REPUBLIC OF SERBIA

RATEL

REGULATORY AUTHORITY FOR ELECTRONIC COMMUNICATIONS AND POSTAL SERVICES

AN OVERVIEW OF THE ELECTRONIC COMMUNICATIONS MARKET

IN THE REPUBLIC OF SERBIA

The First Quarter of 2023

The Overview presents the data for the first quarter of 2023 along with comparative data for the three previous quarters.

The presented data reflect the overall market status for each given quarter, including the actual quarterly data for the leading electronic communications operators in the Republic of Serbia, whereas the data for the rest of the market were estimated based on the data for 2022 collected in the annual questionnaires. Therefore, the total quarterly report may show discrepancies with respect to the data collected in the regular annual questionnaires. The Agency shall not be held responsible for the correctness of the data submitted by the operators in the quarterly and annual questionnaires.

Quarterly electronic communications market indicators referring to fixed telephony include the data on the operators that make up over 99% of the market, in terms of the number of subscribers. The data on the market situation include CDMA subscribers and the generated traffic.

Quarterly electronic communications market indicators referring to mobile telephony include the data on three mobile operators and, as of Q1 2019, the Agency also collects data on virtual mobile operators.

Quarterly electronic communications market indicators referring to Internet services include the data for the leading operators that make up approximately 97% of the market, in terms of the number of subscribers, whereas the data for the remaining 3% of the market were estimated based on the data for 2022 collected in the annual questionnaires.

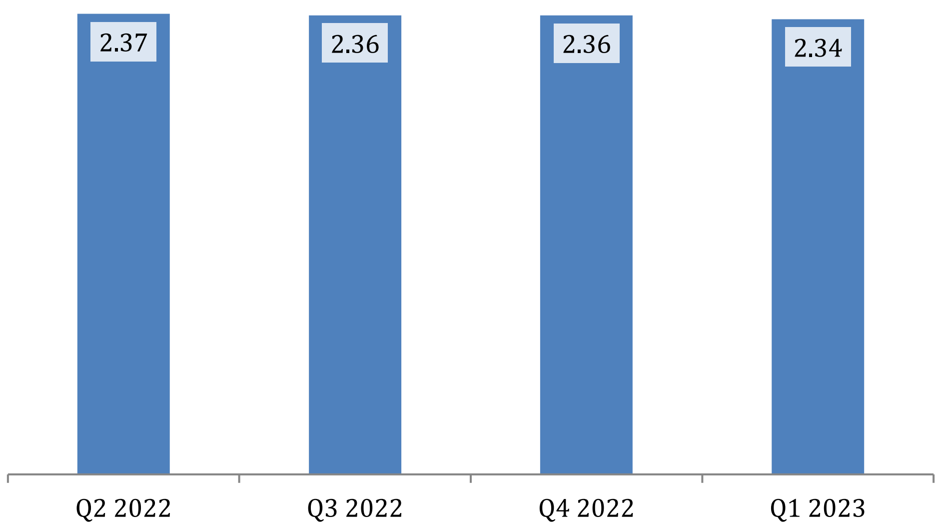
Quarterly electronic communications market indicators referring to media content distribution include the data for the leading operators that make up approximately 99% of the market, in terms of the number of subscribers, whereas the data for the remaining 1% of the market were estimated based on the data for 2022 collected in the annual questionnaires.

Quarterly electronic communications market indicators referring to bundled services include the data for the leading operators that make up approximately 99% of the market, whereas the data for the remaining 1% of the market were estimated based on the data for 2022 collected in the annual questionnaires.

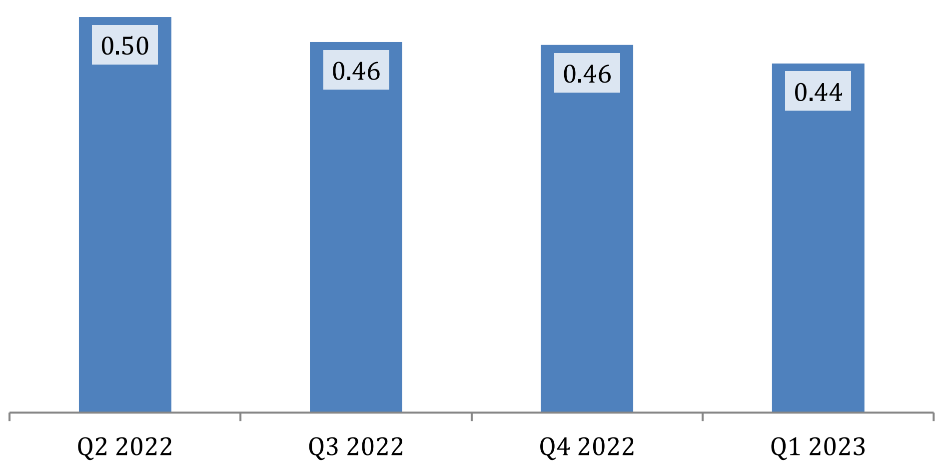
Public Fixed Telecommunications Networks and Services

Both the number of fixed telephony subscribers and generated traffic in the first quarter of 2023 have decreased compared to the previous quarter. Approximately 2.34 million fixed telephony subscribers generated around 440 million minutes of traffic in the last observed quarter, which means that a fixed telephony subscriber on average spent 2.1 minutes a day on calls.

Number of fixed line subscribers (in million)



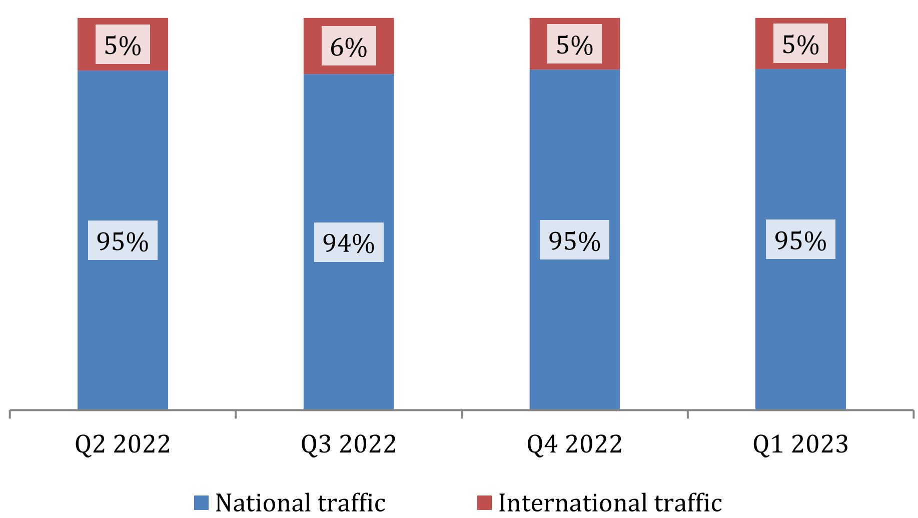
Total fixed telephony traffic (in billion minutes)*



**Data referring to the last three quarters of 2022 were rectified according to the data from the 2022 annual reports.*

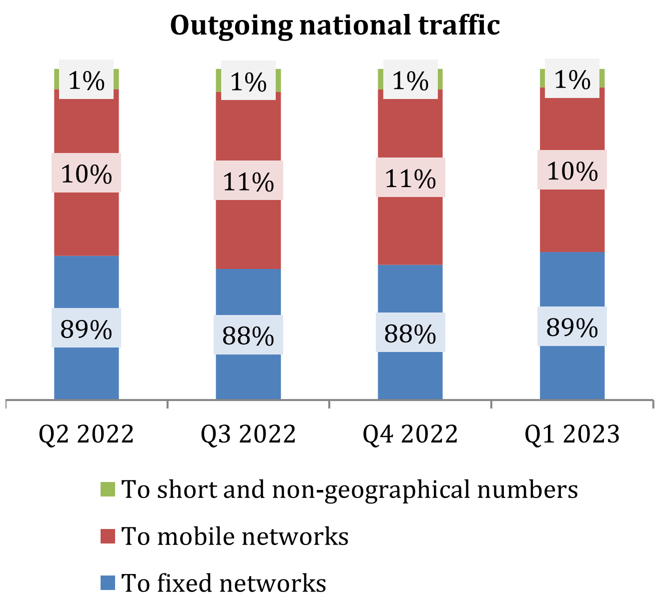
The subscriber structure has not significantly changed over the observed quarters: 87% of the fixed telephony subscribers in the first quarter of 2023 are natural persons, i.e. private users. In all observed quarters, the largest share of the fixed telephony traffic is accounted for by the national traffic, with 95% in Q1 2023.

