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## INFORMACIONO DRUŠTVO

### INFORMATION SOCIETY

#### ELEKTRONSKE KOMUNIKACIJE, četvrti kvartal 2022.

##### ELECTRONIC COMMUNICATIONS, fourth quarter 2022

Ukupan broj aktivnih fiksnih telefonskih linija dominantnih operatora u četvrtom kvartalu 2022. godine iznosio je 505 128 što predstavlja pad od 7,0% u odnosu na četvrti kvartal 2021. godine.

*Total number of fixed telephone lines of dominant operators in the fourth quarter 2022 was 505 128 which represents a decrease of 7.0% compared to the fourth quarter 2021.*

Ukupni odlazni saobraćaj fiksne telefonske mreže u četvrtom kvartalu 2022. godine iznosio je 273 722 198 minuta, što pokazuje pad od 19,9% u odnosu na četvrti kvartal 2021. godine.

*The total traffic of fixed telephone network in the fourth quarter 2022 was 273 722 198 minutes which shows a decrease of 19.9% compared to the fourth quarter 2021.*

Broj korisnika mobilne mreže u četvrtom kvartalu 2022. godine iznosio je 3 811 931 i bilježi rast od 2,2% u odnosu na četvrti kvartal 2021. godine. Ukupni odlazni saobraćaj mobilne mreže u četvrtom kvartalu 2022. godine iznosio je 656 444 264 minuta, što pokazuje pad od 3,6% u odnosu na četvrti kvartal 2021. godine.

*Number of mobile phone users in the fourth quarter 2022 was 3 811 931 which shows an increase of 2.2% compared to the fourth quarter 2021. The total traffic of mobile telephone network in the fourth quarter of 2022 was 656 444 264 minutes which shows an decrease of 3.6% compared to the fourth quarter of 2021.*

Broj poslanih SMS poruka u četvrtom kvartalu 2022. godine manji je za 19,8%, broj poslanih MMS poruka veći je za 6,5% u odnosu na četvrti kvartal 2021. godine.

*Number of SMS messages sent in the fourth quarter 2022 decreased by 19.8%, while the number of MMS messages sent increased by 6.5%, compared to the fourth quarter 2021.*

Ukupan broj internet priključaka putem fiksne mreže u četvrtom kvartalu 2022. godine iznosio je 875 521 i bilježi rast od 9,7% u odnosu na četvrti kvartal 2021. godine.

*The total number of Internet connections via the fixed network in the fourth quarter of 2022 was 875 521 which shows an increase of 9.7% compared to the fourth quarter 2021.*

## 1. FIKSNA TELEFONSKA MREŽA

**Tabela 1.1 Fiksna telefonska mreža**

Table. 1.1 Fixed telephone network

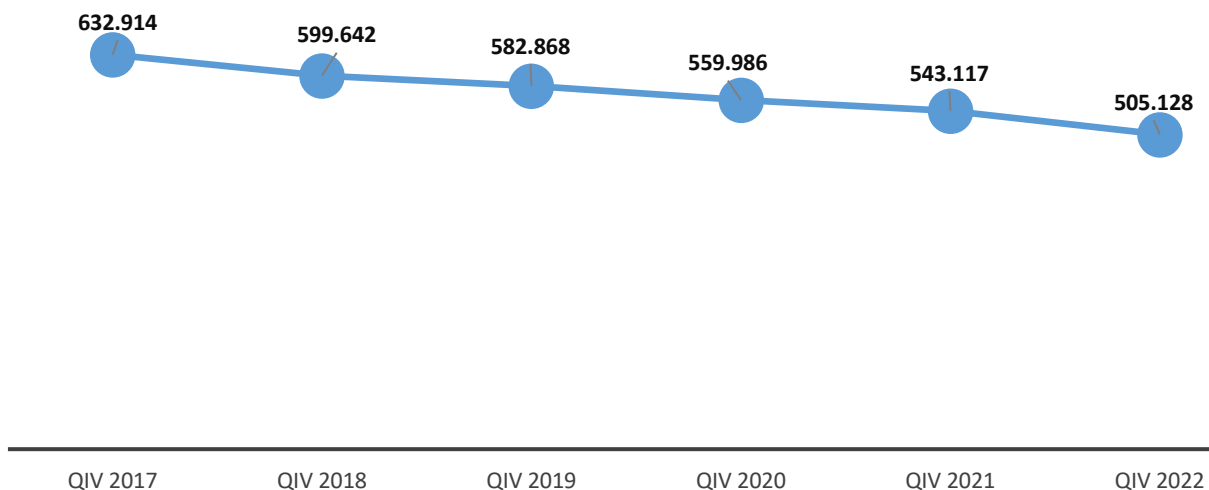
	IV	IV	III	IV	IV 2022	IV 2022	
	Kvartal	Kvartal	Kvartal	Kvartal	IV 2022	IV 2022	
	2020.	2021.	2022.	2022.	Indeksi/Indicies		
Ukupan broj aktivnih fiksnih telefonskih linija dominantnih operatera	559 986	543 117	518 446	505 128	97,4	93,0	Total number of fixed telephone lines of dominant operators
Broj novih operatera fiksne telefonije	13	14	14	12	85,7	85,7	The number of new fixed telephony operator
Ukupan broj vlastitih pretplatnika novih operatera	146 149	145 498	145 586	145 333	99,8	99,9	The total number of own subscribers to new operators
Ukupan broj pretplatnika novih operatera sa indirektnim pristupom	507	227	186	173	93,0	76,2	Alternative operators - Number of Indirect Access Subscribers
Ukupan broj prenesenih brojeva	93 499	100 033	104 912	105 516	100,6	105,5	The total number of transferred fixed numbers

