



MINISTRY OF DIGITAL DEVELOPMENT
AND TRANSPORT
OF THE REPUBLIC OF AZERBAIJAN

AZERBAIJAN DIGITAL DEVELOPMENT: FACTS AND FIGURES

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Foreword

Achieving universal and meaningful digital connectivity and improving the digital literacy of the population have become priority issues in the Republic of Azerbaijan in recent years. Thanks to the attention and dedication of President Ilham Aliyev, the country has undergone systematic and consistent reforms across all sectors, including digitalization, information and communication, Information and Communication Technologies (ICT). Significant efforts have been directed towards developing new infrastructure, and the application and modernization of cutting-edge technologies in these fields. The development of the broadband Internet network, which is the basis of the ICT infrastructure and initiatives such as “Government Cloud” (G-Cloud), “Big Data,” “Smart City,” and “Smart Village”, have been implemented to boost economic efficiency, enhance public administration, strengthen information security, and improve citizens’ quality of life. With the ongoing successive reforms, Azerbaijan is aiming to become a digital hub in the region.

Various measures have been taken to foster ICT sector development. Among them are:

- The State Program for socio-economic development of the regions of the Republic of Azerbaijan;
- The State Program for the implementation of the National Strategy for the Development of the Information Society in the Republic of Azerbaijan;
- The Strategic Roadmap for the development of telecommunications and information technologies in the Republic of Azerbaijan;
- The Strategy for socio-economic development of the Republic of Azerbaijan in 2022-2026.

As a result of the above mentioned measures in modern times telecommunication technologies have significantly permeated all aspects of society, offering vast opportunities for development. High quality, secure, and affordable broadband connectivity, along with the effective utilization of resources, are recognized as driving forces for innovation and progress.

Within the ongoing “Online Azerbaijan” project, Azerbaijan has set the target to deploy broadband internet network across the entire country. This effort extends to remote areas, traditionally considered less conducive to private sector activities, where state-owned companies are providing modern services while cultivating digital skills within the society.

Accurate statistical information is fundamental for data-driven decision-making in the realm of digitization and ICT development. It is also pivotal for enhancing our country’s standing in international rankings. Hence, it is essential that such information adheres to international methodologies and undergoes regular updates.



Introduction

“Azerbaijan Digital Development: facts and figures” has been developed jointly by the Ministry of Digital Development and Transport of the Republic of Azerbaijan, the State Statistical Committee of the Republic of Azerbaijan, and the International Telecommunication Union (ITU). The objective of this publication is to offer a snapshot of the country’s digital development and collect ICT data in line with the international best practices. It incorporates digital development indicators derived from surveys conducted among households for the years 2018-2022 and data obtained from existing legal entities operating in relevant activities.

During the preparation of this publication, reference was made to the official documents from the International Telecommunication Union (ITU), the United Nations (UN) and the State Statistical Committee of the Republic of Azerbaijan, including:

- ITU's Handbook for the Collection of Administrative Data on Telecommunications / ICT;
- List of indicators included in the ITU's World Telecommunication / ICT Indicators Database;
- ITU's Manual for measuring ICT access and use by households and individuals;
- List of ICT Household Access and Individual Use indicators of households and subscribers included in the ITU World Telecommunication / ICT Database;
- List of indicators included in the ITU's World Telecommunication / ICT Indicators Long Questionnaire;
- List of indicators included in the ICT Price Basket Questionnaire;
- The core list of ICT indicators defined by the Partnership on Measuring ICT for Development;
- UN Sustainable Development Goals indicators for ICT;
- Yearbooks of State Statistical Committee of the Republic of Azerbaijan.



Fixed telephone network indicators

Although the number of fixed telephone subscribers had been increasing till 2020, like many other countries it declined in 2022 (see Chart 1). Some of the contributing factors are the annual expansion of high-speed Internet services within the framework of the “Online Azerbaijan” project. Measures such as the GPON (Gigabyte Passive Optical Network) technology installation and the development of OTT (Over-the-top) services through mobile applications further contribute to lowering the necessity of activating phone services for Internet use. This also affected the number of fixed telephone subscribers per 100 inhabitants, meaning that if in previous years there were 15 fixed telephone subscribers, then in 2022 they decreased to 14. Therefore, as a logical consequence of technological development it signifies the inevitability of mobile network replacing fixed line telephone network in the coming years.

Chart 1. Fixed telephone subscriptions and the number of subscriptions per 100 inhabitants.

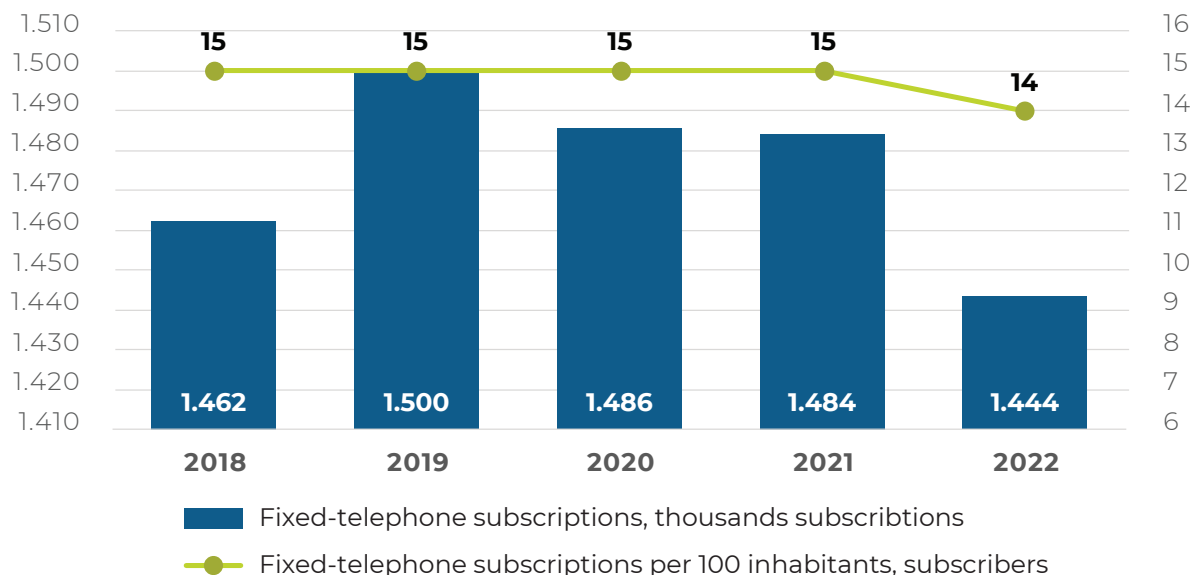


Table 1. Fixed telephone network indicators

Indicators and units of measurement	2018	2019	2020	2021	2022
The number of faults in fixed telephone lines per year, number	...	...	...	...	165,257
Faults per 100 fixed-telephone lines per year, number	...	...	...	...	12,0
Fixed-telephone subscriptions, thousand subscribers	1.462,4	1.499,9	1.485,7	1.484,3	1.443,6
Fixed-telephone subscriptions per 100 inhabitants, subscribers	15	15	15	15	14
ISDN subscriptions, subscribers	7.317	5.488	2.673	4.232	1.558
Percentage of fixed-telephone faults cleared by next working day, in percent	...	...	...	...	87,0
Percentage of fixed-telephone subscriptions in urban areas, in percent	79,8	79,7	78,8	78,3	76,9
Percentage of fixed-telephone subscriptions that are residential, in percent	89,6	90,4	92,2	92,8	92,8
Percentage of localities with telephone service, in percent	...	78	85	85	91
Public payphones, number	601	434	362	338	340
Public payphones per 1000 inhabitants, number	0,06	0,04	0,04	0,03	0,03
VoIP subscriptions, thousand subscribers	...	...	118,8	164,3	255,8

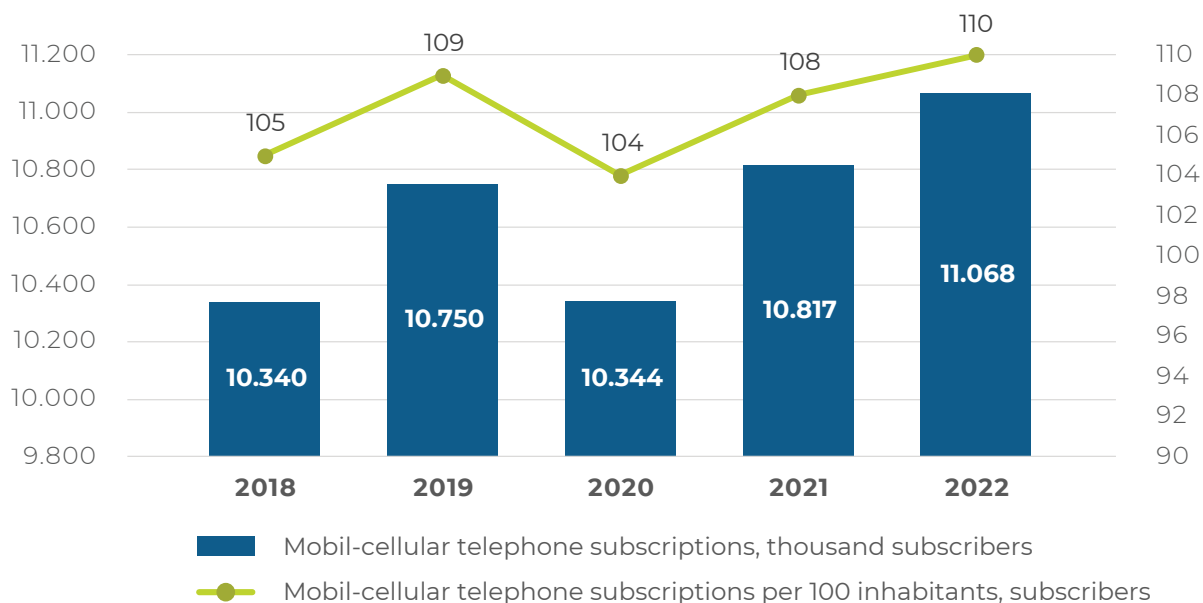


Mobile cellular network

The number of mobile-cellular telephone subscriptions has grown as the result of an increased interest in the mobile network. The increase can be explained by the achievement of full coverage of mobile phone network across the country, diversification of tariff packages, and the application of various discounts. Thus, between the years 2020-2022, the number of mobile-cellular telephone subscriptions had increased by 7% to 11,068 thousand subscribers. This, in turn, brought the number of mobile-cellular subscriptions per 100 people to the highest level of the last 5 years (110 people) (see Chart 2).

The ratio of the population living in the areas covered by mobile network remains stable, i.e., 100% (see Table 2).

Chart 2. Mobile-cellular telephone subscriptions and the number of subscriptions per 100 inhabitants



On the other hand, the development of mobile cellular network can also be explained by the expansion of the 3G and 4G mobile networks coverage. Thus, the 3G mobile network population coverage reached 99.8%, and the coverage of the LTE/WiMAX (4G) network stood at 94% (see Chart 3).

Chart 3. Mobile cellular network, by technology

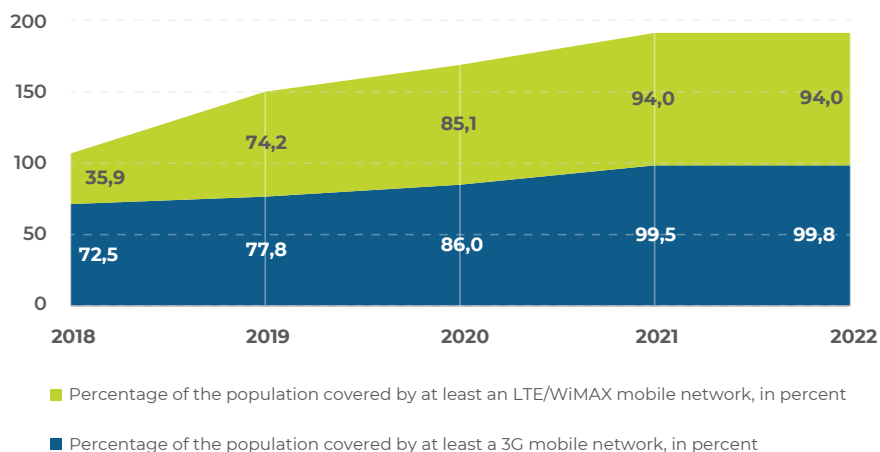


Table 2. Other indicators on the mobile-cellular network

Indicators and units of measurement	2018	2019	2020	2021	2022
M2M mobile-network subscriptions, thousand subscribers	...	114,4	134,3	140,8	188,1
Mobile-cellular numbers ported, thousand subscribers	...	50,6	34,7	27,7	27,6
Mobile-cellular telephone subscriptions, thousand subscribers	10.339,7	10.750,3	10.344,3	10.817,1	11.068,1
Mobile-cellular telephone subscriptions per 100 inhabitants, subscribers	105	109	104	108	110
Percentage of the population covered by a mobile-cellular network, in percent	100	100	100	100	100
Percentage of the population covered by at least a 3G mobile network, in percent	72,5	77,8	86,0	99,5	99,8
Percentage of the population covered by at least an LTE/WiMAX mobile network, in percent	35,9	74,2	85,1	94,0	94,0
Prepaid mobile-cellular telephone subscriptions, thousand subscribers	8.998,5	9.432,1	9.226,2	9.612,5	9.833,9



Traffic

Since the use of mobile phones has been preferred in recent times, it has had a significant impact on the fixed telephone network. If you look at the data of both local fixed-line operators and other foreign fixed-line operators, fixed telephone calls are experiencing a year-on-year decrease. As a result of the development of the Internet network, various mobile applications enabling local and international conversations have also had a serious impact on the international telephone traffic (see Table 3).

