected to be overcome in the medium term.

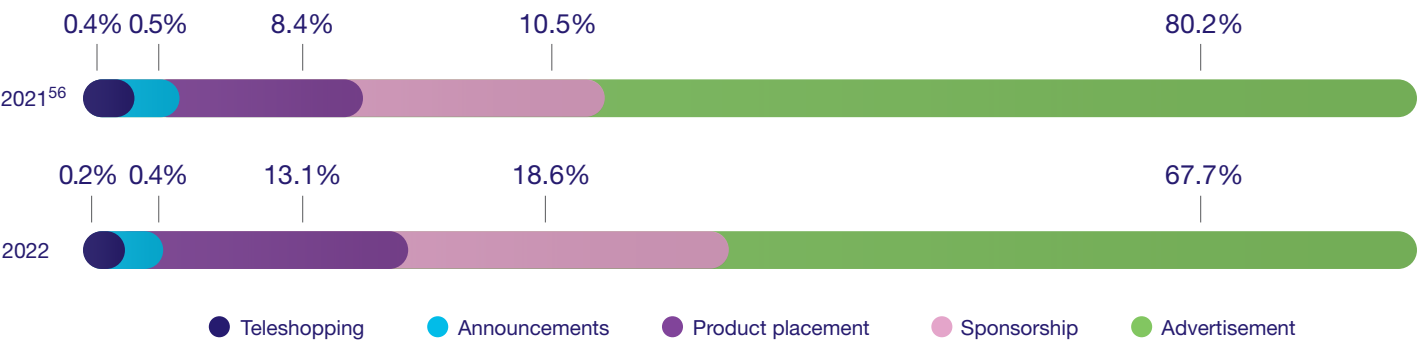
It should be noted that 67.5% of the total broadcasting revenue received by television broadcasters<sup>54</sup> were advertising and sponsorship.

Distribution of revenues from television broadcasts by types



Advertising, product placement and sponsorship were the main sources of combined advertising revenues received by television companies<sup>55</sup>.

Distribution of commercial advertising revenues received by TV broadcasters by category



<sup>54</sup>Apart from state funding and other non-broadcasting revenue  
<sup>55</sup>Includes revenues from paid political advertising  
<sup>56</sup>The given information differs from the data specified in last year's report, as some of the broadcasters corrected their information



According to the amount of revenues received from television broadcasting<sup>57</sup>, in 2022, the largest share of 26.7% was held by Teleimedi, Mtavari Arkhi had 10.7%, Media Holding<sup>58</sup> with 10.4%, Silk Media (Euronews Georgia) at 7.7%, TV Pirveli with 6.6%, Formula had 6.6%, POS TV had 5.2%, Adjarasport.TV<sup>59</sup> at 4.9%, Public Broadcaster with 3.8%, and BMG at 2.7%. The total share of revenues of other broadcasters was 14.6%.

#### Distribution of TV broadcasting revenue by company<sup>60</sup>

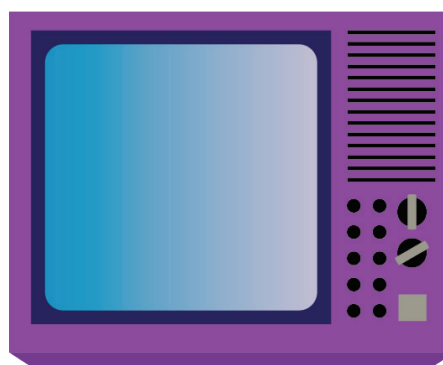
Teleimedi	<b>26.7%</b>
Mtavari Arkhi	<b>10.7%</b>
Media Holding	<b>10.4%</b>
Silk Media	<b>7.7%</b>
TV Pirveli	<b>6.6%</b>
Formula	<b>6.6%</b>
POS TV	<b>5.2%</b>
Adjarasport.TV	<b>4.9%</b>
Public Broadcaster	<b>3.8%</b>
BMG	<b>2.7%</b>
Other	<b>14.6%</b>



According to the amount of revenues received from TV commercial advertising<sup>61</sup>, in 2022, the largest share was held by Teleimedi with 34.1%. Mtavari Arkhi had 13.6%; Media Holding, 12.5%; TV Pirveli, 7.9%; Formula, 7.8 %; POS TV, 6.6%; Public Broadcaster, 4.2%; GDS TV, 2.6%; BMG, 2.6%; and Silknet, 1.5%. The combined share of advertising revenues of other broadcasters was 6.6%.

#### Distribution of TV advertising revenues by broadcaster

Teleimedi	<b>34.1%</b>
Mtavari Arkhi	<b>13.6%</b>
Media Holding	<b>12.5%</b>
TV Pirveli	<b>7.9%</b>
Formula	<b>7.8%</b>
POS TV	<b>6.6%</b>
Public Broadcaster	<b>4.2%</b>
GDS TV	<b>2.6%</b>
BMG	<b>2.6%</b>
Silknet	<b>1.5%</b>
Other	<b>6.6%</b>



<sup>57</sup> Apart from state funding and other non-broadcasting revenues

<sup>58</sup> Media Holding includes the broadcasting companies Rustavi 2, Comedy Channel, and Marao

<sup>59</sup> Adjarasport.TV includes Setanta Sports 1, Setanta Sports 2, Setanta Sports 3

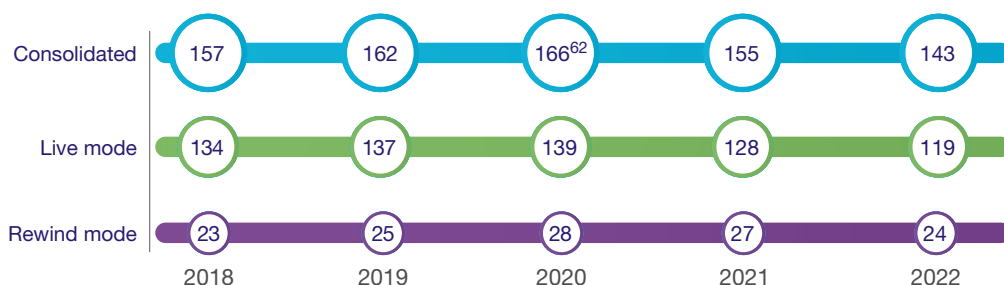
<sup>60</sup> Data does not add up to 100 due to rounding

<sup>61</sup> Commercial advertising revenue includes direct advertising, sponsorship, teleshopping, announcements, and product placement

## Watching in live and rewind modes

In 2022, one person watched TV on average about 143 minutes a day.

Watching in live and rewind modes (minutes)



## Radio broadcasting

Advertising revenues of radio broadcasters (Million GEL)

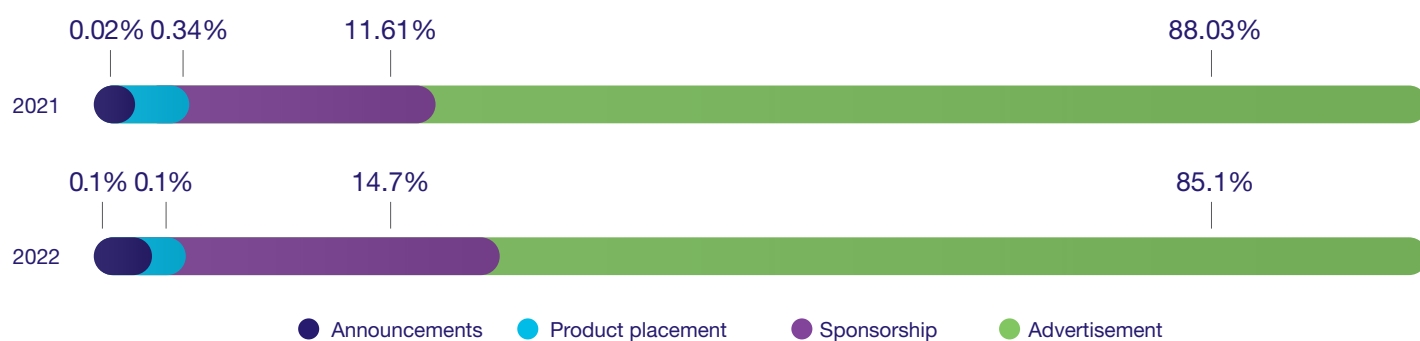
2022	6.3
2021	7.2
2020	6.8
2019	8.8
2018	8.6



In 2022, radio broadcasters' advertising sales amounted to 6.3 million GEL, which is 0.9 million GEL less than the previous year.