Izvor podataka: Regulatorna agencija za komunikacije Bosne i Hercegovine (RAK BiH)

Data source: Communication Regulatory Agency of Bosnia and Herzegovina (CRA BiH)

**Grafikon 1.1 Fiksna telefonska mreža- Ukupan broj aktivnih fiksnih telefonskih linija inkumbent operatera**

Graph 1.1 Fixed telephone network- Total number of fixed telephone lines of incumbent operator



**Tabela 1.2 Odlazni saobraćaj operatera fiksne telefonije***Table 1.2 Outgoing traffic fixed - line operator*

Odlazni saobraćaj operatera u minutama	IV Kvartal/ quarter	IV Kvartal/ quarter	IV Kvartal/ quarter	III Kvartal/ quarter	IV Kvartal/ quarter	Outgoing traffic operators in minutes
	2019.	2020.	2021.	2022.	2022.	
Ukupno odlazni saobraćaj operatera fiksne telefonije	378 221 572	422 653 219	341 775 603	274 610 382	273 722 198	Outgoing total traffic fixed Networks operators
Ukupni domaći odlazni saobraćaj	371 910 499	416 935 754	337 437 883	270 737 596	270 161 127	Outgoing domestic traffic
Ukupni međunarodni odlazni telefonski saobraćaj	6 311 073	5 717 465	4 337 720	3 872 787	3 561 070	International outgoing fixed telephone traffic

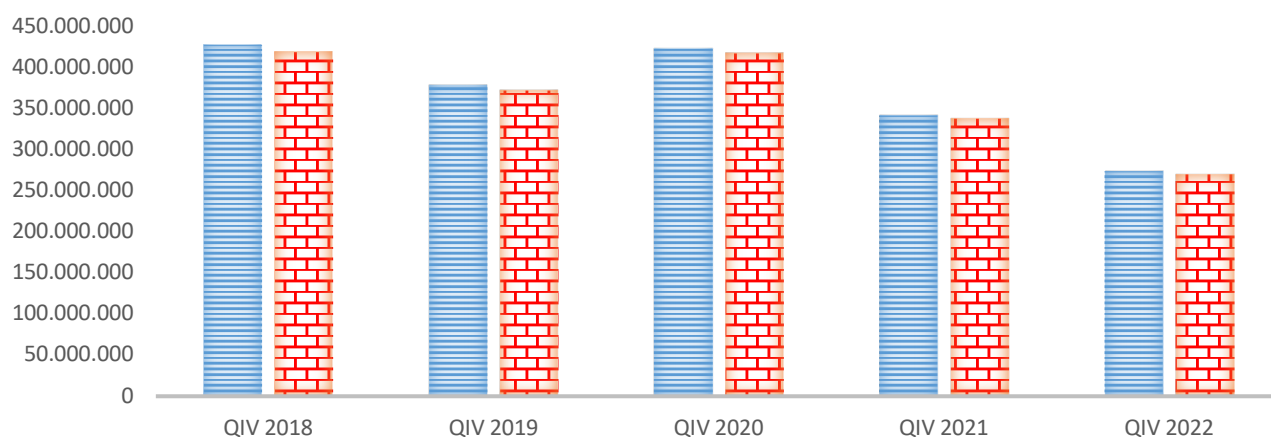
Izvor podataka: Regulatorna agencija za komunikacije Bosne i Hercegovine (RAK BiH)

Data source: Communication Regulatory Agency of Bosnia and Herzegovina (CRA BiH)

