EETT

HELLENIC TELECOMMUNICATIONS & POST COMMISSION

2021

MARKET REVIEW

OF ELECTRONIC COMMUNICATIONS & POSTAL SERVICES

Market Review

of Electronic Communications
& Postal Services 2021

EETT
HELLENIC TELECOMMUNICATIONS & POST COMMISSION

The market review captures the key economic 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, the published financial statements, EETT's registries and from the European Commission's Digital Economy and Society Index (DESI).

Table of Contents

Summary

a) Electronic communications

In 2021, the key figures of the domestic telecommunications market presented an upward trend 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.

The contribution of the industry's turnover to Greece's Gross Domestic Product (GDP) was 2.7% in 2021, having decreased compared to 2020, given that the GDP showed a larger annual increase by 10.6% compared to that of the telecommunications sector by 3.3%.

Financial data

The industry's turnover increased to 5 billion euros, with telecommunications services' revenues accounting for its largest segment (86.5%). Total investments made by the electronic communications operators amounted to 758 million euros, ranging at 15.2% of their total turnover and having decreased compared to 2020 due to the considerable decline of investments (31%) versus the turnover's rise by 3.3%. It is worth mentioning that the significant increase of investments in 2020 was mainly attributed to the granting of the radio frequency rights of use in the 700 MHz, 2 GHz, 3400-3800 MHz and 26 GHz bands for developing the 5th Generation (5G) Mobile Networks.

Fixed communications

In December 2021, the number of fixed telephony access lines amounted to 4,912,074, with the respective penetration in the population reaching 46%. At the same time, the fixed telephony traffic recorded an annual fall by 7.9%, mainly due to the decreasing traffic duration of national fixed calls by 9.2% (1.1 billion minutes less than 2020) and is attributed to both the alternative operators (a 11.4% decrease of their total traffic compared to 2020) and OTE (a 4.2% fall in its total traffic compared to 2020). OTE remains the incumbent operator with 55.3% share as regards to fixed telephony lines and 50.6% share in terms of traffic (versus 48.7% in 2020). The fixed telephony lines of the other operators gained a 44.7% share having increased by 20,703 lines (1%) compared to the previous year.

Retail revenues from telephony and Internet services at a fixed location amounted to 1.45 billion euros, registering an increase by 2% compared to 2020. The revenues from Internet services continued to grow considerably (13.7% increase compared to 2020), counterbalancing the ongoing decline of the retail fixed telephony revenues.

Mobile communications

In 2021, the number of mobile telephony connections amounted to 13.8 million registering a small increase of 1.2% compared to 2020, while active connections climbed marginally by 0.7% amounting to approximately 11.5 million. As regards mobile operators' market shares in terms of total connections, VODAFONE's share increased to 30.2%, WIND's share fell to 23.8%, whereas COSMOTE's share remained stable at 46%. 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 2021 was characterized by the 4.3% growth in the domestic voice traffic with the post-paid residential users holding for the first time the largest share of its volume (43.4%) followed by prepaid users (40.7%). More specifically, the average monthly call duration for a post-paid residential user was 286 minutes to mobiles and 40 minutes to fixed lines. For a business user, the call duration was 285 minutes to mobiles and 43 minutes to fixed lines whereas the figures for a pre-paid user were 138 minutes to mobiles and 14 minutes to fixed lines.

The volume of data services recorded once again a remarkable increase by 49%, reaching 563 million GB compared to 379 million GB in 2020. During 2021, data usage increased significantly by all categories of users. Specifically, a post-paid residential user consumed on average 5.3 GB per month, followed by a pre-paid user with 3.8 GB and a business user with 2.6 GB.

Furthermore, the SMS volume rose considerably by 6.1% (2.4 billion SMS versus 2.2 billion SMS in 2020). 51% of the calls' volume was made to mobile phones within the same mobile network (on-net). Finally, the retail revenues from mobile communications services (post-paid and prepaid) rose by 2.7% amounting to 1.7 billion euros.

The average annual revenue per postpaid (connection) and pre-paid user stood at 244 (about 20.3 euros per month) and 75 euros respectively (about 6.3 euros per month).

Broadband

At the end of 2021, fixed broadband connections amounted to 4,429,370 registering an annual increase of 3.7%, with the fixed broadband penetration in the population (connections per 100 people) reaching 41.5%. In June 2021, the average EU broadband penetration rate was 37.2%, while the Greek corresponding one was 41%, which ranks Greece 8th among the member states. VDSL lines amounted to 1,989,488 compared to 1,542,277 lines in December 2020 (annual increase of 29%), accounting for 44.9% of all fixed broadband lines.

In contrast to the fixed broadband penetration, mobile penetration rate moved upwards reaching 89% (June 2021), but still lacked considerably from the EU average penetration rate (108.4%). As a result, Greece is ranked among the last EU member states.

The broadband coverage for Next Generation Access Networks (NGA) in Greece, increased by 5 percentage points in 2021 (a 91.7% household coverage compared to 86.7% as of end of June 2020), thus surpassing for the first time the European average (90.1%). This increase is attributed to the development of access networks via VDSL Vectoring. However, the NGA penetration rate for households with fast fixed broadband connection was still low (33.5%) far away from the respective European average (57.5%).

Finally and in relation to the capacity of Very High Capacity Networks (VHCN), Greece recorded an increase of 9.6 percentage points (a 19.8% household coverage in 2021 compared to 10.2% in 2020). Nevertheless, it still lags behind the respective European average in terms of both network coverage (70.2%) and household penetration (8.5% compared to 40.6% of the European average).

Bundled offers

The penetration of bundled offers continued to increase in 2021, with their number amounting to 4.5 million at the end of the year. The most popular type of bundled offer remained that of fixed telephony and fixed broadband access (approximately 2.2 million), followed by the triple play combination of fixed telephony, fixed broadband access and mobile service(s) (1.7 million), the triple play of fixed telephony, fixed broadband access and pay-TV (~327 thousand) and finally, the 4-play (~189 thousand). It is worth mentioning that by the end of 2021, the bundled offers that included mobile services increased by 2.5%, amounting to 1.9 million and accounting for 43.5% 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 2021, the majority of products concerned fixed communications (~53%). COSMOTE focused mainly on add-on programs (52%), while NOVA, OTE and WIND laid emphasis on basic programs (94%, 74% and 65% respectively). The programs of COSMOTE, NOVA and WIND targeted mainly residential customers, whereas a great percentage of VODAFONE's programs was addressed to business customers. The greatest percentage of OTE's programs was addressed to all customers.

22% of post-paid mobile voice and data programs offered unlimited data, while a 69% of the remaining products entailed monthly fees up to 55 euros, with an average monthly price of 36 euros, a median price at 38 euros and a data allowance of about 5 GB. Compared to 2020, the prices of post-paid mobile programs dropped slightly without any significant change in the data allowance offered.

16% of the fixed telephony programs that provided at least voice services, offered unlimited minutes to mobiles, while a 58% of the remaining products entailed monthly fees up to 55 euros with an average monthly price of 39 euros, a median price at 40 euros and a call allowance of 349 minutes to mobiles.

b) Postal services

In 2021, the postal market moved slightly upwards. The number of postal companies increased by 20%, reaching 720, compared to 601 the previous year.

The total turnover of postal companies showed an increase, reaching 666 million euros, compared to 648 million in 2020. The use of delivery services was positively impacted by the rise in e-commerce sales, and as a result, the turnover of companies under General Authorization increased by 11% over the previous year. On the contrary, the turnover of the USP decreased by 8%, which is mostly attributed to a reduction in correspondence from corporate customers, as a result of the intensified electronic substitution of correspondence and governance, as well as to the electricity sector.

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 5.8% compared to 2020, reaching 631 million euros, deriving from the handling of 317 million postal items which were reduced by 3.7% compared to the previous year.

The share of Universal Service Provider (USP) revenues in the overall market has been steadily declining over the past ten years, falling to 21% in 2020 from 25% the year before, while courier companies' revenues share climbed to 76% from 72%. The share of companies with an Individual License remained almost stable (at 3%). The share of parcels-small packages showed an increase in 2021 in the total number as well as in the revenues of the handled postal items, reaching 26% and 61%, respectively.

Domestic postal items delivery (89% of total volume) represented the largest share of Greek postal market revenues (67%). It should be noted that the majority of the postal items was delivered from Attica (72%) and Macedonia (13%) to domestic and international destinations. Regarding international activities, the largest volume of postal items was delivered in Greece originated from the European Union (EU) (71%), Asia (14%) and the rest of Europe (10%), while the deliveries of postal items to international destinations were directed mainly to the EU (58%), the rest of Europe (17%) and the USA-Canada (14%).

In addition to the USP, nine companies with an Individual License operated in the Universal Service (US) sector in 2021, handling 23% of the sector's postal items and accounting for 13% of its revenues. Letters were undoubtedly the dominant postal items of the US sector, since they represented 91.1% of the handled postal items, accounting for 84.2% of the sector's revenues.

139 new companies entered the courier sector in 2021, increasing the total number of companies under General Authorization to 710. Letters constituted 32% of the items handled by courier companies and parcels–small packages constituted 68%. Letters generated significantly less revenues for the companies with General License (23%) than parcels–small packages (77%).

SIGNIFICANT DATA ABOUT THE GREEK ELECTRONIC COMMUNICATIONS MARKET FOR 2021

Key figures

5 billion euros turnover
3.3% increase compared to 2020

2.7% contribution to GDP

758 million euros investments of electronic communications operators
31% drop compared to 2020

SMS
2.4 billion messages
6.1% increase

DATA
563 million GB
49% increase

MMS
8.1 million messages
15.8% increase

Fixed Telephony

4,912,074 telephony lines
46% penetration in the population
1.45 billion euros retail revenues
↑ **2%** increase compared to 2020

13.3 billion minutes outgoing traffic of national fixed calls
↓ **7.9%** drop compared to 2020
352,606 ported numbers
↓ **13.9%** drop compared to 2020

Mobile Telephony

11.5 million active connections
108% penetration in the population
1.7 billion euros retail revenues
↑ **2.7%** increase compared to 2020

31.8 billion minutes of voice calls
↑ **4.3%** increase compared to 2020
383,868 ported numbers
↑ **31.6%** increase compared to 2020

Average monthly use of data services & call duration

Post-paid residential user: **5.3** GB, **286'** to mobiles & **40'** to fixed lines
Pre-paid user: **3.8** GB, **138'** to mobiles & **14'** to fixed lines
Business user: **2.6** GB, **285'** to mobiles & **43'** to fixed lines

Average monthly revenue from fixed & mobile telephony

Per connection from the provision of telephony services at a fixed location: **16.2** euros
Per post-paid user: **20.3** euros
Per pre-paid user: **6.3** euros

Broadband

4,429,370 fixed broadband connections
↑ **3.7% increase** compared to 2020
41.5% fixed broadband penetration in the population
9,875,405 mobile connections with Internet usage
↑ **7% increase** compared to 2020

NGA	**796,611** lines	↑ **66%** increase
VDSL	**1,989,488** lines	↑ **29%** increase
LLU	**1,504,872** lines	↓ **14.4%** drop

Bundled offers

BUNDLE

4.5 million bundled offers
49% was 2-Play offers (fixed telephony+fixed broadband access)

Pay-TV

1.14 million pay-TV subscriptions
↑ **2.5%** increase compared to 2020
66% was satellite TV subscriptions

SIGNIFICANT DATA ABOUT THE GREEK POSTAL SERVICES MARKET FOR 2021

Key figures

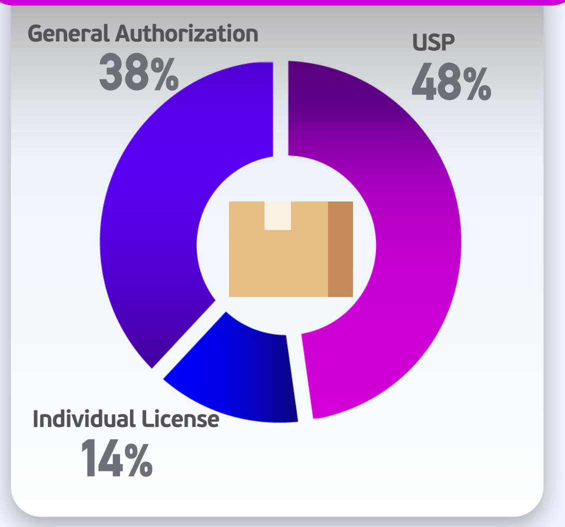
631 million euros revenues
5.8% increase compared to 2020

317 million handled postal items
3.7% drop compared to 2020

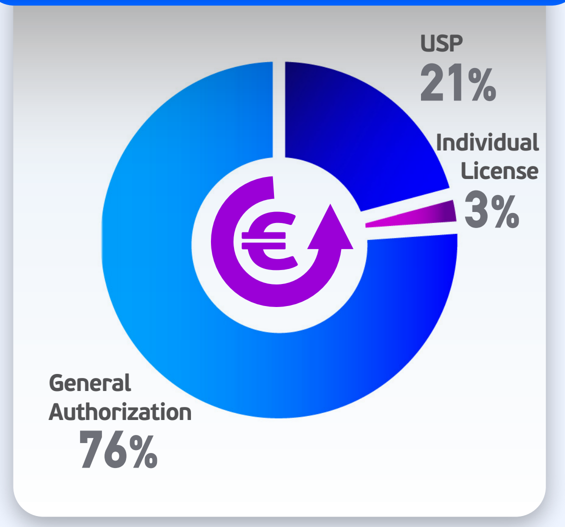
139 new companies entered the courier services market

Postal items volume and revenues shares of postal services providers, 2021

Volume Share



Revenues Share



Universal Service Provider

130 million euros revenues
↓ 14% drop compared to 2020
151 million handled postal items
↓ 15% drop compared to 2020

Companies with Individual License

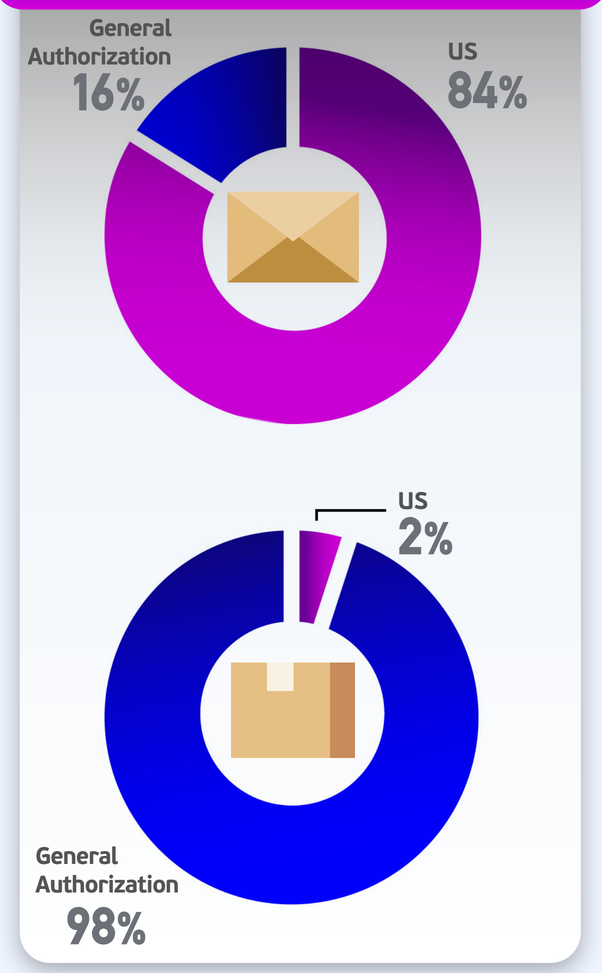
19 million euros revenues
↑ 4% increase compared to 2020
46 million handled postal items
↑ 0.4% increase compared to 2020

Companies under General Authorization

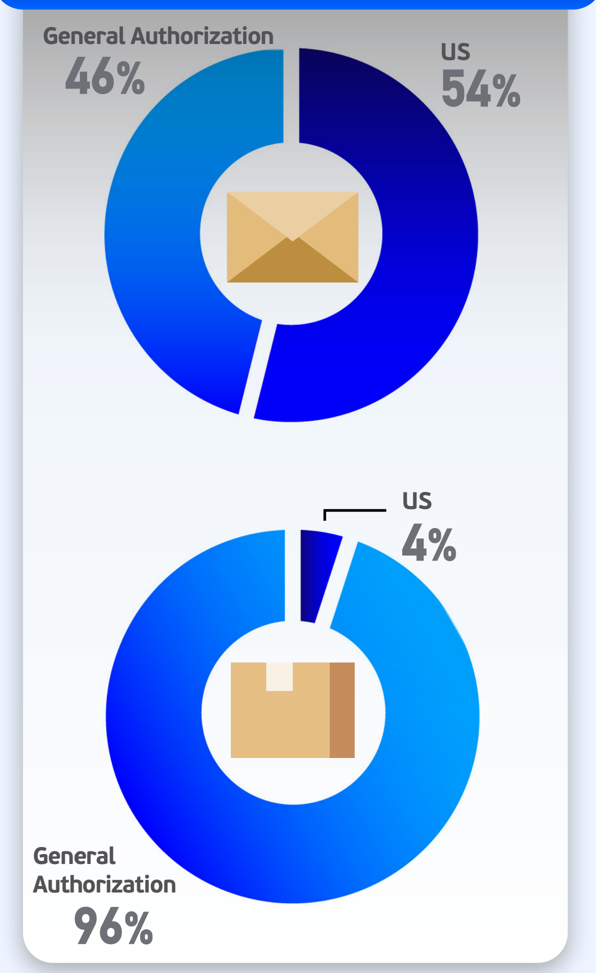
482 εκατ. ευρώ έσοδα
↑ 13% increase compared to 2020
119 million handled postal items
↑ 13% increase compared to 2020

Letters and parcels share for the US and the courier services, 2021

Volume Share



Revenues Share



Letters

234 million handled letters
↓ 9% drop compared to 2020
244 million euros revenues from the handling of letters
↓ 5.5% drop compared to 2020

Parcels-Small packages

83 million handled parcels-small packages
↑ 15% increase compared to 2020
387 million euros revenues from the handling of parcels-small packages
↑ 14% increase compared to 2020

1 Electronic communications

1.1. The Greek electronic communications market

In 2021, the number of licensed operators (active or non-active) in the electronic communications market increased to 618 compared to 592 in 2020. 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 2021, remained at four, namely three in mobile telephony and four in fixed telephony (Table 1.1). It should be mentioned that after the acquisition of NOVA by UNITED GROUP, the latter proceeded also to acquiring WIND, and thus upon its completion, the number of the main telecommunications providers will be reduced to three.