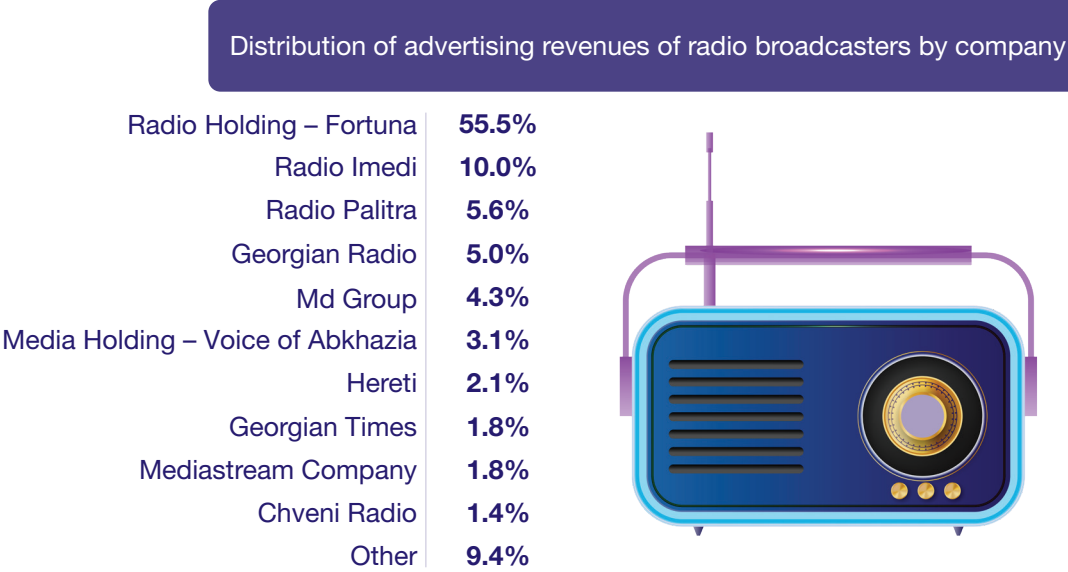
The main share of advertising revenues, 99.8%, came from advertising and sponsorship, while product placement and announcements had a small share.

Distribution of advertising revenue of radio broadcasters by type



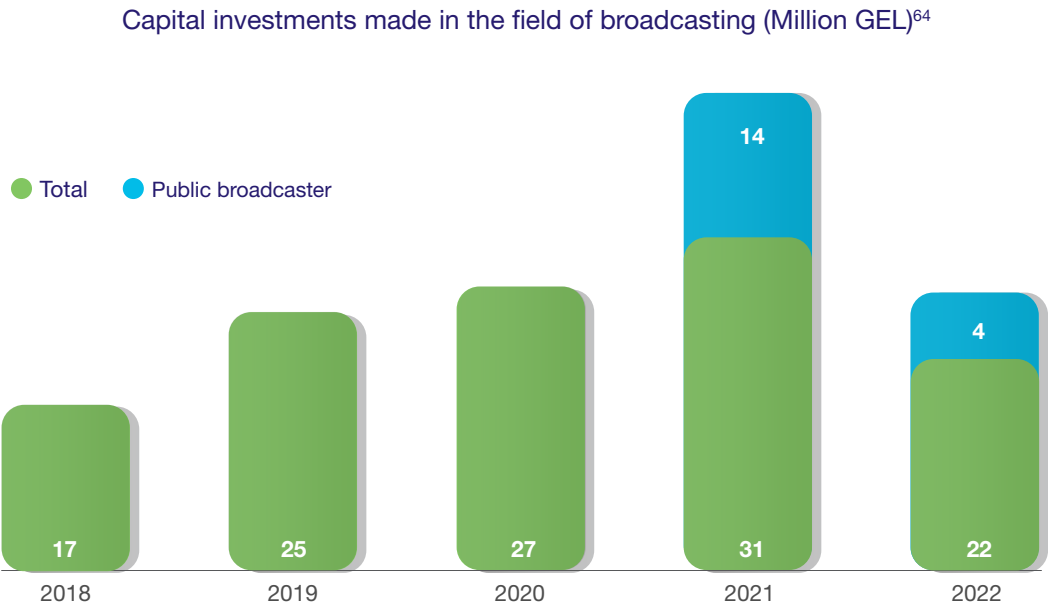
<sup>62</sup>The difference in summation is due to data rounding

According to the amount of advertising revenues received from radio broadcasting, in 2022 the largest share of 55.5% was held by radio holding Fortuna. Radio Imedi was second with 10.0%, while Radio Palitra had 5.6%; Georgian Radio, 5.0%; Md Group, 4.3%; Media Holding – Voice of Abkhazia, 3.1%; Hereti, 2.1%; Georgian Times Radio, 1.8%; Mediastream Company, 1.8%; and Chveni Radio with 1.4%. The total share of advertising revenues of other radio broadcasters was 9.4%.



Capital investments made in the field of broadcasting

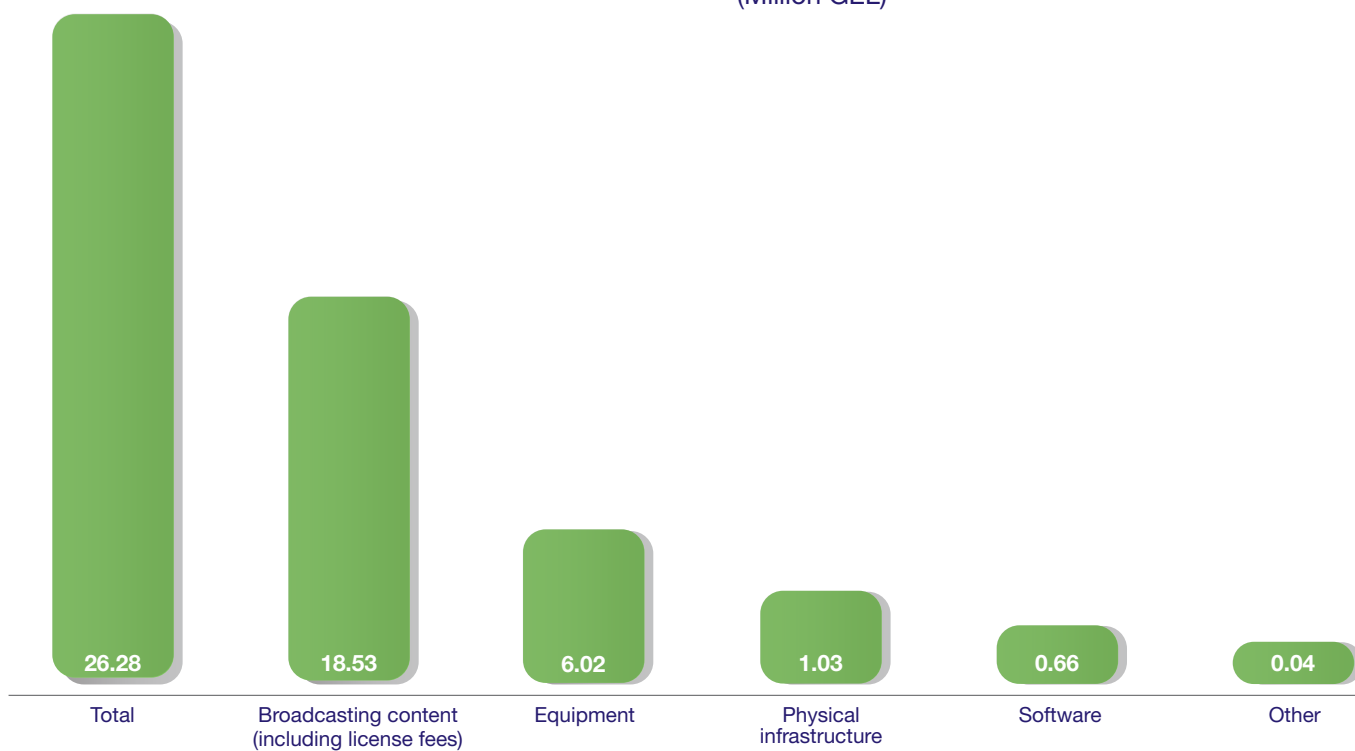
In 2022, broadcasting-related capital investments<sup>63</sup> totalled 26.3 million GEL, a decrease of 42.5% from 2021 levels.



<sup>63</sup>The amount of capital investments includes the data of those broadcasters that have earned more than a million GEL annually

<sup>64</sup>In 2021 and 2022, capital investments made by Public Broadcaster and Public Broadcaster Adjara TV and Radio are separated