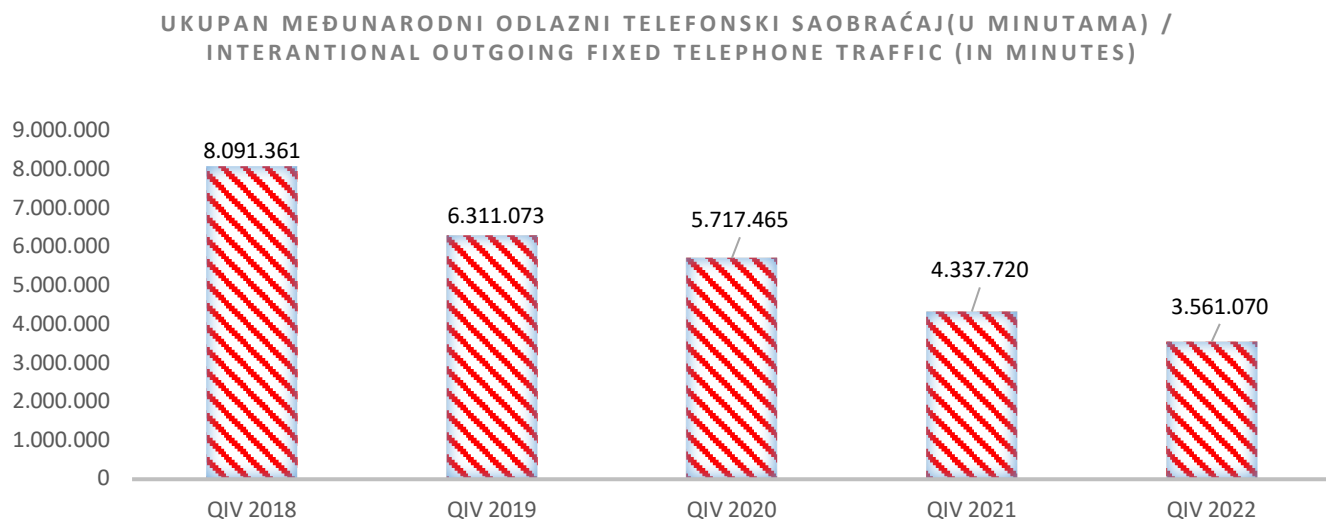
Indeksi po indikatorima odlaznog saobraćaja operatera fiksne telefonije	<u>IV 2022</u> IV 2020	<u>IV 2022</u> IV 2021	<u>IV 2022</u> III 2022	Indicies by indicators outgoing traffic fixed-line operator
	Ukupno odlazni saobraćaj operatera fiksne telefonije	64,8	80,1	
Ukupni domaći odlazni saobraćaj	64,8	80,1	99,8	Outgoing domestic traffic
Ukupni međunarodni odlazni telefonski saobraćaj	62,3	82,1	92,0	International outgoing fixed telephone traffic

**Grafikon 1.2 Saobraćaj ostvaren putem fiksne telefonske mreže***Graph 1.2 Traffic accomplished via fixed telephone network*

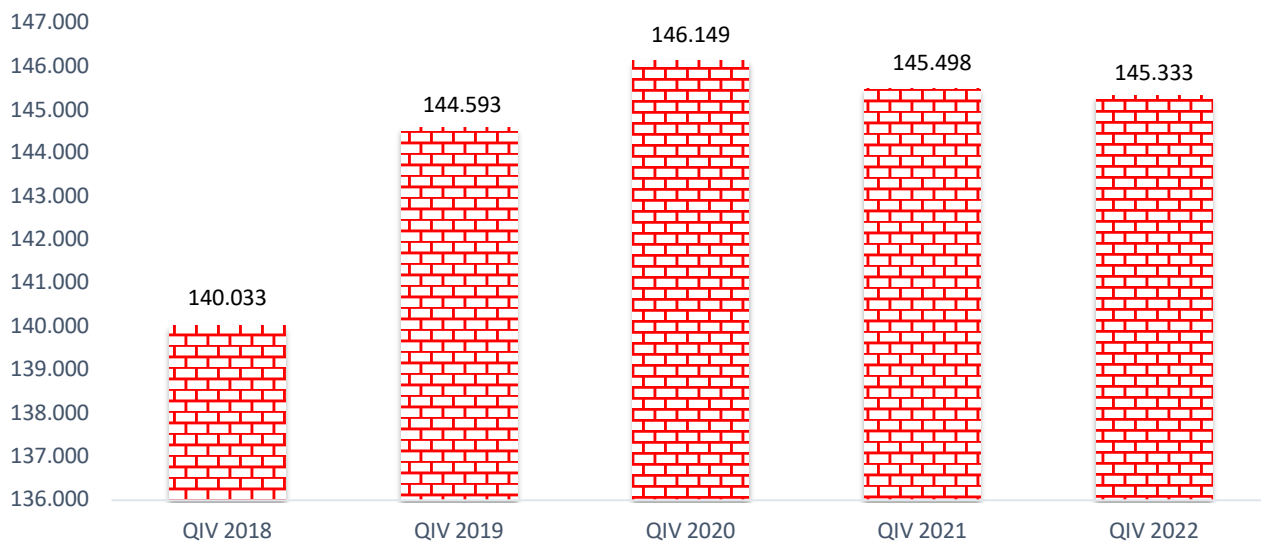
■ Ukupni odlazni saobraćaj operatera fiksne telefonije(u minutama)/  
Outgoing total traffic fixed networksoperators (in minutes)      ■ Ukupni domaći odlazni saobraćaj (u minutama)/  
Outgoing domestic traffic (in minutes)



