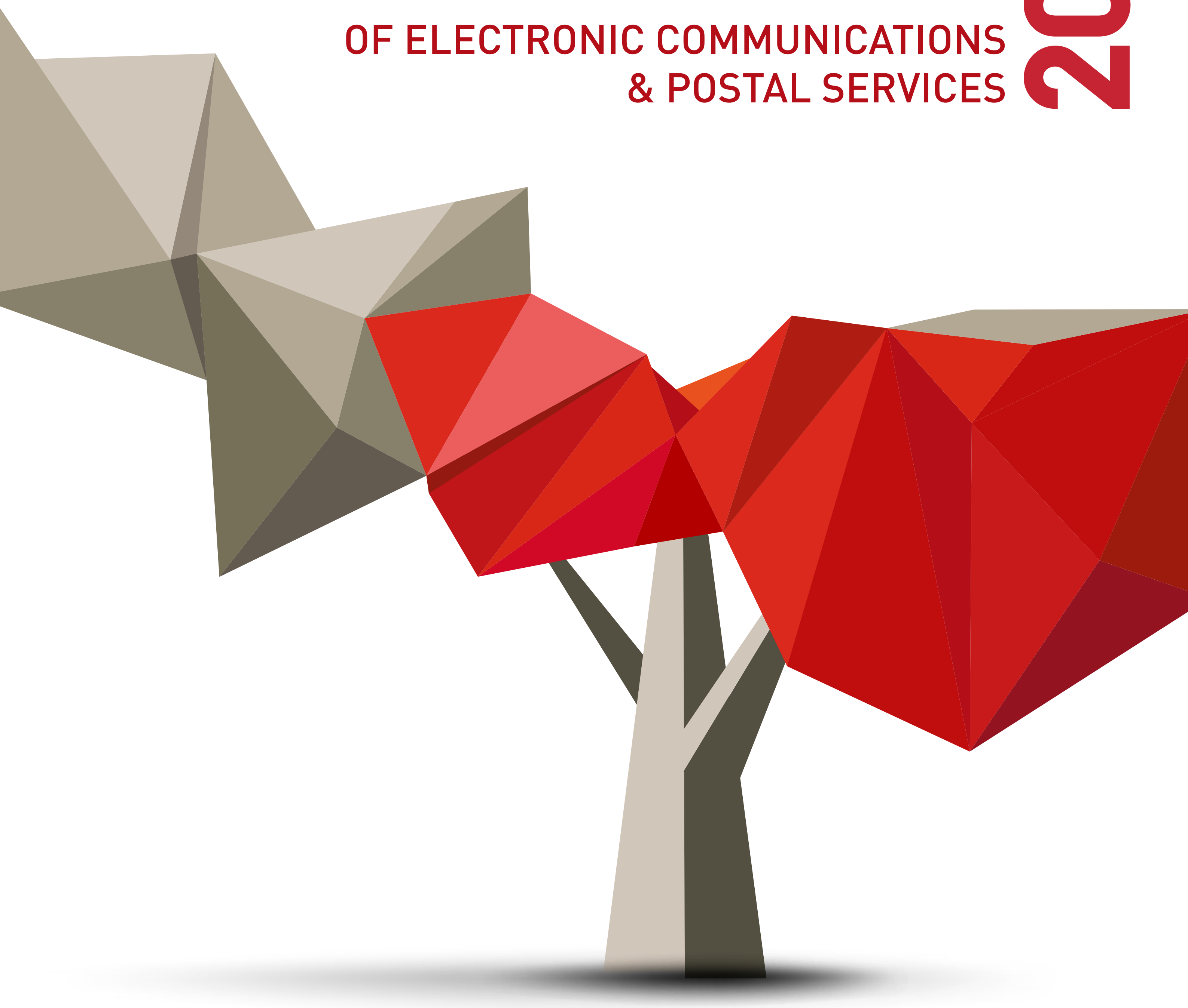
EETT
HELLENIC TELECOMMUNICATIONS & POST COMMISSION

MARKET REVIEW OF ELECTRONIC COMMUNICATIONS & POSTAL SERVICES 2022



The market review captures the key figures, trends and level of competition in the markets of electronic communications and postal services in Greece. The data for the preparation of the report are drawn upon the providers' responses to EETT's annual questionnaires, EETT's registries and from the European Commission's Digital Decade DESI.

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Summary

a) Electronic communications

The recovery of the Greek economy and the electronic communications sector in particular continued during 2022, with the key figures of the domestic telecommunications market moving upwards compared to the previous year. It is noted that the Consumer Price Index (CPI) increased on average by approximately 9.6% compared to 2021, in contrast to the Communications Sub-Index, which declined on average by 2.4% compared to the previous year. Furthermore, competition was particularly intense in bundled offers, driven by high-speed broadband access (fixed and mobile) and pay-TV services.

Financial data

The industry's turnover increased to 5.1 billion euros, with telecommunications services' revenues accounting for its largest segment (86.6%). The contribution of the industry's turnover to Greece's Gross Domestic Product (GDP) was 2.4% in 2022, having decreased compared to 2021, given that the GDP showed a larger annual increase by 14.5% compared to that of the telecommunications sector by 1.2%. Total investments made by the electronic communications operators amounted to 925 million euros, ranging at 18.3% of their total turnover and having increased by 22% compared to 2021.

Fixed communications

In December 2022, the number of fixed telephony access lines amounted to 4,877,221, with the respective penetration in the population reaching 46.6%. At the same time, the fixed telephony traffic recorded an annual drop by 14.8%, mainly due to the decreasing traffic duration of national fixed calls by 15.9% (1.7 billion minutes less than 2021) and is attributed to both OTE (a 16.4% drop in its total traffic compared to 2021) and the alternative operators (a 13% decrease of their total traffic compared to 2021). OTE remains the incumbent operator with a 55.4% share as regards to fixed telephony lines and a 49.6% share in terms of traffic (versus 50.4% in 2021). The fixed telephony lines of the other operators gained a 44.6% share having decreased by 0.9% (20,367 lines) compared to the previous year.

Retail revenues from telephony and Internet services at a fixed location amounted to 1.41 billion euros, registering a decrease by 3% compared to 2021. The revenues from Internet services continued to grow (5.6% increase compared to 2021), counterbalancing the ongoing decline of the retail fixed telephony revenues at a fixed location (a 7.4% drop).

Mobile communications

In 2022, the number of mobile telephony connections amounted to 13.8 million, registering a marginal increase of 0.1% compared to 2021, while active connections fell by 1.2% amounting to approximately 11.4 million. As regards mobile operators' market shares in terms of total connections, COSMOTE's share increased to 47.8%, WIND's share fell to 21.9%, whereas VODFONE's share remained stable at 30.2%. In terms of active connections, COSMOTE's share lies in the range of [45%-55%], followed by VODAFONE with a share in the range of [25%-35%]. The use of mobile communications networks in 2022 was characterized by the 6.6% growth in the domestic voice traffic with the post-paid residential users holding the largest share of its volume (44.6%) followed by pre-paid users (40.6%). 51% of the calls were on-net. The volume of data services recorded once again a remarkable increase by 50%, reaching 844 million GB compared to 563 million GB in 2021. More analytically, a post-paid residential user consumed on average 8 GB per month, followed by a pre-paid user with 5.5 GB and a business user with 4.5 GB. Furthermore, the SMS volume recorded a small increase by 1.1% amounting to 2.4 billion SMS.

Finally, the retail revenues from mobile communications services (post-paid and pre-paid) rose by 4% amounting to 1.7 billion euros. The average annual revenue per postpaid (connection) and pre-paid user stood at 250 (about 20.8 euros per month) and 79 euros respectively (about 6.6 euros per month).

Broadband

At the end of 2022, fixed broadband connections amounted to 4,485,315, registering an annual increase of 1.3%, with the fixed broadband penetration in the population (connections per 100 people) reaching 42.9%. In June 2022, the average EU broadband penetration rate was 37%, while the Greek corresponding one was 42.5%, which ranks Greece 5th among the member states (8th in 2021). VDSL lines amounted to 2,503,478 compared to 1,989,488 lines in December 2021 (annual increase of 25.8%), accounting for 55.8% of all fixed broadband lines.

At the same time, the high-speed broadband lines (nominal download access speeds of 30 Mbps up to 100 Mbps) constituted 30.5% of the total broadband lines, whereas the increase in the percentage of the ultra high-speed broadband lines (nominal download access speeds of 100 Mbps and above) to 26% of the total broadband lines (compared to 14% at the end of 2021) is deemed significant.

The broadband coverage of the NGAs in Greece dropped by 5 percentage points during 2022 (an 86.3% househods' coverage compared to 91.7% by mid-2021), lagging the European average (91.5%) by 5.2 percentage points. This reduction is attributed to OTE's decision to stop offering VDSL services in areas where it couldn't meet the promised minimum speeds. Hence, the NGA penetration rate for households with fast fixed broadband connection is still low (46.4%) far away from the respective European average (73.3%).

Finally, and in relation to the Very High Capacity Networks (VHCN), Greece recorded an increase of 8 percentage points (a 27.8% household coverage in 2022 compared to 19.8% in 2021). Their households' penetration rate increased by 11.4 percentage points (20.3%). Nevertheless, it still lags behind the respective European averages in terms of both network coverage (73.4%) and household penetration (55.1%). This is due to the fact that in Greece, on the one hand, priority was given to the upgrading of VDSL (Vectoring) services, which provided users with high-speed broadband connections directly, and on the other hand, there are no cable TV networks, which could be used as VHCN networks.

The mobile penetration rate in Greece stood at 94.5% (June 2022), having increased by 5.5 percentage points, thus reducing the distance from the respective European (112.9%) which recorded a smaller increase by 4.5 percentage points.

Bundled offers

At the end of 2022, bundled offers amounted to 4.5 million. The most popular type of bundled offer remained that of fixed telephony and fixed broadband access (approximately 2.1 million), followed by the triple play combination of fixed telephony, fixed broadband access and mobile service(s) (1.8 million), the triple play of fixed telephony, fixed broadband access and pay-TV (~339 thousand) and finally, the 4-play (~237 thousand). It is worth mentioning that by the end of 2022, the bundled offers that included mobile services amounted to 2.1 million, accounting for about 46% of the total bundled offers.

Price Observatory (Pricescope)

Based on the data submitted by the telecommunications operators to the Price Observatory (Pricescope) at the end of 2022, the majority of products concerned fixed communications (~52%). COSMOTE and WIND focused mainly on add-on products (59% and 57% respectively), while OTE, NOVA and VODAFONE laid emphasis on basic products (87%, 85% and 66% respectively). The products of COSMOTE, NOVA and WIND targeted mainly residential customers, whereas a great percentage of VODAFONE's and OTE's programs was addressed to business customers.

86% of mobile post-paid products that provided at least voice services offered unlimited call minutes to all, registering an impressive 80% increase compared to 2021. 26% of mobile post-paid voice and data products offered unlimited data, having increased by 18% compared to 2021. Additionally, 67% of data-only mobile post-paid products entailed monthly fees up to 30 euros, with an average monthly price of 16 euros, a median price at 15 euros and a data allowance of about 14 GB. Compared to 2021, the prices of mobile post-paid products remained steady with a 17% increase in the data allowance offered.

29% of the fixed telephony products that provided at least voice services, offered unlimited call minutes to mobiles (a 81% increase compared to 2021), while a 59% of the remaining products entailed monthly fees up to 55 euros with an average monthly and a median price at 41 euros and a call allowance of 377 minutes to mobiles.

b) Postal Services

In 2022, the postal market continued the upward trend of recent years, overcoming the obstacles that arose during the pandemic period and demonstrating adaptability to the changes brought by the digitization and the e-commerce development.

60 new companies under General Authorization entered the postal market increasing the total number of the active postal companies in the market to 724.

The revenues of the Greek postal market followed an upward trend, while the number of postal items handled continued to decline, due to the reduction of the letter post. In particular, revenues showed an increase of 3.9% compared to 2021, reaching 655 million euros, deriving from the handling of 310 million postal items which were reduced by 2.2% compared to the previous year.

The Universal Service Provider's (USP) revenues share in the overall market has been steadily declining over the last decade, falling to 18% from 21% in 2021, while at the same time, the share of courier companies has increased to 80% from 76% in the previous year. The share of companies with Individual License decreased slightly (2%). The share of parcels-small packages also increased in 2022 in the total revenues of handled postal items, reaching 65%, while it remained almost stable in the total number of postal items (26%).

90% of the total postal items was handled within the country, generating the largest percentage of the Greek postal market revenues (66%). It should be noted that the majority of the postal items was delivered from Attica (74%) and Macedonia (12%) to domestic and international destinations. Regarding international activities, the largest volume of postal items delivered in Greece originated mainly from the European Union (EU) (83%), the rest of Europe (7%) and the USA-Canada (5%), while the deliveries of postal items to international destinations were directed mainly to the EU (60%), the USA-Canada (15%) and the rest of Europe (14%).

In 2022, in addition to the USP, ten companies with an Individual License operated in the Universal Service sector (US-regular mail), which handled 22% of the postal items and generated 12% of its revenues. Letters were undoubtedly the dominant postal item in the US sector, as they represented 90.9% of handled postal items, accounting for 84.8% of the sector's revenues.

In the courier services sector, in 2022, over 700 companies with a General License were active. Courier companies handled 34% of letters and 66% of parcels-small packages. Letters generated significantly less revenues (21%) for the companies with General License than small packages (79%).

Significant data about the Greek electronic communications market for 2022

Key figures

5.1
billion euros
turnover
1.2% increase
compared to 2021

2.4%
contribution to GDP

925
million euros
investments of electronic communications operators
22% increase
compared to 2021

Fixed telephony

4,877,221
telephony lines

46.6%
penetration in the population

1.4 billion euros
retail revenues
3% drop
compared to 2021

11.4 billion minutes
outgoing traffic of national fixed calls
14.8% drop
compared to 2021

312,601
ported numbers
11.3% drop
compared to 2021

Mobile telephony

11.4 million
active connections

109%
penetration in the population

1.7 billion euros
retail revenues
4% increase
compared to 2021

33.9 billion minutes
of voice calls
6.6% increase
compared to 2021

429,045
ported numbers
11.8% increase
compared to 2021

Average monthly revenue from fixed & mobile telephony

Per connection from the provision of telephony services at a fixed location: **15.2 euros**

Per post-paid user: **20.8 euros**

Per pre-paid user: **6.6 euros**

Average monthly use of data services & call duration in mobile telephony

Post-paid residential user:
8 GB, 294 minutes to mobiles & 41 minutes to fixed lines

Pre-paid user:
5.5 GB, 158 minutes to mobiles & 16 minutes to fixed lines

Business user:
4.5 GB, 275 minutes to mobiles & 35 minutes to fixed lines

DATA
50% increase
844 million GB versus 563 million in 2021

MMS
17.7% increase
9.6 million messages

SMS
1.1% increase
2.38 billion messages

Broadband

4,485,315
fixed broadband connections
1.3% increase compared to 2021

42.9%
fixed broadband penetration in the population

1,164,179
ultra high-speed broadband lines (>100 Mbps)
87.4% increase compared to 2021

10,394,936
mobile connections with Internet usage
5.2% increase compared to 2021

NGA
1,067,751
lines
34% increase

VDSL
2,503,478
lines
25.8% increase

LLU
1,245,790
lines
17.2% drop

Bundled offers

BUNDLE

4.5 million **bundled offers**

46%
was 2-Play offers
(fixed telephony+fixed broadband access)

Pay-TV

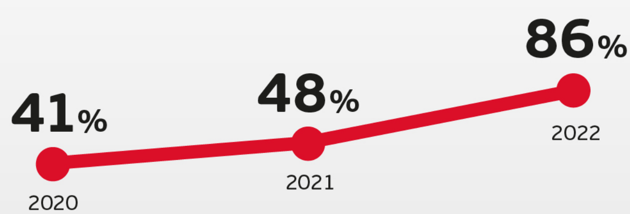
TV

1.19 million **pay-TV subscriptions**
4.2% increase compared to 2021

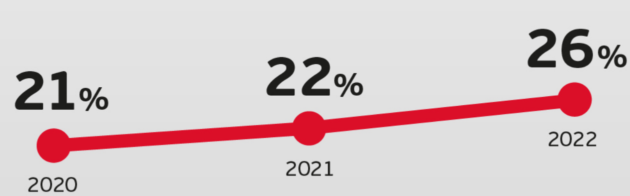
57%
was satellite TV subscriptions

Price Observatory-Pricescope

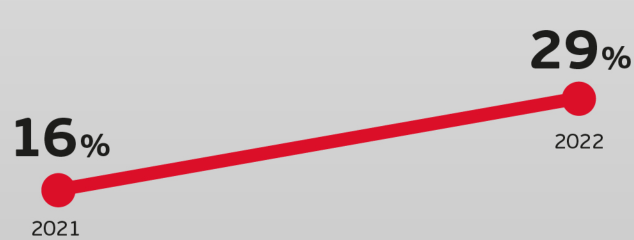
Mobile post-paid products with unlimited calls minutes to all



Mobile post-paid products with unlimited data



Fixed telephony products with unlimited call minutes to mobiles



Significant data about the Greek postal market for 2022

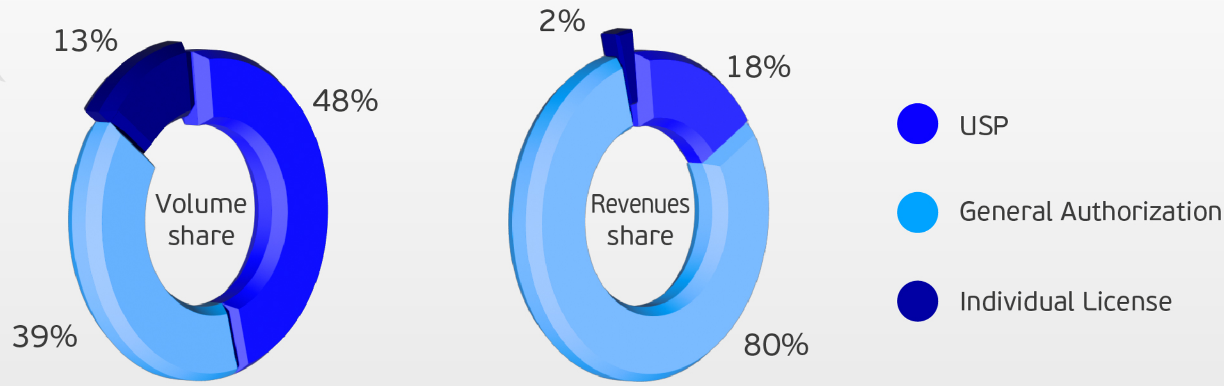
Key figures

655 million euros revenues
3.9% increase compared to 2021

724 postal companies
18,754 employees
60 new companies in the courier services market

310 million handled postal items
2.2% drop compared to 2021

Postal items volume and revenues shares per postal sector, 2022



Universal Service Provider

116 million euros revenues
11% drop compared to 2021
148 million handled postal items
2% drop compared to 2021

Companies with Individual License

16 million euros revenues
16% drop compared to 2021
41 million handled postal items
12% drop compared to 2021

Companies under General Authorization

523 million euros revenues
9% increase compared to 2021
121 million handled postal items
1% increase compared to 2021

Letters

Parcels-small packages

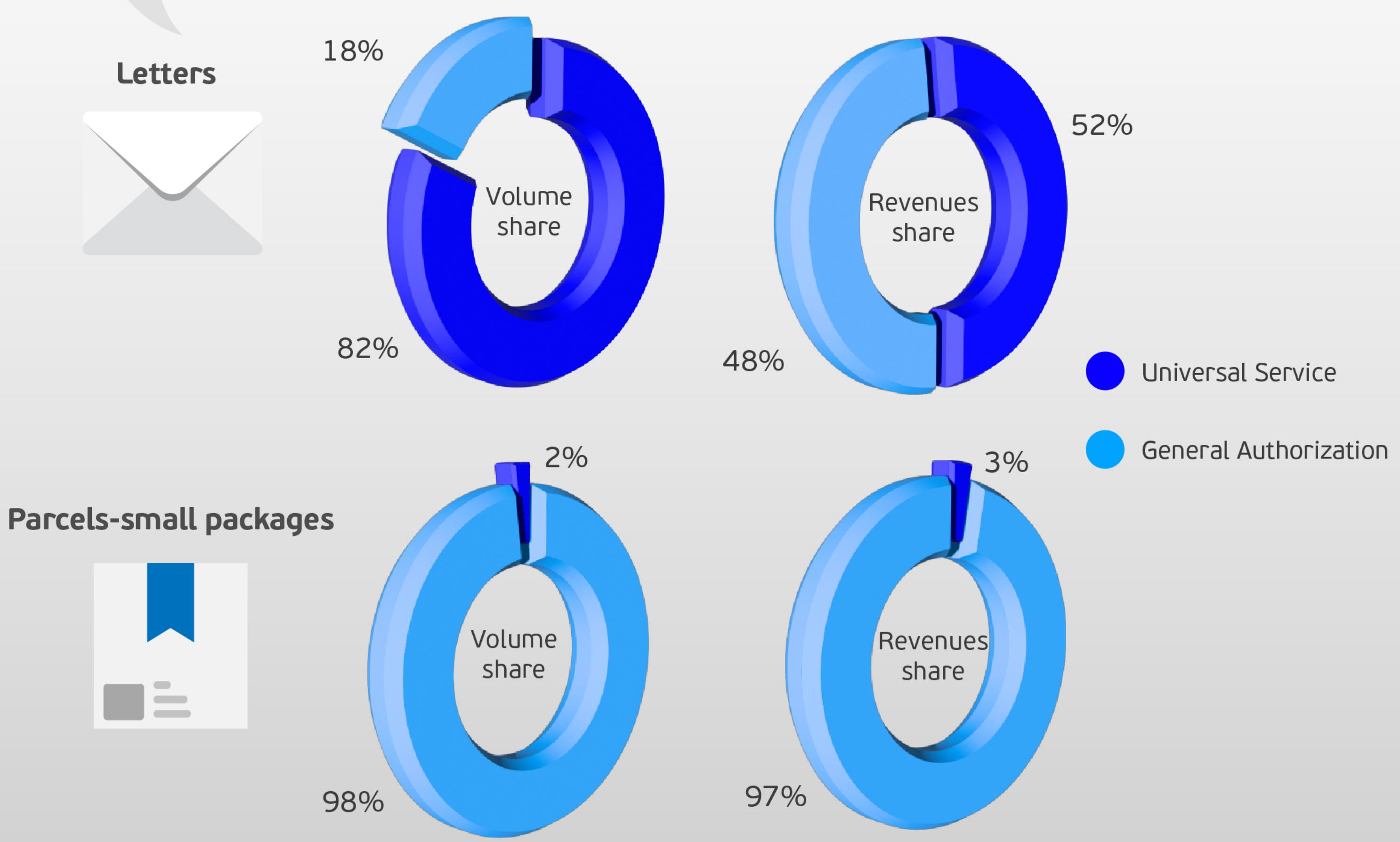
228 million
handled letters
2% drop
compared to 2021

232 million euros
revenues from the handling of letters
5% drop
compared to 2021

81 million
handled parcels-small packages
2% drop
compared to 2021

424 million euros
revenues from the handling of parcels-small packages
9% increase
compared to 2021

Volume and revenues shares of letters and parcels per postal sector, 2022



1. Electronic communications

1. Electronic communications

1.1. The Greek electronic communications market

In 2022, the number of licensed operators (active or non-active) in the electronic communications market increased to 649 compared to 618 in 2021. The number of Mobile Network Operators (MNOs) and the main fixed telephony and broadband operators (i.e. OTE and the main alternative operators), at the end of 2022, remained at four, namely three in mobile telephony and four in fixed telephony (Table 1.1). It should be mentioned that the merger of the NOVA and WIND companies, members of the UNITED GROUP company, was consolidated at the beginning of 2023 and as a result, the number of fixed telephony and fixed broadband service providers will be reduced to three, which will also be mobile service providers.

48% of the licensed services was related with the provision of broadband access/Internet access services and telephony services. Chart 1.1 shows the number of providers that were licensed for each service in 2022[1]. The sector's turnover rose to 5.1 billion euros (increase by 1.2%), while its contribution to Greece's Gross Domestic Product (GDP) was 2.4% in 2022, having decreased compared to 2021, since the GDP registered an even bigger annually growth by 14.5% (Chart 1.2). It is noted that for the period 2013-2022, the weighted average GDP increase was 1.6%, while the reduction for the telecommunications turnover was 0.8%. The number of employees in the electronic communications sector was roughly 8.9 thousand, slightly decreased by 2.1% compared to 2021 (approximately 9.1 thousand) (Chart 1.3).

The Consumer Price Index (CPI) increased by an average of almost 9.6% compared to 2021, while, on the contrary, the Communications Sub-index declined on average by 2.4%. The general cost trend for electronic communications services is reflected in the evolution of the CPI over time, as presented in Charts 1.4 and 1.5. According to the Hellenic Statistical Authority (ELSTAT)[2], the communications weight coefficient in the total household expenditure used for calculating the CPI decreased further from 44.2 in 2021 to 39.59. However, the consumption expenditure for the purchase of specific telecommunications services, as part of the total household expenditure, was still considerable.

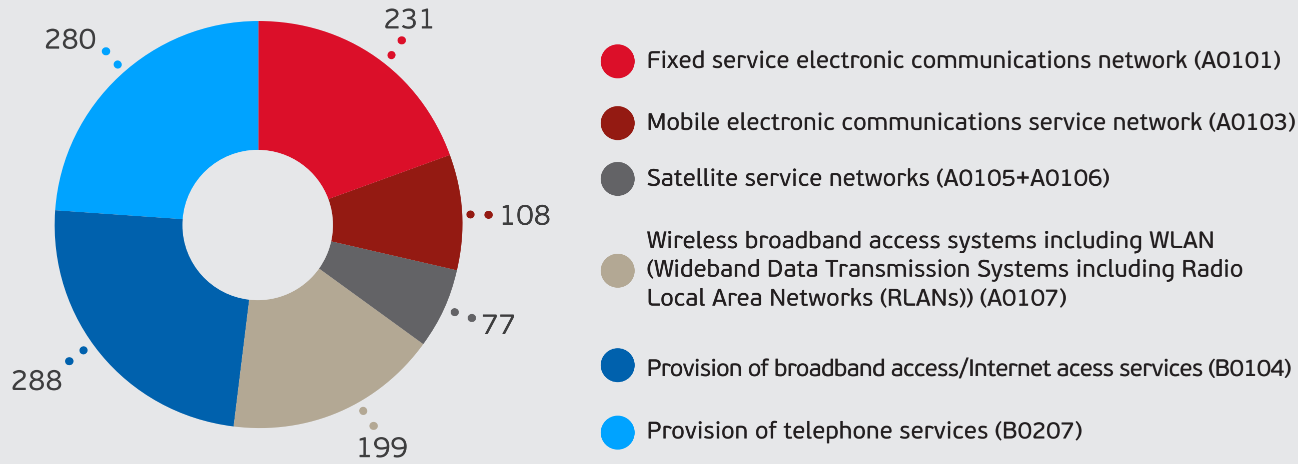
Table 1.1: Mobile Network Operators (MNOs) and main fixed telephony and broadband operators

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Mobile telephony	3	4	4	4	4	4	3	3	3	3
Fixed telephony	8	8	6	5	5	5	4	4	4	4

Source: EETT

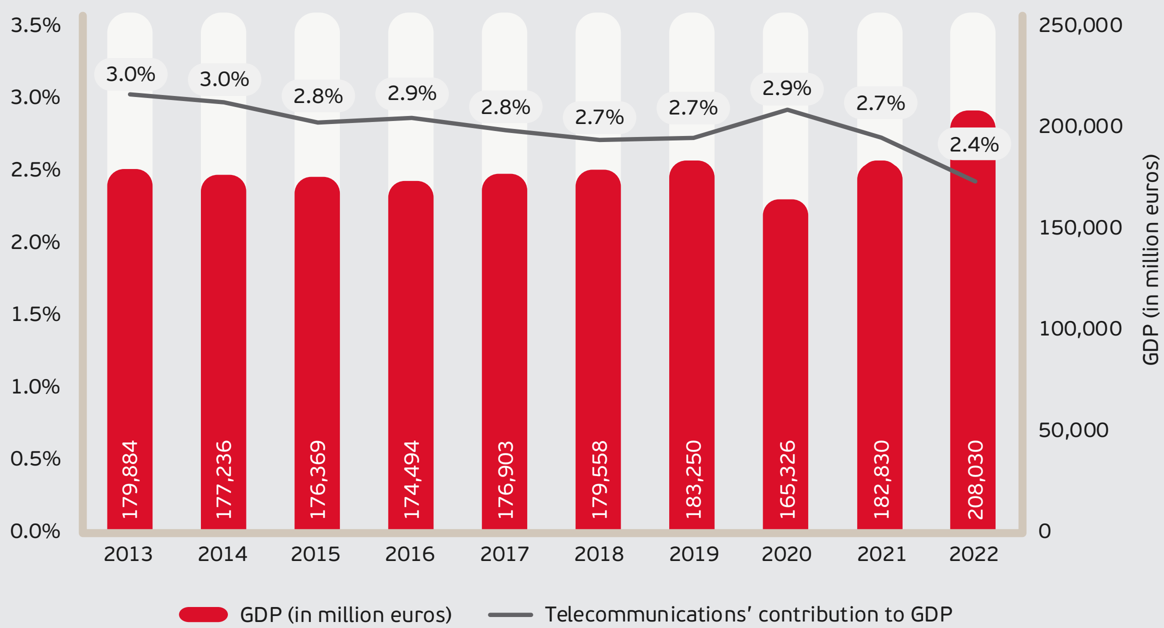
1. It is noted that an operator can be licensed for more than one services.
2. Single Integrated Metadata Structure (SIMS v2.0) (January 2022-December 2022).

Chart 1.1: Licensed operators per service, 2022



Source: EETT (based on providers' statements in EETT's registry)

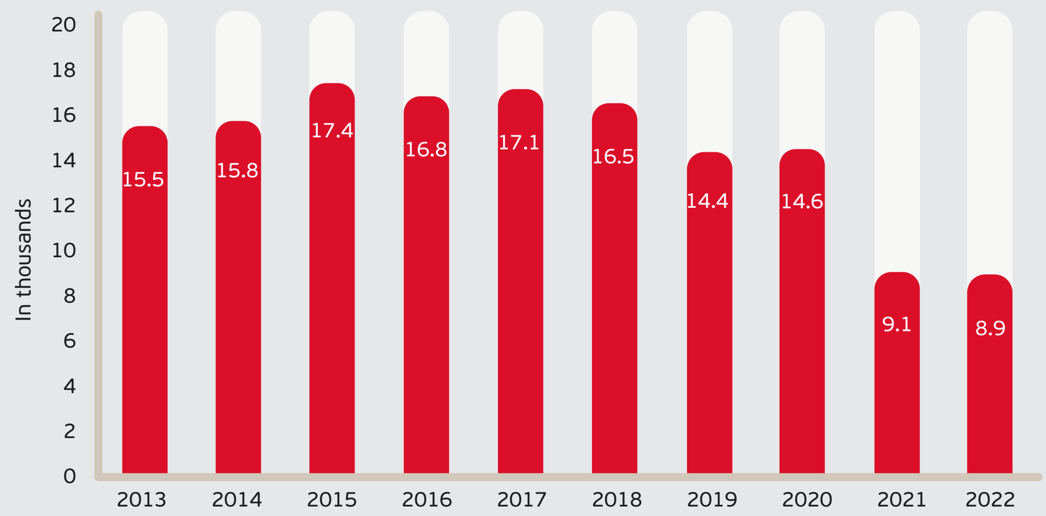
Chart 1.2: Telecommunications' contribution to GDP



Source: EETT (based on questionnaires) and ELSTAT

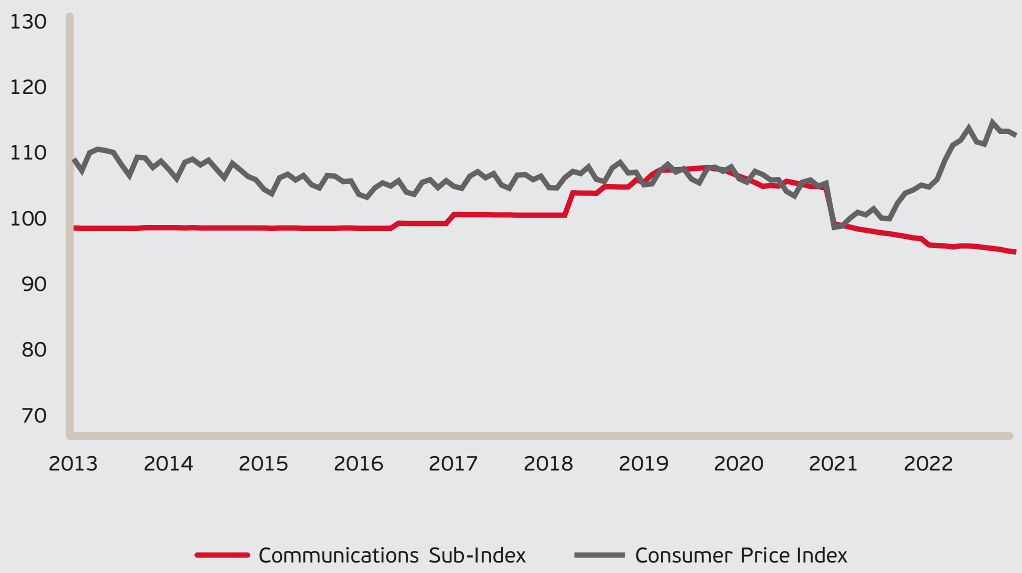
Note: the GDP data and its components for the period 2010 onwards have been revised with 2015 as the base year, in accordance with the Regulation EU 549/2013 of the European Union (ESA 2010). The data revision work with 2015 as the new base year for the period 1995-2009 is ongoing and thus implementing a timeseries break in 2010 at current prices and in 2011 at last year's fixed prices.

Chart 1.3: Number of employees of electronic communications operators



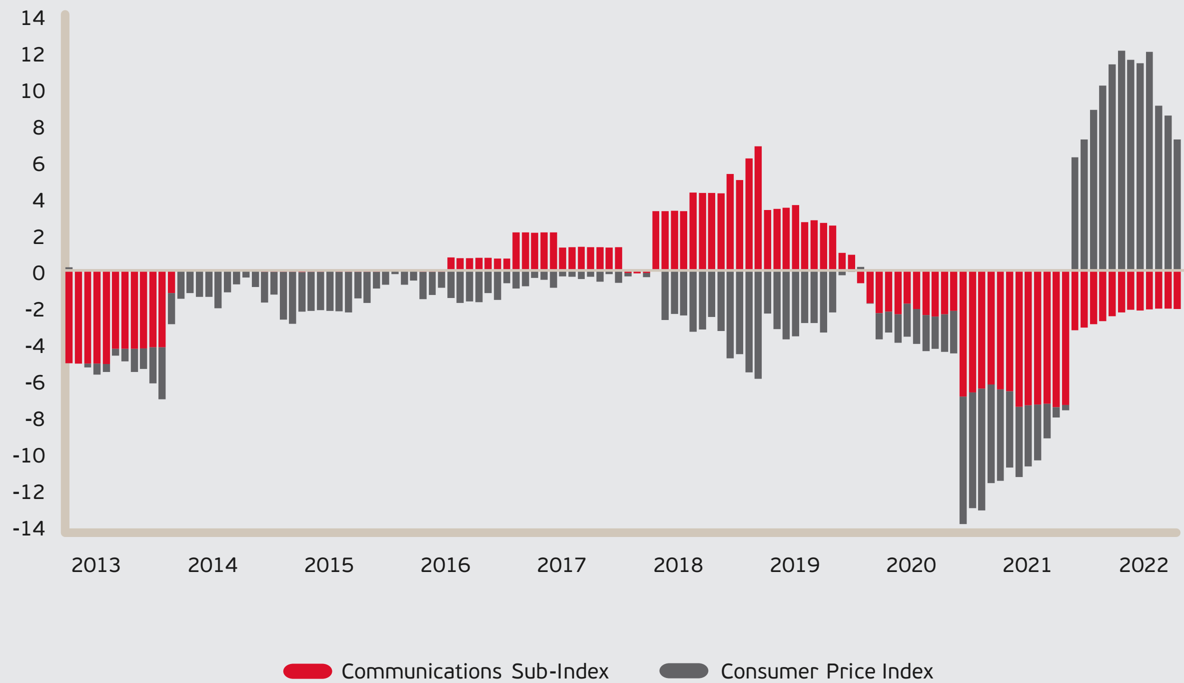
Source: EETT (based on data provided by the active licensed operators)

Chart 1.4: Evolution of the monthly Consumer Price Index (General Index-Communications Sub-Index)



Source: EETT (based on ELSTAT data)

Chart 1.5: Variation of the monthly Consumer Price Index over time



Source: EETT (based on ELSTAT data)

1.2. Electronic communications market key figures

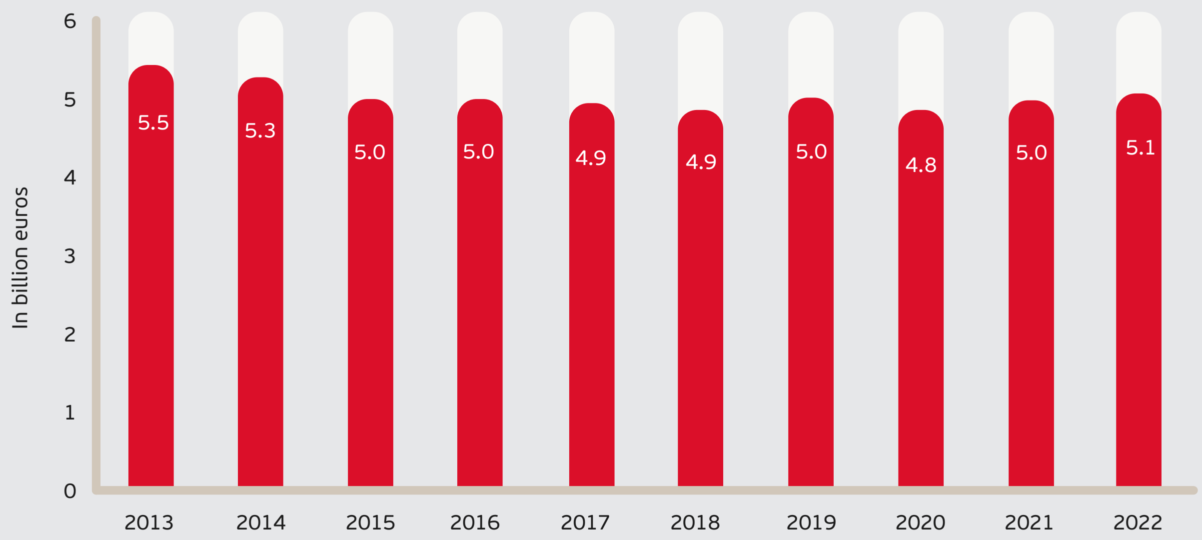
1.2.1. Financial data

This section presents the key financials of the electronic communications market, taking into account the data (turnover, investments, etc.) collected by EETT, from the licensed operators, on a semi-annual basis. In this context, the revenues listed concern those from fixed and mobile communications, telecommunications equipment and pay-TV of active licensed operators with an annual turnover above 150 thousand euros.

- The telecommunications' sector turnover in 2022, registered a 1.2% increase, amounting to 5.1 billion euros (Chart 1.6).
- The turnover for OTE fell by 0.5%, whereas the increase for the MNOs and the alternative operators of fixed telephony and fixed broadband services was 0.7% and 6.4% respectively (Chart 1.7).
- The telecommunications services revenues were the predominant part of the turnover (86.6%) (Chart 1.8).
- The fixed communications services revenues constituted 53.3% of the telecommunications services revenues (Chart 1.9). Those include both retail revenues from telecommunications services (telephony and Internet including access to the phone network, leased lines etc.) and wholesale revenues [e.g. interconnection, wholesale access-Local Loop Unbundling (LLU)]. Respectively, the revenues from mobile communications services, that constituted 44.5% of the telecommunications services revenues, include retail revenues from voice and mobile phone data services, as well as wholesale interconnection revenues, roaming etc.

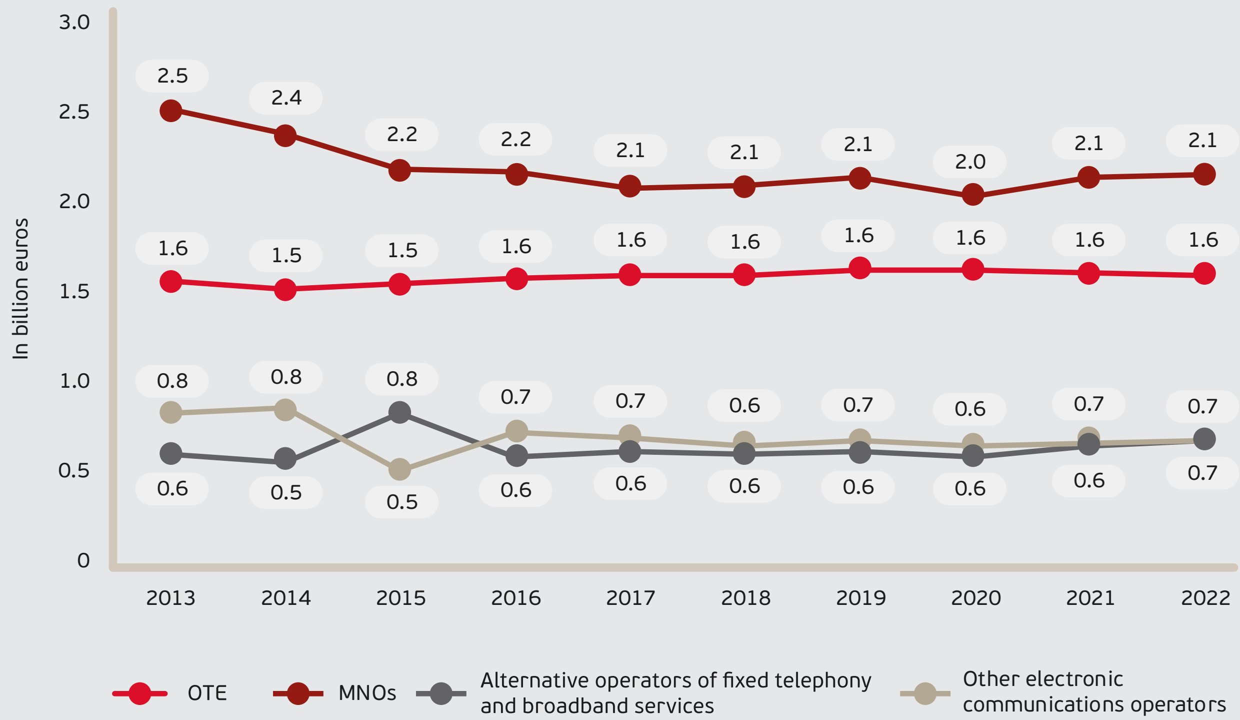
- The retail revenues from telephony and Internet services ranged at the same level as last year, accounting for approximately 59.6% of the total revenues from fixed networks, followed by the fixed interconnection services revenues with 15.5% (Chart 1.10). As far as the mobile networks and services are concerned, the retail revenues from voice and data services had an overwhelming share of 58.8% and 25.9% respectively (Chart 1.11).
- Total investments made by the electronic communications operators ranged at 18.3% of their total turnover, significantly increased compared to 2021 (15.2%) (Chart 1.12).
- In 2022, the electronic communications operators invested mostly in telecommunications infrastructure (55.2%), as well as in research and development (e.g. software, new services) (18.1%) and the licensing services/rights of use granted by EETT (10.7%) (Chart 1.13).
- The investments made by the largest operators ranged approximately between 11.2% and 24.5% of their total turnover from electronic communications services (Chart 1.14).

Chart 1.6: Electronic communications operators' turnover



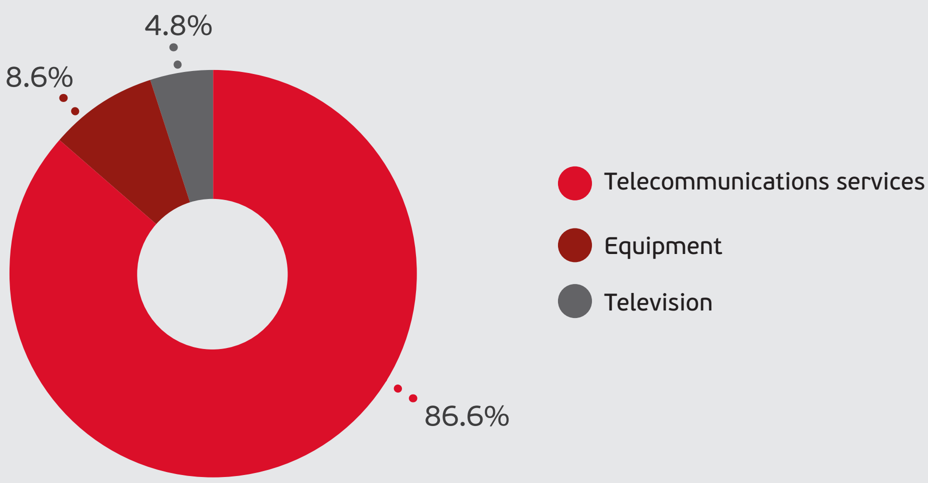
Source: EETT (based on data provided by the active licensed operators)

Chart 1.7: Fixed and mobile telephony operators' turnover



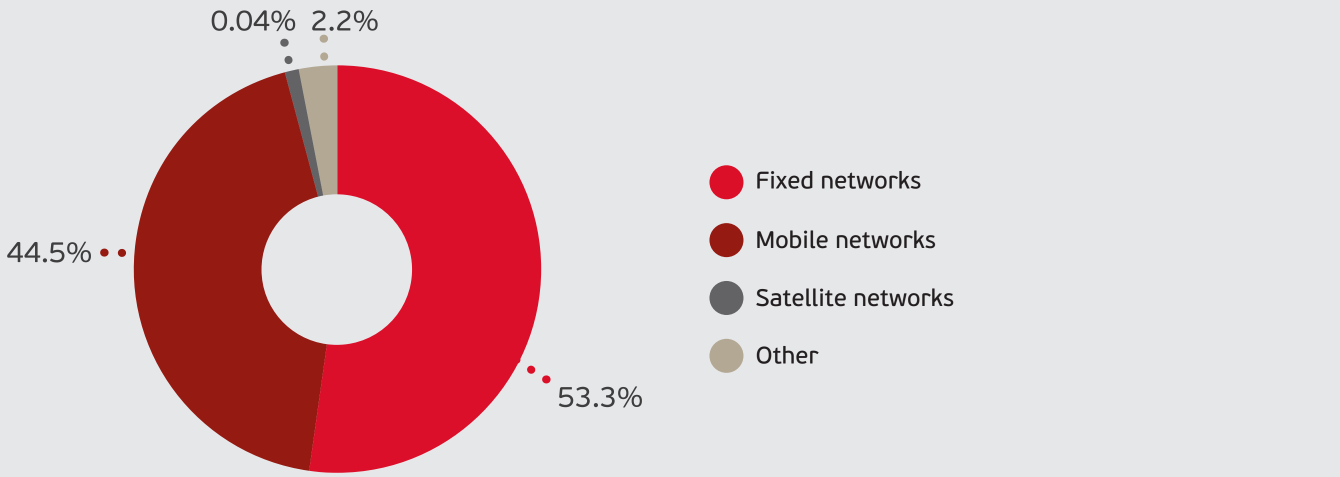
Source: EETT (based on data provided by the active licensed operators)

Chart 1.8: Breakdown (%) of electronic communications operators' turnover, 2022



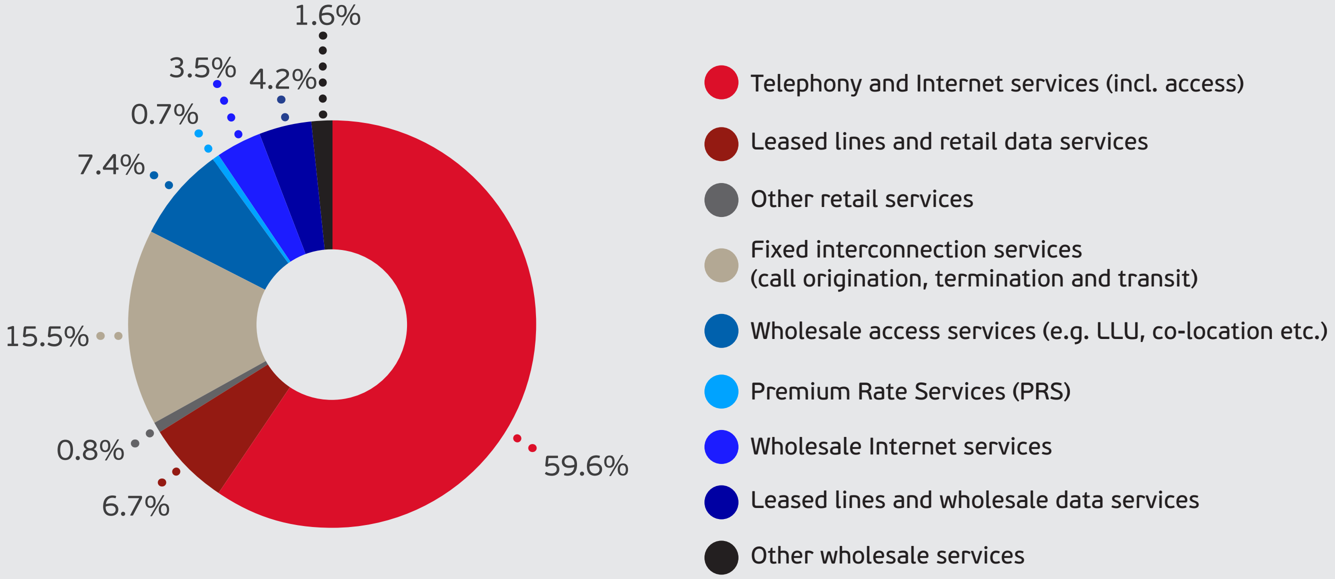
Source: EETT (based on data provided by the active licensed operators)

Chart 1.9: Breakdown (%) of revenues from telecommunications services, 2022



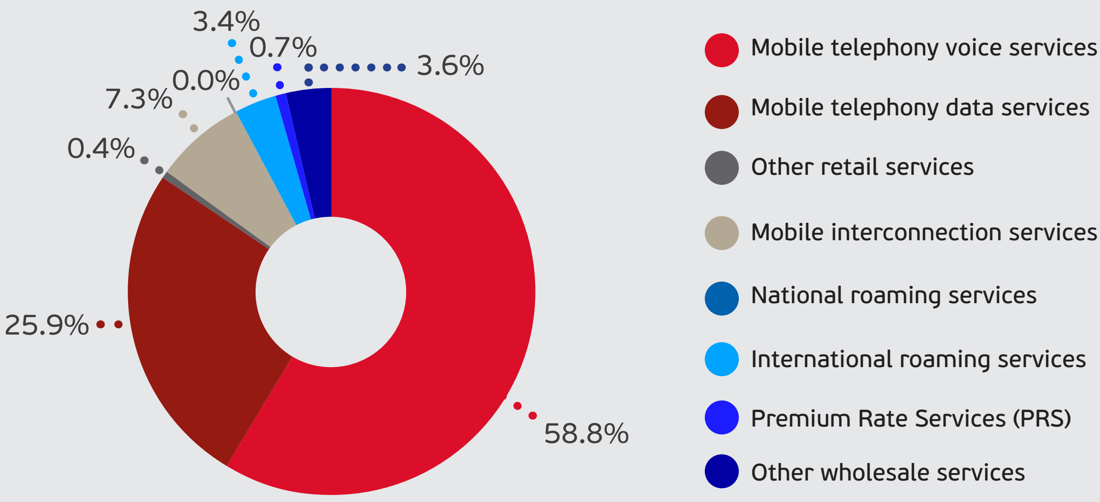
Source: EETT (based on data provided by the active licensed operators)

Chart 1.10: Breakdown (%) of revenues from fixed networks, 2022



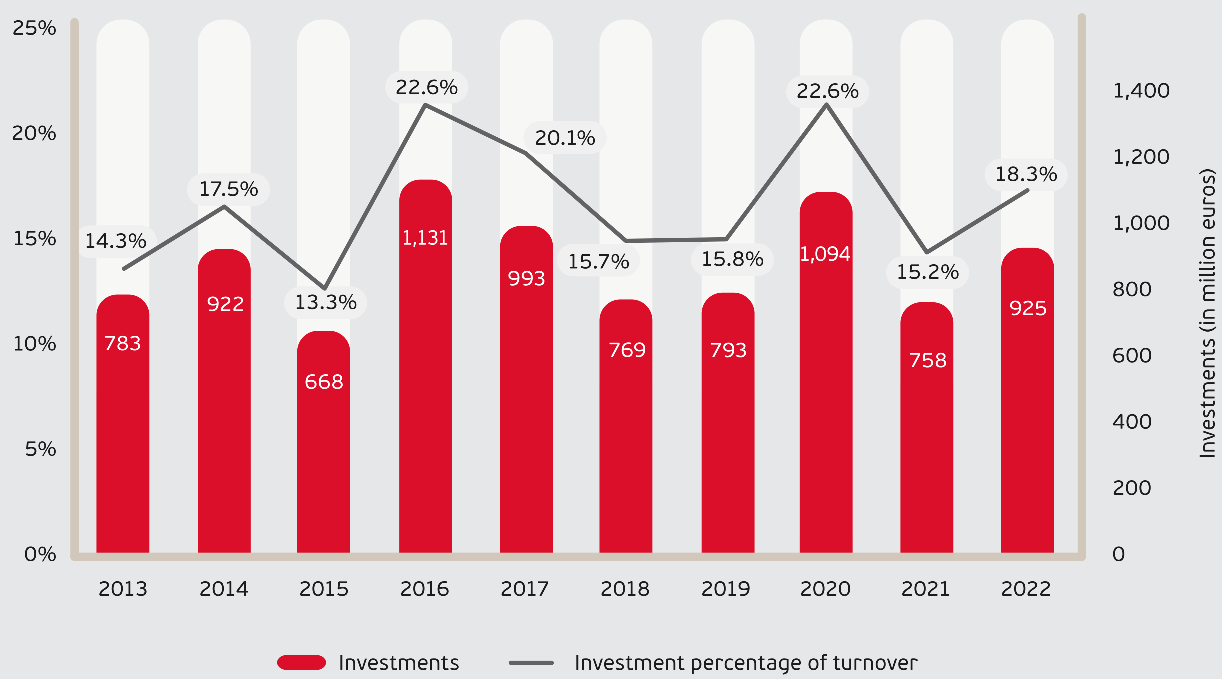
Source: EETT (based on data provided by the active licensed operators)

Chart 1.11: Breakdown (%) of revenues from mobile networks, 2022



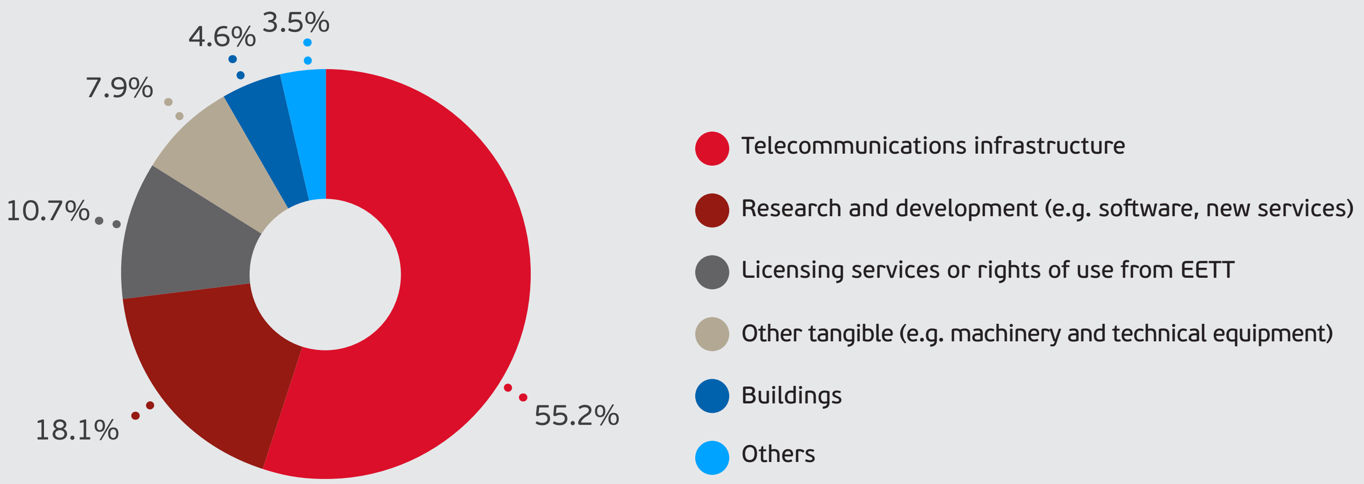
Source: EETT (based on data provided by the active licensed operators)

Chart 1.12: Electronic communications operators' investments



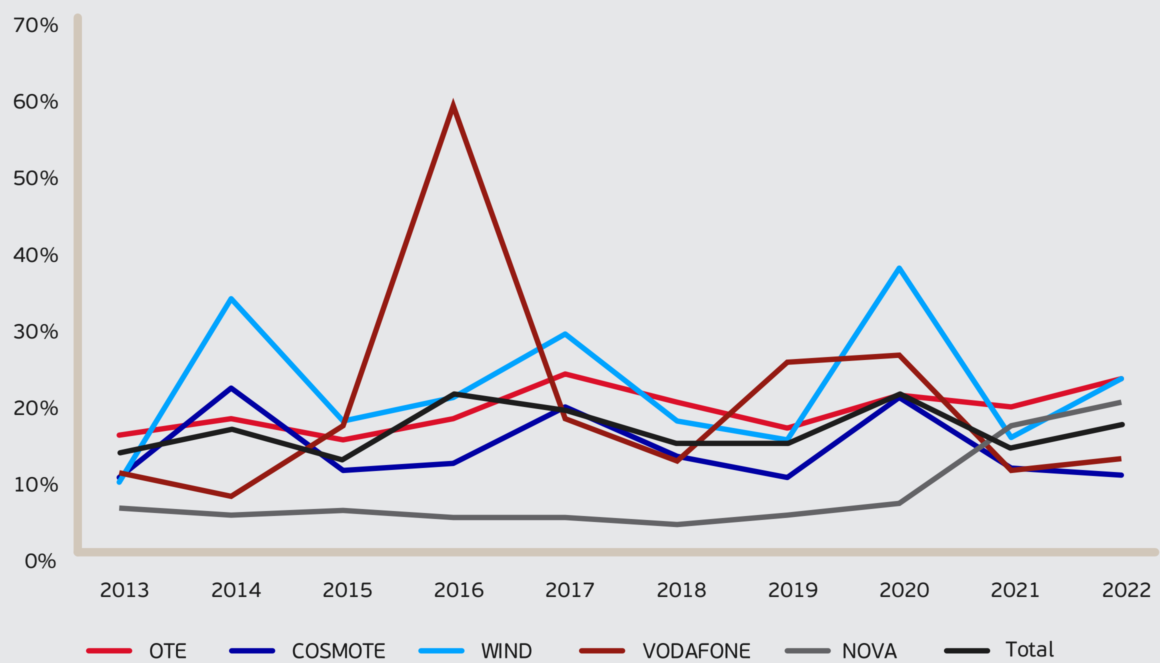
Source: EETT (based on data provided by the active licensed operators)

Chart 1.13: Breakdown (%) of electronic communications operators' investments, 2022



Source: EETT (βάσει στοιχείων των ενεργών αδειοδοτημένων παρόχων)

Chart 1.14: Investments/turnover ratio



Source: EETT (based on data provided by the active licensed operators)

1.2.2. Communications services provided at a fixed location

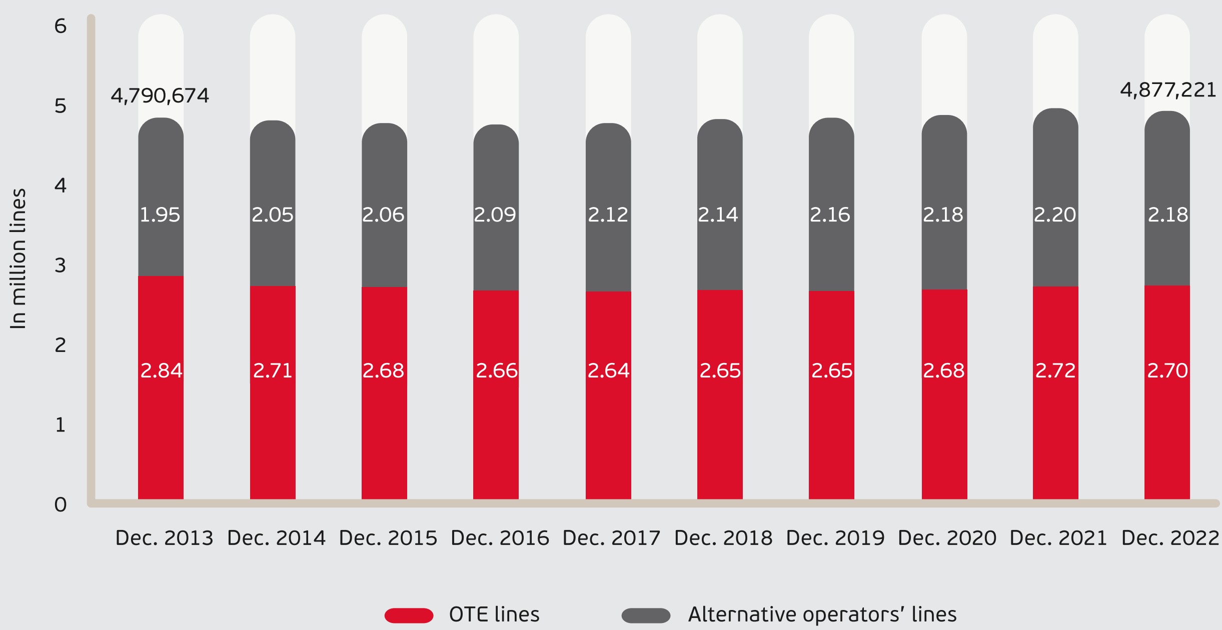
Fixed telephony access lines

In December 2022, the telephone access lines to a fixed public network of electronic communications amounted to 4,877,221 lines, namely a 46.6% penetration in the population, versus 4,912,074 lines at the end of 2021, registering a 0.7% drop compared to the previous year (Chart 1.15 and Table 1.2).