48.9% 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 2021[1]. The sector's turnover rose to 5 billion euros (increase by 3.3%), while its contribution to Greece's Gross Domestic Product (GDP) was 2.7% in 2021, having decreased compared to 2020, since the GDP registered an even bigger annually growth by 10.6% (Chart 1.2). It is noted that for the period 2012-2021, the weighted average GDP reduction was 0.3%, while for the telecommunications turnover was 2.3%

The number of employees in the electronic communications sector was roughly 9.1 thousand, considerably decreased by 38% compared to 2020 (approximately 14.6 thousand) (Chart 1.3). This drop is mainly attributed to the significant reduction of the staff in COSMOTE (-34%) and OTE (-64%), due to a large number of employees being transferred to the Group's subsidiaries.

The Consumer Price Index (CPI) fell by an average of almost 4% compared to 2020, but exhibited rather increasing trends as of September 2021. At the same time, the Communications Sub-index declined on average by 7% compared to 2020. 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.

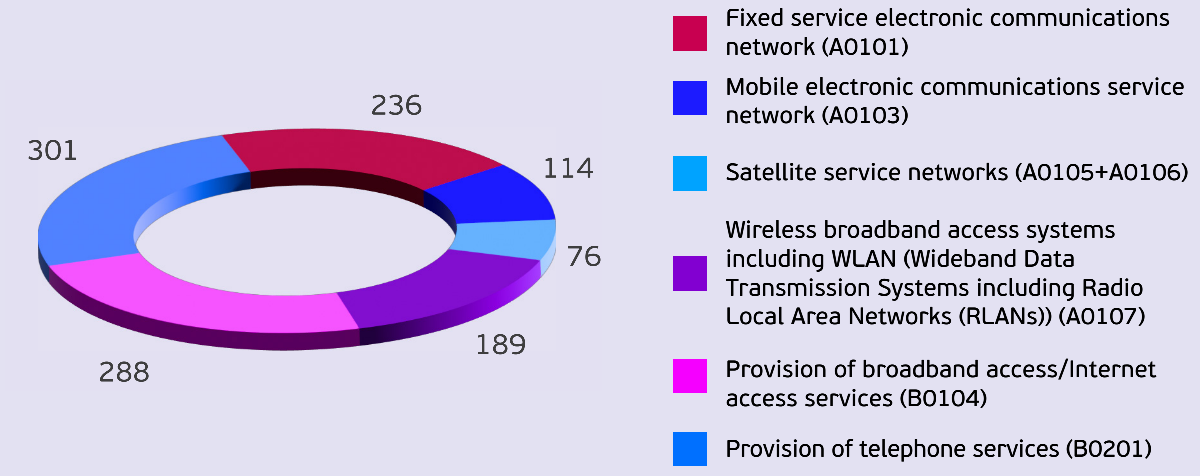
Table 1.1: Mobile Network Operators (MNOs) and main fixed telephony and broadband operators

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Mobile telephony	3	3	4	4	4	4	4	3	3	3
Fixed telephony	9	8	8	6	5	5	5	4	4	4

Source: EETT

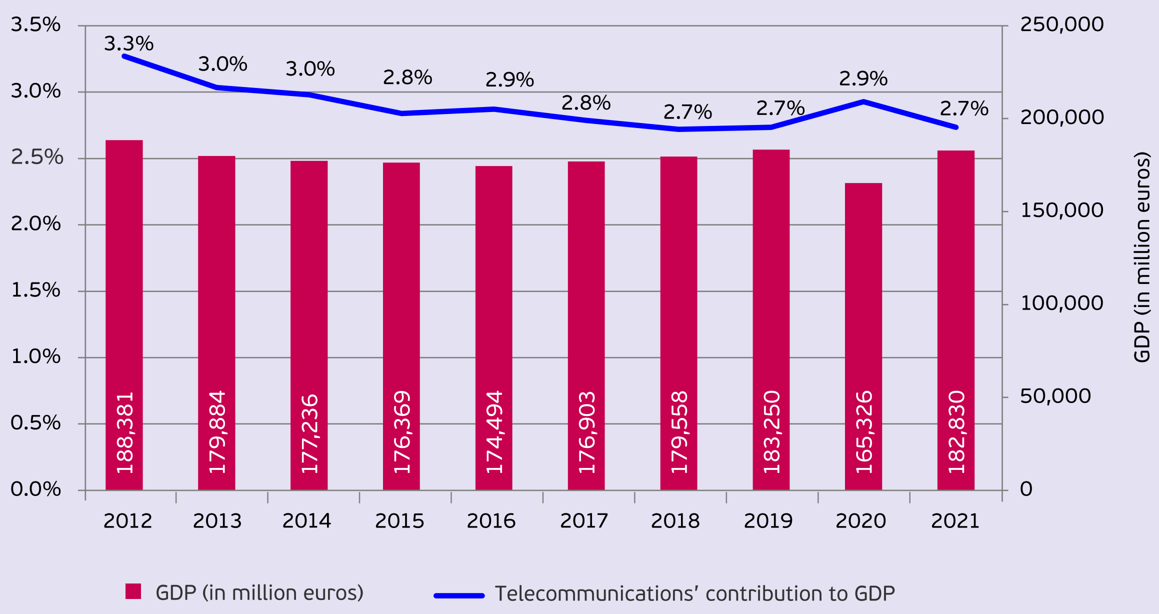
1. It is noted that an operator can be licensed for more than one services.

Chart 1.1: Licensed operators per service, 2021



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

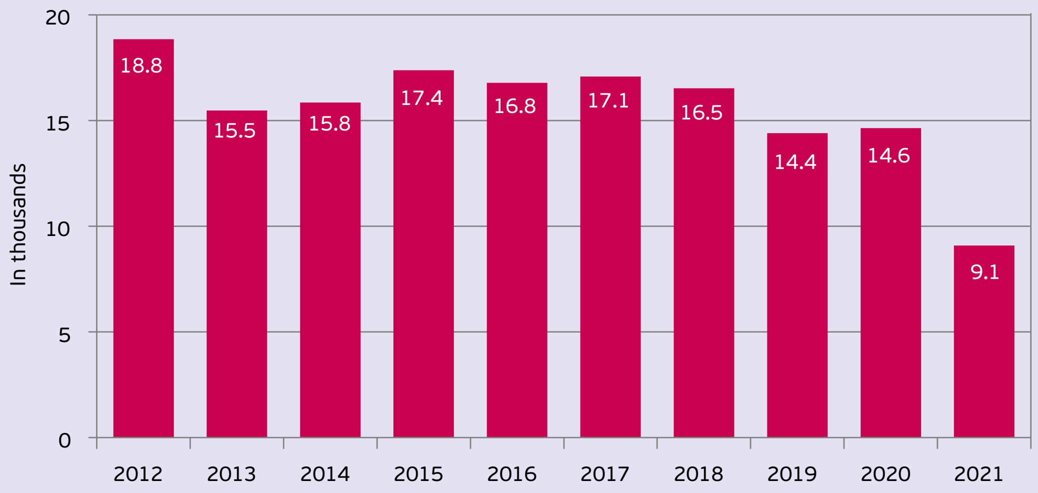
Chart 1.2: Telecommunications' contribution to GDP



Source: EETT (based on questionnaires) and ELSTAT

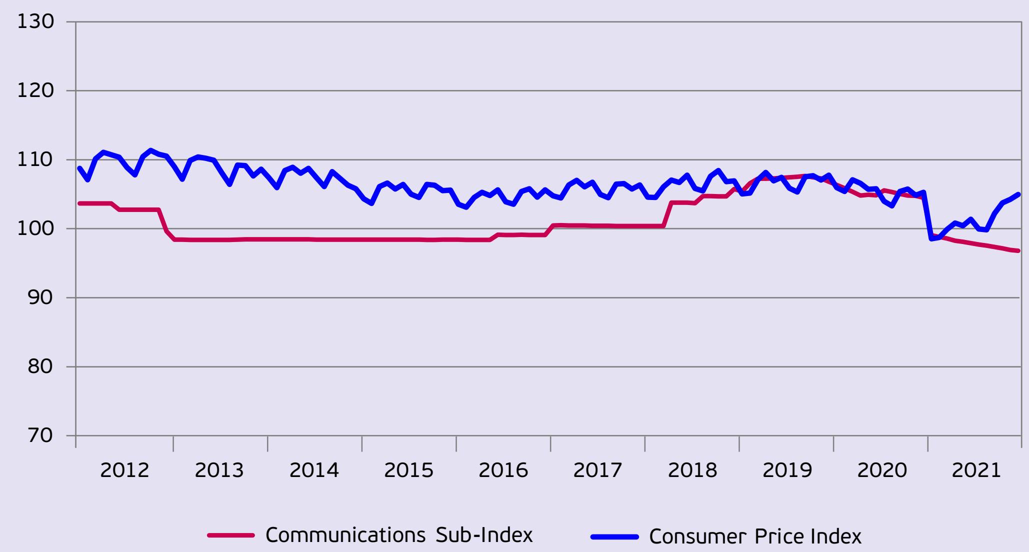
Note: the GDP data and its components for the period 2010 onwards have been revised with 2015 as the base year, in accordance with the Regulation EU 549/2013 of the European Union (ESA 2010). The data revision work with the new base year for the period 1995-2009 is ongoing and thus implementing a timeseries break in 2010 between the non-revised data for the period 1995-2009 and the revised one for the period 2010-2020.

Chart 1.3: Number of employees of electronic communications operators



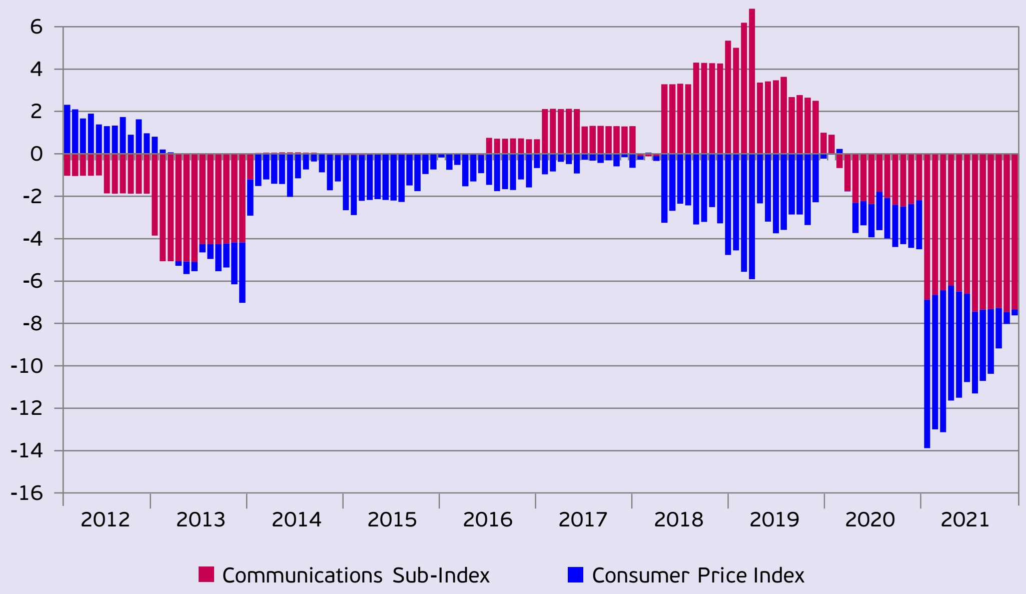
Source: EETT (based on data provided by the active licensed operators)

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)

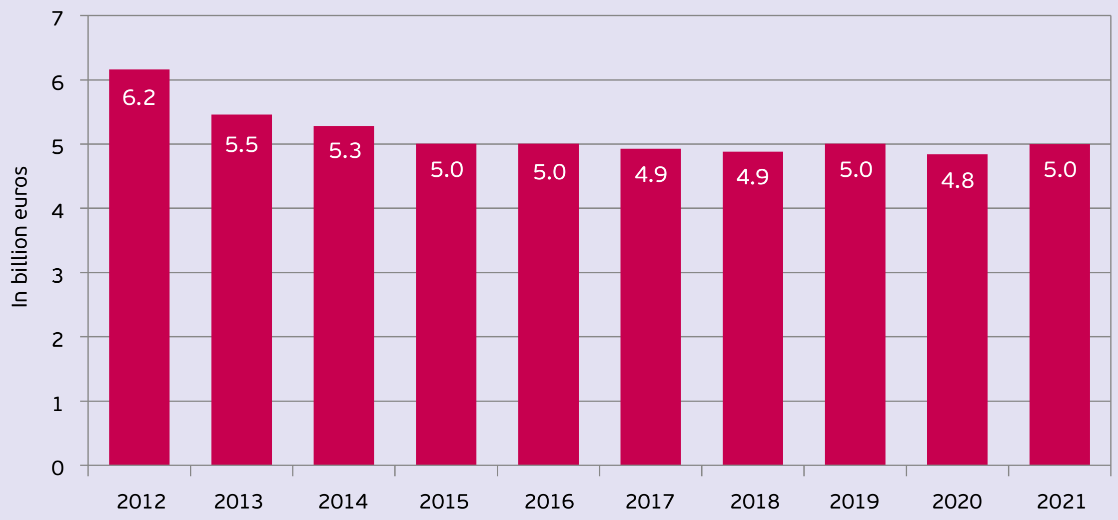
1.2. Electronic communications market key figures

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.