**Grafikon 1.2.1 Saobraćaj ostvaren putem fiksne telefonske mreže**  
*Graph 1.2.1 Traffic accomplished via fixed telephone network*



**Grafikon 1.3 Ukupan broj vlastitih pretplatnika novih operatera**  
*Graph 1.3 Alternative operators- Total number of direct access subscriber*



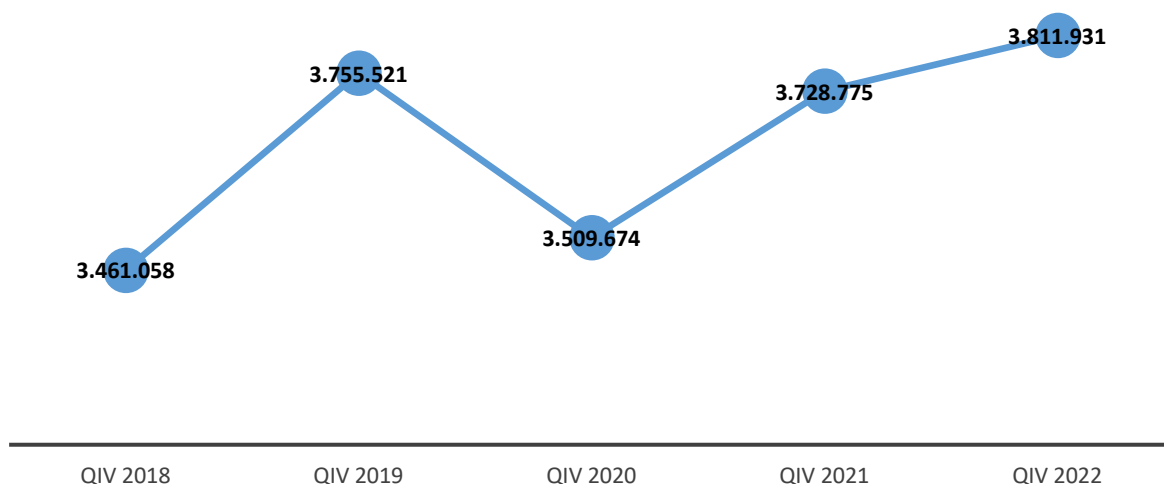
## 2 MOBILNA TELEFONSKA MREŽA

**Tabela 2 Mobilna telefonska mreža**  
Table 2 Mobile telephone network

	IV Kvartal quarter 2020	IV Kvartal quarter 2021	III Kvartal quarter 2022	IV Kvartal quarter 2022	IV 2022	IV 2022	
					III 2022	IV 2021	
					Indeksi/Indicies		
Ukupan broj korisnika mobilne mreže	3 509 674	3 728 775	3 918 190	3 811 931	97,3	102,2	Total number of mobile network users
<b>Penetracija</b> mobilne telefonije	99,39%	107,30%	113,47%	110,39%	97,3	102,9	<b>Penetration of mobile telephony</b>
Ukupan broj prenesenih brojeva	90 744	105 999	116 383	121 216	104,2	114,4	The total number of transferred numbers
Ukupan odlazni saobraćaj operatora mobilne telefonije ( <b>minutama</b> )	660 948 314	681 131 665	676 715 304	656 444 264	97,0	96,4	Total outgoing traffic of mobile operators (in minutes)
<b>Broj</b> poslatih SMS poruka	91 495 834	87 761 023	75 123 652	70 386 724	93,7	80,2	SMS sent
<b>Broj</b> poslatih MMS poruka	307 781	305 716	361 377	325 649	90,1	106,5	MMS sent