OTE's telephone lines decreased marginally by 0.5% (14,486 lines) compared to 2021. Its share at the end of 2022 was roughly the same (55.4%) as in 2021 (55.3%) (Chart 1.16).

The telephone lines of the alternative operators had a 44.6% share, having decreased by 20,367 lines (0.9%) compared to the previous year.

Chart 1.15: Evolution of fixed telephony access lines



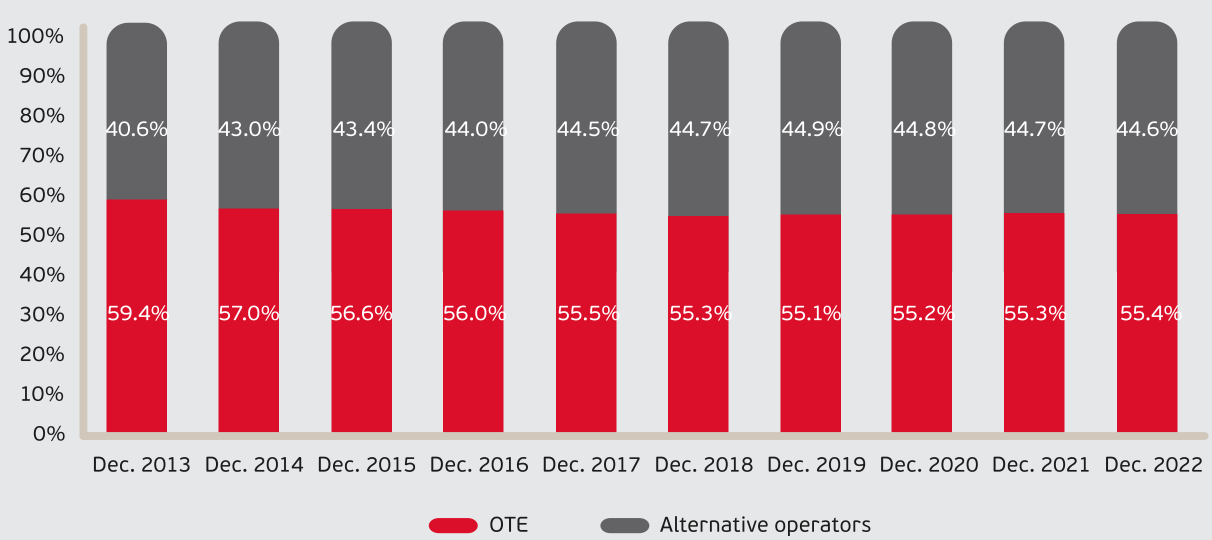
Source: EETT (based on data provided by the active licensed operators)

Table 1.2: Evolution of fixed telephony access lines

	OTE lines					Alternative operators' lines								
	PSTN	ISDN BRA	Managed VoIP	ISDN PRA	Total	PSTN & ISDN BRA-excl. WLR	PSTN & ISDN BRA-via WLR	Managed VoIP	VLU (FTTC, FTTH)	ISDN PRA	Other techno-logy	Total	Total lines
Dec. 2013	2,484,926	354,655	-	3,791	2,843,372	1,516,775	47,082	380,420	-	3,025	-	1,947,302	4,790,674
Dec. 2014	2,377,849	330,034	-	3,499	2,711,382	1,612,296	35,325	396,306	-	2,962	-	2,046,889	4,758,271
Dec. 2015	2,298,569	303,791	78,789	3,242	2,684,391	1,651,635	14,344	390,189	-	2,799	-	2,058,967	4,743,358
Dec. 2016	1,782,963	262,449	609,443	3,069	2,657,924	1,706,449	9,386	374,609	-	2,120	-	2,092,564	4,750,488
Dec. 2017	1,244,008	230,309	1,161,912	2,903	2,639,132	1,754,020	7,746	353,490	-	2,306	-	2,117,562	4,756,694
Dec. 2018	1,048,244	146,459	1,453,662	2,630	2,650,995	1,702,803	12,298	382,051	36,652	2,353	2,979	2,139,136	4,790,131
Dec. 2019	491	109	2,643,064	2,475	2,646,139	1,528,983	10,043	455,104	161,323	2,476	2,565	2,160,494	4,806,633
Dec. 2020	101	45	2,681,400	2,204	2,683,750	1,071,718	8,464	686,561	405,791	2,589	309	2,175,432	4,859,182
Dec. 2021	33	34	2,713,996	1,876	2,715,939	581,120	6,186	923,752	682,217	2,423	437	2,196,135	4,912,074
Dec. 2022	0	36	2,699,554	1,863	2,701,453	172,888	4,957	1,072,902	922,016	2,229	776	2,175,768	4,877,221

Source: EETT

Chart 1.16: Market shares based on fixed telephony access lines



Source: EETT (based on data provided by the active licensed operators)

Retail outgoing traffic

Total traffic, at the end of 2022, amounted to 11.4 billion minutes versus 13.3 billion minutes at the end of 2021, registering an annual decrease of 14.8%. The traffic of the basic call types fell by 14.9% compared to 2021, due to the drop of the traffic of national fixed calls (1.7 billion minutes less than in 2021), of the mobile calls (242 million minutes less than in 2021) and of the international calls (35 million minutes less than 2021). The traffic of the basic call types steadily amounts over 98% of all call types' traffic over the last years (Charts 1.17, 1.18 and 1.19).

Regarding the percentage breakdown of the basic call types' traffic during 2022, it was characterized by the drop of the traffic to national fixed calls to 79.3% (80.3% in 2021) and that to international calls to 1% (1.14% in 2021), whereas the percentage of the traffic to mobile calls increased to 19.6% (18.5% in 2021). The evolution of traffic per call type is presented in Table 1.3.

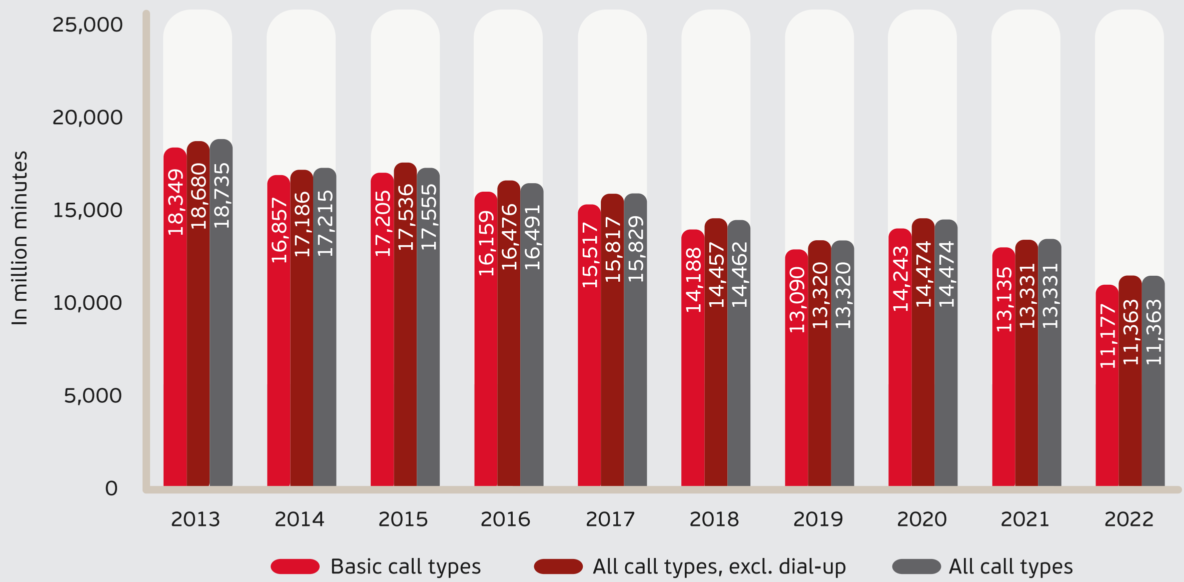
OTE's share in terms of both traffic and basic call types fell under 50% (49.6% and 49.4% respectively versus 50.6% and 50.4% in 2021), mainly due to the larger drop of its traffic compared to that of the alternative operators. More specifically for OTE, the national fixed and mobile calls, as well as the international calls, decreased by 18.5%, 6.7% and 20.4% respectively, compared to 2021. At the same time, the alternative operators registered a drop of the same calls' categories by 13.3%, 11.8% and 25.6% respectively (Charts 1.20 and 1.21).

The breakdown of the operators' annual shares of the total basic call types over time is presented in Chart 1.22. It is observed that an accumulative 99.6% market share is attributed to OTE and three alternative operators, namely in alphabetical order: NOVA, VODAFONE and WIND.

Chart 1.23 presents the breakdown of total traffic over time between OTE and the alternative operators. It is noted that the 14.6% decrease in fixed telephony traffic in 2022 compared to 2021, is attributed to both OTE (its total traffic decreased by 16.4% compared to 2021) and the alternative operators (drop of their total traffic by 13% compared to 2021).

The average outgoing traffic (of the basic call types) per connection, in 2022, registered a drop of 14.3% compared to 2021 and was estimated at 190.9 minutes per month.

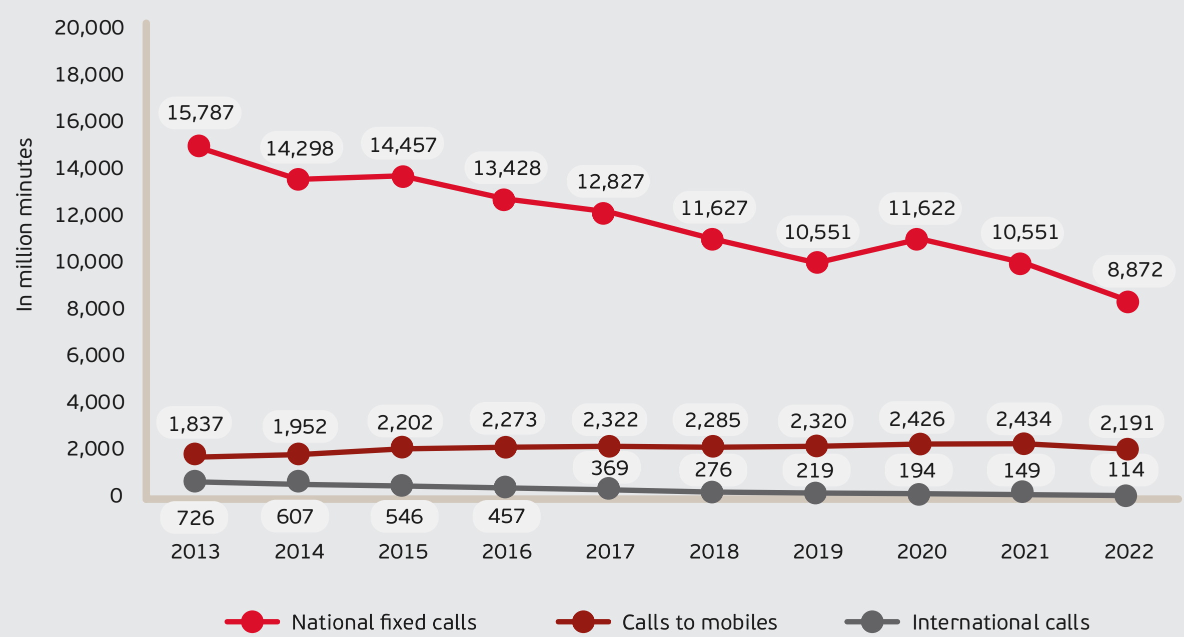
Chart 1.17: Evolution of fixed outgoing traffic



Source: EETT (based on data provided by the licensed operators)

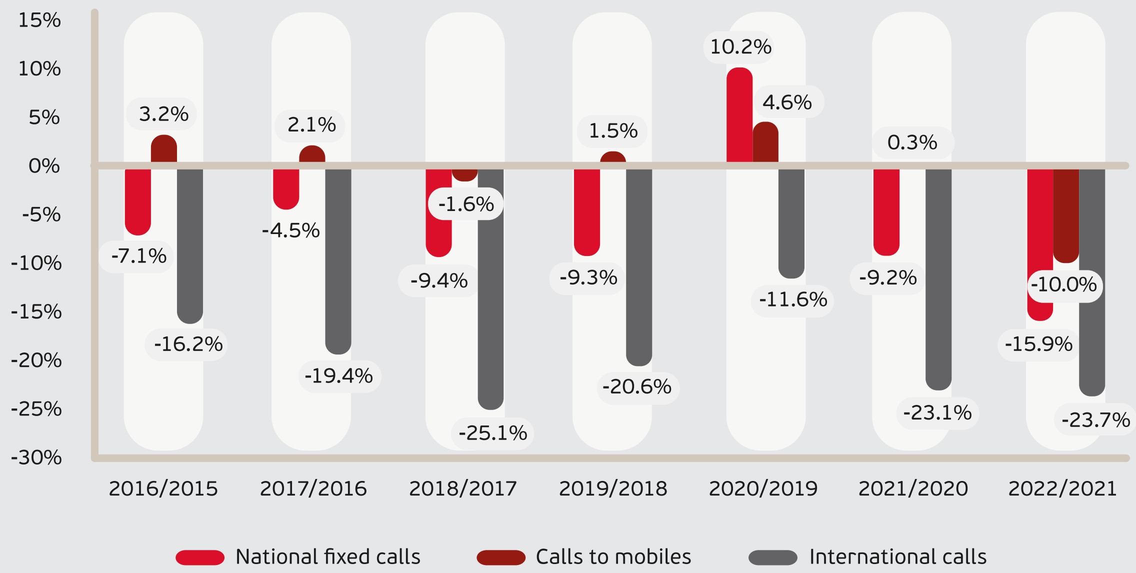
Note: The basic call types include national fixed calls (i.e. local and long-distance), calls to mobiles and international calls.

Chart 1.18: Fixed outgoing traffic per basic call type



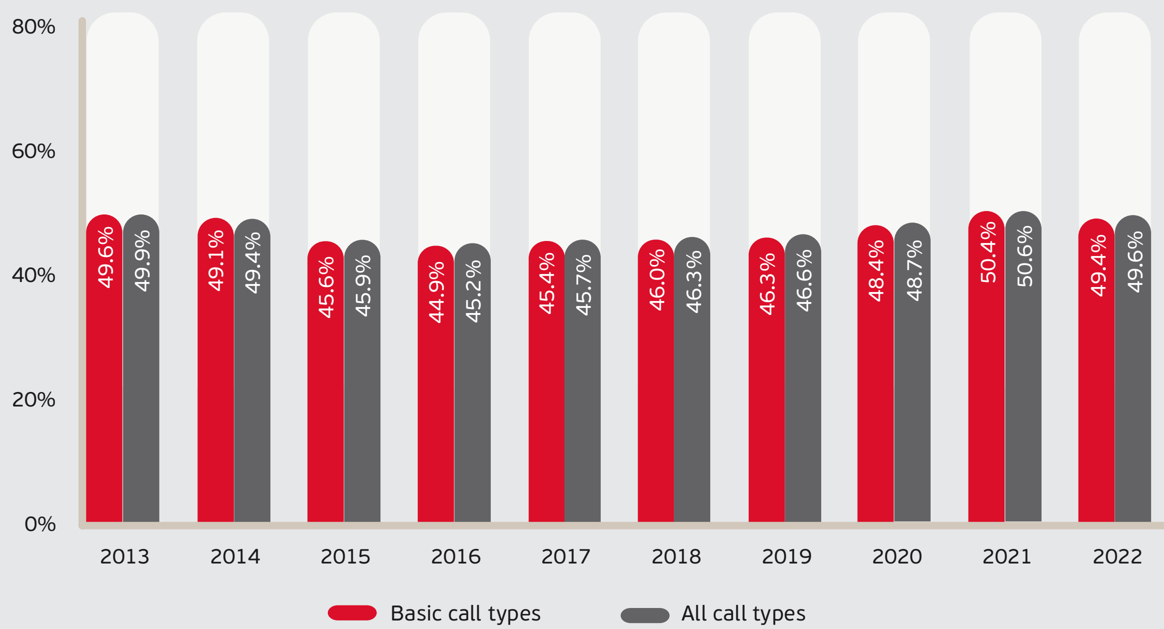
Source: EETT (based on data provided by the licensed operators)

Chart 1.19: Annual change of fixed outgoing traffic



Source: EETT (based on data provided by the licensed operators)

Chart 1.20: Annual OTE's market shares (based on outgoing traffic)



Source: EETT (based on data provided by the licensed operators)

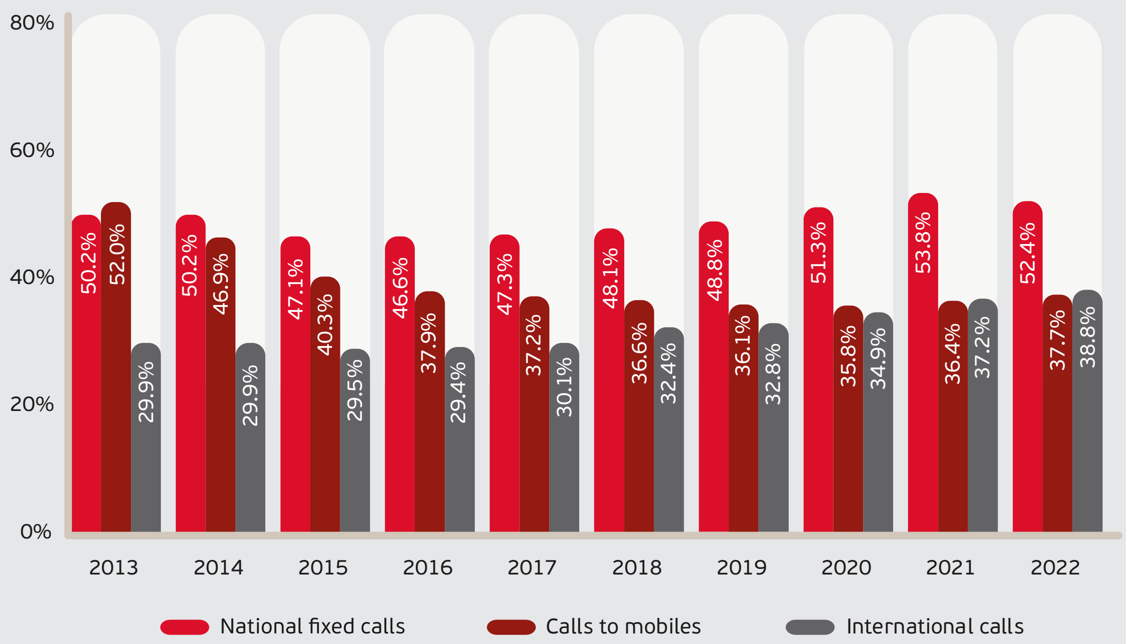
Table 1.3: Fixed outgoing traffic per call type (in million minutes)

	Call type	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Basic call types	National fixed calls	15,787	14,298	14,457	13,428	12,827	11,627	10,551	11,622	10,551	8,872
	Calls to mobiles	1,837	1,952	2,202	2,273	2,322	2,285	2,320	2,426	2,434	2,191
	International calls	726	607	546	457	369	276	219	194	149	114
Other call types	Dial-up calls	55	29	19	15	12	5	-	-	-	-
	Calls to personal numbers (series 70)	0,14	0,14	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Calls to FreePhone numbers (series 800)	26	31								
	Calls to shared cost services (Shared cost-801)	33	31	58	54	51	40	31	37	42	42.5
	Calls to short code services (3-digits, 4-digits, 5-digits)	219	229	238	230	221	206	178	174	132	120
	Calls to value added services	53	37	35	34	28	23	21	20	23	24
Basic call types		18,349	16,857	17,205	16,159	15,517	14,188	13,090	14,243	13,135	11,177
All call types, excl. dial-up		18,680	17,186	17,536	16,476	15,817	14,457	13,320	14,474	13,331	11,363
All call types		18,735	17,215	17,555	16,491	15,829	14,462	13,320	14,474	13,331	11,363

Source: EETT

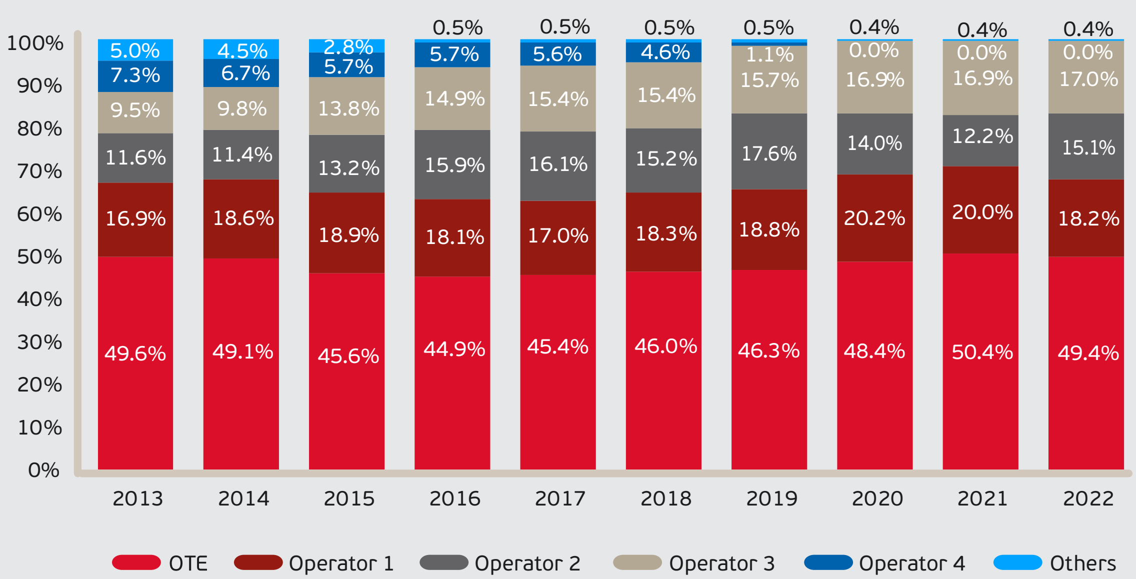
Note 1: Up to 2009, calls to short code services include short codes for value added services. Since 2010, they do not include them.
Note 2: Up to 2009, calls to value added services refer only to the code 90 calls. Since 2010, they refer to all the value-added services, including short codes for value added services.

Chart 1.21: OTE's market shares per basic call type (based on outgoing traffic)



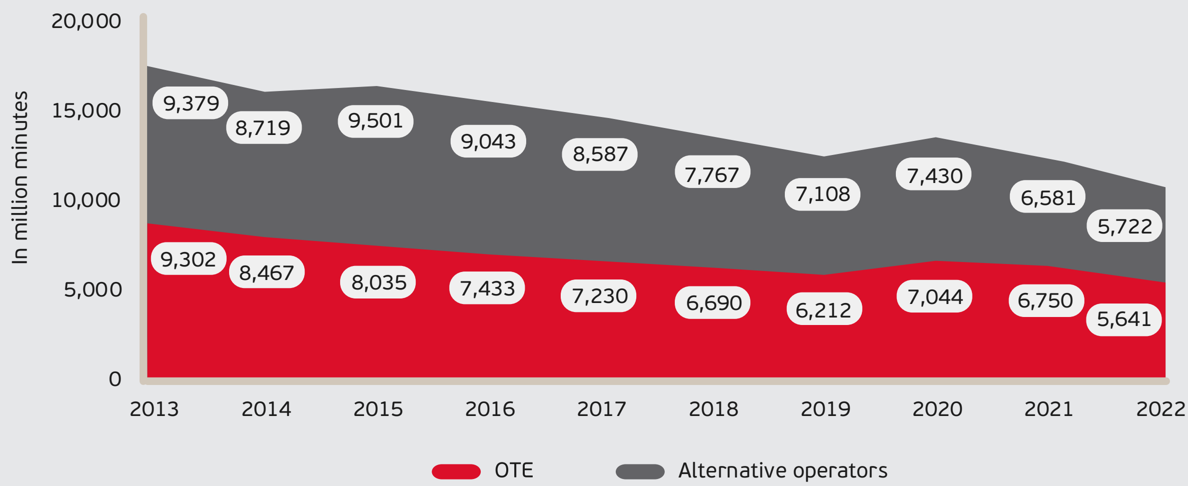
Source: EETT (based on data provided by the licensed operators)

Chart 1.22: Market shares of the basic call types (based on outgoing traffic)



Source: EETT (based on data provided by the licensed operators)

Chart 1.23: OTE's and alternative operators' outgoing traffic



Source: EETT (based on data provided by the licensed operators)

Retail revenues from the provision of telephony and Internet services at a fixed location[3]

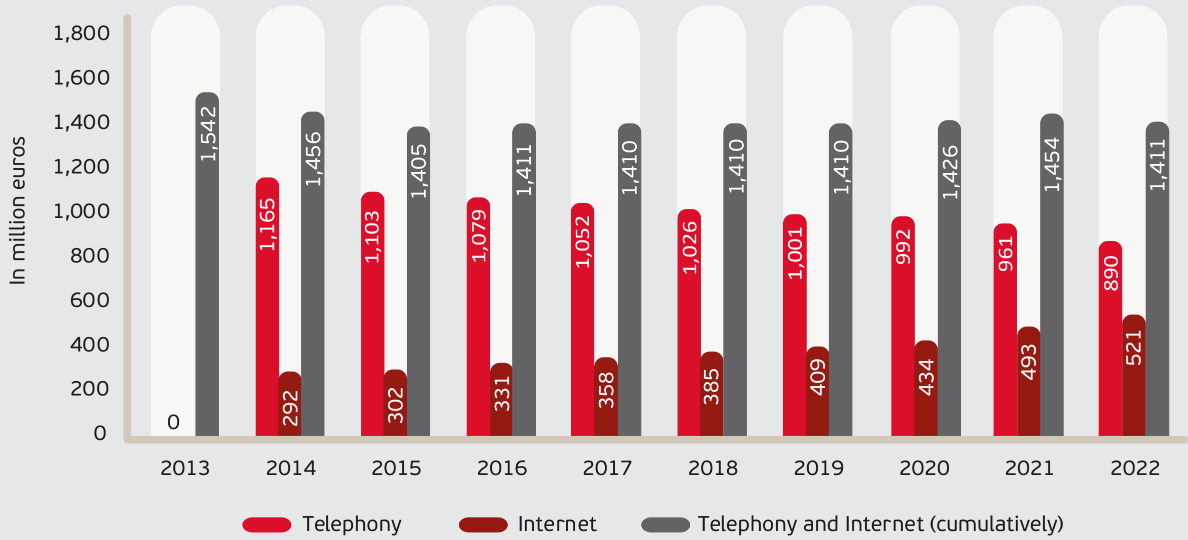
In 2022, total retail revenues from the provision of telephony and Internet services at a fixed location amounted to 1.41 billion euros, having decreased by 3% compared to 2021 (Chart 1.24). More specifically, the retail telephony revenues declined further by 70.6 million euros, i.e. a decrease by 7.4% compared to the previous year, whereas the revenues from Internet services rose by 5.6% (27.5 million euros) compared to 2021 and amounted to 520.8 million euros. It is clarified that the presented revenues are prior to any returns to third parties and that the telephony revenues include revenues both from access[4] as well as from all call types[5].

The average monthly revenue per connection from the provision of telephony and Internet services at a fixed location was about 24.1 euros compared to 24.6 in 2021, whereas the respective figure solely from the provision of telephony services at a fixed location was 15.2 euros (versus 16.2 euros in 2021). The average revenue per minute of outgoing traffic, considering all call types, increased by 6.8% at 0.079 euros in 2022 versus 0.073 euros in 2021.

OTE's market share based on the retail telephony and Internet revenues fell to 62.2% of the total market (63.2% in 2021) (Chart 1.25). In particular, OTE's retail Internet revenues increased by 3.1% compared to 2021, while its retail telephony revenues fell by 8.7% compared to the previous year. Table 1.4 presents the market shares based on the retail revenues of the operators that provide telephony and Internet services at a fixed location, at the end of 2022.

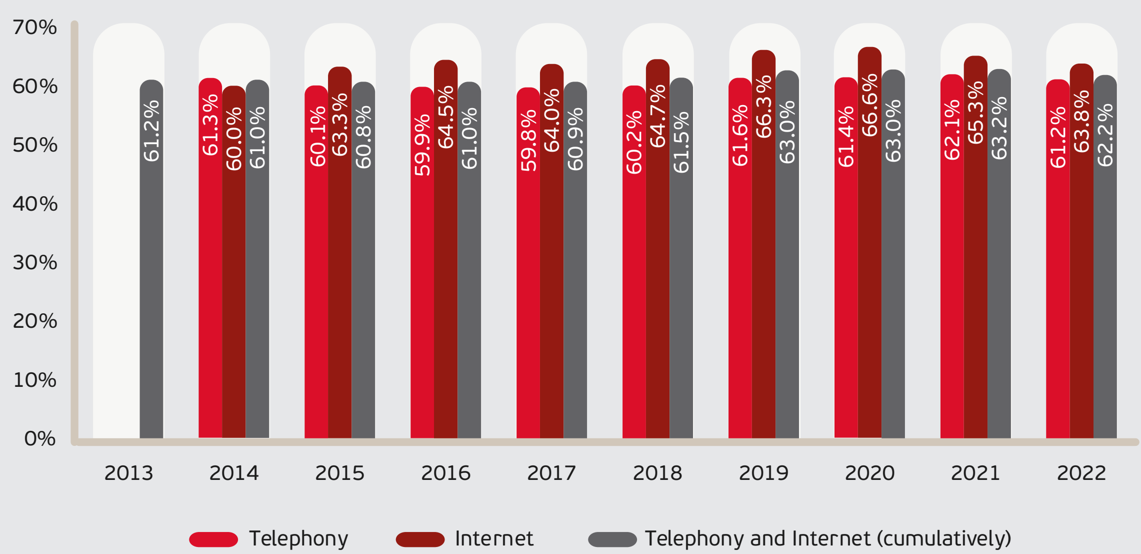
3. It shall be clarified that all the data presented refers to services provided to subscribers; therefore, the pre-paid telephony services are exempted.
4. Such as the initial connection/installation fee etc., the monthly rental for accessing telephony services and revenues from additional facilities.
5. It is noted that the presented data and more specifically the breakdown of the revenues among telephony and Internet is based on assumptions made by most of the operators.

Chart 1.24: Retail revenues from the provision of telephony and Internet services at a fixed location



Source: EETT (based on data provided by the licensed operators)

Chart 1.25: OTE's market shares (based on retail revenues from telephony and Internet services at a fixed location)



Source: EETT (based on data provided by the licensed operators)

Table 1.4: Market shares of operators that provide telephony and Internet services at a fixed location

	Dec. 2017	Dec. 2018	Dec. 2019	Dec. 2020	Dec. 2021	Dec. 2022
OTE	~61%	~62%	~63%	~63%	~63%	~62%
VODAFONE	10%-15%	10%-15%	10%-15%	15%-20%	15%-20%	15%-20%
WIND	10%-15%	10%-15%	10%-15%	10%-15%	10%-15%	10%-15%
NOVA	5%-10%	5%-10%	5%-10%	5%-10%	5%-10%	5%-10%
CYTA*	5%-10%	0%-5%	0%-5%	-	-	-
Others	0%-5%	0%-5%	0%-5%	0%-5%	0%-5%	0%-5%

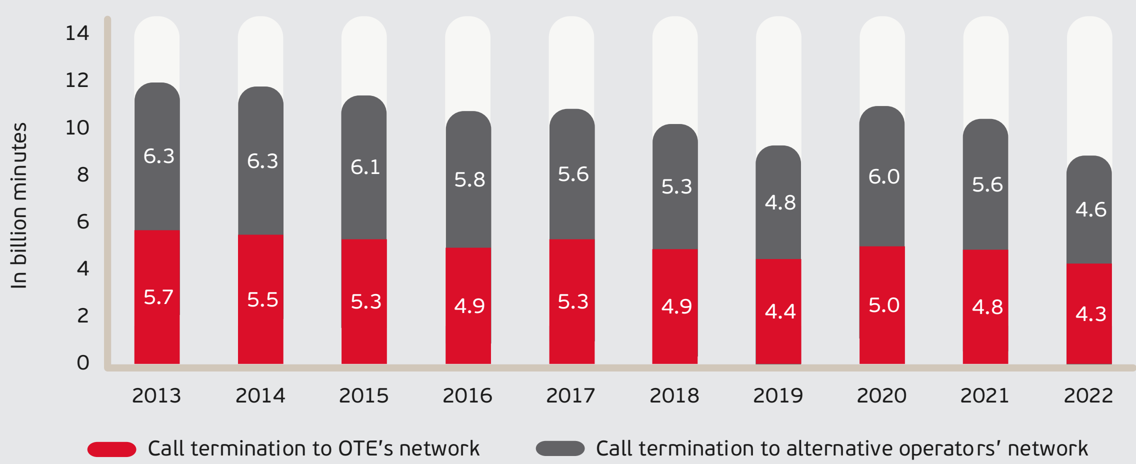
** Up till the first quarter of 2019.*

Source: EETT (based on data provided by the licensed operators)

Fixed telephony interconnection

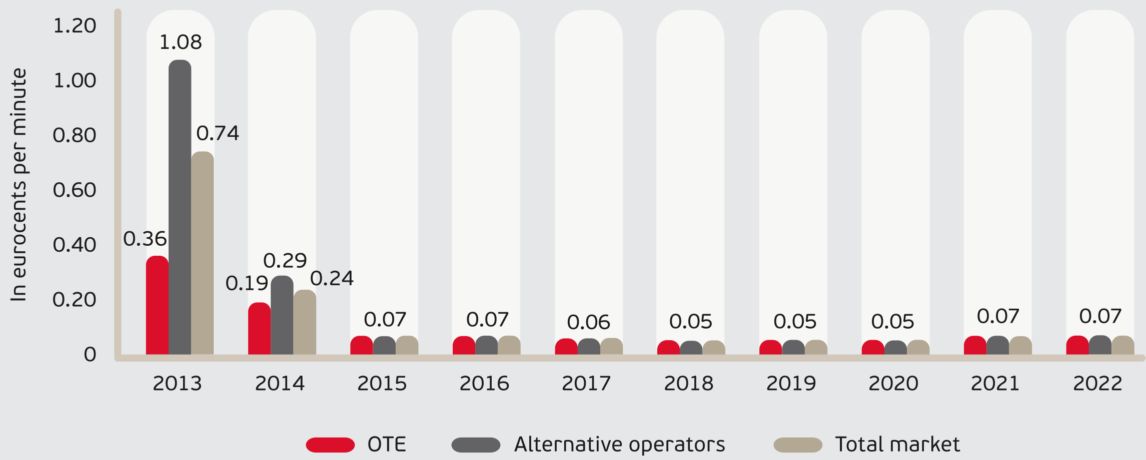
In 2022, call termination to fixed networks (Chart 1.26) amounted to 8.9 billion minutes, dropping by 15% compared to 2021 (10.4 billion minutes). More specifically, call termination to OTE's network fell by 12% in 2022 (4.3 billion minutes versus 4.8 billion minutes in 2021), accounting for 48% of the total terminating traffic. Similarly, the respective traffic of the alternative operators decreased considerably by 17% (4.6 billion minutes versus 5.6 billion minutes in 2021), accounting for the remaining 52% of the total terminating traffic. Over the last eight years, the call termination rates for all fixed network operators are symmetrical (Chart 1.27).

Chart 1.26: Call termination traffic to fixed networks (OTE-alternative operators)



Source: EETT (based on data provided by the licensed operators)

Chart 1.27: Evolution of call termination rates to fixed networks

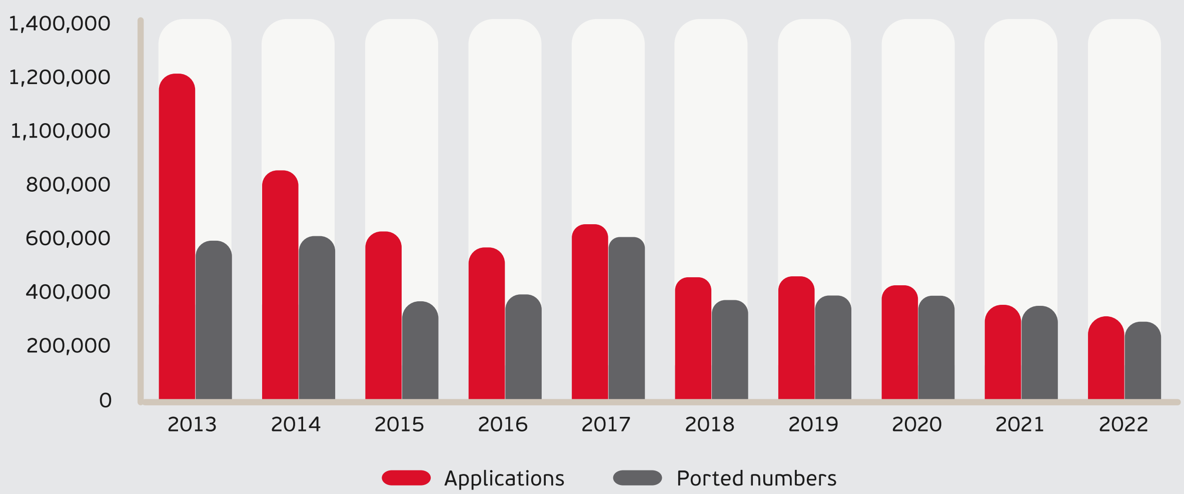


Source: EETT

Number portability in fixed telephony

In 2022, the applications for number portability registered a 6% decrease since 319,425 applications[6] were submitted compared to 339,913 applications in 2021. Furthermore, 312,601 numbers were ported, namely a 11.3% drop compared to 2021 (Chart 1.28).

Chart 1.28: Number portability in fixed telephony



Source: EETT

6. It is noted that one application may concern a group of numbers (e.g. 1,000; 10,000 numbers), so in the case of one application for 1,000 numbers, it will be counted as 1 for the requests and as 1,000 for the ported numbers, if the request is seen through.

1.2.3. Mobile communications

Connections

Mobile telephony connections[7] at the end of 2022 registered a marginal increase of 0.1% in terms of total registered connections whereas active connections[8] fell by 1.2% compared to 2021. At the end of 2022, the total number of connections stood at 13.8 million (Table 1.5 and Chart 1.29).

More specifically, the post-paid connections amounted to 5 million, registering an increase by 6% compared to 2021, while the registered pre-paid connections were 8.9 million, registering a decrease by 3% compared to 2021 (Table 1.6 and Chart 1.30).

The residential users' connections fell marginally by 0.3% compared to 2021, whereas the business users' connections increased by 4.3%, amounting to 12.5 million and 1.3 million respectively (Table 1.7 and Chart 1.31).

MNO's market shares, in terms of total connections, varied enough at the end of 2022. More specifically, COSMOTE's share increased to 47.8% versus 46% at the end of 2021. In contrast, WIND's share decreased to 21.9% from 23.8% in 2021, whereas VODAFONE's share remained stable at 30.2% (Chart 1.32 and Table 1.8). In terms of active connections[9], COSMOTE's share is in the range of [45%-55%], followed by VODAFONE in the range of [25%-35%] (Table 1.9).

The penetration rate of active mobile telephony connections on Greece's population, at the end of 2022, stood at 109%, increased by approximately 1 percentage point compared to 2021 (penetration 108%). Respectively, in terms of total connections, the penetration rate was 132% versus 129% in 2021 (Table 1.10).

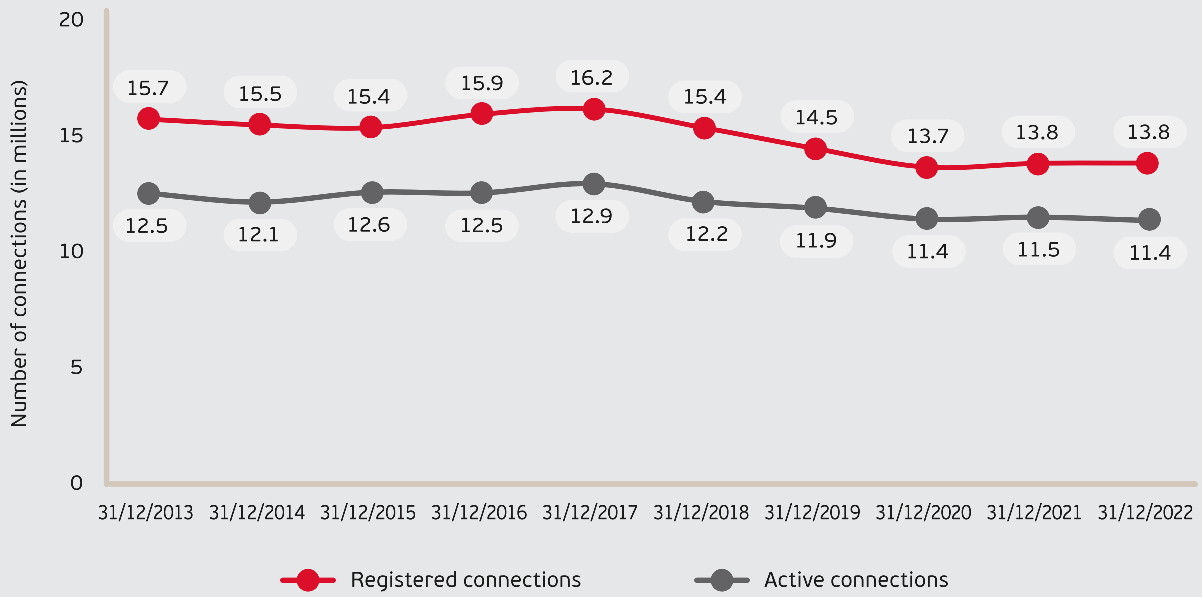
Table 1.5: Total and active mobile telephony connections (excl. datacards)

	Registered connections	Active connections
Dec. 2013	15,722,476	12,518,645
Dec. 2014	15,473,683	12,144,598
Dec. 2015	15,353,553	12,566,650
Dec. 2016	15,934,294	12,538,927
Dec. 2017	16,167,273	12,937,106
Dec. 2018	15,354,388	12,170,757
Dec. 2019	14,458,145	11,882,081
Dec. 2020	13,650,884	11,412,995
Dec. 2021	13,813,026	11,494,008
Dec. 2022	13,826,201	11,352,410

Source: EETT (based on data provided by the active licensed operators)

7. The term used is "connection" or "subscription" instead of "subscriber". It is not the number of subscribers as individuals or legal entities that is recorded, but the total connections/subscriptions, since one subscriber may have more than one connections/subscriptions.
8. "Active connections" or "active subscriptions" are defined as connections/subscriptions that have generated retail or wholesale revenues within the last quarter.
9. The number of active connections and the resulting market shares are confidential data and for this reason the market shares are presented in the form of ranges.

Chart 1.29: Connections/subscriptions of mobile telephony



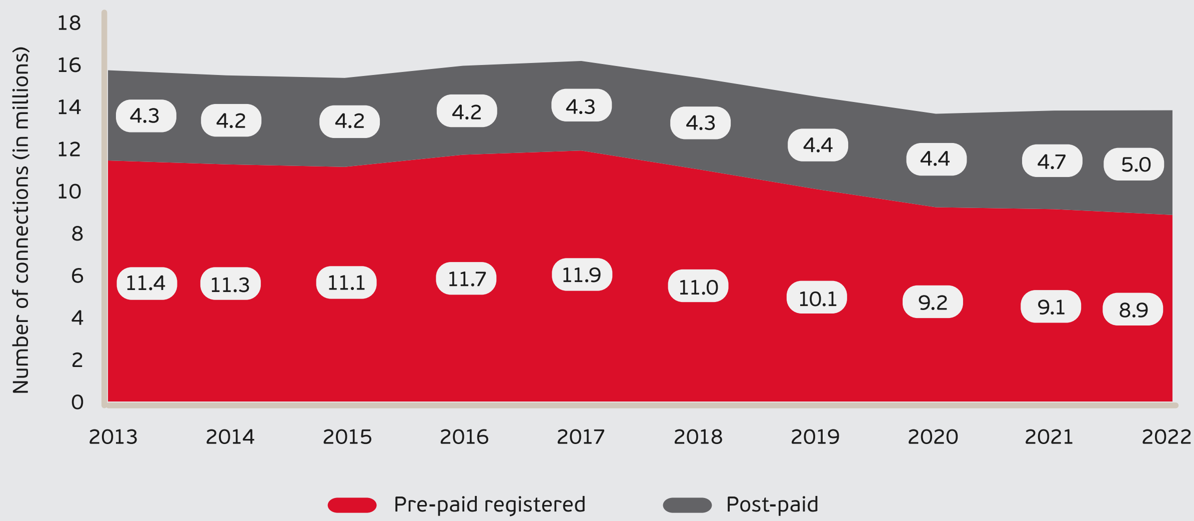
Source: EETT (based on data provided by the licensed operators)

Table 1.6: Total post-paid and pre-paid connections

	Post-paid connections	Pre-paid (registered) connections
Dec. 2013	4,278,843	11,443,633
Dec. 2014	4,216,579	11,257,104
Dec. 2015	4,211,675	11,141,878
Dec. 2016	4,219,022	11,715,272
Dec. 2017	4,261,140	11,906,133
Dec. 2018	4,336,465	11,017,923
Dec. 2019	4,383,959	10,074,186
Dec. 2020	4,426,244	9,224,640
Dec. 2021	4,685,384	9,127,642
Dec. 2022	4,962,111	8,864,090

Source: EETT (based on data provided by the licensed operators)

Chart 1.30: Evolution of total mobile telephony connections (pre-paid and post-paid)



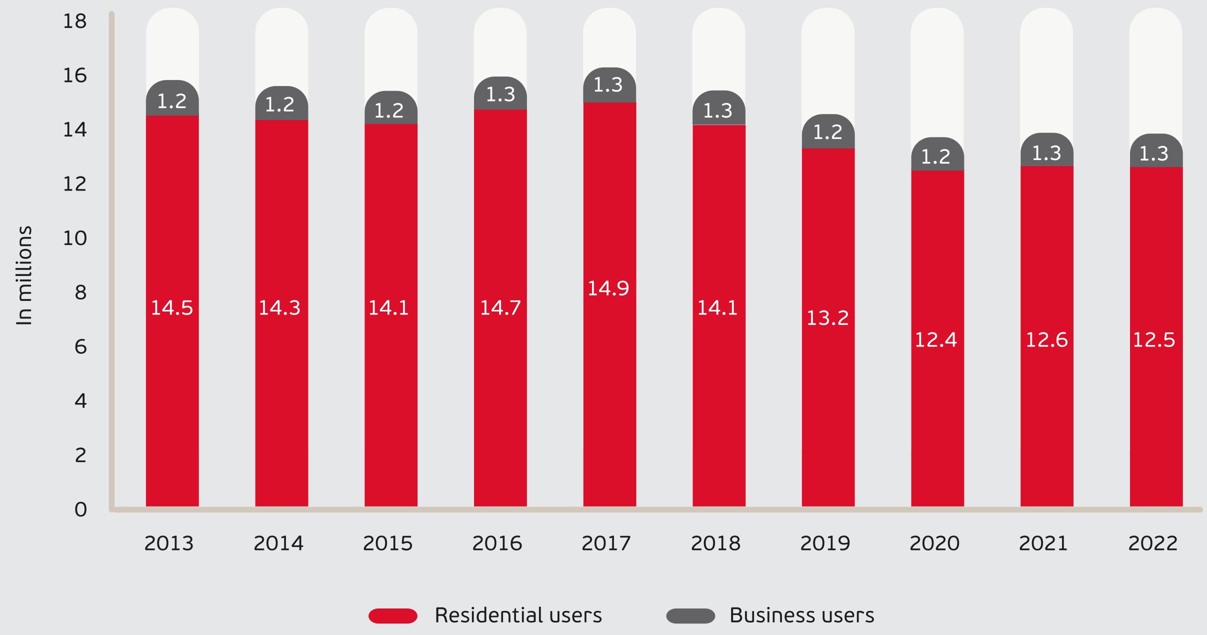
Source: EETT (based on data provided by the licensed operators)

Table 1.7: Total connections of residential and business post-paid and pre-paid users

	Residential	Business
Dec. 2013	14,497,186	1,225,290
Dec. 2014	14,254,880	1,218,803
Dec. 2015	14,118,156	1,235,397
Dec. 2016	14,682,583	1,251,711
Dec. 2017	14,902,753	1,264,520
Dec. 2018	14,063,618	1,290,770
Dec. 2019	13,234,616	1,223,529
Dec. 2020	12,441,461	1,209,423
Dec. 2021	12,561,275	1,251,751
Dec. 2022	12,520,488	1,305,713

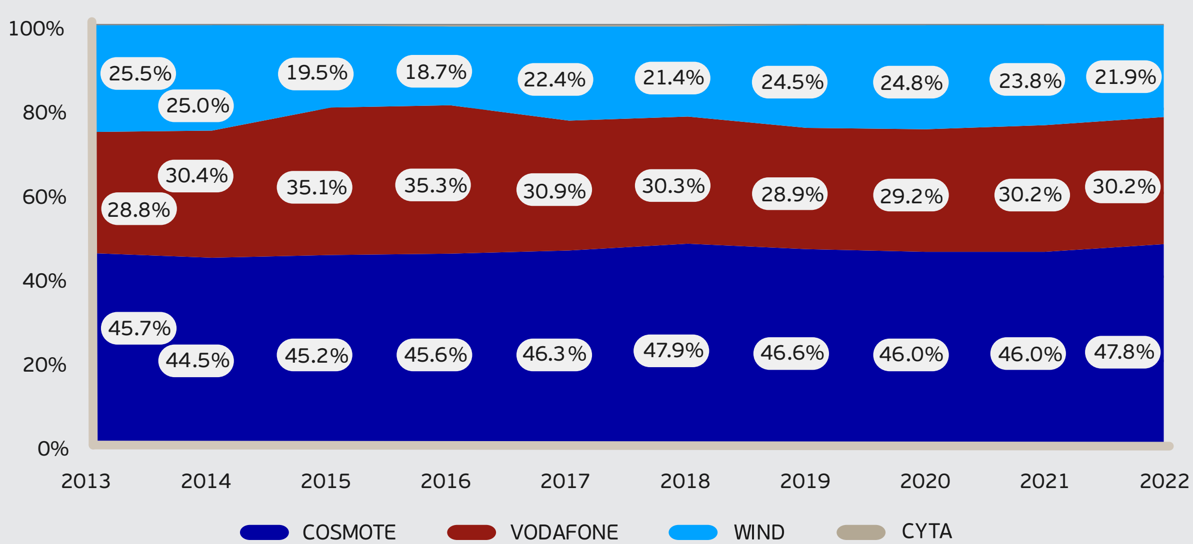
Source: EETT (based on data provided by the licensed operators)

Chart 1.31: Evolution of total mobile telephony connections (residential-business)



Source: EETT (based on data provided by the licensed operators)

Chart 1.32: MNOs' market shares based on registered connections



Source: EETT (based on data provided by the licensed operators)

Table 1.8: MNOs' market shares based on registered connections

	Dec. 2013	Dec. 2014	Dec. 2015	Dec. 2016	Dec. 2017	Dec. 2018	Dec. 2019	Dec. 2020	Dec. 2021	Dec. 2022
COSMOTE	45.7%	44.5%	45.2%	45.6%	46.3%	47.9%	46.6%	46%	46%	47.8%
CYTA	0%	0.1%	0.2%	0.4%	0.4%	0.4%	0%	-	-	-
VODAFONE	28.8%	30.4%	35.1%	35.3%	30.9%	30.3%	28.9%	29.2%	30.2%	30.2%
WIND	25.5%	25.0%	19.5%	18.7%	22.4%	21.4%	24.5%	24.8%	23.8%	21.9%

Source: EETT (based on data provided by the licensed operators)

Table 1.9: MNOs' market shares based on active connections

	Dec. 2013	Dec. 2014	Dec. 2015	Dec. 2016	Dec. 2017	Dec. 2018	Dec. 2019	Dec. 2020	Dec. 2021	Dec. 2022
COSMOTE	45%-55%	45%-55%	45%-55%	45%-55%	45%-55%	45%-55%	45%-55%	45%-55%	45%-55%	45%-55%
CYTA	-	0%-5%	0%-5%	0%-5%	0%-5%	0%-5%	0%-5%	-	-	-
VODAFONE	25%-35%	25%-35%	25%-35%	25%-35%	25%-35%	25%-35%	25%-35%	25%-35%	25%-35%	25%-35%
WIND	15%-25%	15%-25%	15%-25%	15%-25%	15%-25%	15%-25%	15%-25%	15%-25%	15%-25%	15%-25%

Source: EETT (based on data provided by the licensed operators)

Table 1.10: Penetration rate of connections on the population

	Dec. 2013	Dec. 2014	Dec. 2015	Dec. 2016	Dec. 2017	Dec. 2018	Dec. 2019	Dec. 2020	Dec. 2021	Dec. 2022
Registered connections	143%	142%	141%	148%	150%	143%	135%	127%	129%	132%
Active connections	114%	111%	116%	116%	120%	113%	111%	106%	108%	109%

Source: EETT (based on data provided by the licensed operators)

Use of mobile communications networks

In 2022, the use of mobile communications networks was characterized by the increase both of the domestic voice traffic and the use of Multimedia Messages (MMS), whereas the growth in the use of data services was yet again remarkable.

Voice calls

- The volume of voice calls in 2022 amounted to 33.9 billion minutes, registering a 6.6% increase compared to 2021 (31.8 billion minutes) (Chart 1.33).
- The largest part of this volume was the on-net calls, amounting to 16.9 billion minutes having decreased by 6.9% compared to 2021 (Chart 1.34). On-net calls accounted also for 51% of the basic call types' volume (i.e. on-net, off-net, mobile to fixed and international calls) roughly on the same level as in 2021 (Chart 1.35).
- The volume of the off-net calls increased again by 7.4% compared to 2021 (from 11.6 to 12.4 billion minutes), while the volume of the mobile to fixed calls grew also by 3.2% (from 3.4 to 3.6 billion minutes).
- International calls from mobile phones dropped by 23.7%.

It is noted that, the largest volume was made by post-paid residential users (44.6% of all voice calls' volume), followed by prepaid users (40.6%) and lastly by post-paid business users (14.8%) (Chart 1.36). Based on the actual traffic, the average monthly call duration, for a post-paid residential user, was approximately 294 minutes to mobile numbers (versus 286 minutes in 2021) and 41 minutes to fixed numbers. For a business user, the duration was 275 minutes to mobile numbers (versus 285 minutes in 2021) and 35 minutes to fixed numbers, while lastly, for a pre-paid user, the average monthly call duration was 158 minutes to mobile numbers (versus 138 minutes in 2021) and 16 minutes to fixed numbers.

Short Text Messages (SMS)

- The total number of SMS increased by 1.1% (2.38 billion messages versus 2.37 billion messages in 2021) (Chart 1.37).
- Most of the SMS in 2022 were on-net (42.5% compared to 42.4% in 2021), while the percentage of the off-net SMS increased (37.4% versus 33.4% in 2021).
- SMS from pre-paid users fell by 4.2%, amounting to 0.90 billion messages in 2022 compared to 0.94 billion messages in 2021, while the SMS from post-paid residential users increased by 2.4% amounting to 0.95 billion messages in 2022 versus 0.93 billion messages in 2021. The growth of the SMS from business users was 8.9%, amounting to 0.53 billion messages versus 0.49 billion messages in 2021 (Chart 1.38).
- A post-paid business user sent on average 34 SMS per month (versus 33 SMS in 2021), followed by a post-paid residential user with 22 SMS and a prepaid user with 12 SMS.

Multimedia Messages (MMS)

The number of MMS increased considerably by 17.7%, amounting to 9.6 million in 2022 versus 8.1 million in 2021 (Chart 1.39).