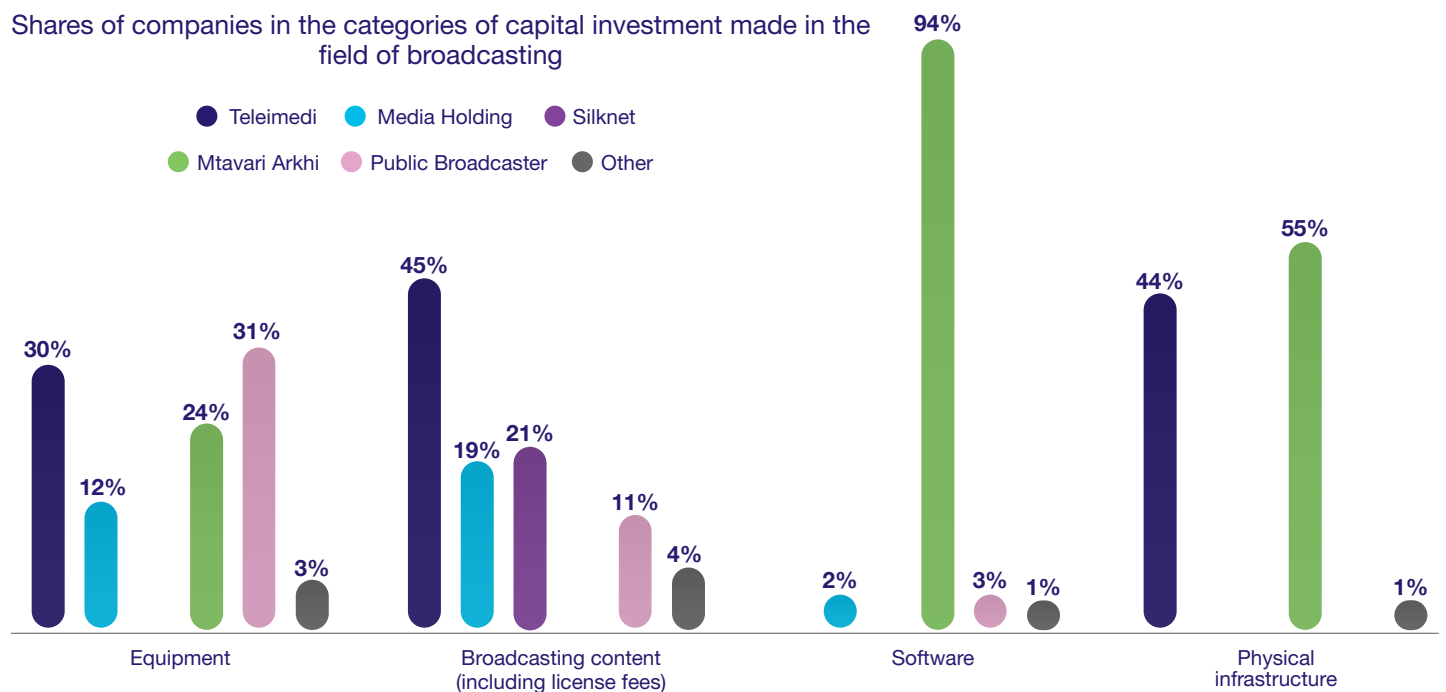
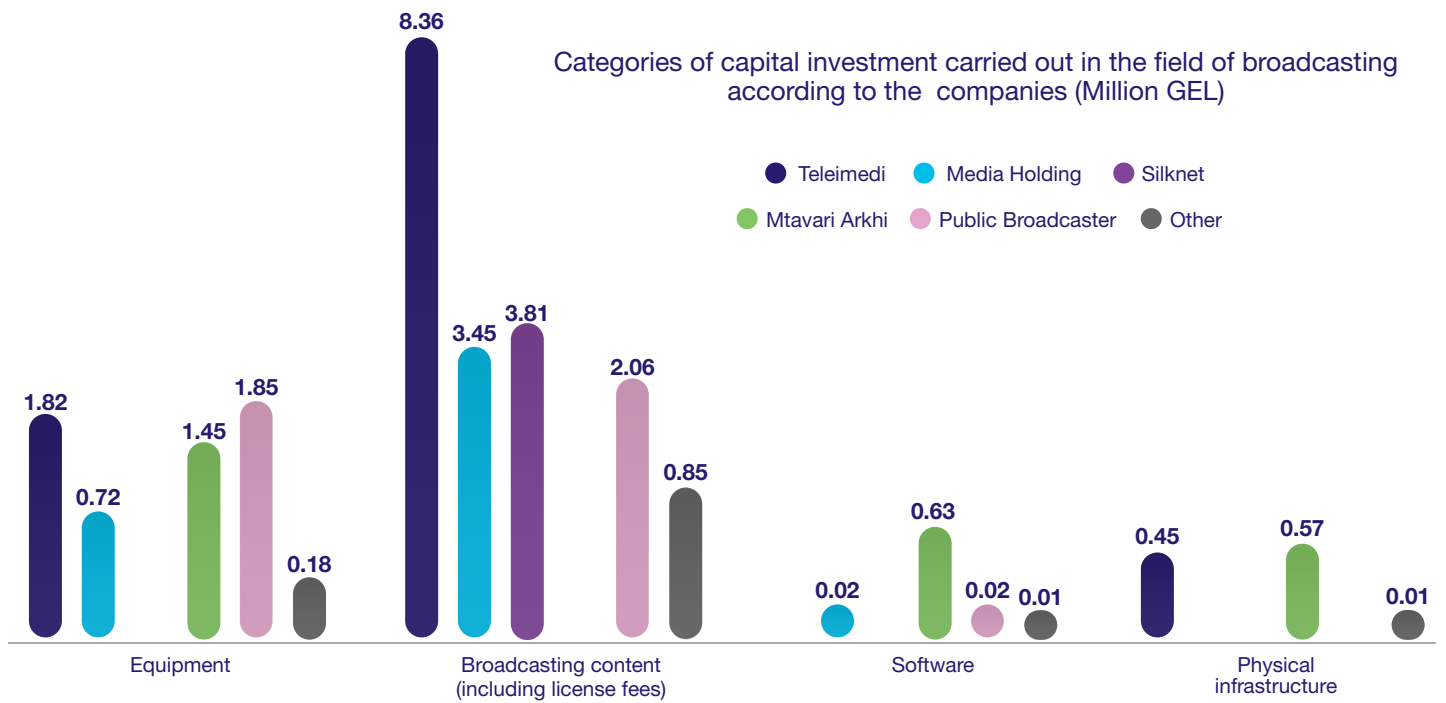
The amount of investments made in the field of broadcasting by category  
(Million GEL)



Distribution of capital investment made in the field of  
broadcasting by company

Teleimedi	40%
Media Holding	16%
Silknet	15%
Public Broadcaster <sup>65</sup>	15%
Mtavari Arkhi	10%
Other	4%

<sup>65</sup>Includes both Public Broadcaster and Public Broadcaster Adjara Television and Radio



## Contributions to the state budget

In 2022, the communications industry provided 434,299,755 GEL to the state budget. Last year, the amount paid by broadcasters to the state budget<sup>66</sup> of Georgia in the form of taxes<sup>67</sup> amounted to 38,145,575 GEL, and the amount paid by authorized persons and/or license holders in accordance with the Law of Georgia “On Electronic Communications” was 396,119,119 GEL. As for the revenue received from licensing, in 2022 the state budget received a total of 15,759 GEL from the communications sector. 19,302 GEL was transferred to the budget as a fine for administrative violations.

<sup>66</sup>The data are based on the information provided by the Ministry of Finance

<sup>67</sup>Income tax, profit tax, VAT, excise duty, import tax, property tax, land tax (agricultural and non-agricultural)

## Georgian Internet space without illegal audio-visual products

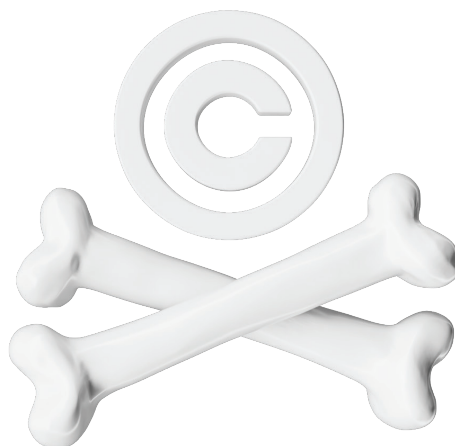
To protect intellectual property and copyright, the Communications Commission, together with stakeholders and organizations, has been actively working for years to remove illegal audio-visual products from the Internet space.

During the last year, more than 50 Georgian and more than 200 foreign illegal sites were monitored.

Due to the fact that the complete elimination of piracy remains a top priority, the Communications Commission, in working mode, continuously demands websites to remove illegal audio-visual items from their platforms and takes the necessary legal action.

Placing audio-visual products on the Internet in violation of copyright, besides damaging the country's image and reputation, causes serious financial losses to companies that have legally purchased the same audio-visual products. In the fields of copyright and related rights protections, the Communications Commission has been operating increasingly for several years within its competence. In the first stage, the Communications Commission almost completely removed illegal audio-visual products from broadcasters and cable companies.

The Motion Picture Association of America, which includes Disney, Warner Bros., Universal Pictures, Sony, Paramount Pictures, and Netflix, addressed the Communications Commission, the Sakpatenti and Anti-Piracy Association with a letter of warning due to Internet piracy in Georgia. American movie studios have expressed concern about showing illegal films on sites in Georgia and have warned the country of sanctions if the problem is not resolved, which meant postponing movie and TV series world premieres, and in some cases restricting them completely. The film studios expressed their hope that with the help of the Commission on Communications, illegal, movies and TV series will no longer be available on the Georgian Internet space.



## Global Media and Information Literacy Week

At the 56<sup>th</sup> annual meeting of the European Platform of Regulatory Authorities (EPRA) held in 2022, the members of the EPRA Council referred to the media literacy projects of the Communications Commission, including the activities within the framework of the Global Media and Information Literacy Week, as the best examples of raising awareness of global media and information literacy (MIL).