Table 3. Traffic indicators

Indicators and units of measurement	2018	2019	2020	2021	2022
Domestic fixed-to-fixed telephone traffic, million minutes	180,1
Domestic mobile-telephone traffic, million minutes	...	18.574,7	18.725,6	19.729,6	18.088,8
Fixed broadband Internet traffic, EB	2,6
Fixed-to-mobile telephone traffic, million minutes	35,8	36,7	28,9	31,0	29,1
Incoming international traffic to mobile network, million minutes	...	38,5	35,3	26,7	24,9
International incoming fixed-telephone traffic, million minutes	...	6,8	5,9	5,4	4,1

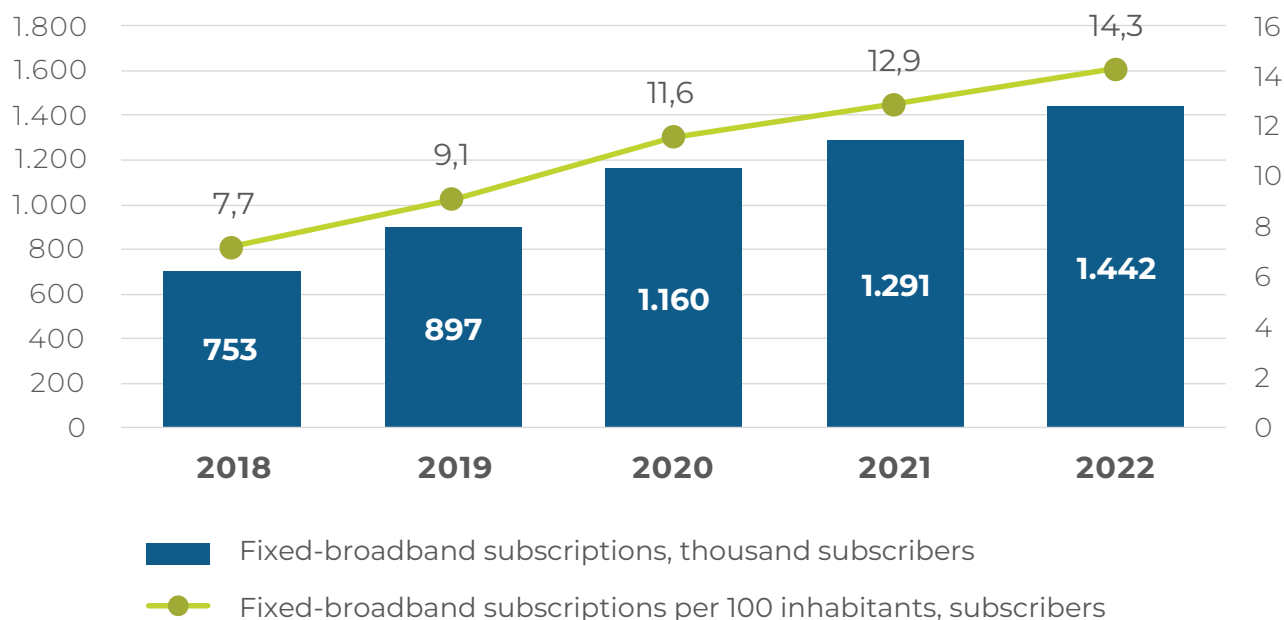
Indicators and units of measurement	2018	2019	2020	2021	2022
International outgoing fixed-telephone traffic, million minutes	...	5,6	3,9	2,4	2,5
Local fixed-to-fixed telephone traffic, million minutes	149,8
Long-distance fixed-to-fixed telephone traffic, million minutes	20,7	16,3	15,1	11,1	30,3
Mobile-broadband Internet traffic (within the country), EB	...	0,16	0,20	0,25	0,28
Mobile-broadband Internet traffic (outside the country, roaming out), EB	...	0,0002	0,0004	0,0004	0,0002
Outgoing mobile traffic to fixed networks, million minutes	...	182,7	184,7	186,5	185,6
Outgoing mobile traffic to international, million minutes	...	31,2	24,4	15,4	13,3
Outgoing mobile traffic to other mobile networks, million minutes	...	3.242,7	3.574,4	3.828,7	3.795,1
Outgoing mobile traffic to same mobile network, million minutes	...	13.877,9	14.614,4	14.269,3	13.106,4
SMS sent, million units	...	269,5	303,3	310,3	356,2
Total international incoming telephone traffic, million minutes	...	45,3	41,2	32,1	29,0
Total international outgoing telephone traffic, million minutes	...	36,8	28,3	17,8	15,8



Internet network

The “Online Azerbaijan” project that outlines modernization of the telecommunication network in Baku and other regions based on GPON (gigabit passive optical network) and wireless technologies, as well as the construction of a fast and uninterrupted fiber-optic network, has had a significant impact on the number of fixed-broadband Internet subscriptions. As such, the number of fixed-broadband Internet subscriptions increased by an additional 150,2 thousand subscriptions, raising it to an overall 1,441.5 thousand subscribers in the last year, meaning that the number of fixed broadband Internet subscriptions has doubled since 2018. This also affected the number of subscriptions per 100 people.

Chart 4. Fixed-broadband subscriptions and the number of subscriptions per 100 inhabitants



The total capacity of the international Internet channel increased by 13% to 2,250,000 Mbit/s in 2022. The volume of the used international internet channel has seen an almost twofold increase, reaching 1,089,600 Mbit/s (see Table 4).

Table 4. Indicators on the Internet network

Indicators and units of measurement	2018	2019	2020	2021	2022
Fixed-broadband subscriptions, thousand subscribers	752.8	897.2	1,159.9	1,291.3	1,441.5
Fixed-broadband subscriptions per 100 inhabitants, subscribers	7.7	9.1	11.6	12.9	14.3
International bandwidth (bit/s) per Internet user, kbit/s	83.5	111.1	181.5	198.6	222.9
Lit/equipped international bandwidth capacity, in Mbit/s	1,400,000	1,130,000	1,810,000	1,990,000	2,250,000
International bandwidth usage, in Gbit/s	414.0	485.1	688.0	692.1	1,089.6

In recent times, the expansion of the coverage of 3G and 4G mobile networks, as well as the use of various services through “smartphones” has led to a significant increase in the number of active mobile broadband subscriptions. As a result, the number of active mobile broadband subscriptions per 100 inhabitants increased by 10 people or 15% to 79 people in 2022 compared to last year (see Chart 5).

In addition, the cheaper tariff packages for high-speed Internet offered by service providers have resulted in an increased number of Internet users. This positive trend is expected to continue in the coming years.



Chart 5. The number of active mobile-broadband subscriptions and the number of subscriptions per 100 inhabitants

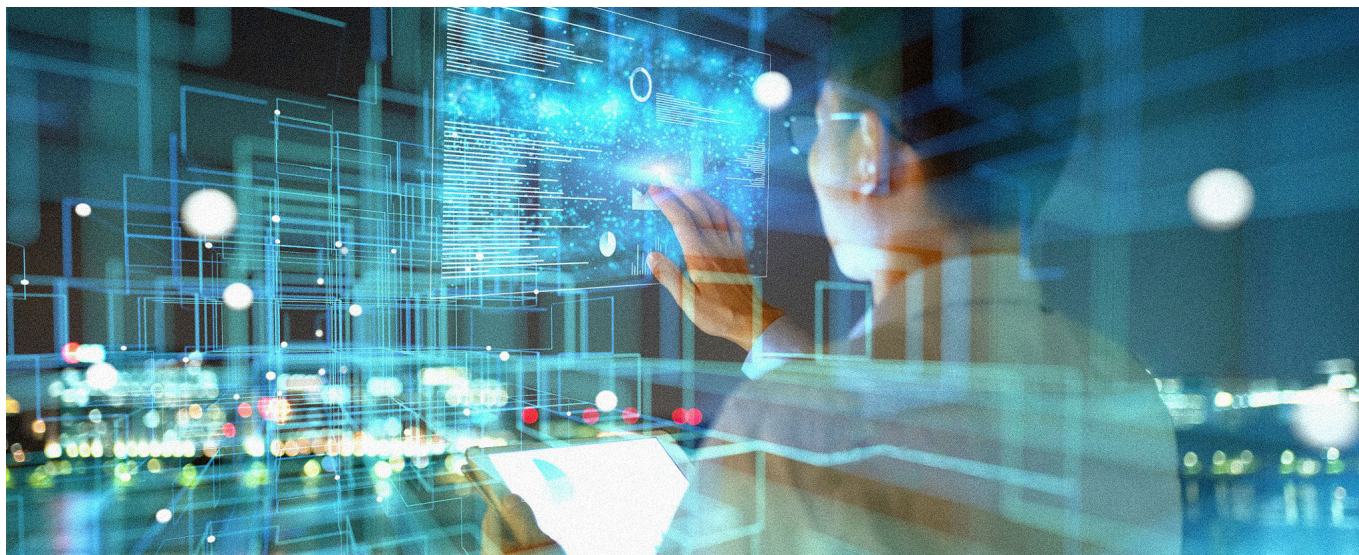
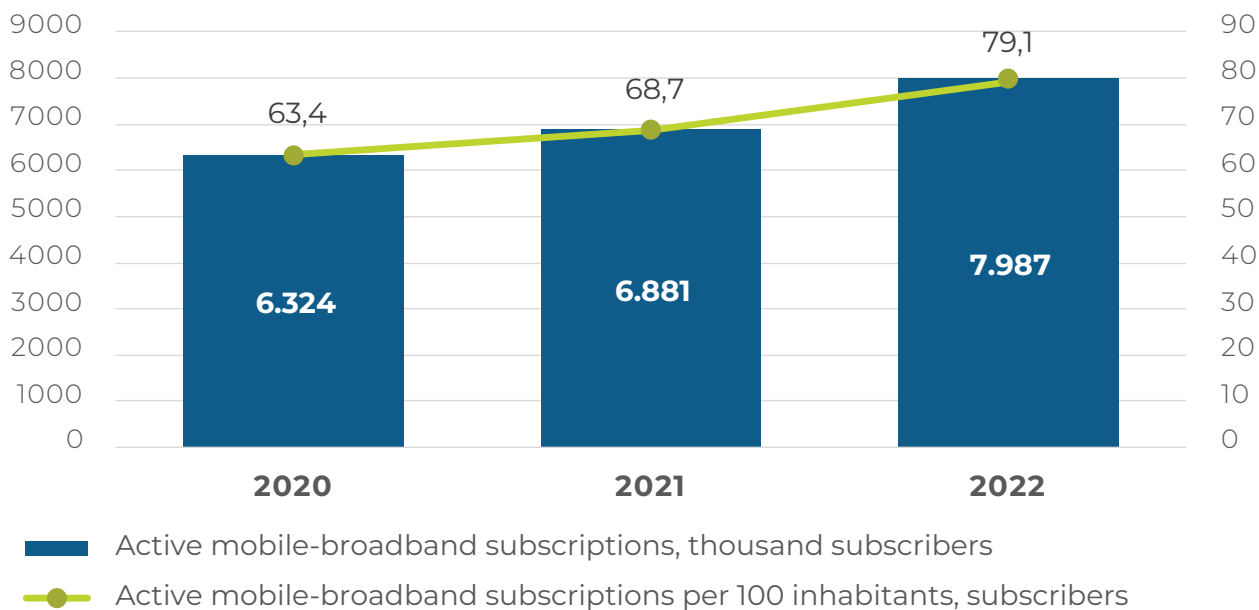
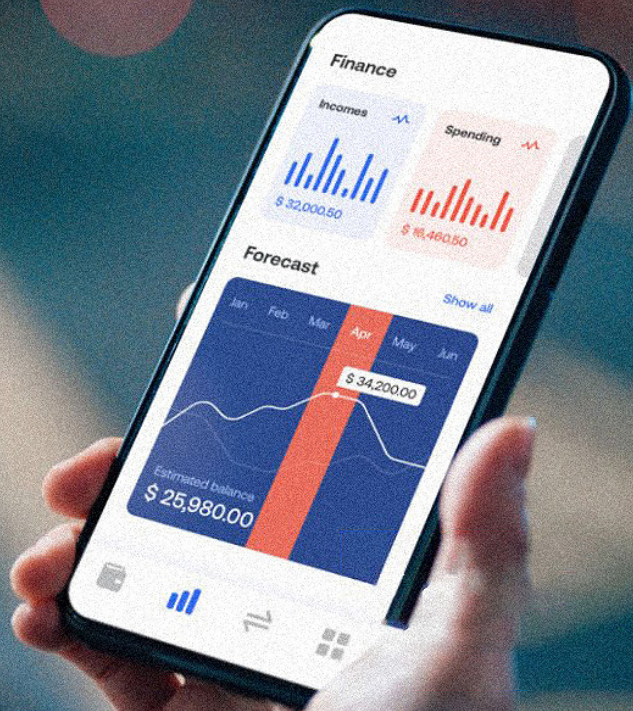


Table 5. Indicators on the broadband Internet network

Indicators and units of measurement	2018	2019	2020	2021	2022
Active mobile-broadband subscriptions, thousand subscribers	6,323.6	6,880.5	7,987.1
Active mobile-broadband subscriptions per 100 inhabitants, subscribers	63.4	68.7	79.1
Dedicated mobile-broadband subscriptions, subscribers	6,155.0	5,074.0	6,820.0	9,454.0	15,949.0
Dedicated mobile-broadband subscriptions per 100 inhabitants, subscribers	0.06	0.05	0.07	0.09	0.16
DSL Internet subscriptions, thousand subscribers	...	379.3	439.9	460.6	620.4
Fibre-to-the-home/building Internet subscriptions, thousand subscribers	131.8	160.2	195.0
Fixed-broadband 256 kbit/s to less than 2 Mbit/s subscriptions, thousand subscribers	484.6	455.3	394.6
Fixed-broadband 2 Mbit/s to less than 10 Mbit/s subscriptions, thousand subscribers	412.3	491.2	564.4
Fixed-broadband equal to or above 10 Mbit/s subscriptions, thousand subscribers	263.0	344.9	482.5
10 Mbit/s to less than 30 Mbit/s subscriptions, thousand subscribers	78.9	106.9	211.7