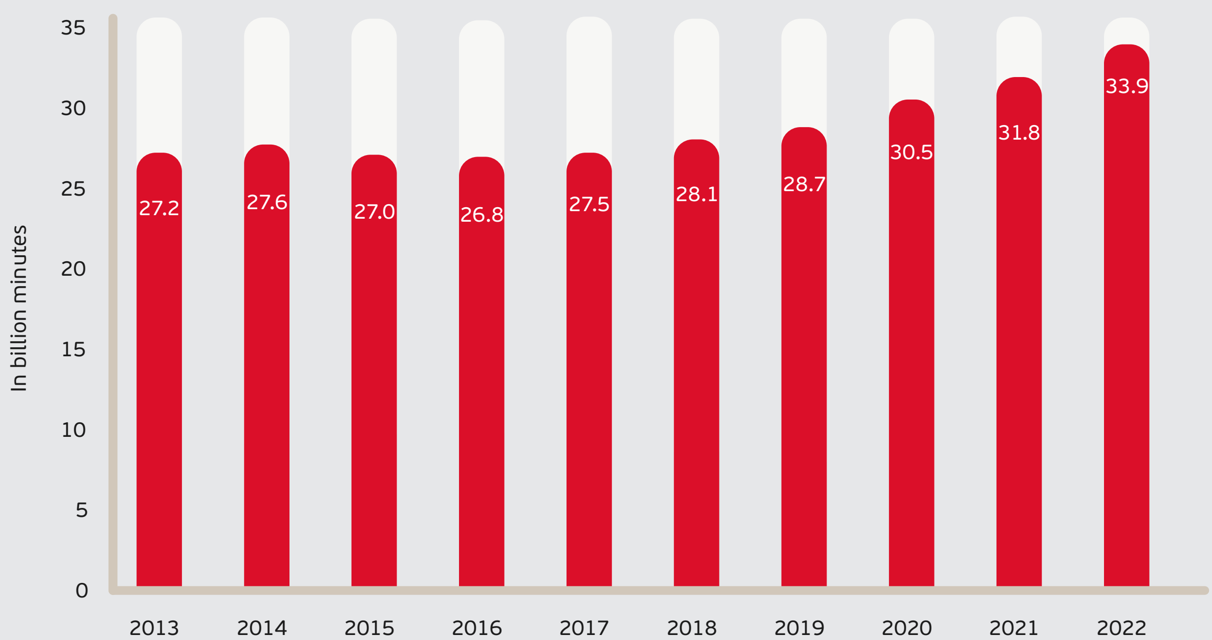
Data services[10]

- In 2022, the volume of data services over mobile communications networks increased impressively by 50%, reaching 844 million GB compared to 563 million GB in 2021 (Chart 1.40).
- The majority of data traffic was transferred via mobile phone devices (93%), while the remaining 7% via other portable devices using datacards and M2M.
- The largest volume of data was trafficked by prepaid users with 422 million GB, followed by post-paid residential users with 351 million GB and lastly business users with 71 million GB (Chart 1.41).

10. It is noted that up till 2012, reporting data use via mobile phones or datacards separately was not feasible.

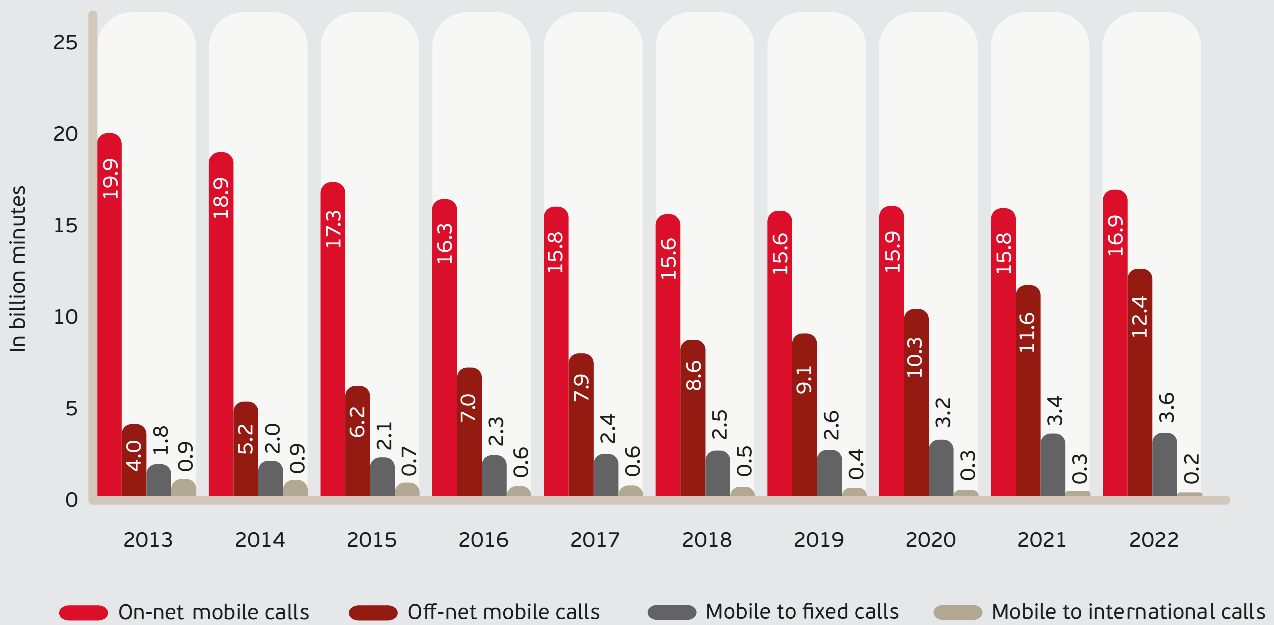
• All user categories increased significantly their use of data services during 2022. A post-paid residential user used on average 8 GB per month (versus 5.3 GB in 2021), followed by a prepaid user with 5.5 GB (versus 3.8 GB in 2021) and finally, a business user with 4.5 GB (versus 2.6 GB in 2021).

Chart 1.33: Volume of voice calls originating from mobile



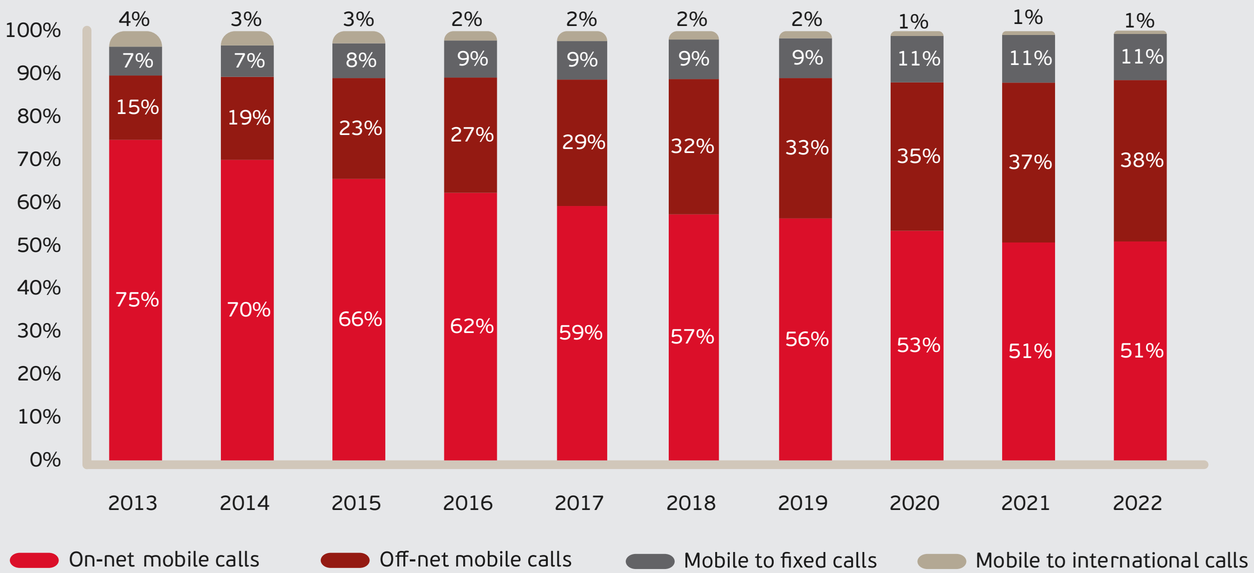
Source: EETT (based on data provided by the licensed operators)

Chart 1.34: Volume of voice calls per basic call type



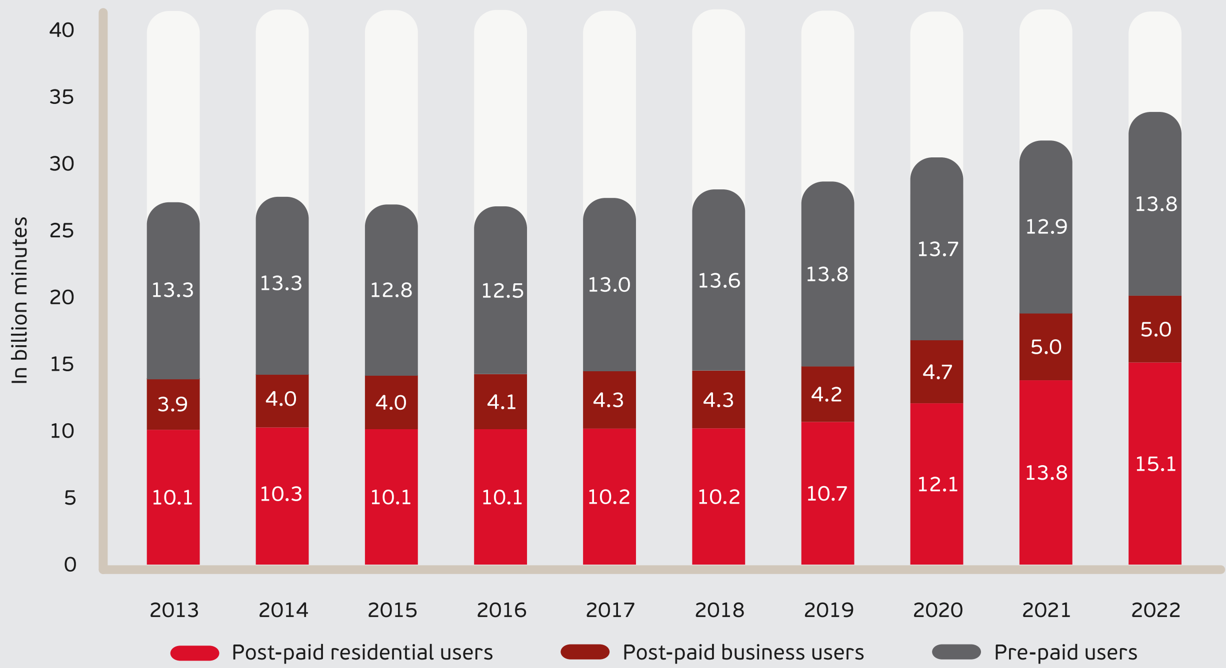
Source: EETT (based on data provided by the licensed operators)

Chart 1.35: Breakdown (%) of the basic call types' volume



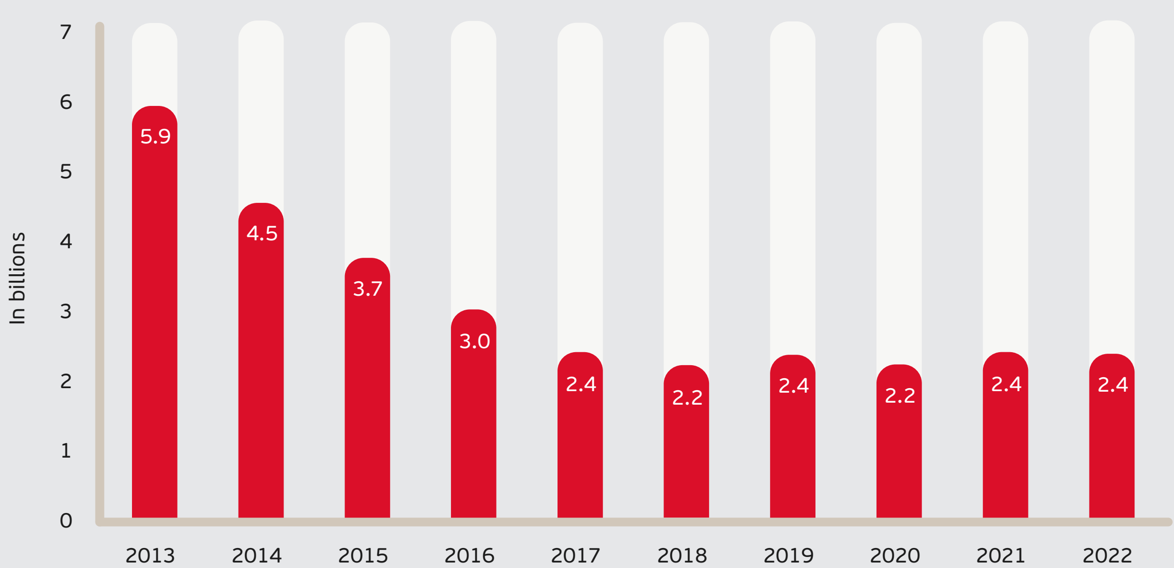
Source: EETT (based on data provided by the licensed operators)

Chart 1.36: Volume of voice calls per user category



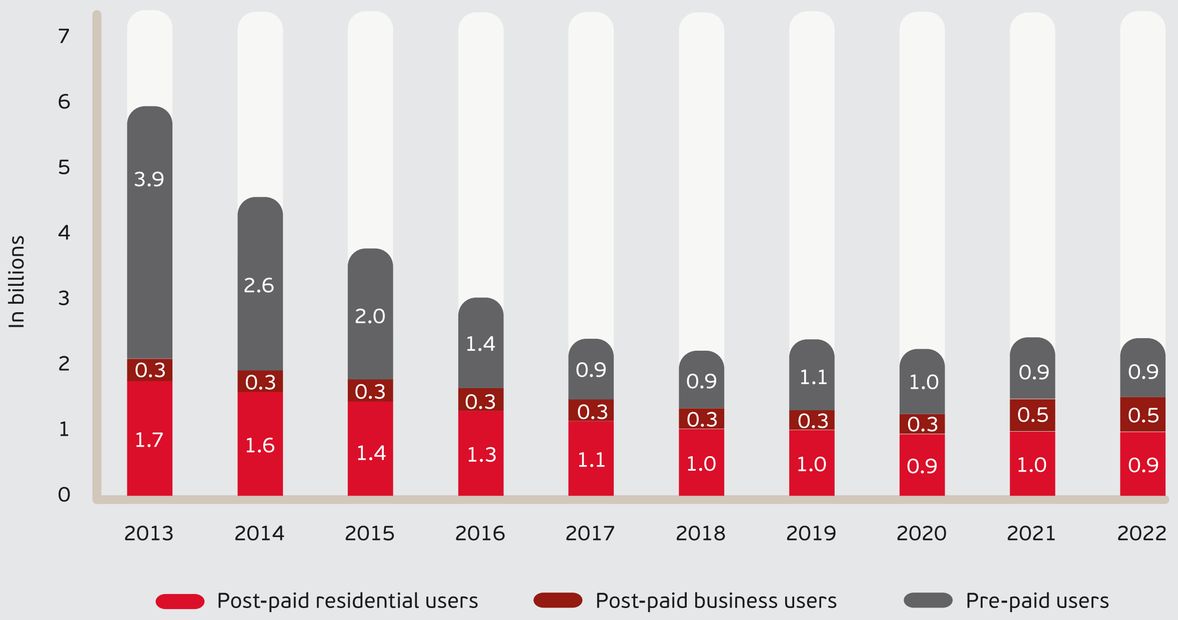
Source: EETT (based on data provided by the licensed operators)

Chart 1.37: Total number of SMS



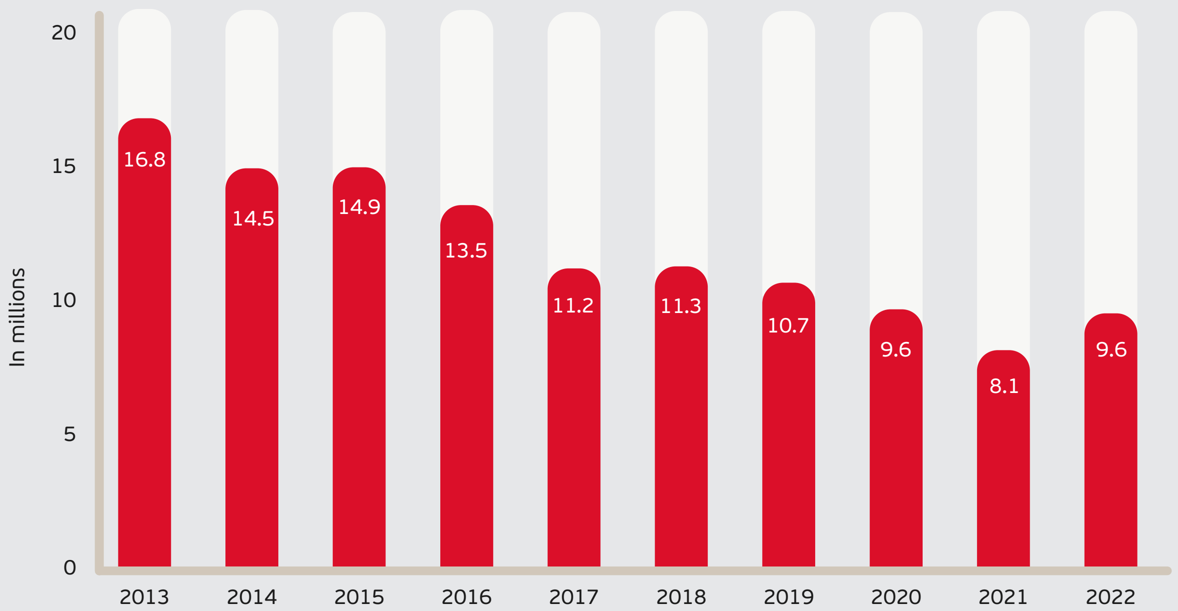
Source: EETT (based on data provided by the licensed operators)

Chart 1.38: Number of SMS per user category



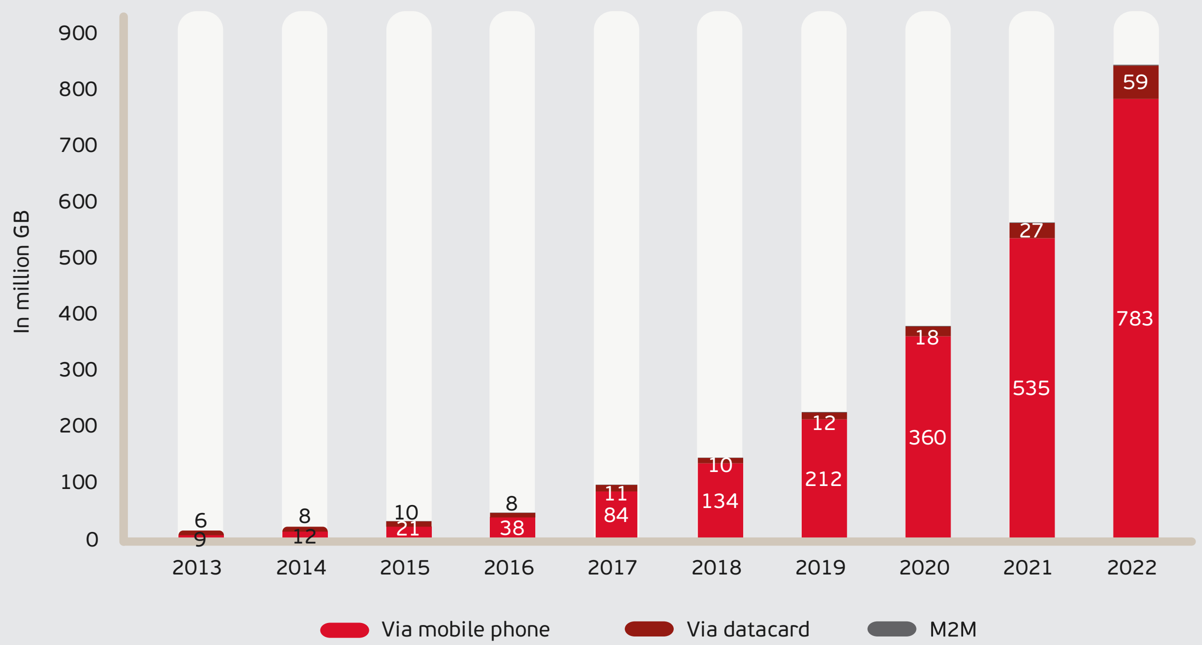
Source: EETT (based on data provided by the licensed operators)

Chart 1.39: Total number of MMS



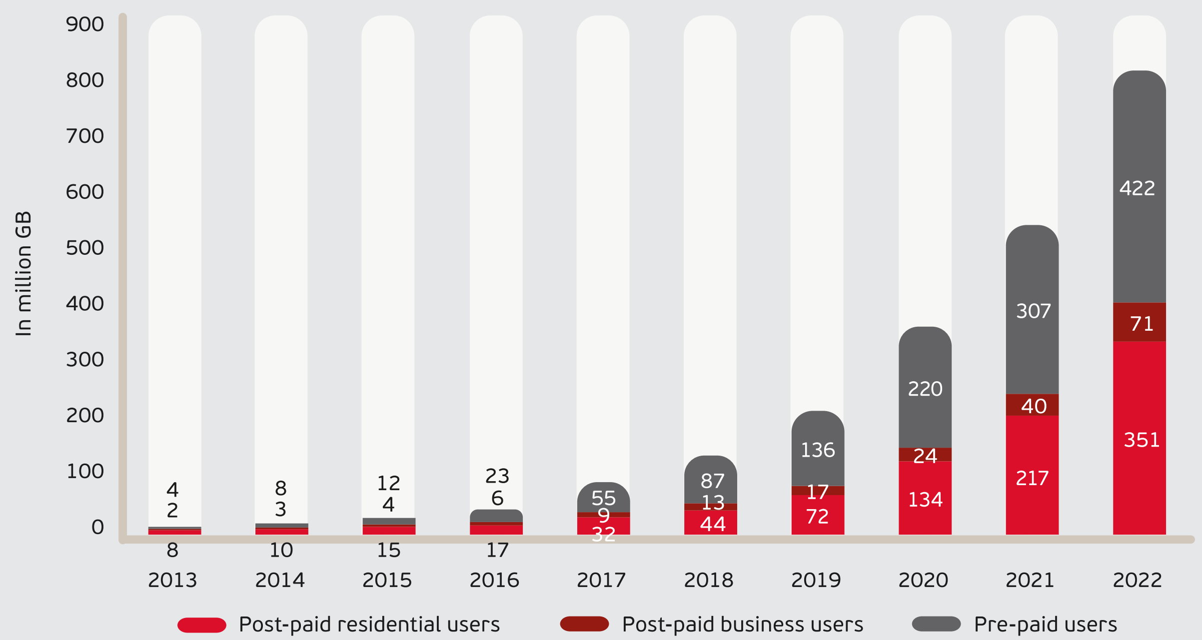
Source: EETT (based on data provided by the licensed operators)

Chart 1.40: Total volume of data services via mobile phones, datacards and M2M



Source: EETT (based on data provided by the licensed operators)

Chart 1.41: Total volume of data (GB) per user category



Source: EETT (based on data provided by the licensed operators)

Retail revenues from mobile services

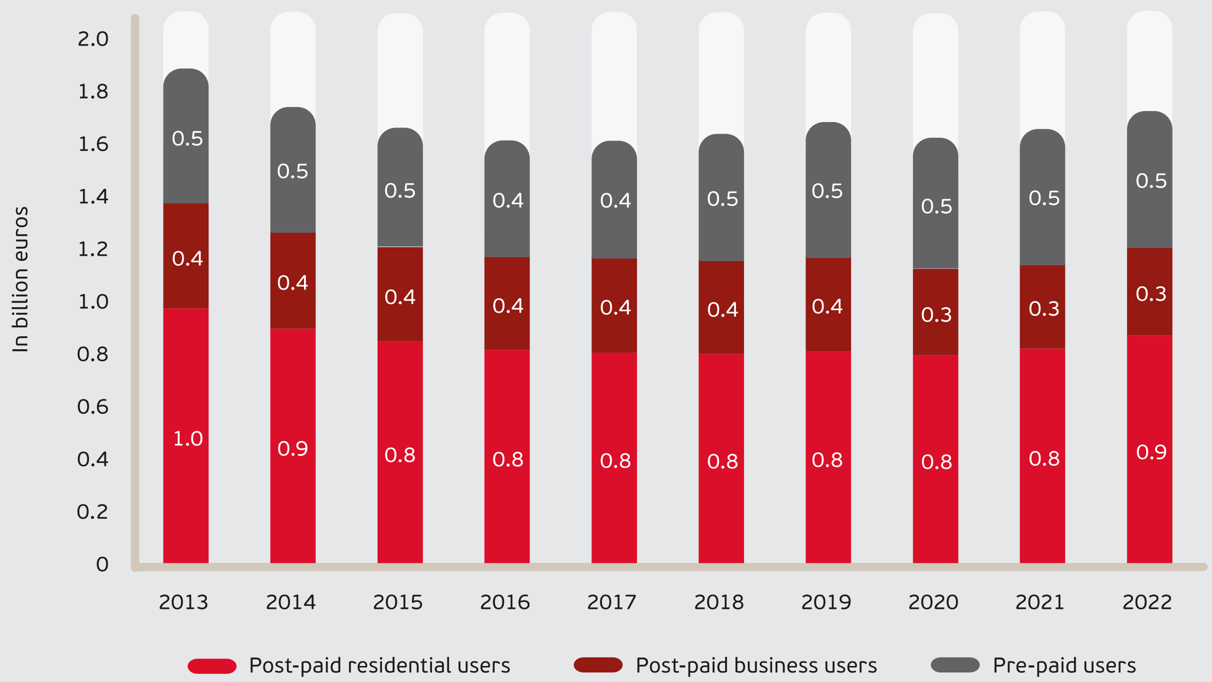
In 2022, the retail revenues from voice and data services[11] (post-paid and pre-paid) increased by 4% amounting to 1.7 billion euros (Chart 1.42). Tables 1.11-1.13 present the market shares based on the MNOs' retail revenues, both aggregately and per subscriber category (post-paid and pre-paid)[12].

The revenues from post-paid residential users registered the biggest increase by 6%, while the revenues from business users and the pre-paid users followed also an upward trend (4.8% and 0.5% respectively). In 2022, 64.2% of the voice and data retail revenues (over 1.1 billion euros) stemmed from voice calls versus 61.2% in 2021, whereas the revenues from the use of data dropped to 536 million euros, constituting 31.1% of the retail revenues compared to 34.2% in 2021 (Chart 1.43). The majority of the voice and data retail revenues (64.2%) was generated by voice calls (Chart 1.44).

The average annual revenue per postpaid (connection) and pre-paid user was 250 and 79 euros respectively (Chart 1.45). Regarding the revenues from the use of data, residential users have consistently been the largest source of revenue, amounting to 48.5%, followed by the pre-paid users with 28.6% (Chart 1.46).

Chart 1.47 shows the average revenue per GB for the three categories of users over time, which follows a significantly decreasing course. In 2022, the average revenue per GB for the business users was 1.7 euros, for residential users amounted to 0.7 euros, while for pre-paid users was 0.4 euros.

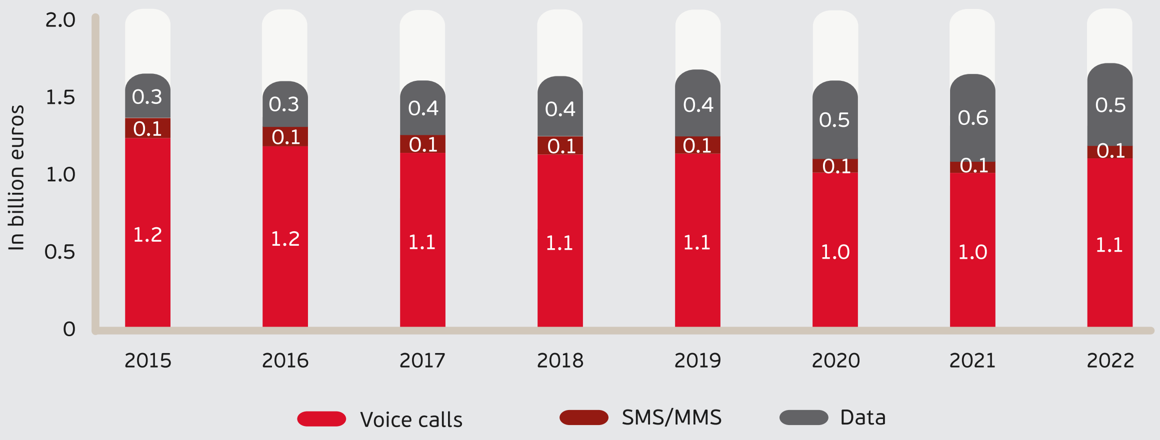
Chart 1.42: Retail revenues from users of voice and data services of mobile communications networks



Source: EETT (based on data provided by the licensed operators)

11. Revenues from the sale of handsets, wholesale or other services are not included.
12. Retail revenues and the resulting market shares are confidential data and for this reason the market shares are presented in the form of ranges.

Chart 1.43: Source of retail revenues



Source: EETT (based on data provided by the licensed operators)

Table 1.11: MNOs' shares based on retail revenues

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
COSMOTE	45%-55%	45%-55%	45%-55%	45%-55%	45%-55%	45%-55%	45%-55%	45%-55%	45%-55%	45%-55%
CYTA	-	0%-5%	0%-5%	0%-5%	0%-5%	0%-5%	0%-5%	-	-	-
VODAFONE	25%-35%	25%-35%	25%-35%	25%-35%	25%-35%	25%-35%	25%-35%	25%-35%	25%-35%	25%-35%
WIND	15%-25%	15%-25%	15%-25%	15%-25%	15%-25%	15%-25%	15%-25%	15%-25%	15%-25%	15%-25%

Source: EETT (based on data provided by the licensed operators)

Table 1.12: MNOs' shares based on post-paid retail revenues

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
COSMOTE	45%-55%	45%-55%	45%-55%	45%-55%	45%-55%	45%-55%	45%-55%	45%-55%	45%-55%	45%-55%
CYTA	-	0%-5%	0%-5%	0%-5%	0%-5%	0%-5%	0%-5%	-	-	-
VODAFONE	25%-35%	25%-35%	25%-35%	25%-35%	25%-35%	25%-35%	25%-35%	25%-35%	25%-35%	25%-35%
WIND	15%-25%	15%-25%	15%-25%	15%-25%	15%-25%	15%-25%	15%-25%	15%-25%	15%-25%	15%-25%

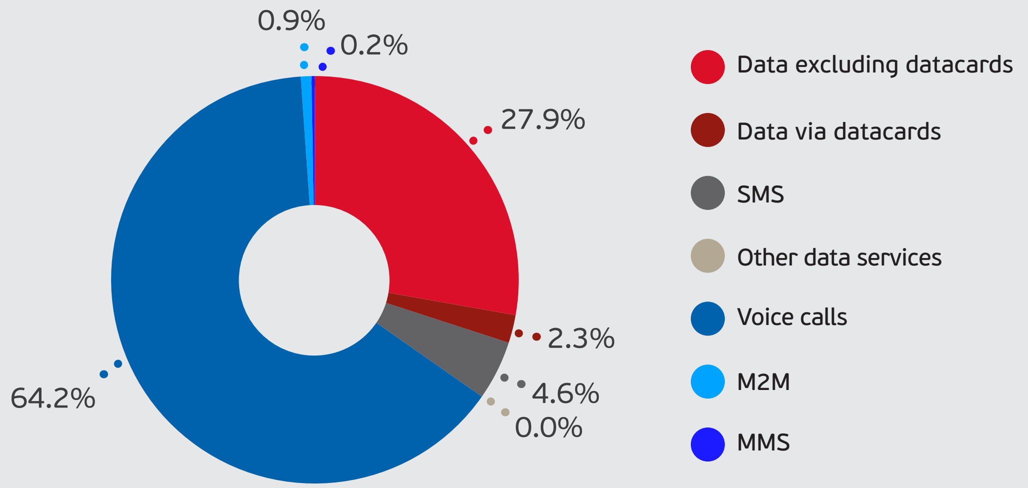
Source: EETT (based on data provided by the licensed operators)

Table 1.13: MNOs' shares based on pre-paid retail revenues

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
COSMOTE	55%-65%	55%-65%	55%-65%	55%-65%	45%-55%	45%-55%	55%-65%	55%-65%	55%-65%	55%-65%
CYTA	-	0%-5%	0%-5%	0%-5%	0%-5%	0%-5%	0%-5%	-	-	-
VODAFONE	15%-25%	15%-25%	25%-35%	25%-35%	25%-35%	25%-35%	25%-35%	15%-25%	25%-35%	25%-35%
WIND	15%-25%	15%-25%	15%-25%	15%-25%	15%-25%	15%-25%	15%-25%	15%-25%	15%-25%	15%-25%

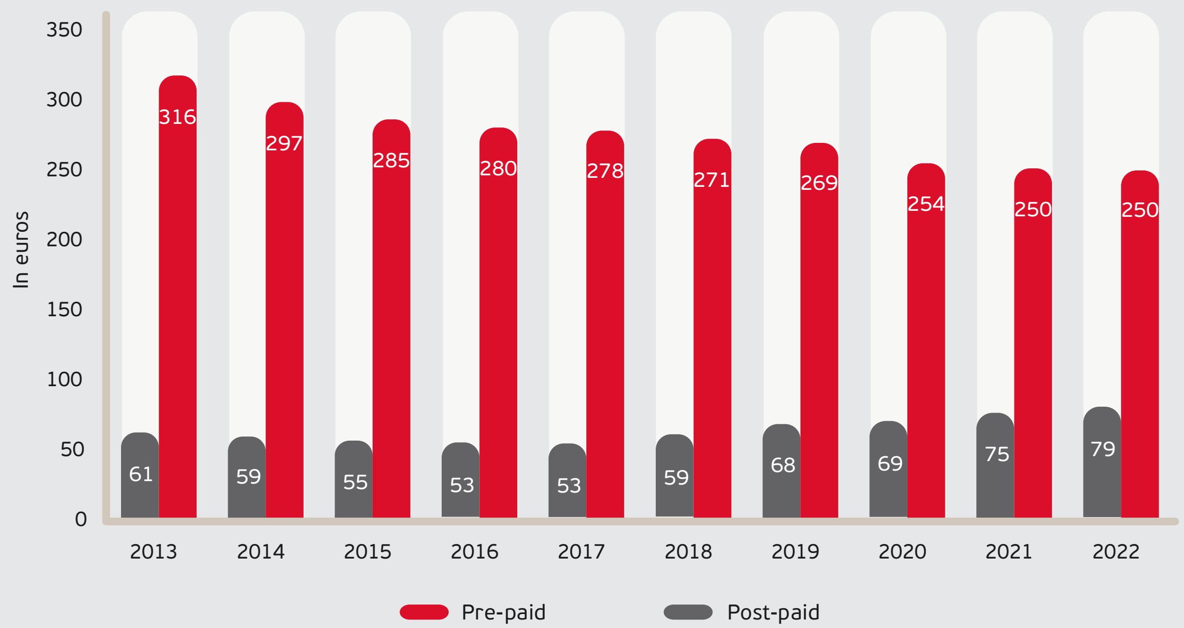
Source: EETT (based on data provided by the licensed operators)

Chart 1.44: Breakdown (%) of retail revenues from voice and data services of mobile communications networks, 2022



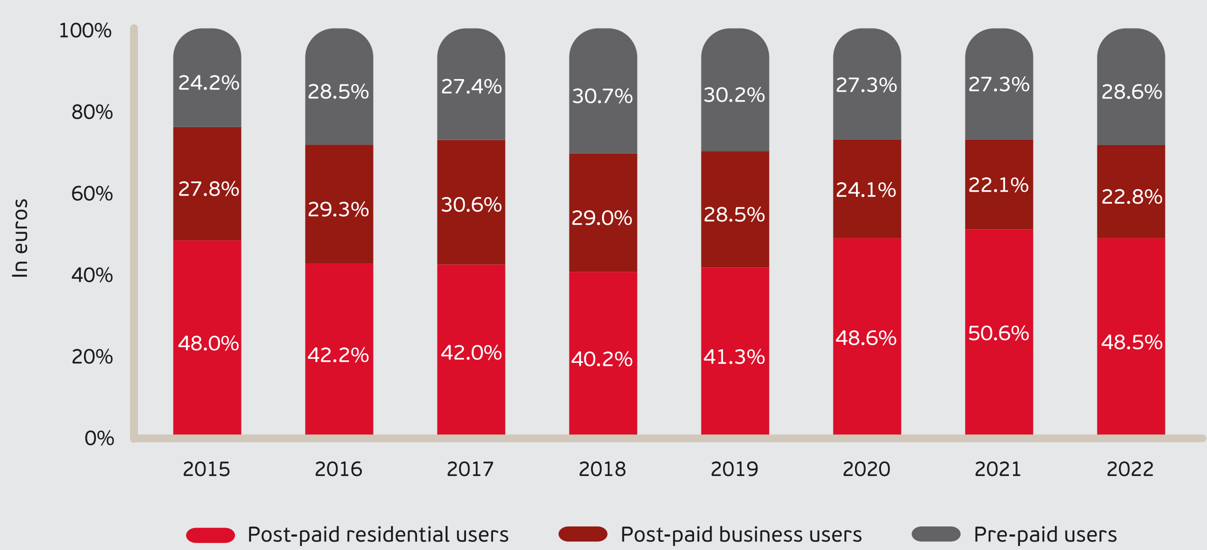
Source: EETT (based on data provided by the licensed operators)

Chart 1.45: Average annual revenue per mobile telephony connection



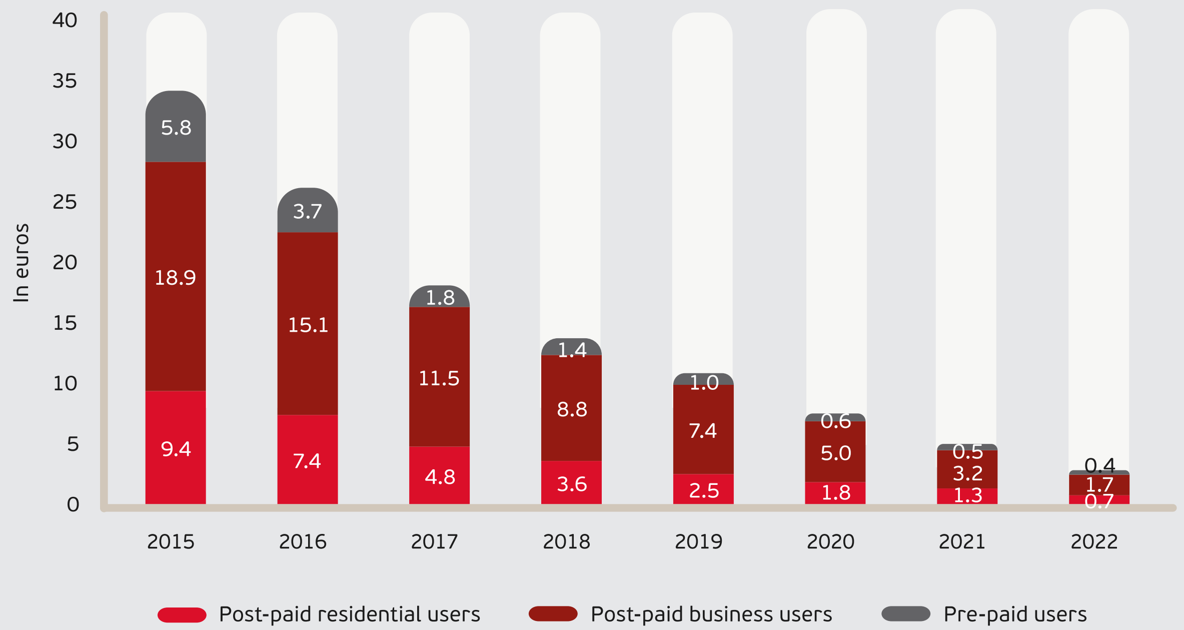
Source: EETT (based on data provided by the licensed operators)

Chart 1.46: Breakdown (%) of retail revenues from the use of data per user category



Source: EETT (based on data provided by the licensed operators)

Chart 1.47: Average GB revenue per user category



Source: EETT (based on data provided by the licensed operators)

Mobile telephony interconnection

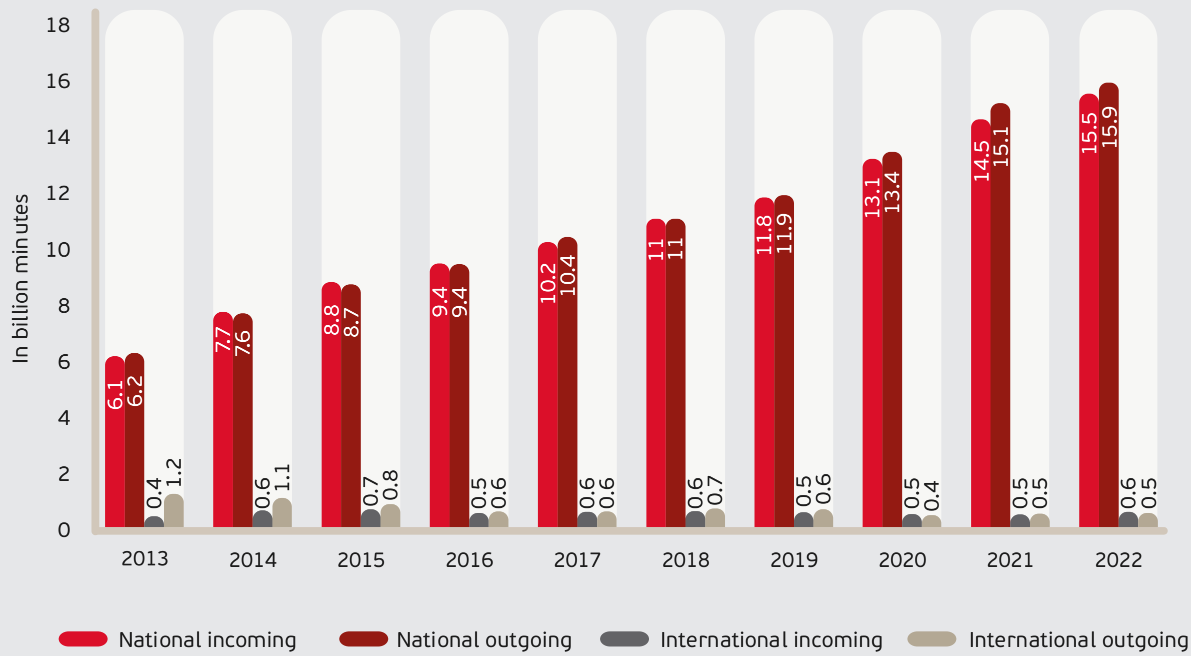
The interconnection traffic of the MNOs in 2022 increased by 5.7% compared to 2021, which constitutes an annual growth of approximately 1.8 billion minutes (Chart 1.48). More specifically, the national incoming traffic increased by 6.3%, the national outgoing traffic rose by 4.8%, the international incoming traffic increased by 18.1% and lastly the international outgoing traffic grew by 5.4%.

The MNOs' on-net traffic amounted to 14.7 billion minutes approximately, for 2022, registering a marginal increase by 0.2% compared to 2021, thus accounting for 31.3% of the total interconnection traffic, which also includes the incoming and the outgoing traffic (Chart 1.49).

At the same time, the national traffic terminating to mobile networks kept on rising. In particular, the national calls to mobile phones increased by 3.2%, amounting to 30.2 billion minutes versus 29.3 billion minutes in 2021 (Chart 1.50). On the contrary, the revenues from the national incoming traffic to mobile networks registered a 6.3% drop amounting to 85.8 million euros (Chart 1.51).

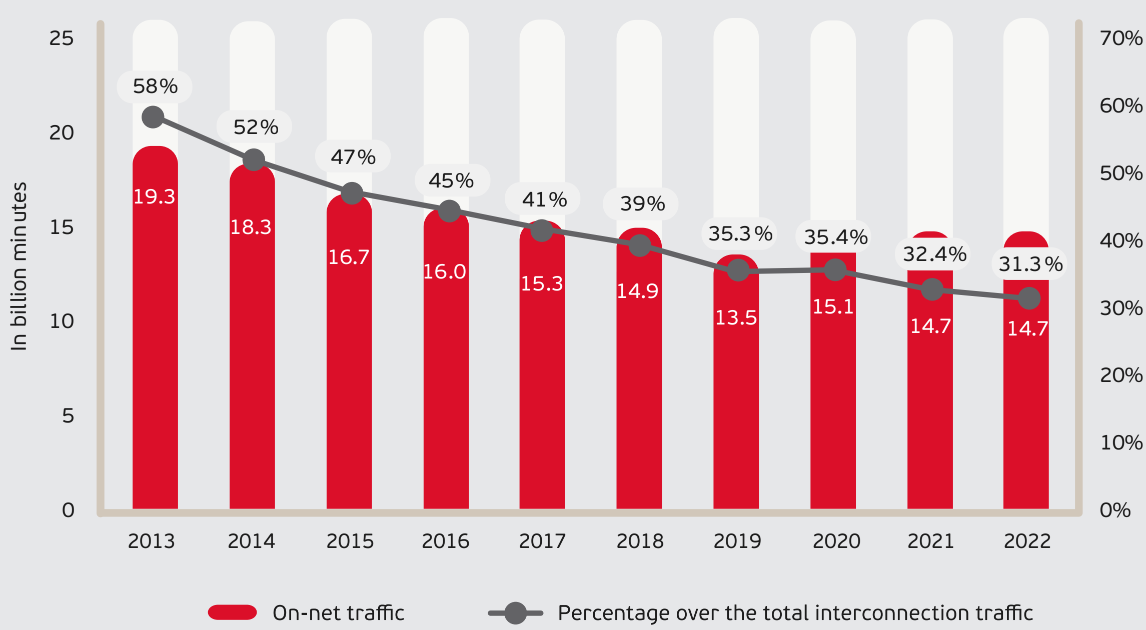
Lastly, as of January 1, 2023, the call termination rates to mobile networks stood at 0.40 eurocents per minute (Chart 1.52).

Chart 1.48: MNOs' interconnection traffic



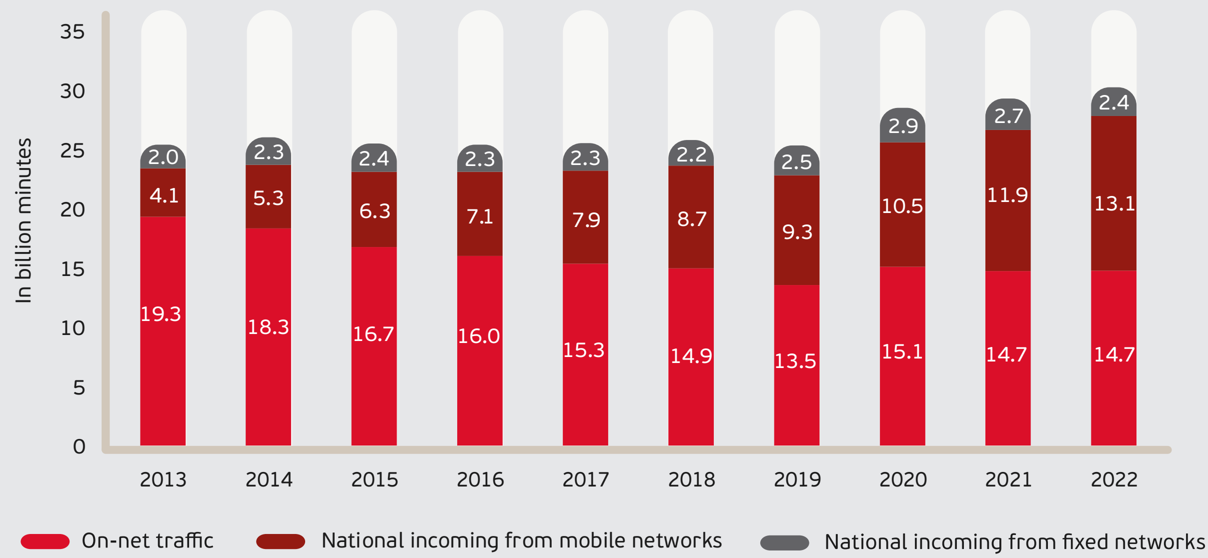
Source: EETT (based on data provided by the MNOs)

Chart 1.49: MNOs' on-net traffic



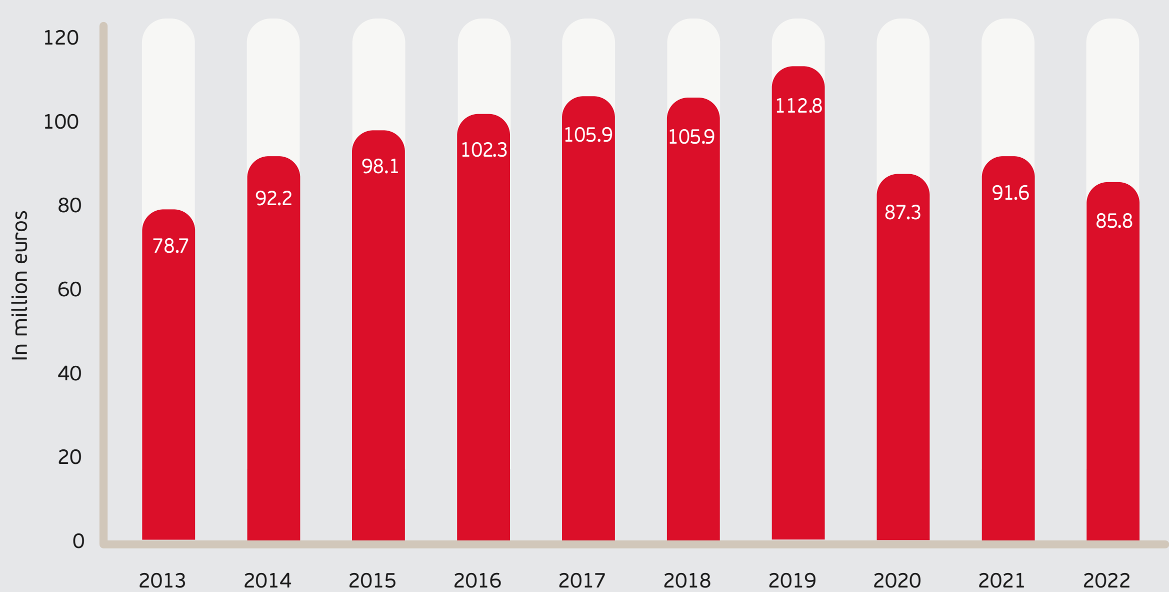
Source: EETT (based on data provided by the MNOs)

Chart 1.50: Voice calls terminating to mobiles in Greece



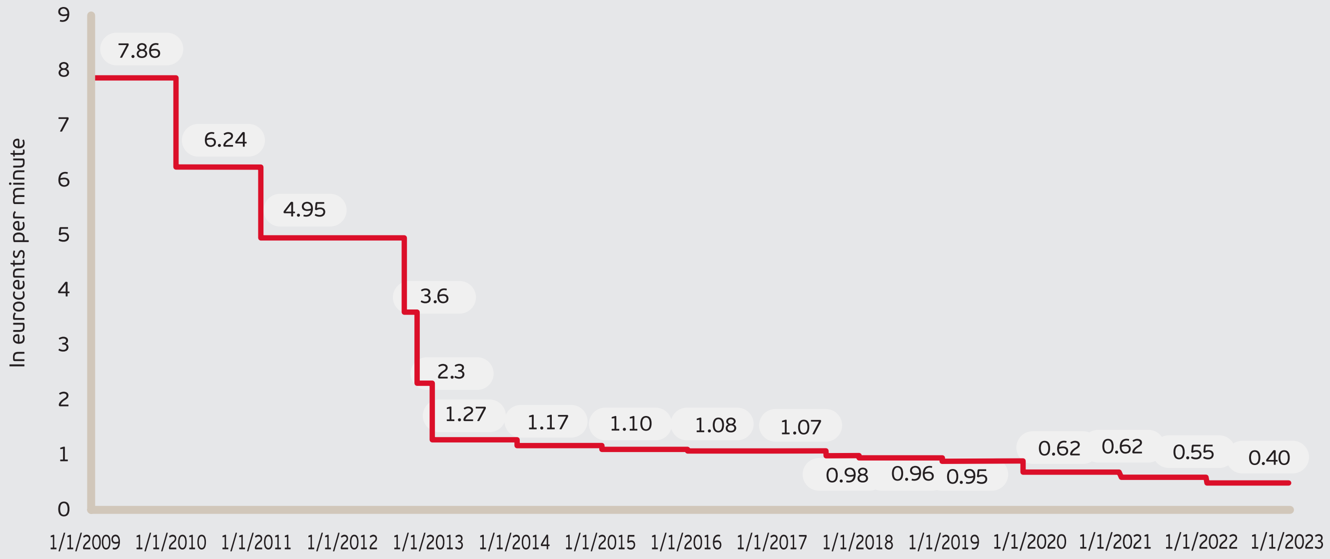
Source: EETT (based on data provided by the MNOs)

Chart 1.51: Revenues from fixed and mobile voice calls termination to mobiles in Greece



Source: EETT (based on data provided by the MNOs)

Chart 1.52: Evolution of call termination rates to mobile networks

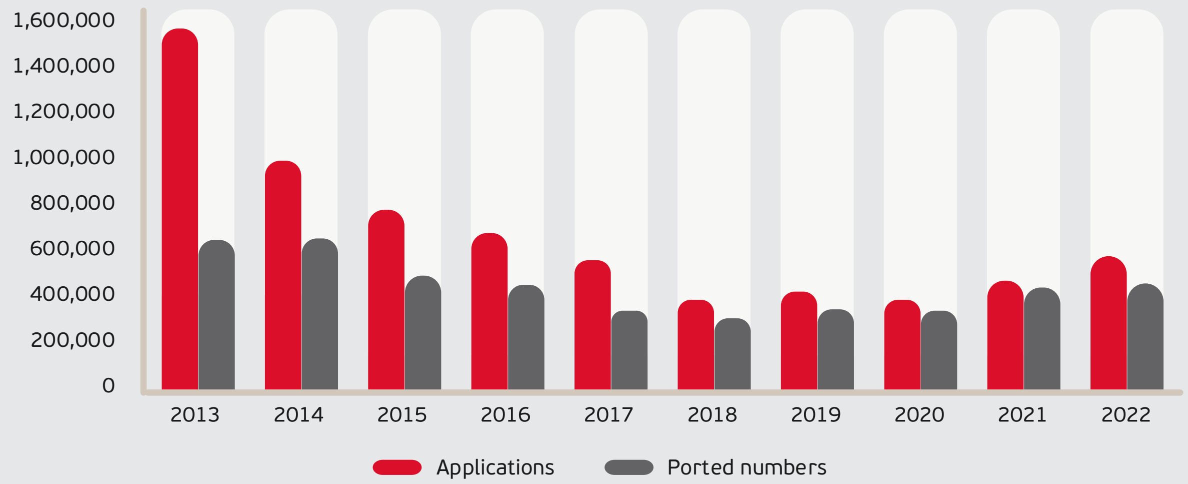


Source: EETT

Number portability in mobile telephony

The applications submitted for porting mobile telephony numbers during 2022 amounted to 518,480 versus 411,054 applications in 2021, registering a 26.1% increase compared to the previous year. During the same period, 429,045 numbers were ported, increased by 11.8% compared to 2021 (Chart 1.53). In conclusion, approximately 83% of the initial portability applications were seen through.

Chart 1.53: Number portability in mobile telephony



Source: EETT

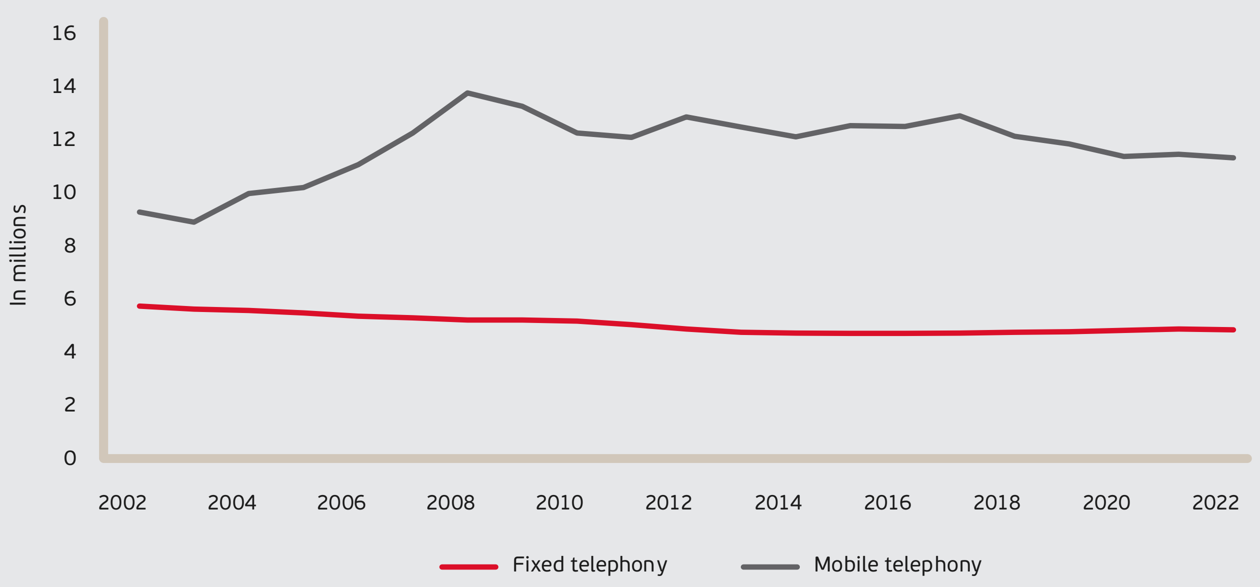
1.2.4. Comparison between fixed and mobile telephony

Fixed telephony connections (lines) dropped marginally by 0.7% to 4.9 million in 2022, whereas active mobile telephony connections/subscriptions also fell by 1.2% amounting to 11.4 million (Chart 1.54).

Chart 1.55 shows the evolution of the fixed telephony and Internet retail revenues compared to the retail voice and data (SMS, MMS, data) revenues of mobile communications networks[13], for the period 2013-2022. The mobile retail revenues grew by 4% compared to 2021, reaching 1.7 billion euros, while the fixed services' retail revenues decreased by 3% compared to 2021, amounting to 1.4 billion euros.

Chart 1.56 presents the evolution of the volume of calls from fixed and mobile phones, considering the basic call types, i.e. the national fixed calls, the calls to mobiles and the international calls[14]. The volume of calls from fixed phones dropped by 14.9% in 2022, amounting to 11.2 billion minutes versus 13.1 billion minutes in 2021, mainly due to the fall by 1.7 billion minutes of the national fixed calls. On the contrary, the volume of the basic call types made from mobiles increased by 6.4% compared to 2021 (off-net mobile calls increased by 1.1 billion minutes) and accounts for 75% of the respective total outgoing traffic (i.e. from fixed and mobile) (Chart 1.57).