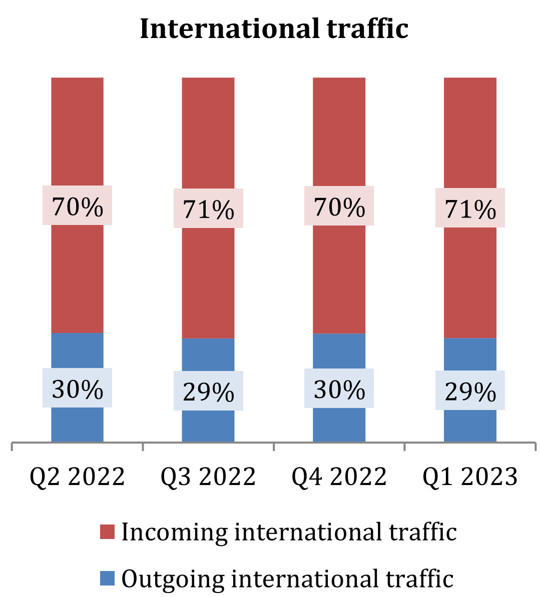
Fixed telephony traffic structure



The outgoing calls from fixed network are mostly directed towards other fixed networks, while the international traffic is dominated by incoming calls.

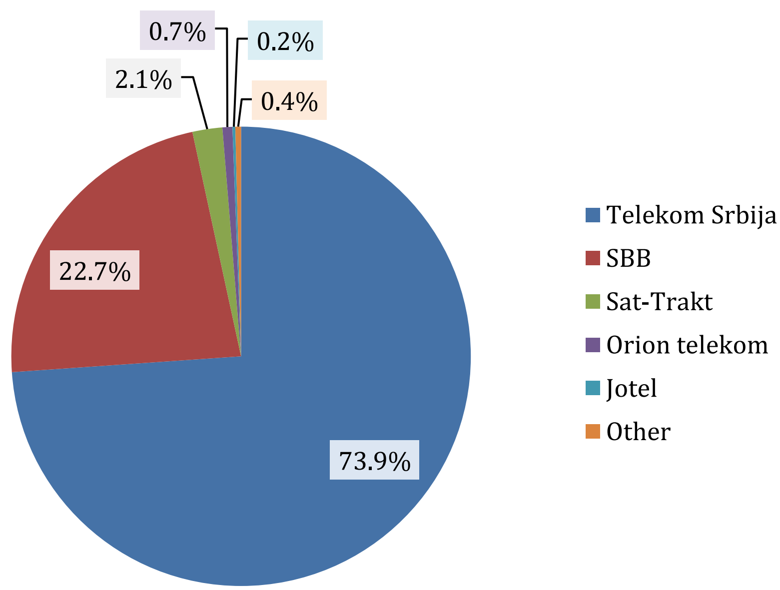
Structure of national and international traffic in fixed telephony





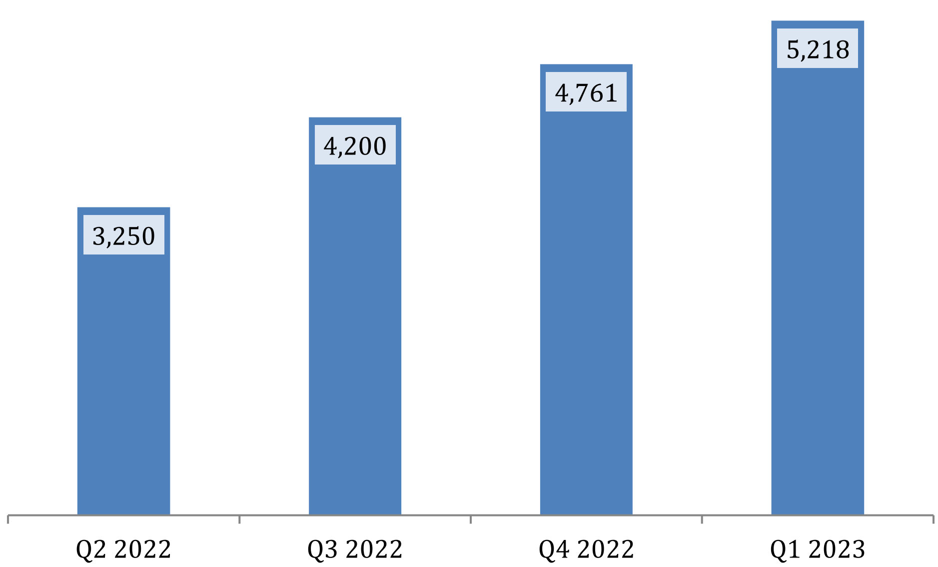
Below is shown the leading operators' market share in terms of the number of subscribers in Q1 2023.

Operators' market share by number of subscribers in Q1 2023



The number of portings in Q1 2023 was 5.2 thousand (around 1.7 thousand a month), showing a growth compared to the previous quarter.

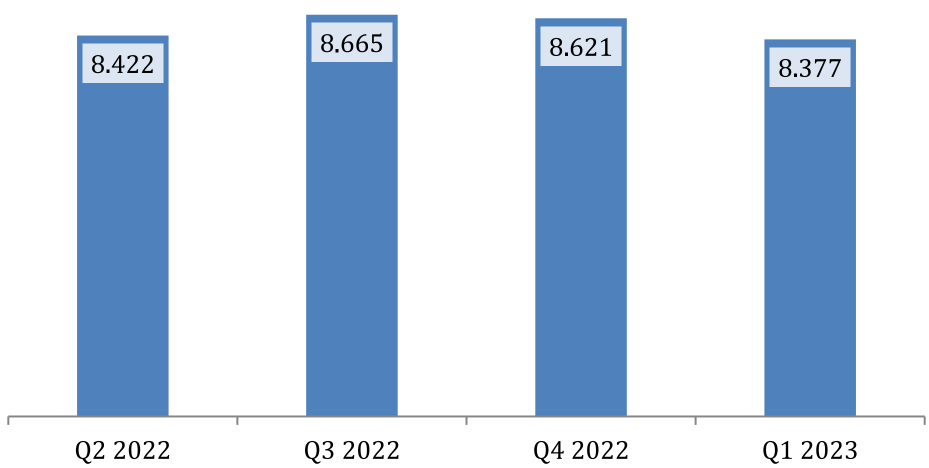
Fixed telephony number portings per quarter



Public Mobile Telecommunications Networks and Services

In the first quarter of 2023, there were approximately 8.377 million active mobile telephony subscribers that generated around 5.05 billion minutes of national and international traffic and sent around 1.13 billion SMS messages. On average, in Q1 2023, a mobile user spent around 6.6 minutes a day on calls and sent 1.5 text messages. On the mobile networks market, a decrease in the number of active mobile telephony subscribers has been observed during Q1 2023.