Indicators and units of measurement	2018	2019	2020	2021	2022
30 Mbit/s to less than 100 Mbit/s subscriptions, thousand subscribers	...	...	177.6	229.0	260.6
Equal to or above 100 Mbit/s subscriptions, thousand subscribers	...	...	6.5	8.9	10.2
Fixed-broadband subscriptions, thousand subscribers	752.8	897.3	1,159.9	1,291.3	1,441.5
Fixed-broadband subscriptions per 100 inhabitants, subscribers	7.7	9.1	11.6	12.9	14.3
Other fixed-broadband subscriptions, thousand subscribers	0.3	0.9	3.5	7.3	7.8
Satellite broadband subscriptions, thousand subscribers	0.6	0.7	1.0	0.4	0.6
Standard mobile-broadband subscriptions (excluding data card, WIFI dongle), subscribers	2,349,590	2,646,247	2,942,438	3,318,631	3,985,502
Standard mobile-broadband subscriptions per 100 inhabitants, subscribers	23.9	26.7	29.5	33.1	39.5
Subscriptions to fixed-broadband and fixed-telephone bundles, subscribers	...	371	2,047	10,937	181,434
Subscriptions to fixed-broadband, fixed-telephone and pay-TV bundles, subscribers	...	352	490	932	2,302
Terrestrial fixed wireless broadband subscriptions, subscribers	...	923	3,450	6,276	14,600

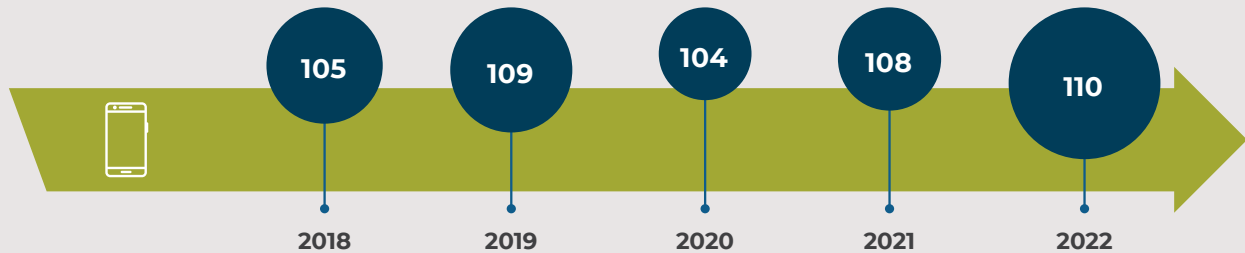




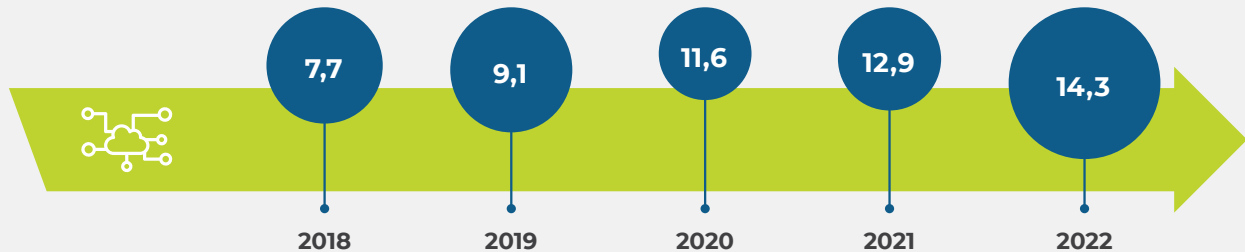
ICT infrastructure and access to ICT

Chart 6. Fixed and mobile broadband subscriptions and the number of subscriptions per 100 inhabitants

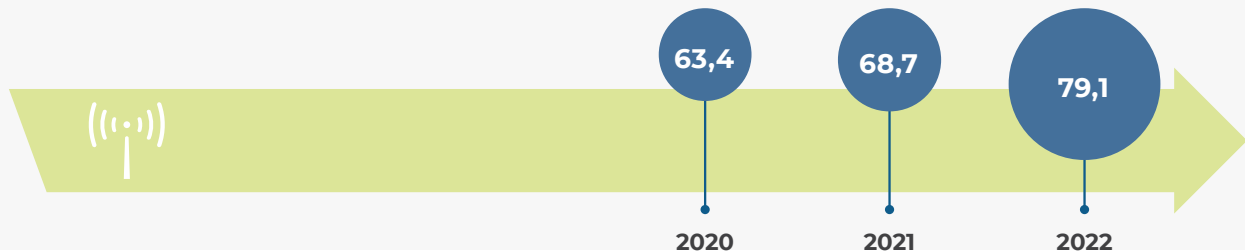
Mobile-cellular telephone subscriptions per 100 inhabitants



Fixed-broadband subscriptions per 100 inhabitants



Active mobile-broadband subscriptions per 100 inhabitants



The 1 Mbit/s internet package has been cancelled in 2022, instead offering a tariff for the 4 Mbit/s internet. While the price of 1 Mbit/s internet was 10 AZN, the price of 4 Mbit/s internet tariff is at a slightly higher range of 13 AZN. As a result, the price of 1 Mbit/s internet offered to the population decreased from 10 to 3.25 AZN. Consequently, service providers are now offering faster Internet connectivity at a cheaper price. The minimum Internet speed is planned to be set at **25 Mbit/s** in the end of 2024. This will have a positive effect on the expansion of e-commerce services, the improvement of ICT knowledge of the population, and the position of our country in the international rankings.

Table 6. Indicators on ICT infrastructure and access to ICT

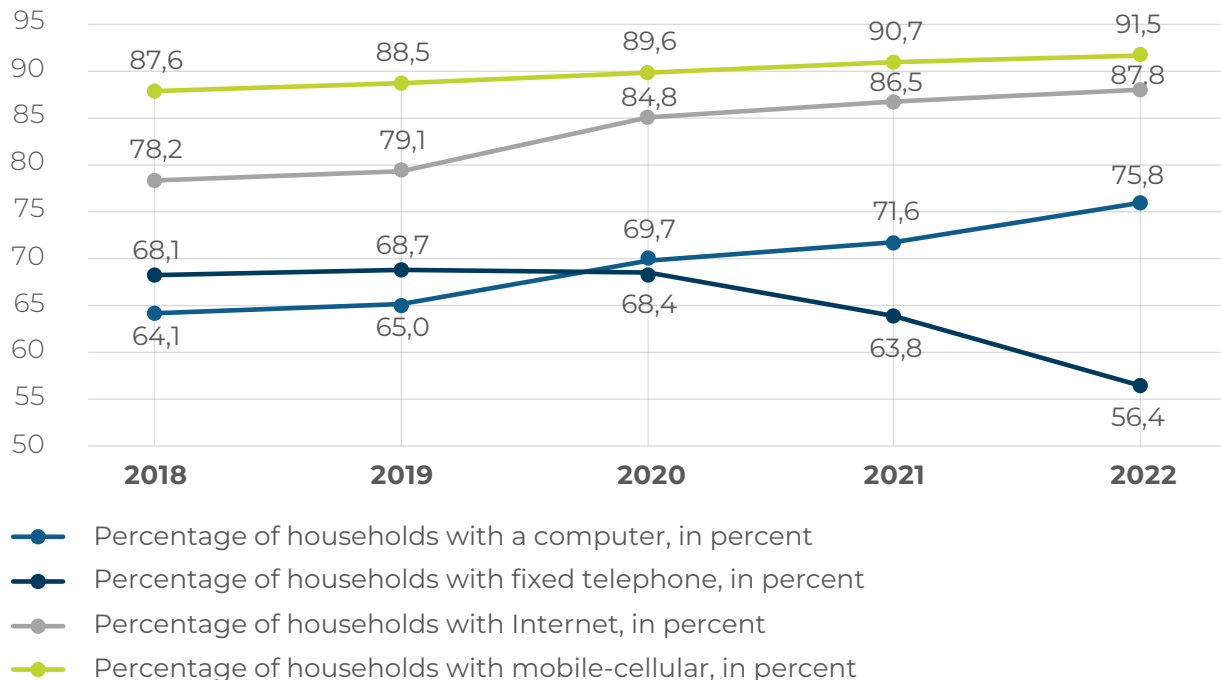
Indicators and units of measurement	2018	2019	2020	2021	2022
Fixed-telephone subscriptions per 100 inhabitants, subscribers	15	15	15	15	14
Mobile-cellular telephone subscriptions per 100 inhabitants, subscribers	105	109	104	108	110
Fixed broadband Internet subscriptions per 100 inhabitants, subscribers	7.7	9.1	11.6	12.9	14.3
Active mobile-broadband subscriptions per 100 inhabitants, subscribers	...	...	63.4	68.7	79.1
International bandwidth usage per inhabitant, kbit/s	83.5	111.1	181.5	198.6	222.9
Percentage of the population covered by at least a 3G mobile network, in percent	72.5	77.8	86.0	99.5	99.8
Fixed broadband basket (5 GB), manat	10	10	10	10	13
Mobile-cellular low-usage basket (70 minutes and 20 SMS), manat	10	10	10	10	10
Mobile broadband Internet prices per month (500 MB, 70 minutes, 20 SMS) and (2 GB, 140 minutes, 70 SMS), manat	10	10	10	10	10



ICT indicators for households

The comprehensive work done in the field of digitalization and ICT, such as the development of new infrastructure, as well as application and modernization of technologies used throughout the country, has had a substantial impact on the rate of ICT usage by households. Thus, the share of households with a computer across the country grew up to 75.8% in 2022, which is 11.7% points more than in 2018, and 4.2% points more than the same indicator of 2021 (see Chart 7).

Chart 7. Indicators on ICT and Internet access by households



In 2022, there was an increase in the percentage of the population using computers, mobile phones, and the Internet in the total population of the country. Over the last 5 years, the share of Internet users in our country has increased by 8.3% points. According to the results of the survey conducted at the end of 2022, 88.1% of the country's population are internet users (see *Chart 7.2*).

Chart 7.1. Indicators on the use of devices by households

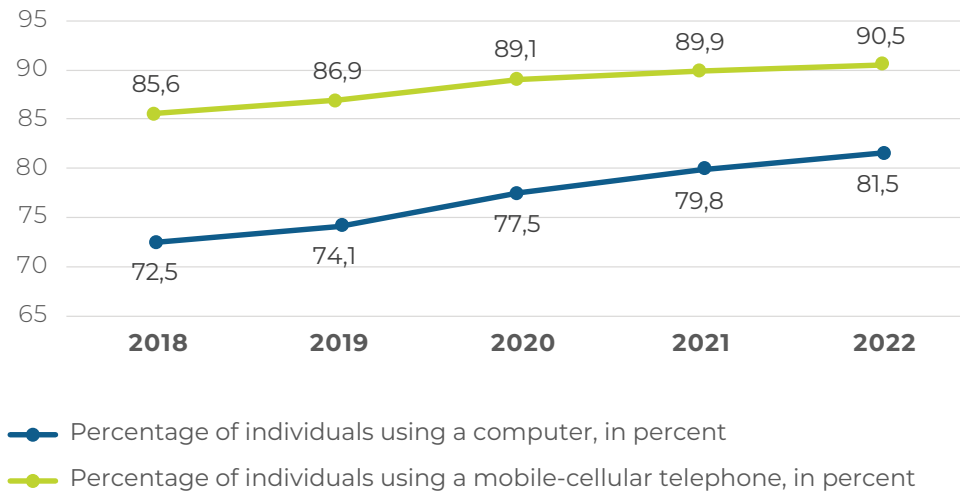


Chart 7.2. Percentage of individuals using the Internet

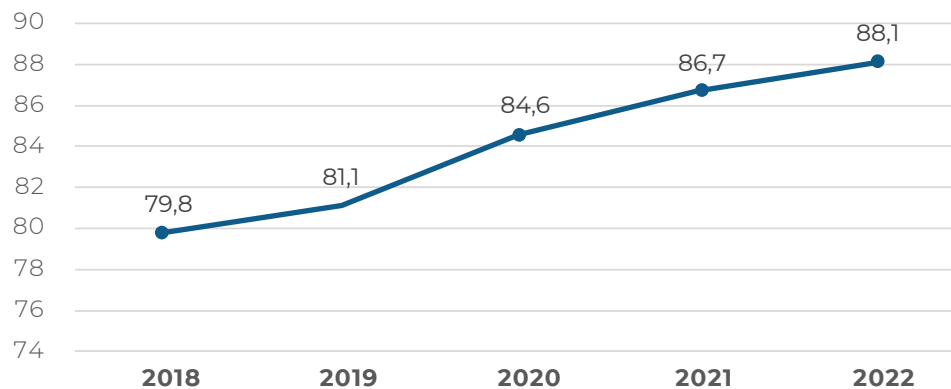




Table 7. ICT indicators for households

Indicators and units of measurement	2018	2019	2020	2021	2022
Percentage of households with a computer, in percent	64,1	65,0	69,7	71,6	75,8
Percentage of households with fixed telephone, in percent	68,1	68,7	68,4	63,8	56,4
Percentage of households with Internet, in percent	78,2	79,1	84,8	86,5	87,8
Percentage of households with mobile-cellular telephone, in percent	87,6	88,5	89,6	90,7	91,5
Percentage of households with radio, in percent	94,7	94,9	95,7	96,0	96,5
Percentage of households with TV, in percent	100,0	100,0	100,0	100,0	100,0
Percentage of individuals using a computer, in percent	72,5	74,1	77,5	79,8	81,5
Percentage of individuals using a mobile-cellular telephone, in percent	85,6	86,9	89,1	89,9	90,5
Percentage of individuals using the Internet, in percent	79,8	81,1	84,6	86,7	88,1





Computer access and use

As a result of the works carried out in Baku and other regions within the framework of the “Online Azerbaijan” project, the coverage of the Internet has expanded, and accordingly, the percentage of households with access to the Internet has increased across the country.

Consequently, the number of households with a computer increased by 4.2% compared to 2021, and by 11.7% compared to 2018. The growth was higher in the rural areas. Looking at the ratio of male to female computer users, the gap was 0.8% in 2021, but this gap narrowed down to 0.4% in 2022 (see Table 8).