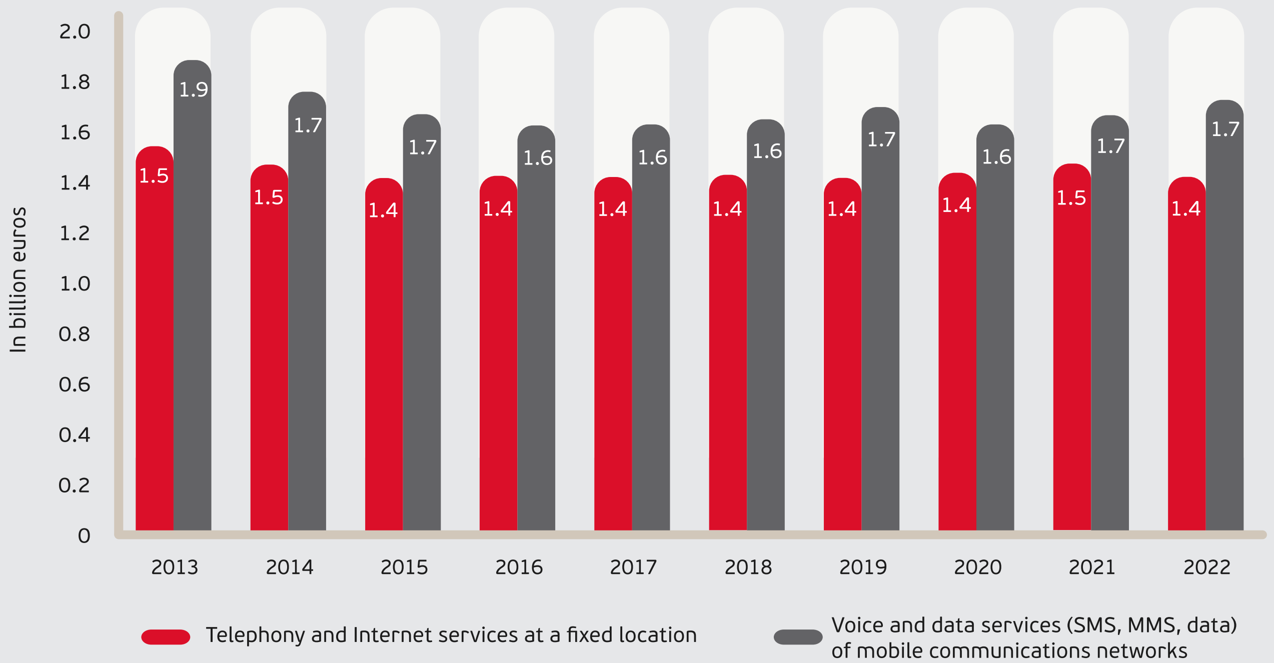
Chart 1.54: Evolution of fixed and mobile telephony connections



Source: EETT (based on data provided by the licensed operators)

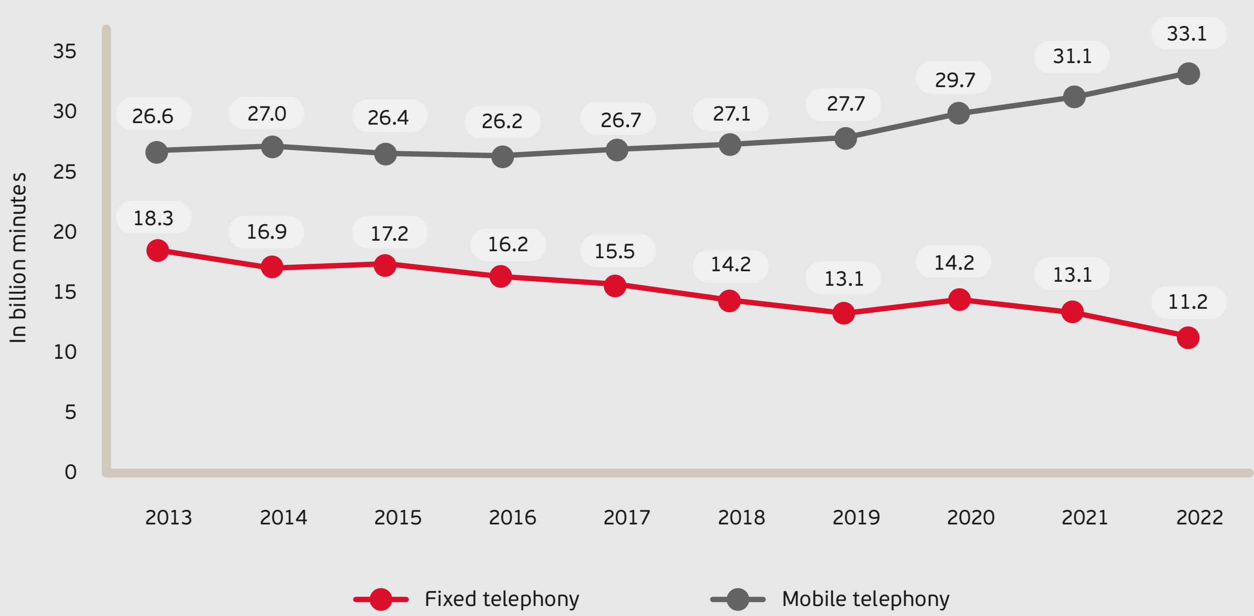
13. Revenues from handsets and other services are excluded.
14. Mobile calls entail on-net, off-net, mobile to fixed and mobile to international destinations calls.

Chart 1.55: Evolution of retail revenues



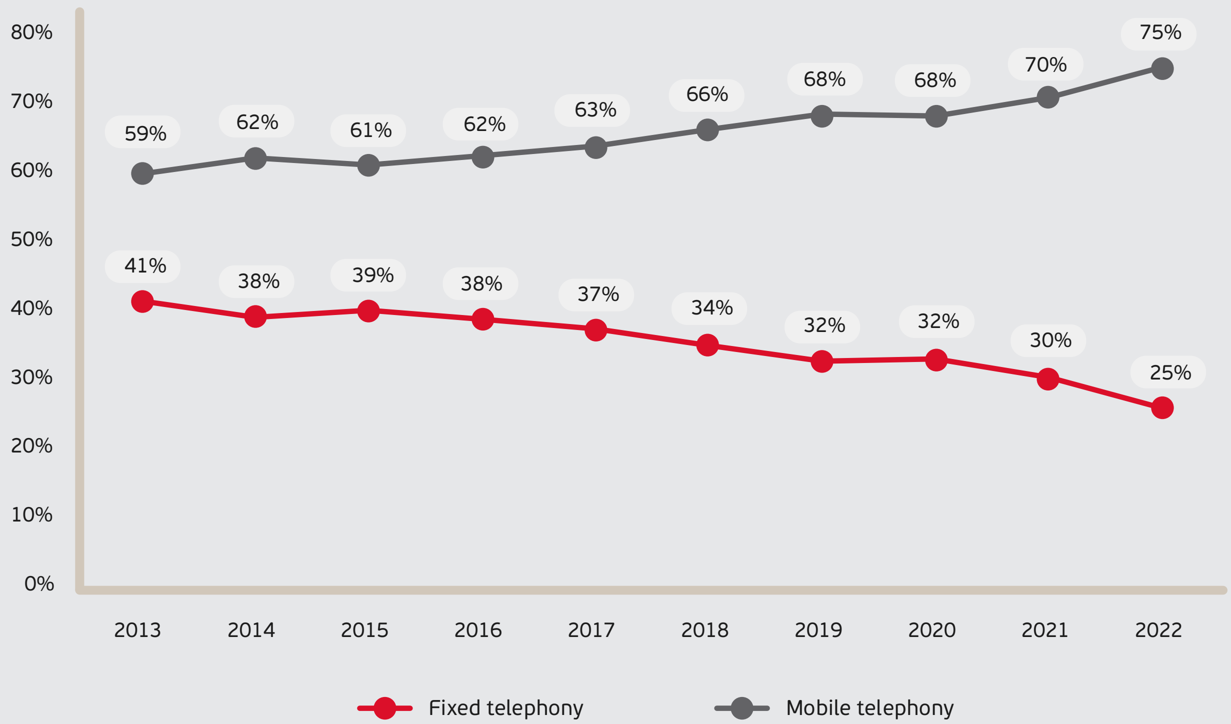
Source: EETT (based on data provided by the licensed operators)

Chart 1.56: Volume of the basic call types from fixed and mobile phones



Source: EETT (based on data provided by the licensed operators)

Chart 1.57: Fixed and mobile telephony shares (based on the outgoing volume of the basic call types)



Source: EETT (based on data provided by the licensed operators)

1.2.5. Broadband

Fixed broadband

At the end of 2022, fixed broadband connections amounted to 4,485,315 versus 4,429,370 at the end of 2021, registering an annual increase of 1.3% (versus 3.7% in 2021) and a 42.9% penetration rate in the population (Chart 1.58). The access lines to Next Generation Access Networks (NGA) (VDSL Vectoring/FTTH)[15] grew by 34%, amounting to 1,067,751 lines versus 796,611 at the end of 2021.

In particular, the FTTH lines amounted to 4.6% of the country's total broadband lines, including both the FTTH lines via VDSL/Vectoring technology, as well as those that were carried out by operators via their proprietary access infrastructure (Chart 1.59).

Chart 1.60 presents the evolution of the full Local Loop Unbundling (LLU) lines[16], as well as of the full access subloops lines[17]. More analytically, the full LLU lines were further reduced by 17.2% at the end of 2022, amounting to 1,245,790 versus 1,504,872 at the end of 2021. On the contrary, the full access subloop lines rose to 450,232 versus 341,345 at the end of 2021, 88% of which (395,649) is allocated to the operators for developing NGA and the remaining 12% (54,583) for the development of broadband products in rural areas.

15. Namely from the provision of VLU/FTTC/FTTH lines from: a) OTE to VODAFONE, WIND and NOVA, b) VODAFONE and WIND to OTE, c) VODAFONE and WIND to WIND, VODAFONE and NOVA and d) VODAFONE and WIND's self-provision of VLU FTTC/FTTH lines.
16. The lines used for voice transfer under the VPU services are included.
17. Local Sub-loop: the section of local loop that connects the termination point of OTE's network at the subscriber's premises to the Local Distribution Frame-LDF or Optical Network Unit-ONU.

The three operators OTE, VODAFONE and NOVA kept on upgrading their NGA access network by implementing the VDSL Vectoring technology. More specifically and during 2022, the NGA network that was deployed covered the area of 856 of OTE's street cabins. The majority of those cabins was upgraded to Fiber to the Cabinet (FTCC) and VDSL Vectoring (a total of 657 cabins), whereas in fewer cases (199) to Fiber to the Home (FTTH) and Gigabit Passive Optical Networks (GPON). By the end of 2022, the accumulated number of the upgraded cabins amounted to 21,997 (Charts 1.61 and 1.62).

The VDSL lines at the end of 2022 amounted to 2,503,478, compared to 1,989,488 in December 2021 (an annual increase of 25.8%), accounting for 55.8% of the total broadband lines (Chart 1.63). Their penetration in the population stood at 23.9% versus 18.6% at the end of 2021.

The individual shares of broadband lines per technology were as follows:

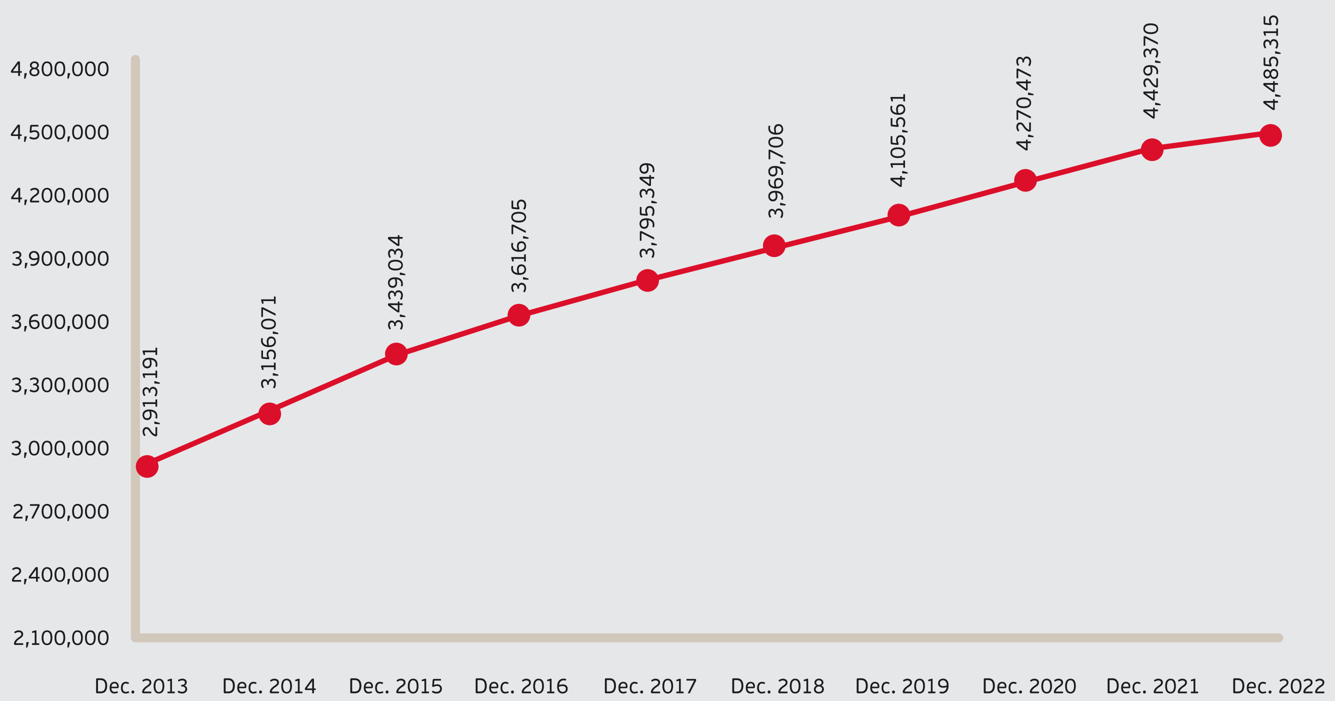
- The xDSL lines via LLU were further reduced to 1,118,949, compared to 1,350,822 at the end of 2021, with their share over the total broadband lines declining to 24.9% versus 30.5% at the end of 2021. The above number excludes 105,954 Virtual Partially Unbundling (VPU) lines that are included only in the total V-A.RY.S lines, because of the co-existence of two technologies in their provision (voice services via local loop and VDSL services via V-A.RY.S) (Charts 1.64 and 1.65).
- The total access lines to NGA, implemented by OTE and the alternative operators via the VDSL Vectoring/FTTH technology at the access network, reached 1,067,751[18] versus 796,611 at the end of 2021, registering a 34% increase. Their share over the total broadband lines rose to 23.8% versus 18% at the end of 2021. The majority of the implemented products was over FTTC lines[19] (Chart 1.66). Analytically:
  - The access lines resulting from the provision of OTE's VLU FTTC/FTTH lines to VODAFONE, WIND and NOVA reached 626,287 (474,927 at the end of 2021). Their share over the total broadband lines rose to 14%, versus 10.7% at the end of 2021.
  - The access lines resulting from the provision and the self-provision of VLU FTTC/FTTH lines from VODAFONE and WIND to OTE, VODAFONE, WIND and NOVA reached 441,464 (321,684 at the end of 2021). Their share over the total broadband lines rose to 9.8%, versus 7.3% at the end of 2021.
- OTE's broadband lines, based on its own infrastructure, amounted to 2,164,068, registering a 1.6% increase compared to December 2021 (2,130,671 lines), with their respective share over the total broadband lines reaching 48.2% versus 48.1% at the end of 2021. From the total number of OTE's broadband lines, 1,050,392 were VLU lines (985,149 at the end of 2021) and 51,916 lines (47,096 at the end of 2021) pertain to sub-loops that are being supplied to OTE in order to develop broadband products in rural areas.
- The wholesale A.RY.S and V-A.RY.S[20] lines dropped to 109,934 versus 129,524 in December 2021 (2.5% of the total broadband lines versus 2.9% at the end of 2021), due to the decrease of the number of the VPU products (105,954 versus 125,185 at the end of 2021).
- The broadband lines of other technologies remained at very low levels with a percentage estimated at 0.55% (versus 0.49% at the end of 2021), including the fiber optic lines provided by INALAN via its own infrastructure in the category of other technologies (FWA, Satellite broadband, etc.).
- Almost all broadband lines (over 99%) corresponded to nominal download access speeds of 10 Mbps and above. The highspeed broadband lines (nominal download access speeds from 30 Mbps up to 100 Mbps), constituted 30.5% of the total broadband lines (versus 31.6% at the end of 2021). Lastly, the ultra-high-speed lines (nom-

18. It is noted that the alternative provider INALAN provides retail broadband access services at a fixed location exclusively through proprietary fiber optic access infrastructure (FTTH). These lines are included in the "Other FTTH/B" category.
19. The shares shown in Chart 1.66 consider only the retail connections implemented by providers via VDSL Vectoring/FTTH technology.
20. OTE supplies those lines to the alternative operators so they can offer VPU products.

inal download speeds of 100 Mbps and above) increased considerably by 87.4%, amounting to 1,164,179 lines versus 621,361 lines in 2021, and constituting 26% of the total broadband lines versus 14% at the end of 2021 (Charts 1.67 and 1.68).

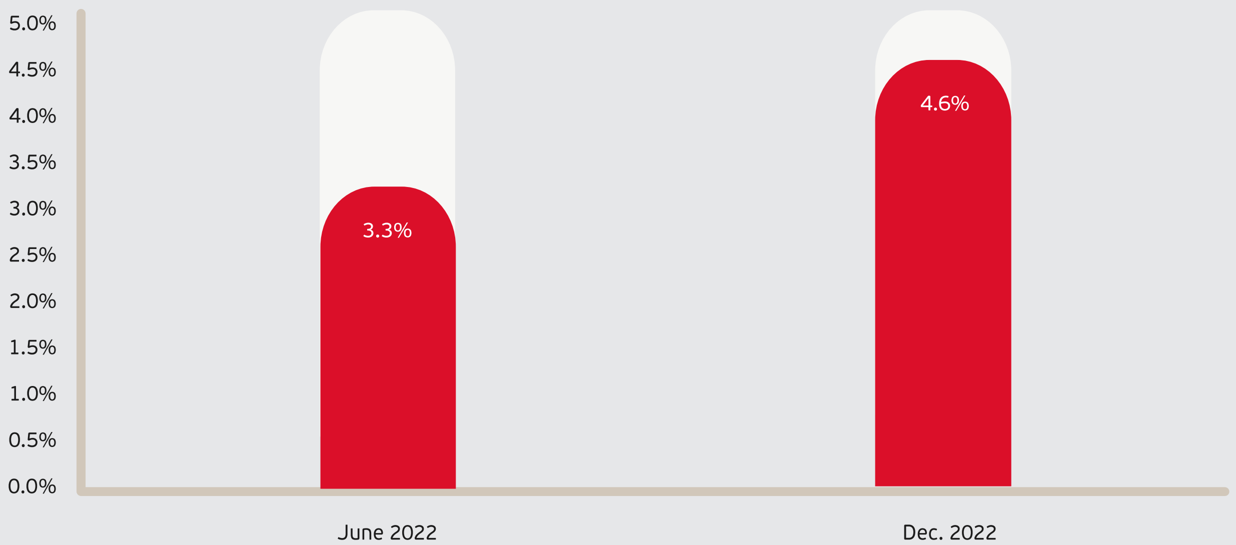
- The Internet traffic of the fixed broadband access users during 2022, reached on average 2.17 TB per subscriber (versus 1.87 TB per subscriber in 2021).
- As far as the operators' shares are concerned, based on the number of their fixed broadband lines, COSMOTE is ahead (45%-55%) followed by VODAFONE (15%-25%) (Table 1.14).

Chart 1.58: Evolution of broadband lines



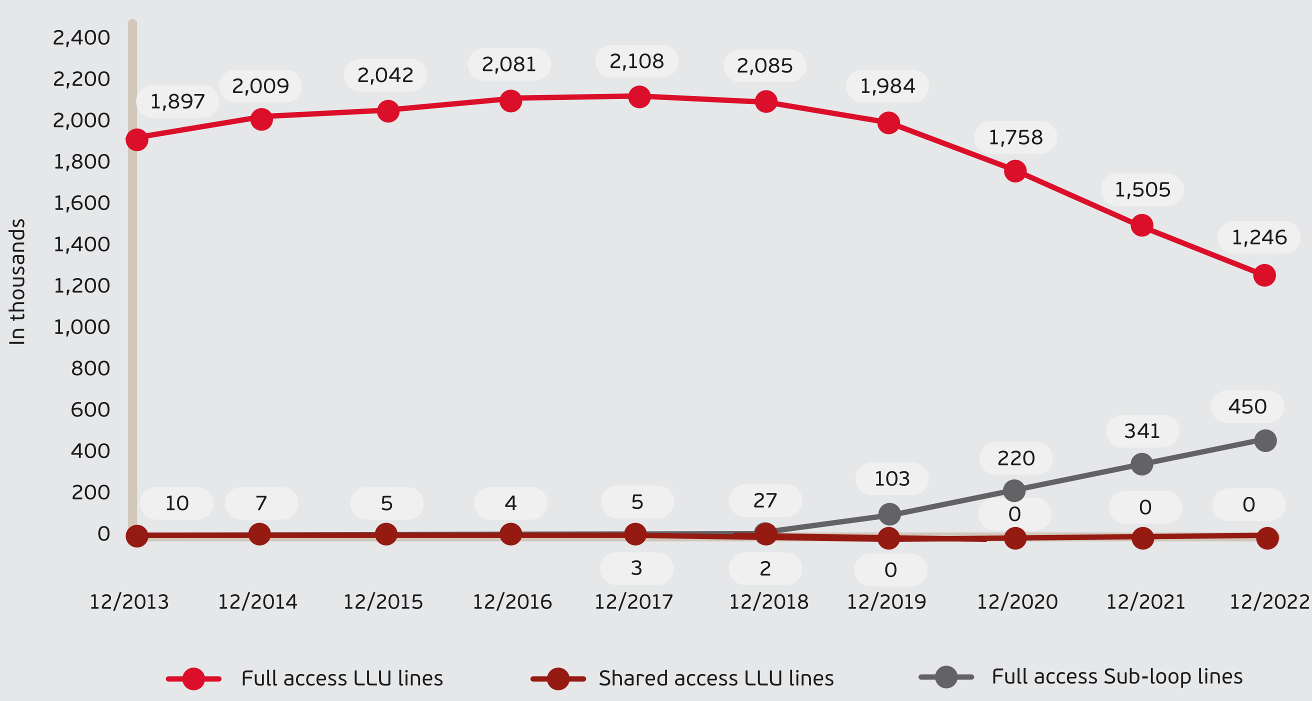
Source: EETT (based on data provided by the licensed operators)

Chart 1.59: Evolution of FTTH lines' share over the total broadband lines



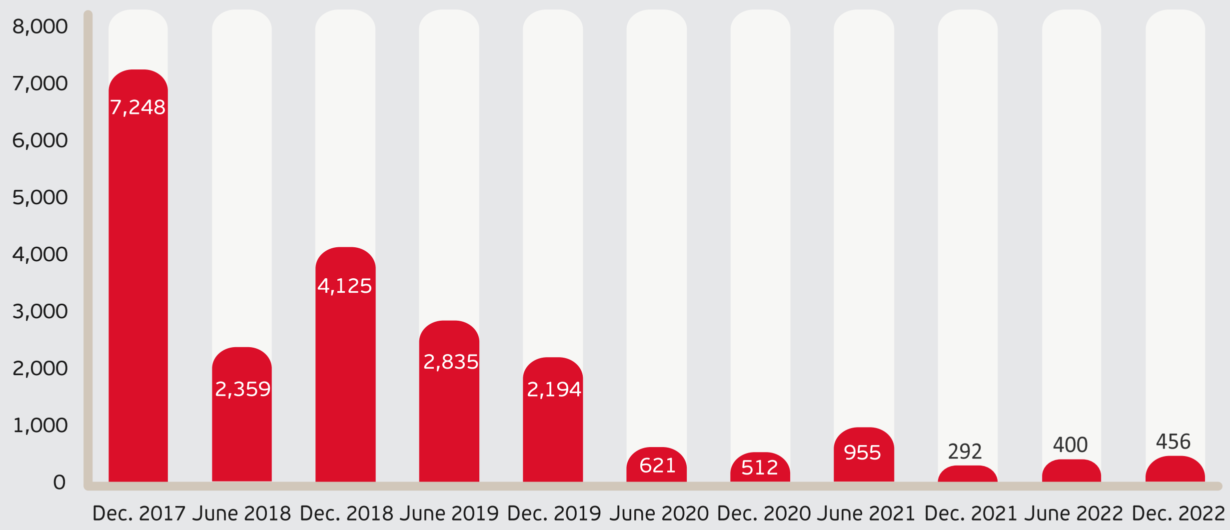
Source: EETT (based on data provided by the licensed operators)

Chart 1.60: Evolution of LLU lines



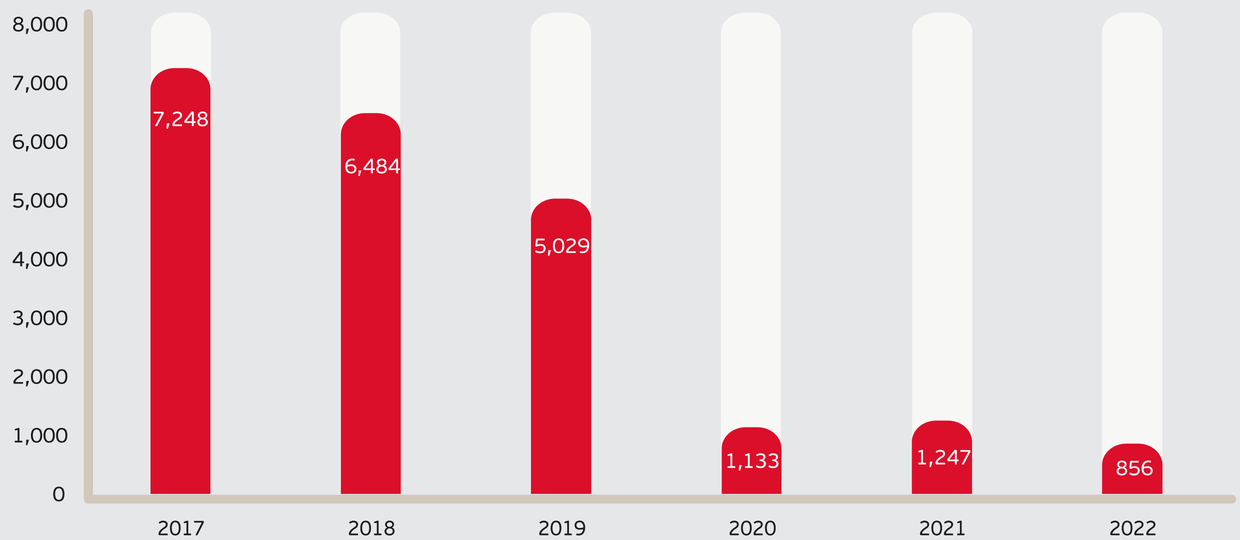
Source: EETT (based on data provided by the licensed operators)

Chart 1.61: Upgrades of OTE's street cabins per semester



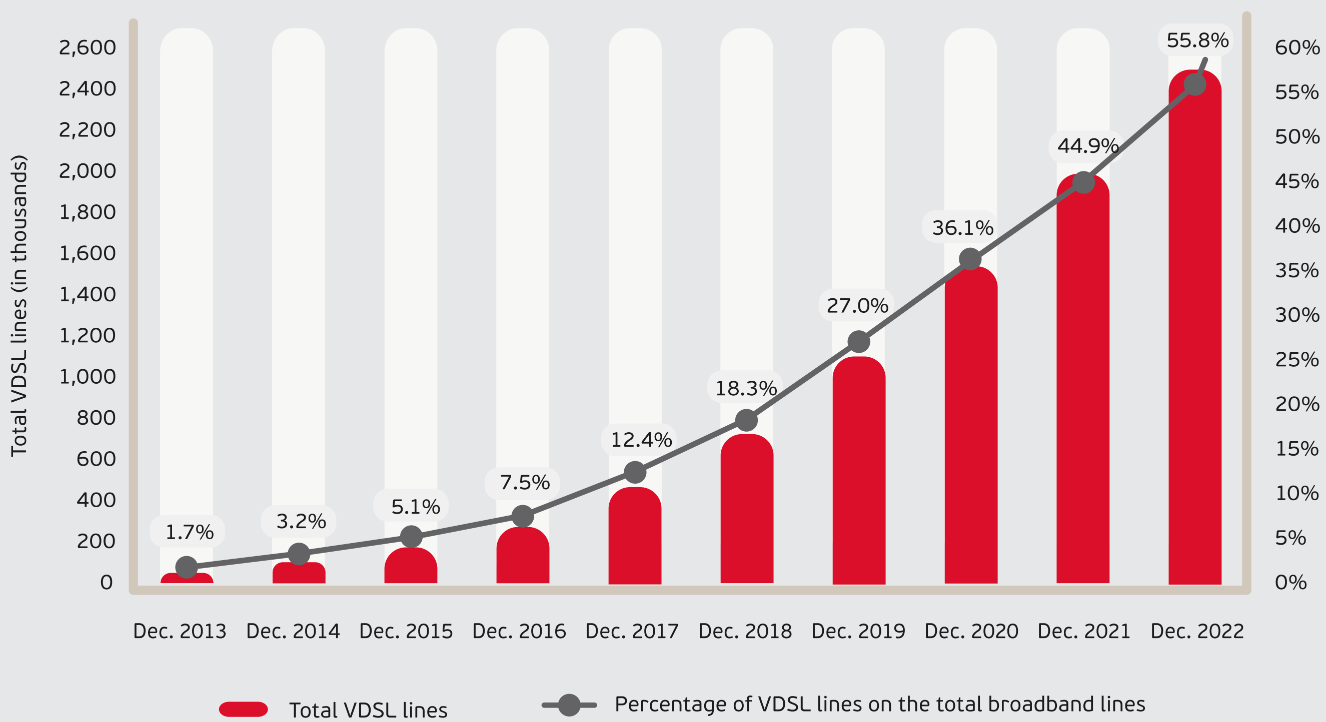
Source: EETT (based on data provided by the licensed operators)

Chart 1.62: Upgrades of OTE's street cabins per year



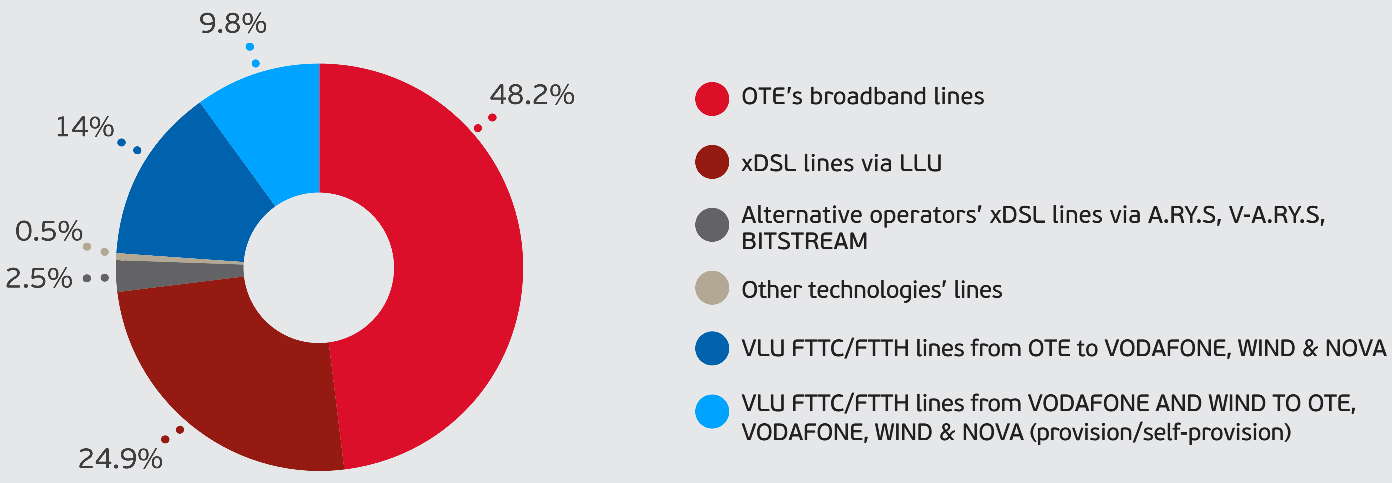
Source: EETT (based on data provided by the licensed operators)

Chart 1.63: Evolution of VDSL lines



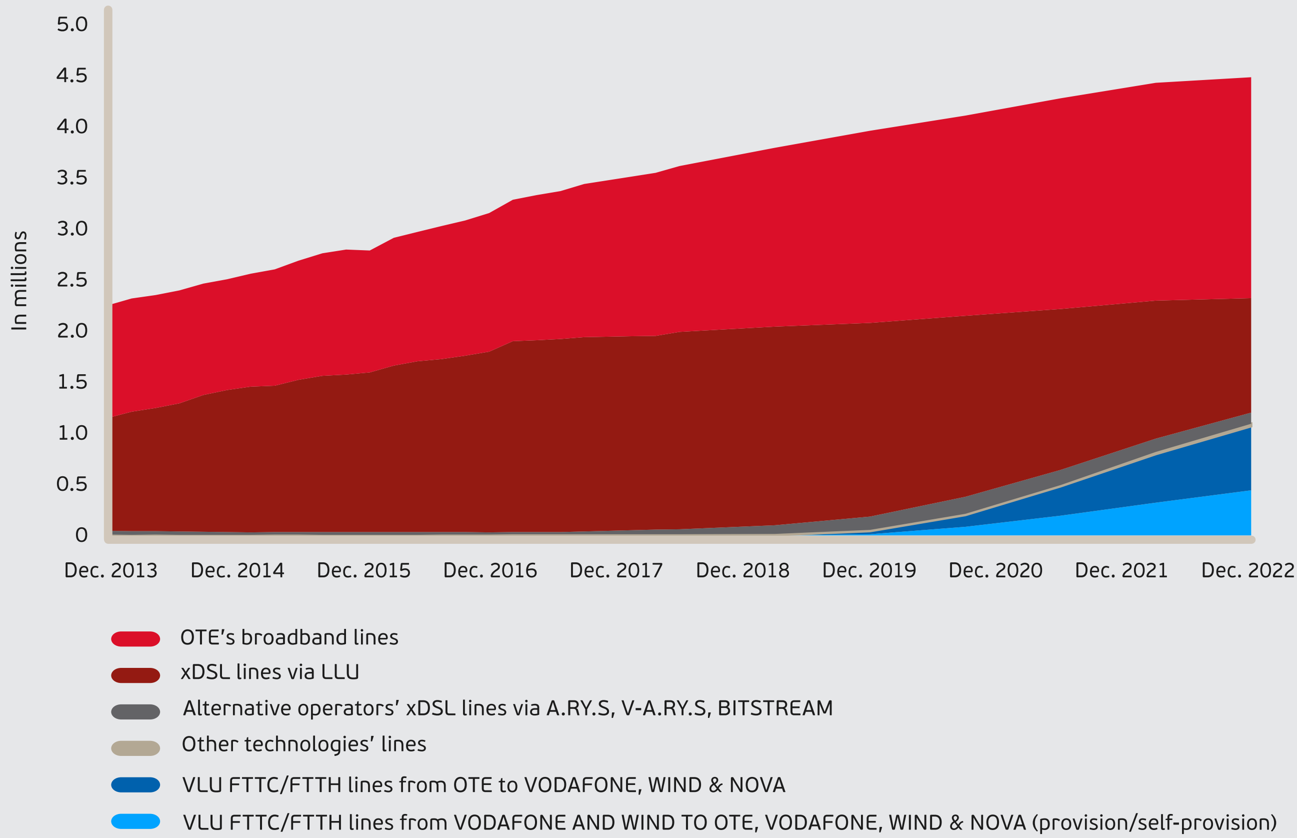
Source: EETT (based on data provided by the licensed operators)

Chart 1.64: Breakdown (%) of broadband lines per technology, December 2022



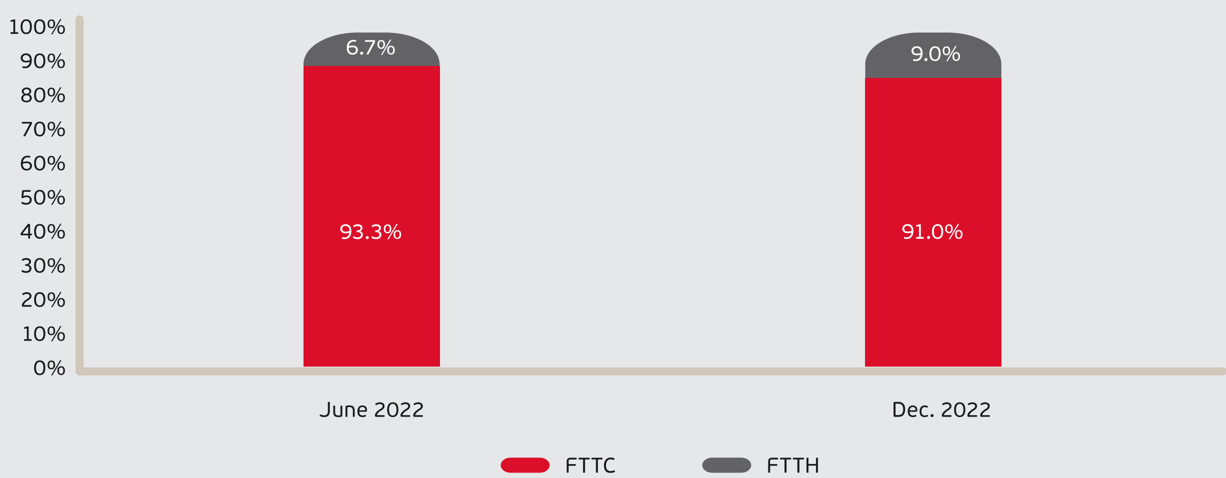
Source: EETT (based on data provided by the licensed operators)

Chart 1.65: Evolution of broadband lines per technology



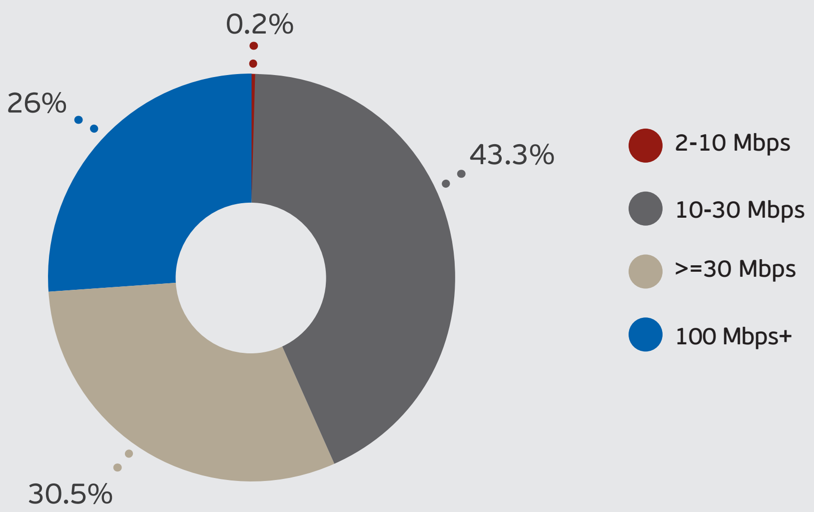
Source: EETT (based on data provided by the licensed operators)

Chart 1.66: Evolution of the shares of the VLU FTTC/FTTH lines



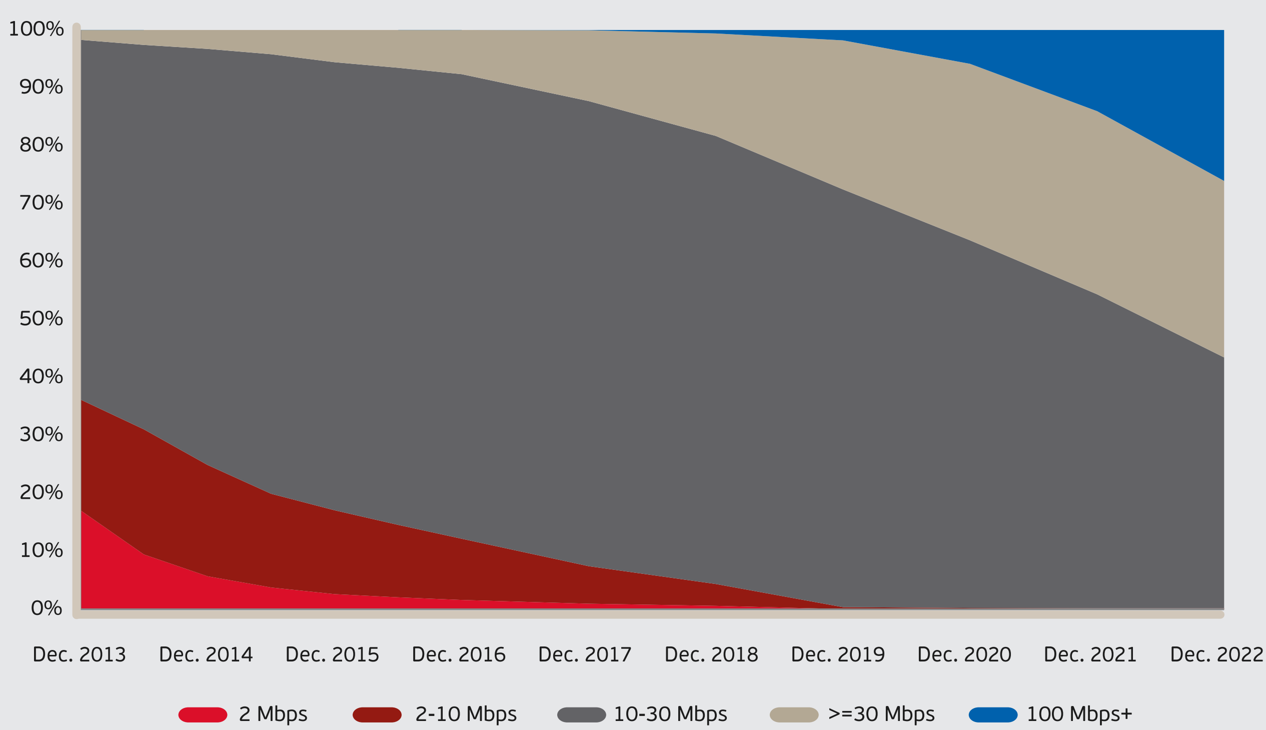
Source: EETT (based on data provided by the licensed operators)

Chart 1.67: Breakdown (%) of broadband lines per nominal download access speed, December 2022



Source: EETT (based on data provided by the licensed operators)

Chart 1.68: Evolution of broadband lines' nominal download access speeds



Source: EETT (based on data provided by the licensed operators)

Table 1.14: Shares of fixed broadband access providers (based on the number of lines)

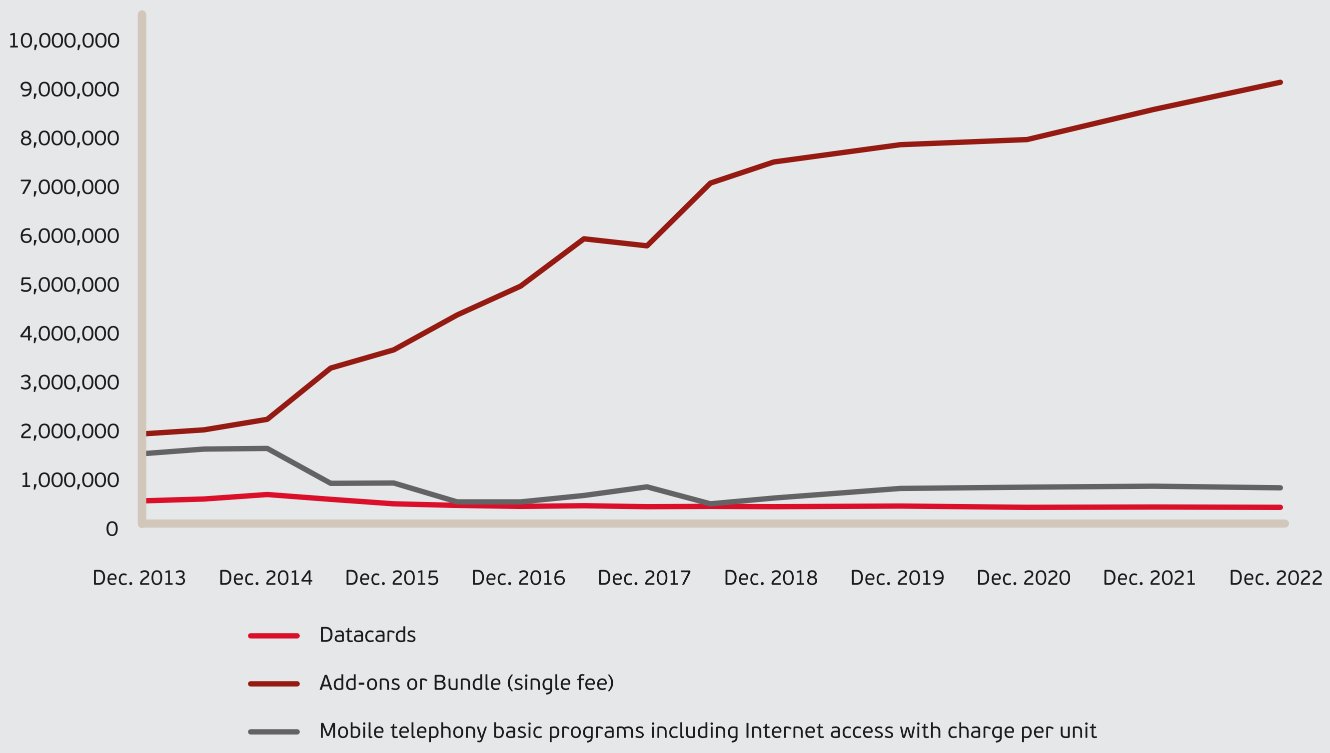
	Dec. 2022
COSMOTE	45%-55%
VODAFONE	15%-25%
WIND	15%-25%
NOVA	10%-15%

Source: EETT (based on data provided by the licensed operators)

Mobile broadband

The total active mobile connections that were used for data services increased annually by 5.2%, reaching 10,394,936 at the end of 2022, versus 9,875,405 at the end of 2021 (Chart 1.69). For the majority of these connections (9,136,696 compared to 8,576,404 in 2021), either an add-on data package was selected (on top of mobile voice services) or data services were used via mobile bundled (i.e. voice and data access) programs offered for a single fee. For 828,364 connections (compared to 862,049 in 2021), their subscribers opted for data services via mobile telephony programs that include, among others, Internet access with a charge per unit. Lastly, 429,876 Internet connections concerned datacards.

Chart 1.69: Evolution of mobile connections with Internet usage



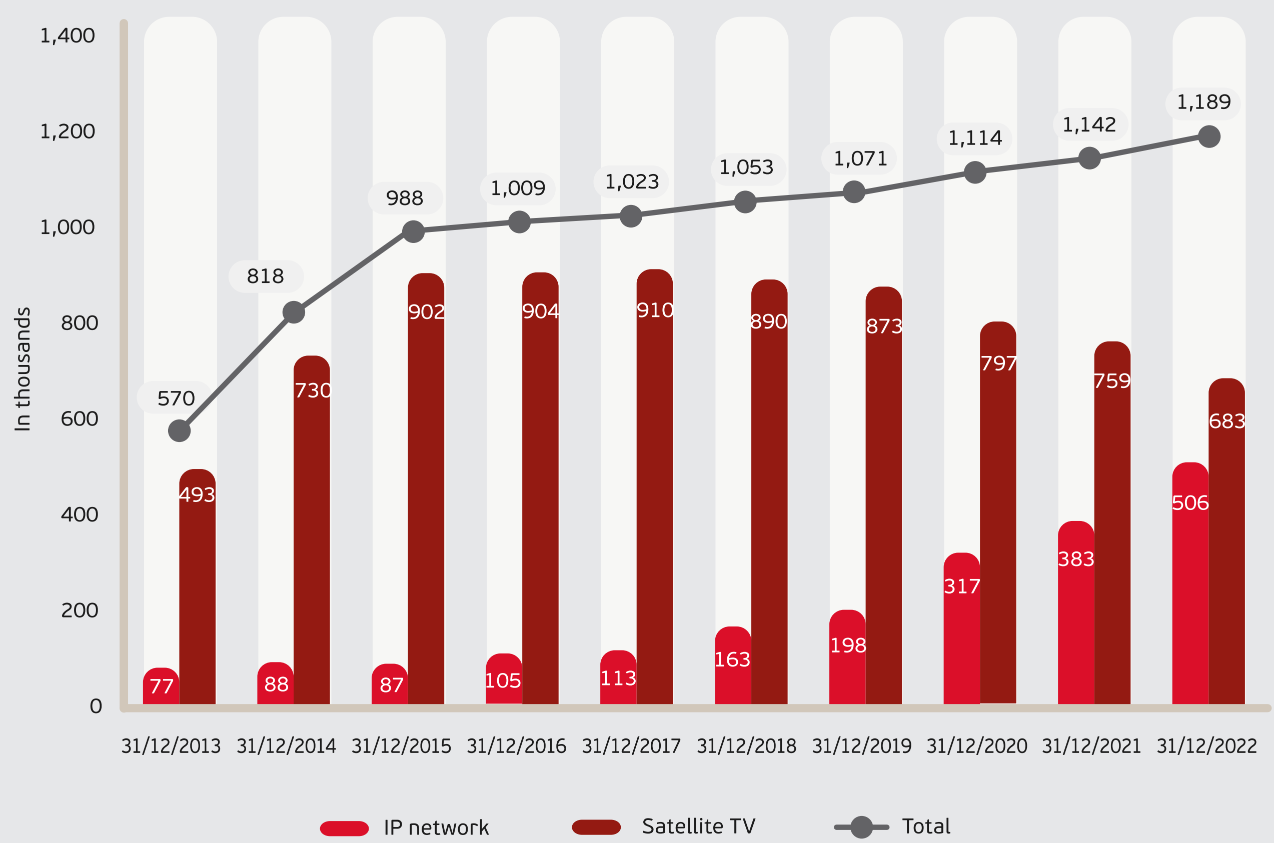
Source: EETT (based on data provided by the licensed operators)

1.2.6. Pay-TV[21]

During 2022 and excluding the Over the Top (OTT) providers (e.g. Netflix, Amazon, Cinobo, etc.), pay-audiovisual content services (i.e. pay-TV) in Greece were being provided by the largest operators of electronic communications networks (or companies that belong to a group), namely OTE, NOVA, VODAFONE and WIND.

The pay-TV subscriptions provided by the electronic communications operators amounted to 1.19 million at the end of 2022, having increased by 4.2% compared to 2021 (1.14 million). About 57% of these subscriptions was via satellite and the remaining 43% via IP (Chart 1.70). The respective market shares are presented in Table 1.15.

Chart 1.70: Evolution of pay-TV subscriptions



Source: EETT (based on data provided by the licensed operators)

21. It is noted that from 2020 and onwards, these subscriptions include all pay-TV subscriptions via an IP network (i.e. both those where the Internet access is obligatory via a broadband connection of the same network operator and those via a broadband connection of any network operator).

Table 1.15: Shares of pay-TV providers based on subscriptions

	31/12/2015	31/12/2016	31/12/2017	31/12/2018	31/12/2019	31/12/2020	31/12/2021	31/12/2022
CYTA	0%-5%	0%-5%	0%-5%	0%-5%	-	-	-	-
NOVA	45%-55%	35%-45%	35%-45%	35%-45%	25%-35%	25%-35%	25%-35%	25%-35%
HOL	0%-5%	-	-	-	-	-	-	-
OTE	45%-55%	45%-55%	45%-55%	45%-55%	45%-55%	45%-55%	45%-55%	45%-55%
VODAFONE	-	5%-10% (1)	5%-10% (1)	5%-10% (1)	10%-15% (1)(2)	10%-15% (1)(2)	10%-15% (1)(2)	10%-15% (1)(2)
WIND	-	-	-	0%-5%	5%-10%	5%-10%	5%-10%	5%-10%

Note:
(1) Including HOL.
(2) Including CYTA.

Source: EETT (based on data provided by the operators)

1.2.7. Bundled offers

According to the data submitted by the operators that provide bundled offers[22], the total residential and non-residential bundled offers at the end of the 2022, recorded a small 0.5% increase, ranging at the same level as 2021 (4.5 million), while the percentage of the fixed telephony connections that were bundled was estimated at 93%, as in 2021.

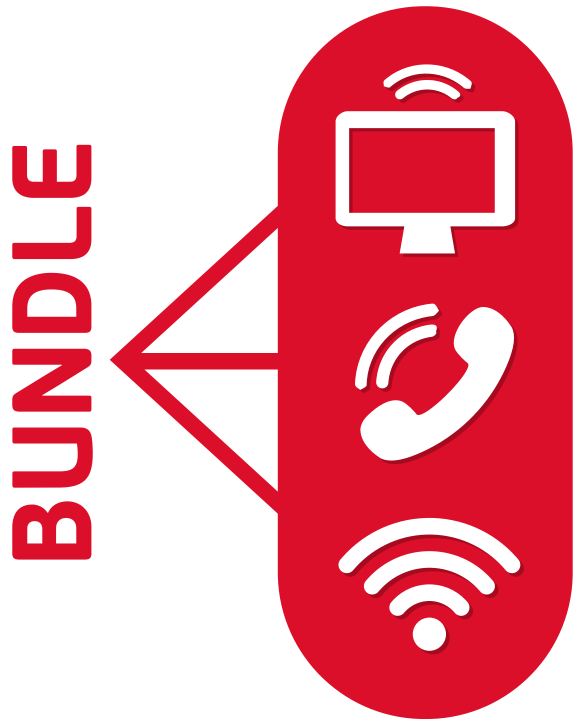
As far as the bundled offers with mobile services are concerned, it is clarified that, mobile-wise, all bundled offers, including either one at least post-paid connection or exclusively a pre-paid mobile(s)[23], have been counted and presented.

Hence, the main conclusions for 2022 are as follows:

- Fixed telephony and fixed broadband access are basic components of the majority of the bundled offers that were commercially available (about 99%) (Table 1.16).
- Bundled offers amounted to 4,483,648 at the end of 2022, showing an increase by about 24 thousand compared to 2021 (4,460,093) (Chart 1.71). It is also noted that for the first time since the period 2015-2021, fixed telephony subscriptions as a total (bundled and unbundled) decreased by 1% (Table 1.16).
- OTE-COSMOTE's share based on the total bundled offers was estimated at the range of [45%-55%] at the end of 2022, followed by VODAFONE and WIND at the range of [15%-25%] and then by NOVA at the range of [10%-15%] (Table 1.17).
- The double play of fixed telephony and fixed broadband access was still the most popular bundled offer, with about 2.1 million subscriptions, making up 46% of the total bundled offers. The triple play of fixed telephony, fixed broadband access and mobile services is the second most popular offer with 1.8 million subscriptions (40% of the total bundled offers). Lastly and way below are the triple play of fixed telephony, fixed broadband access and Pay-TV and the quadruple play, making up, at the end of 2022, 8% and 5% respectively of the total bundled offers (Charts 1.72 and 1.73).

22. In 2022, OTE-COSMOTE, NOVA, VODAFONE and WIND provided bundled offers (NOVA is not currently active in providing bundled offers with mobile services).
23. Commercially available as of October 2018.

- The Pay-TV subscriptions increased by about 47 thousand in 2022, amounting to 1.19 million at the end of 2022. About 51% of those concerned unbundled Pay-TV subscriptions, namely subscriptions that are not part of a bundled offer (Chart 1.74). It is clarified that as unbundled Pay-TV subscriptions are also considered those that are bought jointly with other services (from the same operator or group of companies) but do not fall under the bundle offer's definition in order to be counted as such[24].
- Bundled offers with mobile services (post-paid and pre-paid) reached 2.1 million at the end of 2022, making up about 46% of the total bundled offers compared to 43.5% at the end of 2021 (Chart 1.75). 86.4% of those (i.e. 1,788,004) concerned the triple play of fixed telephony, fixed broadband access and mobile services, 11.5% (237,044) concerned the quadruple play and about 2% (43,718) pertained to other bundled offers (Chart 1.76 and Table 1.16).
- OTE-COSMOTE's market share based on the bundled offers that include mobile services was, at the end of 2022, at the range of [55%-65%] whereas VODAFONE's and WIND's shares ranged between [15%-25%] (Table 1.18).
- In 2022, the fixed-mobile bundled offers[25] increased by about 129 thousand while the SIM cards that participate in them increased by roughly 325 thousand reaching 3.3 million[26] cards (Chart 1.77). Finally, the estimated average number of SIM cards per bundled offer with mobile services was 1.6 cards at the end of 2022.



24. For example, and according to the definition used, buying jointly from the same operator of (a) a double play of fixed telephony and fixed broadband access and of (b) a pay-TV subscription is not considered as triple play if the price that the user pays equals the sum of the prices of the individual (a) and (b) services.
25. It is clarified that fixed-mobile bundled offers are those that include (a) "Fixed telephony" and/or "Fixed broadband access" and (b) "Mobile service", whether or not they include "Pay-TV".
26. The bundled offer that includes mobile services may correspond, mobile-wise, to more than one SIM card, post-paid or/and pre-paid.

Table 1.16: Number of bundled offers, fixed connections and SIM cards

Bundled offers (residential and non-residential)	2015	2016	2017	2018	2019	2020	2021	2022
"Fixed telephony" and "Fixed broadband access" (2-Play)	1,896,454	2,092,681	2,405,296	2,393,190	2,326,067	2,197,956	2,193,117	2,075,634
"Fixed telephony" and "Fixed broadband access" and "Pay-TV"(3-Play)	715,289	630,690	411,542	355,642	327,913	324,826	327,099	339,248
"Fixed telephony" and "Fixed broadband access" and "Mobile services" (3-Play)	651,515	629,050	745,603	1,047,881	1,321,926	1,553,116	1,707,137	1,788,004
"Fixed telephony" and "Fixed broadband access" and "Pay-TV" and "Mobile services" (4-Play)	20,982	137,754	89,059	80,812	102,255	161,235	188,821	237,044
Other bundled offers	83,611	82,614	41,651	49,416	52,215	44,869	43,919	43,718
Total bundled offers	**3,367,851**	**3,572,789**	**3,693,150**	**3,926,941**	**4,130,376**	**4,282,002**	**4,460,093**	**4,483,648**
Fixed telephony connections (residential and non-residential)	Connections							
Fixed telephony connections that are part of bundled offers on the total fixed telephony connections	72%	76%	78%	83%	86%	90%	93%	93%
Unbundled fixed telephony connections on the total fixed telephony connections	28%	24%	22%	17%	14%	10%	7%	7%
Total fixed telephony connections	**4,725,256**	**4,733,425**	**4,737,871**	**4,766,317**	**4,781,472**	**4,830,844**	**4,921,056**	**4,865,242**
Mobile SIM cards (residential and non-residential)	SIM cards							
Number of SIM cards (for mobile telephony and/or mobile broadband) participating in fixed-mobile bundled offers	798,034	969,173	1,163,489	1,350,553	2,129,366	2,679,654	3,014,319	3,340,067

Source: EETT (based on data provided by the licensed operators)

Chart 1.71: Evolution of bundled offers

Source: EETT (based on data provided by the licensed operators)

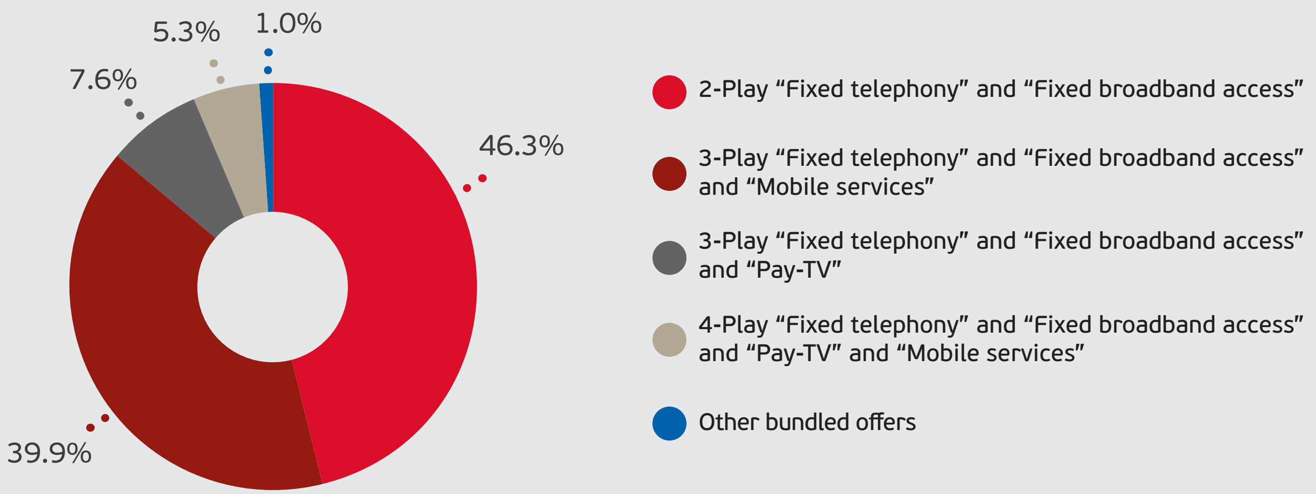
Table 1.17: Shares based on total number of bundled offers

	31/12/2015	31/12/2016	31/12/2017	31/12/2018	31/12/2019	31/12/2020	31/12/2021	31/12/2022
CYTA	5%-10%	5%-10%	5%-10%	5%-10%	-	-	-	-
NOVA	15%-25%	15%-25%	10%-15%	10%-15%	10%-15%	10%-15%	10%-15%	10%-15%
HOL-VODAFONE	15%-25%	-	-	-	-	-	-	-
OTE-COSMOTE	35%-45%	35%-45%	35%-45%	45%-55%	45%-55%	45%-55%	45%-55%	45%-55%
VODAFONE	0%-5%	15%-25%(1)	15%-25%(1)	15%-25%(1)	15%-25%(1)(2)	15%-25%(1)(2)	15%-25%(1)(2)	15%-25%(1)(2)
WIND	10%-15%	15%-25%	15%-25%	15%-25%	10%-15%	10%-15%	10%-15%	15%-25%

Note:
(1) Including HOL.
(2) Including CYTA.

