Global Telecommunications Overview and Development

Main trends in the telecommunications market in 2021

The telecommunications sector is becoming a key segment of the economy, ensuring business processes in all sectors — from finance to agriculture. The industry has become one of the few to benefit from the quarantined limitations of the period of the panemics and the postpandem period:

- at the end of 2021, the total volume of the communications services market equaled **KZT 1,012.068 billion**, which exceeds the figure for the previous year by **8.6%**;
- Mobile communications dominate by type of services. Mobile revenue still generates more than half of the total market volume — **54.1%**;
- income from fixed telephony amounted to **KZT 53.7 billion**;
- the share of data transmission and Internet access services in fixed networks has shown a decreasing trend in recent years, despite an increase in income in absolute terms. In 2021, the market share was about **15.8%**;
- in 2021, the Pay TV services segment accounted for **4.3%** of total income from communications services;
- revenues from services to telecom operators are growing due to structural shifts — with the growth of the retail market, the volume of services to telecom operators is also increasing, which is reflected in the growing share of the segment in total revenues from telecom services.

Assessment of the size and structure of the Kazakhstan telecommunications market for 2021

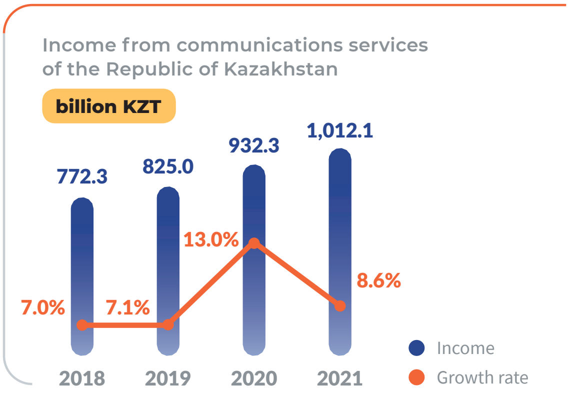
1,012.068

billion KZT

the total volume of the communications services market at the end of 2021

8.6%

the average annual growth rate (CAGR)



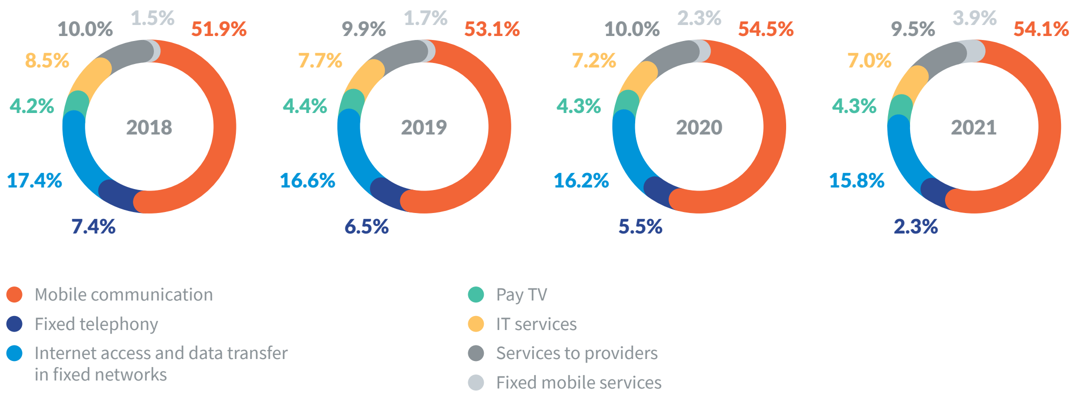
Source: Data of the CC MNE RK, CloudSystems assessment.

In the revenue structure, the key income-generating segments are mobile communications services and data transmission and Internet access services. Their market share in 2021 was **54,1%** and **15,8%**, respectively. The reason for the rapid growth in the volume of traffic in cellular networks is the ever-increasing weight of content, i.e. the size of data transmitted therefrom.

54.1%

share of cellular services in the income structure

Revenue structure of the communications industry of the Republic of Kazakhstan by type of services



Source: Data of the Constitutional Court of the MNE RK, CloudSystems.

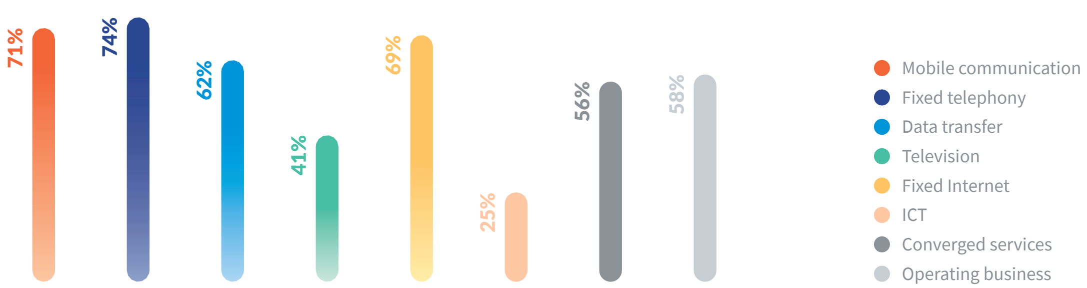
Kazakhtelecom Group's market position

The market share of the Kazakhtelecom Group in 2021 was **66,6%** . The increase in the Group's share in 2019 — from 28,9% to 63% and in 2020 — by 4,1 sub-points compared to the actual value of 2019 is related to the acquisitions: in June 2019 the transaction was completed, as a result of which Kazakhtelecom JSC became the sole shareholder of Khan Tengri Holding B.V.