Within the framework of the MIL week, the Communications Commission, together with partner organizations, carried out various activities for school and university students, teachers, and parents in Tbilisi and the regions, including the following events:



- Media Literacy Day was celebrated for the first time in public and private schools across the country. With the involvement of students and teachers, various activities were carried out in Tbilisi and the regions to raise awareness about the importance of media literacy, including a lesson where students received information on the negative effects of disinformation. Based on the educational materials provided in advance by the Communications Commission, the students independently prepared and displayed informational banners with tips for detecting fake information. Moreover, some schools joined Media Literacy Day with a flash mob and thematically painted school yards. Film screenings were also organized for youth to develop their critical thinking skills;
- To raise awareness about the importance of media literacy, an educational simulation game was held for students in the Media Academy, where students acted as representatives of media, disseminators of false information, and representatives of organizations fighting against disinformation;
- The Media Academy hosted an informational meeting for startups and students on cybersecurity, dedicated to Internet fraud and the protection of user rights;
- To raise awareness about the protection of children from the harmful effects of the Internet and its safe use, an informational meeting was held for parents. The participants received information about the habits of children related to the Internet and rules for its safe use.

The Global Media and Information Literacy Week concluded with a conference, which was attended by the representatives of the Ministry of Education and Science of Georgia, the Delegation of the European Union to Georgia, the UN Office in Georgia, the United Nations Children's Fund, and the Regulatory Authority of the UK (Ofcom) along with the Communications Commission. Other stakeholders, including governmental and non-governmental organisations, universities, and media representatives, also participated in the conference. The conference was comprised of two panel discussions: the first panel focused on the role and importance of formal and non-formal education in the development of media literacy, and the second panel explored the challenges associated with disinformation and media standards.

The Global Media and Information Literacy Week, organized by the Communications Commission, was held in Georgia for the second time under the framework of the resolution adopted by the UN General Assembly on March 25, 2021. The purpose of the week was to raise awareness about the importance of media literacy for society.

## Media Key



In 2022, the Communications Commission launched Media Key, a new media literacy project for children, parents, and teachers. It is an online platform based on the Finnish model that focuses on the positive content of movies and helps youth understand movies and cartoons. The European Commission recognized Media Key as a project that promotes the development of critical thinking among adolescents through the analysis of films.

As part of the Media Key initiative, in 2022, information developed by psychologists and film specialists about 100 films, including 30 Georgian and 70 foreign films, was published on [www.mediatsigniireba.ge](http://www.mediatsigniireba.ge). Movies are divided according to relevant age categories and are accompanied by individual descriptions, questions for discussion as well as some guiding points. Media Key offers films for four age groups, namely: 4 to 8, 9 to 11, 12 to 14, and 15 to 18.

Film reviews include two important elements. The first defines the target audience and the second describes the positive content of the film and its effect on the development of adolescents. Furthermore, there is a detailed discussion guide for children and their parents.

Media Key helps adolescents develop their critical thinking skills by allowing them to independently determine the reliability of information, analyse the content and evaluate the essence of the media product. At the same time, the project gives teachers the opportunity to diversify the learning process by introducing film as a teaching instrument in their classrooms.

Within the framework of the project, the Communications Commission conducts film screenings in schools and actively involves students in the discussions, which are guided by a media literacy trainer representing the Communications Commission.

Up to this date, more than 100 students have attended Media Key movie screenings, and more than 40,000 users have benefitted from the Media Key project.



## Disinformation as a challenge: **Developing critical thinking in schools**



In 2022, the Communications Commission continued the project Disinformation as a Challenge: Developing Critical Thinking in Schools, supported by the EU Mission due to high demand from teachers. The goal of the project is to raise awareness about the negative impact of disinformation, develop media literacy and critical thinking skills, as well as expand the knowledge of teachers.

The Communications Commission trained more than 900 teachers from public schools and vocational educational institutions across Georgia in countering disinformation. The project started in 2021 intending to train 500 teachers. The training sessions were conducted using a creative and interactive educational module created for this project by the invited experts. The educational module, which includes practical exercises, is based on modern teaching approaches and focuses on topics such as critical thinking, ways of identifying disinformation and methods of verifying information.

To ensure the further development and sustainability of the project, in 2022, the Communications Commission, in agreement with the European Union, handed the project over to the Center for Teacher Professional Development.

According to the agreement, the Center for Teacher Professional Development will train teachers from public schools and vocational educational institutions in dealing with disinformation using the manual and educational module developed by the Communications Commission. The seminars will continue in Tbilisi and the regions, including places densely populated by ethnic minorities. The teachers will gain knowledge about the negative effects of disinformation and anti-Western propaganda as well as the ways to tackle them. In addition, seminars will allow teachers to acquire comprehensive knowledge about European values and the process of Georgia's rapprochement with the European Union. As a result, teachers throughout Georgia will develop critical and logical thinking skills. Within the framework of the project, certified teachers will use the acquired experience in practice and share their knowledge with students.

## Integration of media literacy into formal education

In 2022, the Communications Commission, in partnership with the Ministry of Education and Science of Georgia and the United Nations Children's Fund, as well as with the financial support of the United States Agency for International Development (USAID), started the process of the integration of media literacy in formal education.

Within the framework of the project, research and assessment of media literacy needs in schools was carried out. In close cooperation with the Ministry of Education and Science and the Center for Teacher Professional Development, an educational standard of media literacy, a manual and a corresponding training module for teachers were developed. Trainers of the Center for Teacher Professional Development and teachers will be trained using the new resources created under the project.

The project supports the integration of media literacy as an optional subject for 10<sup>th</sup> graders into formal education. Within the framework of the project, 500 teachers will be trained.



## The competition **Truth or Fiction?!**

In 2022, the Communications Commission, together with the Media Academy, carried out the Media Literacy competition Truth or Fiction for the eighth time, including five times for school students, and three times for undergraduate students. This is a competition aimed at developing critical thinking, analysis, and fact-checking skills among adolescents. According to the rules of the competition, the participants must detect fake news spread in the media and showcase its unreliability in a creative way. Participants must present the way of finding the information using relevant sources, and at the same time, establish the real facts.



The authors of the best works are chosen by a competent jury and the winners are awarded with ultra-modern prizes by the Communications Commission.

Along with the competition, during 2022, the Communications Commission carried out training seminars on fact-checking and detection of false information for 500 students from seven universities in Tbilisi and regions, as well as more than 400 students of 28 schools in Tbilisi, Kakheti, Shida Kartli, Mtskheta-Mtianeti, and Imereti.

The Communications Commission also provides professional development opportunities for undergraduate students and carries out certified workshops. Successful students are involved in media literacy projects of the Communications Commission as trainers and share the acquired knowledge and experience with the pupils.

## Media Economics

In 2022, the Communications Commission trained 836 students from twenty-five schools in Tbilisi and the regions in the field of media economics. The students were given comprehensive information about the sources of social media funding, the role of a user in social media funding, and the principles of social media economics, in general. Adolescents received detailed information about the algorithms of different platforms.

Media Economics is a project recognized throughout Europe that involves studying the principles of digital media financing and media economics for high school students. The project is also recognized by the Evas Foundation as a unique approach to teaching about media economics and media threats. The Communications Commission, together with the author of the project, Alessandra Falcon, developed a curriculum adapted to Georgian schools. The module is taught through practical and interactive activities using multimedia platforms and the Internet. The target audience of the course is 9<sup>th</sup>, 10<sup>th</sup>, and 11<sup>th</sup> graders.

## Happy Onlife

To protect adolescents from the harmful effects of the Internet, in 2022, the Communications Commission trained 1,236 elementary school students from 25 schools across the country. Through Happy Onlife, students were introduced to the rules of safe navigation on the Internet and learned how to use the Internet safely as well as how to protect themselves from online threats and cyberbullying in a playful way.

Happy Onlife is an online app for adults that aims to teach children through play about the safe and responsible use of digital media, critical evaluation, and analysis of online content. Happy Onlife, which is one of the most effective media literacy projects in 9 EU countries, supports parents and teachers in actively developing children's media literacy skills and protecting them from cyberbullying.

Happy Onlife is adapted into 9 languages. The Communications Commission has created a Georgian version of the app, which is available for free on iOS and Android mobile devices alongside personal computers.

In 2022, the application was downloaded by 2,000 users in total, and it already has more than 15,000 users in Georgia.



## Hello Ruby

The Hello Ruby books – Adventures in Coding and Journey Inside the Computer – are a series of Finnish books aimed at developing critical thinking and analytical skills in elementary school children, along with the basics of programming and computer science.

In 2022, the Communications Commission, due to high demand, printed 5,000 books and distributed an additional 40 books among elementary school students in public schools free of charge. The Communications Commission, in cooperation with the Ministry of Education and Science and the Center for Teacher Professional Development, carried out an educational seminar for educators on teaching with Hello Ruby books.