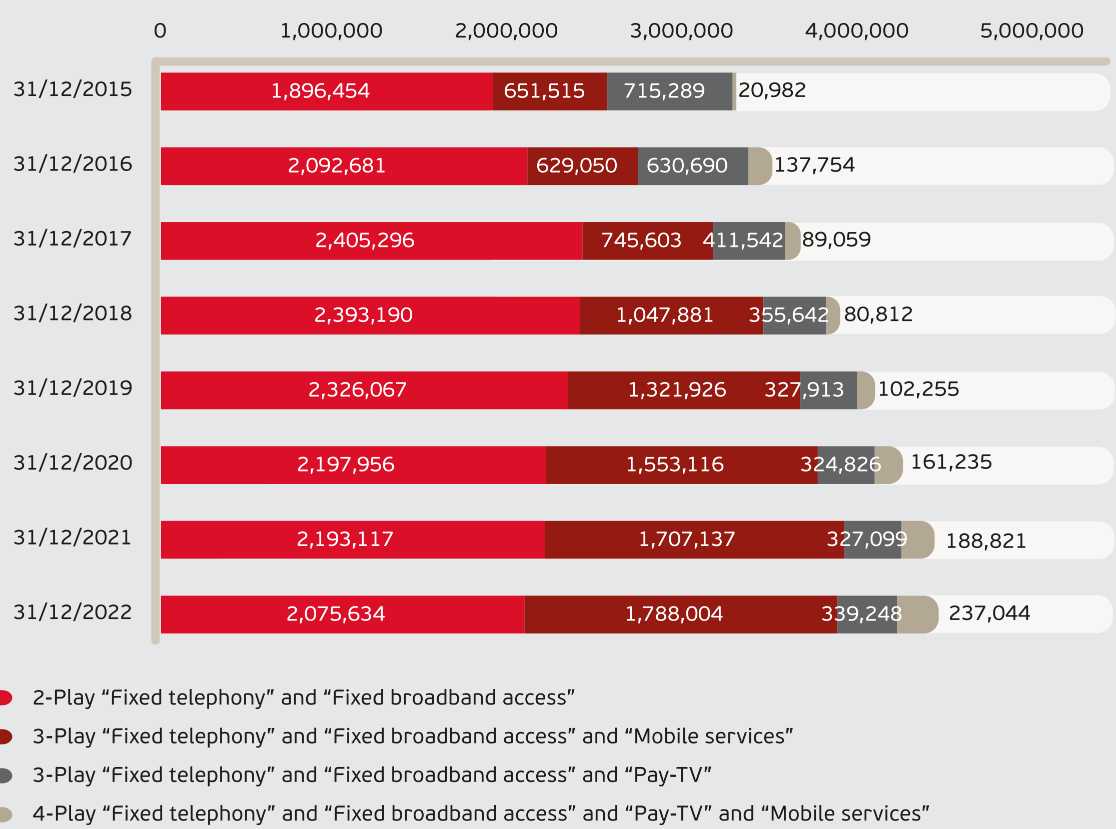
Source: EETT (based on data provided by the licensed operators)

Chart 1.72: Breakdown (%) of bundled offers per specific type, December 2022



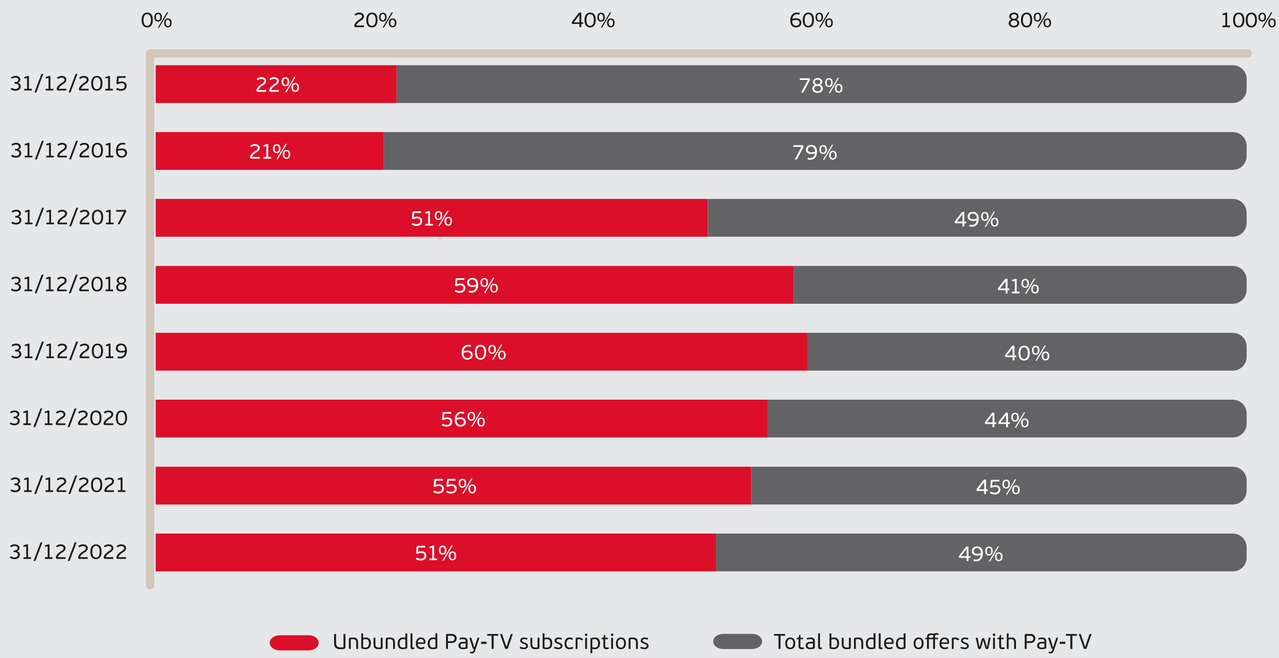
Source: EETT (based on data provided by the licensed operators)

Chart 1.73: Most popular bundled offers per specific type



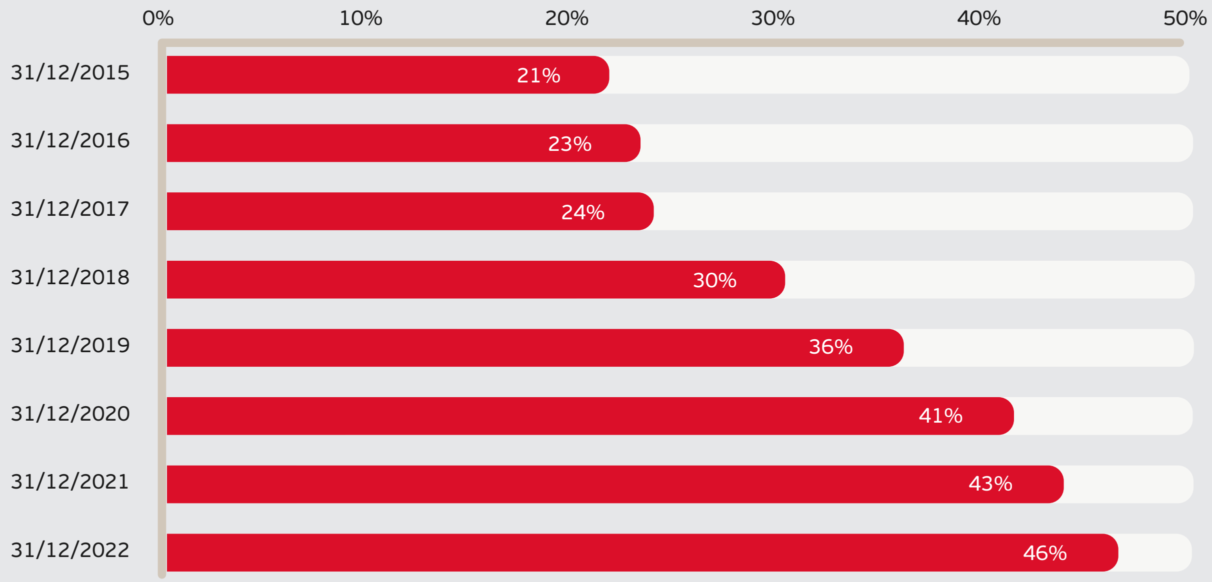
Source: EETT (based on data provided by the licensed operators)

Chart 1.74: Breakdown (%) of bundled and unbundled Pay-TV subscriptions



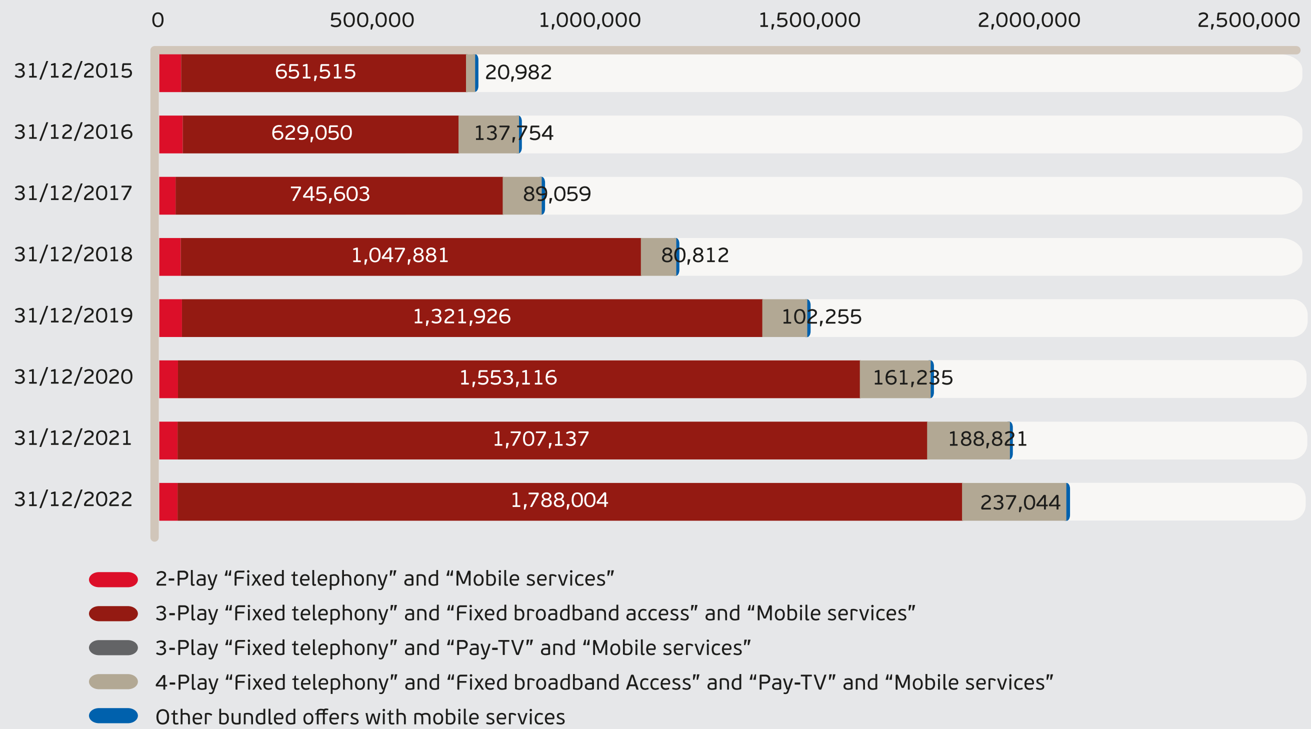
Source: EETT (based on data provided by the licensed operators)

Chart 1.75: Bundled offers with mobile services as a % on the total bundled offers



Source: EETT (based on data provided by the licensed operators)

Chart 1.76: Bundled offers with mobile services



Source: EETT (based on data provided by the licensed operators)

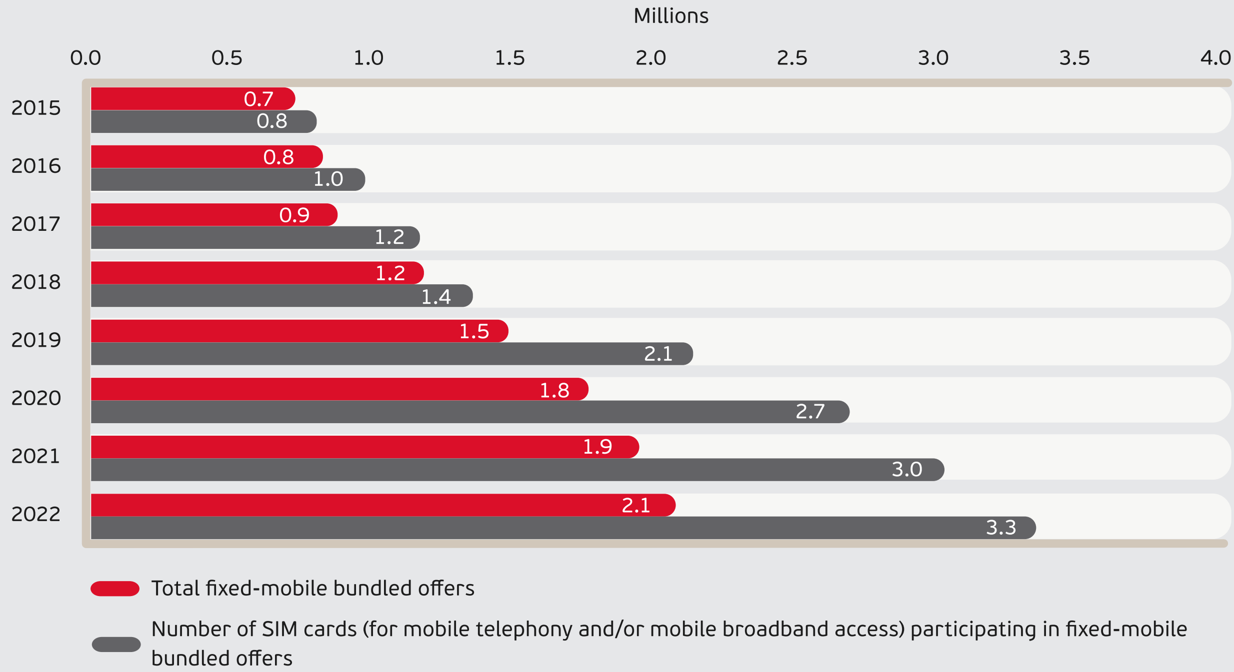
Table 1.18: Shares based on total number of bundled offers with mobile services

	31/12/2015	31/12/2016	31/12/2017	31/12/2018	31/12/2019	31/12/2020	31/12/2021	31/12/2022
CYTA	0%-5%	0%-5%	0%-5%	0%-5%	-	-	-	-
HOL-VODAFONE	25%-35%	-	-	-	-	-	-	-
OTE-COSMOTE	35%-45%	35%-45%	35%-45%	45%-55%	55%-65%	55%-65%	55%-65%	55%-65%
VODAFONE	0%-5%	25%-35%(1)	25%-35%(1)	25%-35%(1)	15%-25%(1)(2)	15%-25%(1)(2)	15%-25%(1)(2)	15%-25%(1)(2)
WIND	25%-35%	25%-35%	25%-35%	15%-25%	15%-25%	15%-25%	15%-25%	15%-25%

Note:
(1) Including HOL.
(2) Including CYTA.

Source: EETT (based on data provided by the licensed operators)

Chart 1.77: Fixed-mobile bundled offers and respective number of SIM cards



Source: EETT (based on data provided by the licensed operators)

1.2.8. Premium Rate Services (PRS) and directory services

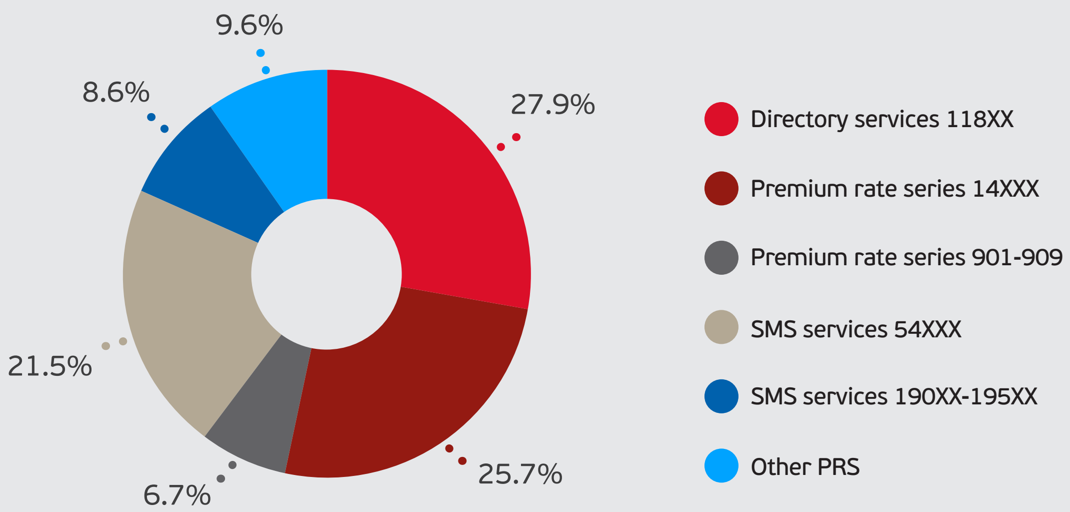
The total invoiced traffic from Premium Rate Services (PRS) and directory services in 2022 was 20.6 million minutes and 25.5 million calls/messages compared to 22.9 million minutes and 25.8 million calls/messages at the end of 2021. The revenues amounted to 45.8 million euros, having dropped by 10.3% compared to 2021.

In 2022, the revenues from premium rate series (14XXX and 901-909) amounted to 14.8 million euros, accounting for 32.4% of the total market and having dropped by 5% compared to 2021. The revenues from SMS services (54XXX and 190XX-195XX) decreased by 11% compared to 2021, reaching 13.8 million euros and making up 30.1% of the total market. The revenues from directory services 118XX amounted to 12.8 million euros, having dropped by 23.9% compared to 2021 and making up 27.9% of the total market. The rest PRS, i.e. those that do not fall in the above categories, accounted for 9.6% of the total turnover (4.4 million euros) having increased by 39.1% compared to the previous year (Charts 1.78 and 1.79).

Finally, and as shown in Chart 1.80, the providers who have been secondarily assigned numbers for the provision of PRS, generated over time about 57% of the total revenues from PRS[27].

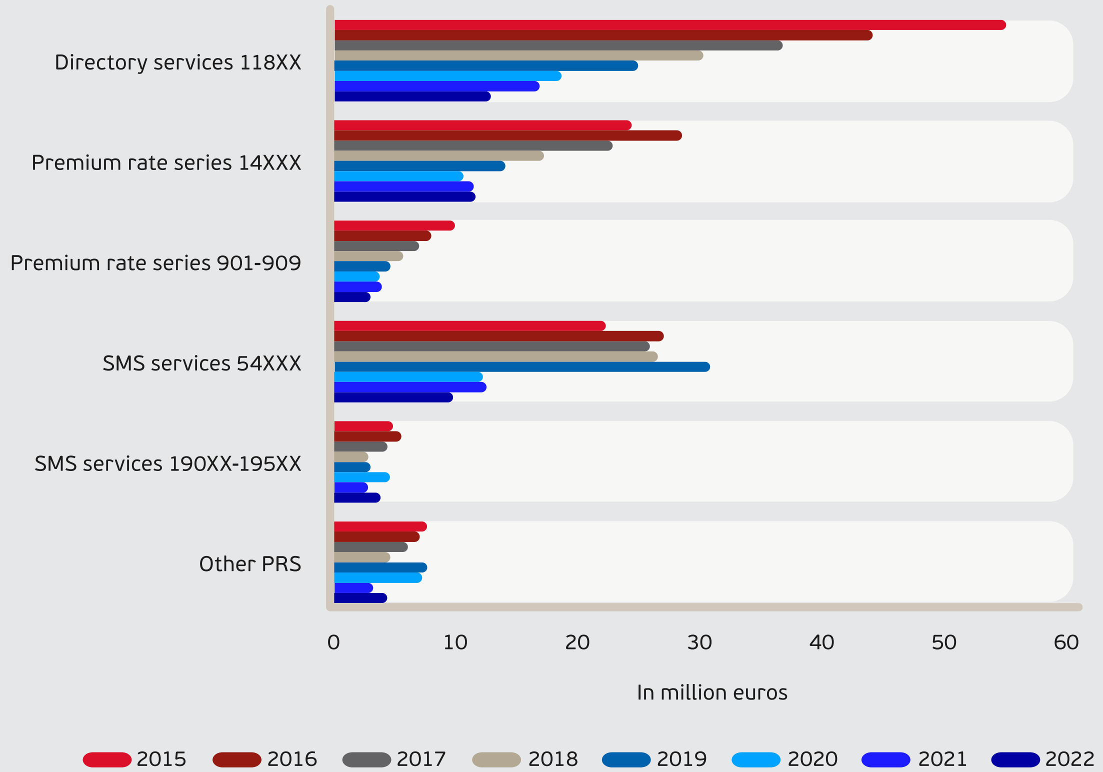
27. The companies, that have been primarily assigned by EETT the numbers for the provision of PRS, are called network providers and can secondarily assign the numbers in question to other companies that are the PRS providers. It is possible for the network provider the PRS provider to be the same.

Chart 1.78: PRS and directory services' shares based on revenues, 2022



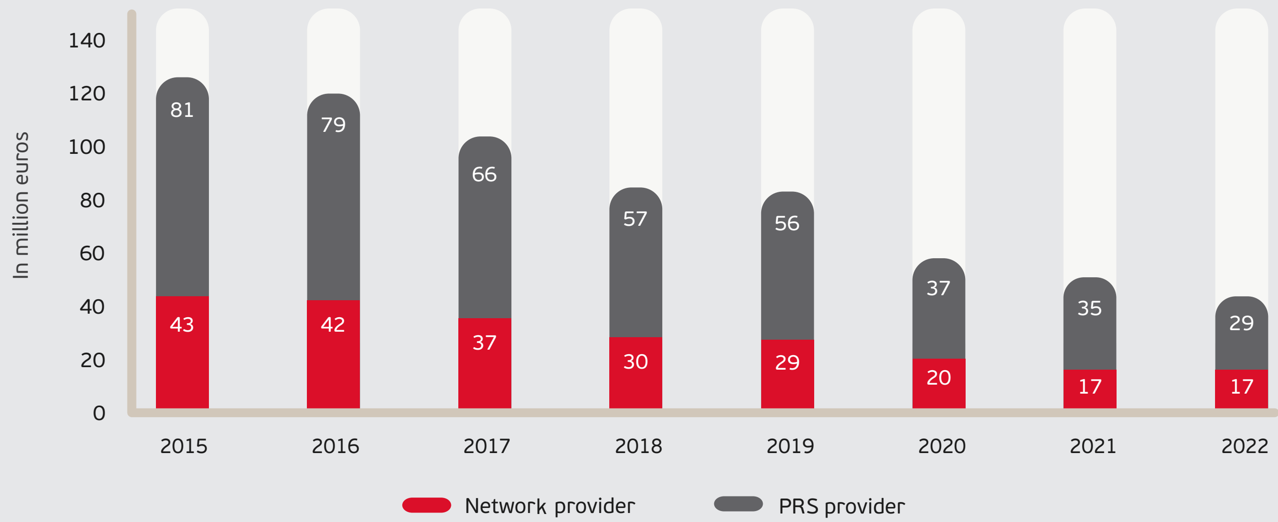
Source: EETT (based on data provided by the licensed operators)

Chart 1.79: Evolution of PRS and directory services' total revenues



Source: EETT (based on data provided by the licensed operators)

Chart 1.80: Evolution of total revenues for network and PRS providers

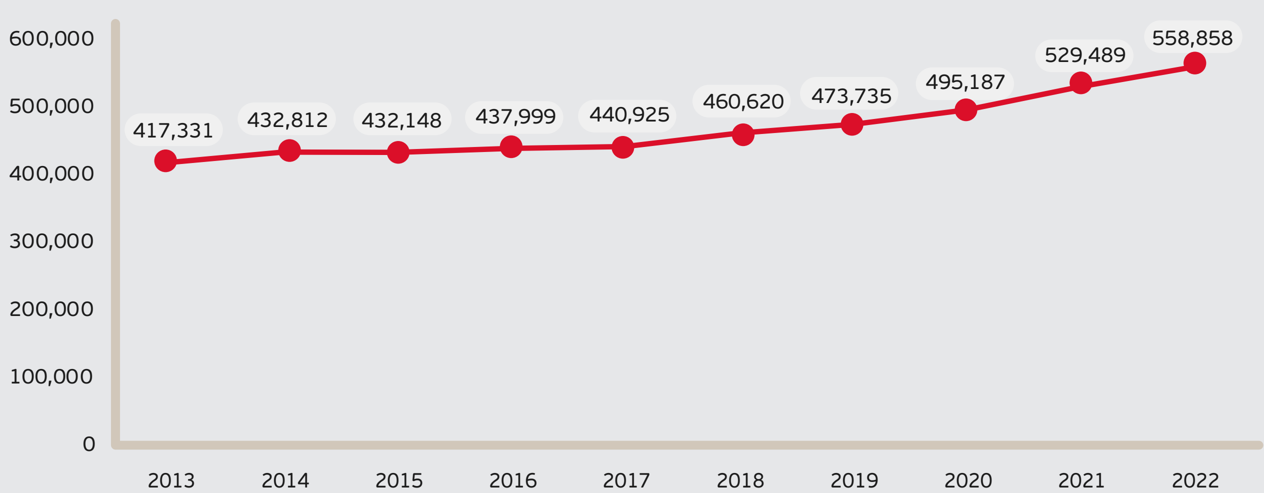


Source: EETT (based on data provided by the licensed operators)

1.2.9. Domain names [.gr] and [.ελ]

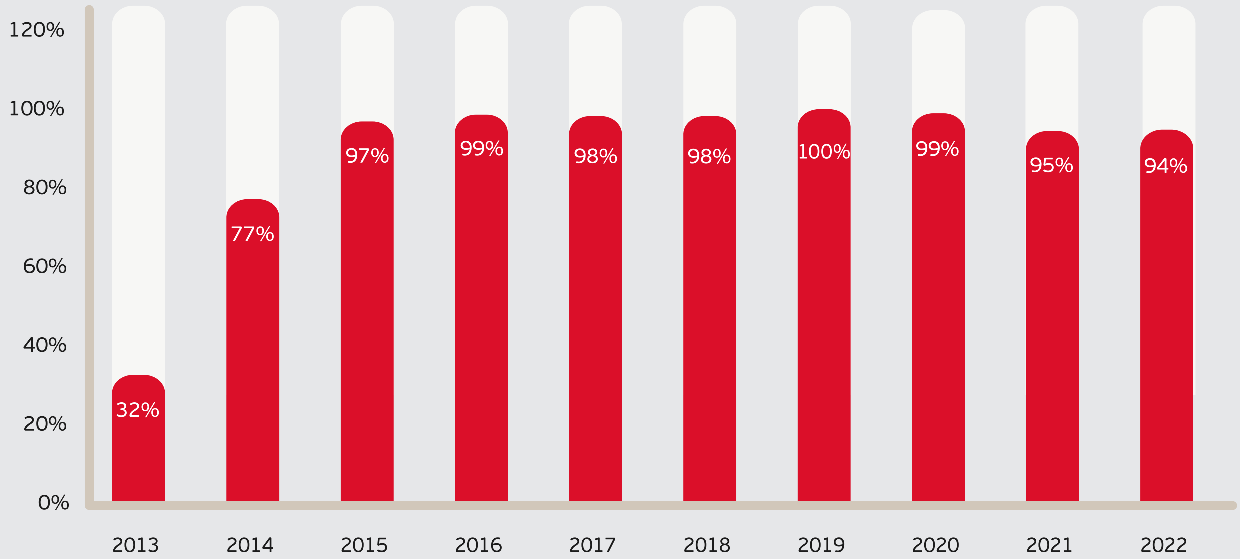
In 2022, the total number of [.gr] and [.ελ] domain names, including the sub-domains (.com.gr, .net.gr, .org.gr, .edu.gr, .gov.gr, .ελ), amounted to 558,858, registering a 5.5% increase compared to 2021. Chart 1.81 presents the evolution of the total domain names and Chart 1.82 depicts the annual evolution of the average assignment rate over the number of submitted applications, which was 94% for 2022.

Chart 1.81: Evolution of domain names



Source: EETT

Chart 1.82: Average assignment rate for domain names



Source: EETT

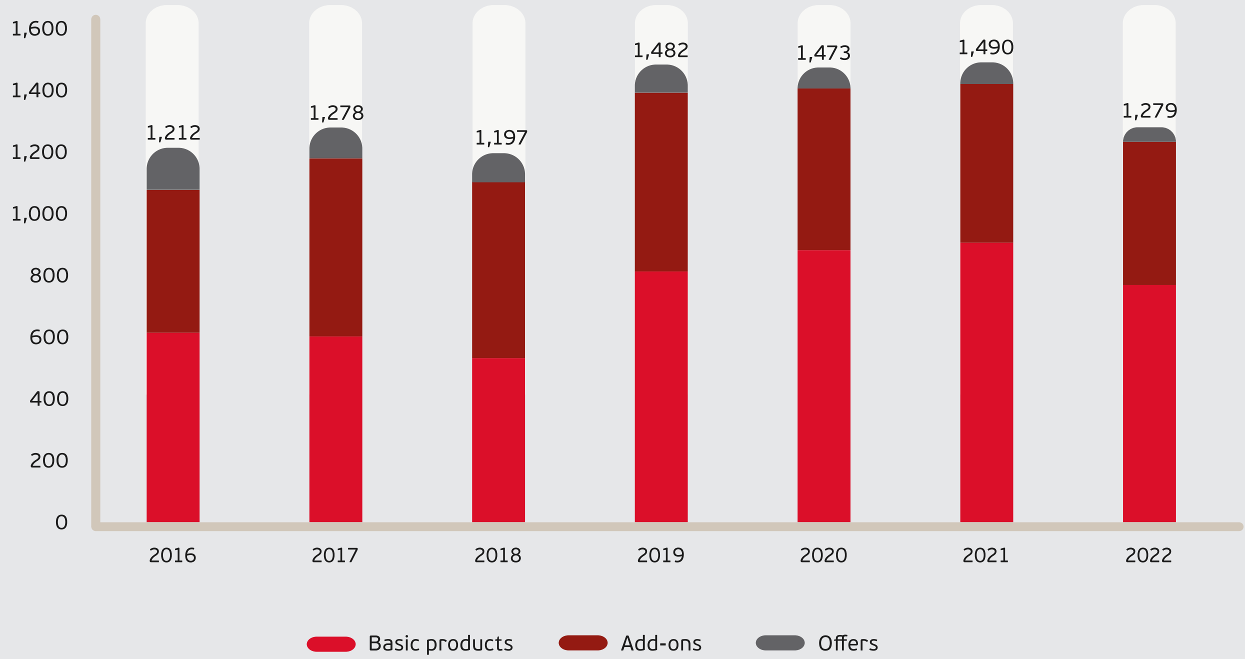
1.2.10. Price Observatory's comparison of retail prices (Pricescope)

Based on the data registered by the telecommunications operators in the Price Observatory (Pricescope), at the end of 2022, the companies NOVA, OTE-COSMOTE, VODAFONE and WIND were offering approximately 1,300 products/programs in the domestic market[28] (Chart 1.83), recording a decrease by 15% compared to the 2019-2021 period. These products entailed about 90,000 possible and dynamically produced combinations (product solutions) of basic products[29], add-ons[30] and offers[31]. The basic conclusions drawn from Pricescope are summarized as follows:

- About 4% of the commercially available products of the domestic market was marketed as an offer, while 36% of the products was add-ons, demonstrating the need for multiple bundled, differentiated and customized solutions (Chart 1.84).
- VODAFONE had more commercially available products than the other operators, followed by COSMOTE and OTE (Chart 1.85).
- COSMOTE and WIND relied mainly on add-on products (59% and 57% of their total products respectively), whereas OTE, NOVA and VODAFONE laid emphasis on basic products (87%, 85% and 66% respectively) (Chart 1.86).

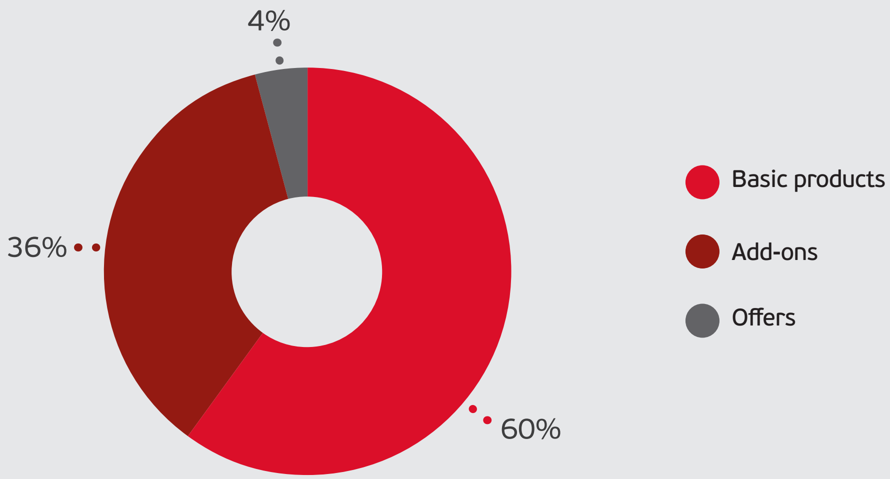
28. Setting aside commercially available products, there are also additional products registered that, even though they are not commercially active, customers favor them and still use them. In addition, product differentiation does not solely depend on a different brand name but also on other specific features, such as the binding duration attached to a telecommunications service contract.
29. A basic product is a product that can be commercially available by itself i.e. a consumer can buy only that in order to meet his/her telecommunication needs.
30. An add-on is a product that is not commercially available by itself but must be combined with a basic product.
31. An offer is a basic or an add-on product, which is available under certain restrictive terms.

Chart 1.83: Number of products in the domestic market



Source: EETT

Chart 1.84: Breakdown (%) of products per product type, 2022



Source: EETT

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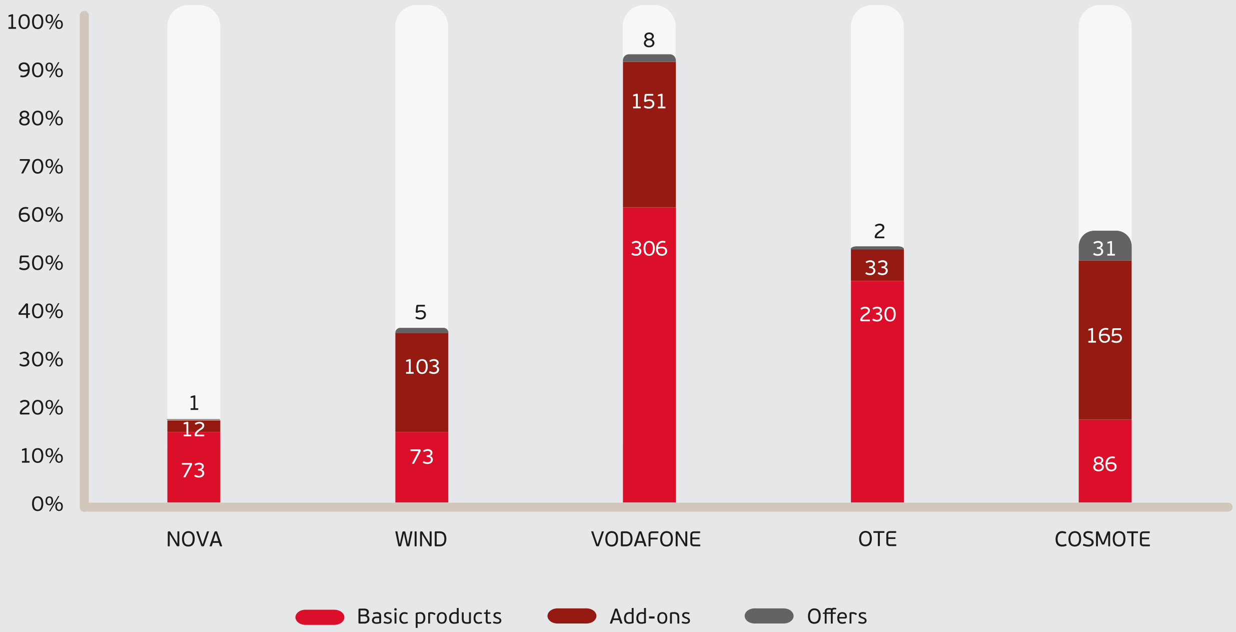
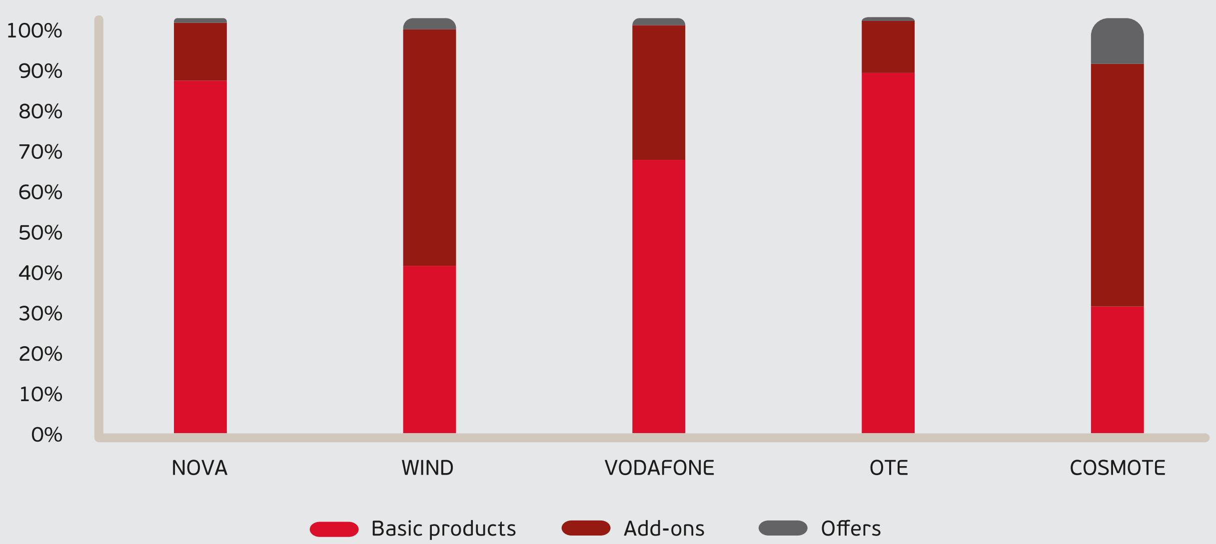
Chart 1.85: Commercially available products per operator, 2022



Source: EETT

Chart 1.86: Breakdown (%) of commercially available products per operator, 2022

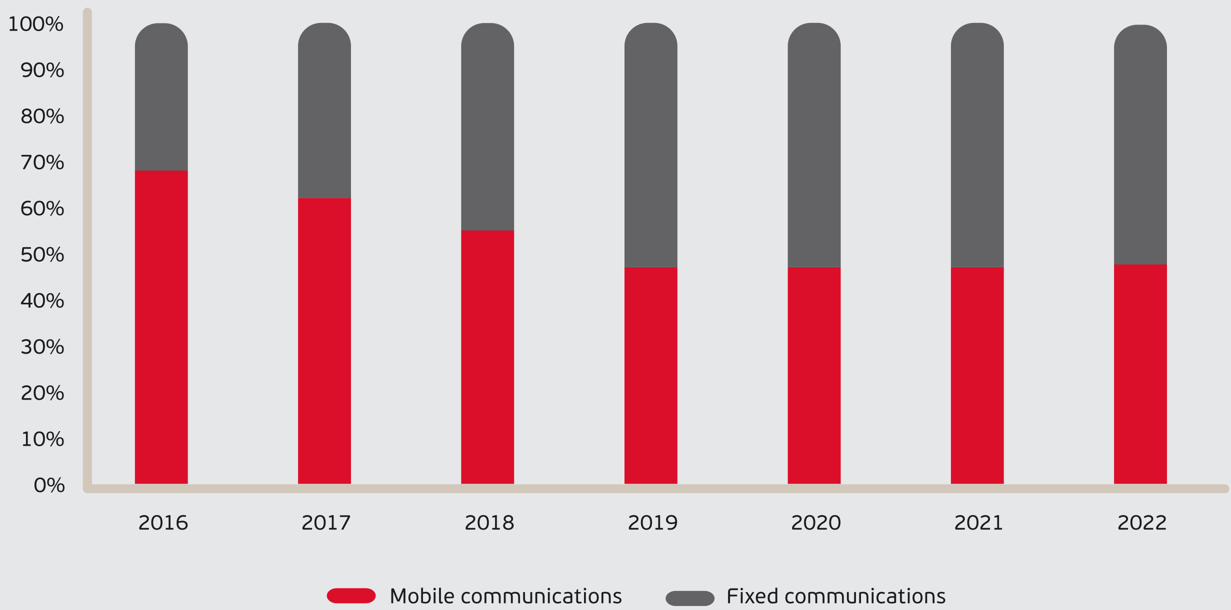


Source: EETT

Breakdown of products per type of service

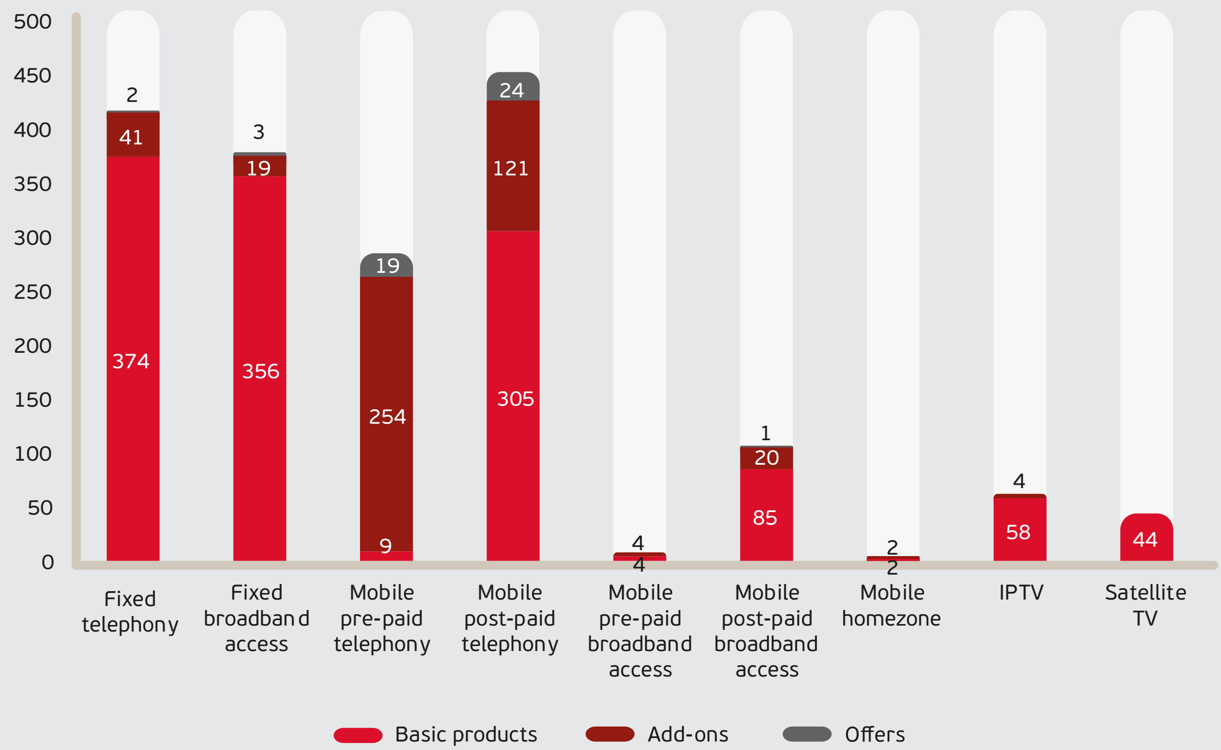
- About 48% concerned mobile communications' products, with approximately 42% corresponding to mobile voice products and 6% to mobile broadband products. Thus, around 52% of the products concerned fixed communications, following an upward trend since 2016 and up to 2019, having also at the same time integrated the increased number of TV programs. From 2020 and onwards, this percentage remained stable (Charts 1.87 and 1.88).
- Just 3% of the mobile pre-paid voice products was registered by the operators as basic, while the ratio of the add-ons to the basic products appeared to be higher for mobile post-paid telephony compared to fixed telephony (Charts 1.89-1.91), having increased for both mobile post-paid and fixed telephony, compared to the respective figures of 2021 (Chart 1.92).

Chart 1.87: Breakdown (%) of fixed versus mobile communications products



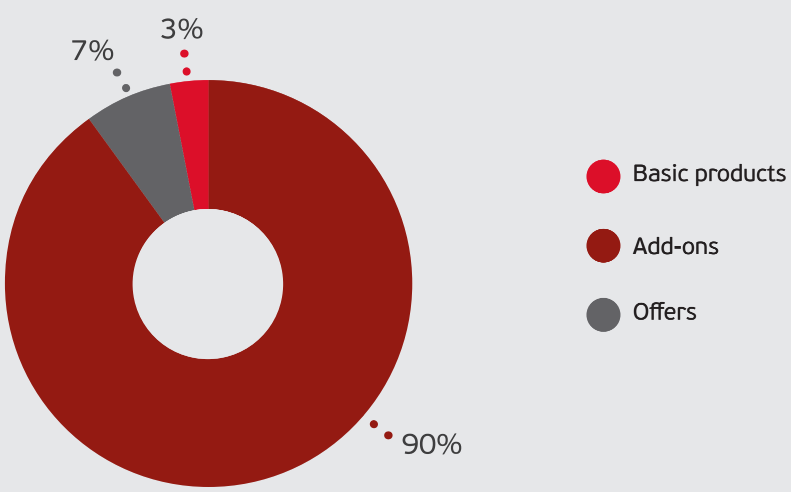
Source: EETT

Chart 1.88: Number of products per service, 2022



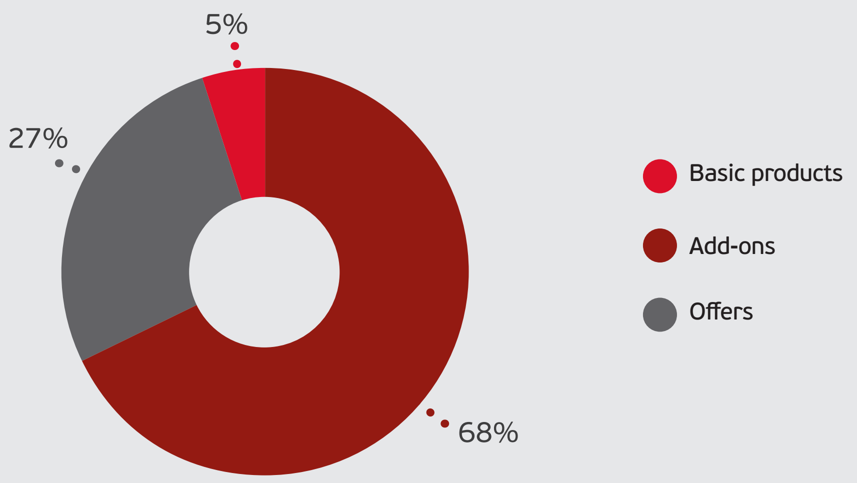
Source: EETT

Chart 1.89: Breakdown (%) of mobile pre-paid telephony products per product type, 2022



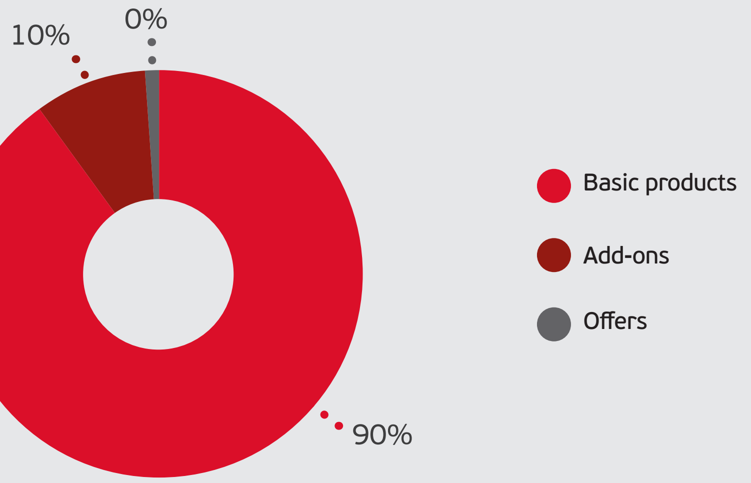
Source: EETT

Chart 1.90: Breakdown (%) of mobile post-paid telephony products per product type, 2022



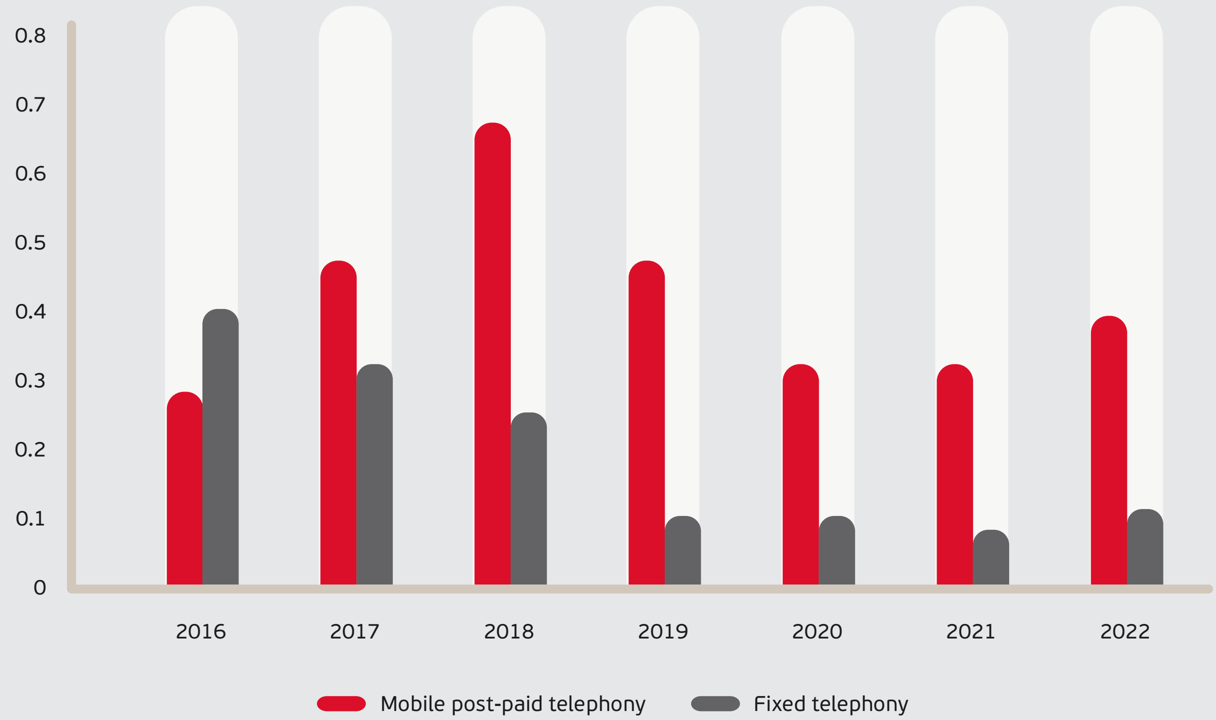
Source: EETT

Chart 1.91: Breakdown (%) of fixed telephony products per product type, 2022



Source: EETT

Chart 1.92: Ratio of add-ons to basic products for mobile post-paid and fixed telephony

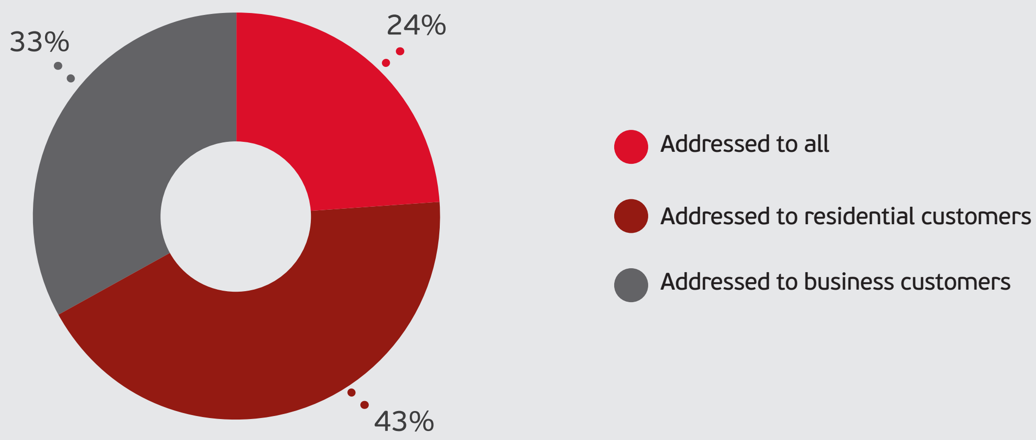


Source: EETT

Breakdown of products per target-market

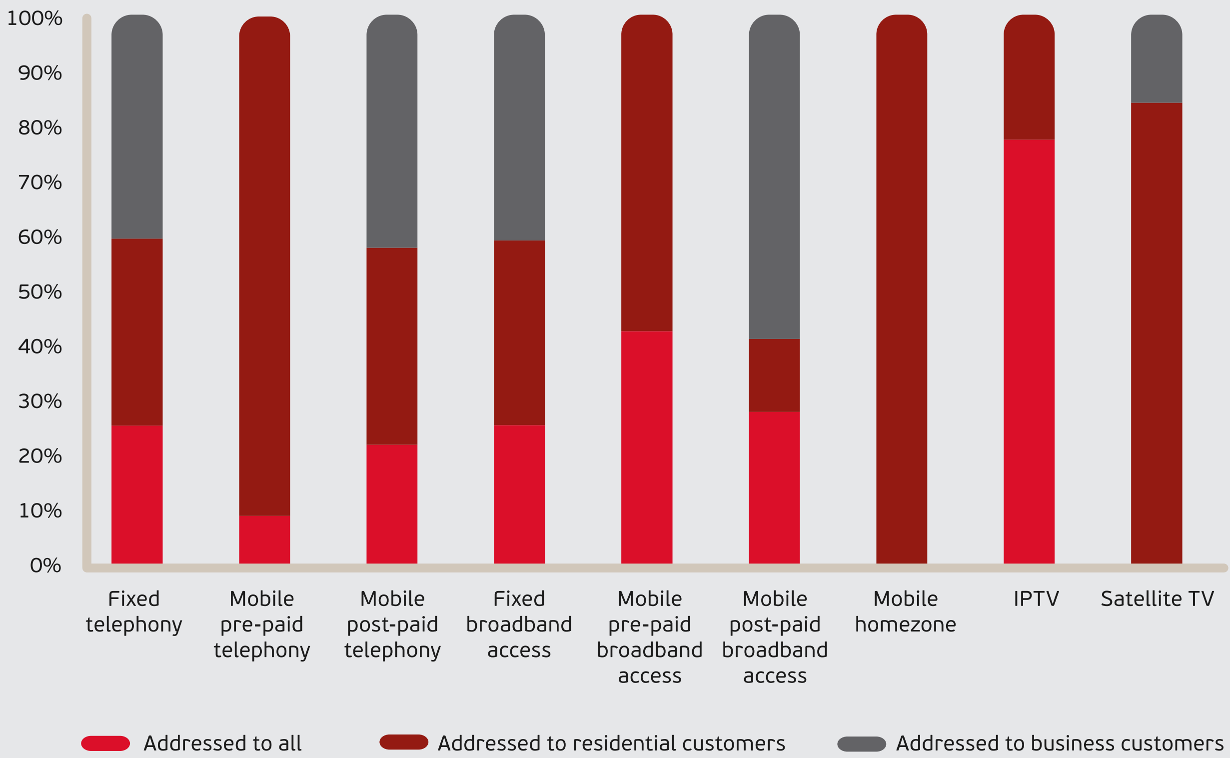
- 43% of the products was addressed exclusively to residential customers, 33% targeted only business customers, while 24% of products targeted both customers groups (Chart 1.93).
- The mobile pre-paid products were mainly addressed to residential customers, while most of the mobile post-paid and fixed telephony products were addressed to business customers. It is noted that proportionally most of business products were included among the mobile post-paid broadband access products (Chart 1.94).
- The products of COSMOTE, NOVA and WIND were primarily addressed to residential customers, while a large percentage of OTE's and VODAFONE's products aimed at business customers (Chart 1.95).