Chart 8. Rural-urban distribution of households with Internet access

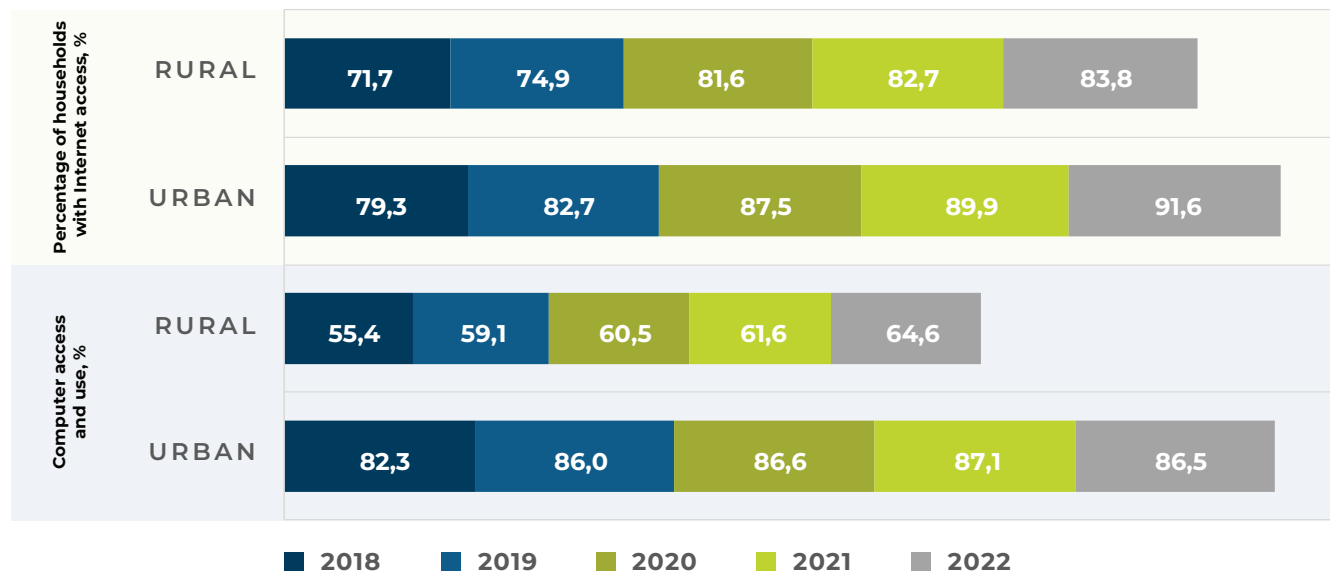


Table 8. Indicators on computer access and use

Indicators and units of measurement	2018	2019	2020	2021	2022
Households with a computer by urban-rural location, in percent	64.1	65.0	69.7	71.6	75.8
urban	82.3	86.0	86.6	87.1	86.5
rural	55.4	59.1	60.5	61.6	64.6
Households with a computer by household composition, in percent	64.1	65.0	69.7	71.6	75.8
single member	53.1	54.9	59.5	60.3	63.1
2-3 persons	72.0	73.8	77.6	80.1	83.7
4-5 persons	72.9	74.5	79.7	81.8	83.5
more than 6 persons	36.2	39.1	41.3	43.7	45.6
Individuals using a computer by gender, in percent	72.5	74.1	77.5	79.8	81.5
men	72.6	74.3	77.8	80.2	81.6
women	74.2	73.9	77.2	79.4	81.2



Indicators and units of measurement	2018	2019	2020	2021	2022
Percentage of computer users by age groups, in percent					
under 24 years old	72.9	74.5	77.6	80.6	82.5
25-35 years old	79.4	80.7	83.8	84.1	87.1
36-64 years old	73.0	75.1	79.4	81.7	83.6
over 64 years old	48.6	49.1	50.8	56.8	57.6
Percentage of computer users by educational attainment, in percent					
primary education or lower	58.3	57.1	57.7	56.7	58.4
lower secondary education	60.9	61.1	63.7	66.9	68.6
upper secondary or post-secondary non-tertiary	70.4	70.7	73.4	82.4	84.1
tertiary education	91.6	91.5	92.7	93.2	93.6
Percentage of computer users by economic activity, in percent	72.5	74.1	77.5	79.8	81.5
busy person	81.5	82.4	83.5	84.8	85.5
unemployed person	47.6	47.1	46	44.7	43.7
economically inactive person	53.8	53.4	53.3	52.4	51.8

Table 9. Indicators on Internet access and use

Indicators and units of measurement	2018	2019	2020	2021	2022
Percentage of computer users by profession, in percent	72.5	74.1	77.5	79.8	81.5
legislators, senior officials and managers	78.9	82.4	89.3	87.1	85.1
professionals	79.3	82.6	89.6	90.0	90.4
professionals technicians and associate professionals	84.6	87.7	95.1	97.0	98.9
clerical support workers	72.5	75.5	81.9	86.2	90.6
service and sales workers	73.0	75.1	81.4	82.0	82.6
skilled agricultural, forestry and fishery workers	68.8	71.0	77.0	79.6	82.4
craft and related trades workers	76.6	79.0	85.6	87.9	90.2
plant and machine operators and assemblers	89.5	93.3	96.7	96.7	96.7
elementary occupations	34.7	36.0	40.9	45.1	49.7
armed forces occupations	11.3	12.0	13.7	14.7	15.7
Households with Internet by urban-rural location, in percent	78.2	79.1	84.8	86.5	87.8
urban	79.3	82.7	87.5	89.9	91.6
rural	71.7	74.9	81.6	82.7	83.8
Percentage of households with internet by household composition, in percent					
single member	73.8	75.8	78.6	79.3	83.1
2-3 persons	84.1	84.6	91.3	92.3	93.8
4-5 persons	83.8	85.1	90.5	93.2	93.5



Indicators and units of measurement	2018	2019	2020	2021	2022
more than 6 persons	64.1	64.3	70.6	71.7	73.5
Percentage of Internet users by gender, in percent	79.8	81.1	84.8	86.5	88.1
men	83.7	83.9	85.8	87.9	89.4
women	76.0	78.4	83.4	85.5	86.8
Percentage of Internet users by age groups, in percent					
under 24 years old	71.6	72.4	74.6	75.2	78.6
25-35 years old	87.3	88.2	92.8	95.3	96.1
36-64 years old	86.1	87.4	91.7	94.4	95.7
over 64 years old	54.4	58.9	60.4	64.2	66.8
Percentage of Internet users by educational attainment, in percent					
primary education or lower	75.8	76.7	79.7	81.6	82.6
lower secondary education	75.1	77.5	81.4	83.5	84.5
upper secondary or post-secondary non-tertiary	76.6	78.1	82.9	85.1	85.8
tertiary education	91.6	91.7	95.1	96.6	97.4
Percentage of Internet users by economic activity, in percent					
busy person	83.6	84.5	87.1	89.3	91.5
unemployed person	49.8	49.1	43.6	45.6	45.1
economically inactive person	52.6	52.2	51.4	49.9	48.4

Indicators and units of measurement	2018	2019	2020	2021	2022
Percentage of Internet users by profession, in percent					
legislators, senior officials, and managers	90.0	93.1	95.2	94.7	97.1
professionals	90.5	89.9	90.9	97.8	98.6
professional technicians and associate professionals	97.7	98.0	99.4	99.2	99.5
clerical support workers	82.7	87.1	89.8	93.6	96.2
service and sales workers	85.3	87.3	89.6	89.1	89.7
skilled agricultural, forestry and fishery workers	81.1	84.5	91.5	92.3	93.1
craft and related trades workers	90.6	89.3	93.9	95.5	97.1
plant and machine operators and assemblers	96.5	96.4	98.5	98.9	99.4
elementary occupations	39.7	39.3	40.7	44.2	47.9
armed forces occupations	12.4	13.2	13.5	14.7	16.0
Percentage of Internet users by place of Internet use, in percent					
home	62.4	63.0	64.8	65.5	67.3
workplace	19.1	20.0	20.5	20.7	20.8
educational institutions	8.3	8.4	8.6	8.1	8.0
someone else's house	0.7	0.7	0.8	0.8	0.9
in public place with open access to the Internet	3.0	3.1	3.2	3.3	3.3
in commercial organizations	0.5	0.5	0.6	0.6	0.7
while on the road	14.3	14.3	14.1	14.2	14.4



Indicators and units of measurement	2018	2019	2020	2021	2022
Individuals using the Internet of use less than 15 years old, in percent	92.8	84.1	85.7	89.8	91.3
Individuals using the Internet of use less than 15-24 years old, in percent	95.6	86.4	88.4	93.5	94.8
Individuals using the Internet of use less than 25-74 years old, in percent	87.6	79.8	80.9	84.0	85.4
Individuals using the Internet of use more than 74 years old, in percent	29.6	25.3	26.0	26.5	28.4
Proportion of individuals using the Internet by purpose of, in percent					
search information	42.9	43.2	43.5	44.7	45.5
communication	62.6	66.2	66.6	67.0	67.7
training an education	7.2	7.3	7.7	6.9	7.0
health-related activities	7.3	7.5	8.4	8.1	8.5
ordering or selling goods and services	4.5	4.6	4.9	4.4	4.5
interaction with public authorities	6.2	6.6	7.2	7.1	7.3
Frequency of using the internet, in percent					
everyday	81.8	82.0	87.3	88.4	90.1
at least once a week	15.6	15.3	11.5	9.5	7.8
at least once a month	1.5	1.7	0.8	1.2	1.7
other within the last 3 months	1.1	1.0	0.4	0.9	0.4

Indicators and units of measurement	2018	2019	2020	2021	2022
Proportion of individuals using the Internet, by type of portable device used to access the Internet, in percent					
mobile telephone	65.5	66.7	67.2	67.5	67.7
tablet	8.3	8.4	8.8	8.6	8.7
portable computers (laptops, netbooks)	28.7	30.6	32.5	34.3	35.2
other portable devices (gaming devices, watches, etc.)	1.6	1.9	2.1	2.0	2.2
Reasons for not being able to access the Internet at home, as percentage to total					
Internet is not needed	...	...	37.4	45.2	48.1
Internet access elsewhere	...	...	5.9	5.8	11.0
expensive equipment needed to connect to the Internet	...	...	9.8	8.7	8.3
high usage fee	...	...	11.3	11.7	10.1
not sure about the protection of personal information on the Internet	...	...	3.3	2.7	2.7
lack of technical capacity in the area	...	...	7.6	7.4	5.9
unsatisfactory speed and quality of the Internet	...	...	6.6	3.5	2.7
because the Internet is considered harmful	...	...	7.6	7.1	4.8
other reasons	...	...	10.5	7.9	6.4



Table 10. Indicators on telephone access and use

Indicators and units of measurement	2018	2019	2020	2021	2022
Proportion of households with a telephone (by urban-rural location), in percent	98.1	97.7	98.4	97.8	96.3
urban	98.8	98.5	98.5	99.1	97.5
rural	97.3	96.8	98.2	96.3	95.2
Proportion of households with a fixed telephone (by urban-rural location), in percent	68.1	68.7	68.4	63.8	56.4
urban	95.0	97.3	92.0	90.1	87.3
rural	34.5	34.3	39.8	32.1	26.5
Proportion of households with a mobile telephone (by urban-rural location), in percent	87.6	88.5	89.6	90.7	91.5
urban	90.1	91.6	92.1	92.8	93.2
rural	84.6	84.8	86.6	88.2	89.9
Proportion of individuals using a mobile-cellular telephone, (by urban-rural location), in percent	85.6	86.9	89.1	89.9	90.5
urban	88.5	88.9	84.8	96.8	97.0
rural	84.4	84.7	81.8	82.1	82.6

Indicators and units of measurement	2018	2019	2020	2021	2022
Individuals using a mobile-cellular telephone by gender, in percent					
men	90.0	91.2	91.5	92.8	93.0
women	83.3	83.7	84.8	88.0	88.1
Individuals using a mobile-cellular telephone by age groups, in percent					
under 24 years old	79.4	81.6	84.1	85.6	86.7
25-35 years old	92.6	93.1	94.5	95.2	96.3
36-64 years old	90.2	91.2	93.4	93.9	94.7
over 64 years old	63.6	65.7	69.6	70.6	71.5
Individuals using a mobile telephone by educational attainment, in percent					
primary education or lower	76.5	76.8	78.6	78.9	81.7
lower secondary education	93.1	93.3	93.5	93.8	94.1
upper secondary or post-secondary non-tertiary	86.9	87.0	89.5	89.8	90.1
tertiary education	91.8	92.0	92.2	92.4	92.5
Individuals using a mobile telephone by economic activity, in percent					
busy person	90.6	91.7	92.6	93.4	94.6
unemployed person	44.8	45.1	43.6	44.4	45.1
economically inactive person	48.9	48.3	48.5	47.7	46.7



Indicators and units of measurement	2018	2019	2020	2021	2022
Individuals using a mobile telephone by profession, in percent					
legislators, senior officials and managers	100.0	100.0	100.0	100.0	100.0
professionals	100.0	100.0	100.0	100.0	100.0
professional technicians and associate professionals	100.0	100.0	100.0	100.0	100.0
clerical support workers	100.0	100.0	100.0	100.0	100.0
service and sales workers	83.6	85.9	89.2	92.0	92.9
skilled agricultural, forestry and fishery workers	78.7	80.8	82.7	83.6	84.4
craft and related trades workers	79.4	81.2	86.5	87.2	87.4
plant and machine operators and assemblers	80.3	81.6	88.3	88.2	89.0
elementary occupations	80.0	80.9	83.3	84.2	85.6
armed forces occupations	100.0	100.0	100.0	100.0	100.0
Proportions of individuals owning a mobile-cellular telephone, by gender, in percent	74.0	74.8	76.8	79.4	81.2
men	77.3	77.5	78.6	81.1	83.0
women	70.8	72.1	75.1	77.7	79.4
Proportions of individuals owning a mobile-cellular telephone, age groups, in percent					
under 24 years old	67.7	68.2	70.5	72.6	74.5
25-35 years old	80.2	81.1	83.2	84.8	86.8
36-64 years old	77.5	78.2	80.1	83.9	85.8
over 64 years old	61.0	63.2	64.8	65.6	69.8

Indicators and units of measurement	2018	2019	2020	2021	2022
Individuals owning a mobile-cellular telephone by educational attainment, in percent					
primary education or lower	34.3	35.9	40.1	43.9	45.1
lower secondary education	57.0	57.4	58.5	64.2	67.5
upper secondary or post-secondary non-tertiary	82.9	83.1	85.0	87.3	89.1
tertiary education	92.0	92.6	94.5	96.1	98.3

The percentage of the population using “smartphones” increased by 1.1% and 0.7% in urban and rural areas, respectively (see *Chart 9*). An increase in the number of women and men using smartphones was also observed in 2022. So, based on the results of the surveys, it was identified that 82.7% of men and 81.0% of women used smartphones in 2022. In the last 2 years, the gap between female and male smartphone users has decreased to 1.6~1.7% from 2.8~4.0% in the previous years (see *Chart 10*).