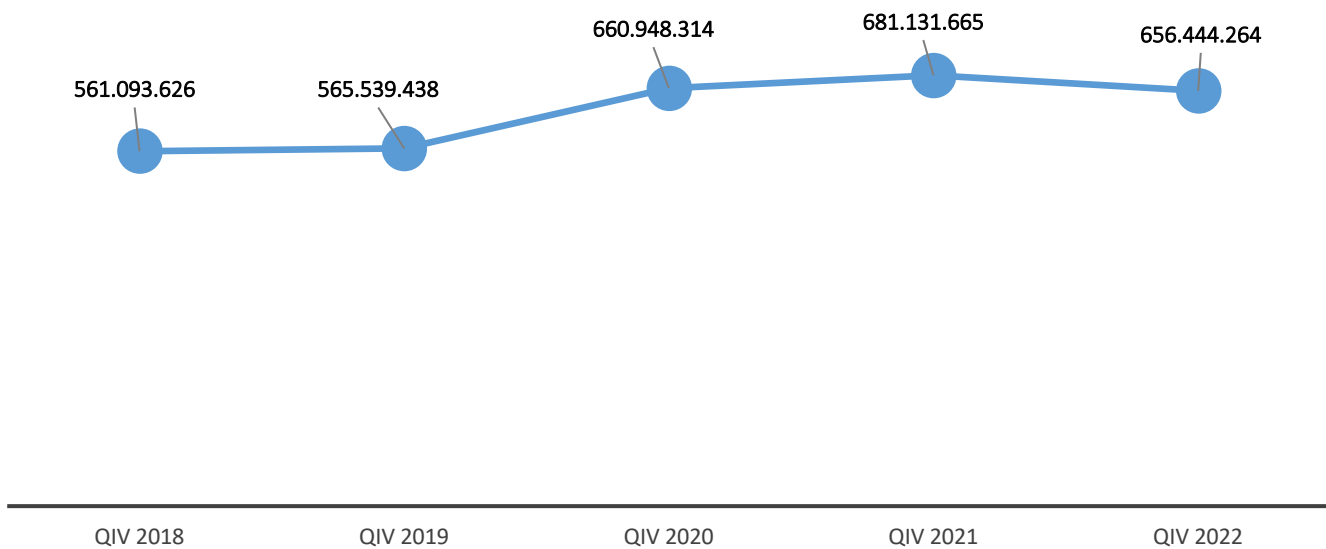
Izvor podataka: Regulatorna agencija za komunikacije Bosne i Hercegovine (RAK BiH)  
Data source: Communication Regulatory Agency of Bosnia and Herzegovina (CRA BiH)

**Grafikon 2.1 Broj korisnika telefonskih usluga u mobilnoj telefoniji**  
Graph 2.1 Number of users of telephone services in mobile telephony



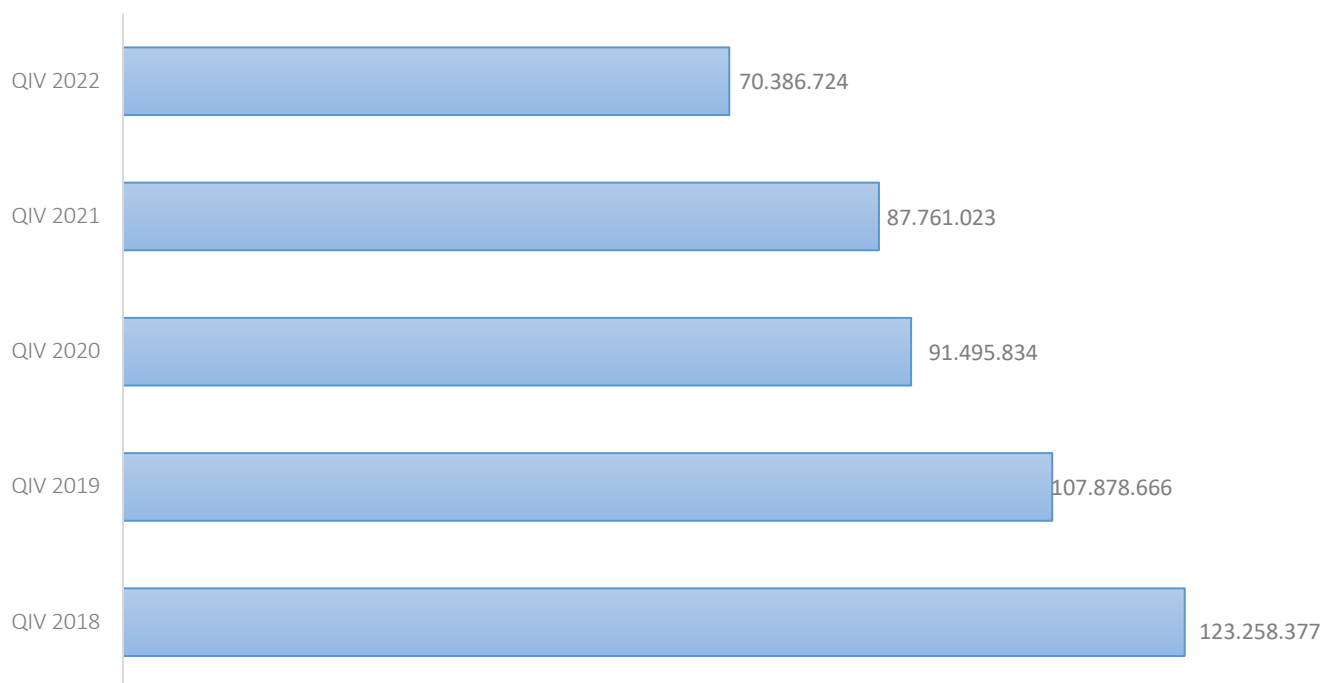
### Grafikon 2.2 Odlazni saobraćaj mobilne telefonije (u minutama)