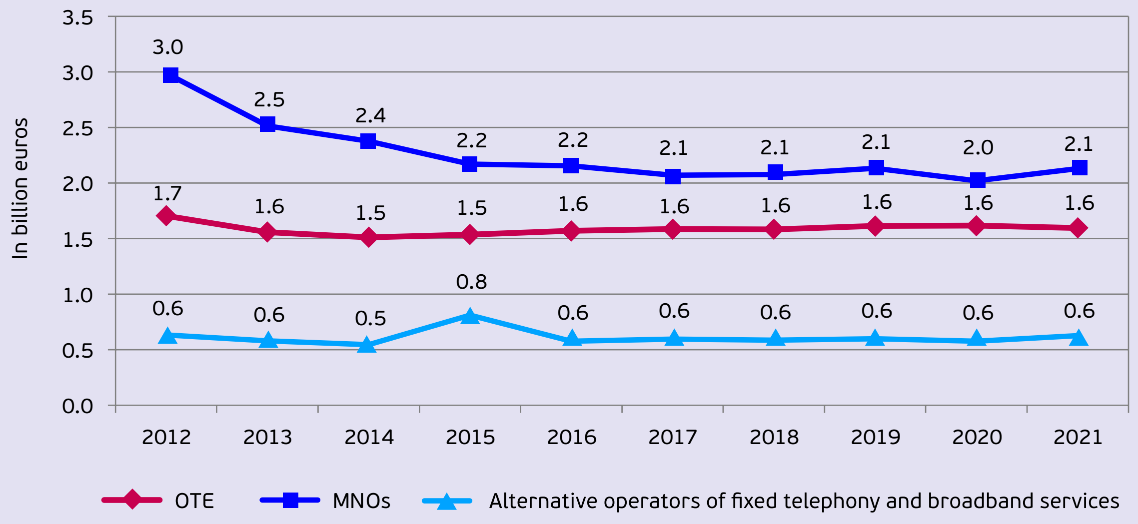
- The telecommunications' sector turnover in 2021, registered a 3.3% increase, amounting to 5 billion euros (Chart 1.6). The turnover for OTE fell by 1.2%, whereas the increase for the MNOs and the alternative operators of fixed telephony and fixed broadband services was 5.5% and 8.3% respectively (Chart 1.7).
- The telecommunications services revenues were the predominant part of the turnover (86.5%) (Chart 1.8).
- The fixed communications services revenues constituted 53.5% 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 43.9% 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 60.9% of the total revenues from fixed networks, followed by the fixed interconnection services revenues with 15.4% (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 59.1% and 30.2% respectively (Chart 1.11).
- Total investments made by the electronic communications operators ranged at 15.2% of their total turnover, significantly decreased compared to 2020 (22.6%) (Chart 1.12). It should be noted that the significant increase of investments in 2020 was attributed to the granting of the radio frequency rights of use in the 700 MHz, 2 GHz, 3400-3800 MHz and 26 GHz bands for developing the 5th Generation (5G) Mobile Networks.
- In 2021, the electronic communications operators invested mostly in telecommunications infrastructure as well as in research and development and the licensing services/rights of use granted by EETT (Chart 1.13).
- The investments made by the largest operators ranged approximately between 12% and 21% of their total turnover from electronic communications services (Chart 1.14).

Chart 1.6: Electronic communications operators' turnover



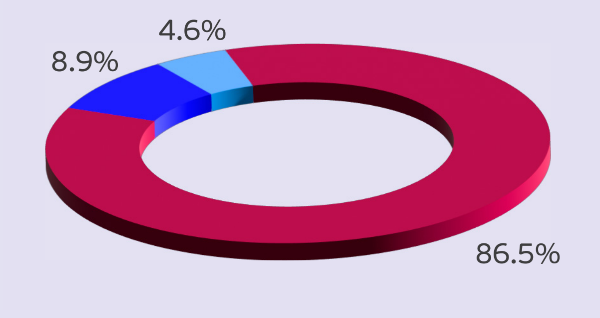
Source: EETT (based on data provided by the active licensed operators)

Chart 1.7: Fixed and mobile telephony operators' turnover



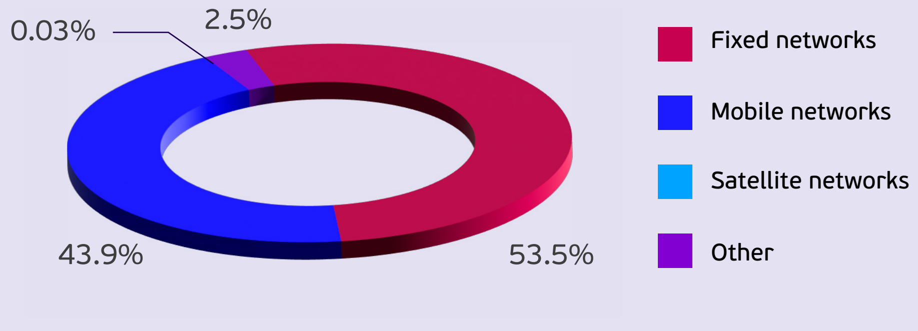
Source: EETT (based on data provided by the active licensed operators)

Chart 1.8: Breakdown of electronic communications operators' turnover, 2021



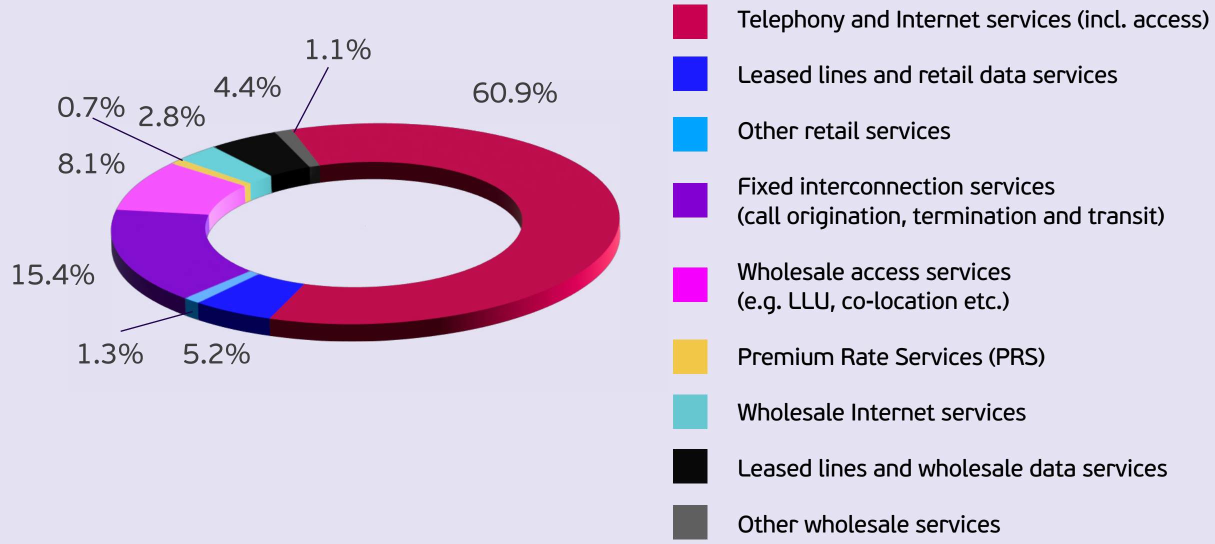
Source: EETT (based on data provided by the active licensed operators)

Chart 1.9: Breakdown of revenues from telecommunications services, 2021



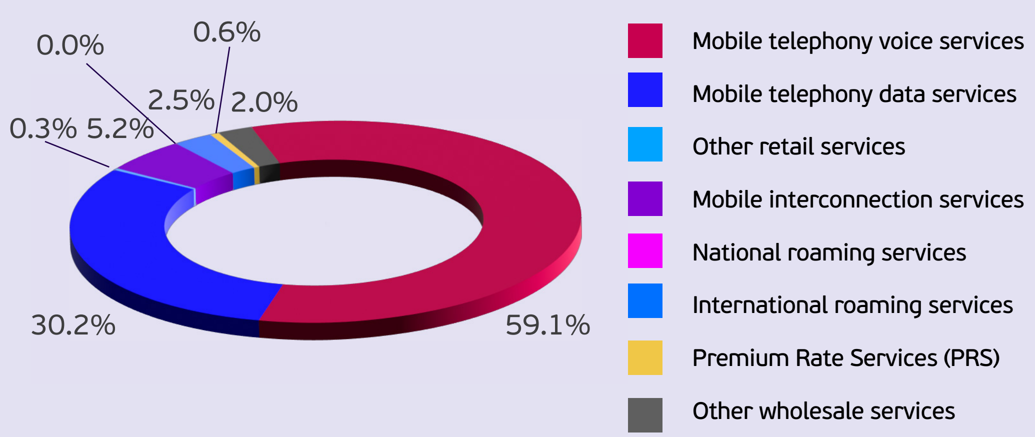
Source: EETT (based on data provided by the active licensed operators)

Chart 1.10: Breakdown of revenues from fixed networks, 2021



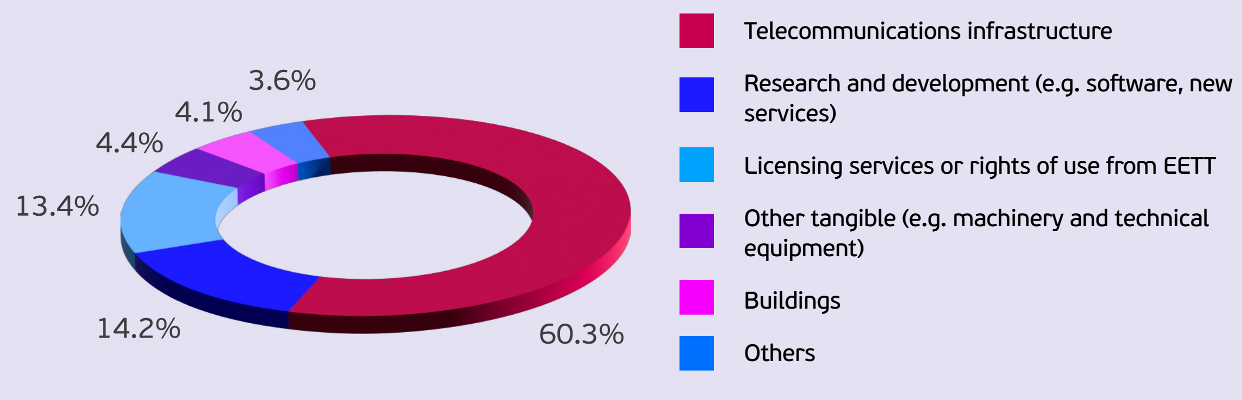
Source: EETT (based on data provided by the active licensed operators)

Chart 1.11: Breakdown of revenues from mobile networks, 2021



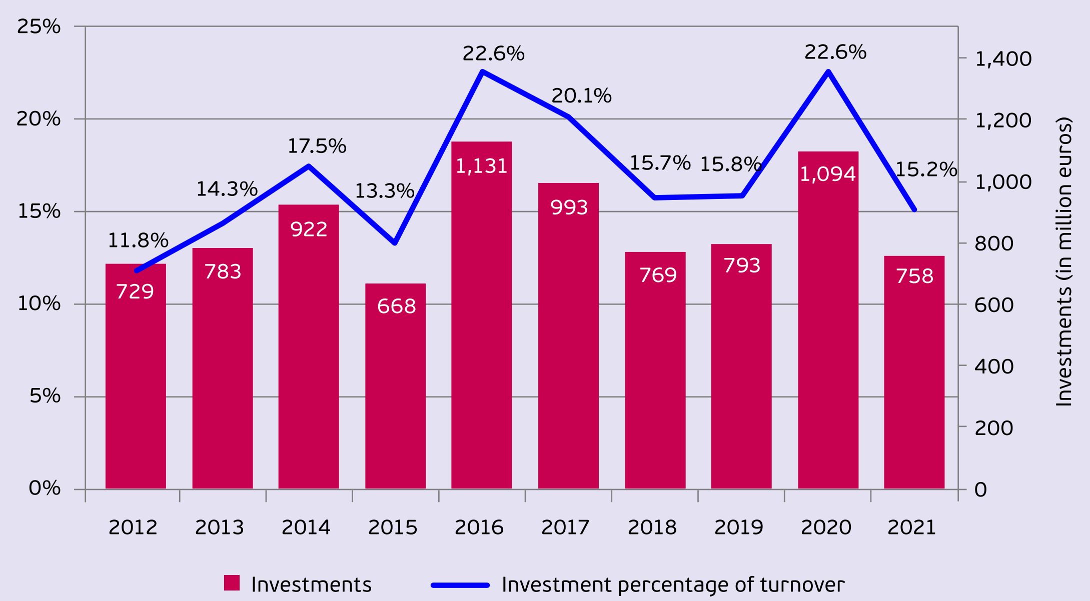
Source: EETT (based on data provided by the active licensed operators)

Chart 1.13: Breakdown of electronic communications operators' investments, 2021



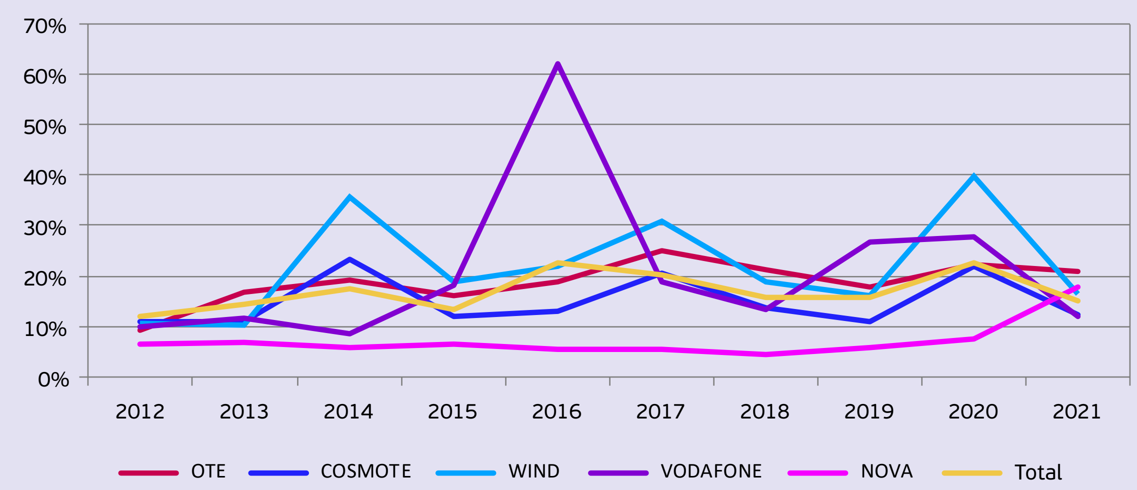
Source: EETT (based on data provided by the active licensed operators)

Chart 1.12: Electronic communications operators' investments



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

Chart 1.14: Investments/turnover ratio



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

1.2.2. Communications services provided at a fixed location

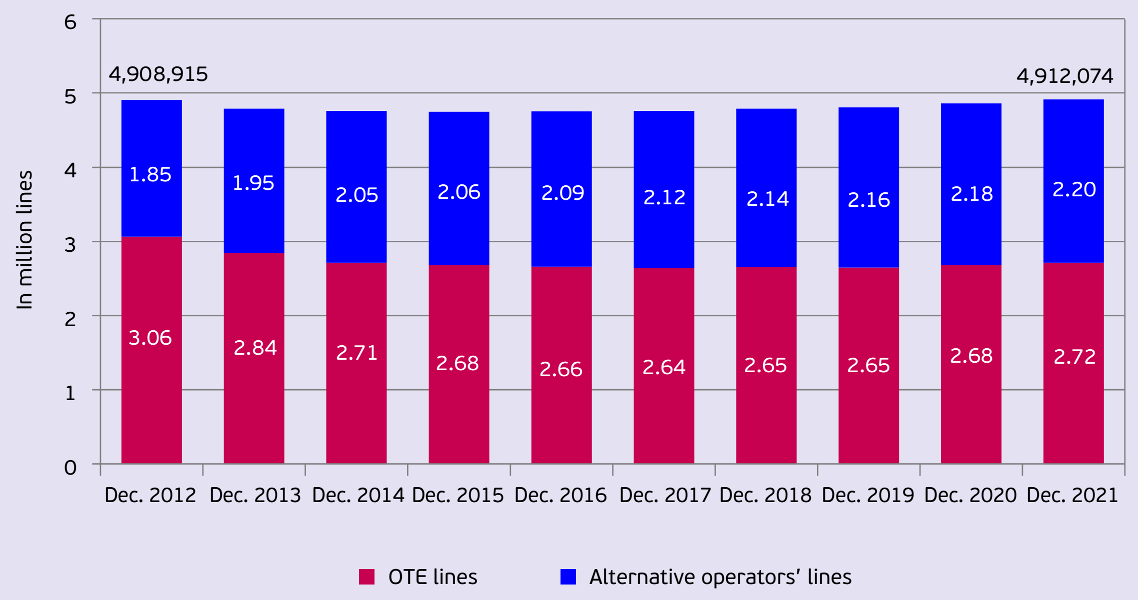
Fixed telephony access lines

In December 2021, the telephone access lines to a fixed public network of electronic communications amounted to 4,912,074 lines, namely a 46% penetration in the population, versus 4,859,182 lines at the end of 2020, registering a 1.1% increase compared to the previous year (Chart 1.15 and Table 1.2).

OTE's telephone lines increased by 1.2% (32,189 lines) compared to 2020. Its share at the end of 2021 was roughly the same (55.3%) as in 2020 (55.2%) (Chart 1.16).