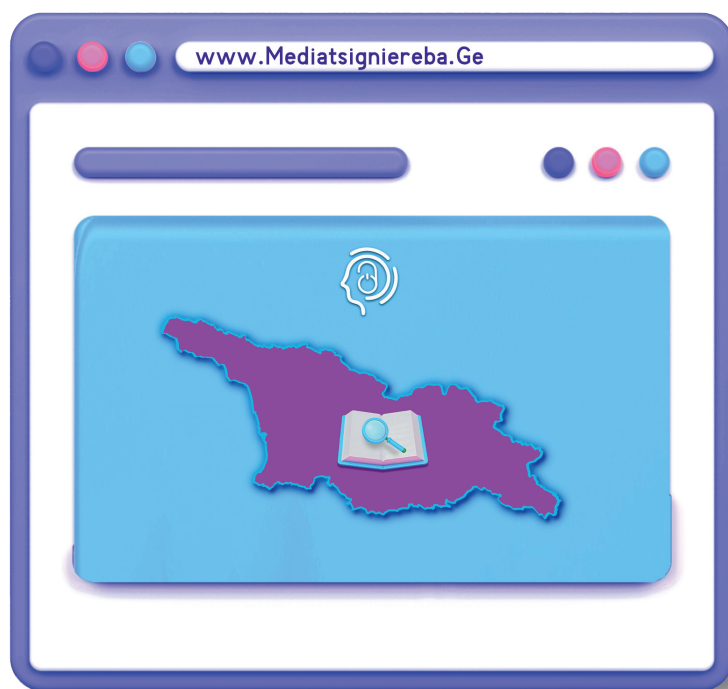
Since 2019, 3,250 elementary school students from 21 schools have been studying with Hello Ruby books.



The Hello Ruby is a series of Finnish children's books recognized as a successful educational material in 25 countries. The Communications Commission obtained the right to translate and publish the books in Georgian exclusively from the author of the book, Linda Liukas. The Communications Commission donated the series of books to schools, and as a result of close cooperation with the Ministry of Education and Science within the framework of the new education reform, Hello Ruby has been used as a textbook for elementary grades in public and private schools in Georgia since 2019. The Communications Commission trained the teachers according to the teaching method with the following books.

The Communications Commission is dedicated to involving more and more stakeholders in the process of developing media literacy in the country. This goal is served by the online media literacy platform, [www.mediatsigniereba.ge](http://www.mediatsigniereba.ge), which is a media literacy hub of public, international, and non-governmental organizations and agencies operating in Georgia. It provides access to media literacy projects and educational resources.

In 2022, four new members were added to the media literacy platform: Kutaisi International University (KIU), Parents for Education, and the Center of Development and Democracy and Georgian National Film Center. In addition, in 2022, 30 informative articles were published on media literacy issues, such as: protection of personal data, online etiquette, cyber security, healthy online life, digital citizenship, screen time management, the importance of media literacy, etc. Informational articles are intended for adolescents, as well as for teachers and parents. The platform has had more than 40,000 visitors as of 2022.





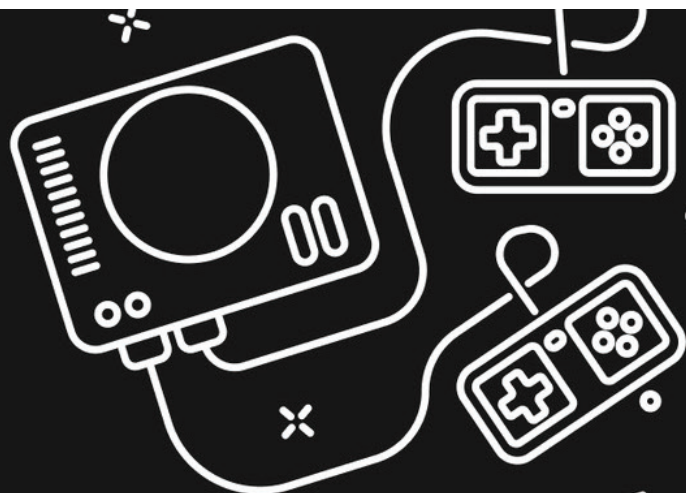
In 2022, the Media Lab of the Media Academy worked actively to develop digital literacy and promote digital media startups. Media Lab supports the development of interesting projects and creates new opportunities for startups working on the creation and implementation of innovative, progressive, and modern solutions in the field of digital media. The Media Lab accelerator helps startups with consultations, seminars, and advice from relevant specialists, and it also offers access to resources such as: the latest computer technology, free workspace, various types of equipment, and software. In addition, Media Lab helps startups communicate with potential investors and partners.

**In 2022, 25 events were carried out in the shared workspace of Media Lab. Up to 600 beneficiaries took part in Media Lab trainings and workshops, and more than 10 startups completed the acceleration and incubation program.**

### A conference for game developers

In 2022, the Media Academy hosted a two-day conference for game developers, organized by Media Lab in cooperation with Digital Road Studios and in partnership with Georgia's Innovation and Technology Agency. For two days, experts worked with startups at Media Lab and shared their experience. Masterclasses were held in the directions of 3D, VFX, game design, Unity, and UE5.

During the conference, startups were able to present their ideas to possible investors, while guests were able to become familiar with the work of Georgian game developers and provide them with comments. The event was also attended by employers and investors, including representatives from Ringtail Studios and Arena Games.





## Startup ideas competition Ideadrom



Media Lab carried out the startup idea competition Ideadrom twice in 2022. The purpose of the competition is to identify potential startups and startup ideas, bring them to life, raise funding, and, most importantly, promote the product to the market. The startup teams participating in the competition underwent a one-week intensive training and, together with experienced mentors, worked on improving and developing their ideas. Experienced startup entrepreneurs and commercialization experts, including a lawyer, financier, and marketing specialist, also worked with the teams. The participants were trained on the following topics: validation of startup ideas, team management, prototyping, and product testing methods, simple finances, and legal issues for startups, as well as choosing the right business model for an idea. The knowledge and experience gained based on practical training gives the contestants the opportunity to turn their ideas into real products and prepare them for delivery to the global market.

Media Lab has carried out the Ideadrom competition for the fifth time since 2020. The topics of the last year's competition were simplifying communication in the digital space, educational gaming, protection from fake information and increasing access to information.

### **The prize fund of the competition is 10,000 GEL.**

Most of the participating teams are successfully continuing their activities, and some of their products are already on the global market.

The winning teams of 2022 are Pharaoh and Stori AI. Both teams have won in different competitions and are still developing their own projects. The Pharaoh team has planned a trip to the United States of America and Germany to attract partners and investors, and the Stori AI team, after receiving a 150,000 GEL grant from GITA, is going to the USA in search of additional investments.

The Base2 team participating in Ideadrom 2021 received funding to develop a prototype and complete work on the first version of the product. Their educational game will soon teach many adolescents the basics of programming in a fun and engaging way. The product will enter Georgian schools in 2023. The startup Colis received funding of 150,000 GEL from GITA, and the social network created by the startup Bubbler has already thousands of users. In 2022, the Skilltape platform on the Vezir application was launched, and the products of webixx, another startup participating in Ideadrom, are planned to be launched.

## Video tutorials and educational resources from Media Lab

To raise awareness, share experiences and develop digital literacy, Media Lab constantly distributes informational and educational materials on online platforms for readers interested in digital media and startups.

In 2022, more than sixty articles were posted on different platforms of Media Lab, and in total, users can get acquainted with up to two hundred published materials on Media Lab platforms.

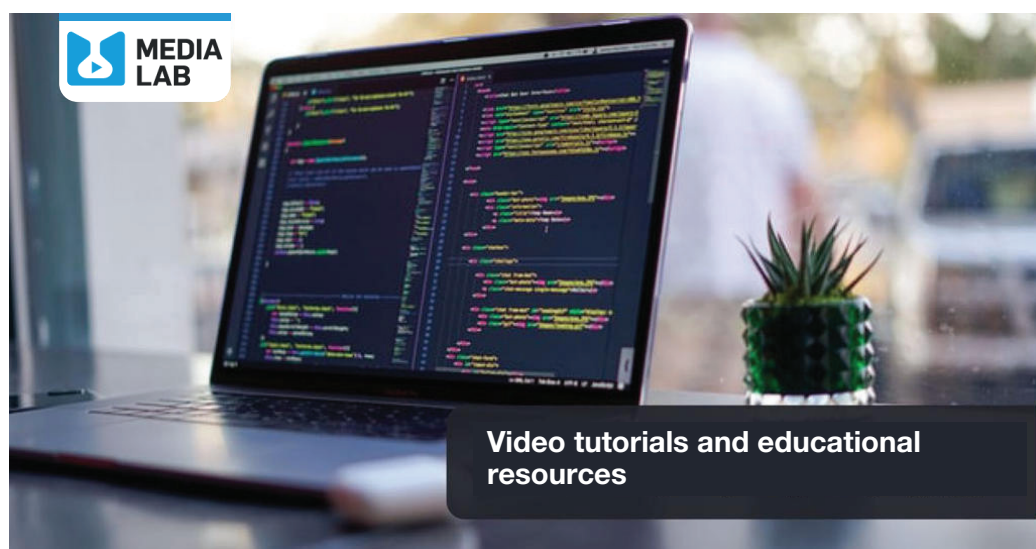
**In 2022, more than 11,000 users visited Media Lab's website every month and received informative material.**

**Media Lab's Facebook page has about 24,000 followers. 5,300 followers were added in 2022.**

In 2022, video tutorials were added to Media Lab projects. The tutorials have a total of 850,000 views on the Media Lab social network.