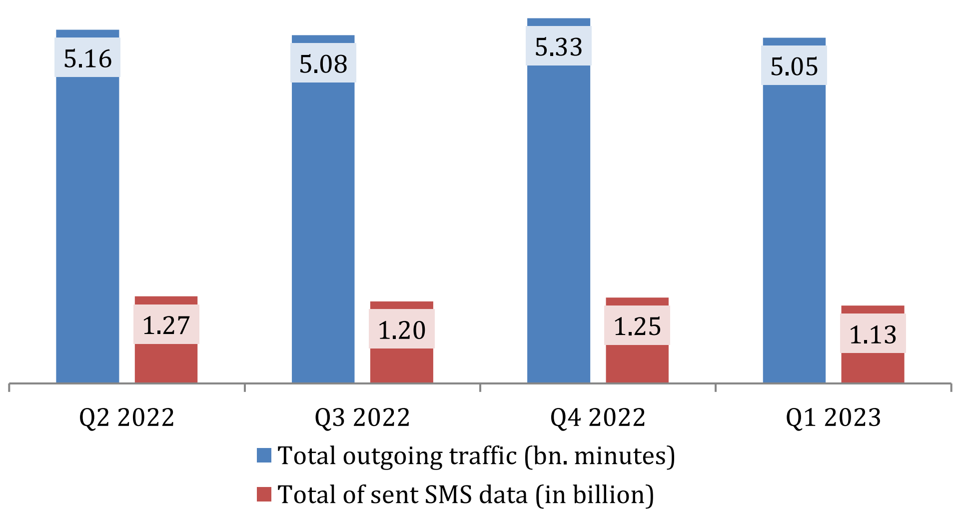
Total number of active mobile telephony subscribers (in million)*



** Data referring to the fourth quarter of 2022 were adjusted to the data from the 2022 annual reports.*

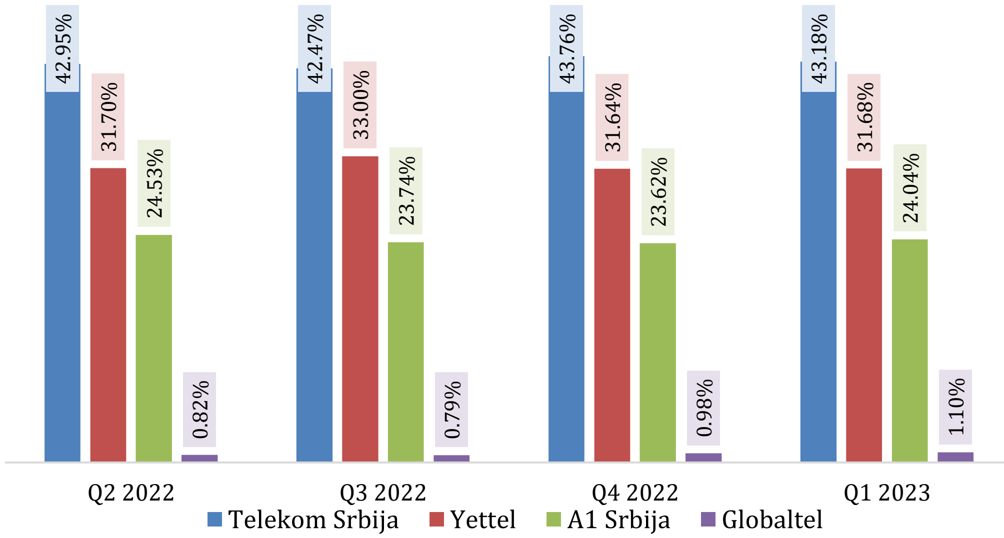
In Q1 2023, both the generated voice traffic in mobile networks and SMS traffic were lower than in the previous quarter.

Generated voice and SMS mobile telephony traffic



Below are the operators' shares in the total number of active subscribers.

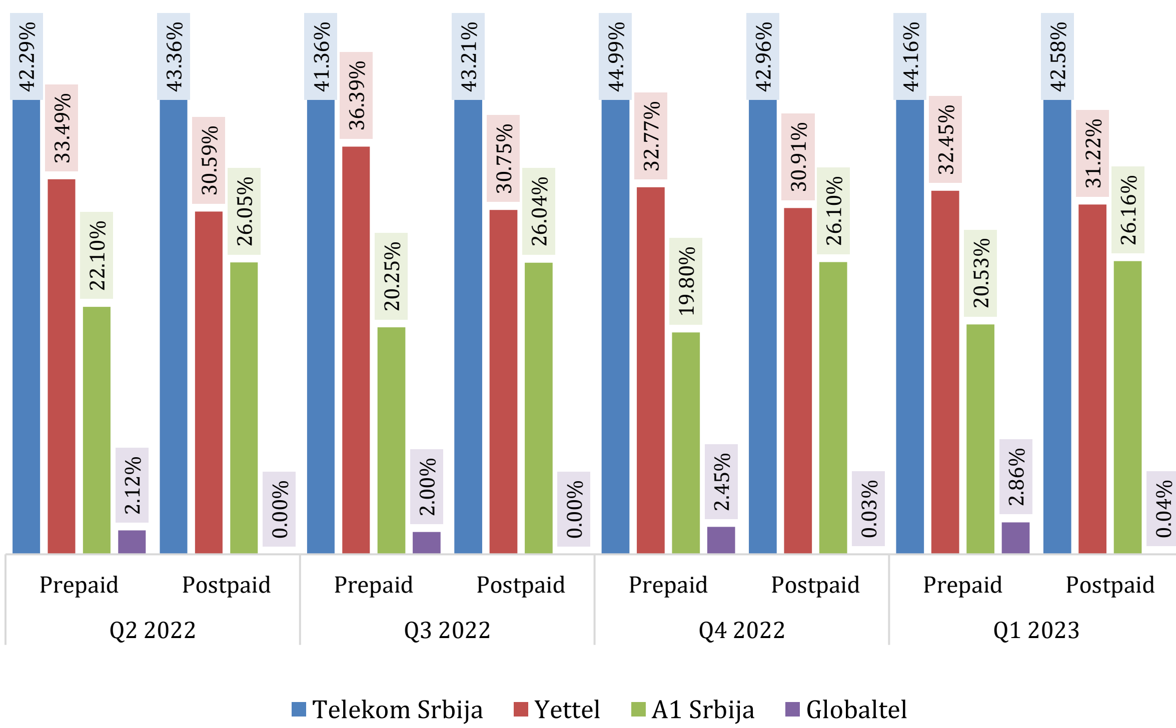
Operators' market shares by number of active subscribers *



** Data referring to the fourth quarter of 2022 were adjusted to the data from the 2022 annual reports.*

Both the number of postpaid subscribers, amounting to 5.224 million and the number of prepaid users, amounting to 3.153 million in Q1 2023 are showing a decrease compared to the previous quarter. Below are the operators' shares in the volume of postpaid and prepaid subscribers.