The telephone lines of the alternative operators had a 44.7% share having increased by 20,703 lines (1%) compared to the previous year.

Chart 1.15: Evolution of fixed telephony access lines



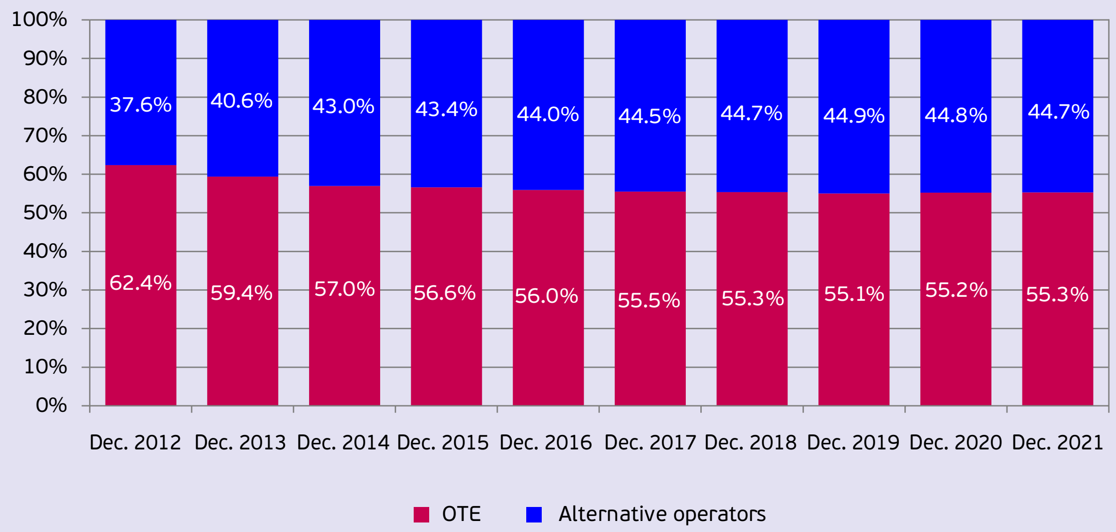
Source: EETT (based on data provided by the active licensed operators)

Table 1.2: Evolution of fixed telephony access lines

	OTE lines					Alternative operators' lines							Total 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	
Dec. 2012	2,670,296	387,692	-	4,320	3,062,308	1,415,564	63,964	364,288	-	2,791	-	1,846,607	4,908,915
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

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

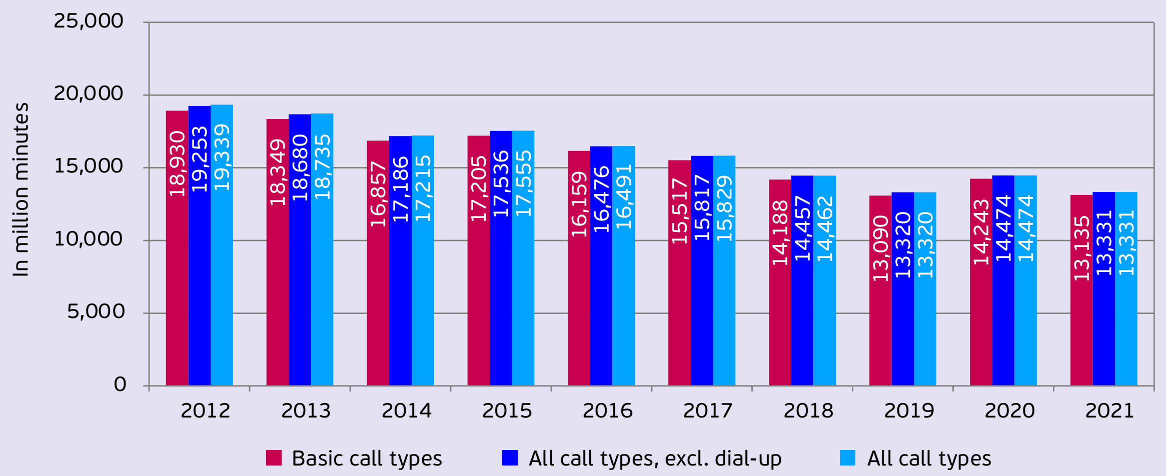
Total traffic, at the end of 2021, amounted to 13.3 billion minutes versus 14.5 billion minutes at the end of 2020, registering an annual decrease of 7.9% that is attributed to the 9.2% drop of the traffic of national fixed calls (1.1 billion minutes less than in 2020), and to the 23.1% fall of international calls (45 million minutes less than 2020). On the contrary, the traffic of mobile calls grew marginally by 0.3%, considerably less than that of 2020 (4.6%). The traffic of the basic call types steadily amounts up to 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, it is similar to the one of 2020 since 80.3% is related to national fixed calls (81.6% in 2020), while 18.5% refers to calls to mobiles (17% in 2020) and the remaining 1.14% to international calls (1.36% in 2020). 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 exceeded 50% (50.6% and 50.4% respectively versus 48.7% and 48.4% in 2020), mainly due to the larger drop of the alternative operators' traffic. More specifically for OTE, the national fixed and international calls decreased by 4.7% and 17.8% respectively, contrary to its mobile calls that increased by 1.9%. At the same time, the alternative operators registered a drop of their national fixed calls and international calls by 14% and 25.9% 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.

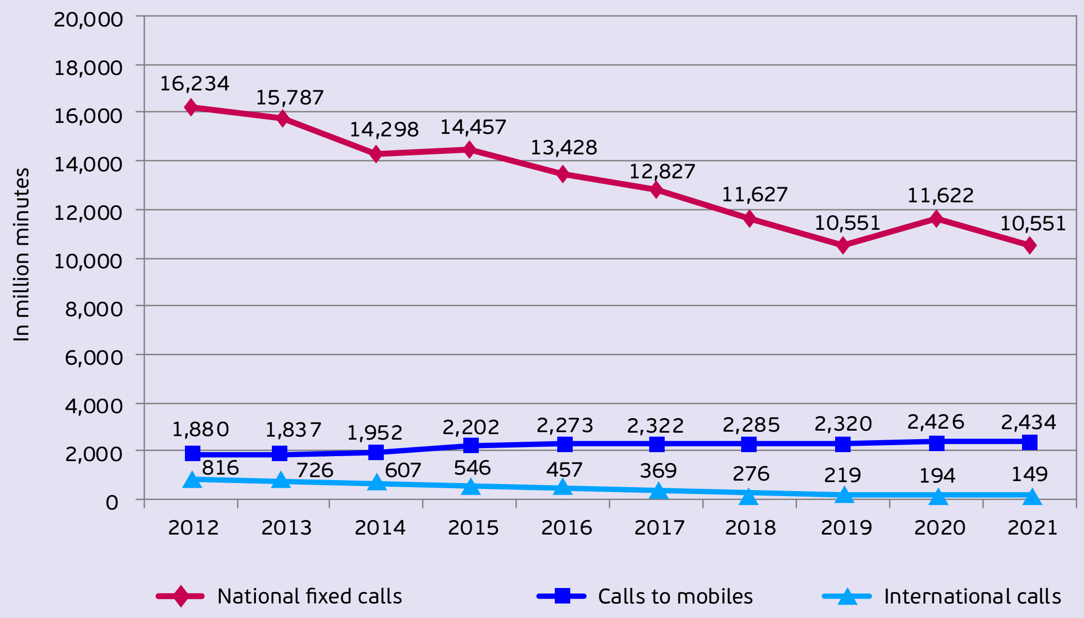
Chart 1.17: Evolution of fixed outgoing traffic



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

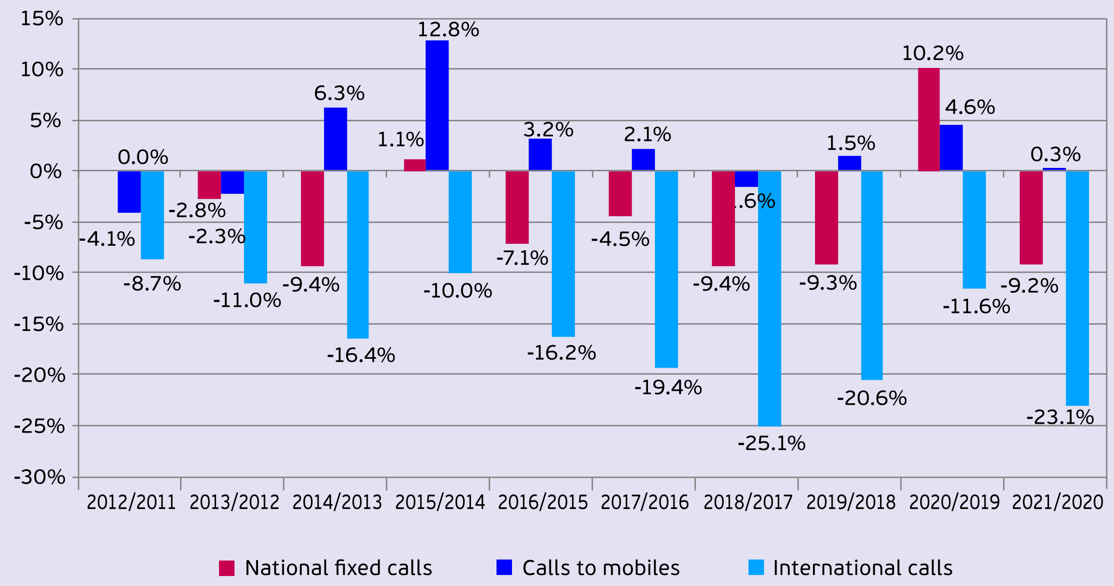
Source: EETT (based on data provided by the active licensed operators)

Chart 1.18: Fixed outgoing traffic per basic call type



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

Chart 1.19: Annual change of fixed outgoing traffic



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

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

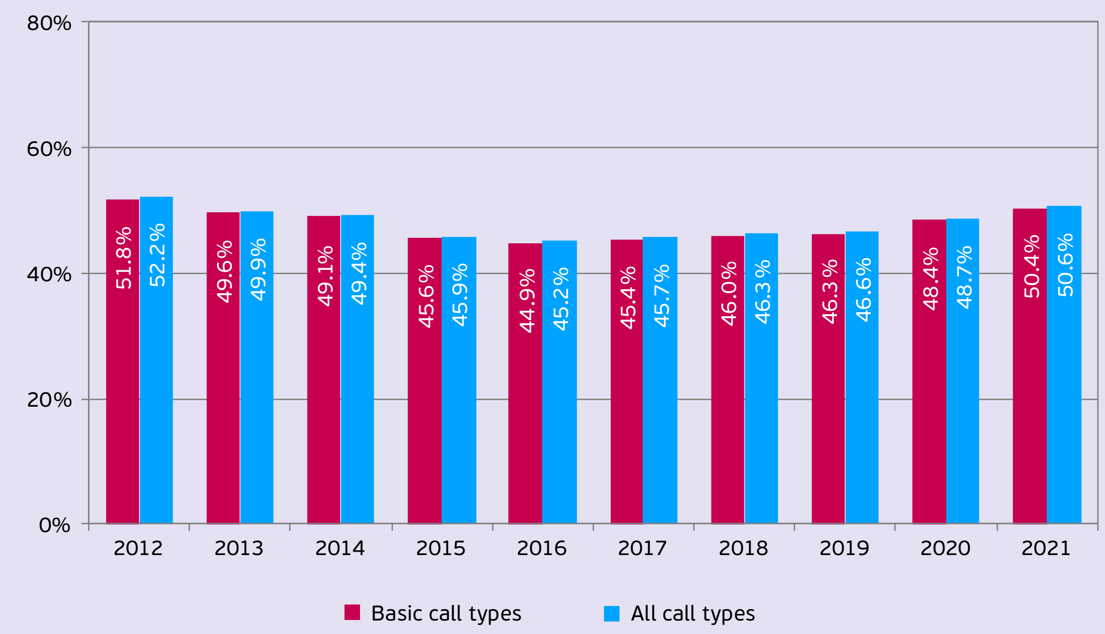
	Call type	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Basic call types	National fixed calls	16,234	15,787	14,298	14,457	13,428	12,827	11,627	10,551	11,622	10,551
	Calls to mobiles	1,880	1,837	1,952	2,202	2,273	2,322	2,285	2,320	2,426	2,434
	International calls	816	726	607	546	457	369	276	219	194	149
Other call types	Dial-up calls	86	55	29	19	15	11	5	-	-	-
	Calls to personal numbers (series 70)	0,13	0,14	0,14	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Calls to FreePhone numbers (series 800)	23	26	31	58	54	51	40	31	37	42
	Calls to shared cost services (Shared cost-801)	35	33	31							
	Calls to short code services (3-digits, 4-digits, 5-digits)	220	219	229	238	230	221	206	178	174	132
	Calls to value added services	45	53	37	35	34	28	23	21	20	23
Basic call types		18,930	18,349	16,857	17,205	16,159	15,517	14,188	13,090	14,243	13,135
All call types, excl. dial-up		19,253	18,680	17,186	17,536	16,476	15,817	14,457	13,320	14,474	13,331
All call types		19,339	18,735	17,215	17,555	16,491	15,829	14,462	13,320	14,474	13,331

Source: EETT

Chart 1.23 presents the breakdown of total traffic over time between OTE and the alternative operators. It is noted that the 7.9% decrease in fixed telephony traffic in 2021 compared to 2020, is attributed to both the alternative operators (fall of their total traffic by 11.4% compared to 2020) and OTE (its total traffic decreased by 4.2% compared to 2020).

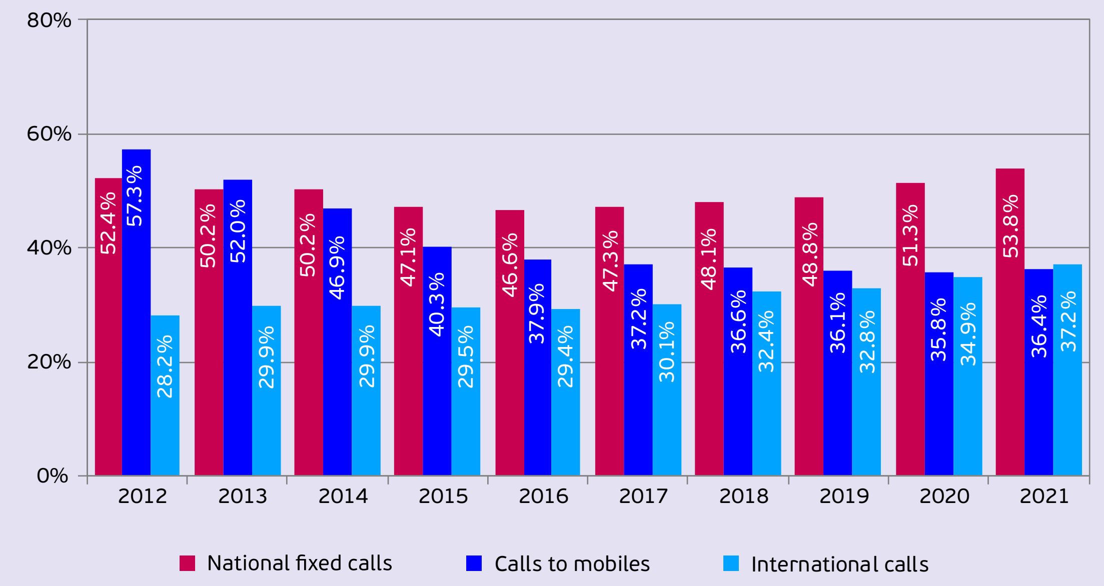
The average outgoing traffic (of the basic call types) per connection, in 2021, is estimated at 212.4 minutes per month, compared to 244.26 minutes per month in 2020.