Chart 1.93: Target-markets of telecommunications products, 2022



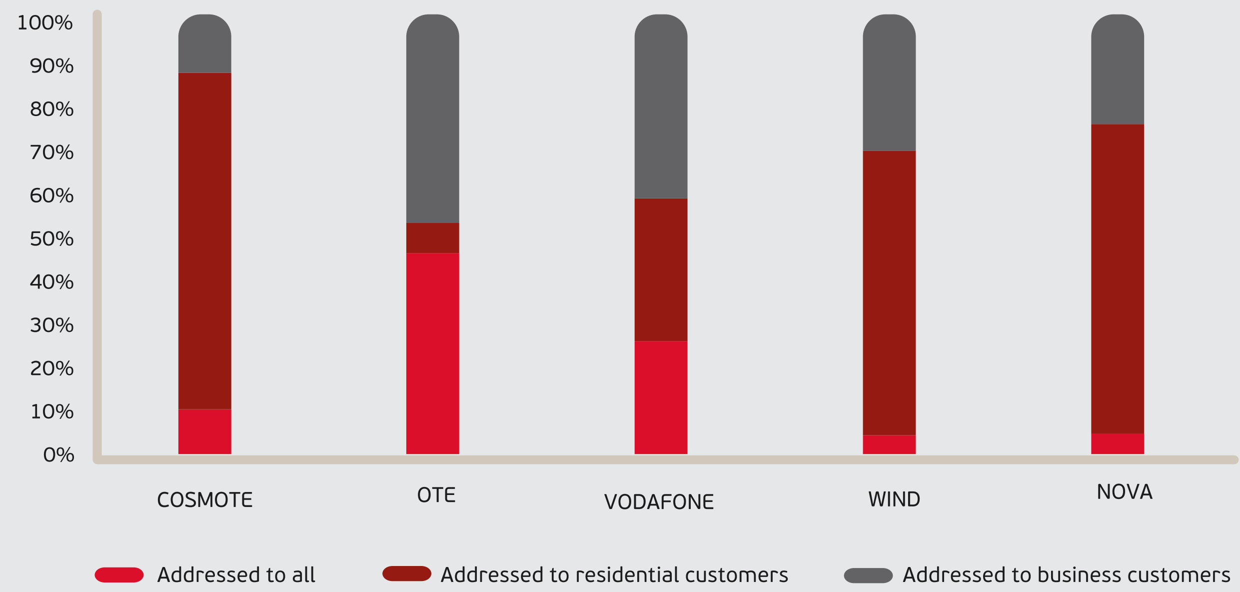
Source: EETT

Chart 1.94: Breakdown (%) of products per service in the target-markets, 2022



Source: EETT

Chart 1.95: Breakdown (%) of products per operator in the target-markets, 2022



Source: EETT

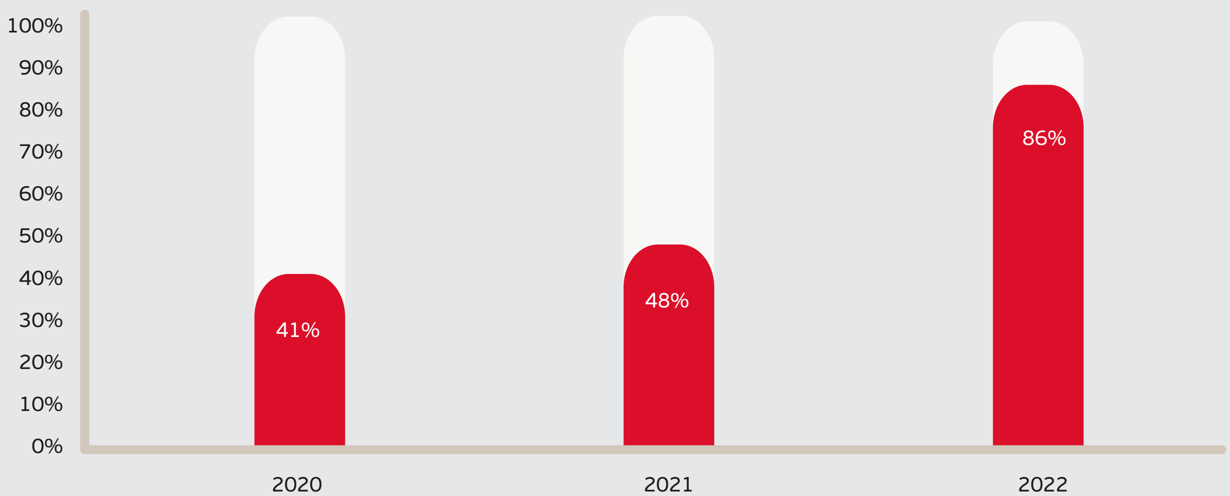
Breakdown of products based on their price and the integrated services offered

- 86% of the mobile post-paid telephony products with a minimum of voice service offered unlimited call minutes to all, having increased considerably by 80% compared to 2021 (Chart 1.96), while their percentage breakdown in relation to their monthly fees is shown in Chart 1.97.
- 26% of the mobile post-paid telephony products with voice and data services provided unlimited data, having increased by 18% compared to 2021 (Chart 1.98), while their percentage breakdown in relation to their monthly fees is shown in Chart 1.99.
- 72% of the mobile post-paid telephony products with limited data was concetrated around a monthly fee up to 55 euros, with an average price[32] of 36 euros, median price[33] of 39 euros and a data allowance of around 7 GB based on the median price (Chart 1.100). In 2022, prices of post-paid telephony products went up by 3%, while at the same time data allowance increased considerably by 40% compared to 2021.
- 67% of the mobile post-paid telephony products with only data services consisted of a monthly fee up to 30 euros, with an average price of 16 euros, a median price of 15 euros and a data allowance of around 14 GB, based on the median price (Chart 1.101). Prices were the same, compared to 2021, and data allowance increased by 17%.
- About 94% of the commercially available fixed telephony products (1-play, 2-play, 3-play) offered unlimited call minutes to fixed phones.
- 29% of the fixed telephony products with a minimum of a voice service offered unlimited call minutes to mobiles, registering a remarkable increase by 81% compared to 2021 (Chart 1.102). The volume of these products in relation to their monthly fees is shown in Chart 1.103.

32. The average price (or arithmetic average) is the sum of the values of a group of numbers divided by their volume.
33. Median is the average of a group of numbers sorted by size. It is the number right in the middle, so that 50% of the sorted numbers is above the median and the other 50% below the median.

- 59% of the products with a limited call time consisted of a monthly fee up to 55 euros, with an average and a median price of 41 euros, and a call allowance of 377 minutes to mobiles, based on the median price, without any remarkable change compared to 2021 (Chart 1.104).
- Lastly, Chart 1.105 and 1.106 illustrate the concentration of the fixed telephony products with an Internet service at different data download speeds (24 Mbps, 30 Mbps, 50 Mbps, 100 Mbps, 200 Mbps), in relation to their monthly fees.

Chart 1.96: Mobile post-paid products with unlimited calls minutes to all

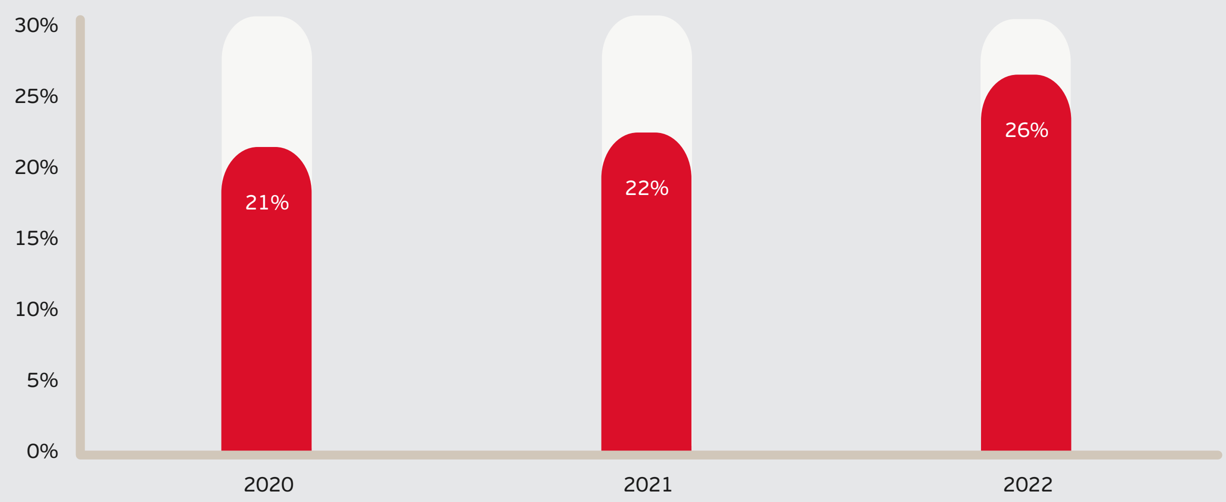


Source: EETT

Chart 1.97: Breakdown (%) of mobile post-paid products based on the offered call minutes in relation to their monthly fee, 2022

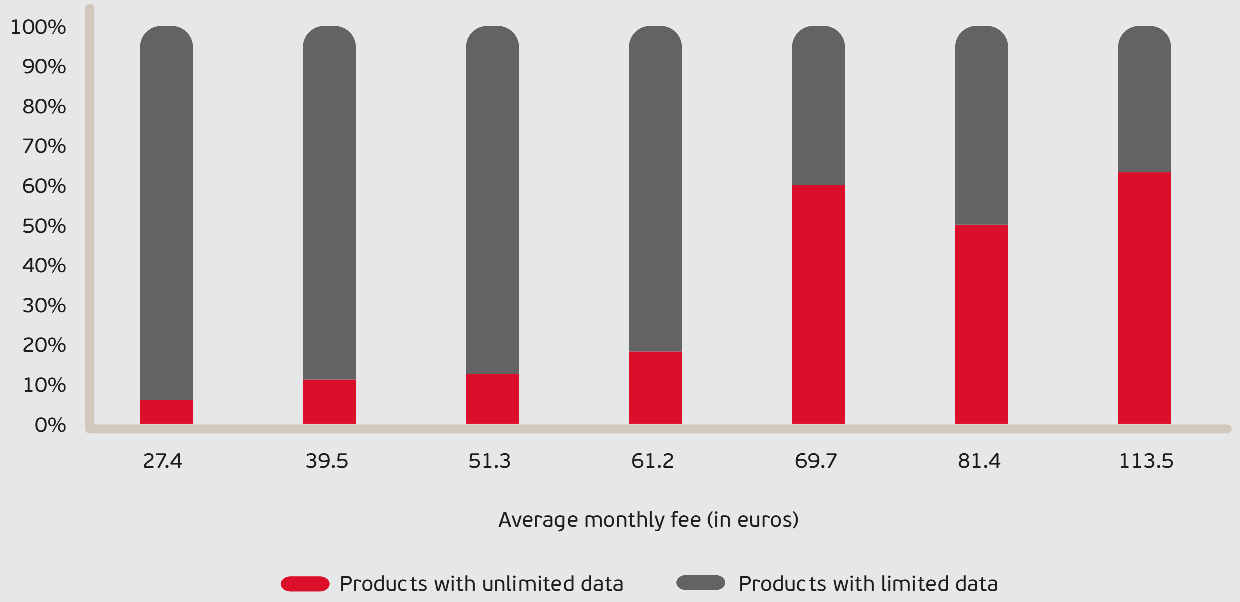
Source: EETT

Chart 1.98: Mobile post-paid products with unlimited data



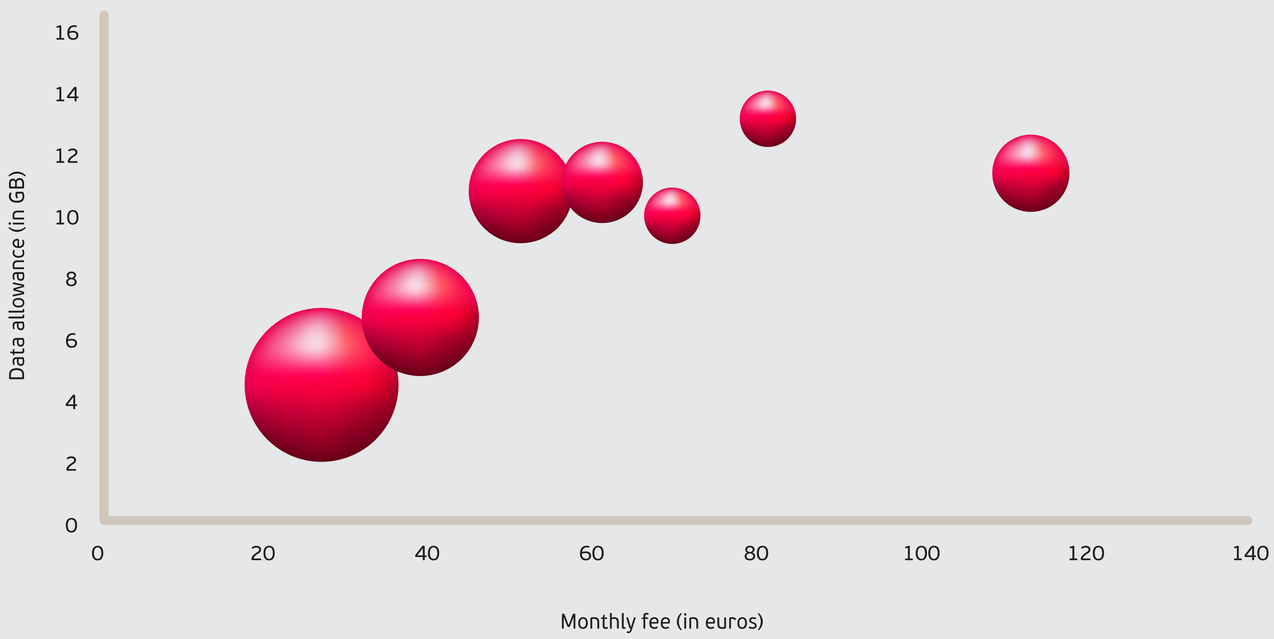
Source: EETT

Chart 1.99: Breakdown (%) of mobile post-paid products based on the data allowance in relation to their monthly fee, 2022



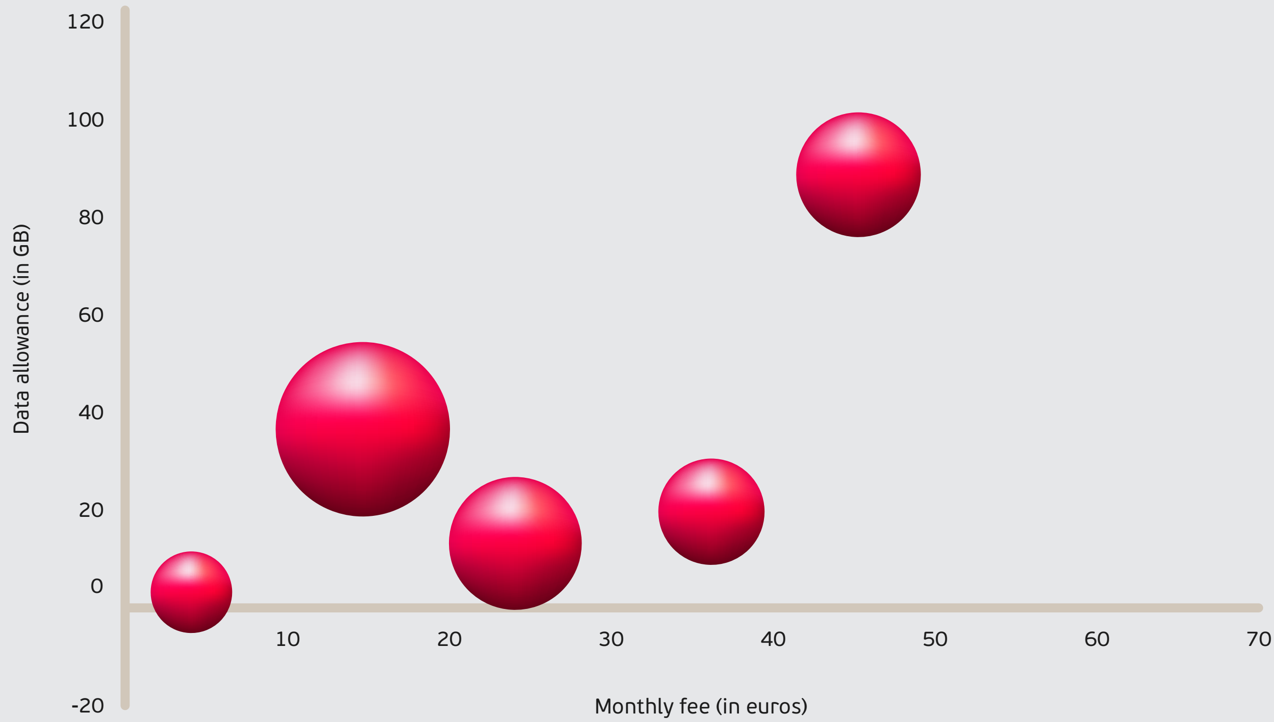
Source: EETT

Chart 1.100: Concentration of mobile post-paid products with limited data allowance service, 2022



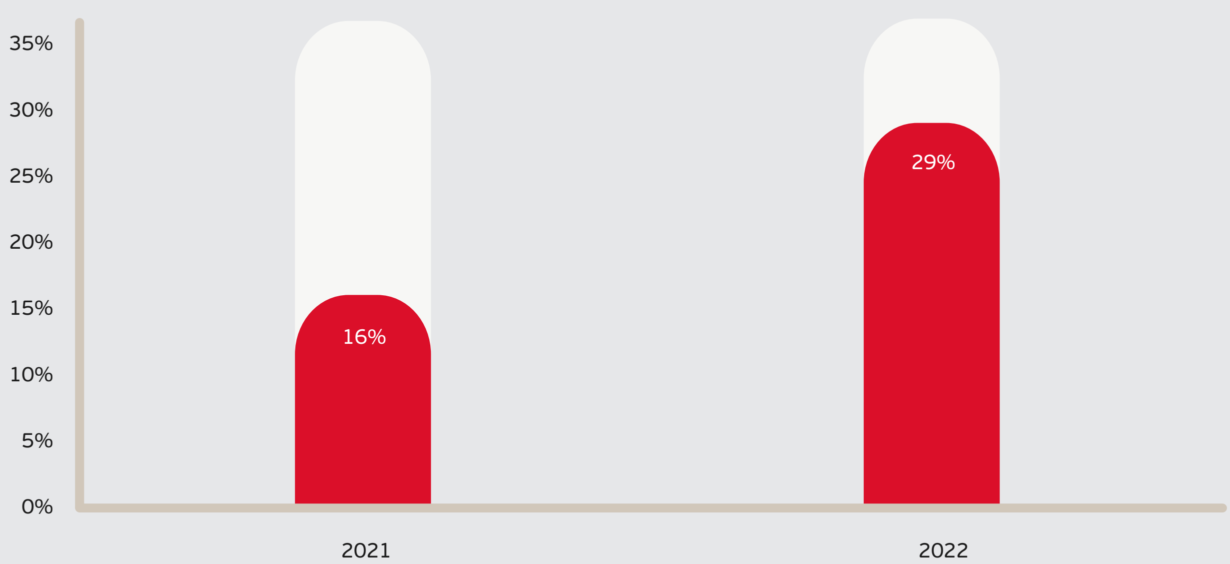
Source: EETT

Chart 1.101: Concentration of mobile post-paid products with only data allowance service, 2022



Source: EETT

Chart 1.102: Fixed telephony products with unlimited call minutes to mobiles

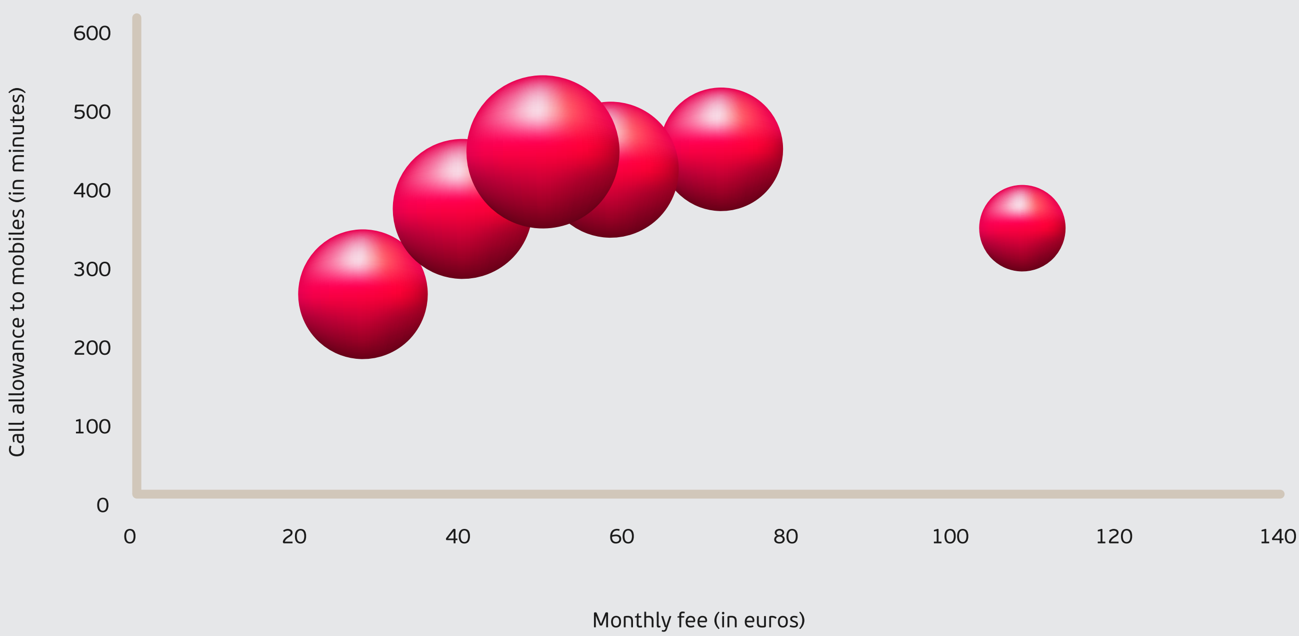


Source: EETT

Chart 1.103: Breakdown (%) of fixed telephony products with unlimited call minutes to mobiles in relation to their monthly fee, 2022

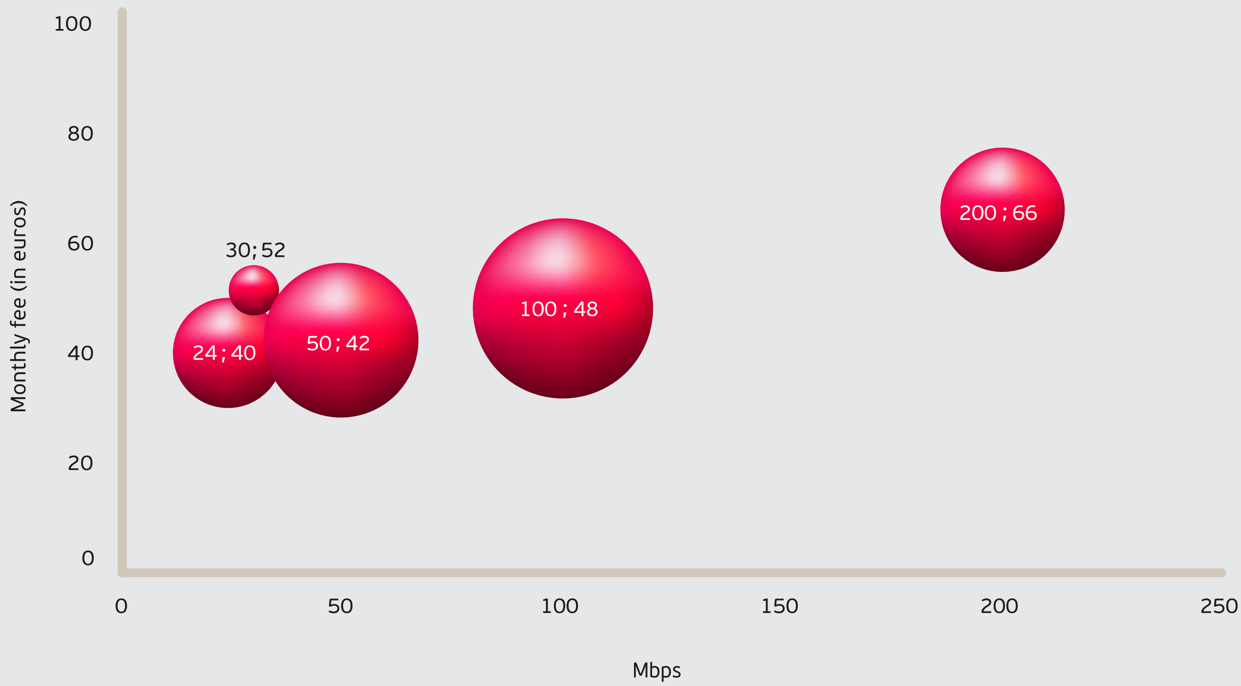
Source: EETT

Chart 1.104: Concentration of fixed telephony products with a call allowance to mobiles, 2022



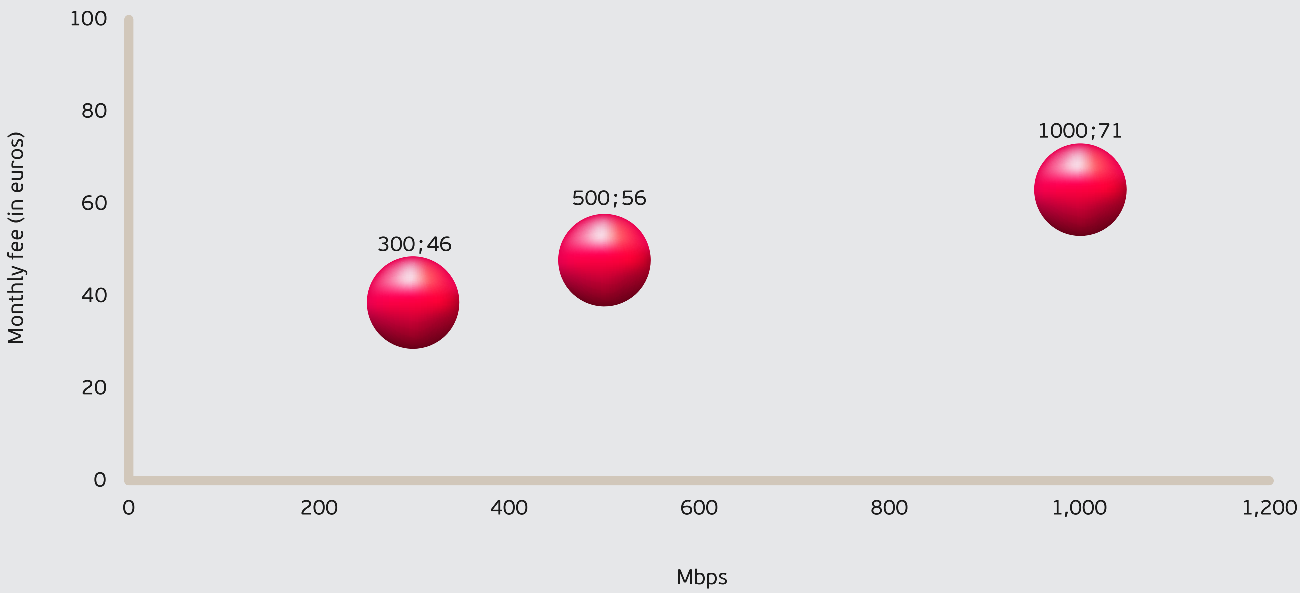
Source: EETT

Chart 1.105: Concentration of fixed telephony products in relation to data download speed (24-200 Mbps), 2022



Source: EETT

Chart 1.106: Concentration of fixed telephony products in relation to data download speed (300-1000 Mbps), 2022



Source: EETT

Over time evolution of prices in fixed and mobile telephony

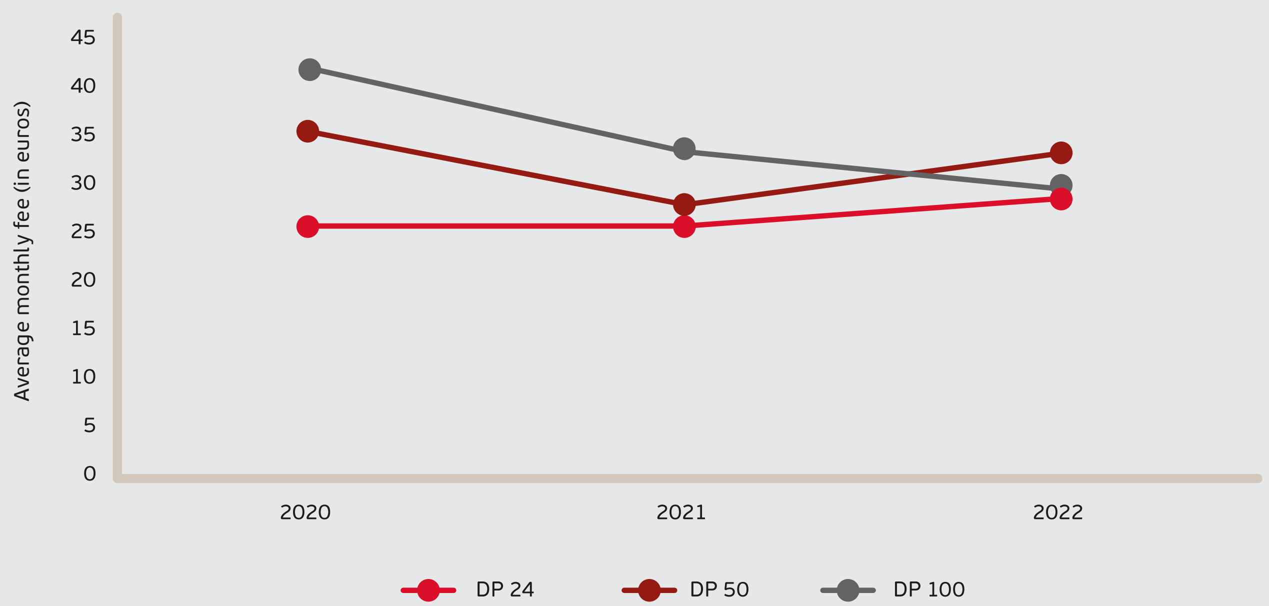
This section presents the lowest prices in fixed and mobile telephony, based on the data registered by the telecommunications operators in the Price Observatory (Pricescope), at the end of 2020, 2021 and 2022, and according to the following two main types of services:

1. Double play products [fixed telephony and fixed broadband access (24/50/100 Mbps)], with unlimited call allowance to fixed phones.
2. Mobile post-paid telephony 1/8/20/Unlimited GB, with a call allowance to all.

Fixed telephony

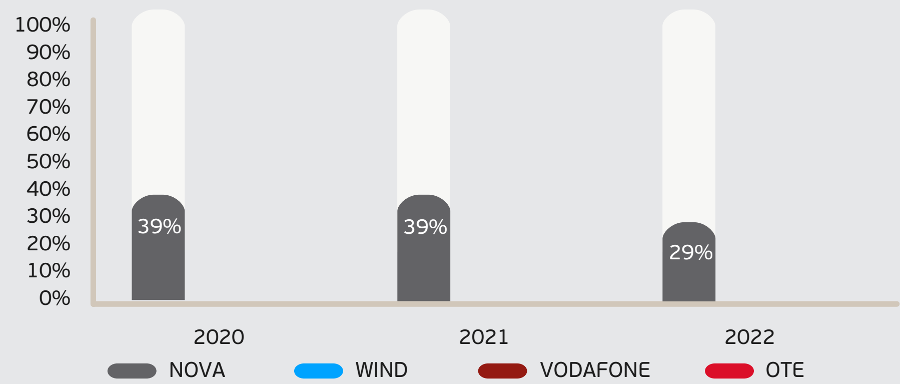
- Based on the commercially available double play products (fixed telephony and fixed broadband access) for 24 Mbps, 50 Mbps and 100 Mbps, with unlimited call allowance to fixed phones (residential customers), the average monthly fee for the 2020-2022 period was calculated based on the cheapest product offered by the fixed telephony operators for the aforementioned types of services (Chart 1.107).
- Charts 1.108, 1.109 and 1.110 depict the cost saving of the operator with the lowest monthly fee price compared to the average price, per type of service, for the 2020-2022 period.

Chart 1.107: Evolution of the average double play (24/50/100 Mbps) monthly fee based on the cheapest product per operator



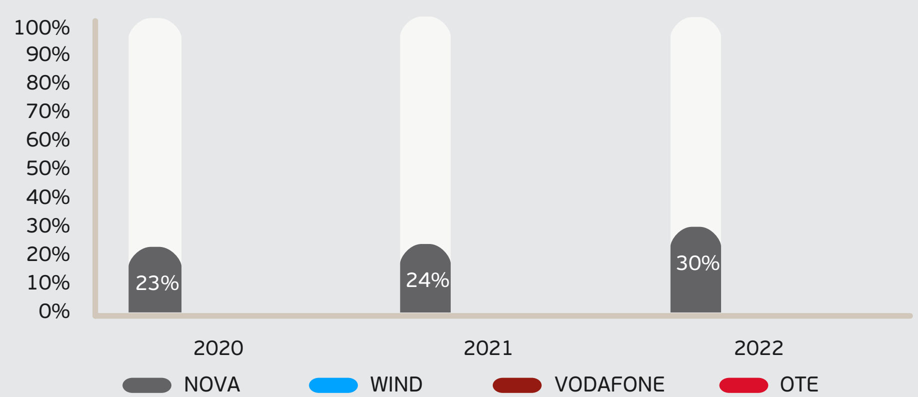
Source: EETT

Chart 1.108: Cost saving for the operator with the lowest monthly fee price in relation to the average price for DP 24 Mbps products



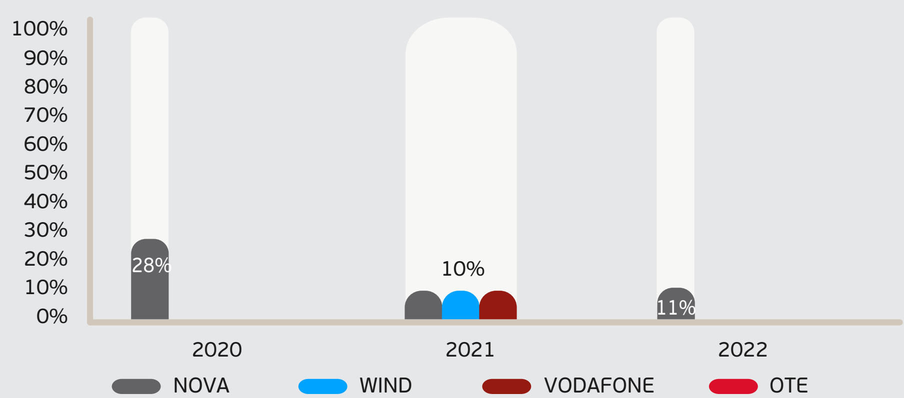
Source: EETT

Chart 1.109: Cost saving for the operator with the lowest monthly fee price in relation to the average price for DP 50 Mbps products



Source: EETT

Chart 1.110: Cost saving for the operator with the lowest monthly fee price in relation to the average price for DP 100 Mbps products

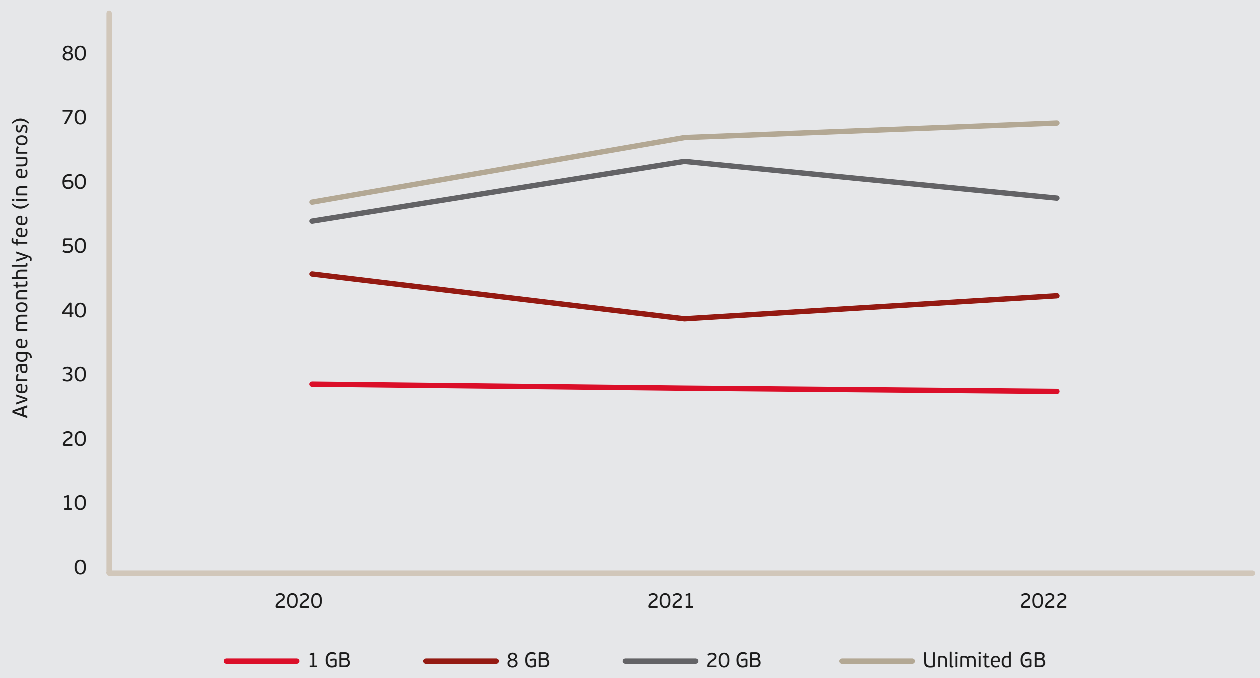


Source: EETT

Mobile post-paid telephony

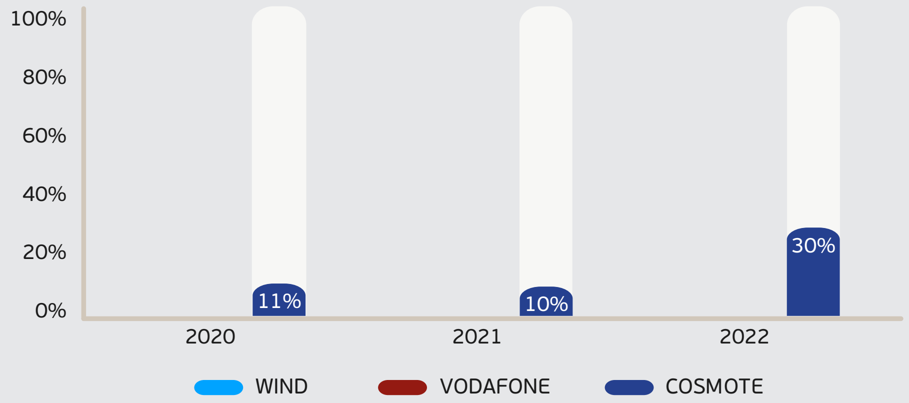
- Based on the commercially available mobile post-paid telephony programs for 1/8/20/Unlimited GB, with a call allowance to all (residential clients), the average monthly fee for the 2020-2022 period was calculated based on the cheapest program offered by the mobile telephony operators for the aforementioned types of services (Chart 1.111).
- Charts 1.112 through to 1.115 depict the cost saving of the operator with the lowest monthly fee price compared to the average price, per type of service, for the 2020-2022 period.

Chart 1.111: Evolution of the average monthly fee for mobile post-paid programs (1/8/24/Unlimited GB) based on the cheapest program per operator



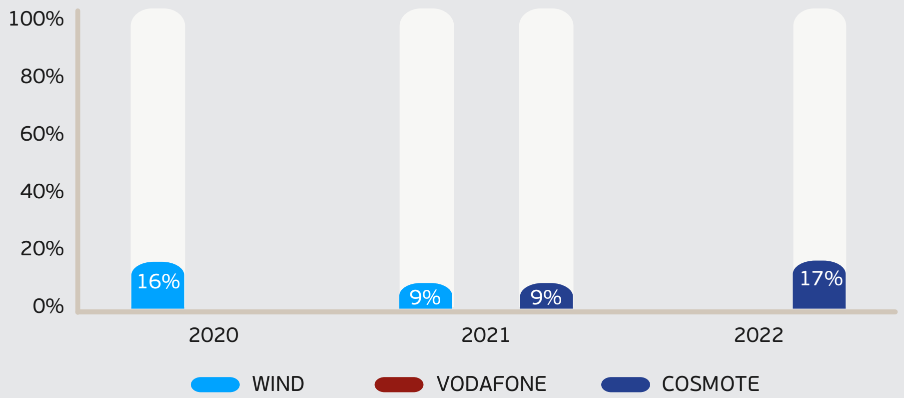
Source: EETT

Chart 1.112: Cost saving for the operator with the lowest monthly fee price in relation to the average price of the 1 GB mobile telephony programs



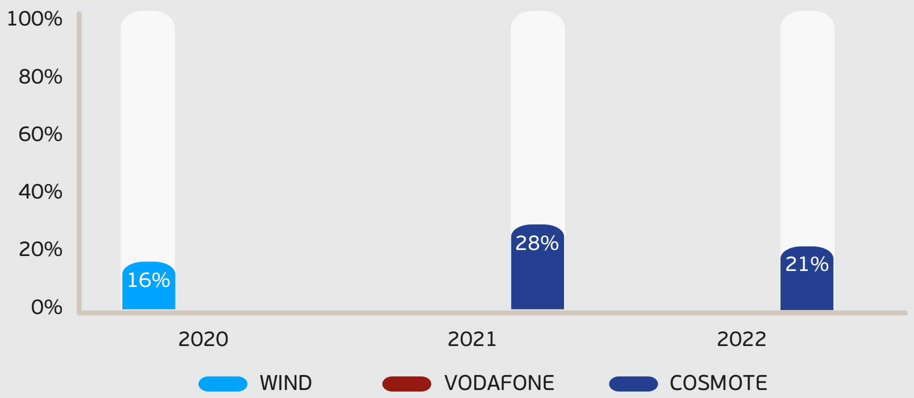
Source: EETT

Chart 1.113: Cost saving for the operator with the lowest monthly fee price in relation to the average price of the 8 GB mobile telephony programs



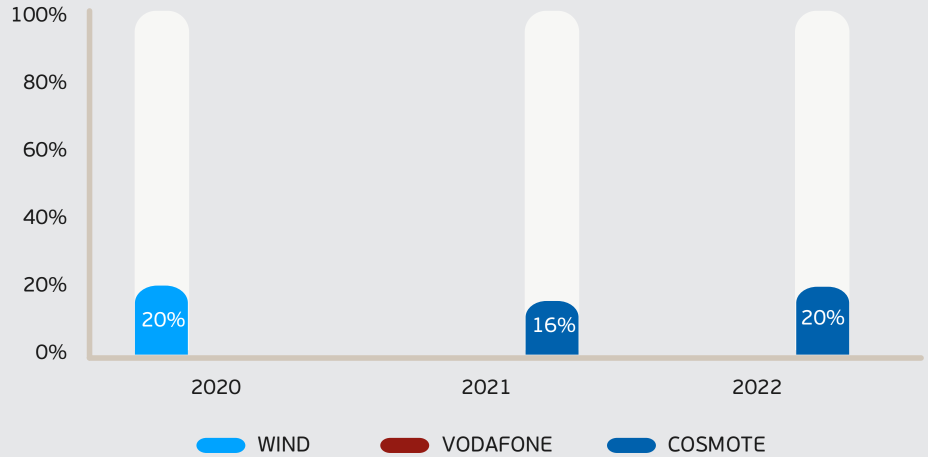
Source: EETT

Chart 1.114: Cost saving for the operator with the lowest monthly fee price in relation to the average price of the 20 GB mobile telephony programs



Source: EETT

Chart 1.115: Cost saving for the operator with the lowest monthly fee price in relation to the average price of the mobile telephony programs with unlimited GB



Source: EETT

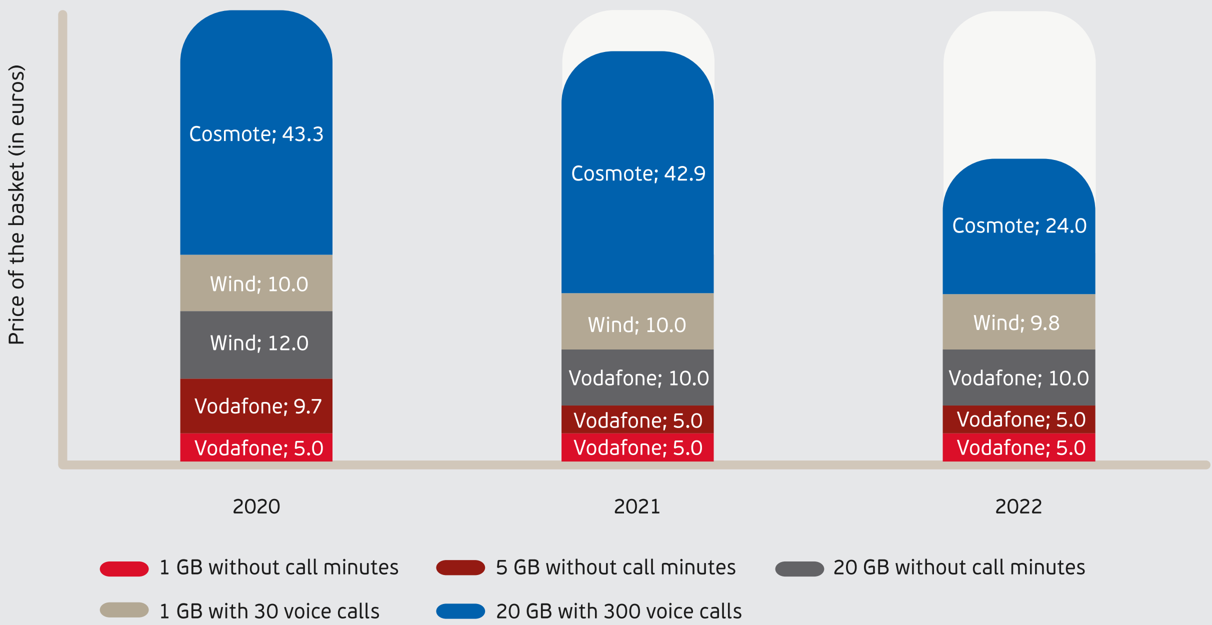
Over time evolution of prices for baskets of services

In order to monitor prices over time for specific use of services' profiles, this analysis was based on a subset of services' "baskets", as those are defined and used in the study «Mobile and fixed broadband prices in Europe», prepared by the European Commission in cooperation with the National Regulatory Authorities (NRA) for the years 2020[34], 2021[35] and 2022[36]. The baskets follow the instructions published by the Body of European Regulators for Electronic Communications-BEREC. The selection of the baskets' subset from the complete set was done based on preserving comparability during 2020, 2021 and 2022, considering the changes made to some baskets over time. Therefore, the baskets on which the comparative evaluation of this study was based only concern mobile communications and are the following: 1 GB without call minutes, 5 GB without call minutes, 20 GB without call minutes, 1 GB with 30 voice calls and 20 GB with 300 voice calls.

Chart 1.116 presents the evolution of the price of the aforementioned baskets for the 2020-2022 period, as well as the operator with the cheapest product solution, based on combining basic programs with add-ons or/and offers. It should be noted that the prices in this section were formed with the appropriate combination of programs, taking advantage of the use of additional programs, with the aim of satisfying the requested use per case at the lowest price, as well as the use of prepaid telephony programs.

34. https://digital-strategy.ec.europa.eu/en/library/mobile-and-fixed-broadband-prices-europe-2020.
35. https://digital-strategy.ec.europa.eu/en/library/mobile-and-fixed-broadband-prices-europe-2021.
36. The 2022 study has not been published yet.

Chart 1.116: Price evolution for baskets of services and cheapest operator



Source: EETT and European Commission

1.2.11. Comparison of Greek and European market indicators[37]

Fixed broadband

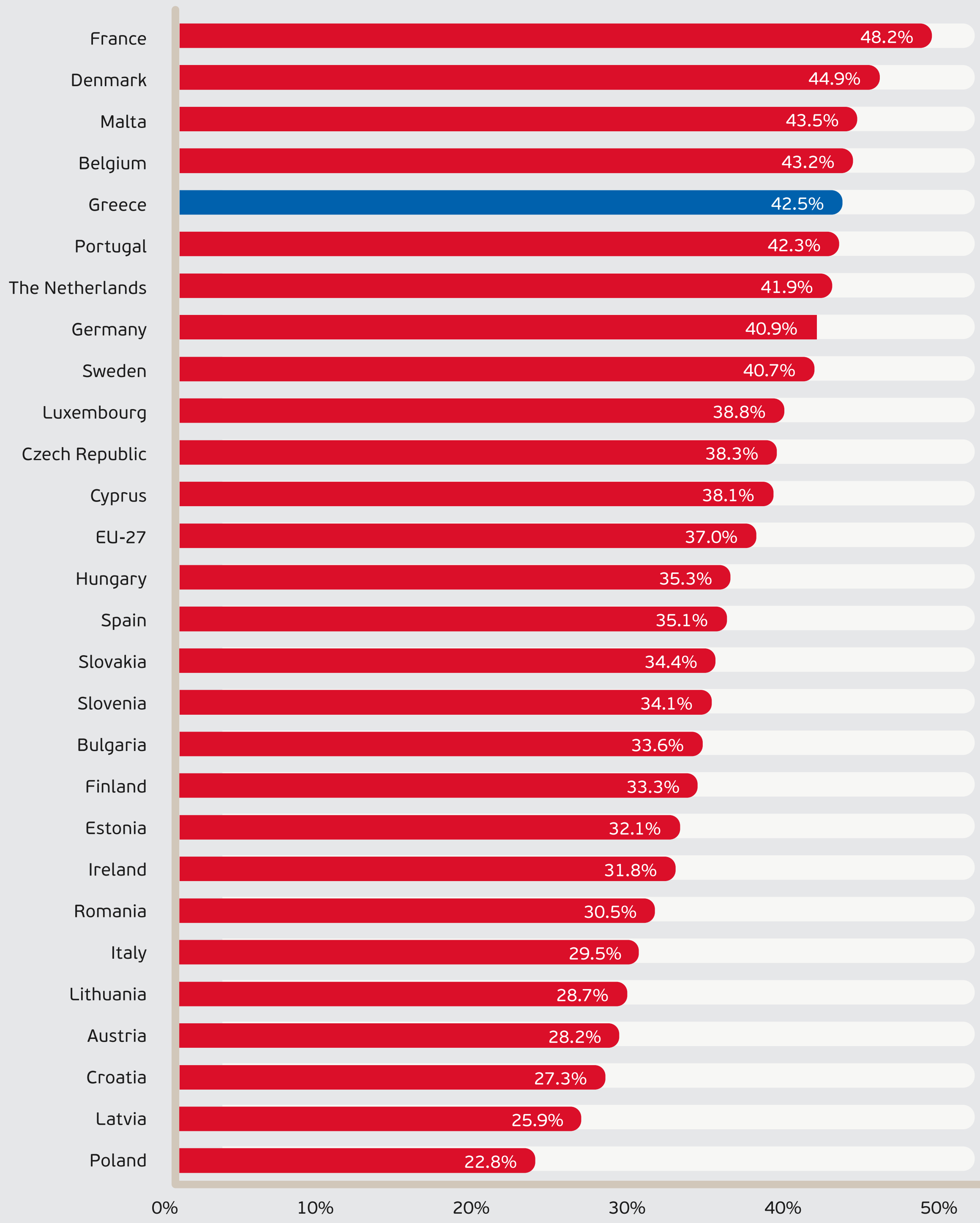
During 2022, the penetration of fixed broadband in the population, i.e. the number of broadband connections per 100 people, continued to increase in Greece.

In June 2022, the penetration of fixed broadband in the EU was 37% (Chart 1.117) compared to 36.8% in June 2021. The respective figures for Greece were 42.5% in June 2022 versus 41% in June 2021, recording the six largest increase by 1.5 percentage points, (Charts 1.118 and 1.119) and thus ranking Greece in the 5th position among the EU member states. It should be mentioned that the penetration of fixed broadband in Greece has steadily exceeded the respective European average during the last seven years (Chart 1.120).

Additionally, the demand for high-speed broadband access kept on growing, and as a result, the EU broadband connections with advertised download access speeds greater than or equal to 30 Mbps in June 2022 accounted for about 79.2% of total connections versus 73.9% in June 2021. The respective figures for Greece were 54.3%, compared to 41.1% in June 2021 (Chart 1.121). Similarly, the EU broadband connections with advertised download access speeds more than or equal to 100 Mbps accounted for about 59.6% of total connections versus 52.2% in June 2021, whereas in Greece the respective figures were 23.8% compared to 10.5% in June 2021 (Chart 1.122).

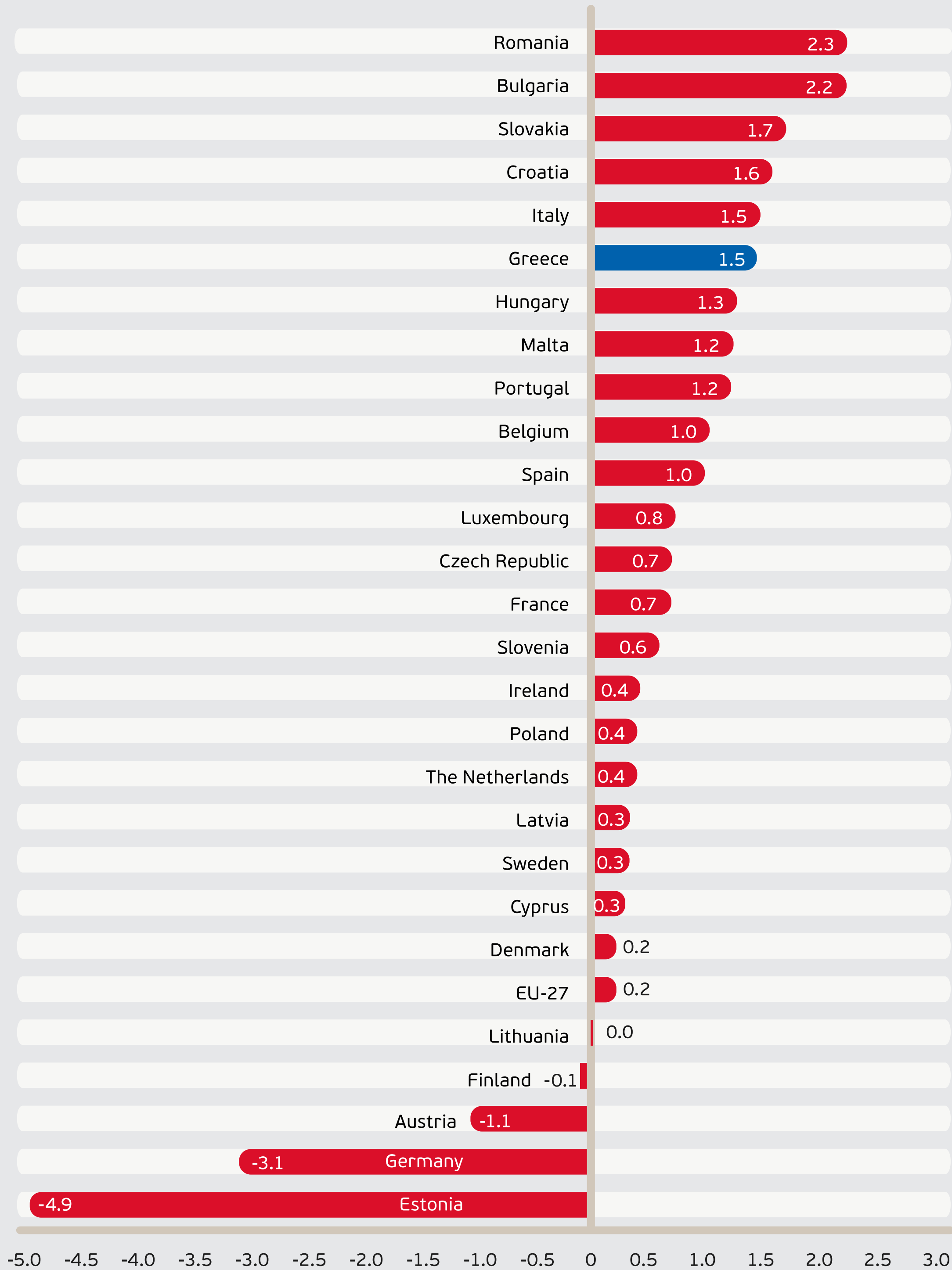
37. Based on the data provided by the Digital Decade DESI visualisation tool of the European Commision and the Broadband coverage in Europe 2022 study.