66.6%

the market share of the Kazakhtelecom Group in 2021

Positions of the Kazakhtelecom Group by market segment



Fixed telephony

In the last few years, the market of classic fixed telephony has been in a stage of natural stagnation. Under the influence of mobile and OT substitution, both income from telephone calls is reduced, and subscribers refuse to use fixed telephone lines as such due to their lack of need. This trend continued in 2021. At the end of the year, the volume of the fixed telephony market was **KZT 53.7 billion**.

The volume of long-distance and international telephone services in January-December 2021 was **KZT 18.781 billion**, which is 12.2% less than 2020 in comparable prices.

Mobile communication

Mobile revenues grew by 7,8% in 2021. The market volume reached **KZT 547.5 billion**. Thus, the market has become significantly stronger in the conditions of a panic, a reduction in real communication, and, as a result, an increase in virtual communication between citizens both for domestic and business purposes.

The B2C segment has historically dominated the structure of revenues from mobile communications services. However, in recent years the strategies of all Kazakh operators have been aimed at the development of the corporate sector through comprehensive offerings, access to related markets (fixed communications, IT integration, e-commerce, industrial Internet), and the provision of ready-to-use sectoral solutions.

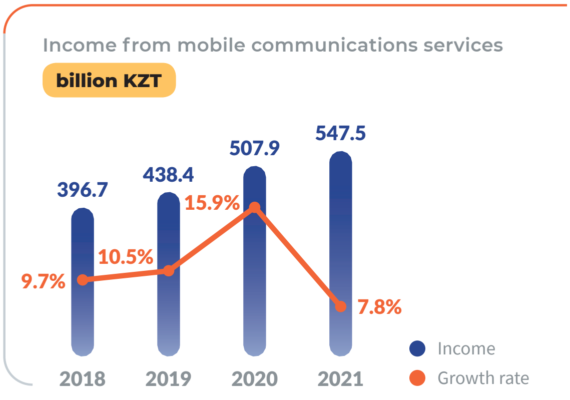
Income from broadband access services

The fixed broadband segment is mature but continues to grow. In recent years, growth has been subdued, but in 2020-2021 the market has recovered due to the widespread distance of work and the life of citizens under conditions of self-insulation. The demand for higher rates and additional volumes of traffic has increased.

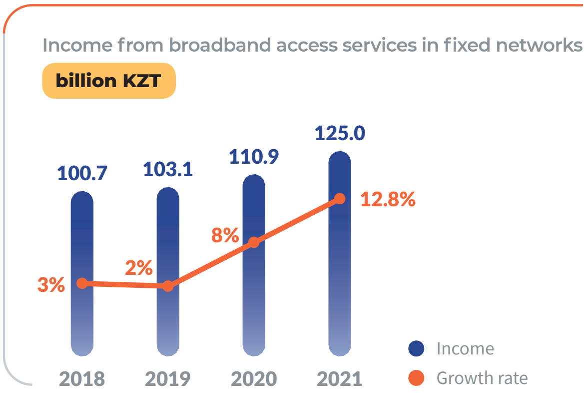
One of the most effective and proven tools of revenue growth in mature markets is bundling of services. In 2021, the leading Internet providers actively augmented package offerings with additional services, including the inclusion of both fixed and mobile telephony in service packages. These measures, while reducing the cost of individual services in the package, have a positive effect on the overall return on Internet access services.

The growth in income was also affected by changes in the policy of Internet providers regarding the provision of subscriber equipment — whereas previously it was transferred to subscribers on a safe and secure basis, in recent years companies have been charging lease payments for its use.

According to estimates, in 2021 the volume of the fixed broadband market was **KZT 125 billion**, which is 12.8% higher than the previous year.



Source: Data of the Constitutional Court of the MNE RK, CloudSystems.



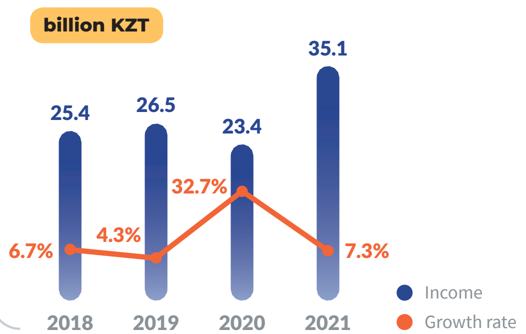
Source: Data of the Constitutional Court of the MNE RK, CloudSystems.

Lease of data transmission channels

Along with growth in revenues from broadband services, the data services segment demonstrated significant growth. In 2021, revenues from the organization of corporate VPN networks increased to **KZT 35.1 billion**, which corresponds to an increase of 7.3% compared to the previous year.