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



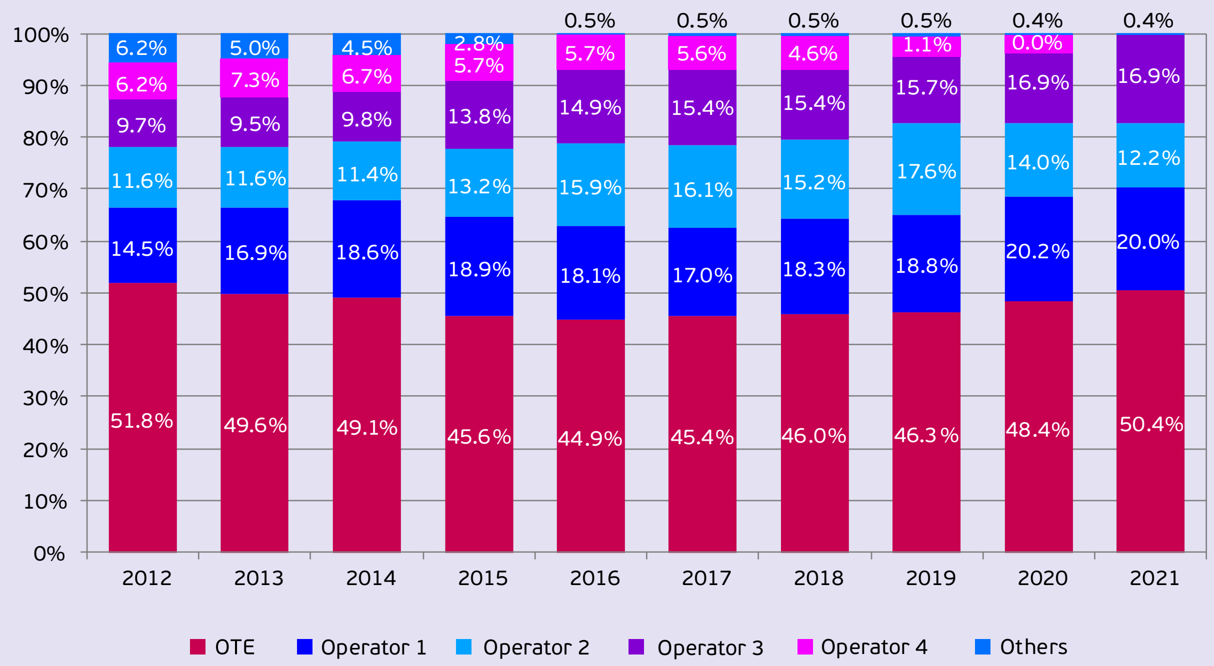
Source: EETT (based on data provided by the active licensed operators)

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



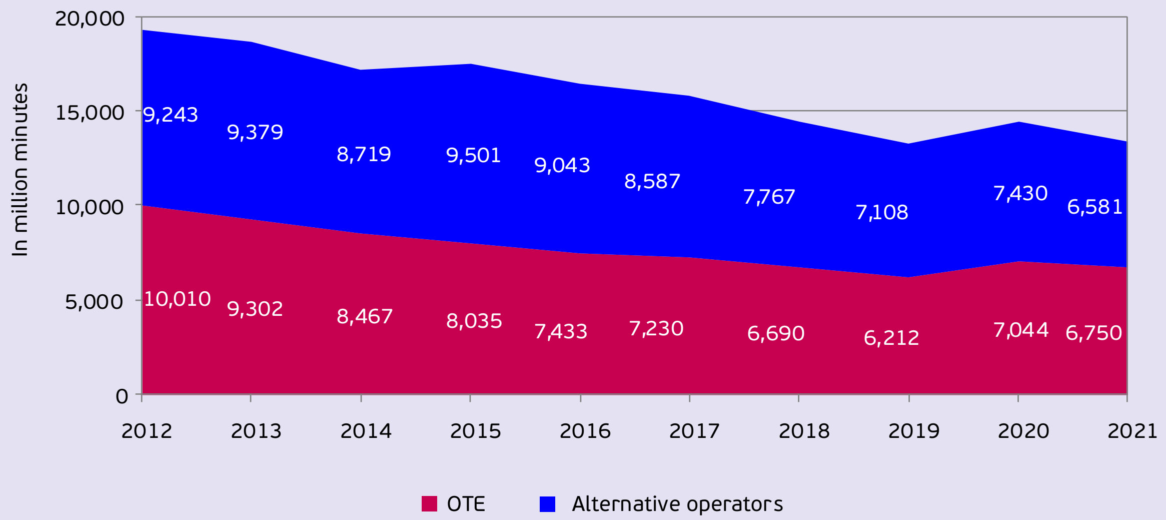
Source: EETT (based on data provided by the active licensed operators)

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



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

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



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

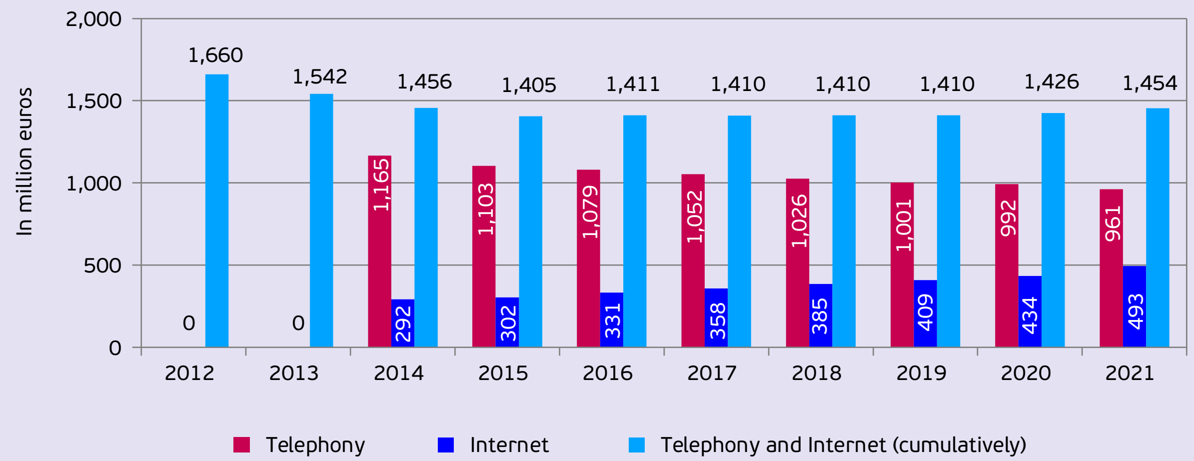
Retail revenues from the provision of telephony and Internet services at a fixed location[2]

In 2021, total retail revenues from the provision of telephony and Internet services at a fixed location amounted to 1.45 billion euros, having increased by 2% compared to 2020 (Chart 1.24). More specifically, the retail telephony revenues declined by 30.6 million euros, i.e. a decrease by 3.2% compared to the previous year, whereas the revenues from Internet services rose by 13.7% compared to 2020 and amounted to 493.3 million euros (an increase of 59.3 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[3] as well as from all call types[4].

The average monthly revenue per connection from the provision of telephony and Internet services at a fixed location was about 24.6 euros compared to 24.45 in 2020, whereas the respective figure solely from the provision of telephony services at a fixed location was 16.2 euros (versus 17.01 euros in 2020). The average revenue per minute of outgoing traffic, taking into account all call types, increased by 5.1% at 0.073 euros in 2021 versus 0.069 euros in 2020.

OTE's market share based on the retail telephony and Internet revenues remained stable compared to 2020, accounting for approximately 63% of the total market (Chart 1.25). In particular, OTE's retail Internet revenues increased by 11.5% compared to 2020, while its retail telephony revenues fell by 1.9% 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 2021.

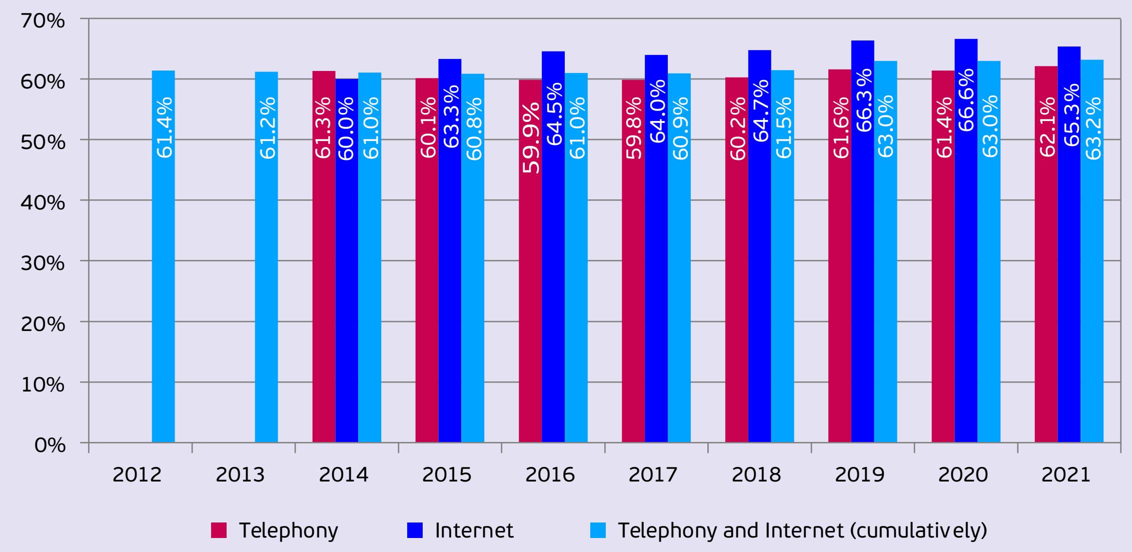
Chart 1.24: Retail revenues from the provision of telephony and Internet services at a fixed location



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

2. It shall be clarified that all the data presented refers to services provided to subscribers; therefore the pre-paid telephony services are exempted.
3. Such as the initial connection/installation fee etc., the monthly rental for accessing telephony services and revenues from additional facilities.
4. 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 1.25: 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 active 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
OTE	~61%	~62%	~63%	~63%	~63%
VODAFONE	10%-15%	10%-15%	10%-15%	15%-20%	15%-20%
WIND	10%-15%	10%-15%	10%-15%	10%-15%	10%-15%
NOVA	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%

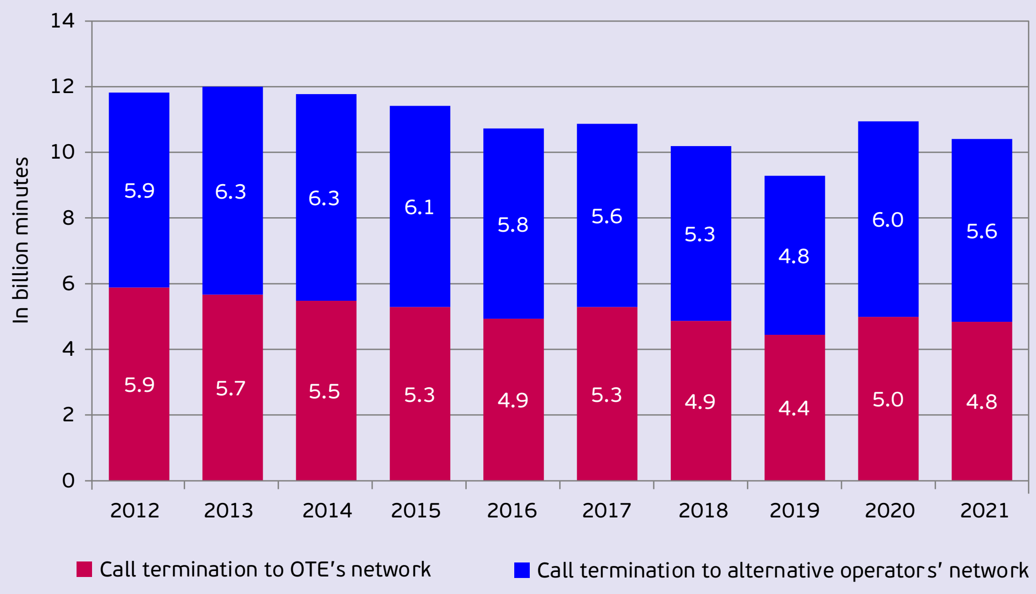
** Up till the first quarter of 2019.*

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

Fixed telephony interconnection

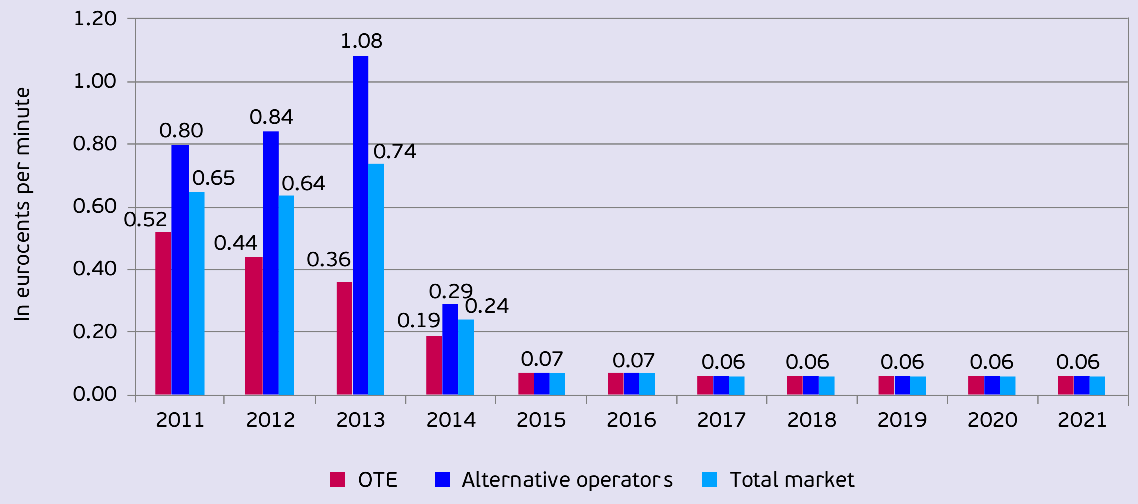
In 2021, call termination to fixed networks (Chart 1.26) amounted to 10.4 billion minutes, dropping by 5% compared to 2020 (about 11 billion minutes). More specifically, call termination to OTE's network fell by 3% in 2021 (4.8 billion minutes versus 5 billion minutes in 2020), accounting for 46.5% of the total terminating traffic. Similarly, the respective traffic of the alternative operators decreased considerably by 7% (5.6 billion minutes versus 6 billion minutes in 2020), accounting for the remaining 53.5% of the total terminating traffic. Over the last seven 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 active licensed operators)

Chart 1.27: Evolution of call termination rates to fixed networks

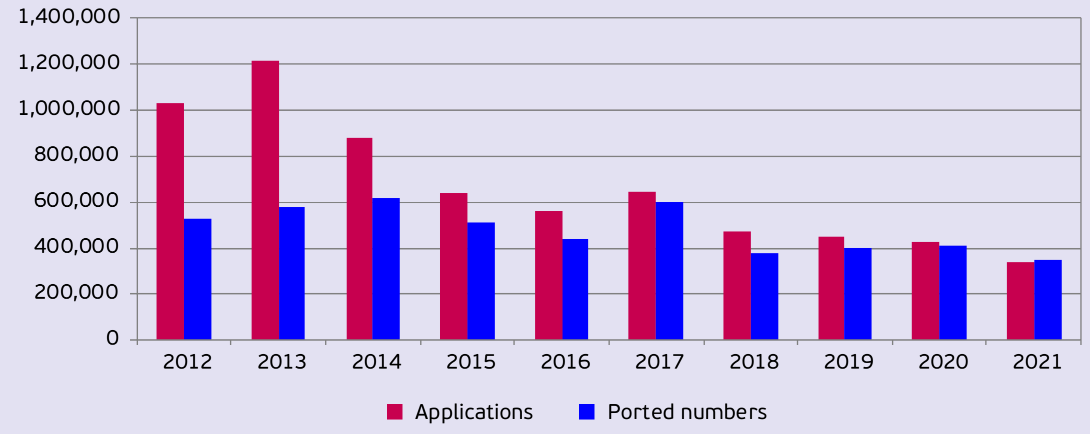


Source: EETT

Number portability in fixed telephony

In 2021, the applications for number portability registered a 21% decrease since 339,913 applications[5] were submitted compared to 430,058 applications in 2020. Furthermore, 352,606 numbers were ported, namely a 13.9% drop compared to 2020 (Chart 1.28).

Chart 1.28: Number portability in fixed telephony



Source: EETT

5. 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[6] at the end of 2021 increased both in terms of total registered connections (rise by 1.2%) and active connections[7] (rise by 0,7%), compared to 2020. At the end of 2021, the total number of connections stood at 13.8 versus 13.7 million at the end of 2020 (Table 1.5 and Chart 1.29).

More specifically, the post-paid connections amounted to 4.7 million, registering an increase by 6% compared to 2020, while the registered prepaid connections were 9.1 million, registering a decrease by 1% compared to 2020 (Table 1.6 and Chart 1.30).

Both the residential and business users' connections increased by 1% and 3.5% respectively compared to 2020, amounting to 12.6 million and 1.3 million (Table 1.7 and Chart 1.31).