Chart 9. Urban-rural distribution of “smartphone” users, in percent

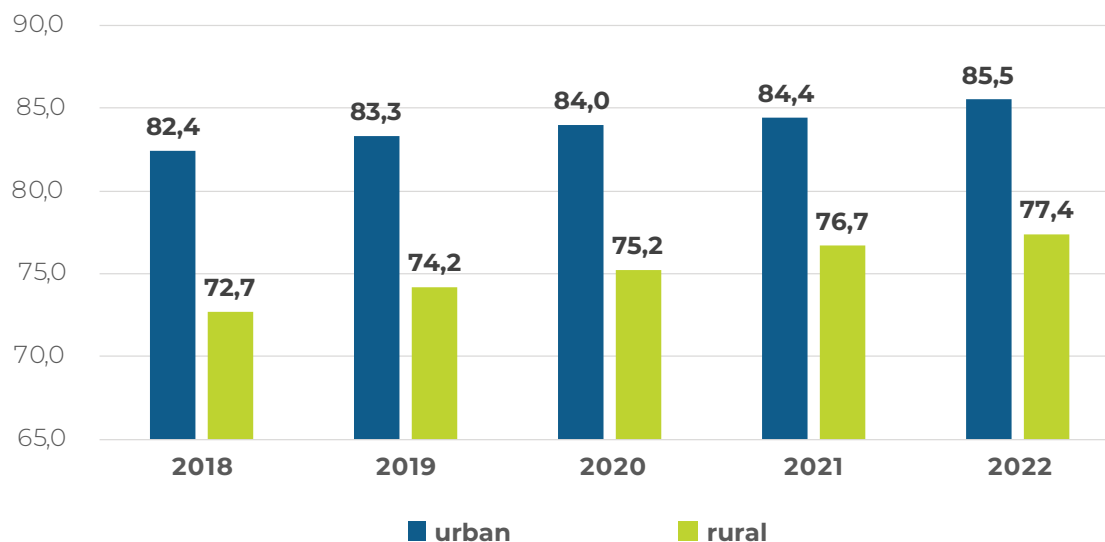




Chart 10. Distribution of “smartphone” users by gender, in percent

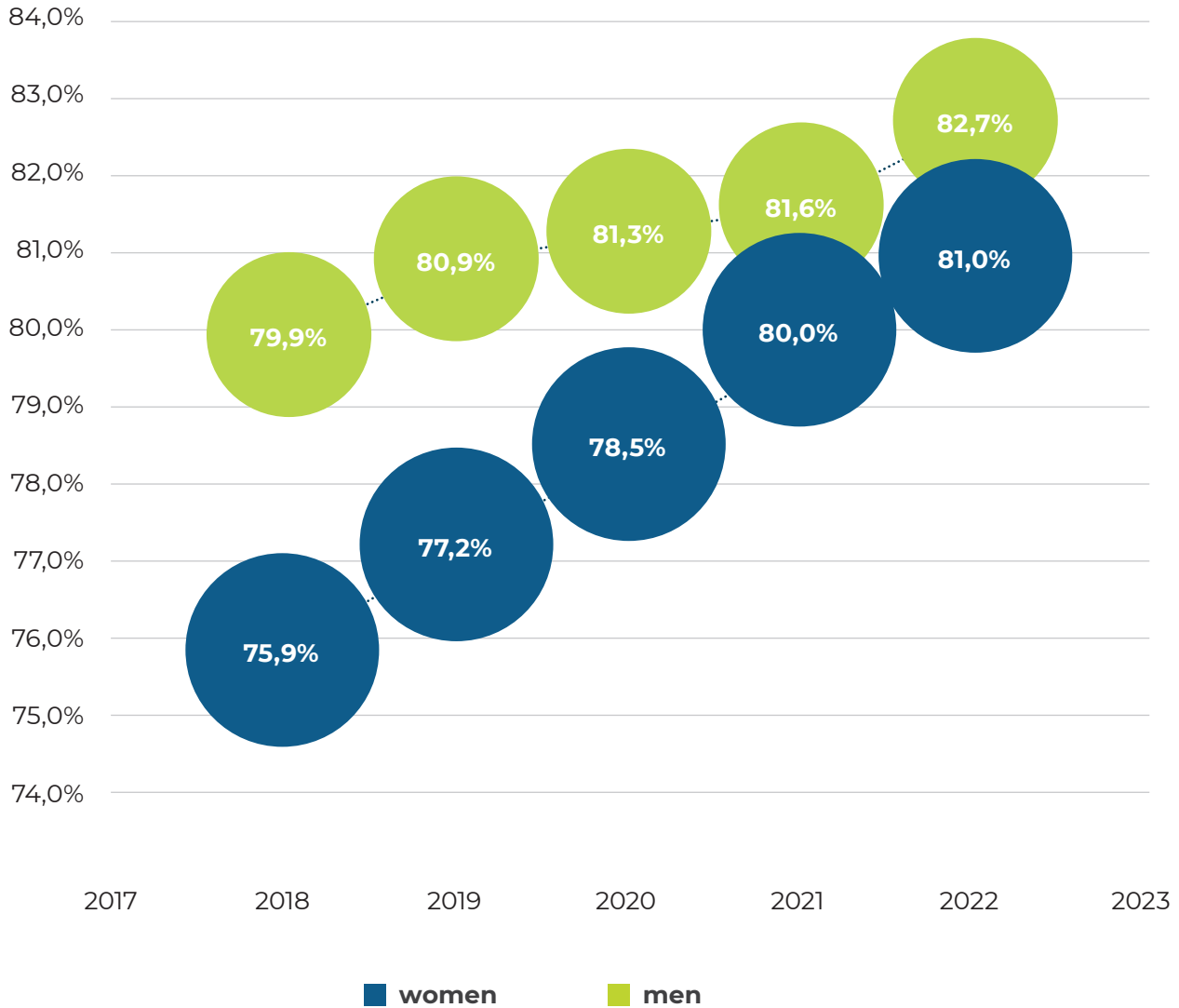


Table 11. Other ICT indicators on households

Indicators and units of measurement	2018	2019	2020	2021	2022
Households with a radio by urban-rural location, in percent	94,7	94,9	95,7	96,0	96,5
urban	95,1	95,1	96,1	96,8	97,2
rural	94,2	94,1	95,2	95,0	95,8
Percentage of households with a radio by household composition, in percent					
single member	97,5	97,6	97,1	97,1	96,9
2-3 persons	98,7	98,5	98,4	98,2	98,0
4-5 persons	98,9	99,2	98,9	98,9	98,7
more than 6 persons	82,2	82,6	86,9	88,3	90,9
Households with a TV by urban-rural location and household composition, in percent	100,0	100,0	100,0	100,0	100,0
urban	100,0	100,0	100,0	100,0	100,0
rural	100,0	100,0	100,0	100,0	100,0
Household expenditure on ICT, in percent	7,2	6,8	6,7	7,0	7,2



Indicators and units of measurement	2018	2019	2020	2021	2022
Household expenditure on ICT (urban-rural location), in percent					
urban	7,5	7,0	7,0	7,6	7,5
rural	6,8	6,5	6,4	6,2	6,9
Individuals with ICT skills by type of skills, in percent					
copy or relocate a file or folder	83,6	83,8	84,9	87,5	88,6
the same within the document writing information and or relocation for copying	74,5	75,6	76,7	78,9	79,2
send files (documents, photos, videos, etc.) via email	71,5	72,9	73,2	74,3	74,7
use basic arithmetic formulas	28,9	29,3	33,4	36,3	36,6
connect new devices (modem, camera, printer, etc.) to the computer	19,6	19,8	22,9	25,3	25,7
find, download, install and configure software	11,2	13,5	15,2	17,5	17,6
prepare electronic presentations	8,9	10,5	12,7	15,4	15,7
transfer files from computer to other devices	10,3	13,2	13,5	14,8	15,0
write a computer program using special programming languages	1,4	2,3	3,5	4,2	5,0

Indicators and units of measurement	2018	2019	2020	2021	2022
Individuals with ICT skills by type of skills less than 15 years old, in percent					
copy or relocate a file or folder	71,8	73,3	78,1	80,9	81,2
the same within the document writing information and or relocation for copying	72,8	73,1	74,2	75,3	75,6
send files (documents, photos, videos, etc.) via email	67,3	68,3	69,1	70,1	70,7
use basic arithmetic formulas	19,7	20,6	22,4	24,7	25,0
connect new devices (modem, camera, printer, etc.) to the computer	16,4	17,1	17,7	18,1	18,3
find, download, install and configure software	9,5	9,6	10,0	10,8	10,9
prepare electronic presentations	2,8	3,0	3,3	3,4	3,7
transfer files from computer to other devices	1,7	1,8	1,8	2,1	2,3
write a computer program using special programming languages	0,9	0,9	1,0	1,1	1,1
Individuals with ICT skills by type of skills 15-24 years old, in percent					
copy or relocate a file or folder	74,9	76,7	79,3	81,8	82,5
the same within the document writing information and or relocation for copying	72,6	74,7	77,2	79,4	80,1
send files (documents, photos, videos, etc.) via email	71,8	73,6	76,1	78,5	79,0



Indicators and units of measurement	2018	2019	2020	2021	2022
use basic arithmetic formulas	37,5	39,6	41,7	43,5	44,6
connect new devices (modem, camera, printer, etc.) to the computer	21,5	23,4	26,6	28,6	28,9
find, download, install and configure software	15,3	17,5	19,8	21,9	22,4
prepare electronic presentations	11,8	13,1	15,6	19,5	22,6
transfer files from computer to other devices	9,5	11,2	14,6	18,4	19,8
write a computer program using special programming languages	1,0	1,1	2,3	4,1	4,9
Individuals with ICT skills by type of skills 25-74 years old, in percent					
copy or relocate a file or folder	89,6	90,3	86,3	92,1	92,3
the same within the document writing information and or relocation for copying	78,1	79,0	79,9	81,6	81,8
send files (documents, photos, videos, etc.) via email	76,2	76,8	77,3	78,7	79,1
use basic arithmetic formulas	35,1	35,2	36,3	38,1	39,3
connect new devices (modem, camera, printer, etc.) to the computer	25,3	25,6	25,9	26,7	28,9
find, download, install and configure software	15,7	17,2	18,1	18,3	21,6
prepare electronic presentations	2,8	3,0	3,3	17,3	21,9
transfer files from computer to other devices	14,2	16,3	16,5	16,7	19,4
write a computer program using special programming languages	5,3	6,0	6,8	8,3	8,7

Indicators and units of measurement	2018	2019	2020	2021	2022
Individuals with ICT skills by type of skills more than 75 years old, in percent					
copy or relocate a file or folder	28,9	29,8	30,7	31,7	32,1
the same within the document writing information and or relocation for copying	19,7	20,6	23,6	23,9	24,2
send files (documents, photos, videos, etc.) via email	16,0	16,8	19,0	20,7	21,3
use basic arithmetic formulas	7,8	8,3	10,0	11,3	11,7
connect new devices (modem, camera, printer, etc.) to the computer	8,1	8,3	8,9	10,6	11,7
find, download, install and configure software	6,8	8,0	8,6	8,8	9,2
prepare electronic presentations	4,6	5,2	6,3	6,9	7,2
transfer files from computer to other devices	6,0	7,5	9,0	11,0	11,8
write a computer program using special programming languages	2,2	2,7	2,8	2,9	3,1
Individuals using a smart phone by gender, in percent	77,9	79,0	79,9	80,8	81,9
men	79,9	80,9	81,3	81,6	82,7
women	75,9	77,2	78,5	80,0	81,0
Individuals using a smart phone by urban-rural location, in percent					
urban	82,4	83,3	84,0	84,4	85,5
rural	72,7	74,2	75,2	76,7	77,4
Share of persons receiving goods or services (books, magazines or newspapers) online, in the total number of Internet users (by gender), in percent	17,8	18,3	19,1	19,6	20,9
men	19,7	19,0	19,7	20,2	21,7
women	15,8	17,7	18,5	19,0	20,1



Indicators and units of measurement	2018	2019	2020	2021	2022
Share of persons receiving goods or services (books, magazines or newspapers) online, in the total number of Internet users (by urban-rural location), in percent					
urban	19,4	20,4	20,9	21,2	22,1
rural	15,7	15,6	16,8	17,6	19,2
Share of persons receiving goods or services online, in the total number of Internet users (by type of goods), in percent					
food	7,6	7,8	7,6	7,7	7,8
household items, household equipment (furniture, etc.)	7,9	8,1	8,6	8,8	9,3
cinema, music	4,9	4,8	4,6	4,6	5,1
musical instruments	3,6	3,5	3,7	3,9	9,0
books, magazines, newspapers, online textbooks	10,7	10,6	11,2	12,1	12,6
clothing, footwear, sporting goods and accessories	30,8	31,7	33,3	34,1	31,6
video or computer games	4,7	4,5	4,2	4,3	3,8
computer programs (except for updates, game programs, including paid applications)	3,7	3,6	3,7	3,5	3,7
computer equipment	0,6	0,8	0,7	0,6	0,5
electronic devices (including mobile phone, camera, video cameras)	3,5	3,4	3,6	3,8	4,4
cosmetics	3,7	3,6	3,4	3,5	3,4
medical products	6,7	6,7	6,8	7,0	7,4
stock acquisition, financial services, insurance	4,7	4,6	4,7	4,7	5,3
travel or vacation orders (for hotels, etc.)	1,5	1,4	1,2	1,3	1,4
flowers and tickets for events (concert, theater, cinema, etc.)	2,7	2,6	2,7	2,8	3,0
lotteries or margins	3,0	2,9	2,8	2,8	2,9
others	2,3	2,1	1,9	2,0	2,2

Indicators and units of measurement	2018	2019	2020	2021	2022
Share of persons receiving goods or services online, in the total number of Internet users (by type of payment channel), in percent					
payment after receipt of the ordered shipment (parcel) by mail	3,2	3,5	3,6	3,8	4,4
online credit card	3,7	4,7	3,4	4,2	4,9
debit card transfer or online bank transfer	4,2	4,4	4,4	4,9	4,2
mobile money account (to the account connected to the mobile number)	2,3	1,8	2,1	1,6	1,7
online payment services (e.g. PayPal, Hesab.az, MilliÖN.az, etc.)	4,1	3,7	5,4	3,3	3,6
gift card or online voucher	1,4	1,1	1,2	1,7	1,9
others (for example, sending a bank check by mail, etc.)	1,2	1,3	1,1	1,9	1,2
Share of persons receiving goods or services online, in the total number of Internet users, (by method of delivery), in percent					
through a regular postal service or other delivery	6,3	6,5	6,9	6,9	7,2
goods or services directly taken by person from the point of sale or service	3,1	3,3	3,1	3,4	3,6
online/electronic delivery from the website	1,5	1,6	1,5	1,6	1,7
Share in the total number of Internet users of persons who have not received goods or services online in the last three months (for reasons), in percent					
need did not arise	57,5	56,8	60,8	57,5	57,6
prefer to receive the product personally	28,4	26,1	26,2	28,4	31,7
have little knowledge and skills in this area	13,5	16,0	14,4	11,5	15,5
delivery time too late	6,1	5,7	5,5	6,1	3,2
there are problems with receiving ordered goods at home	3,5	4,2	4,0	2,0	1,4
not sure that the privacy of personal data on the Internet will be preserved	3,1	3,6	2,4	1,3	1,3
there are concerns related to reliability conditions, product acceptance or return, complaint or compensation	3,4	4,9	3,8	2,4	2,1
no payment card to pay online	4,3	4,7	3,6	2,3	2,2
internet connection speed is very slow	4,7	4,5	3,3	2,7	3,4
others	8,6	7,7	6,3	6,6	7,8



Access to and use of ICT by households and individuals

The survey conducted to study the purposes of Internet use by households and individuals has found that in 2022, the Internet was primarily used for the purposes of creating connections and searching for information (see *Chart 11*). Looking at the similar statistics of both developed and developing countries, we can observe that the vast majority of the population in those countries use the Internet more for the same purposes.