Graph 2.2 Outgoing traffic of mobile operators (in minutes)



### Grafikon 2.3 Broj poslatih SMS poruka

Graph 2.3 SMS sent



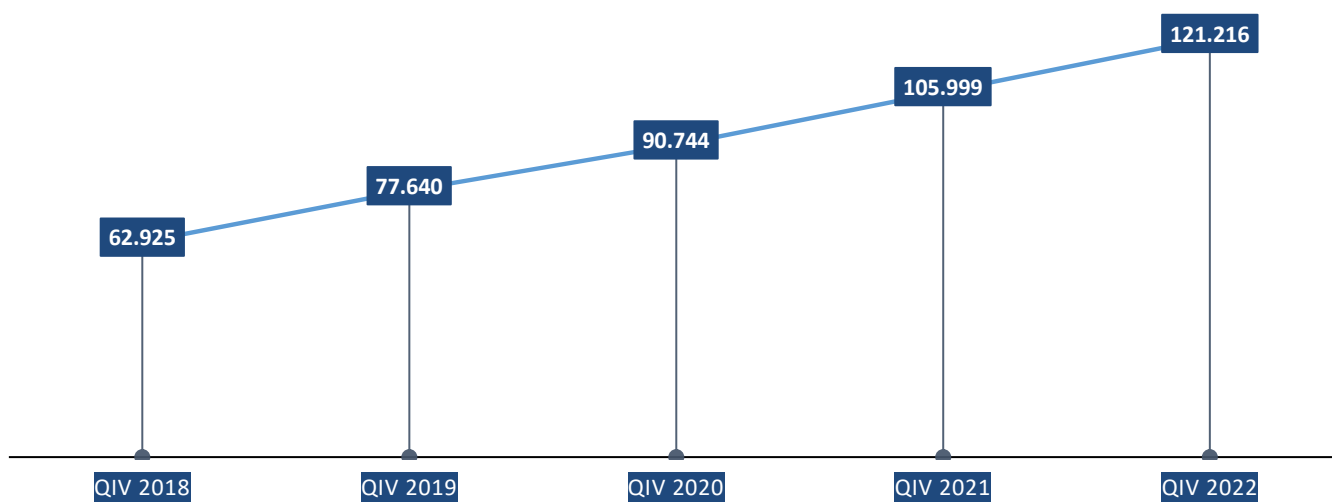
### Grafikon 2.4 Broj poslatih MMS poruka