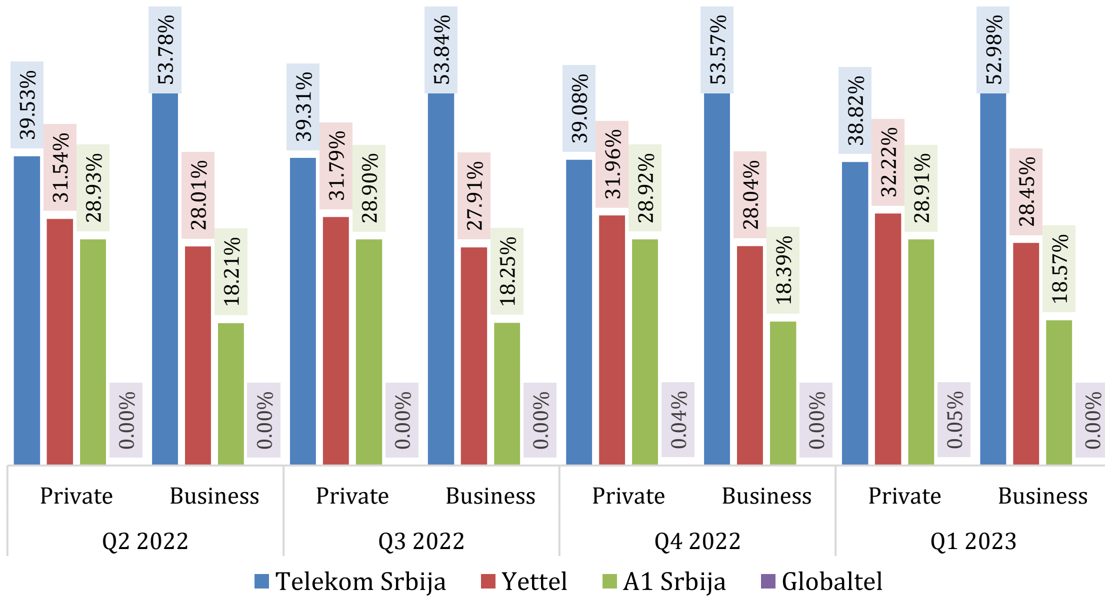
Operators' shares in total number of prepaid and postpaid users*



** Data referring to the fourth quarter of 2022 were adjusted to the data from the 2022 annual reports.*

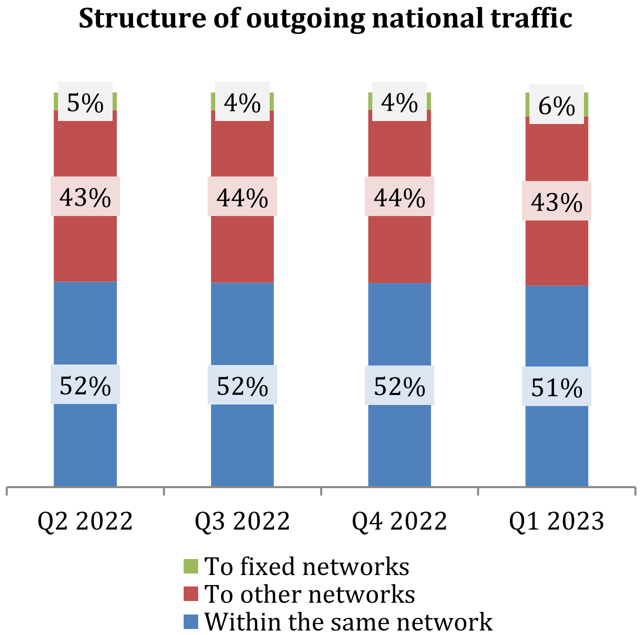
The postpaid users structure in Q1 2023 has not changed significantly compared to the previous quarters. The number of private postpaid users amounts to 3.838 million and the number of business postpaid subscribers 1.386 million. Below are the operators' shares in the total number of private and business subscribers.

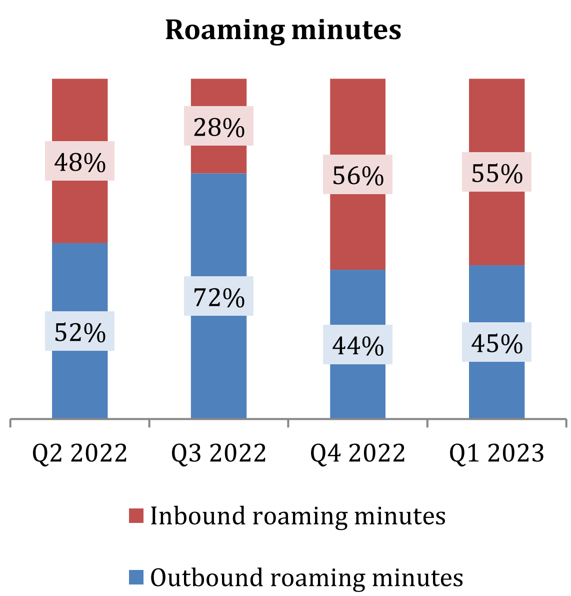
Operators' shares in total number of private and business users



Most of the outgoing traffic in the first quarter of 2023 was generated within the same mobile network (51%). As for the roaming, more traffic was generated by the users from abroad than the national mobile subscribers abroad.

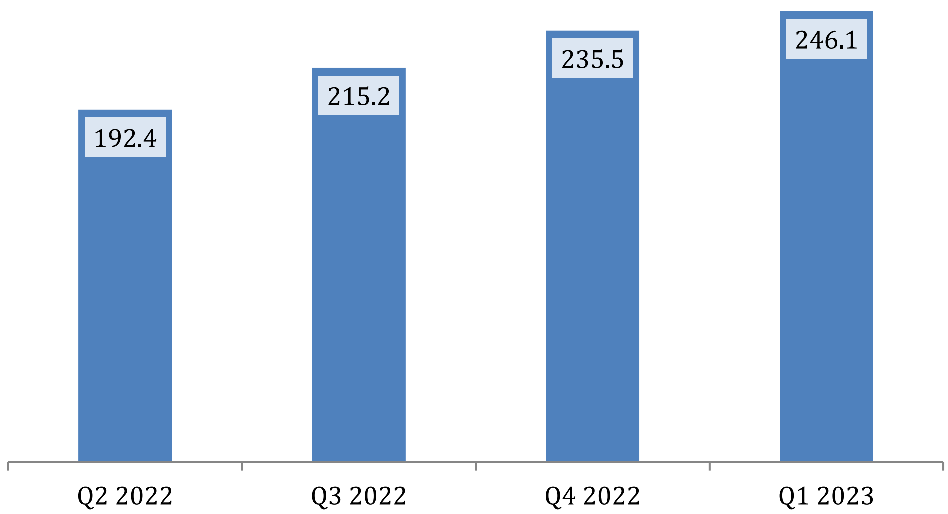
Structure of mobile networks outgoing traffic





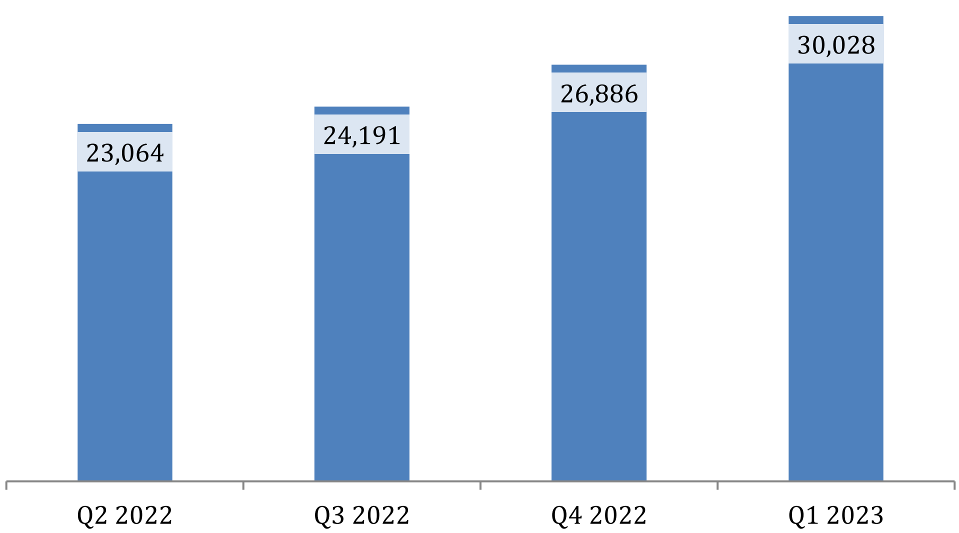
Data transmission over mobile network has increased in the analyzed period, reaching 246.1 million GB in the first quarter of 2023, which means that a mobile broadband subscriber used on average around 388 MB daily, or approximately 11.49 GB a month.