Chart 11. Distribution of Internet users by purpose of use, in percent

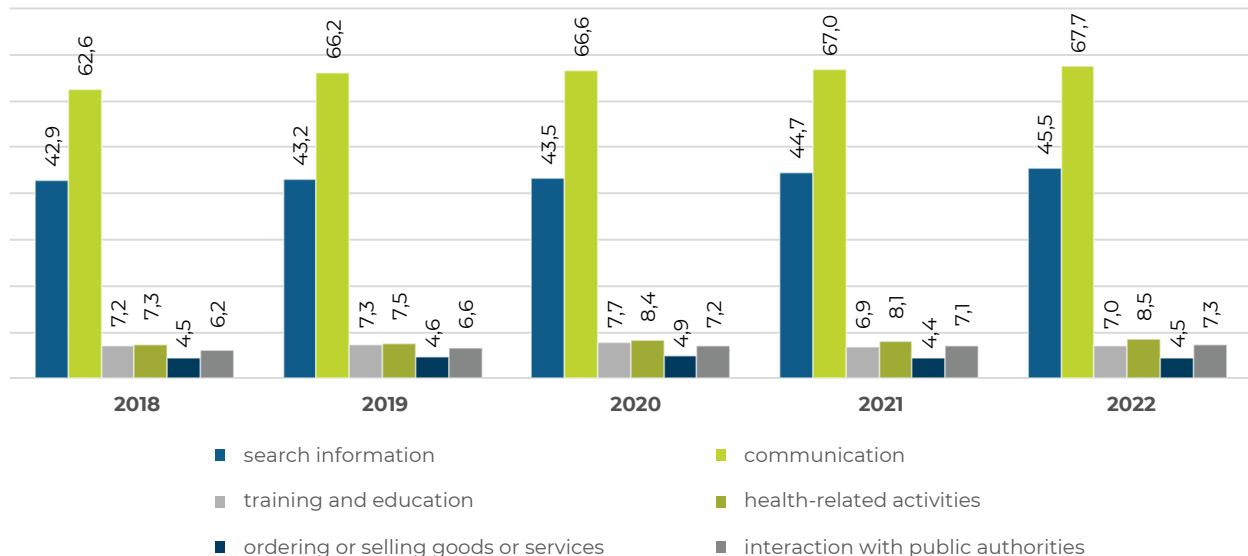


Table 12. Indicators on access and use of ICT by households and individuals, in percent

Indicators and units of measurement	2018	2019	2020	2021	2022
Proportion of households with a radio, in percent	94.7	94.9	95.7	96.0	96.5
Proportion of households with a TV, in percent	100.0	100.0	100.0	100.0	100.0
Proportion of households with telephone, in percent	98.1	97.7	98.4	97.8	96.3
Proportion of households with a computer, in percent	64.1	65.0	69.7	71.6	75.8
Proportion of households with Internet, in percent	78.2	79.1	84.8	86.5	87.8
Proportion of individuals using the Internet, in percent	79.8	81.1	84.6	86.7	88.1
Proportion of individuals using the Internet, by place of Internet use, in percent					
home	62.4	63.0	64.8	65.5	67.3
workplace	19.1	20.0	20.5	20.7	20.8
educational institution	8.3	8.4	8.6	8.1	8.0
someone else's house	0.7	0.7	0.8	0.8	0.9
in public places with open access to the internet	3.0	3.1	3.2	3.3	3.3
in commercial organizations	0.5	0.5	0.6	0.6	0.7
while on the road	14.3	14.3	14.1	14.2	14.4
Purposes of internet use, in percent					
search information	42.9	43.2	43.5	44.7	45.5
communication	62.6	66.2	66.6	67.0	67.7
training and education	7.2	7.3	7.7	6.9	7.0
health-related activities	7.3	7.5	8.4	8.1	8.5



Indicators and units of measurement	2018	2019	2020	2021	2022
ordering or selling goods or services	4.5	4.6	4.9	4.4	4.5
interaction with public authorities	6.2	6.6	7.2	7.1	7.3
Proportion of individuals using a mobile-cellular telephone, in percent	85.6	86.9	89.1	89.9	90.5
Distribution of equipment by types of internet connection, as percentage to total					
via ISDN	...	...	2.5	1.0	...
via xDSL (including VDSL/VDSL2)	...	...	8.2	5.8	21.7
via xDSL (excluding VDSL/VDSL2)	...	...	2.8	2.6	19.1
via cable modem	...	...	52.9	62.0	21.5
via leased line	...	...	4.8	8.3	11.5
via fiber-optic cable	...	...	11.6	6.4	11.2
via wireless connection	...	...	17.2	13.9	15.0
Frequency of using the internet, in percent					
everyday	81.8	82.0	87.3	88.4	90.1
at least once a week	15.6	15.3	11.5	9.5	7.8
at least once a month	1.5	1.7	0.8	1.2	1.7
other within the last 3 months	1.1	1.0	0.4	0.9	0.4
Proportion of households with multichannel television by type of TV services, in percent	...	...	...	...	...
Reasons for not being able to access the Internet at home, as percentage to total					
Internet is not needed	...	...	37.4	45.2	48.1
Internet access elsewhere	...	...	5.9	5.8	11.0

Indicators and units of measurement	2018	2019	2020	2021	2022
expensive equipment needed to connect to the Internet	...	...	9.8	8.7	8.3
high usage fee	...	...	11.3	11.7	10.1
not sure about the protection of personal information on the Internet	...	...	3.3	2.7	2.7
lack of technical capacity in the area	...	...	7.6	7.4	5.9
unsatisfactory speed and quality of the Internet	...	...	6.6	3.5	2.7
because the Internet is considered harmful	...	...	7.6	7.1	4.8
other reasons	...	...	10.5	7.9	6.4
Individuals with ICT skills by type of skills, in percent					
copy or relocate a file or folder	83.6	83.8	84.9	87.5	88.6
the same within the document writing information and or relocation for copying	74.5	75.6	76.7	78.9	79.2
send files (documents, photos, videos, etc.) via email	71.5	72.9	73.2	74.3	74.7
use basic arithmetic formulas	28.9	29.3	33.4	36.3	36.6
connect new devices (modem, camera, printer, etc.) to the computer	19.6	19.8	22.9	25.3	25.7
find, download, install and configure software	11.2	13.5	15.2	17.5	17.6
prepare electronic presentations	8.9	10.5	12.7	15.4	15.7
transfer files from computer to other devices	10.3	13.2	13.5	14.8	15.0
write a computer program using special programming languages	1.4	2.3	3.5	4.2	5.0
Household expenditure on ICT, in percent	7.2	6.8	6.7	7.0	7.2



Indicators and units of measurement	2018	2019	2020	2021	2022
Proportion of individuals using the Internet, by type of portable device used to access the Internet, in percent					
mobile telephone	65.5	66.7	67.2	67.5	67.7
tablet	8.3	8.4	8.8	8.6	8.7
portable computers (laptops, netbooks)	28.7	30.6	32.5	34.3	35.2
other portable devices (gaming devices, watches, etc.)	1.6	1.9	2.1	2.0	2.2
Proportions of individuals owning a mobile cellular telephone, by gender, in percent	74.0	74.8	76.8	79.4	81.2
Proportion of individuals not using the Internet, by type of reason, as percentage to total					
internet is not needed	35.4	34.2	33.6	32.6	34.5
lack of Internet skills	26.8	27.5	26.3	27.5	27.0
insufficient understanding of the Internet	11.4	9.8	9.1	10.9	10.2
high usage fee	7.5	7.1	6.7	6.8	6.4
not sure about the protection of personal information on the Internet	0.9	0.7	0.8	0.4	0.6
lack of technical capacity in the area	5.4	5.1	5.5	4.8	4.6
because the Internet is considered harmful	5.1	4.8	5.1	4.5	4.1
other reasons	7.5	10.8	12.9	12.5	12.6
Share of persons receiving goods or services online, in the total number of Internet users (by type of goods), in percent					
food	7.6	7.8	7.6	7.7	7.8
household items, household equipment (furniture, etc.)	7.9	8.1	8.6	8.8	9.3
cinema, music	4.9	4.8	4.6	4.6	5.1
musical instruments	3.6	3.5	3.7	3.9	9.0

Indicators and units of measurement	2018	2019	2020	2021	2022
books, magazines, newspapers, online textbooks	10.7	10.6	11.2	12.1	12.6
clothing, footwear, sporting goods, and accessories	30.8	31.7	33.3	34.1	31.6
video or computer games	4.7	4.5	4.2	4.3	3.8
computer programs (except for updates, game programs, including paid applications)	3.7	3.6	3.7	3.5	3.7
computer equipment	0.6	0.8	0.7	0.6	0.5
electronic devices (including mobile phone, camera, video cameras)	3.5	3.4	3.6	3.8	4.4
cosmetics	3.7	3.6	3.4	3.5	3.4
medical products	6.7	6.7	6.8	7.0	7.4
stock acquisition, financial services, insurance	4.7	4.6	4.7	4.7	5.3
travel or vacation orders (for hotels, etc.)	1.5	1.4	1.2	1.3	1.4
flowers and tickets for events (concert, theatre, cinema, etc.)	2.7	2.6	2.7	2.8	3.0
lotteries or margins	3.0	2.9	2.8	2.8	2.9
others	2.3	2.1	1.9	2.0	2.2
Share of persons receiving goods or services online, in the total number of Internet users (by type of payment channel), in percent					
payment after receipt of the ordered shipment (parcel) by mail	3.2	3.5	3.6	3.8	4.4
online credit card	3.7	4.7	3.4	4.2	4.9



Indicators and units of measurement	2018	2019	2020	2021	2022
debit card transfer or online bank transfer	4.2	4.4	4.4	4.9	4.2
mobile money account (to the account connected to the mobile number)	2.3	1.8	2.1	1.6	1.7
online payment services (e.g. PayPal, Hesab.az, MilliÖN.az, etc.)	4.1	3.7	5.4	3.3	3.6
gift card or online voucher	1.4	1.1	1.2	1.7	1.9
others (for example, sending a bank check by mail, etc.)	1.2	1.3	1.1	1.9	1.2
Share of persons receiving goods or services online, in the total number of Internet users, (by method of delivery), in percent	10.9	11.3	11.5	11.9	12.5
through a regular postal service or other delivery	6.3	6.5	6.9	6.9	7.2
goods or services directly taken by person from the point of sale or service	3.1	3.3	3.1	3.4	3.6
online/electronic delivery from the website	1.5	1.6	1.5	1.6	1.7
Share in the total number of Internet users of persons who have not received goods or services online in the last three months (for reasons), in percent					
need did not arise	57.5	56.8	60.8	57.5	57.6
prefer to receive the product personally	28.4	26.1	26.2	28.4	31.7

Indicators and units of measurement	2018	2019	2020	2021	2022
have little knowledge and skills in this area	13.5	16.0	14.4	11.5	15.5
delivery time too late	6.1	5.7	5.5	6.1	3.2
there are problems with receiving ordered goods at home	3.5	4.2	4.0	2.0	1.4
not sure that the privacy of personal data on the Internet will be preserved	3.1	3.6	2.4	1.3	1.3
there are concerns related to reliability conditions, product acceptance or return, complaint, or compensation	3.4	4.9	3.8	2.4	2.1
no payment card to pay online	4.3	4.7	3.6	2.3	2.2
Internet connection speed is very slow	4.7	4.5	3.3	2.7	3.4
others	8.6	7.7	6.3	6.6	7.8



Access and use of ICT by enterprises

In recent years, the work done in the field of digitization across the country has had a positive effect on the Internet usage behaviour of enterprises. Thus, compared to the previous years, there has been an increase in the total number of enterprises using both computers and the Internet. Businesses mostly use the Internet for the purposes outlined in Figure 1.