Channel lease and corporate network services relate exclusively to the legal entity segment. Active consumers of these services are state organizations.

Revenue from channel lease services



Source: Data of the Constitutional Court of the MNE RK, CloudSystems.

Pay TV

The role of television not only as a source of information, but also as a means of entertainment has increased under the conditions of self-insulation. For children and adults who have spent most of their time at home and who have experienced significant emotional stress due to restrictive measures, there has been an increase in the need to watch various films, entertainment programs, which has led to a growth in the popularity of online TV offers, connection to the services of a chain of theatre, etc.

To stimulate demand for Pay TV services, operators are actively using new promotion methods, including:

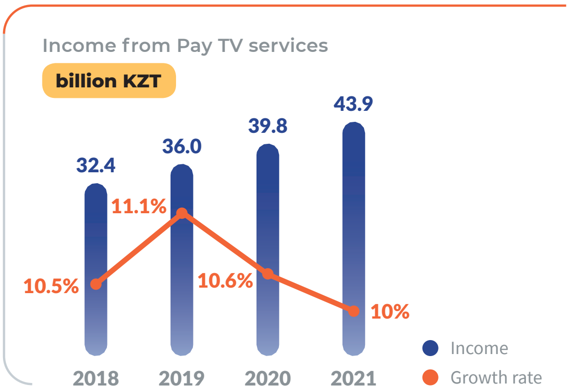
- loan offers to purchase equipment (first of all, satellite TV sets);
- integration with retail networks (for example, sale of TV equipment AlmaTV and connection packages in major consumer electronics networks such as Tekhnod, Sulpak, Dream);
- development of a dealer network (for example, TTK works with regional Internet providers to provide its own Set-top-box to connect to interactive TV);
- partnership with subscriber device manufacturers (e.g. launch of joint branded application SamsungTV and Alma TV);
- development of exclusive content (for example, exclusive offers from TV+ in terms of broadcasting UFC matches).

Operators pay special attention to content localization — translation of popular children's channels into Kazakh, launch of Kazakh Kino channels and Kazakh Sitcom TV channel. Kazakh-language content is being actively promoted as part of the OST proposals of toll TV operators (TV 360 from Beeline, TB+ from Kazakhtelecom, AlmaBox from Alma TV). Localization of content is seen by operators as one of the key conditions for promoting services in regions and especially outside major cities.

Revenue dynamics from Pay TV services

Despite the high penetration of Pay TV, revenues from this type of services are growing year on year. In 2021, the volume of the Pay TV market amounted to **KZT 43.9 billion**, an increase of 10.3% compared to the previous year.

As before, the main income from Pay TV services is generated by households — more than 98% of the total amount or **KZT 33.022 billion** in monetary terms. In recent years, pay TV operators have become more focused on the corporate segment, trying to use it as a resource for additional connections.



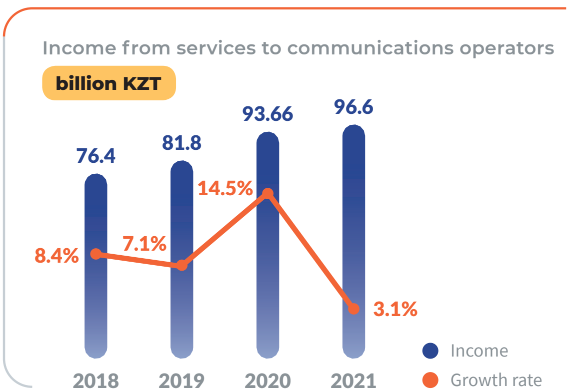
Source: Data of the Constitutional Court of the MNE RK, CloudSystems.

Services to communications operators

The volume of services provided by operators in the B2O segment in 2021 will equal **KZT 96.6 billion**, an increase of almost 3.1% year-on-year.

Revenue from services provided by operators is generated from the following major segments:

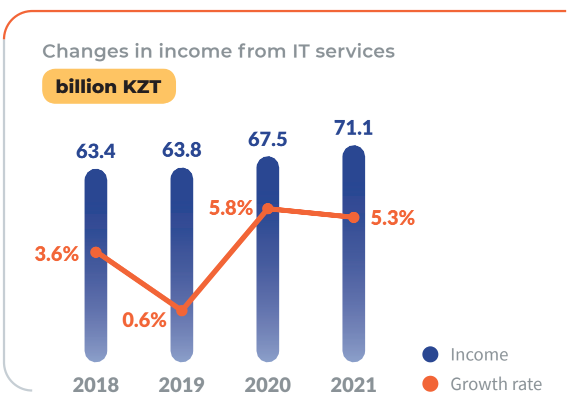
- connection to the public telecommunications network and the loss of voice traffic;
- lease of national and international channels;
- Virtual channel services (IP-VPN);
- Internet access for operators;
- transit of voice and date traffic (IP transit).



Source: Data of the CC MNE RK, data of operators, CloudSystems assessment.

IT services

In 2021, the volume of the IT market was **KZT 71.1 billion**, an increase of 5,3% compared to 2020.



Source: Data of the CC MNE RK, data of operators, CloudSystems assessment.