Mobile Internet traffic (in million GB)



The number of mobile telephony number portings was around 30 thousand in the first quarter of 2023, or approximately 10 thousand per month, representing an increase compared to the previous quarter.

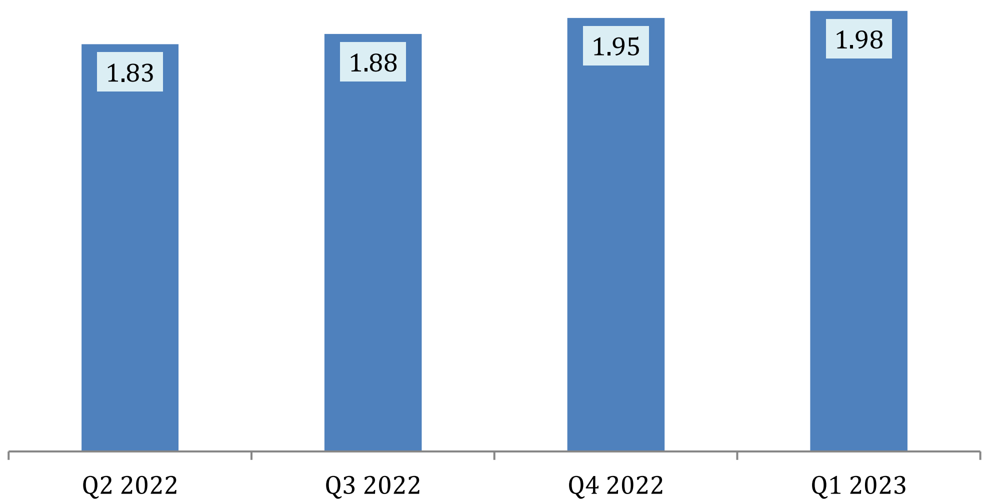
Mobile telephony number portings per quarter



Broadband Internet Access

Compared to the previous quarter, the number of fixed broadband Internet access users in Q1 2023 has slighly increased, reaching approximately 1.98 million subscribers.

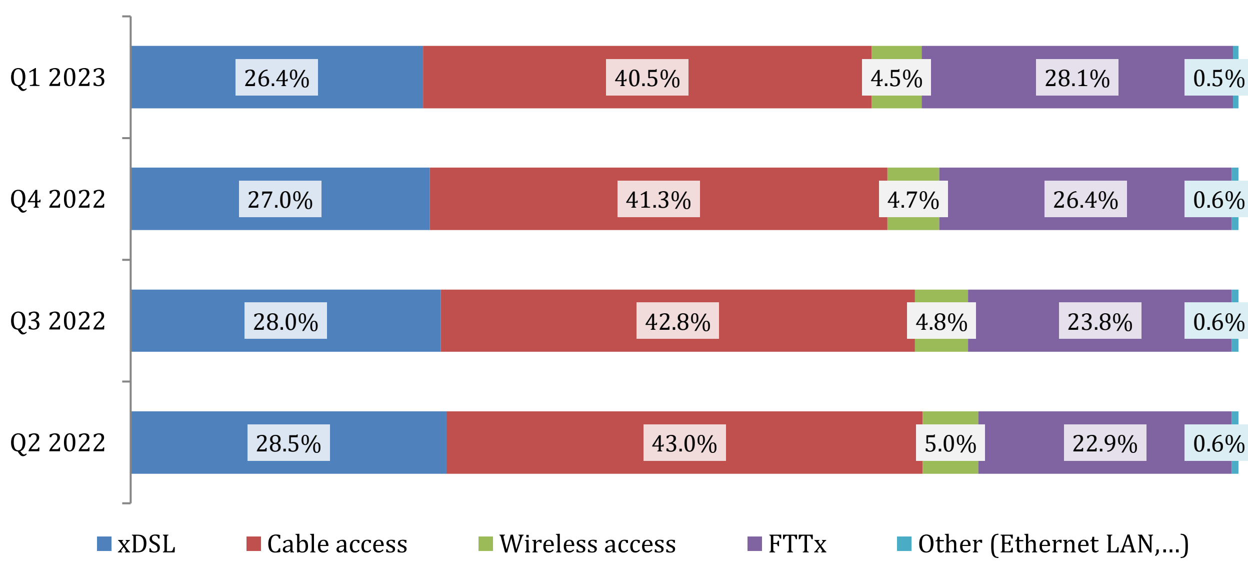
Number of fixed broadband Internet subscribers (in million)*



** Data referring to the fourth quarter of 2022 were adjusted to the data from the 2022 annual reports.*

Most fixed broadband Internet subscribers have cable access and FTTx, with the number of both xDSL subscribers and cable access subscribers showing a slight drop in the analyzed period.

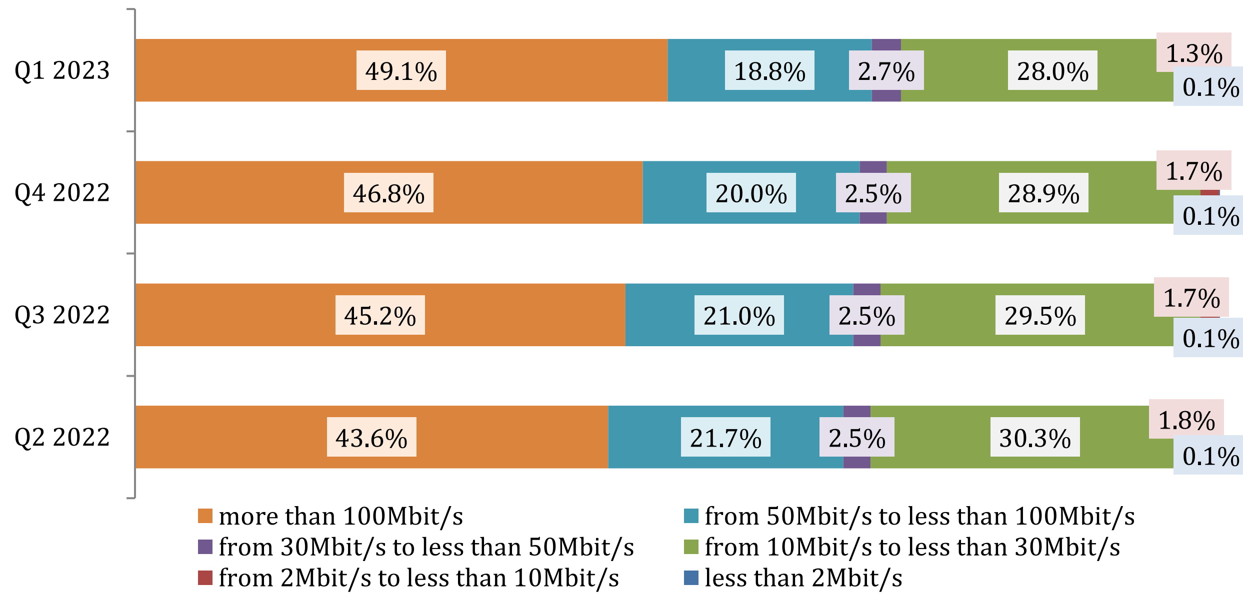
Number of subscribers by type of access*



** Data referring to the fourth quarter of 2022 were adjusted to the data from the 2022 annual reports.*

In Q1 2023, the majority of subscribers used Internet speed of more than 100 Mbit/s and between 10 Mbit/s to less than 30 Mbit/s.