Video tutorials cover topics related to startup development, including:

Startup launch issues, risks, finances, legal issues, industry analysis, startup scaling, problem-based value proposition, etc. In addition, as part of Media Literacy Week, video lessons were created on cyberbullying and various forms of Internet fraud, such as financial and email fraud.





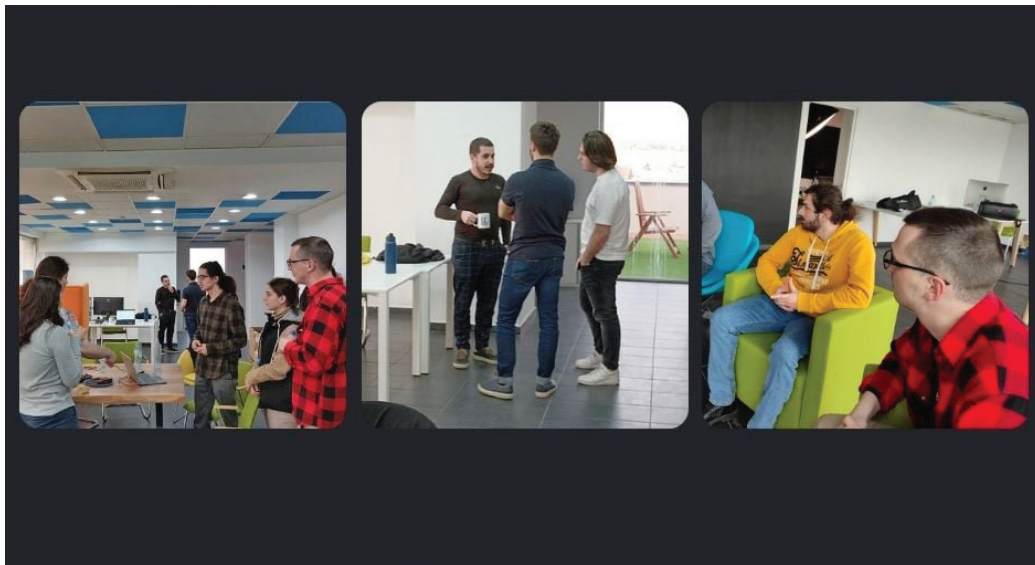
## Cycle of seminars in Media Lab

In 2022, Media Lab held seminars and masterclasses for digital media startups and beneficiaries to share resources, information, and experience with ecosystem specialists. The cycle of seminars included topics such as: the art of negotiations, legal issues related to startup activities, finances, presenting an idea to potential investors and product testing.

Participants gained knowledge about startup and traditional business features, rapid growth of startup, startup risks, startup team management, value proposition, product testing, planning, and creating prototypes, business model, and investor negotiations.

For the first time, Media Lab hosted a seminar on cybersecurity for startups, where startups received advice and assistance from experts in this field adapted for them. Also, within the framework of the Nasa Space App Challenge project, training was conducted in the direction of prototypes.

In 2022, with the involvement of Georgian and foreign experts, master classes were conducted for the creators of 3D and visual effects (VFX), game designers, Unity and UE5 developers. About a hundred beneficiaries attended the mentioned trainings.





For the fourth year, the Media School has been actively working to establish media standards and help media representatives in their professional development and raising their qualifications.

**In 2022, the Media School conducted up to 10 trainings for journalists and students of the Faculty of Journalism, with more than 100 participants.**

In addition to theoretical knowledge, media representatives also performed practical work on the following topics: propaganda in war and peacetime, safe coverage of rallies and demonstrations, European Union institutions and cultural diversity, conveying a story and preparation of articles, storytelling, and dramaturgy, disinformation, and methods of fighting with it.

Media representatives had the opportunity to gain experience and work with journalists Maka Antidze and Marika Bakuradze, photojournalist Davit Mdzinarishvili, playwright Basa Janikashvili, as well as psychologist Rusudan Gorgiladze. The journalists also met with the President of the National Bank, Koba Gvenetadze, who provided the participants of the seminar with detailed information about the macro-economic trends of Georgia and the functions, structure, and tasks of the National Bank.

### Media Academy online masterclass

For two years the Media School of the Media Academy has been conducting free online masterclasses for those who are interested in journalism. The masterclasses provide an opportunity to learn from successful and professional authors what is generally needed for the media, the preparation of high-quality media products and a professional journalist.

29 video lessons delivered by four new authors were added to the masterclass schedule in 2022. The writers and topics are wide and engaging for TV managers, journalists, and producers, as well as those interested in media product creation.

The course of lectures by media manager and producer Giorgi Khaburzania provides interested listeners with information on how the first megashow was created in Georgia, how the Georgian TV show industry has gone, how the most popular megashow is made, and what skills are needed to prepare high-quality projects and programs.



Journalist Maka Antidze shares with the listeners her 30-year experience at Reuters and practical examples of how an article is written, how a journalist should work and convey a story, including when covering emergency situations, as well as what qualities a correspondent should have and how to prepare a high-quality Interview.

The masterclass by BBC Quality Management Manager Natia Abramia shows the audience how to manage media projects and creative teams with limited resources in a way that continually improves quality and saves time. The author shares with the audience all the modern methods that are used today to improve the management process in the world's leading media organizations.

Theatre expert and TV presenter Nika Tsulukidze's lecture course helps journalists to establish their own characteristic direction on television, and online lectures focus on the nuances that journalists and students working on a daily basis need.

The first and second cycles of the masterclass include online lectures by 9 authors: journalists Eka Beridze, Tamta Sanikidze and Maka Antidze, dramatist Basa Janikashvili, photojournalist Davit Mdzinarishvili, cameraman Davit Chhikishvili, media manager Giorgi Khaburzania, quality management manager Natia Abramia, as well as theatre expert and TV presenter Nika Tsulukidze.

**The online series of the masterclasses has a total of over 1.5 million views since its initiation.**



The Media Criticism online platform [www.mediacritic.ge](http://www.mediacritic.ge) continues to take care of the professional development of media representatives and offers a critical analysis of media products to both journalists and the public. In the era of modern technology, where disinformation and fake information about numerous topics are frequently disseminated online and via social media, the Media Criticism platform acts as a professional and qualified information filter. It serves as a guide between society and the media, while also contributing to the professional development of journalists and producers.

**During 2022, 147 materials were published on the platform.**

Media Criticism works in three main directions, the statistics of which are as follows:

**45 remarks** – A small format critical article, which mainly deals with daily news;

**52 reviews** – An analytical article that includes an analysis of one or several media products;

**50 blogs** – Authors' analytical articles;

**The Media Criticism Facebook page has 20,390 subscribers, including 5,780 subscribers added in 2022. More than 4 million users have seen the materials posted on the Media Criticism Facebook page since its initiation, and in 2022 alone, up to 350,000 people visited the Media Criticism platform.**

Media Criticism has been governed by an editorial code developed in collaboration with professional journalists and media experts for the past four years. The code's guiding principles include accuracy of information, impartiality and integrity, public interest and accountability, as well as separation of facts and assessments, balance, privacy protection, non-discrimination, editorial independence, and trust. The materials published on the website of Media Criticism offer the readers publications on violations of the mentioned media standards.

It should be taken into account that media products to be analysed by Media Criticism, are selected based on several criteria, including: the channel rating, the violated professional standard, the seriousness of the violation, and the frequency the channel violates media standards.

• **The Communications Commission is the chair of the independent platform of the Eastern Partnership Electronic Communications Regulators** - at the 20th plenary session of EaPeReg, the Communications Commission was elected as the chair for 2023 and will lead the platform for one year. At the session, which was organized by the Czech Telecommunication Office (CTU) and supported by the European Commission, the member of the Communications Commission Ekaterine Imedadze, the acting head of the International Relations and Project Management Department, Mzia Gogilashvili, and the chairman of the EaPeReg Spectrum Expert Working group (SEWG) and representative of the Department of Spectrum and Technology, Roman Kurdadze, presented the EaPeReg Action Plan 2023, which was unanimously approved by the participants. The working plan provides for the following issues: signing regional agreements on roaming and spectrum, strengthening cooperation between Body of European Regulators for Electronic Communications (BEREC), Euro-Mediterranean Regulators Group (EMERG) and the International Telecommunication Union (ITU), as well as active participation in the regulatory (telecom rules) component of the telecommunications rules of the EU4Digital project initiated by the European Commission.

The Communications Commission was elected as the chair of EaPeReg for the third time. The Commission first led the network in 2015 with the Swedish Post and Telecom Authority (PTS) and then in 2019 with the Public Utilities Commission (SPRK) of Latvia. In 2023, along with the Communications Commission, EaPeReg will be led by the Irish Commission for Communications Regulation (ComReg).