Graph 2.4 MMS sent



### Grafikon 2.5 Ukupan broj prenesenih brojeva

Graph 2.5 The total number of transferred numbers



### 3. PRISTUP INTERNETU

**Tabela 3 Pristup internetu**

*Table 3 Internet access*

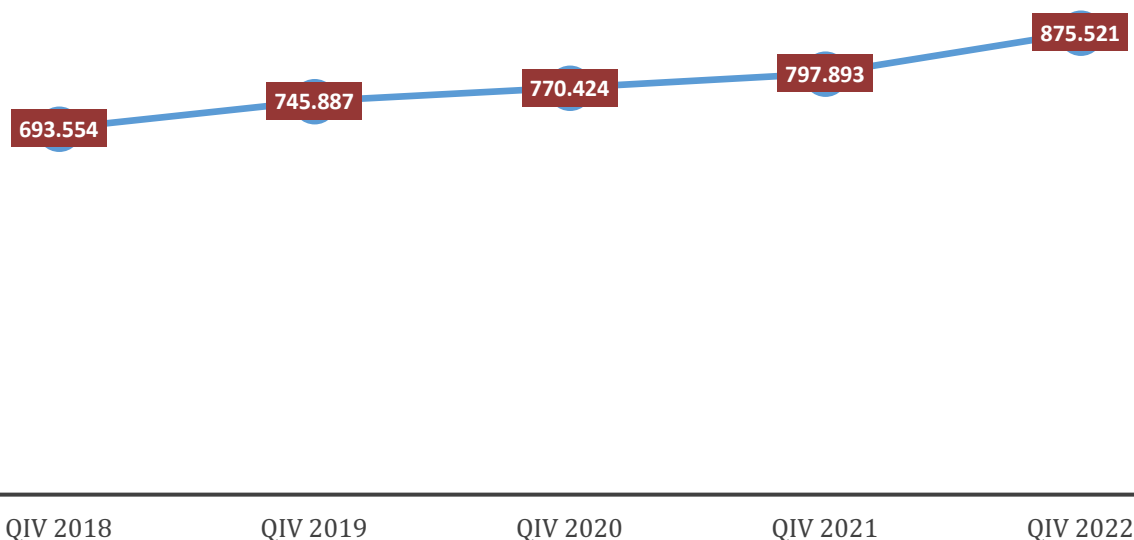
	IV Kvartal quarter	IV Kvartal quarter	III Kvartal quarter	IV Kvartal quarter	<u>IV 2022</u> III 2022	<u>IV 2022</u> IV 2021	
	2020	2021	2022	2022	Indeksi/Indicies		
Ukupan broj priključaka širokopojasnog pristupa internetu putem fiksne mreže	770 424	797 893	869 374	875 521	100,7	109,7	Total number of broadband subscribers
Broj xDSL priključaka	411 850	416 028	465 331	466 698	100,3	112,2	Number of subscribers using xDSL connection
Broj priključaka putem kablovske mreže	258 020	265 411	269 904	271 023	100,4	102,1	Number of subscribers by cable network
Broj priključaka fiksni bežični pristup	53 567	55 658	62 757	63 068	100,5	113,3	Number of subscribers fixed wireless connection
Broj priključaka putem iznajmljene linije	1 689	2 167	2 299	2 302	100,1	106,2	Number of subscribers via leased lines
Broj priključaka FTTx	45 046	58 604	69 060	72 407	104,8	123,6	Number of subscribers via FTTx connection
Broj priključaka putem ostalih tehnologija	252	16	16	16	100,0	100,0	Number of subscribers using other technologies
Stopa penetracije korisnika interneta putem fiksne mreže	93,49%	97,61%	110,15%	110,90%	100,7	113,6	Penetration rate of Internet users via the fixed network

Izvor podataka: Regulatorna agencija za komunikacije Bosne i Hercegovine (RAK BiH)

Data source: Communication Regulatory Agency of Bosnia and Herzegovina (CRA BiH)

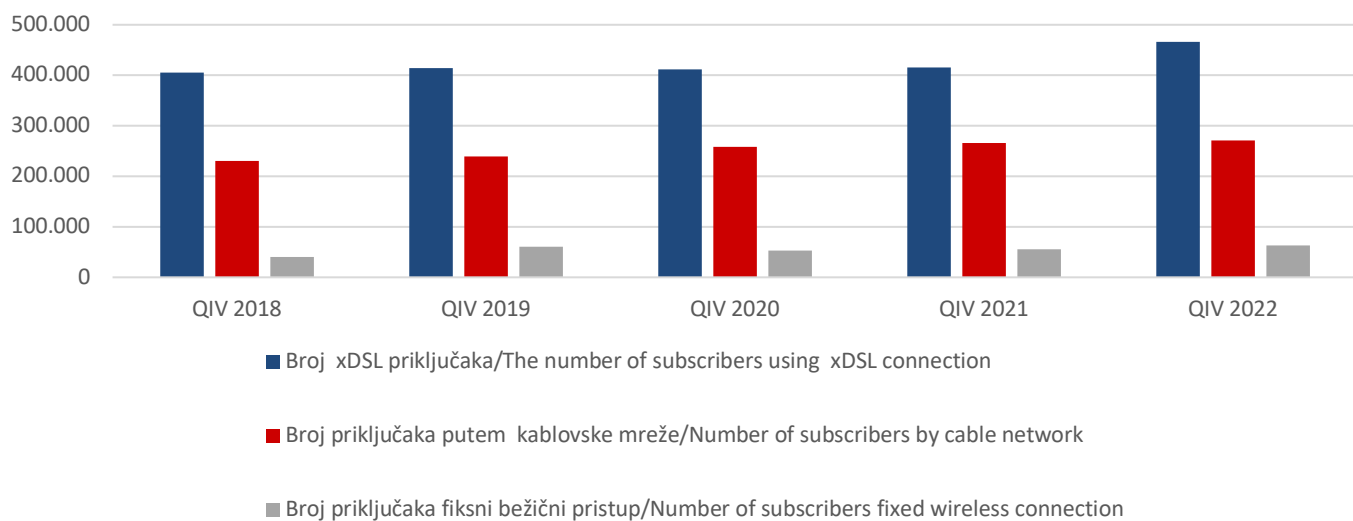
**Grafikon 3.1 Ukupan broj priključaka širokopojasnog pristupa internetu putem fiksne mreže**