MNO's market shares in terms of total connections varied enough at the end of 2021. More specifically, VODAFONE's share increased to 30.2% versus 29.2% at the end of 2020. In contrast, WIND's share decreased to 23.8% from 24.8% in 2020, whereas COSMOTE's share remained unchanged at 46% (Chart 1.32 and Table 1.8). In terms of active connections[8], 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 2021, stood at 108%, increased by 1.1 percentage points compared to 2020 (penetration 106%). Respectively, in terms of total connections, the penetration rate was 129% versus 127% in 2020 (Table 1.10).

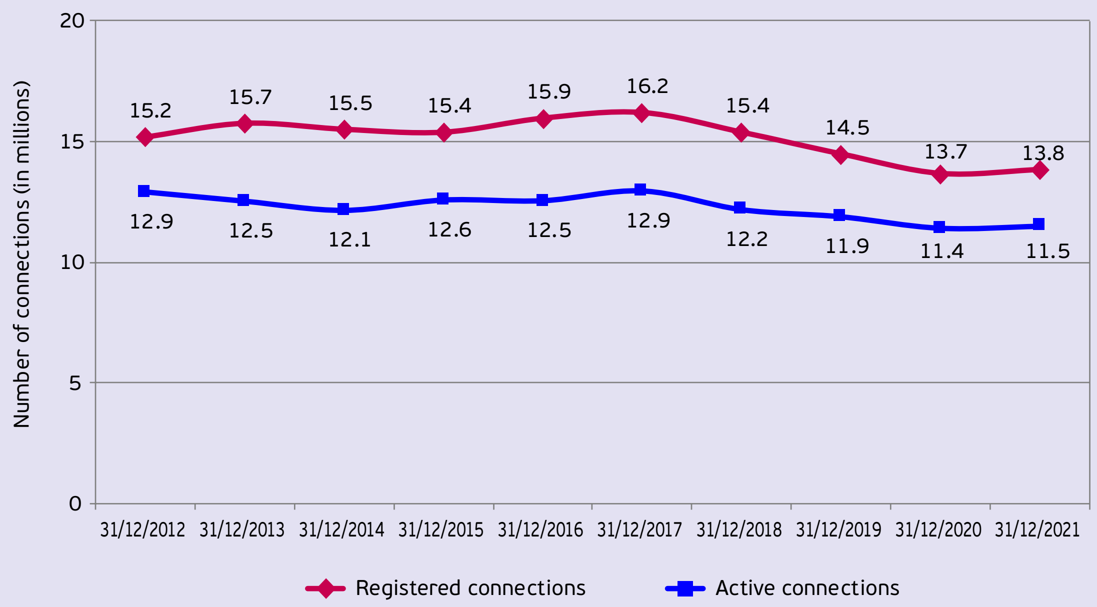
Table 1.5: Total and active mobile telephony connections (excl. datacards)

	Registered connections	Active connections
Dec. 2012	15,151,742	12,897,306
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

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

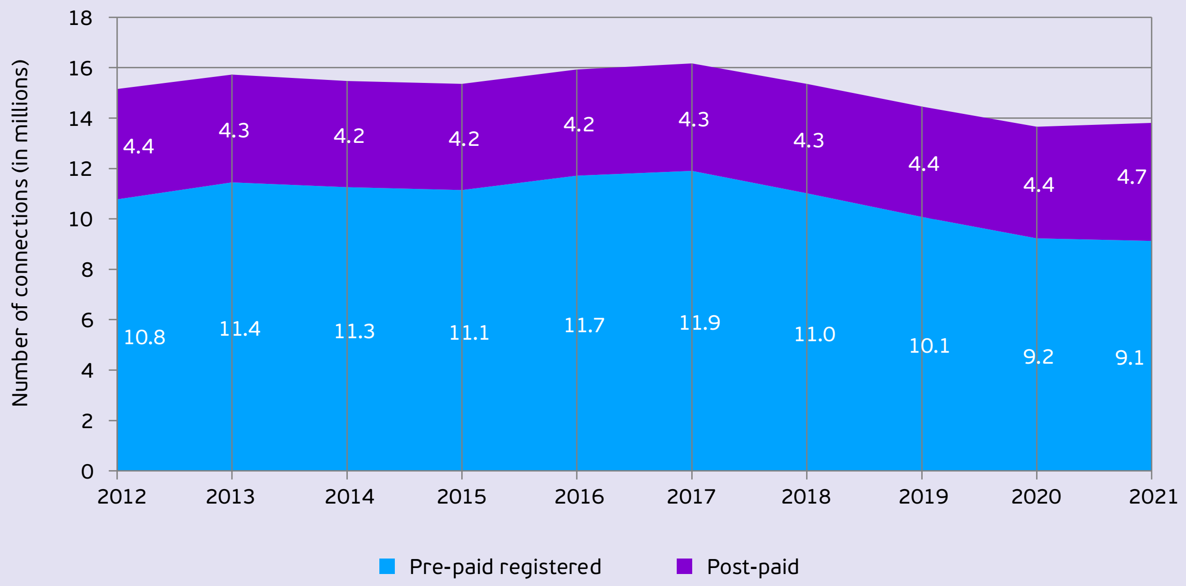
6. The term used is "connection" or "subscription" instead of "subscriber". It is not the number of subscribers as individuals or legal entities that is recorded, but the total connections/subscriptions, since one subscriber may have more than one connections/subscriptions.
7. "Active connections" or "active subscriptions" are defined as connections/subscriptions that have generated retail or wholesale revenues within the last quarter.
8. 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)

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 1.6: Total post-paid and pre-paid connections

	Post-paid connections	Pre-paid (registered) connections
Dec. 2012	4,381,879	10,769,863
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

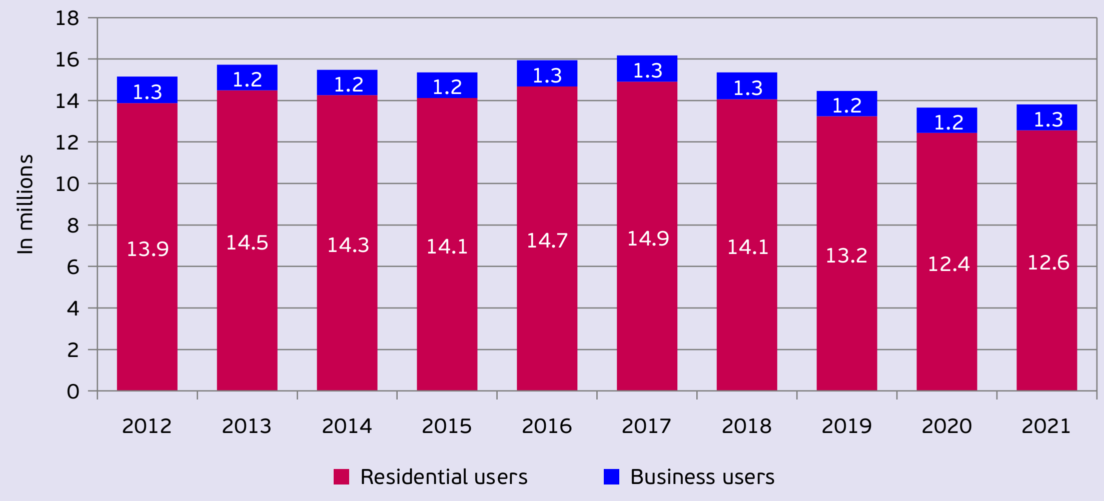
Source: EETT (based on data provided by the licensed operators)

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

	Residential	Business
Dec. 2012	13,876,910	1,274,537
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

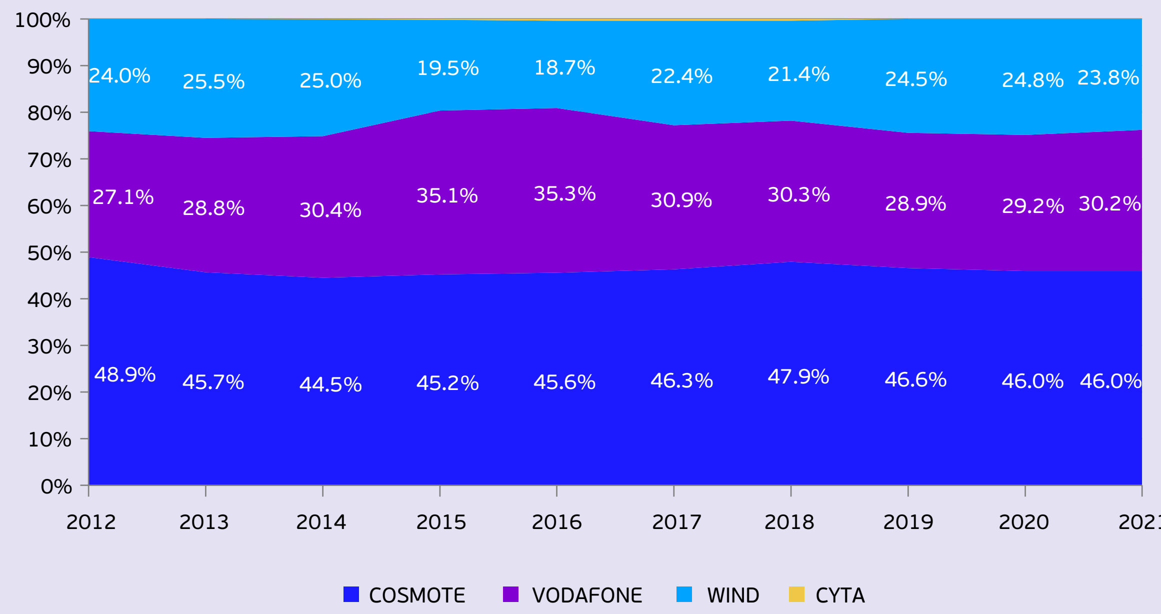
Source: EETT (based on data provided by the licensed operators)

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. 2012	Dec. 2013	Dec. 2014	Dec. 2015	Dec. 2016	Dec. 2017	Dec. 2018	Dec. 2019	Dec. 2020	Dec. 2021
COSMOTE	48.9%	45.7%	44.5%	45.2%	45.6%	46.3%	47.9%	46.6%	46%	46%
CYTA	0%	0%	0.1%	0.2%	0.4%	0.4%	0.4%	0%	-	-
VODAFONE	27.1%	28.8%	30.4%	35.1%	35.3%	30.9%	30.3%	28.9%	29.2%	30.2%
WIND	24.0%	25.5%	25.0%	19.5%	18.7%	22.4%	21.4%	24.5%	24.8%	23.8%

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

Table 1.9: MNOs' market shares based on active connections

	Dec. 2012	Dec. 2013	Dec. 2014	Dec. 2015	Dec. 2016	Dec. 2017	Dec. 2018	Dec. 2019	Dec. 2020	Dec. 2021
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. 2012	Dec. 2013	Dec. 2014	Dec. 2015	Dec. 2016	Dec. 2017	Dec. 2018	Dec. 2019	Dec. 2020	Dec. 2021
Registered connections	137%	143%	142%	141%	148%	150%	143%	135%	127%	129%
Active connections	116%	114%	111%	116%	116%	120%	113%	111%	106%	108%

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

Use of mobile communications networks

In 2021, the use of mobile communications networks was characterized by the increase both of the domestic voice traffic and the use of Short Text Messages (SMS), whereas the growth in the use of data services was yet again remarkable.

Voice calls

- The volume of voice calls in 2021 amounted to 31.8 billion minutes, registering a 4.3% increase compared to 2020 (30.5 billion minutes) (Chart 1.33).
- The largest part of this volume was the on-net calls, amounting to 15.8 billion minutes having decreased by 0.7% compared to 2020, (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) versus 53% in 2020 (Chart 1.35).
- The volume of the off-net calls increased again considerably by 12.6% compared to 2020 (from 10.3 to 11.6 billion minutes), while the volume of the mobile to fixed calls grew also by 7.4% (from 3.2 to 3.4 billion minutes).
- International calls from mobile phones dropped by 19.8%.

It should be noted that for the first time, the largest volume was made by post-paid residential users (43.4% of all voice calls' volume), thus surpassing prepaid users (40.7%) and lastly followed by post-paid business users (15.9%) (Chart 1.36). Based on the actual traffic, the average monthly call duration for a post-paid residential user was approximately 286 minutes to mobile numbers (versus 266 minutes in 2020) and 40 minutes to fixed numbers. For a business user the duration was 285 minutes to mobile numbers (versus 272 minutes in 2020) and 43 minutes to fixed numbers, while lastly, for a pre-paid user the average monthly call duration was 138 minutes to mobile numbers (versus 143 minutes in 2020) and 14 minutes to fixed numbers.

Short Text Messages (SMS)

- The total number of SMS increased by 6.1% (2.4 billion messages versus 2.2 billion messages in 2020) (Chart 1.37).
- Most of the SMS in 2021 were on-net (42.4% compared to 47.8% in 2020), while the percentage of the off-net SMS grew (33.4% versus 32% in 2020).
- SMS from pre-paid users fell by 6.2%, amounting to 0.9 billion messages in 2021 compared to 1 billion messages in 2020, while the SMS from post-paid residential users increased by 1% amounting to 0.93 billion messages versus 0.92 billion messages in 2020. The growth of the SMS from business users was impressive (63%), amounting to 0.5 billion messages versus 0.3 billion messages in 2020 (Chart 1.38).
- A post-paid business user sent on average 33 SMS per month (versus 21 SMS in 2020), followed by a post-paid residential user with 22 SMS (versus 24 SMS in 2020) and a prepaid user with 11 SMS.

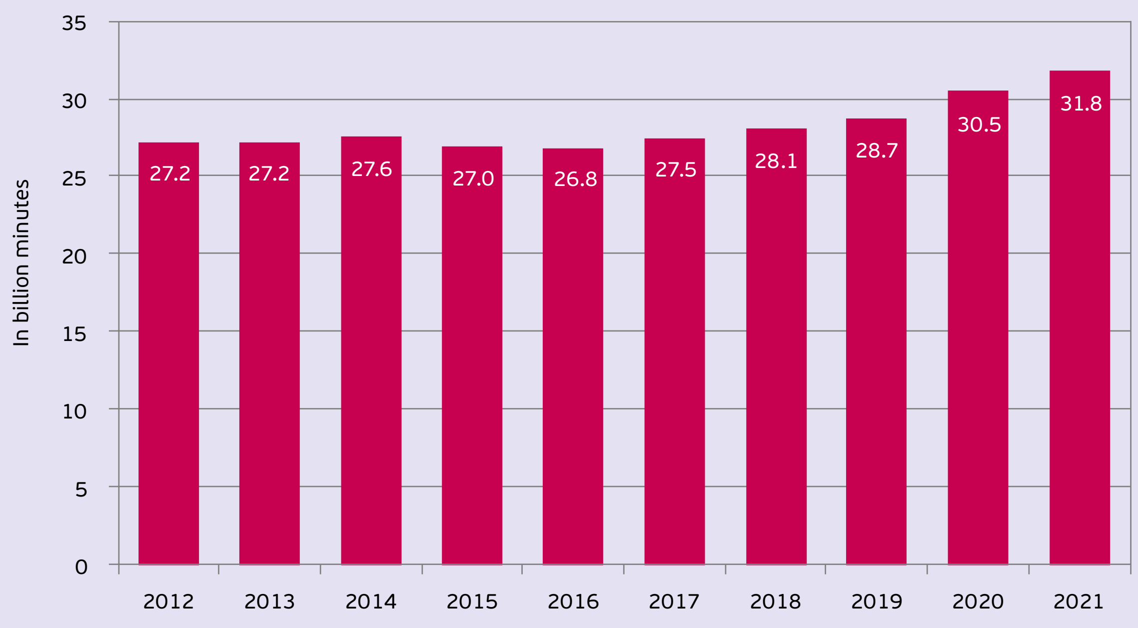
Multimedia Messages (MMS)

The number of MMS dropped considerably by 15.8%, amounting to 8.1 million in 2021 versus 9.6 million in 2020 (Chart 1.39).