Figure 1. Distribution of enterprises by purposes of internet use, in percent

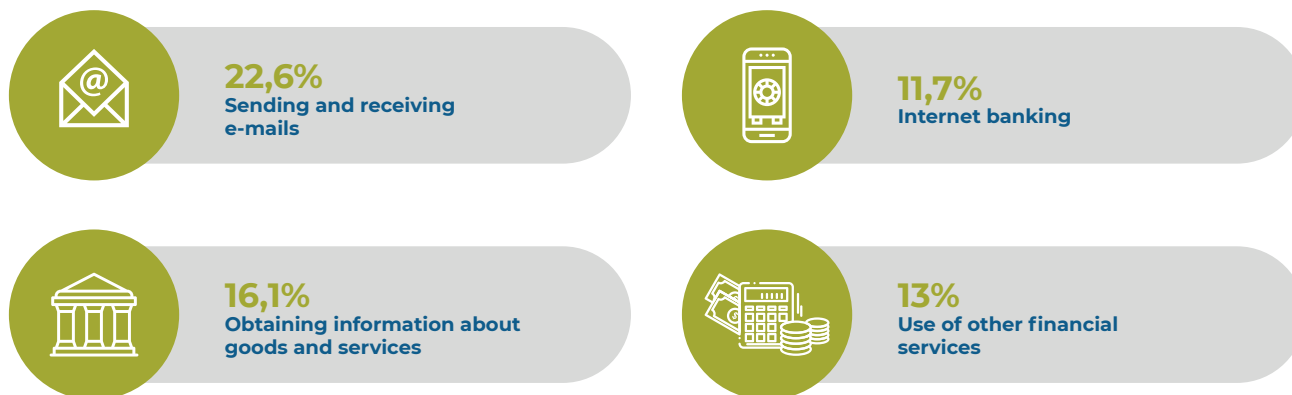
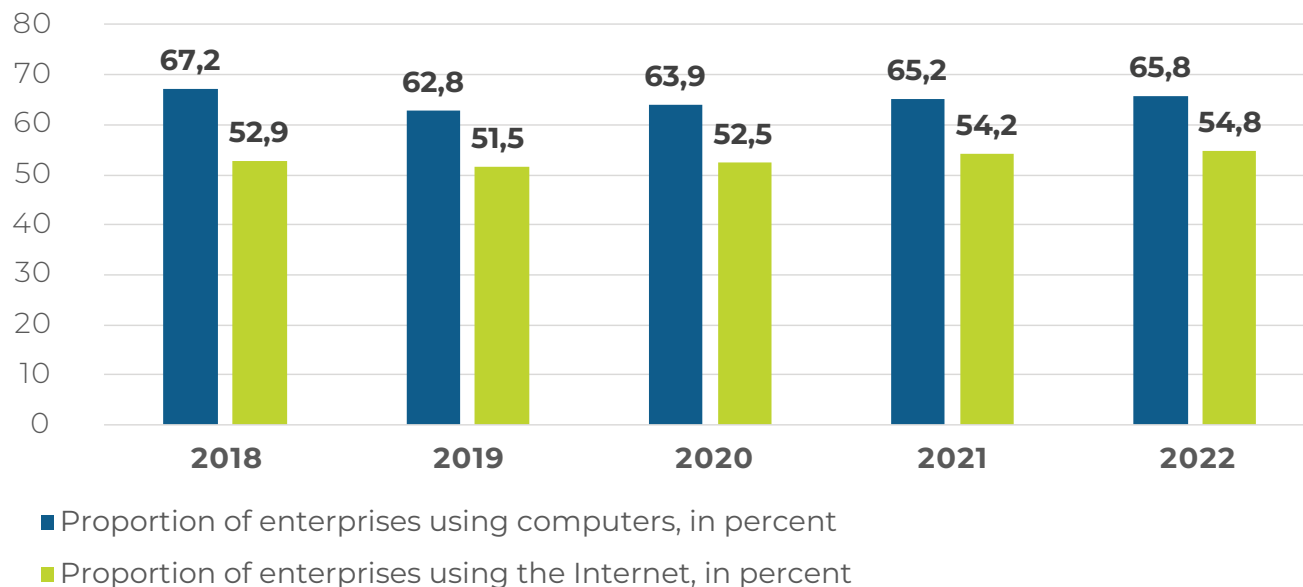


Chart 12. Computer and internet usage indicators of enterprises**Table 13.** Other indicators on access and use of ICT by enterprises

Indicators and units of measurement	2018	2019	2020	2021	2022
Proportion of enterprises using computers, in percent	67.2	62.8	63.9	65.2	65.8
Ratio of the number of employees using a computer to the number of all employees working in enterprises with a computer, in percent	39.6	41.1	42.2	43.0	43.5
Proportion of enterprises using the Internet, in percent	52.9	51.5	52.5	54.2	54.8
Number of employees using internet in enterprises in relation to pay-roll of employees working in enterprises with internet access, in percent	30.7	31.3	32.9	34.4	35.8



Indicators and units of measurement	2018	2019	2020	2021	2022
Proportion of enterprises with a Web presence (Web page, Web site), in percent	12.3	9.8	9.9	10.2	10.5
Proportion of enterprises with an intranet, in percent	21.7	23.3	26.1	25.7	38.7
Proportion of enterprises receiving orders over the Internet, in percent	0.8	0.9	0.9	0.9	1.0
Proportion of enterprises placing orders over the Internet, in percent	2.5	2.8	3.0	3.2	3.4
Distribution of enterprises by type of internet access, in percent					
ISDN	...	5.8	4.9	5.5	...
xDSL	...	12.3	11.3	9.6	12.4
cable modem	...	51.1	49.3	50.8	49.7
leased line	...	7.1	8.5	8.3	9.1
fiber-optic cable	...	12.2	14.3	15.3	17.6
fixed wireless internet	...	1.9	1.9	2.0	2.1
wireless internet	...	5.2	5.7	5.0	5.4
satellite	...	0.6	0.4	0.3	0.3
mobile internet	...	3.8	3.7	3.2	3.4
Proportion of enterprises with a Local Area Network, in percent	73.1	69.3	66.1	66.8	53.3
Proportion of businesses with an extranet, in percent	5.2	7.4	7.8	7.5	8.0

Indicators and units of measurement	2018	2019	2020	2021	2022
Distribution of enterprises by purposes of internet use, in percent					
sending and receiving emails	...	26.7	24.9	23.4	22.6
obtaining information about goods and services	...	8.6	7.9	7.8	7.7
obtaining information from public administration bodies	...	17.9	17.1	16.2	16.1
internet banking	...	9.2	9.6	10.4	11.7
use of other financial services	...	13.3	13.4	13.4	13.0
interactive communication with government agencies (excluding access to information)	...	6.5	6.5	6.7	6.5
customer service	...	5.6	5.3	5.5	5.9
real-time sales of products	...	1.3	1.4	1.6	1.8
conduct video conferencing or IP telephony	...	1.4	3.7	4.3	4.2
online correspondence and placement of announcements	...	4.9	5.3	5.4	5.0
conducting trainings for staff	...	1.7	2.2	2.4	2.5
attracting staff	...	2.9	2.7	2.9	3.0



TV broadcast and quality of service

In accordance with the relevant requirements of the International Telecommunication Union, since 2016, television broadcasting in the country has completely switched over to digital platforms, and analogue broadcasting has since been stopped. In addition to that, starting from 2022, the Azerbaijani television channels from the “Azerspace-1” satellite have been broadcasted in the HD (High Definition) format.

Table 14. Indicators on TV broadcasting

Indicators and units of measurement	2018	2019	2020	2021	2022
IPTV subscriptions, subscribers	5,2	9,1	16,1	11,5	20,4
Cable TV subscriptions, subscribers	194,4	178,1	162,4	178,0	175,8
Other TV subscriptions, subscribers	...	...	41,6	43,9	38,6

Table 15. Service quality indicators

Indicators and units of measurement	2018	2019	2020	2021	2022
Mobile-cellular unsuccessful call ratio, in percent	...	...	0,44	0,39	0,40
Mobile-cellular dropped call ratio, in percent	...	...	0,14	0,10	0,10
Service activation time for fixed broadband service, in hours	291,5	65,1	57,4	57,4	61,3





Trade in the ICT sector and ICT products

The share of employees working in the ICT sector in the total number of employees of all enterprises across the country has increased in 2022 compared to 2018. The ratio of the export of ICT products has experienced a threefold increase since last year.

Chart 13. Employees involved in and value-added generating in ICT sector

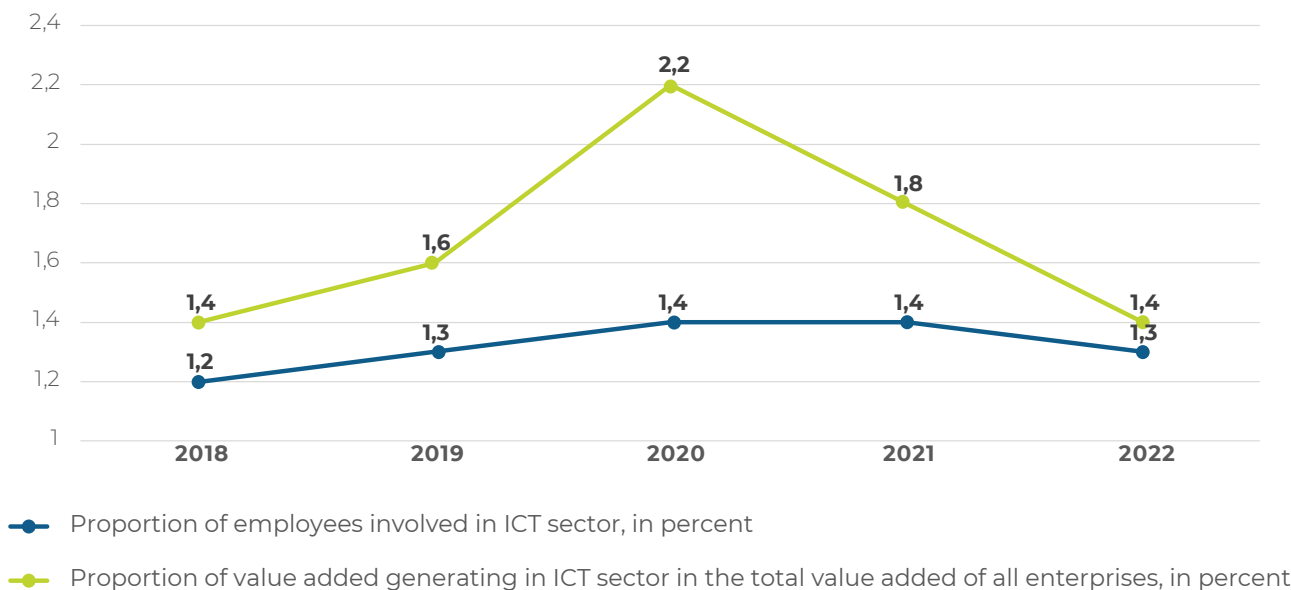
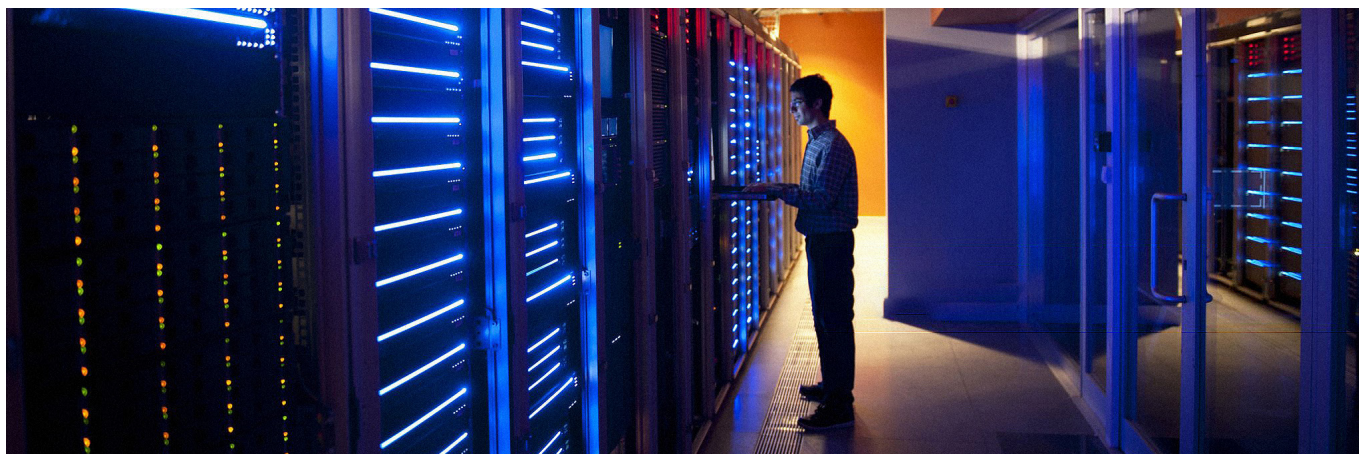


Table 16. Trade by ICT sector and ICT products

Indicators and units of measurement	2018	2019	2020	2021	2022
The number of employees involved in ICT sector, thousand persons	19.0	19.3	20.5	21.1	22.5
Proportion of employees involved in ICT sector, in percent	1,2	1,3	1,4	1,4	1,3
Value added in ICT sector, million manats	1,112.0	1,293.3	1,600.9	1,663.8	1,828.1
Proportion of value added generating in ICT sector in the total value added of all enterprises, in percent	1,4	1,6	2,2	1,8	1,4
Import of ICT goods, million manats	883.8	901.6	1,055.9	1,083.2	998.7
Proportion of imported ICT goods as a percentage of total imports, in percent	4,5	3,9	5,8	5,4	4,0
Export of ICT goods, million manats	7,029.7	6,775.5	33,511.8	8,799.2	38,925.2
ICT goods exports as a percentage of total export, in percent	0,021	0,012	0,143	0,023	0,060





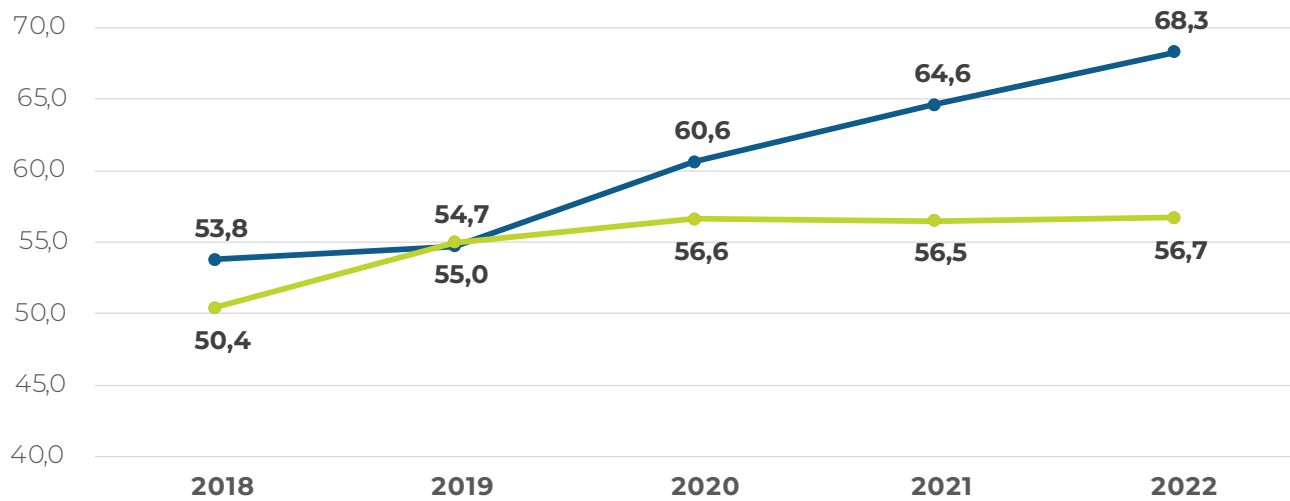
ICT in education

Since 2020, telephone communication has been extended to all schools across the country. As the result of expansion of the scope of communication services in the regions, the percentage of schools with access to the Internet increased by 14.5% points compared to the end of 2018 and 3.7% points compared to the end of 2021, reaching 68.3% in 2022. This, in turn, has led to an increase in the number of students with access to the Internet (see *Chart 14*).