Within the framework of cooperation with EaPeReg, several important activities were carried out in 2022, including:

1. Ekaterine Imedadze, Member of the Communications Commission, and Mzia Gogilashvili, representative of the International Relations and Project Management Department, together with the leadership of EaPeReg, met with the General Directorate of the International Telecommunication Union (ITU) and the Director of the European Office of ITU. Within the framework of the meeting, the parties agreed to participate in joint events and projects, including the introduction of the new generation (5G) network, the digital infrastructure map, and the further of harmonization of digital markets.
2. Meetings were held between the Body of European Regulators for Electronic Communications (BEREC), the BEREC Support Agency (BEREC Office) and EaPeReg, where the parties agreed to deepen cooperation within the framework of the memorandum and mutual involvement in expert working groups. Particular attention will be paid to topics such as: the independence of the regulatory environment in electronic communications, the analysis of electronic communications markets, 5G networks, network security, cyber security, and the reduction of international roaming rates.
3. The Communications Commission hosted members of EaPeReg Independent Regulators and Broadband Expert Working Group (IRB EWG). The event, which was attended by representatives of the regulatory bodies of Romania, Latvia, Lithuania, the Czech Republic, Ireland, Italy, Armenia, Azerbaijan, Moldova, as well as the Body of European Regulators for Electronic Communications (BEREC), was opened by the member of the Communications Commission, Ekaterine Imedadze. She spoke about the importance of the harmonization of digital markets and digital transformation, as well as the role of the telecommunications sector in ensuring continuous connectivity and availability of services. One of the goals of the working meeting was to summarize the results of the EU4Digital Telecom Rules stream initiated and funded by the European Commission, in particular the activities related to strengthening the independence of regulators. At the same time, the countries developed and approved the IRB EWG work plan for 2023. Among them, in accordance with the practice of the European Union, they updated the Internet access (IAS) monitoring questionnaire and the telecommunications market analysis methodologies. In addition, they discussed the work to be implemented in the direction of introducing the digital map related to the Broadband Cost Reduction Directive. At working meetings, the representatives of the



Telecommunications Market Regulation Department of the Communications Commission shared their experience with colleagues on the project related to the introduction of updated rules for market analysis and identification of relevant markets.

4. With the involvement of EaPeReg member states, the second phase of the EU4Digital program, initiated and financed by the European Commission, began. The goal of the activity is to bring partner countries closer to the single digital market of the European Union. A meeting was held on the sixth component of the program, telecom rules, and the priorities identified for the second phase were discussed. In particular, the project team will assist the EaPeReg spectrum experts working group to develop guidelines and action plans to allocate frequency bands relevant to 5G technology for countries, as well as assess and monitor access to broadband Internet services. Special attention will be paid to improving the text of and signing the regional roaming agreement.

• **Discussion on the importance of telecommunications at the forum of the Information Society World Summit**

- Ekaterine Imedadze, a member of the Communications Commission, participated in the high-level political forum of the World Summit on the Information Society (WSIS), "Enabling Environment". She spoke about the role of regulatory bodies in providing an enabling environment for the development of electronic communications and media. She focused on creating an adequate regulatory environment and developing the digital ecosystem.

• **Discussion on prospect of Georgia as digital hub at International Digital Connectivity Summit**

- The International Digital Connectivity Summit was jointly organized by the Communications Commission, the Ministry of Economy and Sustainable Development, and the World Bank. Ekaterine Imedadze, Commissioner, opened the panel discussion dedicated to the advantages of developing digital opportunities in Georgia and establishing it as a digital hub. She spoke about the realization of the economic potential of the digital corridors of the South Caucasus and formation of the digital service hub and outlined the important role of the telecommunications sector in Georgia and the Communications Commission as an expert and supervisor of the field, in this process.

Vakhtang Abashidze, Commissioner, opened the summit together with the Minister of Economy and Sustainable Development and Vice Prime Minister, Levan Davitashvili, and the Regional Director of the World Bank, Charles Cormier, who spoke about Georgia as a digital hub and the prospect of establishing a data centre. He noted that with the existing telecommunications backbone infrastructure, the country has a guaranteed advantage of becoming a link between Europe and the Middle East.

• **Trends in telecom market competition at US Commercial Law Development Program event** - The representatives of the Communications Commission presented the trends of regulation and development of the telecommunications sector in Georgia to their American and European partners participating in the event organized by the United States Commercial Law Development Program.

The three-day event on the topic, "Competition in the Field of Telecommunications", was opened by Natia Kukuladze, Commissioner, who focused on the importance of competition in the telecommunications sector and the authority of the Communications Commission in terms of competition law enforcement. Natia Kukuladze also spoke about the importance of cooperation between the Communications Commission and the Competition Agency, which ensures the effective enforcement of competition legislation.

Ekaterine Sichinava, the head of the Telecommunications Market Regulation Department, and Levan Maisuradze, a lawyer of the Legal Department, discussed the regulation of competition in the field of electronic communications and broadcasting, the powers of the Communications Commission in terms of enforcement of competition law, and the trends in the regulated markets in Georgia, as well as the regulation of competition and mechanisms for ensuring that competition exists in the field of electronic communications.

- **Presentation of Georgian Internet quality measurement platform Sheamotsme.ge during International Day of Internet Measurement** - The Communications Commission and the Association of Small and Medium Operators organized an online conference to introduce initiatives related to the development of the Internet. The goal of International Internet Measurement Day (IMD) is to share local and international experiences with effective Internet monitoring mechanisms. Ekaterine Imedadze, Commissioner, spoke about the importance and necessity of safe and high-quality communications in the era of digital technologies and the need to share modern experience in this direction. One of the sessions was dedicated to Internet quality monitoring, where the representative of the Spectrum and Technology Department Mikheil Jghamadze presented the platform Sheamotsme.ge, created by the Communications Commission for Internet quality control, and spoke about the effectiveness of the project.

- **Polish Aid Project to bring Georgia closer to the European Union single digital market** - The Polish Aid Project was successfully implemented to support the development of the Georgian electronic communications market and bring it closer to the European Union single digital market. With the involvement of experts from the Polish Electronic Communications Regulatory Authority, the project lasted for two years and covered the following topics: extended interconnection and IP transit; protection of the rights of business subscribers as recipients of telecommunication services; preliminary (ex-ante) regulation; methodology of market analysis; determination of geographic boundaries of markets and evaluation of existing competition in the market; and the identification of players with significant market power.

- **Working meetings with experts of the Electronic Communications Office of Latvia** - The Communications Commission hosted experts of the Electronic Communications Office (ECO) of Latvia to share best practices and experiences on managing the radio frequency spectrum monitoring system. The working visit was organized with the support of the European Commission, through the Institutional Development, Technical Assistance, and Information Exchange Instrument (TAIEX).

- **Meetings of working groups of the International Telecommunication Union** - In 2022, Sergo Shavgulidze, the member of the Advisory Council of the Communications Commission, participated in the meetings of the working groups of the International Telecommunication Union (ITU), where, along with terrestrial mobile services, wireless access to fixed services, amateur and amateur-satellite services, maritime mobile service issues were discussed.

- **Cooperation with fellow regulatory bodies** - During 2022, the Communications Commission actively worked to expand international cooperation. Cooperation agreements were signed with the United States Federal Communications Commission (FCC), the Radio and Television Commission of Lithuania (RTCL), and the TV-Radio Commission of the Republic of Armenia. The aim of the agreements is to exchange information on best practices, regulatory legal documents, standards, and applicable methods with the aim of promoting the development of the electronic communications and broadcasting sectors.

In 2022, to improve services, a cooperation agreement was signed between the Communications Commission and the Georgian National Energy and Water Supply Regulatory Commission (GNERC). The purpose of the agreement is to promote the implementation of joint projects between both regulators and to increase efficiency in this direction.

To successfully protect user rights, a united conference of regulatory authorities functioning in the country was held for the first time on the theme "Competition and User Rights" in 2022. Vakhtang Abashidze, a Commissioner, together with his colleagues, opened the event and focused on the importance of competition in the telecommunications sector and the authority of the Communications Commission in terms of competition law enforcement. He also spoke about the importance of the cooperation between the Communications Commission and regulatory authorities, which ensures the effective enforcement of the competition legislation.

- **Internet Governance Forum in Georgia** - With the support and promotion of the Communications Commission, the Georgian Youth Internet Governance Forum, the 8th Georgian Internet Governance Forum (GeolGF 2022), and the Network Operators Forum (NOG-2022) were carried out. The goal of the youth forum was to inform young people about topics related to information security, media literacy, and communications and to promote their involvement in relevant areas. Important topics and challenges for the development of the field were discussed at GeolGF 2022 and NOG-2022. Among them are Internet access, the development of media and information literacy in Georgia, information security, disinformation, copyright, and personal data protection, as well as the challenges of the international integration of Georgia and the region.

- **Scientific discussion on the topic of 5G** - A scientific discussion on the implementation and prospects of 5G technology was carried out, organized by the Communications Commission and the Business and Technology University (BTU). Ekaterine Imedadze, Commissioner, spoke about the introduction and promotion of the 5G technology in Georgia, and Sandro Karumidze, the head of the Spectrum and Technology Department of the Communications Commission, presented the topic of 5G spectrum allocation and technological development of the infrastructure. The representatives of the Communications Commission held an in-depth discussion about the ongoing tasks to introduce and promote the 5G technology in Georgia and the prospects for the development of new generation technology in Georgia.