Data services[9]

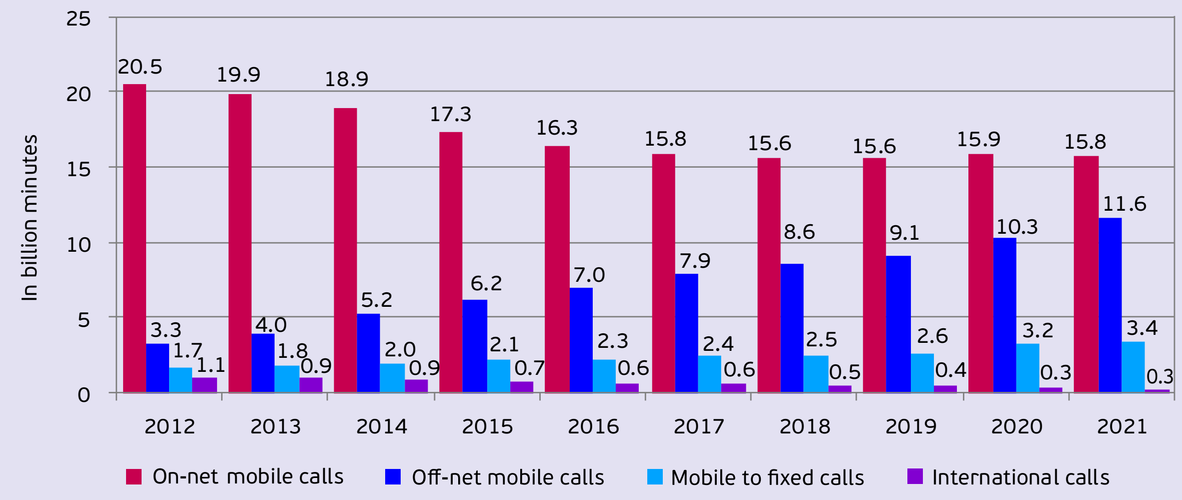
- In 2021, the volume of data services over mobile communications networks increased impressively by 49%, reaching 563 million GB compared to 379 million GB in 2020 (Chart 1.40).
- The majority of data traffic was transferred via mobile phone devices (95%), while the remaining 5% via other portable devices using datacards and M2M.
- The largest volume of data was trafficked by pre-paid users with 307 million GB, followed by post-paid residential users with 217 million GB and lastly business users with 40 million GB (Chart 1.41).
- All user categories increased significantly their use of data services during 2021. A post-paid residential user used on average 5.3 GB per month (versus 3.5 GB in 2020), followed by a prepaid user with 3.8 GB (versus 2.6 GB in 2020) and finally, a business user with 2.6 GB (versus 1.7 GB in 2020).

Chart 1.33: Volume of voice calls originating from mobile



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

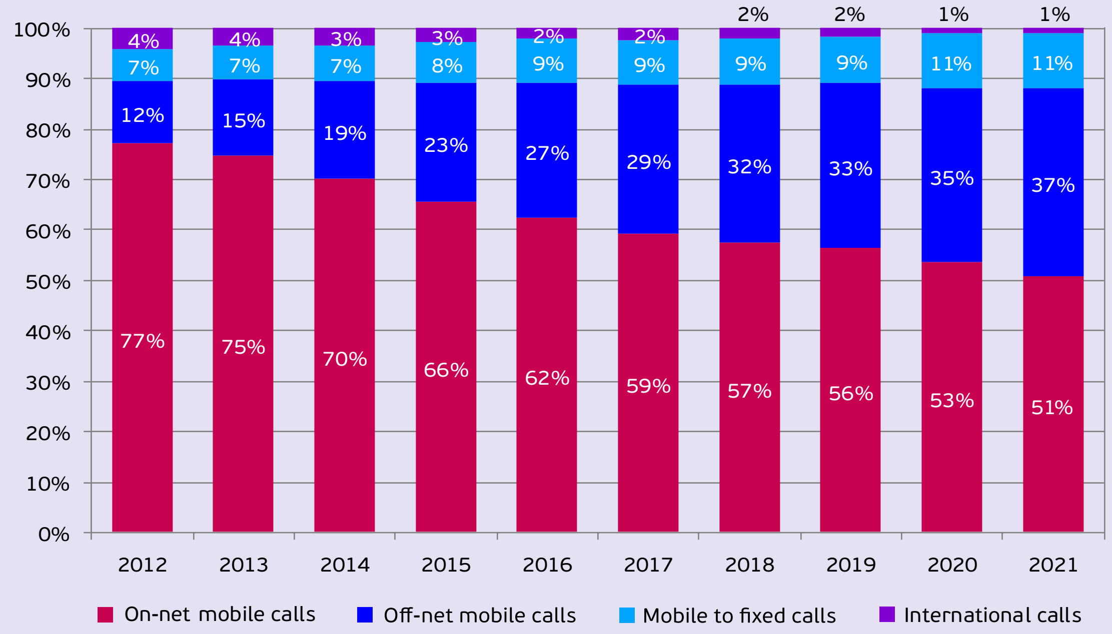
Chart 1.34: Volume of voice calls per basic call type



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

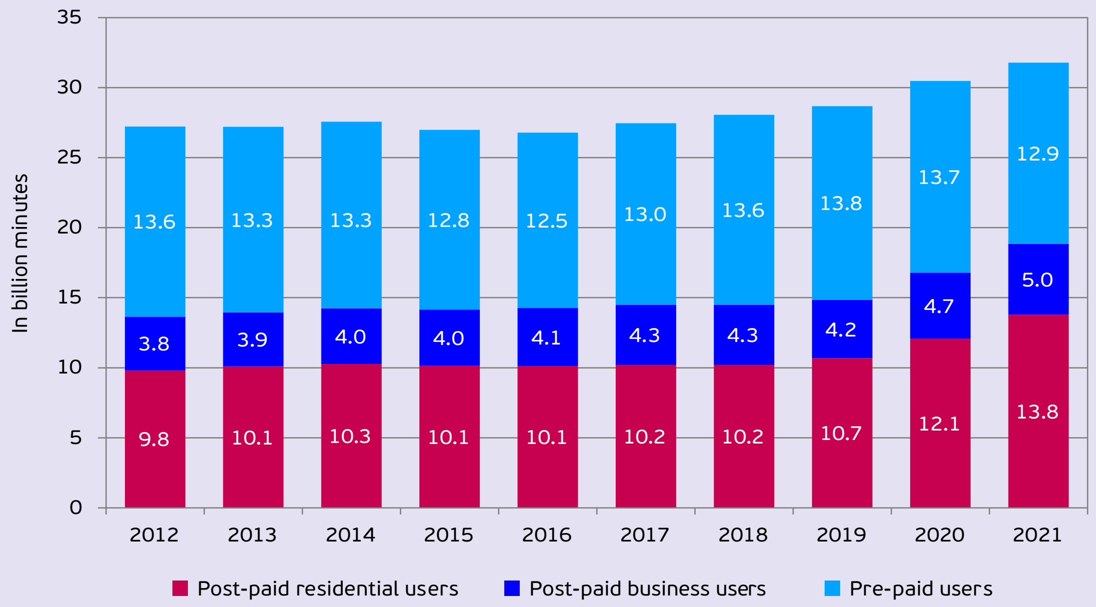
9. It is noted that up till 2012, reporting data use via mobile phones or datacards separately was not feasible.

Chart 1.35: Breakdown of the basic call types' volume



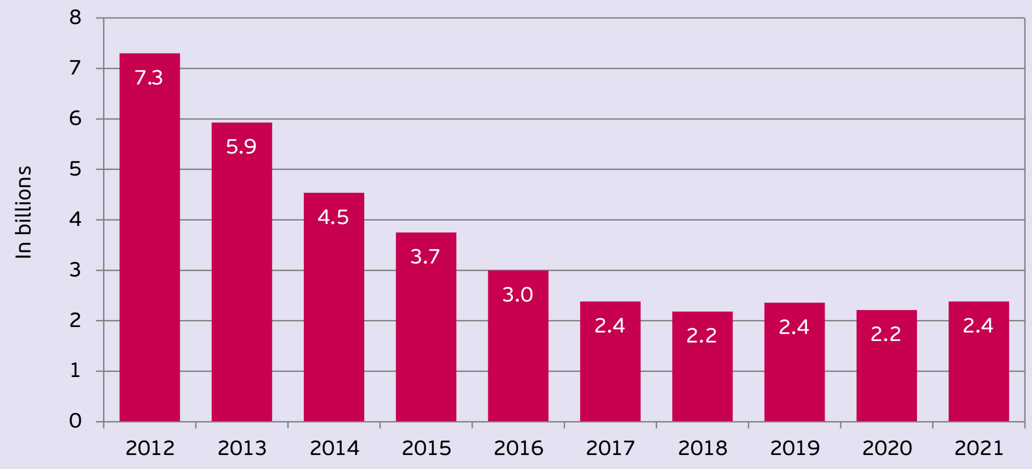
Source: EETT (based on data provided by the licensed operators)

Chart 1.36: Volume of voice calls per user category



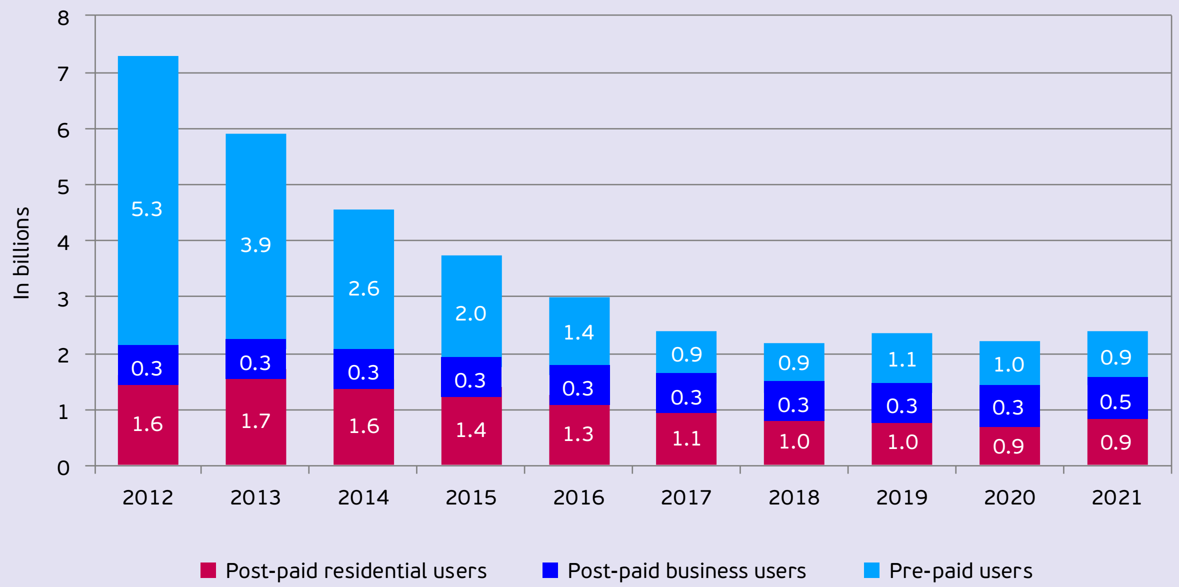
Source: EETT (based on data provided by the licensed operators)

Chart 1.37: Total number of SMS



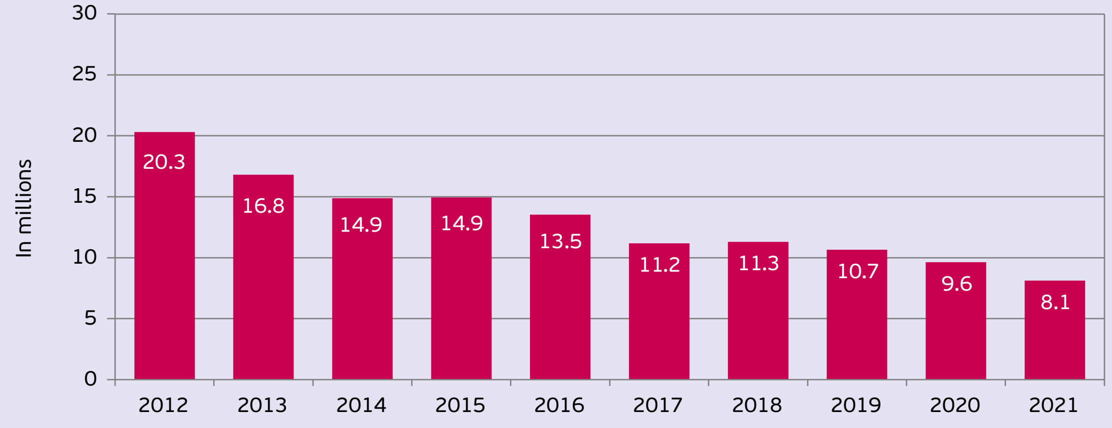
Source: EETT (based on data provided by the licensed operators)

Chart 1.38: Number of SMS per user category



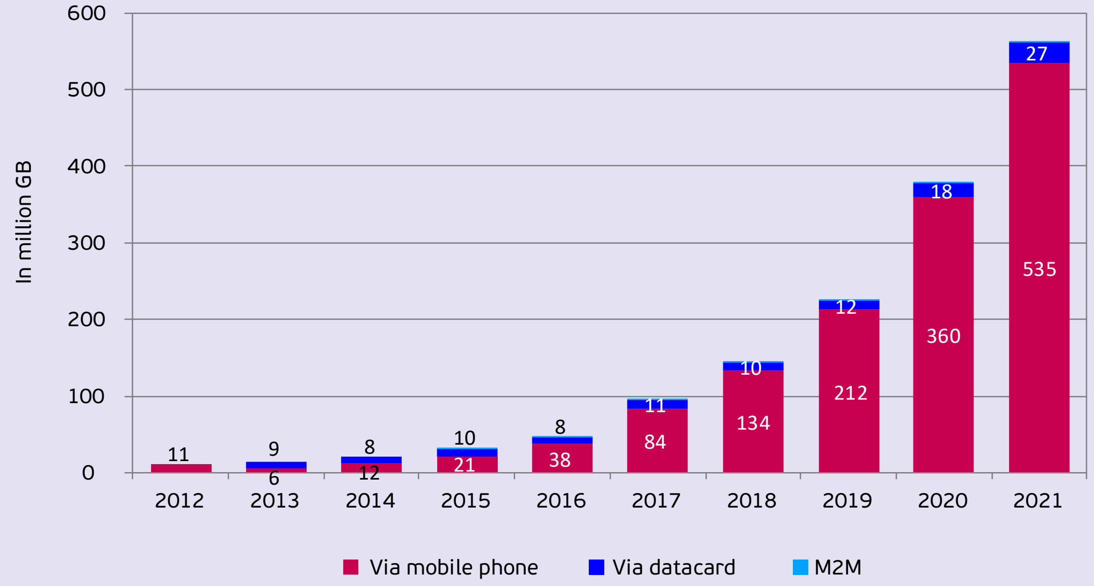
Source: EETT (based on data provided by the licensed operators)

Chart 1.39: Total number of MMS



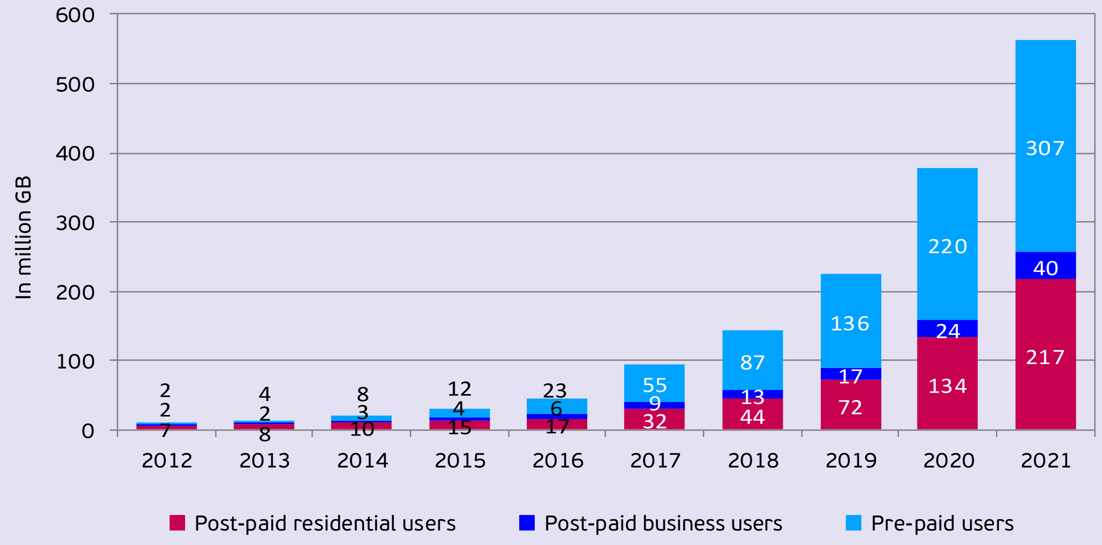
Source: EETT (based on data provided by the licensed operators)

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 2021, the retail revenues from voice and data services[10] (post-paid and pre-paid) increased by 2.7% 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)[11].