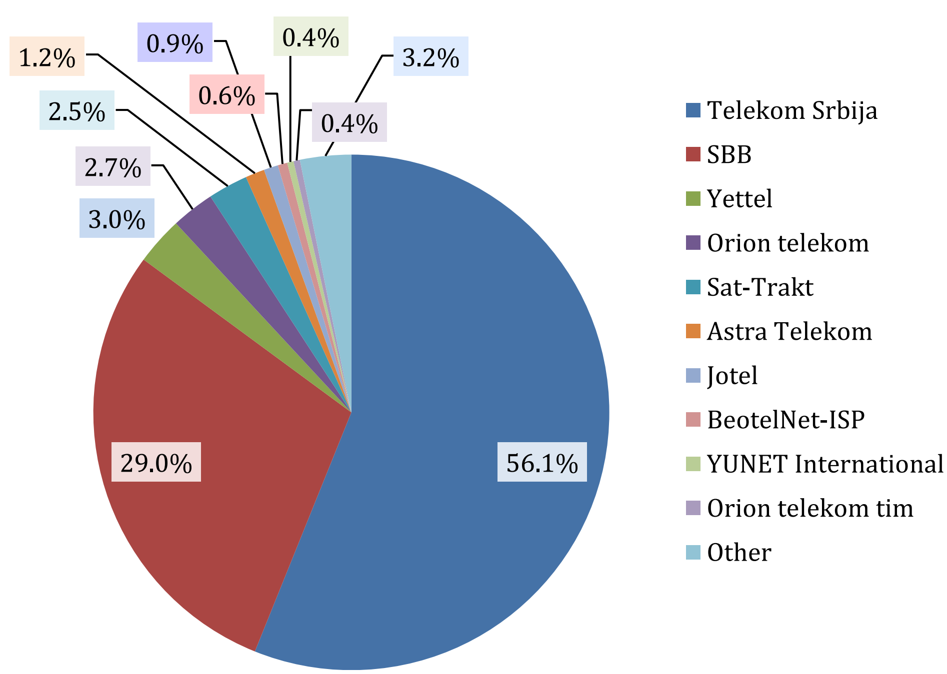
Number of fixed broadband Internet subscribers by access rate *



** Data referring to the fourth quarter of 2022 were adjusted to the data from the 2022 annual reports.*

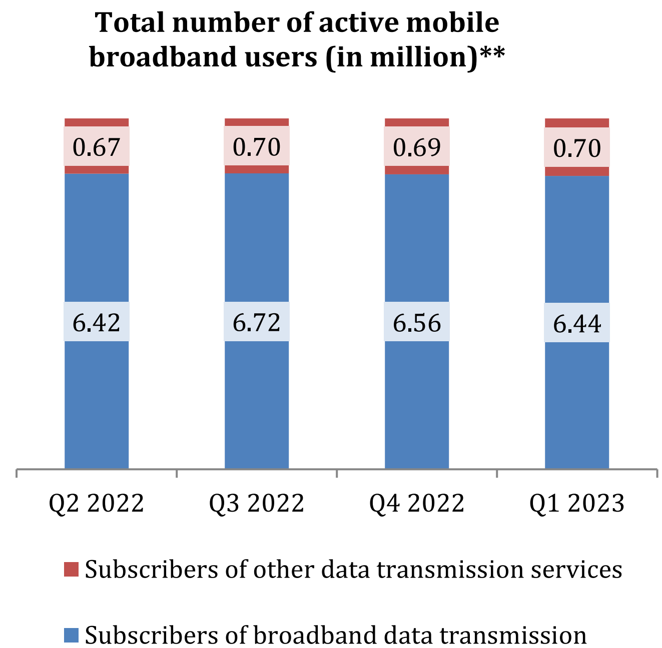
The following figure shows the leading operators' market shares for Q1 2023, in terms of the number of subscribers.

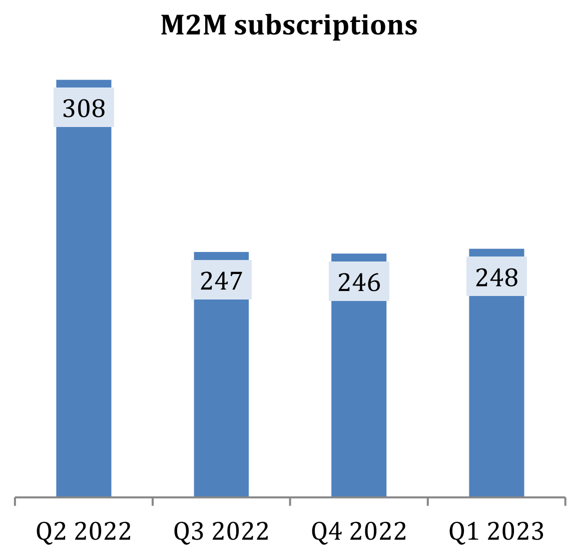
Market share in terms of number of fixed broadband subscribers in Q1 2023



The number of active mobile broadband subscribers in the first quarter of 2023 has decreased compared to the previous quarter, amounting to 7.14 million. The number of M2M subscriptions is on a modest rise, with 248 thousand subscribers in Q1 2023.

Number of active mobile broadband users and M2M subscribers





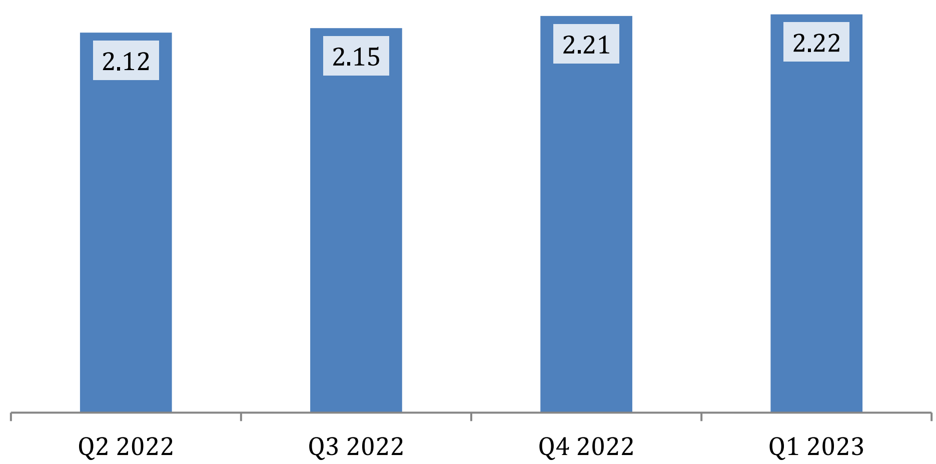
** Active mobile broadband users include subscribers of data transmission services contracted together with voice services, or as an additional package to the voice tariff plan, whereas subscribers of other data transmission services represent mobile broadband transfer users with single service agreement, separate from voice service (data card subscriptions, USB modem/dongle subscriptions, tablet subscriptions and similar).*

*** Data referring to the fourth quarter of 2022 were adjusted to the data from the 2022 annual reports.*

Media Content Distribution

Compared to the previous period, the number of media content distribution service subscribers increased in Q1 2023, reaching approximately 2.22 million.