Table 17. *ICT in education*

Indicators and units of measurement	2018	2019	2020	2021	2022
Share of schools provided with telephone in total number of schools, in percent	70,6	99,2	100,0	100,0	100,0
Share of schools with Internet access in total number of schools, in percent	53,8	54,7	60,6	64,6	68,3
Number of pupils used Internet in relation to number of pupils educated in schools of the country, in percent	50,4	55,0	56,6	56,5	56,7

Chart 14. ICT indicators in education



- Share of schools with Internet access in total number of schools, in percent
- Number of pupils used Internet in relation to number of pupils educated in schools of the country, in percent





Other ICT indicators and prices

Table 18. Other ICT indicators

Indicators and units of measurement	2018	2019	2020	2021	2022
Amount of spectrum offered for IMT systems, in MHz	16.4	32.0	...	4,391.0	4,391.0
Amount of spectrum offered for IMT systems in Block < 1GHz	...	...	...	0.190	0.190
Amount of spectrum offered for IMT systems in Block 1 GHz - 6 GHz	...	...	...	0.951	0.951
Amount of spectrum offered for IMT systems in Block > 6 GHz	...	...	...	3.25	3.25
Amount of spectrum licensed for IMT systems, in MHz	16.4	32.0	...	354.4	354.4
Amount of spectrum licensed for IMT systems in Block < 1GHz	...	...	...	0.048	0.048
Amount of spectrum licensed for IMT systems in Block 1 GHz - 6 GHz	...	...	...	0.306	0.306
Amount of spectrum licensed for IMT systems in Block > 6 GHz	...	...	...	...	...

Indicators and units of measurement	2018	2019	2020	2021	2022
Number of households covered by a fixed wired network, thousand units					
Number of households covered by the traditional public switched telephone network, thousand units	1309.7	1356.4	1369.7	1377.2	1339.9
Number of households covered by DSL networks (excluding VDSL/VDSL vectoring), thousand units	...	...	...	...	445.7
Number of households covered by DSL networks (VDSL/VDSL vectoring), thousand units	...	...	737.8	773.1	782.7
Number of households covered by cable TV networks, thousand units	...	...	...	...	501.6
Number of households covered by fiber-to-the-premises networks, thousand units	62.1	143	190.1	310.6	603.4
Number of households covered by other fixed-wired networks, thousand units	...	...	20.0	20.0	28.4
Fixed-broadband subscriptions for organizations, thousand units	9.7	12.4	14.4	15.8	15.9
Data and voice mobile-broadband subscriptions, subscribers	...	...	6,058,127	6,641,796	7,764,428
Data-only mobile-broadband subscriptions, subscribers	...	...	265,487	238,685	222,673
Active subscriptions to LTE/WIMAX mobile-broadband networks, subscribers	...	...	4,537,935	5,781,980	6,706,777



Indicators and units of measurement	2018	2019	2020	2021	2022
Average download throughput for fixed broadband, bits	...	...	22,170,000	17,240,000	27,150,000
Average upload throughput for fixed broadband, bits	...	...	24,210,000	18,260,000	28,810,000
Average download throughput for mobile broadband, bits	...	...	31,440,000	29,060,000	34,930,000
Average upload throughput for mobile broadband, bits	...	...	15,020,000	8,510,000	10,050,000
Packet latency for fixed broadband, milliseconds	...	...	27	7	5
Packet latency for mobile broadband, milliseconds	...	...	25	21	20
Number of countries with which there is a [n operator-level] roaming agreement, number	159	166	167	182	182
Number of countries with which there is a country-level roaming agreement, number	0	0	0	0	0
Roaming by home subscribers abroad (outbound roaming), thousand minutes	...	6,569.5	2,396.9	2,478.1	3,783.1

Table 19. Prices

Indicators and units of measurement	2018	2019	2020	2021	2022
Fixed-broadband - price of excess usage, manat	0	0	0	0	0
Fixed-broadband cap, GB	5	5	5	5	5
Fixed-broadband connection charge, manat	0	0	0	0	0
Fixed-broadband monthly subscription charge, manat	10	10	10	10	13
Fixed-broadband speed, in Mbit/s	1	1	1	1	4
Installation fee for business telephone service, manat	30.0	30.0	30.0	30.0	30.0
Installation fee for residential telephone service, manat	30.0	30.0	30.0	30.0	30.0
Mobile broadband handset_500MB, postpaid, cap, in MB	500	500	500	500	500
Mobile broadband handset_500MB, postpaid, price of excess usage, per MB, manat	3	3	3	3	3
Mobile broadband handset_500MB, postpaid, price of the plan, manat	3	3	3	3	3
Mobile broadband handset_500MB, postpaid, Speed, in Mbit/s	Speed limit is not applied	Speed limit is not applied	Speed limit is not applied	Speed limit is not applied	Speed limit is not applied
Mobile broadband handset_500MB, postpaid, tax rate included, in percent	18	18	18	18	18
Mobile broadband handset_500MB, postpaid, validity of plan (days)	30	30	30	30	30



Indicators and units of measurement	2018	2019	2020	2021	2022
Mobile broadband handset_500MB, prepaid, cap, in MB	500	500	500	500	500
Mobile broadband handset_500MB, prepaid, price of excess usage, per MB	3	3	3	3	3
Mobile broadband handset_500MB, prepaid, price of the plan, manat	3	3	3	3	3
Mobile broadband handset_500MB, prepaid, Speed, in Mbit/s	Speed limit is not applied	Speed limit is not applied	Speed limit is not applied	Speed limit is not applied	Speed limit is not applied
Mobile broadband handset_500MB, prepaid, tax rate included, in percent	18	18	18	18	18
Mobile broadband handset_500MB, prepaid, validity of plan (days)	30	30	30	30	30
Mobile-cellular monthly subscription charge, manat	2	2	2	2	2
Mobile-cellular postpaid connection charge, manat	15	15	15	15	15
Mobile-cellular prepaid - price of a one-minute local call (off-peak, off-net), manat	0.06	0.06	0.06	0.06	0.06
Mobile-cellular prepaid - price of a one-minute local call (off-peak, on-net), manat	0.04	0.04	0.04	0.04	0.04
Mobile-cellular prepaid - price of a one-minute local call (peak, off-net), manat	0.06	0.06	0.06	0.06	0.06
Mobile-cellular prepaid - price of a one-minute local call (peak, on-net), manat	0.04	0.04	0.04	0.04	0.04

Indicators and units of measurement	2018	2019	2020	2021	2022
Mobile-cellular prepaid – price of a one-minute local call (peak, to fixed), manat	0.06	0.06	0.06	0.06	0.06
Mobile-cellular prepaid – price of a one-minute local call (weekend, off-net), manat	0.06	0.06	0.06	0.06	0.06
Mobile-cellular prepaid – price of a one-minute local call (weekend, on-net), manat	0.04	0.04	0.04	0.04	0.04
Mobile-cellular prepaid – price of a one-minute local call (weekend, to fixed), manat	0.06	0.06	0.06	0.06	0.06
Mobile-cellular prepaid – price of a three-minute local call (off-peak, on-net), manat	0.12	0.12	0.12	0.12	0.12
Mobile-cellular prepaid – price of a three-minute local call (peak, on-net), manat	0.12	0.12	0.12	0.12	0.12
Mobile-cellular prepaid – price of one-minute local call (off-peak, to fixed), manat	0.18	0.18	0.18	0.18	0.18
Mobile-cellular prepaid – price of SMS (off-net), manat	0.05	0.05	0.05	0.05	0.05
Mobile-cellular prepaid – price of SMS (on-net), manat	0.05	0.05	0.05	0.05	0.05
Mobile-cellular prepaid connection charge, manat	0	0	0	0	0
Monthly subscription for business telephone service, manat	7.0	7.0	7.0	7.0	7.0



Indicators and units of measurement	2018	2019	2020	2021	2022
Monthly subscription for residential telephone service, manat	2.67	2.67	2.67	2.67	2.67
Price of a three-minute local call to a fixed-telephone line (off-peak rate), manat	0.18	0.18	0.18	0.18	0.18
Price of a three-minute local call to a fixed-telephone line (peak rate), manat	0.18	0.18	0.18	0.18	0.18





Revenue and investment

Revenues from all telecommunication services have been experiencing steady annual increase over the past 5 years, finally reaching 1,340 million AZN by the end of 2022. The revenue was primarily generated due to fixed telephone services and mobile network. Revenue from fixed telephone services and mobile network in 2022 increased by 10.3% to 296.2 million AZN and 6.4% to 1,044.2 million AZN respectively.

In 2022, 147.5 million AZN was invested in mobile communication services. This is 1.8 times more than the investments in fixed telephone and communication services. The volume of total investments in the telecommunications sector was 400.0 million AZN. The volume of foreign investments in the field of telecommunications increased twofold in 2022 compared to 2021 and amounted to 38.7 million AZN (see Table 20).

Chart 15. Indicators on investments and revenues in the field of telecommunications

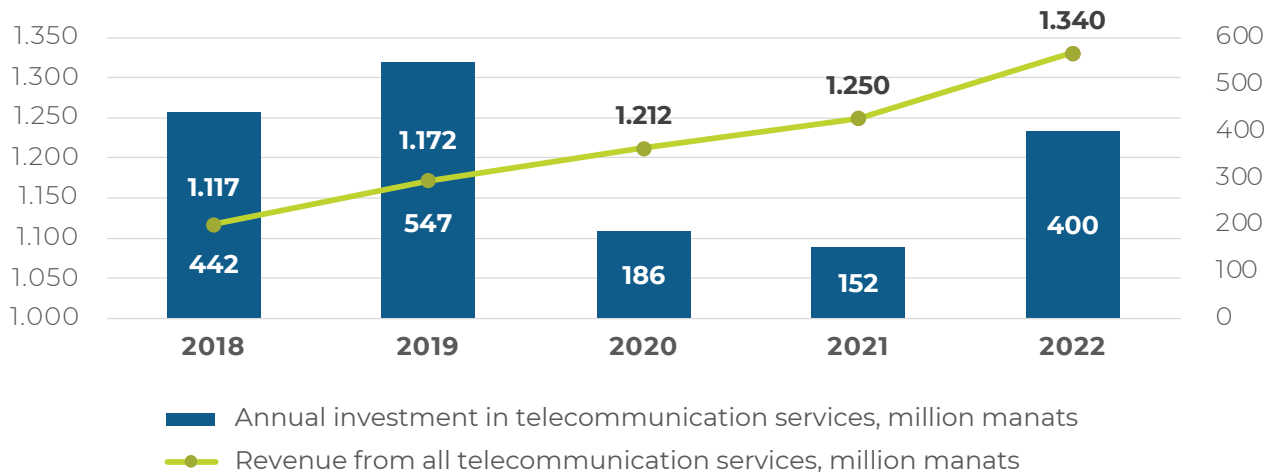


Table 20. Other indicators of investments and revenues in the field of telecommunications

Indicators and units of measurement	2018	2019	2020	2021	2022
Annual foreign investment in telecommunications, million manats	83.1	20.4	0.6	19.8	38.7
Annual investment in fixed (wired)-broadband services, million manats	41.7	49.5	60.0	28.2	82.2
Annual investment in fixed-telephone services, million manats	41.7	49.5	60.0	28.2	82.2
Annual investment in mobile communication services, million manats	100.4	164.4	94.1	58.2	147.5
Annual investment in telecommunication services, million manats	441.5	547.1	185.5	152.4	400.0
Revenue from all telecommunication services, million manats	1,116.9	1,171.8	1,212.3	1,249.5	1,340.4
of which, revenue from fixed-telephone services, million manats	238.5	259.6	271.8	268.6	296.2
of which, revenue from mobile networks, million manats	878.3	912.2	940.5	981.0	1,044.2



Salaried employees working in the field of telecommunications

Over the last 5 years, there has been an increase in both the total number of full-time employees and the number of full-time female employees working in the field of telecommunications. The total number of employees increased by 5.4% compared to 2021 and reached 31,930 people. The number of female employees increased to 9,586 people, which is a 6.7% growth rate (see *Chart 16*).

Table 21. Salaried employees working in the field of telecommunications

Indicators and units of measurement	2018	2019	2020	2021	2022
Full-time equivalent telecommunication employees, female	7,899	8,256	8,578	8,983	9,586
Full-time equivalent telecommunication employees, total	26,571	28,300	29,768	30,291	31,930
Persons employed by mobile-telecommunication operators, persons	1,042	1,080	1,176	1,188	1,279

Chart 16. Indicators on salaried employees working in the field of telecommunications