- **Safer Internet Day in Georgia** - The event dedicated to Safer Internet Day was opened by Ivane Makharadze, Commissioner, together with respective stakeholders. Ivane Makharadze spoke about the challenges of the safe use of the Internet, as well as the role and importance of the Communications Commission in the fight against disinformation. Commissioner informed the public about the projects of the Communications Commission for the development of media literacy and noted that the development of media literacy skills remains the main priority of the Communications Commission.

- **Digital Transformation Forum in Georgia** - In 2022, the Communications Commission hosted panel discussions on telecommunications market development and media literacy as part of the Georgian Digital Transformation Forum. The event was organized by the Communications Commission and the Georgian ICT Cluster and Digital Transformation Consortium, with the support of the USAID Economic Governance program. At the panel discussions, the representatives and experts of the field provided their positions on the importance of opening the telecom market in Georgia and the development of media literacy in the country. The first panel discussion, which was opened by Commissioner, Ekaterine Imedadze, and the head of the Georgia ICT cluster, Davit Kiziria, focused on the role of the telecommunications sector in the process of digital transformation in the country and the development prospects. Within the course of the panel important topics were discussed, such as: the regional digital hub and the further development of the region's safe digital corridor capabilities in Georgia; the needs and vision of introducing 5G technology and access of virtual operators to the market; development of broadband infrastructure in the regions; the progress of the national broadband development program and innovative digital platforms in Georgia. The discussion was attended by representatives of the World Bank, the Ministry of Economy and Sustainable Development, Open Net, the MVNO Association, GITA, the Association of Small and Medium Telecom Operators, as well as the Data Analysis Laboratory. During the discussion, the participants discussed the implemented and planned projects in the direction of digital transformation.

The second panel was dedicated to the role of media literacy in the information age, which was opened by Natia Kukuladze, Commissioner. Topics related to media literacy were discussed at the mentioned panel. Among them were the advantages and challenges in the development of media literacy in the country, the role of media literacy in civic education and the educational process, effective steps that have been taken to integrate media literacy in the educational process, and the role of media literacy in the professional development of teachers. During the discussion, the participants summarized the projects implemented in the direction of digital literacy and cyber ethics. Along with representatives of the Communications Commission, this panel was attended by partners including the United Nations Children's Fund (UNICEF), the Center for Teacher Professional Development, Media Academy, Geo Lab, PH International and BTU.

Within the frameworks of the Digital Transformation Forum, a 5-day event was held on four main topics, namely: government technologies and digital transformation, financial technologies, education, media literacy, and communications.



- **Conferences of European Platform of Regulatory Bodies on topics of media regulation and literacy** - In 2022, representatives of the Communications Commission took part in the annual meetings of the European Platform of Regulatory Bodies (EPRA). Among them: Commissioner Ivane Makharadze, together with representatives of the Communications Commission, attended the 55th meeting of the EPRA, where the issue of harmful effects of advertising on minors was discussed. The EPRA member organizations discussed at length the importance of media freedom and the impact of disinformation on world events, especially in conflict situations. They also discussed the importance of media regulatory bodies in the digital environment. The delegates participating in the meeting exchanged information and experience regarding the regulation of both traditional and online media. Within the framework of the meeting, a separate session was devoted to the exchange of information about the experience of the EU Member States and the difficulties and challenges in the context of the implementation process of the new Audiovisual Media Services Directive (AVSMD).

Commissioner Natia Kukuladze, head of the Media Literacy Development Department Mariam Dakhundaridze and head of the Audio-Visual Media Services Regulation Department Konstantine Koridze took part in the 56th meeting of EPRA. The meeting was about the development of media literacy, the role of regulators, and mechanisms for promoting media literacy. Mariam Dakhundaridze, the head of the Media Literacy Development Department, presented to 150 representatives from 47 countries the events planned in Georgia within the framework of the Global Media and Information Literacy Week, which the EPRA Council members evaluated as the best example of raising awareness and promoting the development of media literacy. During the meeting, the representatives of the countries also spoke about the regulation of video-sharing platforms (VSPs) in the context of the implementation of the new Audiovisual Media Services directive (AVSMD), the experience of the EU member states, and the challenges in this process.

- **Assessment of media environment - Meeting with OSCE representatives** - Commissioner Ivane Makharadze, met with Teresa Riberio, the OSCE representative on Freedom of the Media, in 2022. He presented her with information about the media environment in Georgia. In addition, he outlined the country's progress in the direction of media freedom. During the meeting, the parties also discussed future prospects for cooperation.

- **Visit of senators to Communications Commission** - The Communications Commission hosted the delegation of the Media Committee of the Senate of the Parliament of the Czech Republic. Commissioners Vakhtang Abashidze, Ivane Makharadze, and Natia Kukuladze met the first Vice-President of the Senate Jiří Růžička. At the meeting, they talked about the media environment in Georgia. Commissioners informed the Czech senators about the activities and priorities of the Communications Commission in the field of media. The parties discussed in detail the results achieved in terms of media freedom and the importance of developing media literacy in the society. Attention was focused on the challenges and plans in the media, including the need to bring Georgian legislation into line with European legislation. In this direction, the need to fulfil the obligation stipulated by the Georgia-EU Association Agreement was particularly emphasized, which implies approximation to the Directive on Audiovisual Media Services.

- **UNICEF and USAID conference on media literacy** - The Communications Commission participated in a conference organized by the United Nations Children's Fund and the US Agency for International Development, which was dedicated to the development of media literacy among young people and the fight against disinformation. At the conference, the projects implemented with the financial support of USAID were discussed and summarized. Commissioner Natia Kukuladze spoke about the importance of the joint project of UNICEF and the Communications Commission, which the Communications Commission, in partnership with the Ministry of Education and Science of Georgia and the United Nations Children's Fund, is implementing to promote the introduction of media literacy in formal education. Mariam Dakhundaridze, the head of the Media Literacy Department, informed the participants about the joint project of UNICEF and the Communications Commission.

- **Joint projects and cooperation with universities** - 2022 was important from the perspective of deepening cooperation with universities. A memorandum of cooperation was signed between the Communications Commission and Kutaisi International University (KIU). Within the framework of cooperation, the parties are to share internationally recognized educational and scientific resources. With the participation of local and international experts, training sessions, seminars, and conferences are to be held for students and lecturers. With student participation, joint projects will be implemented in the areas of the advanced digital communications technologies, as well as media literacy. Within the framework of media literacy development, the Communications Commission and Kutaisi International University will also cooperate in terms of digital media products and media startup projects, where the Media Lab of the Communications Commission will play an important role.

In 2022, European University joined the partner universities of the Communications Commission, which were represented by Tbilisi State University, Batumi State University, Samtskhe-Javakheti State University, and Business and Technology University (BTU). Media and information literacy has been introduced as an additional elective subject for undergraduate students at European University. In cooperation with the Information Center, the Communications Commission representative on NATO and the European Union actively conducts educational seminars for undergraduate students, including students living in regions densely populated by ethnic minorities and in the occupied territories.

- **Media Literacy Master Class at Webster University** - Commissioner Natia Kukuladze, together with Webster University Professor Thomas Kleiner, conducted a masterclass on media communications at the Georgian campus of Webster University. Within the training seminar, Natia Kukuladze spoke about the importance of strategic communications and media literacy and focused on the special role of strategic communications during crisis communication. The main topics of the masterclass were disinformation and false information.

### Supporting educational literature on the perspective of technology development

In 2022, with the help of the Communications Commission and authorship by the advisory board's members, publications on modern technology standards and the development of communication networks, current issues, and the development and security of 5G and 6G networks were published. In particular, the books co-authored by Sergo Shavgulidze, *The Path to 6G: Challenges for Communications Engineers and New Security Technologies for 6G Networks*, scientific books and textbooks that review the evolution from existing 5G networks to future 6G networks. Developing technologies and topics are studied, such as: artificial intelligence, unmanned aerial vehicles, and large-scale satellite constellations. 6G network security technology developments, challenges, solutions, and the significance of physical layer security for context-aware security in 6G networks were discussed.

Revaz Svanidze's textbook *Digital Fiber-Optical Transmission Systems and Technologies*<sup>68</sup> was published for specialists working in the field of telecommunications, for bachelors, masters, and doctoral students at the Technical University of Georgia, the University of the Caucasus, and the University of Georgia. The book includes scientific studies published by the author in Georgian and international journals in the direction of fiber optic transmission systems and technologies. Also, *5G Mobile Technologies and Electromagnetic Radiation* was published by Revaz Svanidze. The book discusses the characteristics of 5G mobile technology, the implementation of the technology, the electromagnetic radiation of mobile stations and mobile phones, and their ecology and harmful effects on humans.

<sup>68</sup>E-textbook *Digital Fiber Optical Transmission Systems and Technologies* - <https://dspace.nplg.gov.ge/handle/1234/429531?mode=full>

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