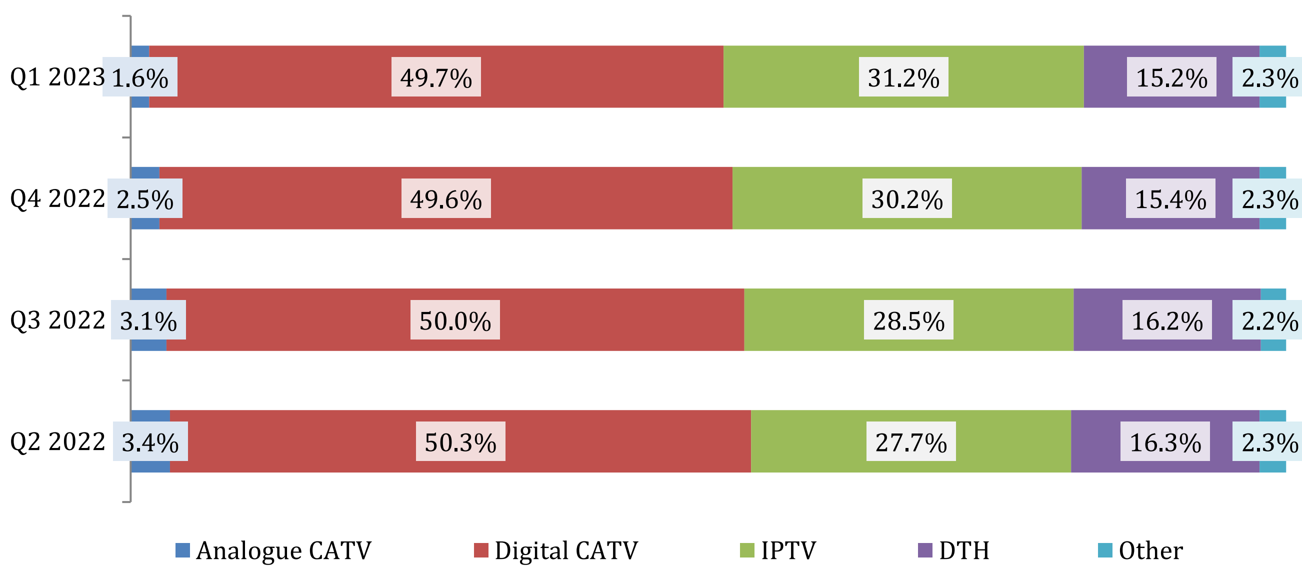
Number of media content distribution service subscribers (in million)*



** Data referring to the fourth quarter of 2022 were adjusted to the data from the 2022 annual reports.*

In the first quarter of 2023, most subscribers used digital CATV distribution (around 50%). The number of IPTV subscribers is on the rise, while the number of DTH subscribers slightly decreased compared to the previous quarter. The wireless network and Internet media content distribution services were the least used.

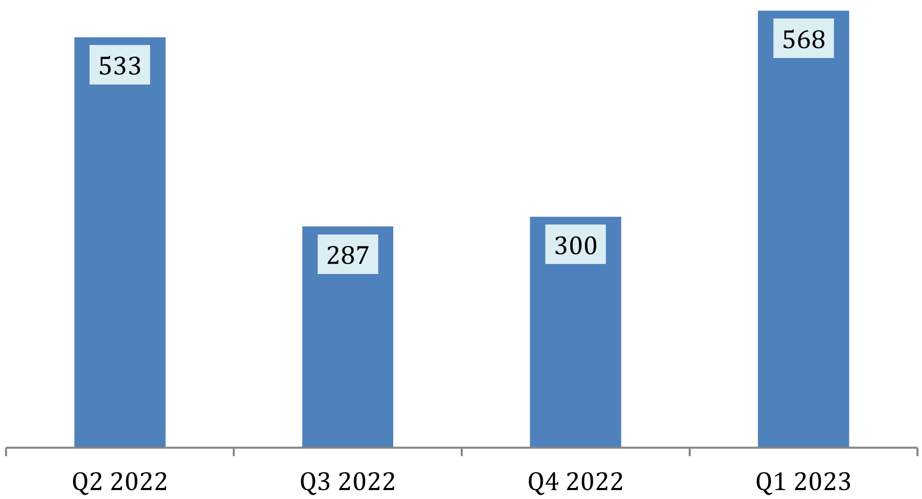
Media content distribution subscribers by type of distribution*



** Data referring to the fourth quarter of 2022 were adjusted to the data from the 2022 annual reports.*

The number of met requests for additional services, such as video on demand (VoD), content recording, TV on mobile devices, playback etc, has increased in Q1 2023 compared to Q4 2022, reaching approximately 568 million requests, or some 102 requests per user a month. The number of met VoD requests in Q1 2023 was around 14.7 million.

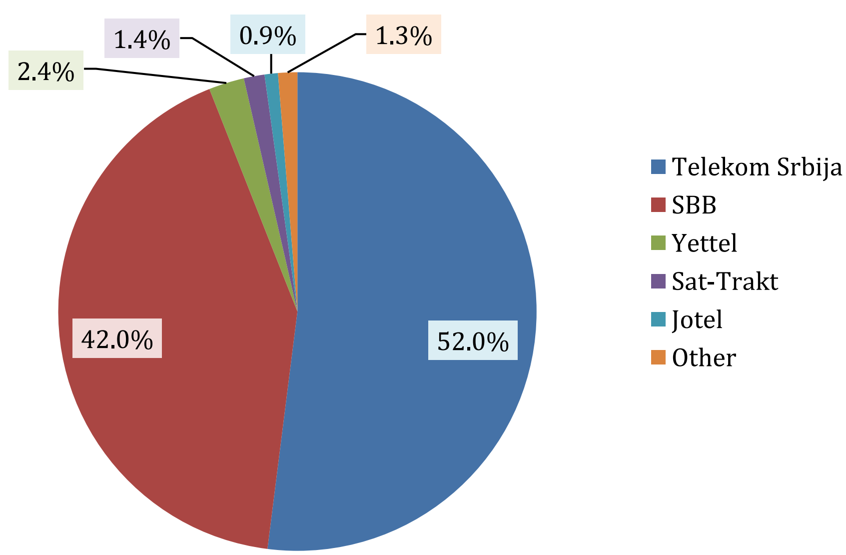
Number of met requests for additional services (in million)



In the first quarter of 2023, around 29% of media content distribution subscribers with the possibility to have additional channels, subscribed to such programmes.

The following figure shows the leading operators' market shares for Q1 2023, in terms of the number of subscribers.