Chart 1.117: Fixed broadband penetration in the EU, June 2022



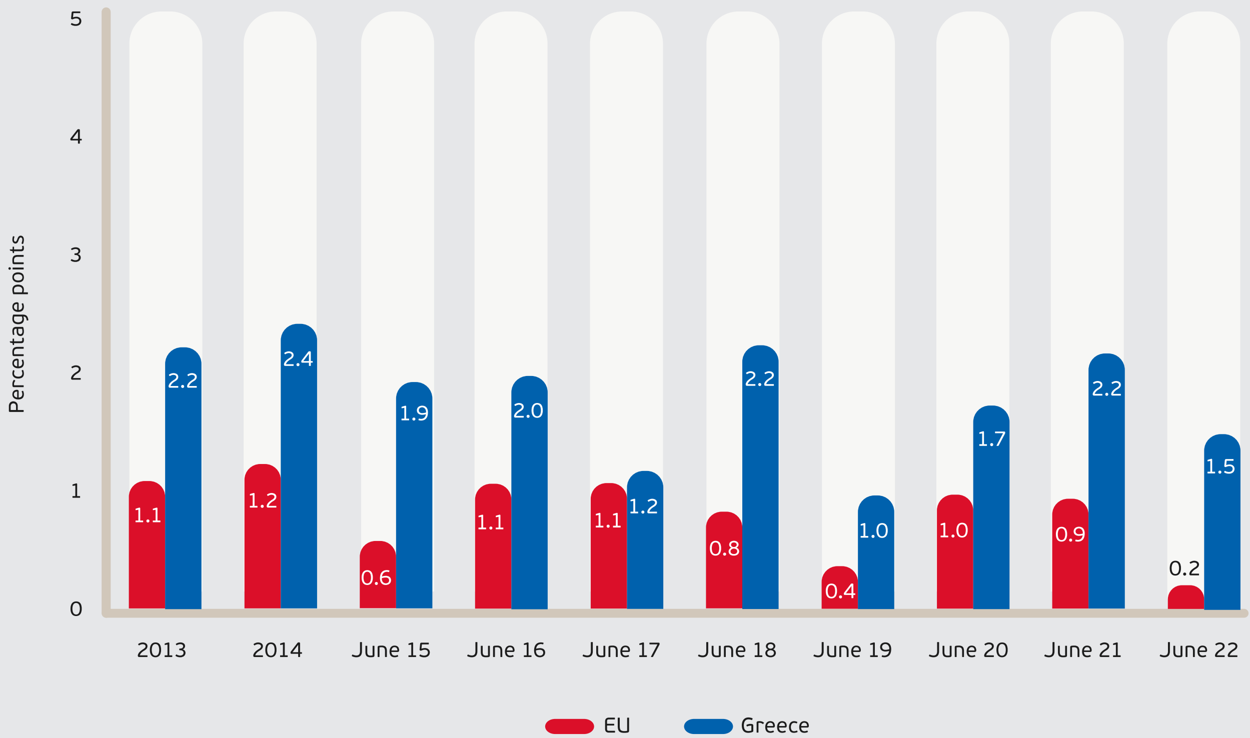
Source: EETT (based on the data of the European Commission's Digital Decade DESI)

Chart 1.118: Fixed broadband penetration change in the EU, June 2022



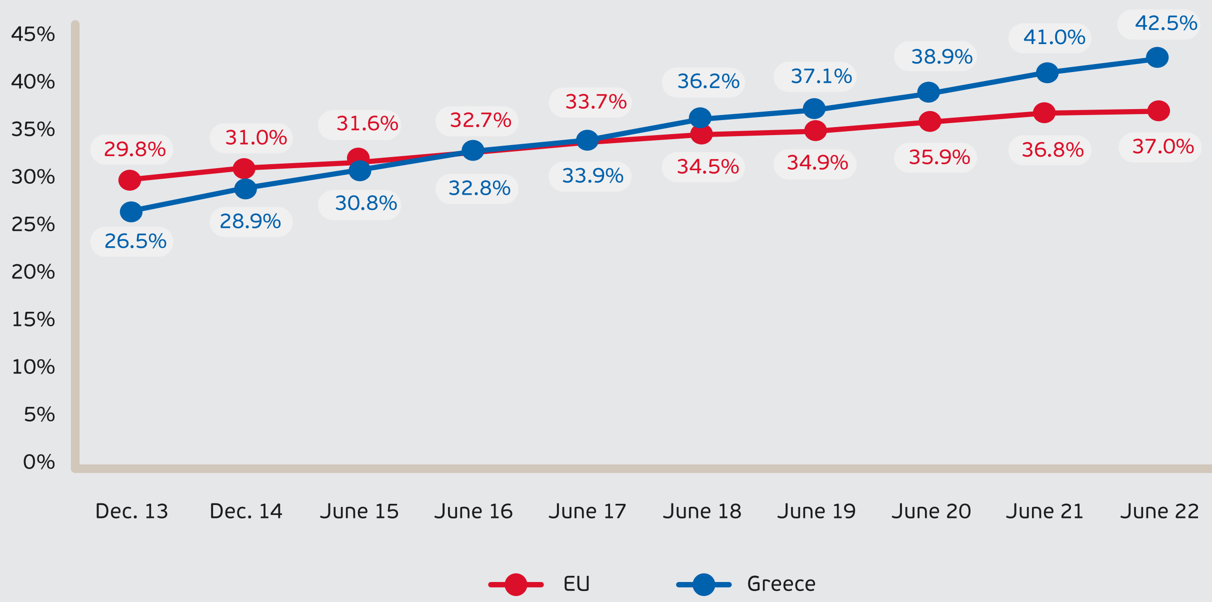
Source: EETT (based on the data of the European Commission's Digital Decade DESI)

Chart 1.119: Change in fixed broadband penetration in Greece and the EU



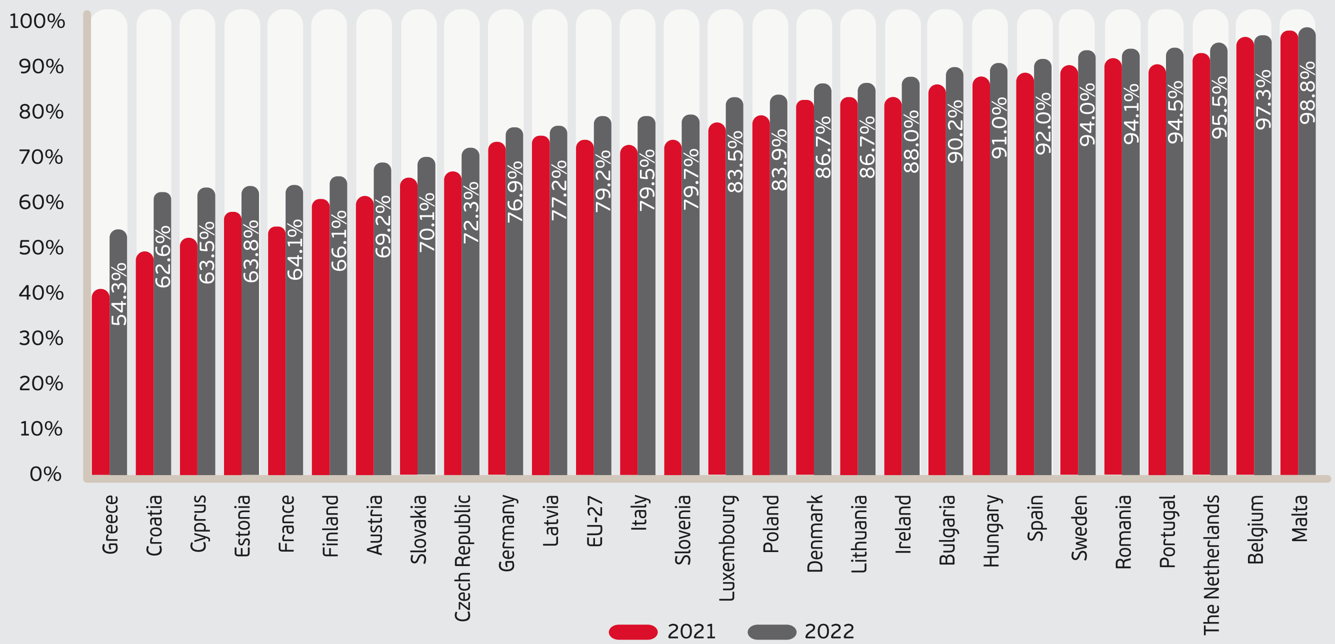
Source: EETT (based on the data of the European Commission's Digital Decade DESI)

Chart 1.120: Evolution of fixed broadband penetration in Greece and the EU



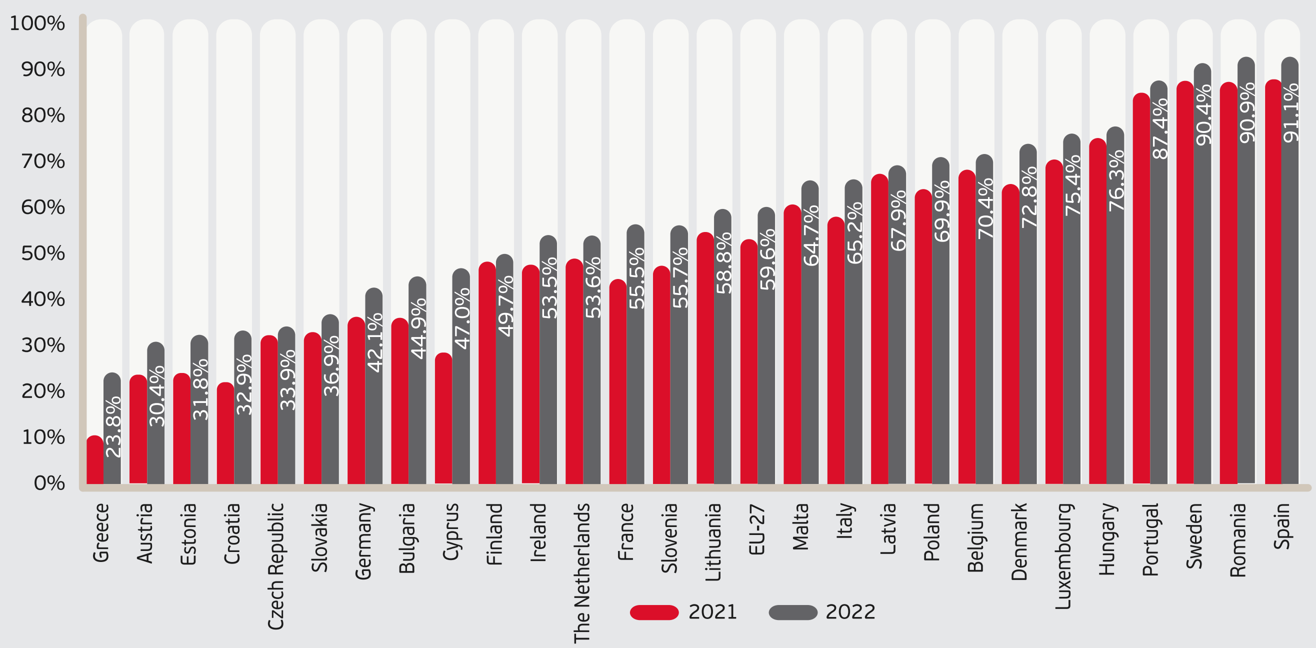
Source: EETT (based on the data of the European Commission's Digital Decade DESI)

Chart 1.121: Percentage of lines with advertised download access speeds ≥ 30 Mbps in the EU, June 2022



Source: EETT (based on the data of the European Commission's Digital Decade DESI)

Chart 1.122: Percentage of lines with advertised download access speeds ≥ 100 Mbps in the EU, June 2022

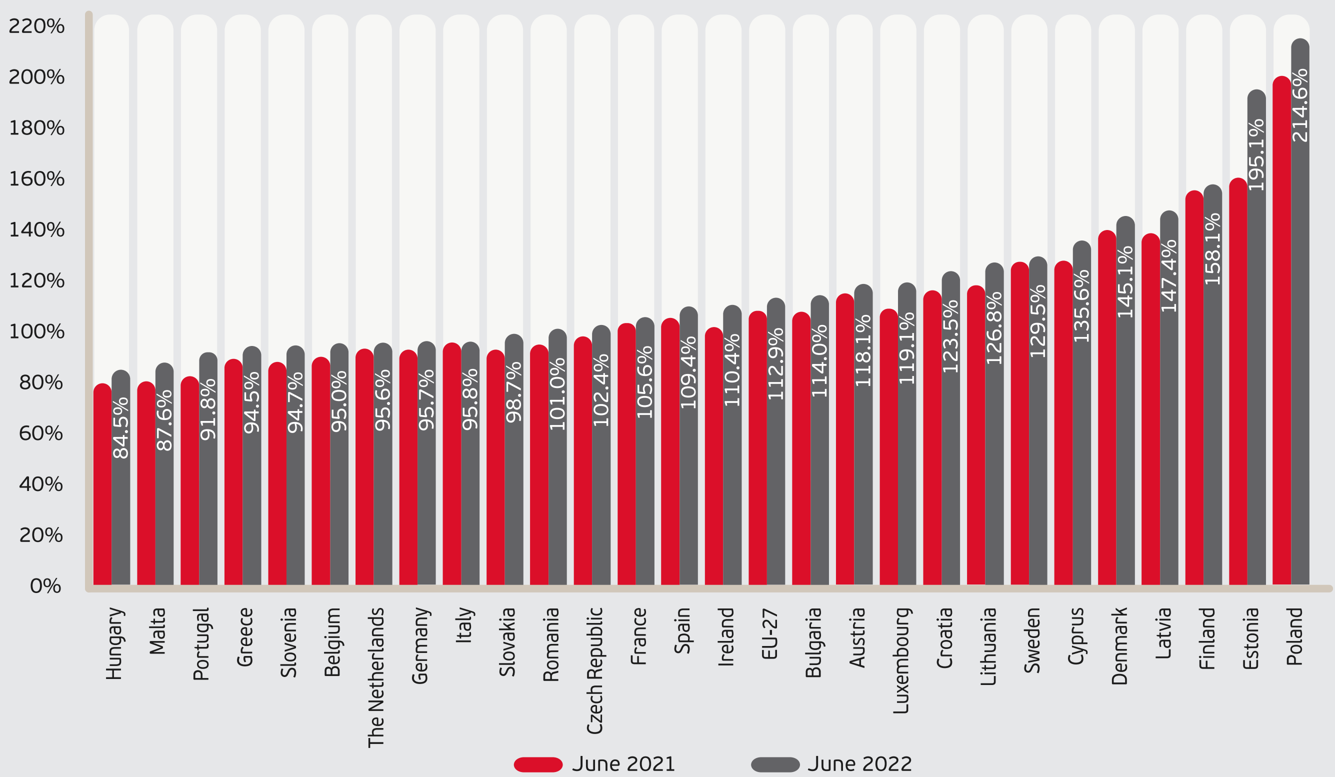


Source: EETT (based on the data of the European Commission's Digital Decade DESI)

Mobile broadband

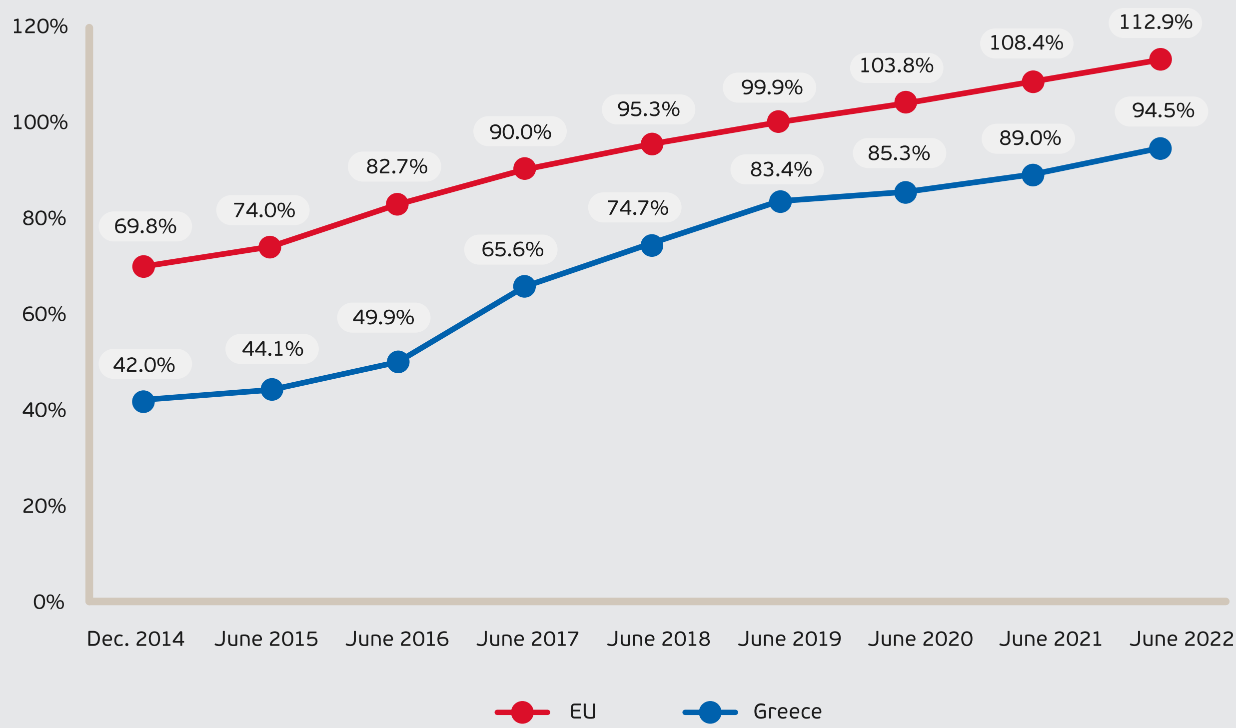
The mobile broadband penetration in the EU continued its steady upward trend, reaching 112.9% (connections per 100 people) in June 2022, versus 108.4% in June 2021 (Chart 1.123). However, Greece, with a 94.5% penetration, is among the last countries with the lowest mobile broadband penetration, even though the gap with the EU average penetration has been reduced, as within a year it increased by 5.5 percentage points versus 4.5 percentage points of the EU (Chart 1.124).

Chart 1.123: Mobile broadband penetration in the EU (connections per 100 people), June 2022



Source: EETT (based on the data of the European Commission's Digital Decade DESI)

Chart 1.124: Evolution of mobile broadband penetration in Greece and the EU (connections per 100 people)



Source: EETT (based on the data of the European Commission's Digital Decade DESI)

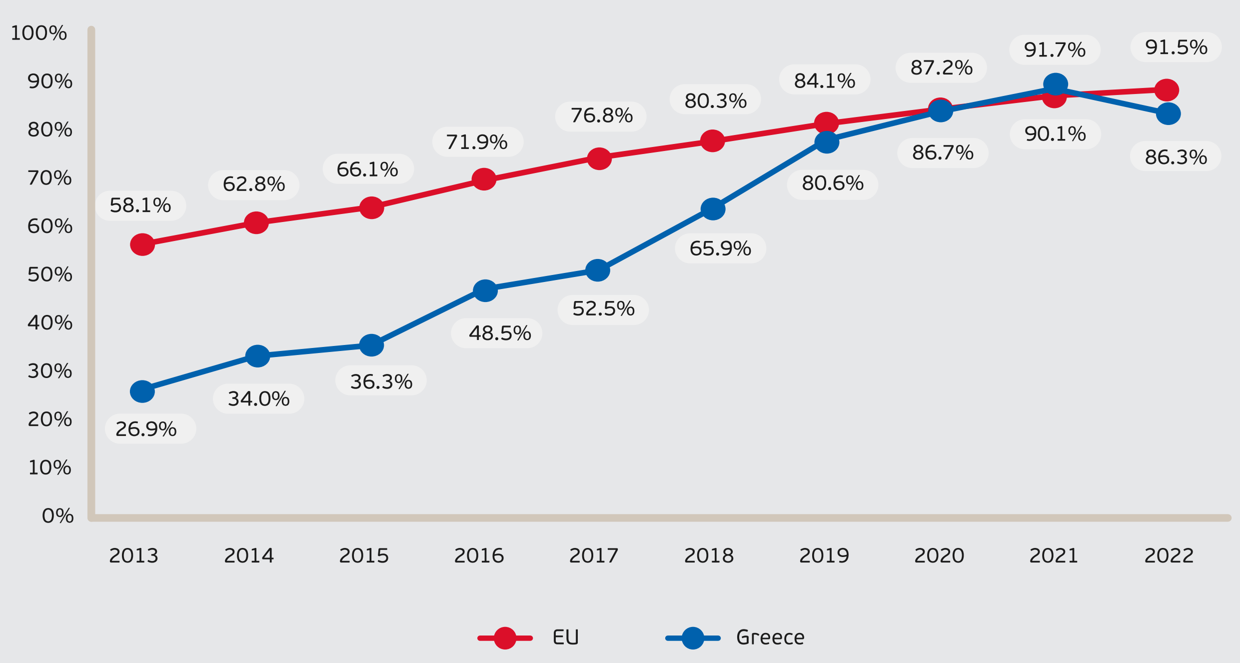
Network infrastructure deployment

The broadband coverage of the NGAs in the EU reached 91.5% of households by mid-2022, versus 90.1% as of mid-2021 (Chart 1.125). Greece lags behind the European average by 5.2 percentage points, with 86.3% coverage versus 91.7% as of mid-2021, since within a year it decreased by 5.3 percentage points. This fall is attributed to OTE's decision to stop offering VDSL services in areas where it couldn't meet the promised minimum[38]. Moreover, the NGA broadband penetration rate of households is still low (46.4%) far away from the European average (73.3%) (Chart 1.126).

Regarding the Very High Capacity Networks (VHCN), Greece increased its network coverage rate by 8 percentage points (27.8% in 2022 compared to 19.8% in 2021) and by 11.4 percentage points in the households' penetration rate (20.3%). Nevertheless, Greece still lags behind the respective European averages (73.4% and 55.1%), due to the upgrading of the VDSL services versus the deployment of VHCN by the operators (Charts 1.127 and 1.128)[39].

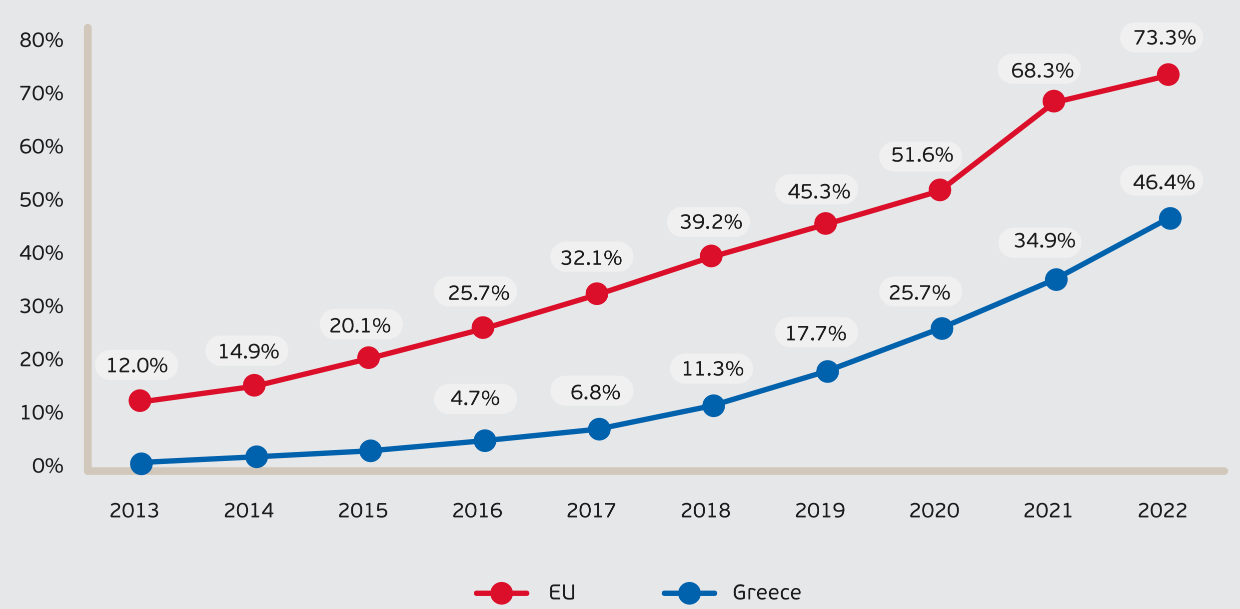
38. Broadband coverage in Europe 2022, pg. 107.
39. Broadband coverage in Europe 2022, pg. 26.

Chart 1.125: NGA broadband coverage in Greece and the EU



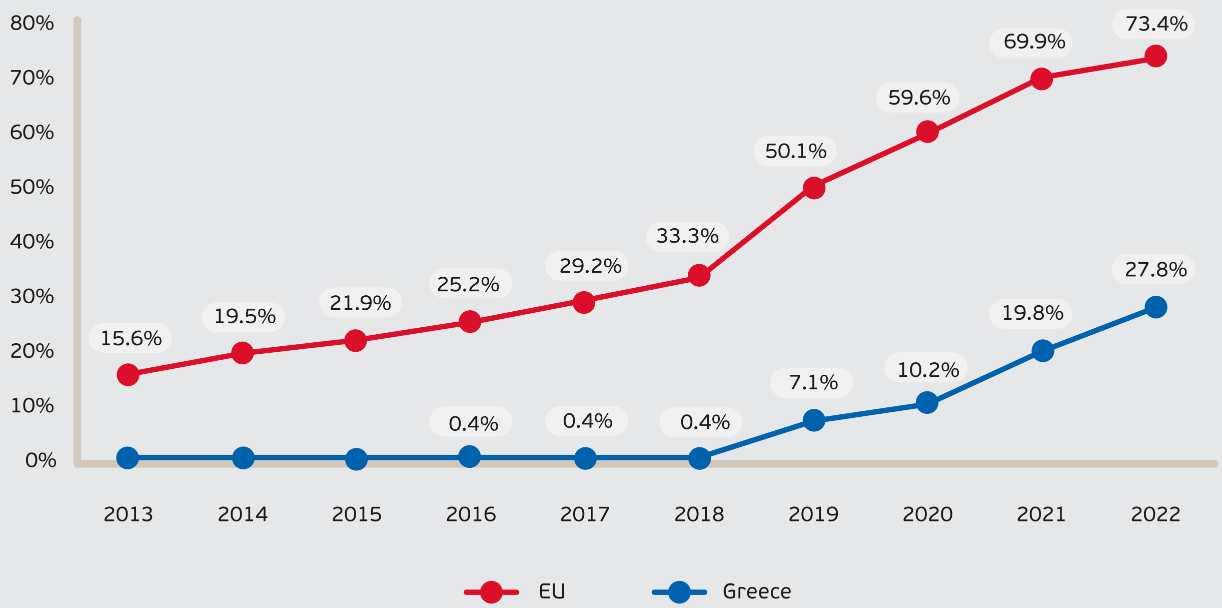
Source: EETT (based on the data of the European Commission's Digital Decade DESI)

Chart 1.126: NGA broadband penetration rate in Greece and the EU



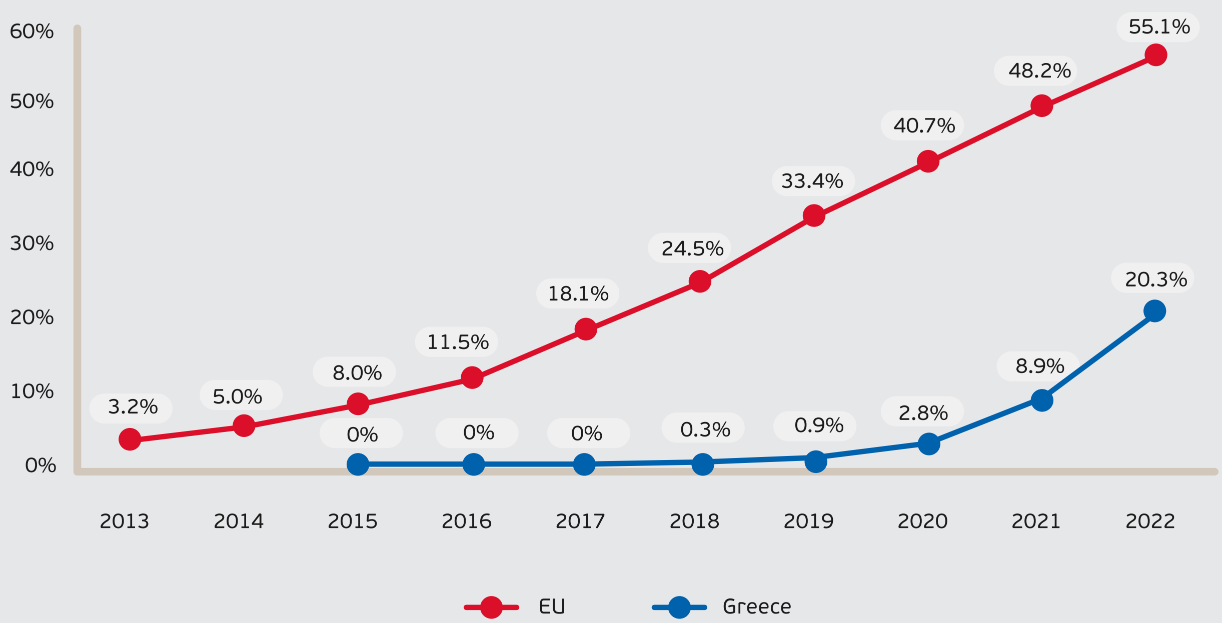
Source: EETT (based on the data of the European Commission's Digital Decade DESI)

Chart 1.127: VHCN broadband coverage in Greece and the EU



Source: EETT (based on the data of the European Commission's Digital Decade DESI)

Chart 1.128: VHCN broadband penetration rate in Greece and the EU

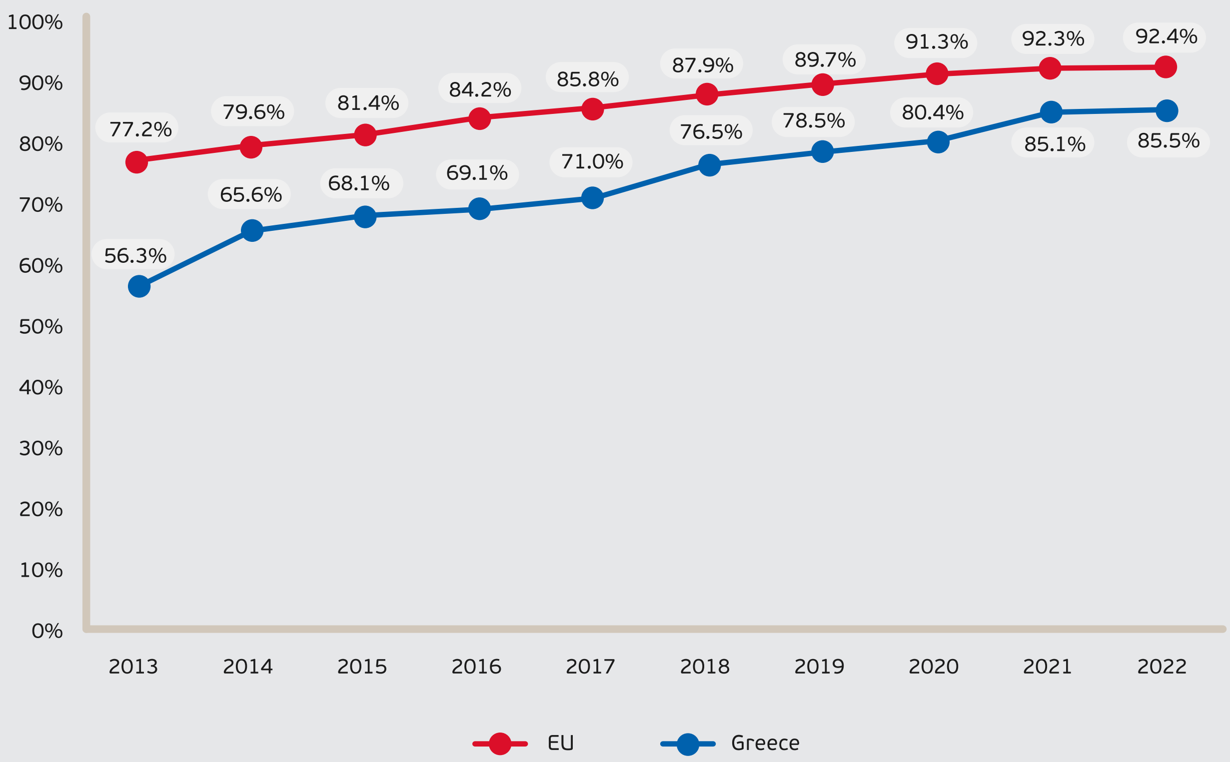


Source: EETT (based on the data of the European Commission's Digital Decade DESI)

Internet access

In 2022, 85.5% of Greek households had access to the Internet, with the respective European average reaching 92.4%. As a result, the gap between Greece and the EU narrowed by 7 percentage points in 2022 versus 7.2 percentage points in 2021 (Chart 1.129).

Chart 1.129: Evolution of Internet penetration in households in Greece and the EU



Source: EETT (based on the data of the European Commission's Digital Decade DESI)

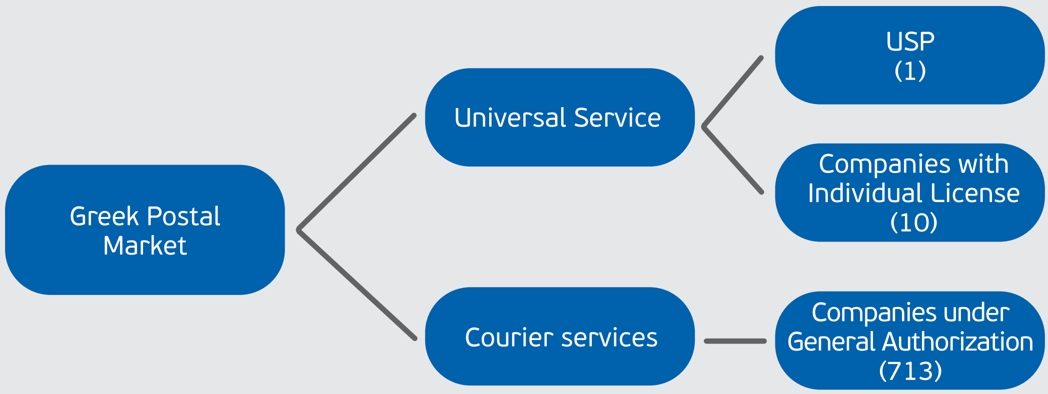
2. Postal services

2. Postal services

2.1. The Greek postal market

The number of companies that operated in the Greek market in 2022 remained almost stable, reaching 724[40] companies versus 720 companies in 2021 (Graph 2.1.) In particular, a) the Universal Service Provider (USP-ELTA) along with ten private companies holding an Individual License operated in the Universal Services (US) sector (Chart 2.1) and b) 713 companies under General Authorization operated in the courier sector. In 2022, 60 new companies under General Authorization entered the courier market (Chart 2.2).

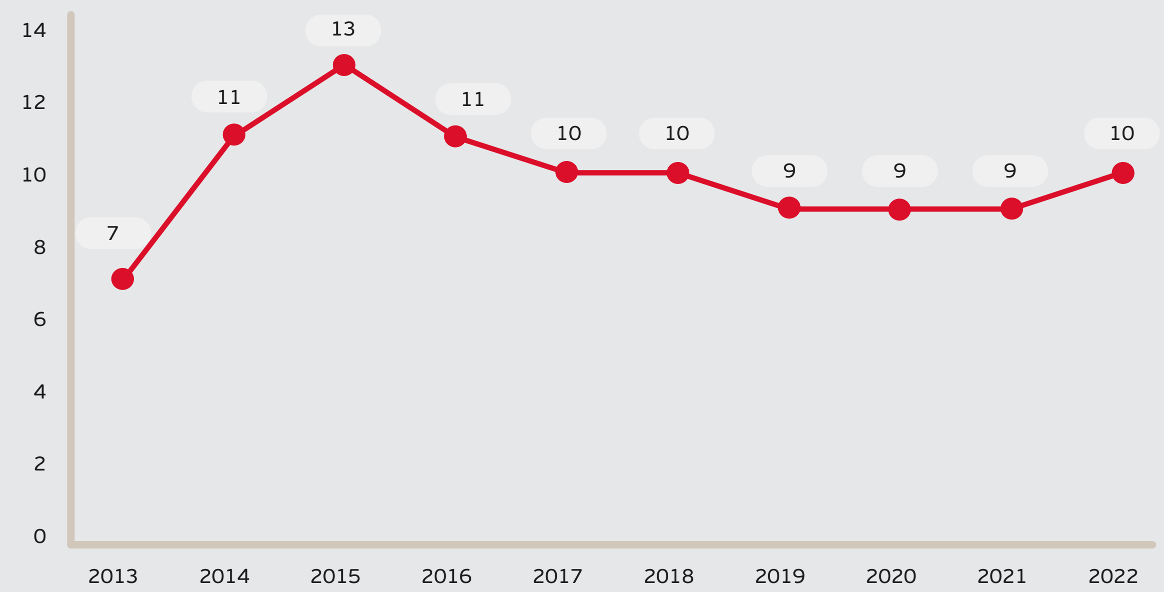
Graph 2.1: Number of companies in the Greek postal market



Source: EETT (Register of postal services providers)

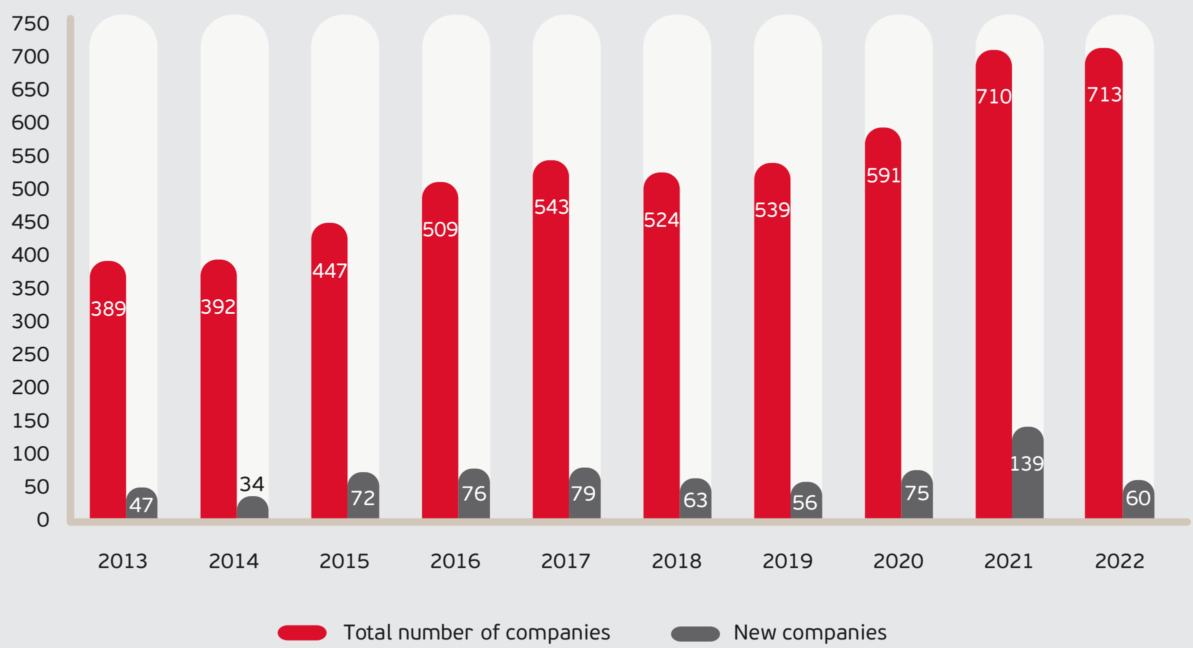
40. There are several companies holding simultaneously an Individual License and a License under General Authorization.

Chart 2.1: Number of companies with Individual License



Source: EETT (Register of postal services providers)

Chart 2.2: Number of companies under General Authorization



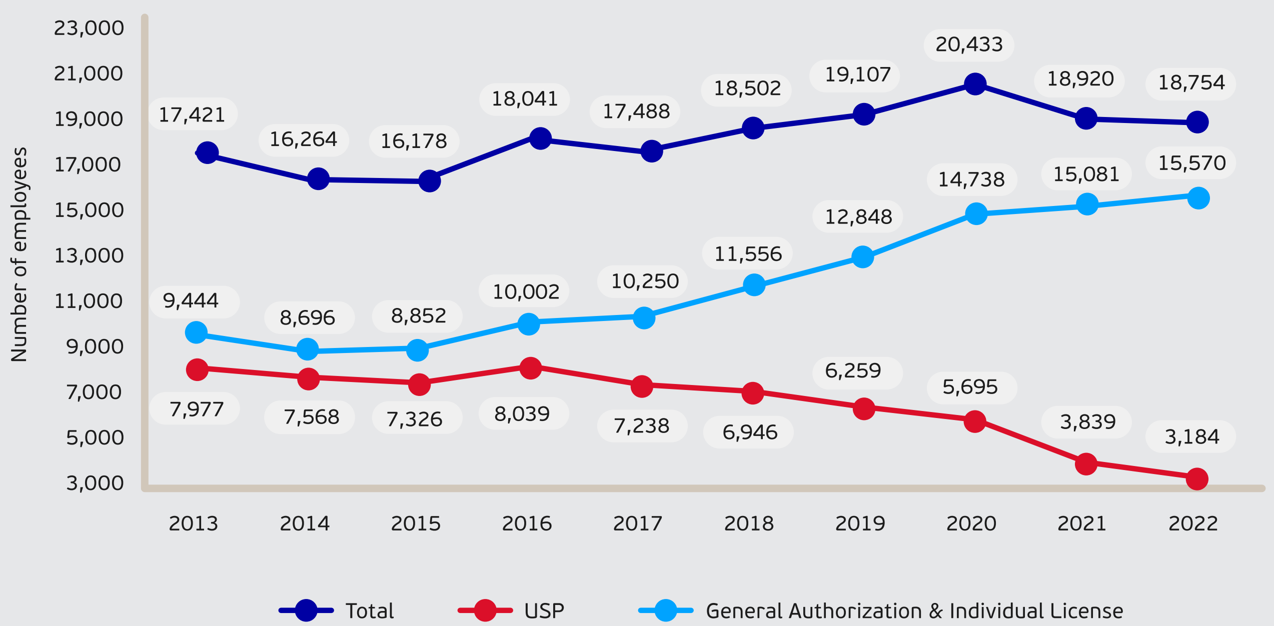
Source: EETT (Register of postal services providers)

The number of people employed in the Greek postal market, in 2022, reached 18,754, showing a 0.9% decrease compared to 2021 (18,920 employees). In particular, 17% of the people (3,184 employees) worked at the USP, while the remaining 83% (15,570 employees) worked for the other providers with Individual License or under General Authorization (Chart 2.3).

Regarding the infrastructure of postal services providers, in 2022, the USP owned 1,119 post offices and 2,183 vehicles. The other providers with Individual License or under General Authorization owned 1,320 post offices (proprietary and network offices) and 9,035 vehicles, 315 of which are vehicles with new anti-pollution technology, electric or ecological.

Additionally, in Greece, in 2022, four postal companies provided the service of automated parcel lockers[41], strengthening their network by placing relevant facilities in 1,947 points (from 225 points in 2021) mainly in the wider area of Attica, Thessaloniki, as well as in other major cities of the country.

Chart 2.3: Employment in the Greek postal market



Source: EETT (based on data provided by postal services providers)

41. These are special machines, placed in outdoor or indoor spaces, with lockers of various sizes, which are locked and unlocked using software. Usually, they have a touch screen or keyboard and a barcode scanner. In addition, they provide the option to pay through an installed POS, as well as to issue the corresponding receipt through the installed printer.

2.2. Evolution of key figures of the postal market in Greece

The analysis of the key figures of the Greek postal market is based on the data provided by the USP as well as the postal companies under General Authorization or with an Individual License, whose revenues from postal activities amount to 100 thousand euros and above for the reference year.

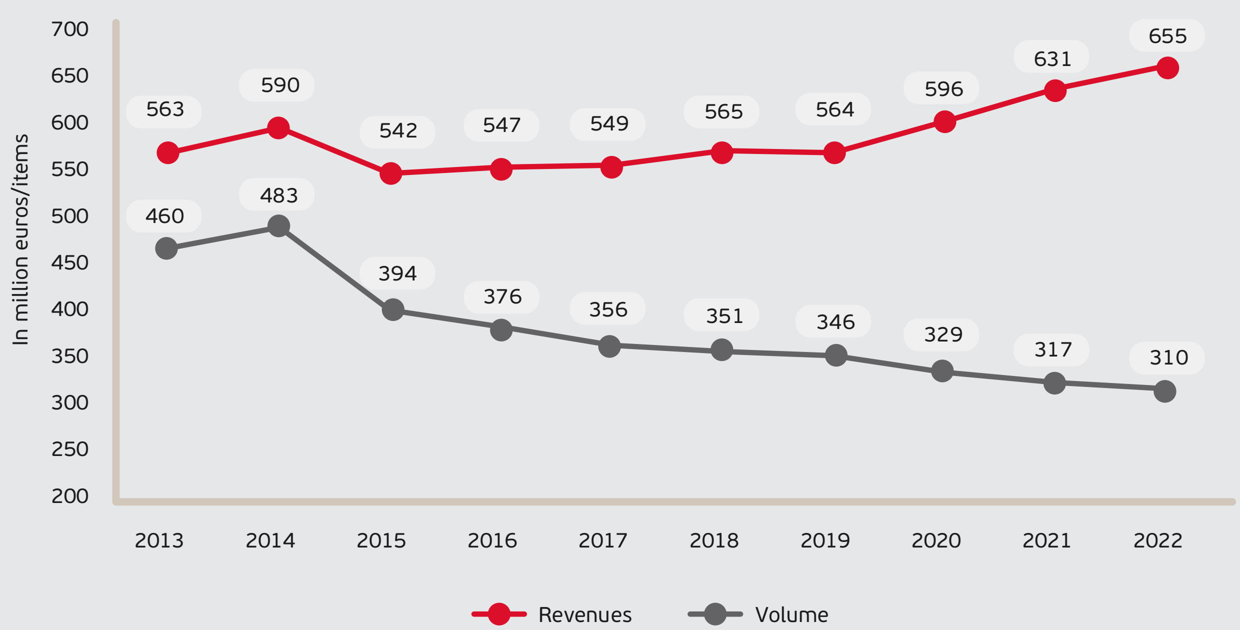
2.2.1. Postal items revenues and volume

Total postal market

In 2022, the Greek postal market continued its upward trend of the last three years in terms of revenues, while the volume of the postal items continued to drop, due to the continued decline of letter mail. Specifically, 310 million postal items were handled, generating revenues of 655 million euros.

The course of the postal market over the last decade is presented in Chart 2.4.

Chart 2.4: Revenues and postal items volume of the Greek postal market



Source: EETT (based on data provided by postal services providers)

Per market sector

In 2022, the total revenues of the postal market showed a further increase of 3.9%, due to an increase of 8.5% in the revenues of companies under General Authorization. However, the total volume of the handled postal items decreased by 2.2%, while the handled items from companies under General Authorization increased by 1.1%. The USP reported a new significant decrease both in revenues (10.5%) and the volume of postal items handled (2%). The course of the US, Individual License and General Authorization sectors is shown in Tables 2.1 and 2.2.

Table 2.1: Postal market revenues (in thousand euros)

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2022/21
USP	282,919	272,658	227,417	207,313	195,059	185,273	174,307	149,895	129,574	116,021	-10.5%
Companies with Individual License	2,471	14,496	14,309	15,865	18,251	19,220	20,852	18,409	19,121	16,115	-15.7%
Companies under General Authorization	277,628	302,753	299,954	324,086	336,110	360,274	368,575	428,195	482,172	523,106	8.5%
Total	**563,018**	**589,907**	**541,680**	**547,265**	**549,421**	**564,768**	**563,734**	**596,499**	**630,867**	**655,242**	**3.9%**
Annual change	-1.7%	4.8%	-8.2%	1.0%	0.4%	2.8%	-0.2%	5.8%	5.8%	3.9%	-

Source: EETT (based on data provided by postal services providers)

Table 2.2: Postal market volume (in thousand items)

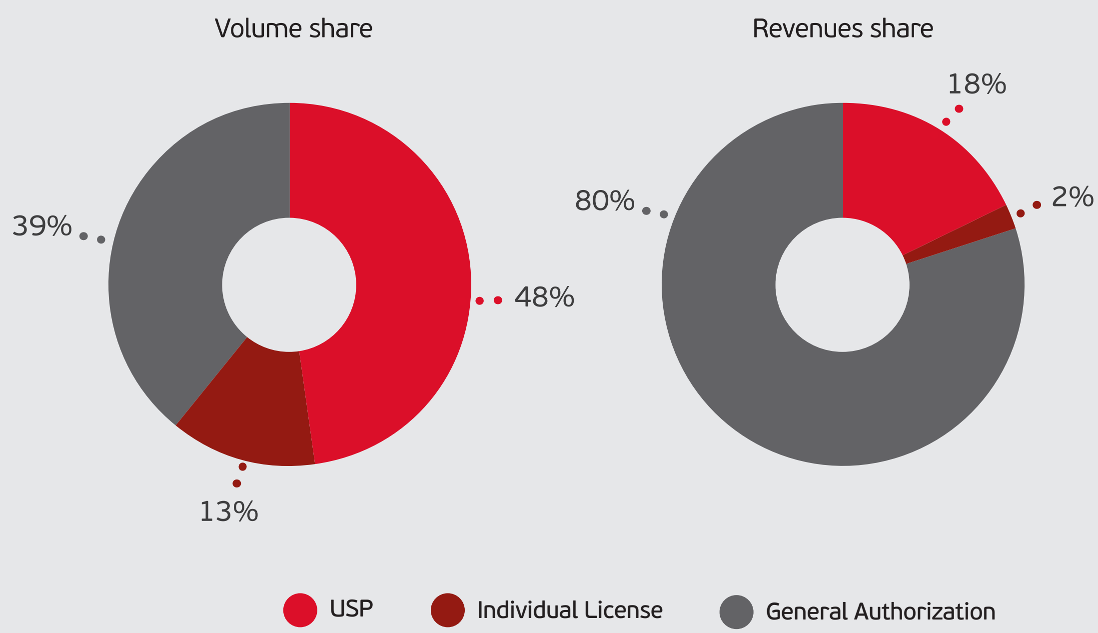
	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2022/21
USP	402,818	398,325	308,300	278,523	248,452	231,607	213,496	176,694	151,054	148,108	-2.0%
Companies with Individual License	5,326	26,854	27,251	32,060	37,136	42,312	48,681	46,049	46,249	40,930	-11.5%
Companies under General Authorization	52,278	57,563	58,578	65,752	70,613	76,624	84,199	106,000	119,288	120,618	1.1%
Total	**460,422**	**482,742**	**394,129**	**376,334**	**356,201**	**350,543**	**346,376**	**328,744**	**316,590**	**309,656**	**-2.2%**
Annual change	-10.9%	4.8%	-18.4%	-4.5%	-5.4%	-1.6%	-1.2%	-5.1%	3.7%	-2.2%	-

Source: EETT (based on data provided by postal services providers)

In 2022, the USP accounted for 48% of the postal items volume, while companies with Individual License and under General Authorization accounted for 13% and 39% respectively (Chart 2.5).

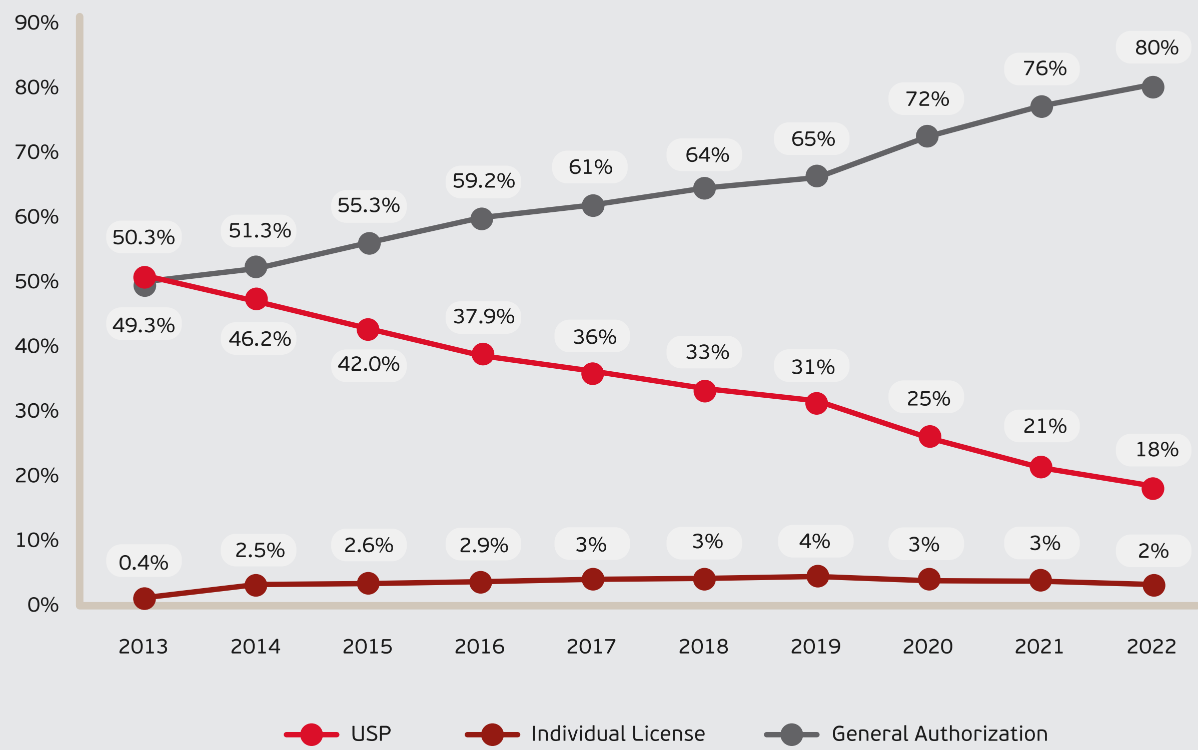
The USP' revenues share continued to decrease for another year (18% in 2022 versus 21% in 2021), while the respective figure for companies under General Authorization steadily increased, reaching 80% versus 76% in 2021. Finally, the market share of companies with Individual License decreased slightly (2% versus 3% in 2021), as shown in Chart 2.6.

Chart 2.5: Postal items volume and revenues shares per postal sector, 2022



Source: EETT (based on data provided by postal services providers)

Chart 2.6: Revenues shares per postal sector



Source: EETT (based on data provided by postal services providers)

Per postal service

The postal items are categorized to letters (including direct mail, newspapers, periodicals) and parcels (including small packages). In 2022, the parcel sector accounted for 65% of total revenues of the postal market, handling 26% of the total postal items (Chart 2.7). In particular, revenues from the handling of 81 million parcels amounted to 424 million euros, marking an increase of 9%, compared to 2021.

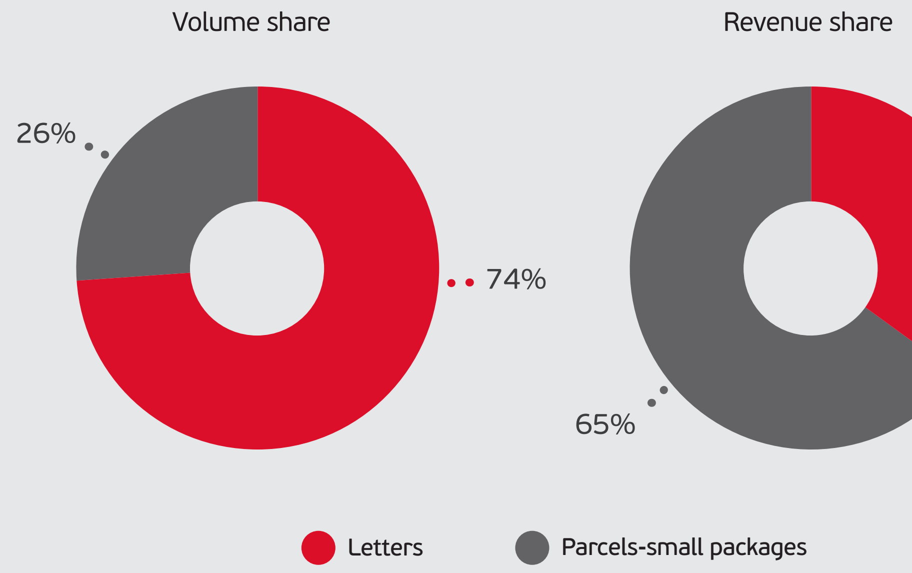
Regarding the number of handled letters, a 2% drop was recorded in 2022, although letters accounted for 74% of the handled postal items volume. More specifically, 228 million letters were handled, generating revenues of 232 million euros, marking a 5% decrease compared to 2021.

The over time drop in the volume and revenues of letters, is mainly due to the continued e-substitution of letter mail. The course of revenues and volume of the two postal services over the last decade is presented in Charts 2.8 and 2.9 respectively.

Regarding the services provided in 2022, the US dominated the letter mail sector[42], accounting for 82% of the volume and 52% of the revenues. As regards to the sector of parcels-small packages, courier companies had a dominant role, accounting for 98% of the volume and 97% of the revenues (Chart 2.10).

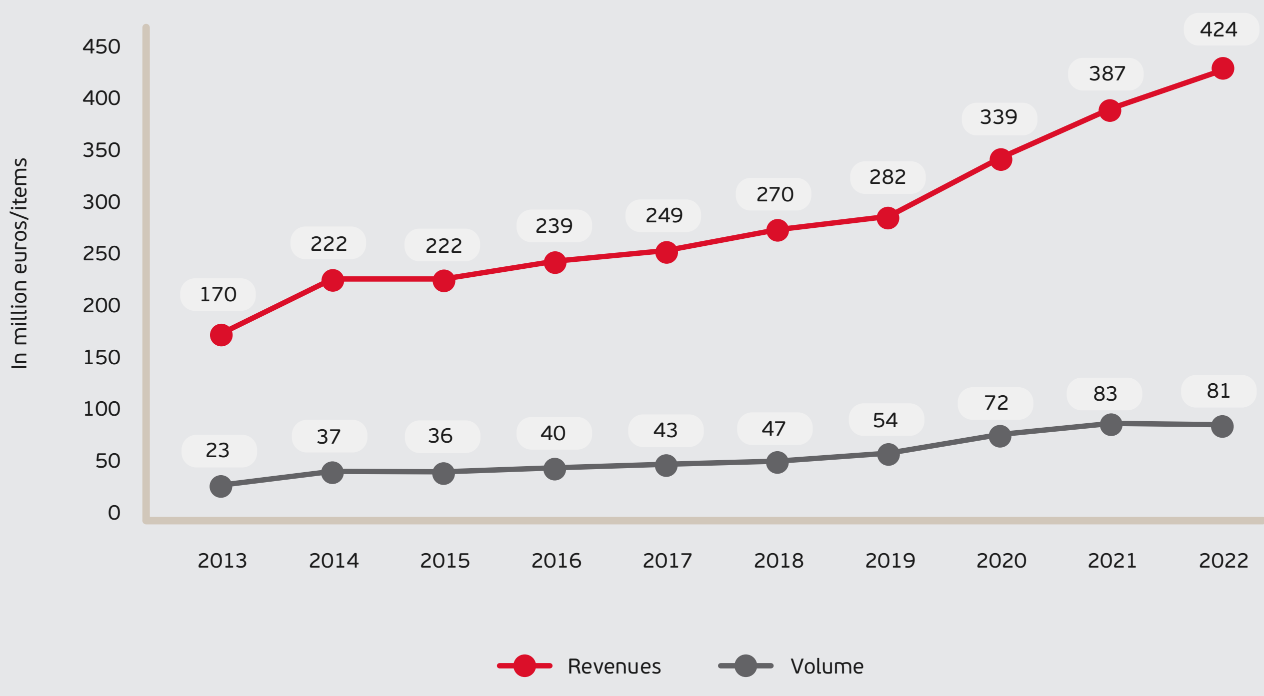
42. Including direct mail, books, newspapers and periodicals.

Chart 2.7: Postal items volume and revenues shares per postal service, 2022



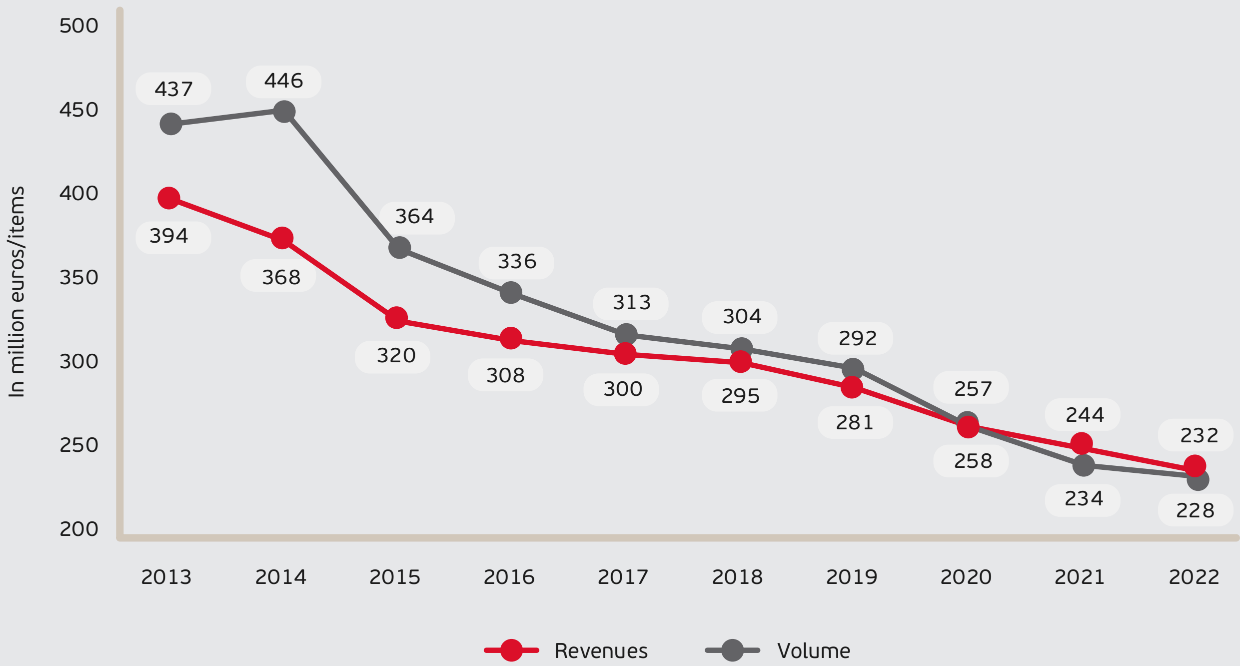
Source: EETT (based on data provided by postal services providers)

Chart 2.8: Volume and revenues of parcels-small packages



Source: EETT (based on data provided by postal services providers)

Chart 2.9: Volume and revenues of letters



Source: EETT (based on data provided by postal services providers)

Chart 2.10: Volume and revenues shares of letters and parcels per postal sector, 2022

Source: EETT (based on data provided by postal services providers)

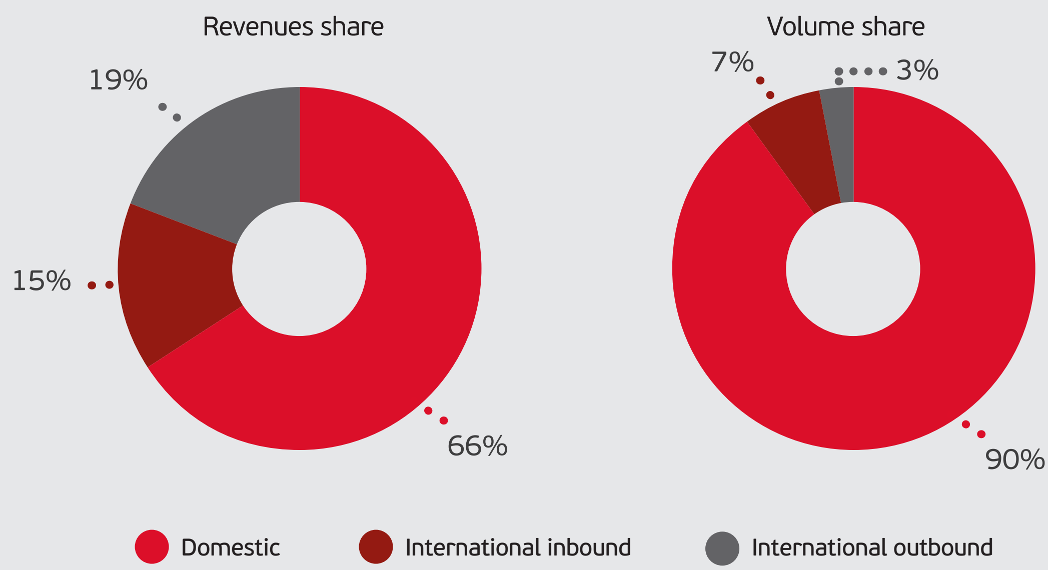
Per destination and origin of deliveries

In 2022, 66% of revenues in the Greek postal market resulted from domestic traffic (90%). The breakdown of the revenues and volume shares of domestic, international inbound and international outbound items is depicted in Chart 2.11.