*Graph 3.1 Total number of broadband access connections via the fixed network*





**Grafikon 3.2 Tip priključaka pristupa internetu putem fiksne mreže**  
*Graph 3.2 Type connectors of Internet access connections via the fixed network*



## METODOLOŠKA OBJAŠNENJA

### Izvor prikupljanja podataka

Podaci o telekomunikacionim uslugama preuzeti su od Regulatorne agencije za komunikacije Bosne i Hercegovine (RAK BiH)

### Obuhvat

Telekomunikacione usluge obuhvataju saobraćaj ostvaren u fiksnoj i mobilnoj mreži

Unutrašnji saobraćaj u fiksnoj ili mobilnoj mreži obuhvata ukupno ostvaren saobraćaj unutar vlastite fiksne ili mobilne mreže prema drugim fiksnim i mobilnim mrežama

Međunarodni saobraćaj obuhvata ukupno ostvaren saobraćaj u fiksnim i mobilnim mrežama koji počinje unutar Bosne i Hercegovine i završava izvan Bosne i Hercegovine

### DEFINICIJE

**Telekomunikaciona usluga** je usluga prijenosa, odašiljanja ili primanja znakova, signala, pisanog teksta, slika, govora i zvukova ili saopštenja bilo koje prirode koja se pruža žičnim, svjetlosnim, bežičnim ili drugim elektromagnetskim sistemima uključujući omogućavanje upotrebe tih sistema kao cjeline ili djelomično davanjem u najam, prodajom ili na neki drugi način

**Priključak** je fizička mrežna priključna tačka preko koje korisnik pristupa javnoj komunikacionoj mreži, a uključuje sve tehničke načine pristupa, kao što su PSTN, ISDN, xDSL i sl

**Preneseni brojevi** su telefonski brojevi koji su preneseni u druge mreže

**FTTx** je pristup širokopojasnim internet uslugama realizovan putem optičkog vlakna

**xDSL** (Digitalna Pretplatnička Linija) je širokopojasni pristup internet uslugama realizovan putem upredene bakarne parice. Tu spadaju širokopojasne tehnologije kao što su ADSL, VDSL, HDSL, SDSL, itd

**Utrošene minute** u fiksnoj i mobilnoj mreži obuhvataju ukupni saobraćaj ostvaren u unutrašnjem i međunarodnom saobraćaju izražen u jedinici vremena – minutama

**Fiksna mreža** je telekomunikaciona mreža kod koje je međusobna povezanost svih elemenata ostvarena žično

**Mobilna mreža** je telekomunikaciona mreža kod koje je međusobna povezanost nekih elemenata ostvarena bežično i time se omogućava uspostavljanje veza i u uslovima fizičkoga kretanja korisnika usluga te mreže

**SMS poruke** (Short Message Service) su kratke tekstualne poruke

## NOTES OF METHODOLOGY

### Sources of data collection

Data on telecommunication services were picked up from Communication Regulatory Agency of Bosnia and Herzegovina (CRA BiH)

### Coverage

Telecommunication services include traffic realized in fixed and mobile telephone network

The domestic traffic in fixed and mobile network includes the total traffic realized in the own fixed and mobile network, the traffic directed to other fixed and mobile networks

The international traffic includes the total traffic realized in the fixed and mobile network that starts within and ends outside the Bosnia and Herzegovina

### DEFINITIONS

**Telecommunication service** is a service of transfer, transmission or reception of signs, written text, pictures, speech, sounds or releasing of any kind rendered through wire, light, wireless or other electromagnetic systems, including the possibility of using those systems either as a whole or in part, through renting, sale or some other way

**Connection** is a physical network connection point through which users access to a public communications network, and includes all the technical means of access such as PSTN, ISDN, xDSL, etc

**Ported numbers** are phone numbers that have been transferred to other networks

**FTTx** has access to broadband internet services realized through optical fibers

**xDSL** (Digital Subscriber Line) is a broadband internet services realized via twisted copper pairs. These include broadband technologies such as ADSL, VDSL, HDSL, SDSL, etc

**Minutes spent** in the fixed and mobile telephone network include the total traffic realized in the domestic and international traffic and measured by time units – minutes

**Fixed network** is telecommunication network in which all elements are connected by using wires

**Mobile network** is a telecommunication network in which some elements are not connected by using wires. In that way, a connection is possible even when users are physically moving

**SMS messages** (Short Message Service) are short text messages

**MMS poruke** (Multimedia Messaging Service) su poruke koje uključuju i multimedijalne sadržaje (npr slike, muzika)

**MMS messages** (Multimedia Messaging Service) are messages which include multimedia services (pictures, music)

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