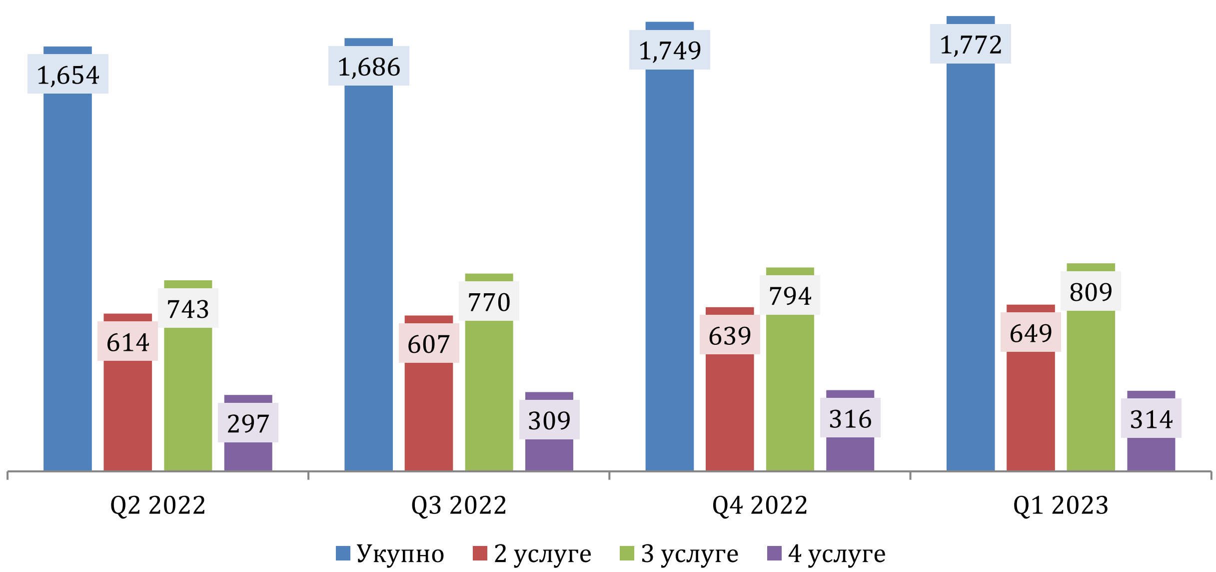
Operators' market share in by number of subscribers in Q1 2023



Bundled Services

The number of bundled service subscribers in Q1 2023 has increased compared to the previous quarter, reaching approximately 1.77 million. Packages offering three services were most used, whereas least used were packages with four services.

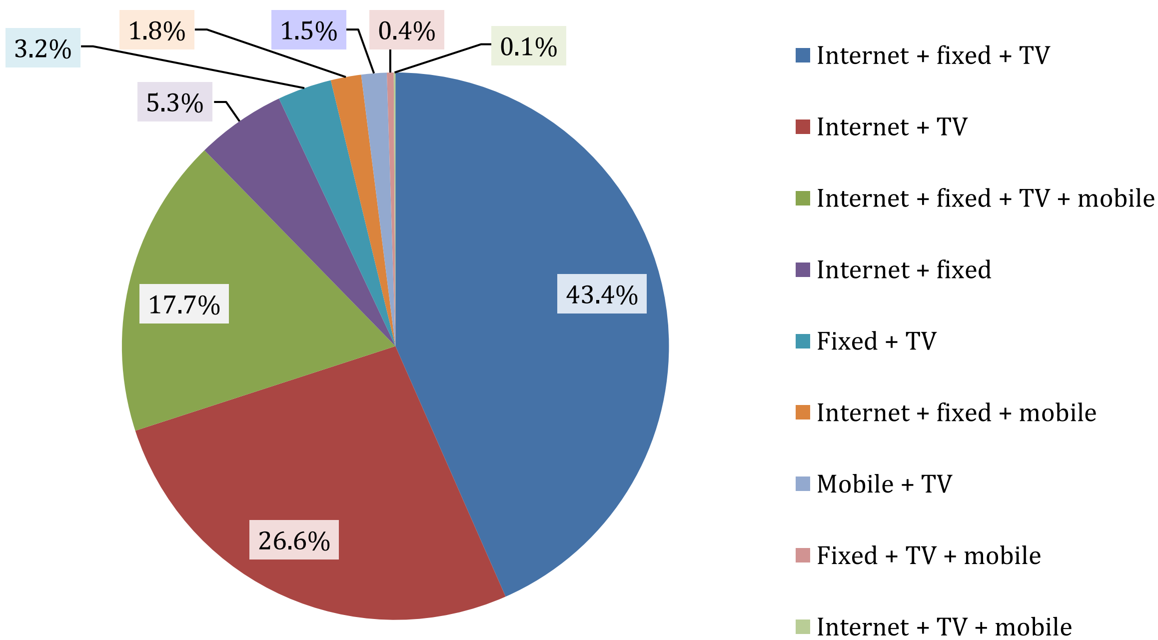
Number of bundled service users (in thousand)*



** Data referring to the fourth quarter of 2022 were adjusted to the data from the 2022 annual reports.*

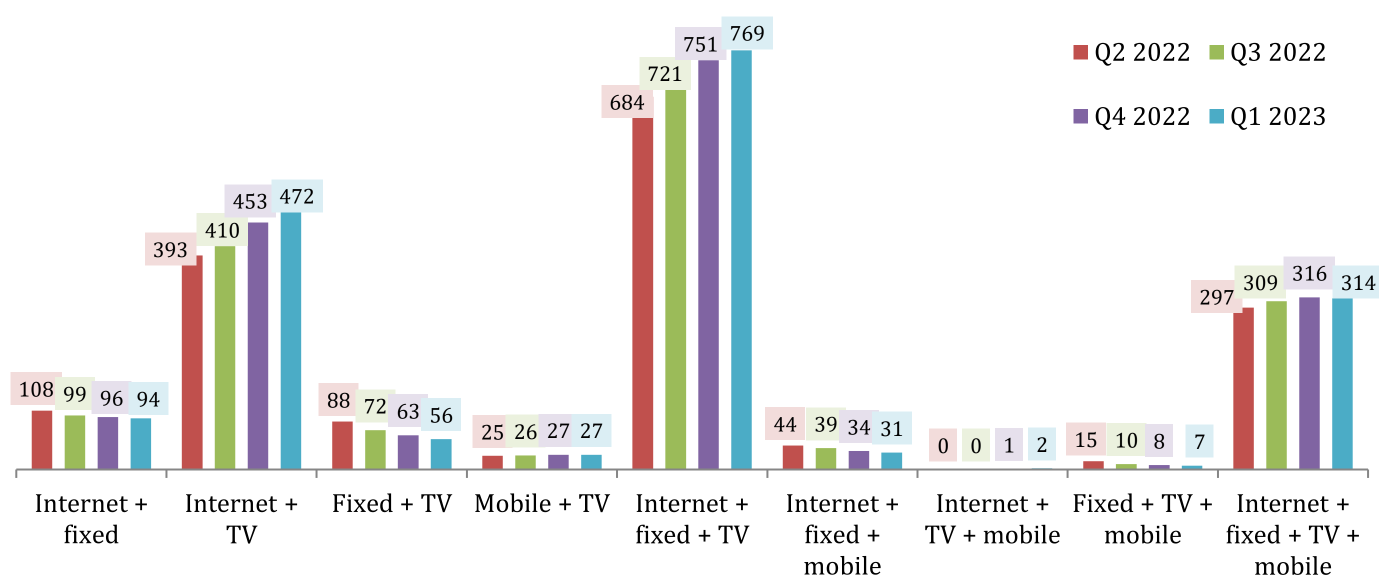
Of all bundled services offered by operators in Q1 2023, the most popular was the package with broadband Internet access, fixed telephony and TV, followed by a double-play offering broadband Internet access and TV, as well as the only available quad-play package including broadband Internet access, fixed telephony, TV and mobile telephony. The biggest growth in the first quarter of 2023 was achieved by a double-play offering broadband Internet and TV. Another double-play with mobile telephony and TV, a triple-play offering fixed and mobile telephony and TV, as well as a package including Internet access, TV and mobile telephony had the lowest number of subscribers. The shares of different bundled services in terms of the number of subscribers are given below.

Share of bundled services in Q1 2023



Changes in different packages' number of subscribers can be seen below.

Number of bundled service users by type of service (in thousand)*



** Data referring to the fourth quarter of 2022 were adjusted to the data from the 2022 annual reports.*

Broadband Internet access is mostly purchased as a bundled service, whereas mobile telephony is generally purchased as a stand-alone service.

Share of stand-alone and bundled services purchased in Q1 2023