The majority of postal items was delivered from Attica (74%) and Macedonia (12%) to domestic and international destinations. These two regions were also the most popular destinations of the items being sent domestically and from international destinations. More specifically, 46% of postal items was delivered in Attica and 17% in Macedonia (Chart 2.12).

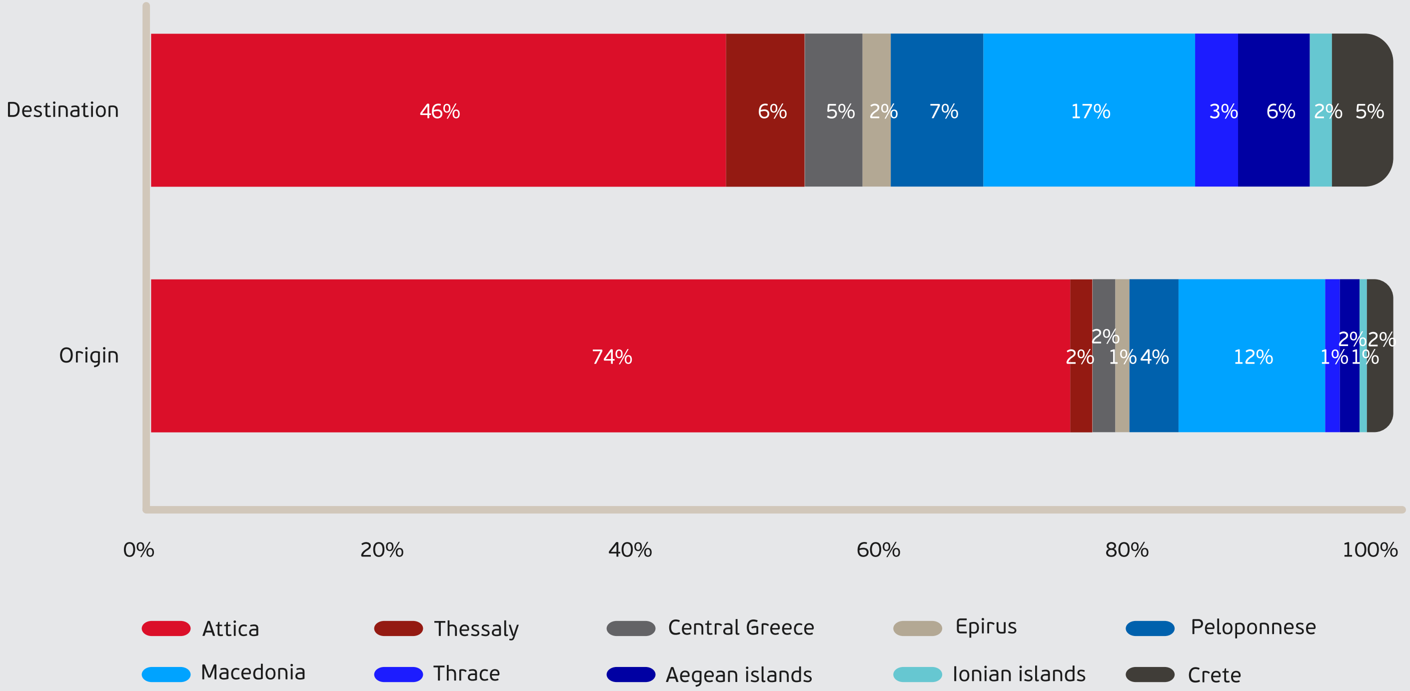
Moreover, the largest volume of postal items delivered in Greece from international destinations originated from the European Union (EU) (83%), the rest of Europe (7%) and the USA-Canada (5%), while the deliveries of postal items to international destinations concerned mostly the EU (60%), the USA-Canada (15%) and the rest of Europe (14%) (Chart 2.13).

Chart 2.11: Breakdown (%) of revenues and postal items volume shares per domestic-international service, 2022



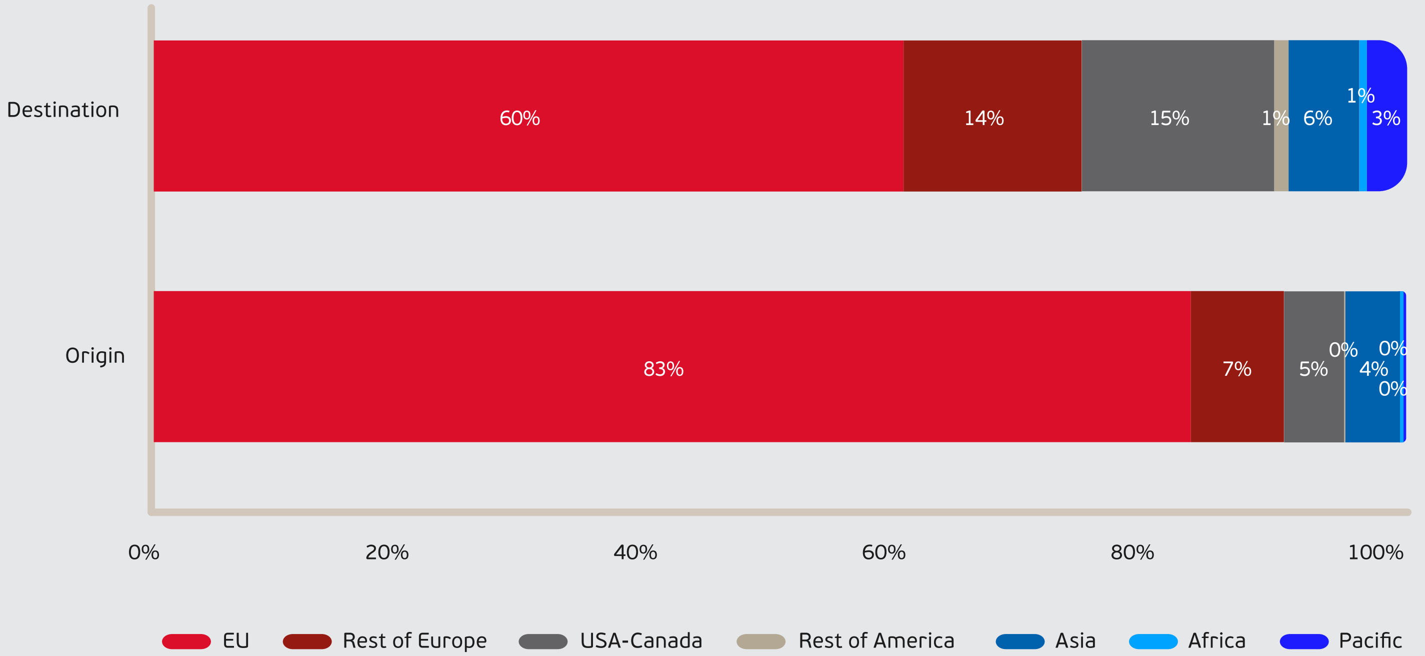
Source: EETT (based on data provided by postal services providers)

Chart 2.12: Origin and destination of domestic postal items deliveries per geographic region, 2022



Source: EETT (based on data provided by postal services providers)

Chart 2.13: Origin and destination of international postal items deliveries, 2022



Source: EETT (based on data provided by postal services providers)

2.2.2. The Universal Service sector

The USP and the companies with Individual License are the two types of providers operating in the US sector. According to the current legal framework, ELTA (Hellenic Post) is the USP in Greece and has undertaken the provision of the US for a period of 15 years, since the beginning of the postal market liberalization[43] until 31/12/2028.

The provision of the US includes the handling of letters, direct mail, newspapers, books, catalogues and periodicals weighing up to 2 kg, as well as parcels up to 20 kg. Letters were the prevalent postal item in the US sector, accounting for 90.9% of the sector's volume and generating 84.8% of its revenues for the 2022 (Table 2.3).

The USP remained the dominant player in the US sector in 2022, accounting for 78% of the postal items volume (versus 77% in 2021) and 88% of the revenues (versus 87% in 2021), as presented in the Chart 2.14.

The course of the market shares of companies within the US sector over the last decade, demonstrates the gradual increase in the market share of companies with an Individual License, which, however, was interrupted in 2022 as there was a slight increase in the USP market share (Chart 2.15). More specifically, in 2022, the companies with an Individual License decreased their share, in terms of the handled items volume, to 22%, compared to 23% in 2021, generating 12% of total revenues, compared to 13% in 2021. This decrease came mainly from the handling of letters up to 2 kg and direct mail items. The market shares of companies within the US sector for 2022 are presented in Chart 2.16.

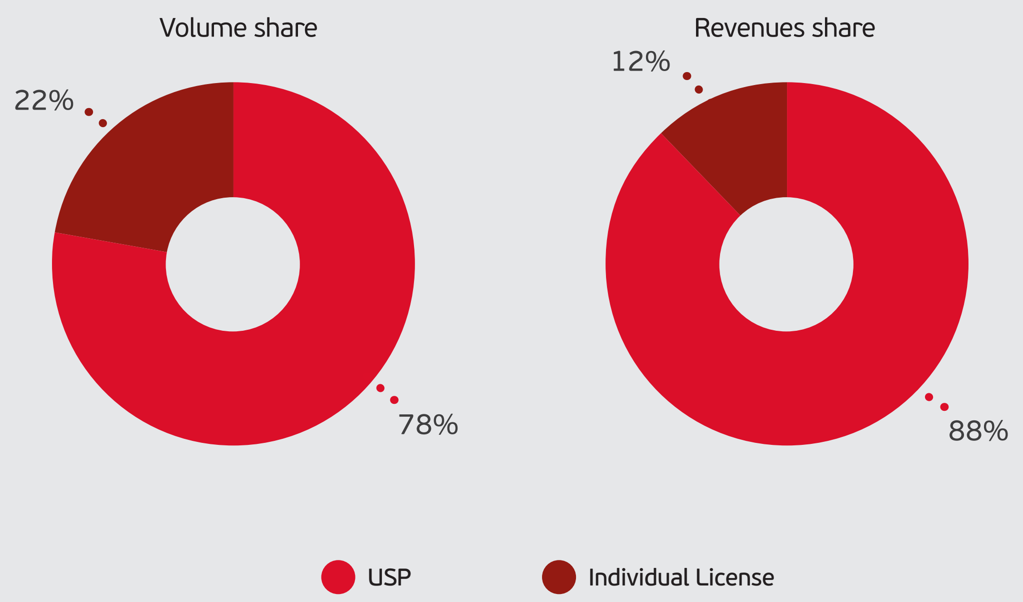
43. Law 4053/2012 "Regulation of the operation of the postal market, electronic communications issues and other provisions", Government Gazette 44/A/07-03-2012.

Table 2.3: Volume and revenues shares of postal items within the US sector, 2022

	Volume	Revenues
Letters	90.9%	84.8%
Direct mail	3.7%	1.7%
Newspapers	4.6%	3.9%
Books-catalogues-periodicals	0.1%	0.1%
Parcels and small packages	0.7%	9.5%
US total	**100%**	**100%**

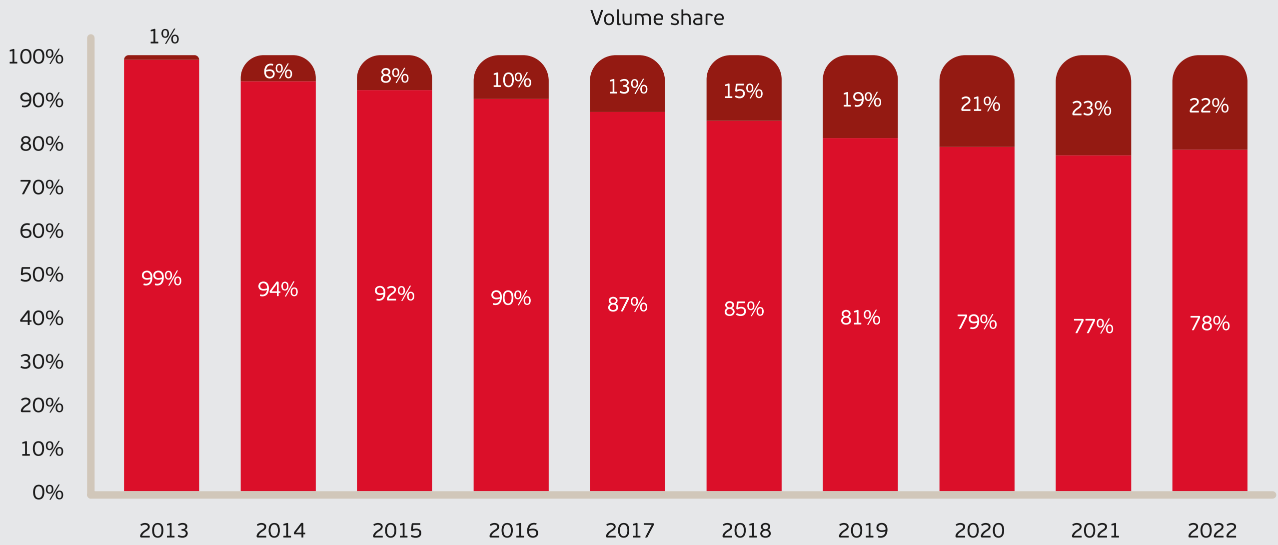
Source: EETT (based on data provided by postal services providers)

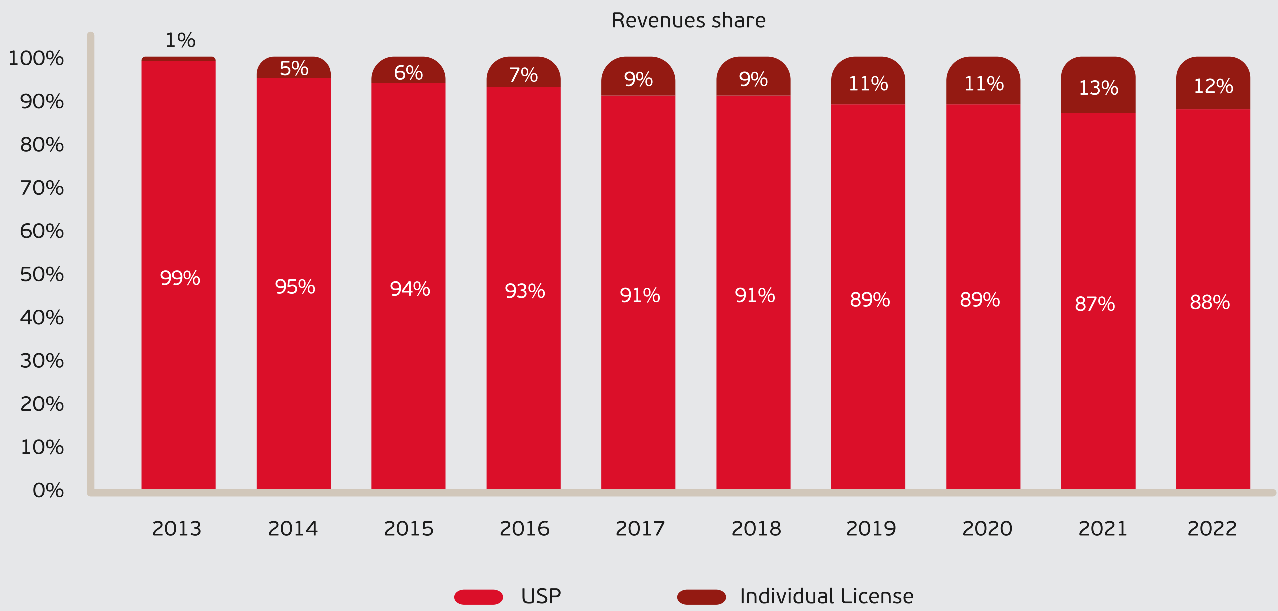
Chart 2.14: Postal items volume and revenues shares of postal services providers within the US sector, 2022



Source: EETT (based on data provided by postal services providers)

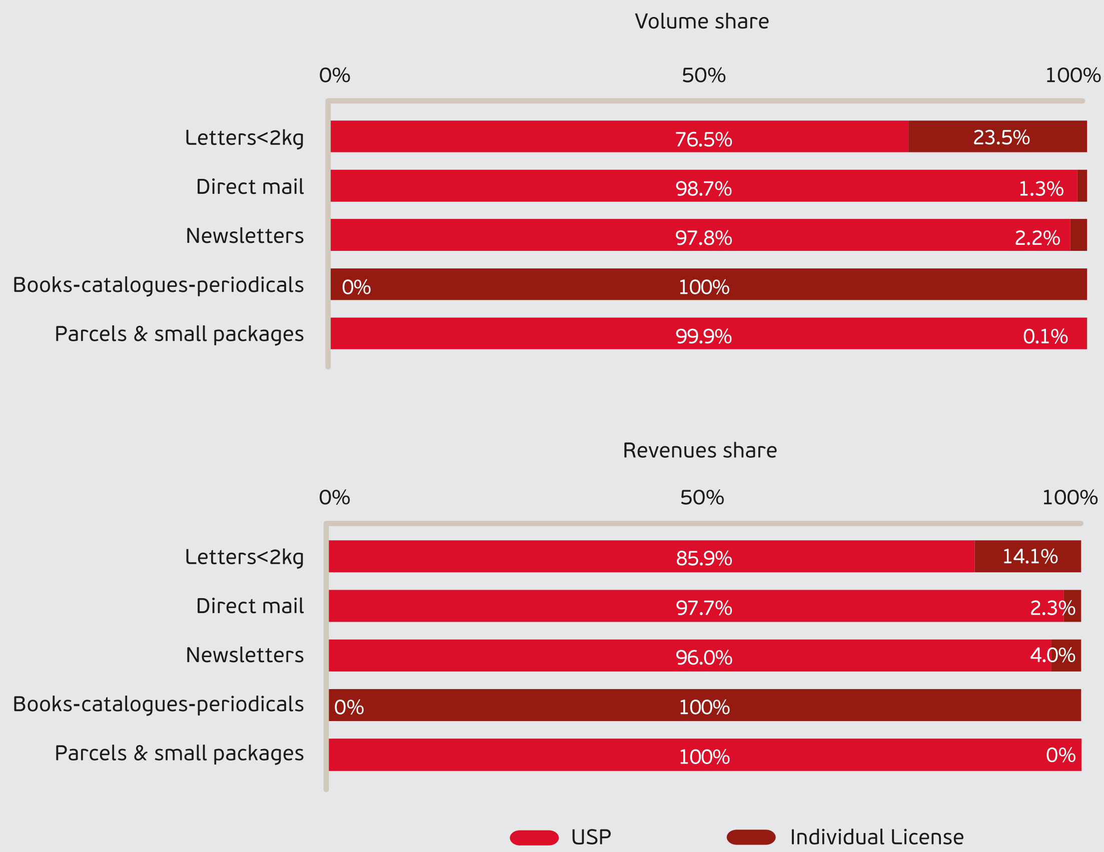
Chart 2.15: Evolution of postal services providers market shares within the US sector





Source: EETT (based on data provided by postal services providers)

Chart 2.16: Market shares of postal services by postal items type within the US sector, 2022



Source: EETT (based on data provided by postal service providers)

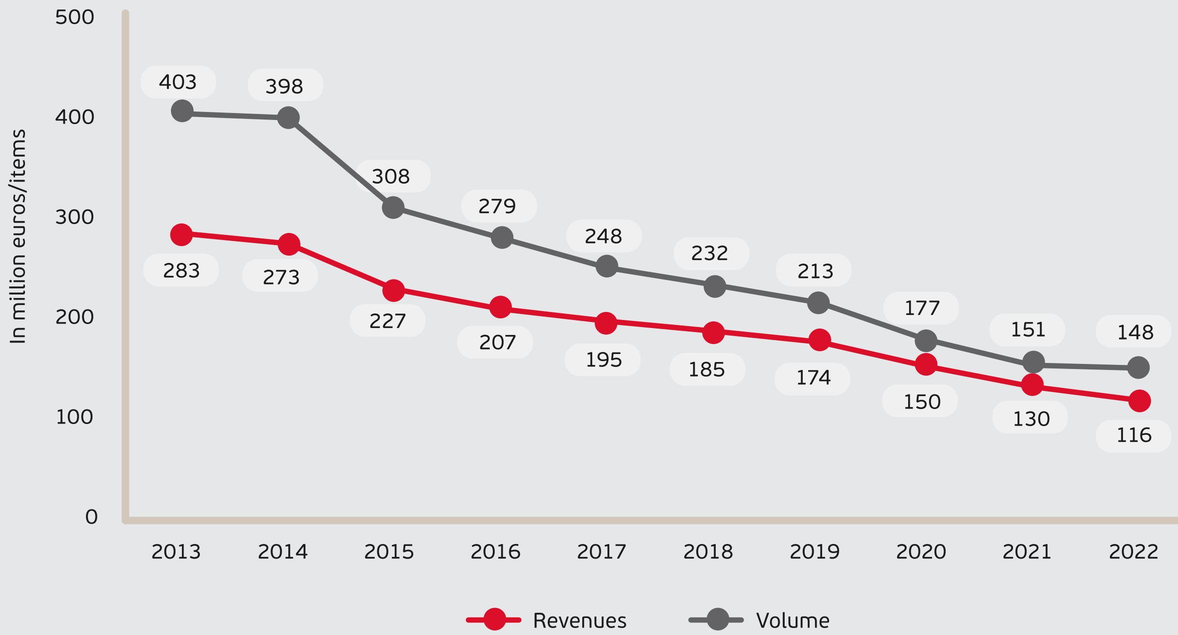
The Universal Service Provider (USP)

In 2022, USP's revenues totaled 116 million euros, decreased by 11% compared to the 2021. These revenues came from the handling of 148 million postal items, 2% less compared to the previous year. The over time progress of the USP's revenues and postal items volume during the last decade is presented in Chart 2.17.

The majority of the USP's revenues (83%) was generated mainly from the handling of letters up to 2 kg, followed by parcels up to 20 kg (9.4%) and newspapers (4.2%). In 2022, only the average revenue for parcels up to 20 kg showed a notable increase of 10.77%, while the average revenue in other categories showed a decrease. The total volume of postal items and the corresponding revenues, as well as the average revenue per category of postal items, are presented in Table 2.4.

The USP's revenues were generated by 48% from customers holding a contract and by 52% from retail customers. The USP's customer portfolio consisted mainly of public sector companies (20%), banks/assurance companies (16%), while individuals made up 19%.

Chart 2.17: USP's revenues and postal items volume



Source: EETT (based on data provided by postal services providers)

Table 2.4: USP's revenues and postal items volume shares per service, 2022

	Total volume (%)	Total revenues (%)	Average revenue (in euros)	Difference 2022-2021(%)
Letters	88.8%	83.0%	0.73	-7.40%
Direct mail	4.6%	1.9%	0.32	-4.55%
Newspapers	5.8%	4.2%	0.57	-0.35%
Books-catalogues-periodicals	0%	0%	0	0%
Small packages	0.4%	1.5%	2.96	-6.59%
Parcels	0.4%	9.4%	16.50	10.77%
Total	**100%**	**100%**	-	-

Source: EETT (based on data provided by postal services providers)

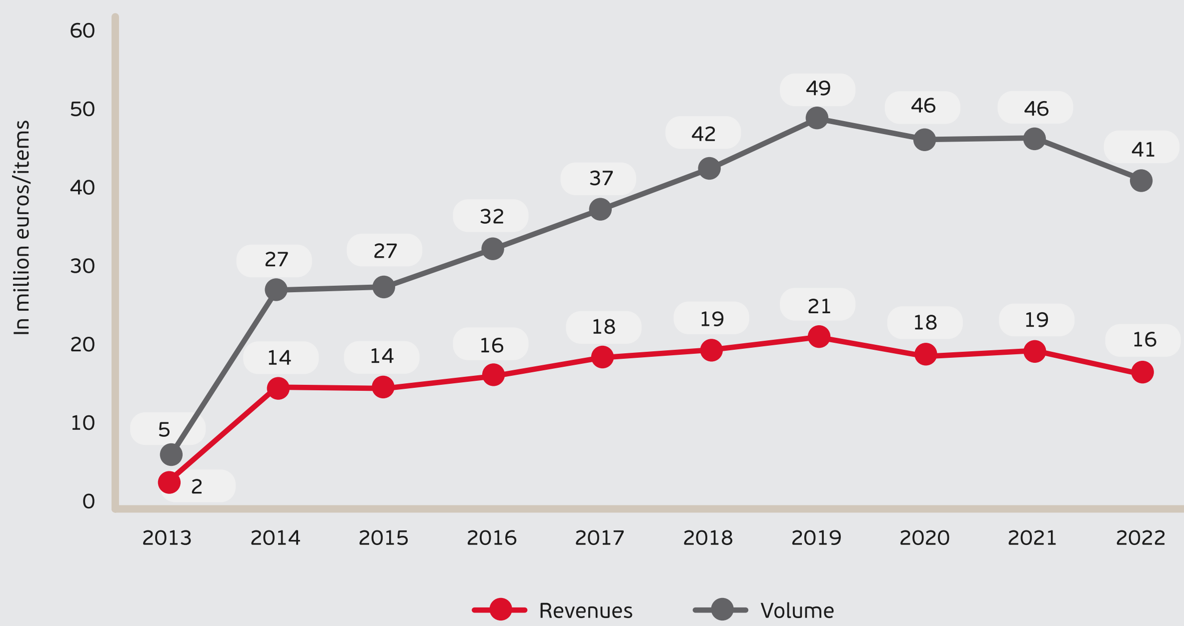
Companies with an Individual License

Ten companies with an Individual License operated in the US sector, in 2022. Particularly, four companies with an Individual License operated in the handling of letters, two in the distribution of direct mail, one in the distribution of newspapers, two in the distribution of books/catalogues/periodicals and three in the distribution of parcels. 98% of the revenues came from three companies, which handled 99% of postal items.

In 2022, the companies with an Individual License showed a noticeable decrease in revenues and in the volume of postal items. In particular, the revenues of companies with an Individual License accounted for 16 million euros, decreased by 16% compared to the previous year, while the handled postal items were 41 million, 12% less compared to 2021. The over time course of the revenues and the postal items volume of companies with an Individual License, during the last decade, is presented in Chart 2.18.

As presented in Table 2.5, in 2022, letter mail handling almost monopolized the sector's activity, as in previous years.

Chart 2.18: Revenues and postal items volume of companies with Individual License



Source: EETT (based on data provided by postal services providers)

Table 2.5: Postal items volume and revenues per service for companies with Individual License, 2022

	Total volume (%)	Total revenues (%)
Letters	98.8%	97.8%
Direct mail	0.2%	0.3%
Newsletters	0.5%	1.3%
Books-catalogues-periodicals	0.5%	0.6%
Parcels & small packages	0%	0%
Total	**100%**	**100%**

Source: EETT (based on data provided by postal services providers)

2.2.3. The courier services sector

The companies in the courier services sector operate under General Authorization and provide courier services, meaning express delivery of postal items including monitoring and track and trace systems. The activities of the courier companies include the handling of letters up to 2 kg, small packages up to 2 kg, parcels from 2 up to 20 kg and parcels heavier than 20 kg.

In 2022, 60 new companies entered the courier services sector, raising the total number of companies operating under General Authorization to 713 versus 710 in 2021.

The revenues of companies operating under General Authorization amounted to 523 million euros, increased by 9% compared to 2021, with 121 million postal items handled, thus 1% more than the previous year. The ongoing raise in revenues and volume of postal items is due to the continued growth of e-commerce, which constantly increases the demand for handling small packages and parcels.

The over time growth of revenues and postal items volume of companies under General Authorization, over the last decade, is presented in Chart 2.19.

In particular, letters constitute 34% of postal items handled by courier companies, whereas parcels and small packages constitute 66%. Correspondingly, letters generated significantly less revenues (21%) for companies under General Authorization than small packages (79%). The volume and revenues share of postal items handled by the courier companies are shown in Chart 2.20.

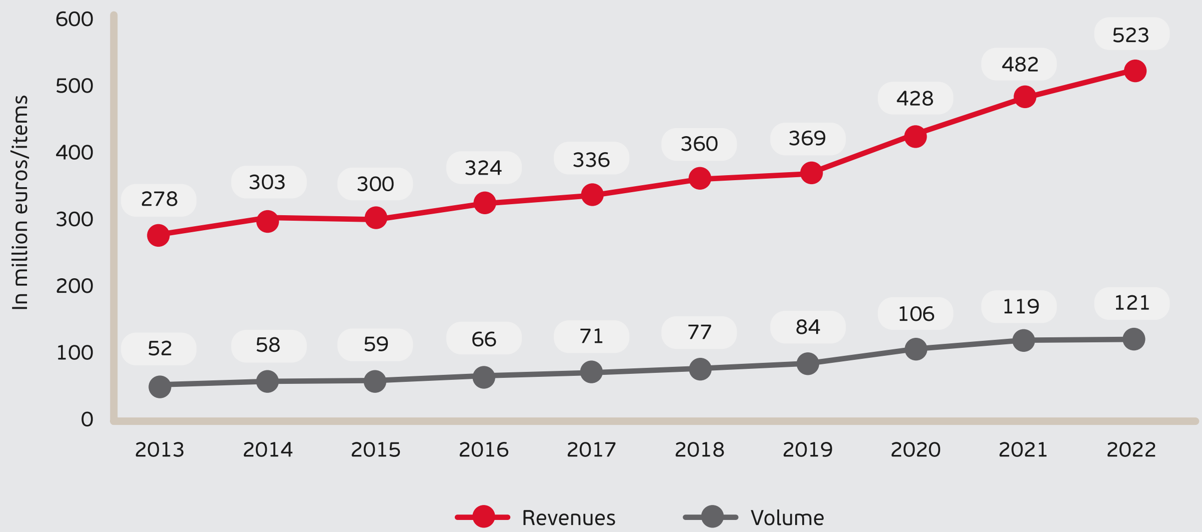
Although 713 companies operated in the courier market in 2022, 79% of postal items was handled by just six companies, generating a 77% share of the market's revenues (Chart 2.21).

Herfindahl-Hirschman Index (HHI)[44] gives an indication of the level of competition among postal services providers. It is an index reflecting market concentration, which shows the degree to which a small number of companies represents a large part of the market. The higher the HHI, the higher is the con-

44. Source: Hirschman A. (1945), National Power and the Structure of Foreign Trade, Berkley & Los Angeles: Publications of the Bureau of Business and Economic Research, University of California and Herfindahl, O.C. (1950), Concentration in the U.S. Steel Industry, Columbia University, unpublished Ph.D. thesis. $HI=\sum_{i=1}^{n} s_i^{2}$, where s is the market share of company “i” and n is the number of companies.

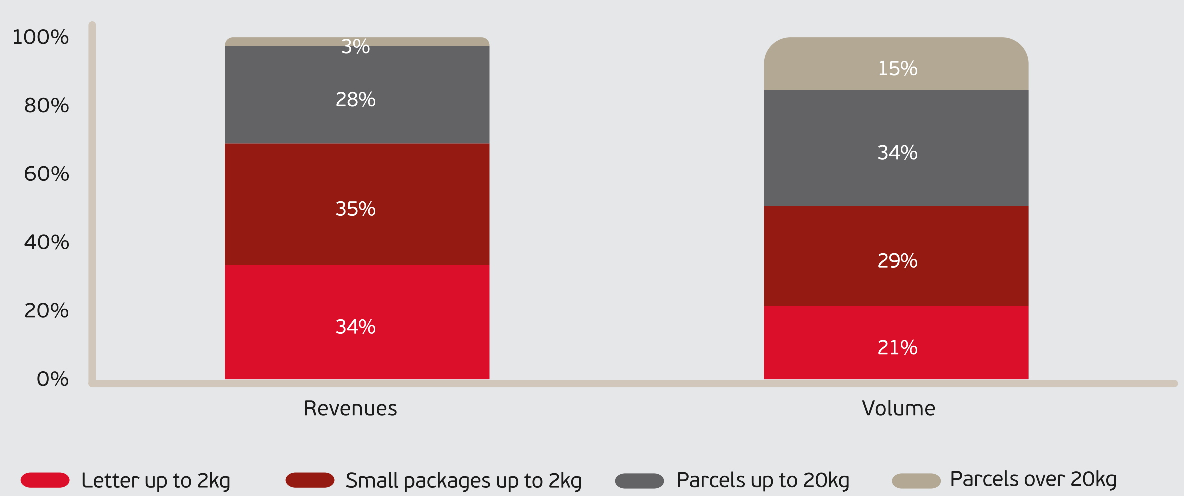
centration. Particularly, a HHI index between 1,000 and 1,800 indicates a moderate level of market concentration. In 2022, the HHI index for the courier market was noticeably reduced compared to the previous year, ranging in a moderate degree of concentration (Chart 2.22).

Chart 2.19: Revenues and postal items volume of companies under General Authorization



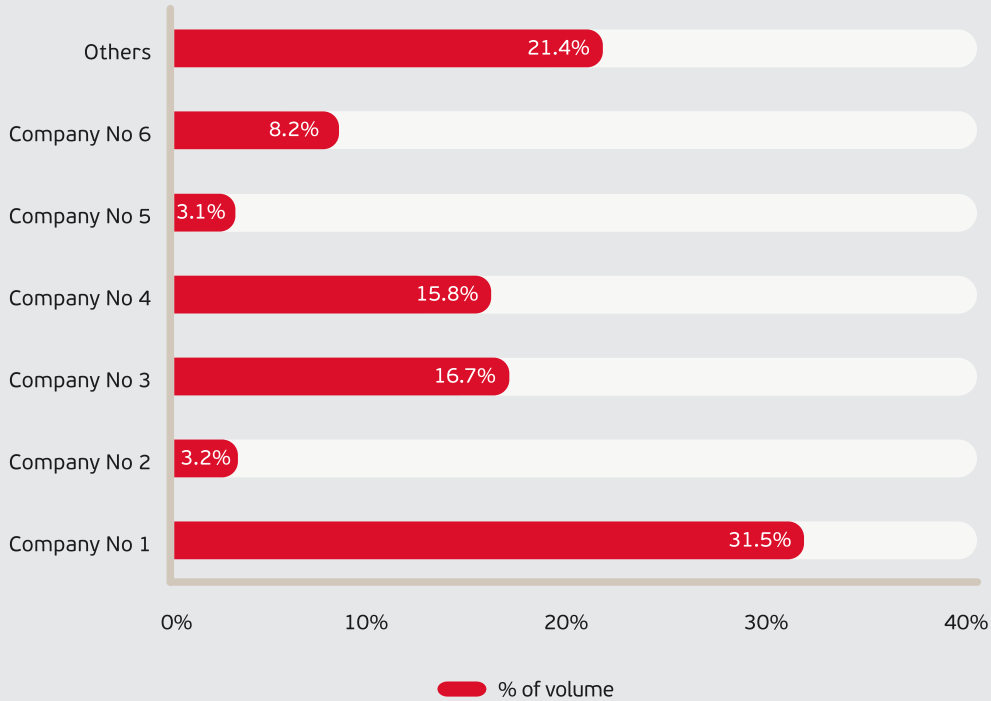
Source: EETT (based on data provided by postal services providers)

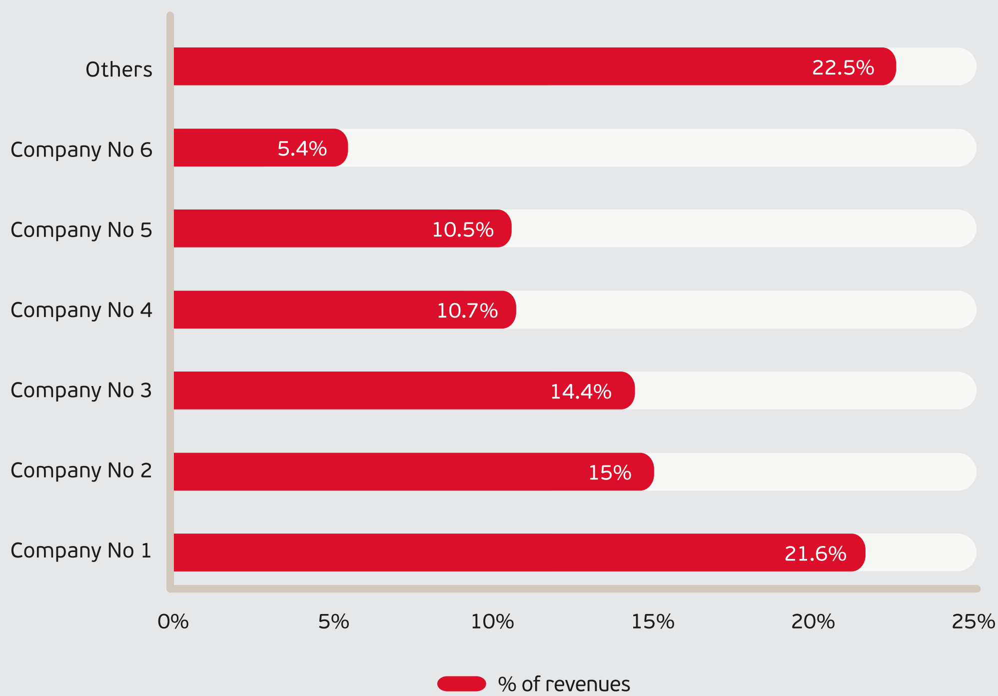
Chart 2.20: Postal items volume and revenues per service in the courier sector, 2022



Source: EETT (based on data provided by postal services providers)

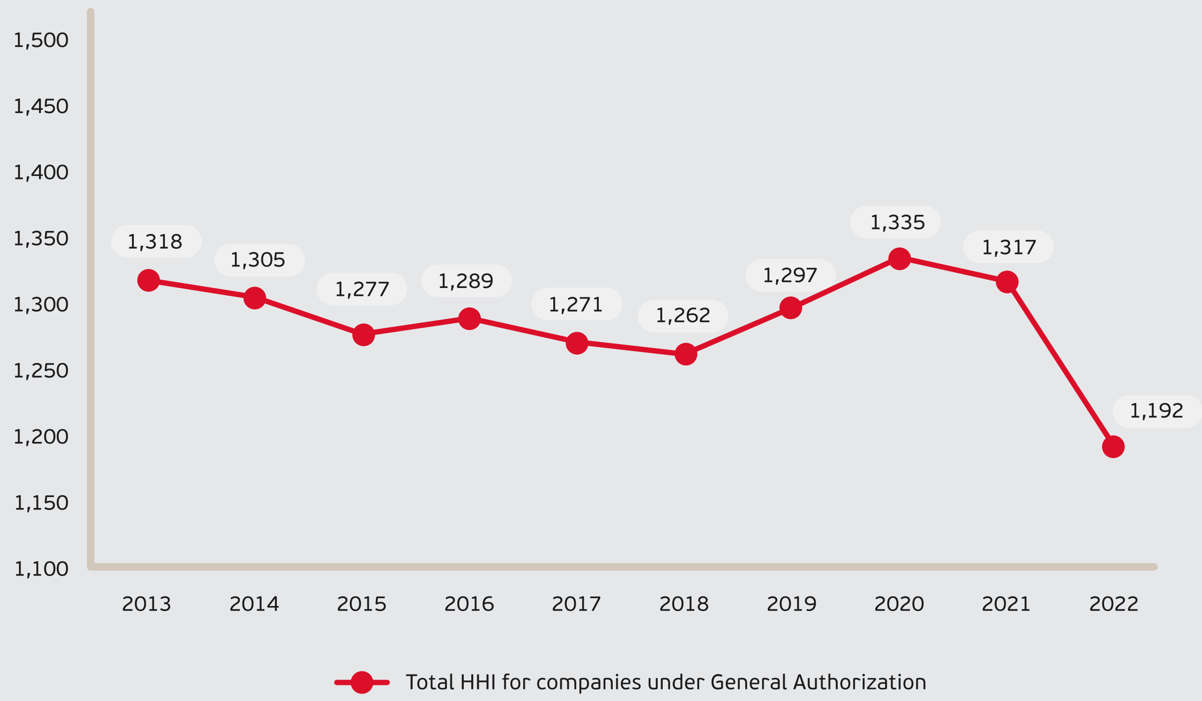
Chart 2.21: Revenues and postal items volume shares of courier companies, 2022





Source: EETT (based on data provided by postal services providers)

Chart 2.22: Herfindahl-Hirschman Index for companies under General Authorization



Source: EETT (based on data provided by postal services providers)

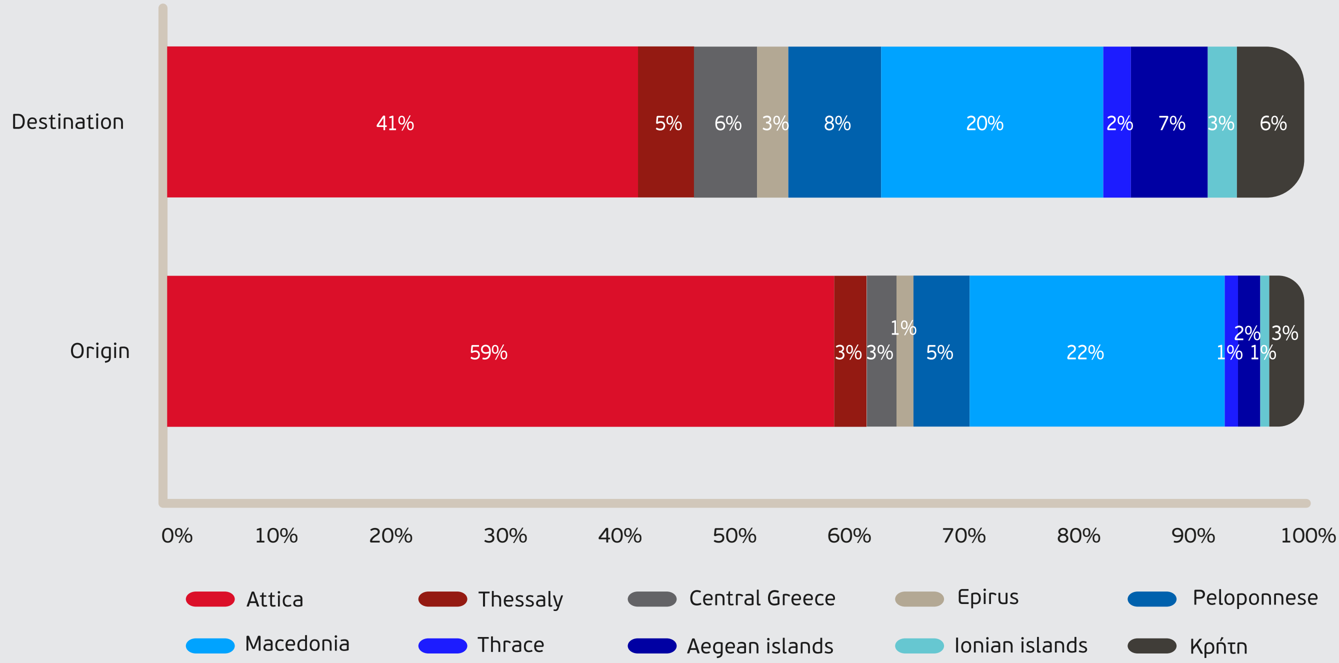
Approximately 81% of postal items was delivered from the regions of Attica and Macedonia to domestic and international destinations, as presented in Chart 2.23. Furthermore, 61% of postal items originating from domestic and international destinations was delivered in the same areas.

It is noteworthy that the growth of cross-border e-commerce boosted the activity of courier operators, since 19% of their revenues was generated by international outbound traffic and 16% of their revenues generated by international inbound traffic. The most significant part of outbound traffic was directed to EU countries (67%) and USA-Canada (13%), while the majority of inbound traffic originated from EU countries (94%) and Asia (3%) (Chart 2.24).

Customers holding a contract generated 91% of courier companies' revenues, while retail customers generated 9%. The revenues per customer type are depicted in Chart 2.25.

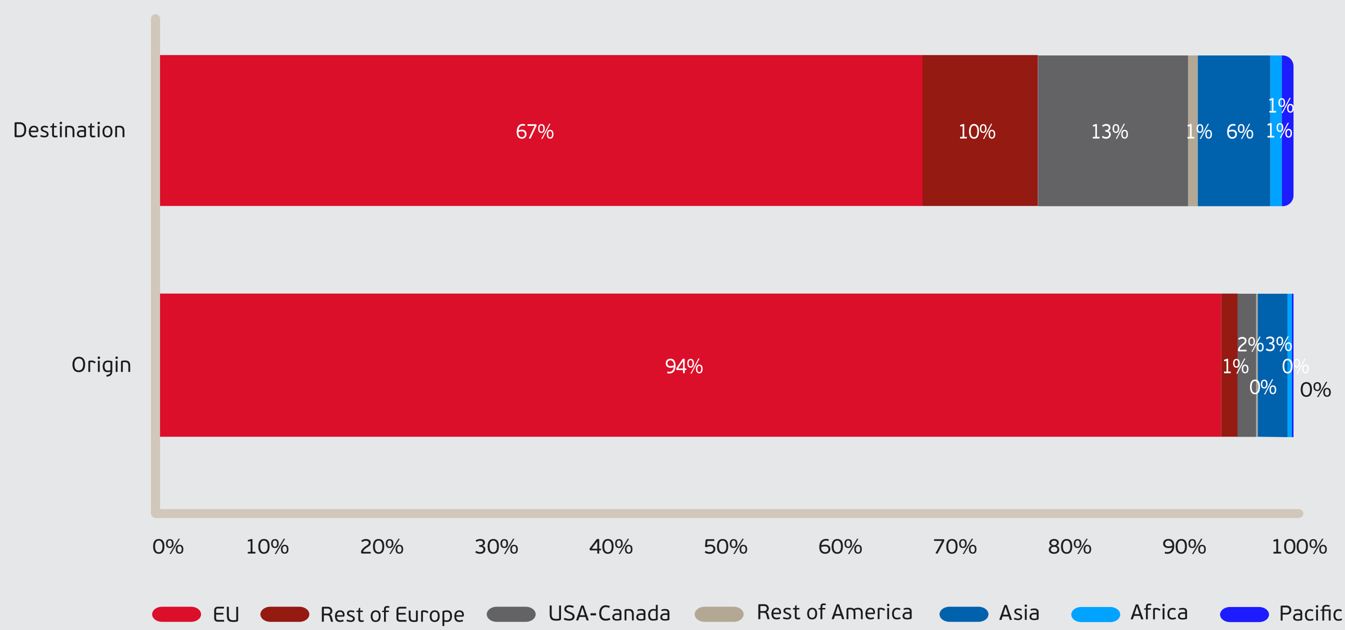
The clientele of courier companies consisted mainly of companies and less of individual consumers, as shown in Chart 2.26. In particular, the main business customers came from the e-commerce sector, followed by customers from general trade, industry, the pharmaceutical industry, individuals, etc.

Chart 2.23: Origin and destination of courier items deliveries per geographic region, 2022



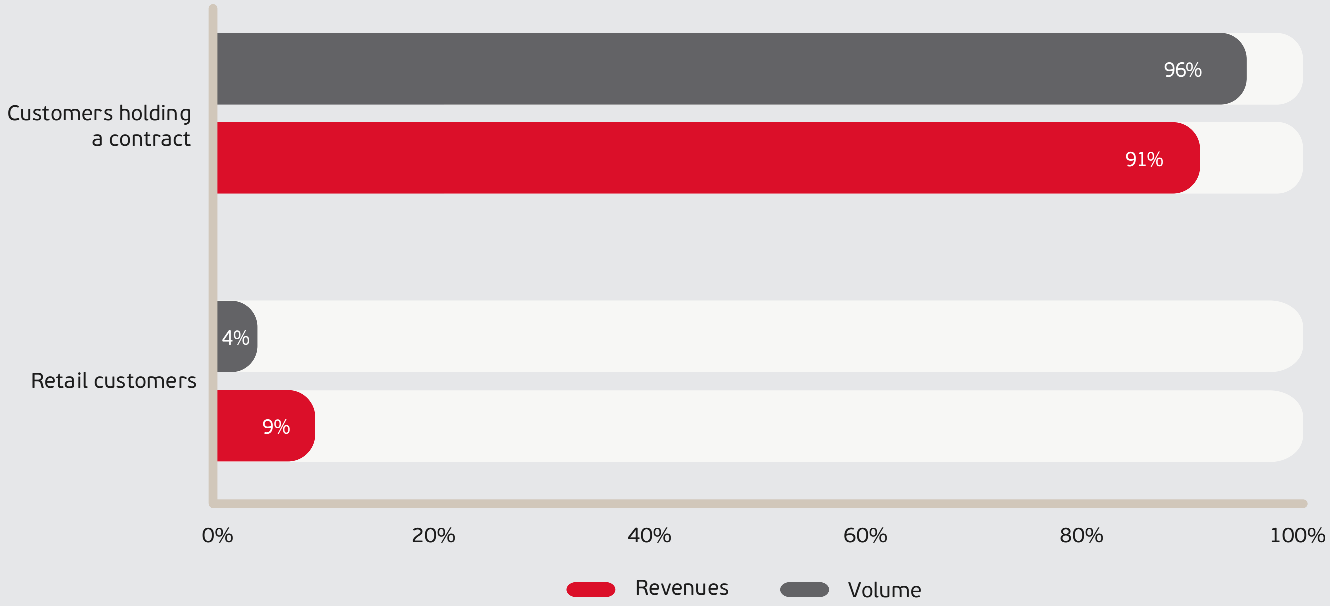
Source: EETT (based on data provided by postal services providers)

Chart 2.24: Origin and destination of cross-border courier deliveries per geographic region, 2022



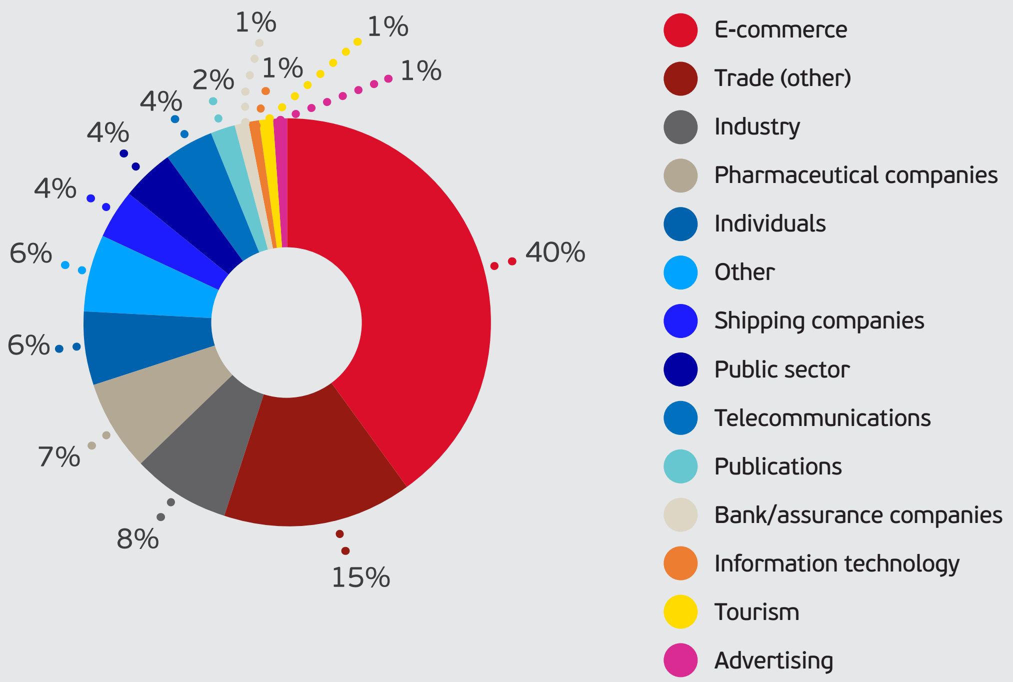
Source: EETT (based on data provided by postal services providers)

Chart 2.25: Postal items volume and revenues of courier companies per customer type, 2022



Source: EETT (based on data provided by postal services providers)

Chart 2.26: Breakdown (%) of revenues by courier companies' clientele, 2022



Source: EETT (based on data provided by postal services providers)

2.2.4. Consumers complaints for postal companies

In 2022, the dispute resolution cases between consumers and postal companies reached 34,005, having an increase of 20% compared to the previous year, according to data reported by providers (Table 2.6). The majority of cases (31%) involved item loss, followed by complaints for damage (26%) (Table 2.7).

More specifically, the cases regarding dispute resolution between consumers and companies under General Authorization referred mainly to delays, loss of postal items and damages. The compensations given referred mainly to cases of loss and damage of postal items (Chart 2.27).

Table 2.6: Number of dispute resolution cases between consumers and postal companies

	2017	2018	2019	2020	2021	2022
USP	18,646	10,421	10,404	1,876	1,882	2,755
Individual License	10	2,642	4,048	4,438	4,891	4,048
General Authorization	10,347	12,004	13,709	14,108	21,553	27,202
Total	**29,003**	**25,067**	**28,161**	**20,422**	**28,326**	**34,005**

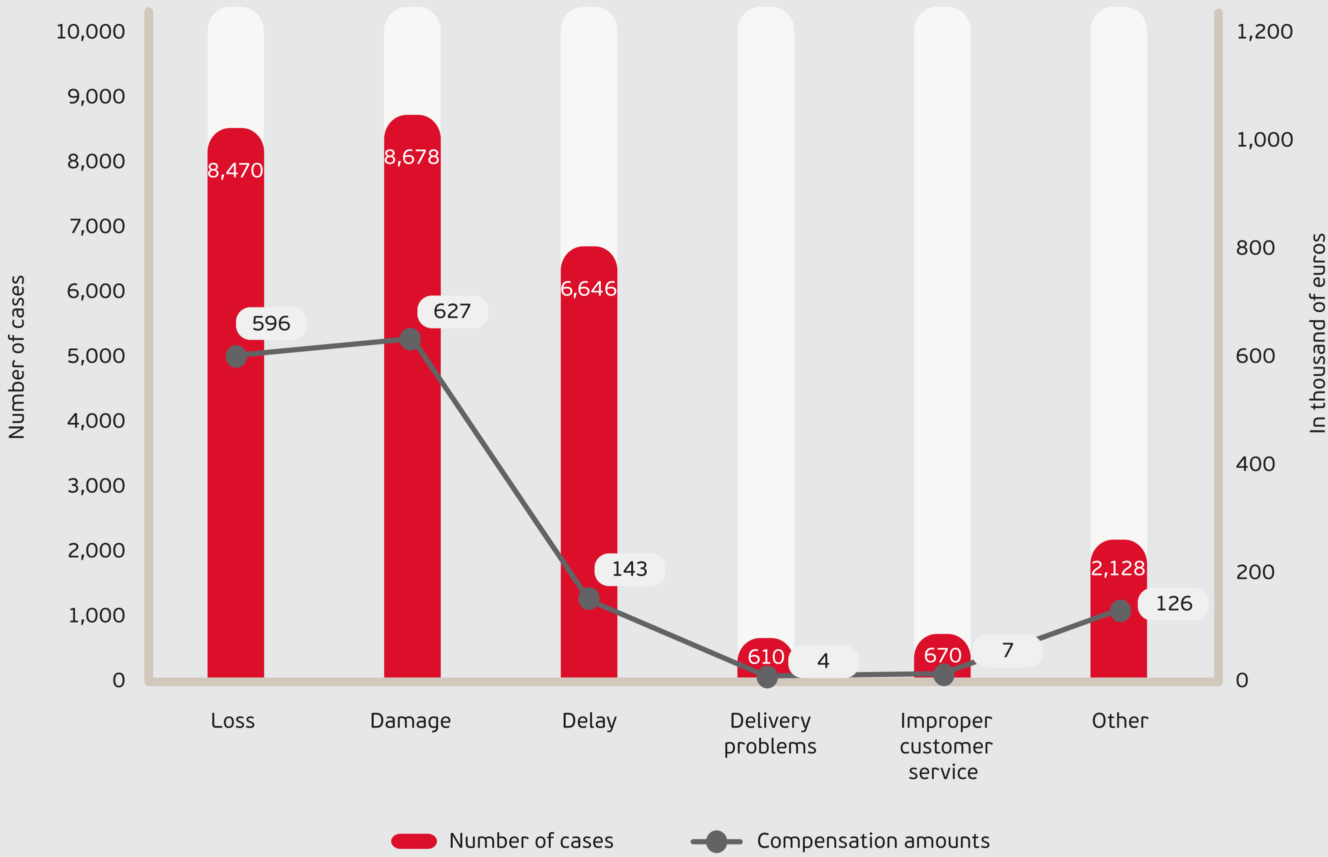
Source: EETT (based on data provided by postal services providers)

Table 2.7: Classification of dispute resolution cases between consumers and postal companies, 2022

	Loss	Damage	Delay	Delivery issues	Improper customer service	Other	Total
USP	1,986	24	215	90	228	212	**2,755**
Individual License	1	0	344	3,599	50	54	**4,048**
General Authorization	8,470	8,678	6,646	610	670	2,128	**27,202**
Total	**10,457**	**8,702**	**7,205**	**4,299**	**948**	**2,394**	**34,005**

Source: EETT (based on data provided by postal services providers)

Chart 2.27: Classification of cases regarding dispute resolution between consumers and companies under General Authorization and compensations per case category, 2022



Source: EETT (based on data provided by postal services providers)

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