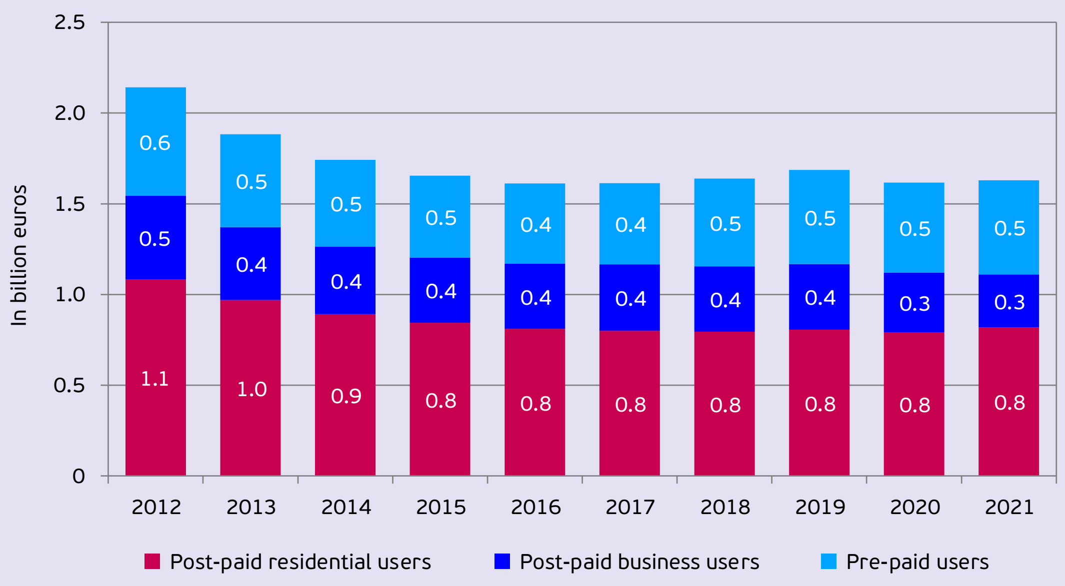
The revenues from business users dropped by 1.7%, whereas the revenues from pre-paid users and post-paid residential users followed an upward trend (4.5% and 3.6% respectively). In 2021, 61.2% of the voice and data retail revenues (over 1 billion euros) stemmed from voice calls versus 62.9% in 2020, whereas the revenues from the use of data (with/without datacards and M2M) kept on rising constituting 34.2% of the retail revenues (about 567 million euros) compared to 31.4% in 2020 (Charts 1.43 and 1.44).

The average annual revenue per postpaid (connection) and pre-paid user was 244 euros (a 4.2% drop) and 75 euros (a 9.8% increase) respectively (Chart 1.45). Regarding the revenues from the use of data, residential users have consistently been the largest source of revenue, surpassing 50% in 2021, followed by business users with 27.3% (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 2021, the average revenue per GB for the business users were 3.2 euros, for residential users amounted to 1.3 euros, while for pre-paid users was 0.5 euros.

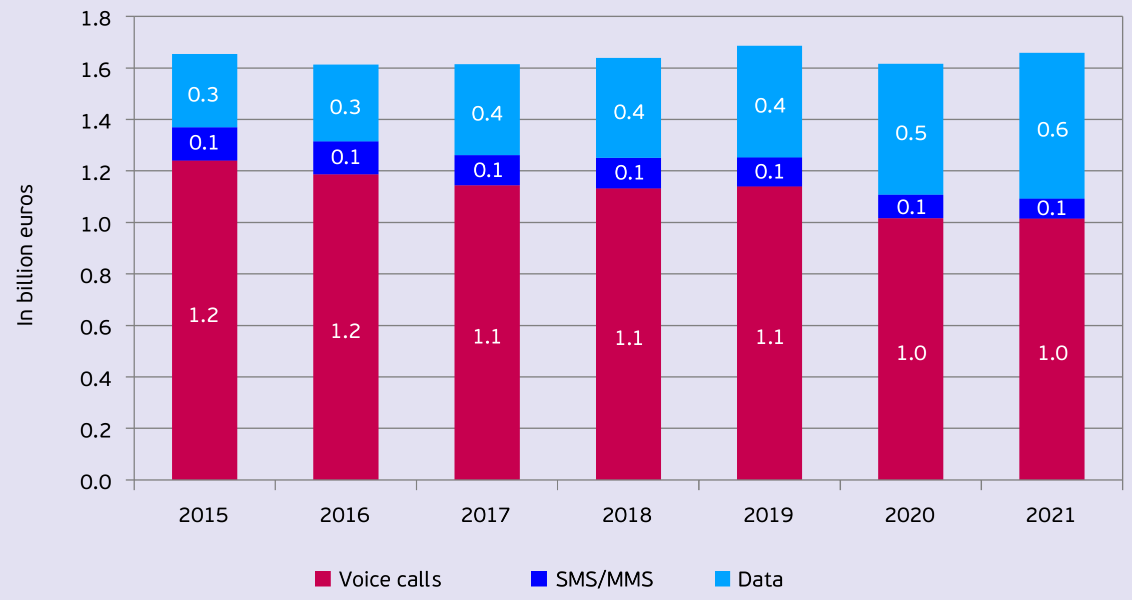
10. Revenues from the sale of handsets, wholesale or other services are not included.
11. Retail revenues and the resulting market shares are confidential data and for this reason the market shares are presented in the form of ranges.

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



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

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

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
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

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
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%

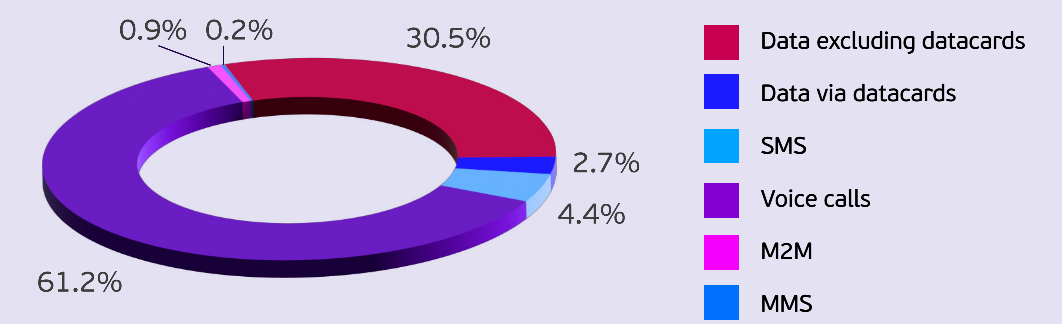
Source: EETT (based on data provided by the licensed operators)

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

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
COSMOTE	55%-65%	55%-65%	55%-65%	55%-65%	55%-65%	45%-55%	45%-55%	55%-65%	55%-65%	55%-65%
CYTA	-	-	0%-5%	0%-5%	0%-5%	0%-5%	0%-5%	0%-5%	-	-
VODAFONE	15%-25%	15%-25%	15%-25%	25%-35%	25%-35%	25%-35%	25%-35%	25%-35%	15%-25%	25%-35%
WIND	15%-25%	15%-25%	15%-25%	15%-25%	15%-25%	15%-25%	15%-25%	15%-25%	15%-25%	15%-25%

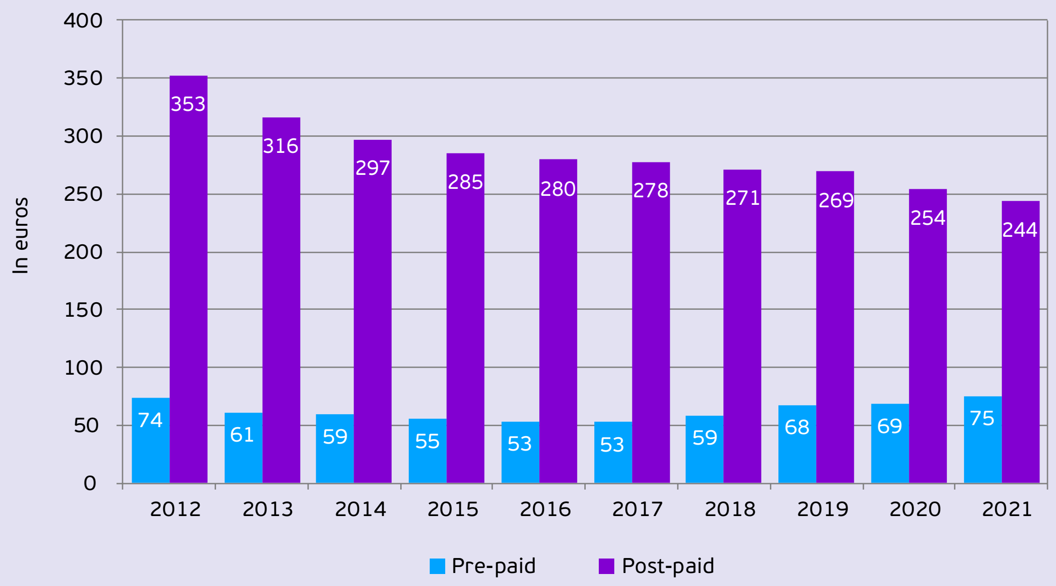
Source: EETT (based on data provided by the licensed operators)

Chart 1.44: Retail revenues from voice and data services of mobile communications networks, 2021



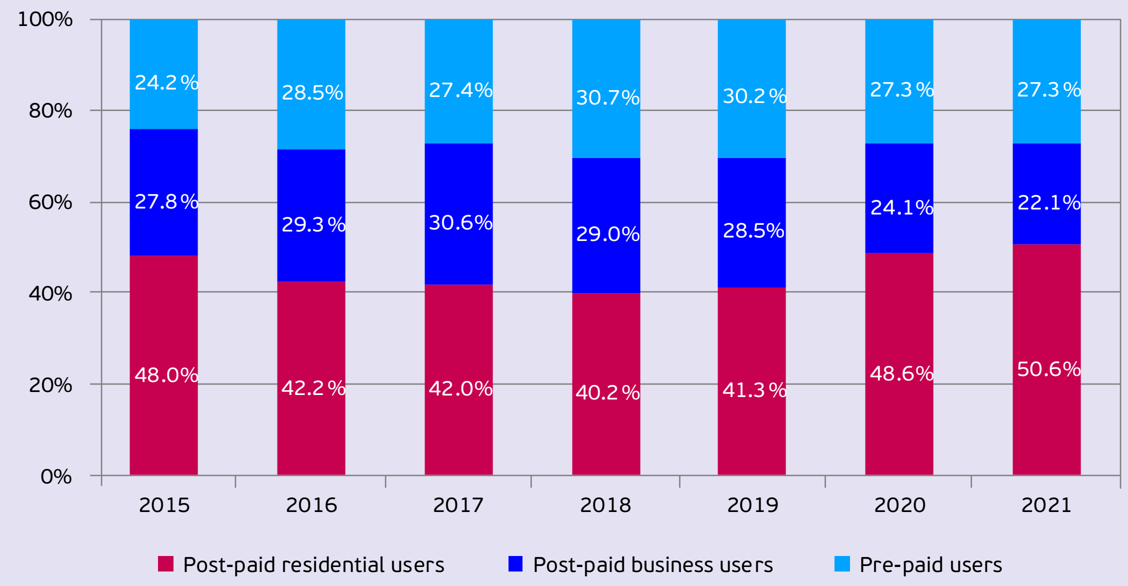
Source: EETT (based on data provided by the licensed operators)

Chart 1.45: Average annual revenue per mobile telephony connection



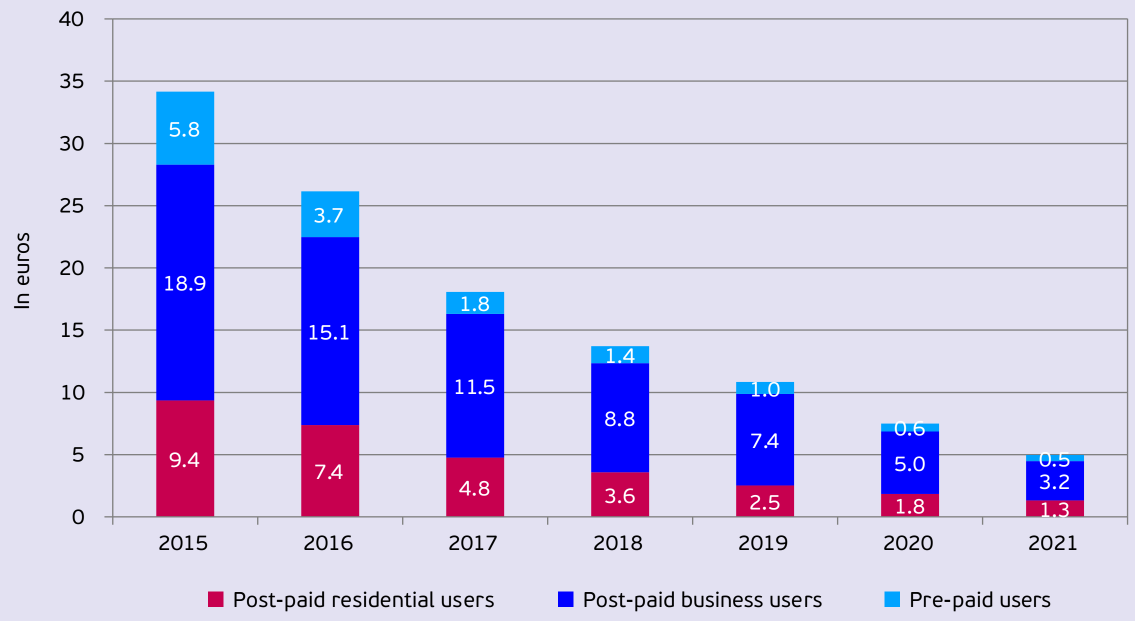
Source: EETT (based on data provided by the licensed operators)

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)

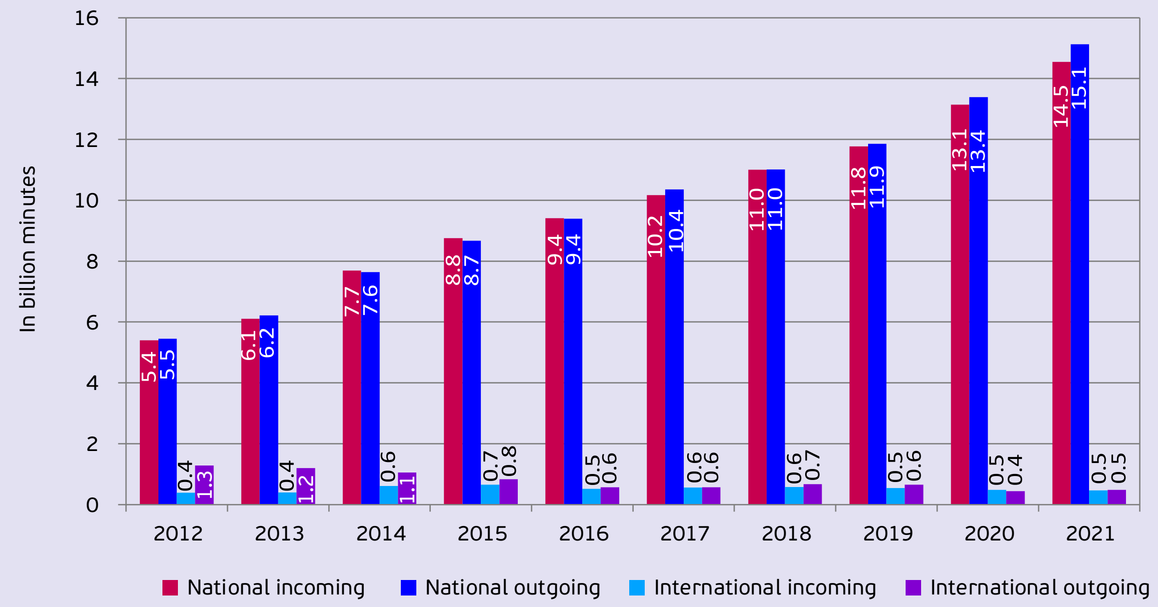
Mobile telephony interconnection

The interconnection traffic of the MNOs in 2021 increased by 11.5% compared to 2020, which constitutes an annual growth of approximately 3.2 billion minutes (Chart 1.48). More specifically, the national incoming traffic increased by 10.7%, the national outgoing traffic rose by 12.9% and the international outgoing traffic rose by 10.1%. On the contrary, the international incoming traffic fell by 3.1%.

The MNOs' on-net traffic amounted to 14.7 billion minutes approximately for 2021, showing a decrease by 2.5% compared to 2020 (about 400 million minutes), thus accounting for 32.4% of the total interconnection traffic, which also includes the incoming and the outgoing traffic (Chart 1.49).

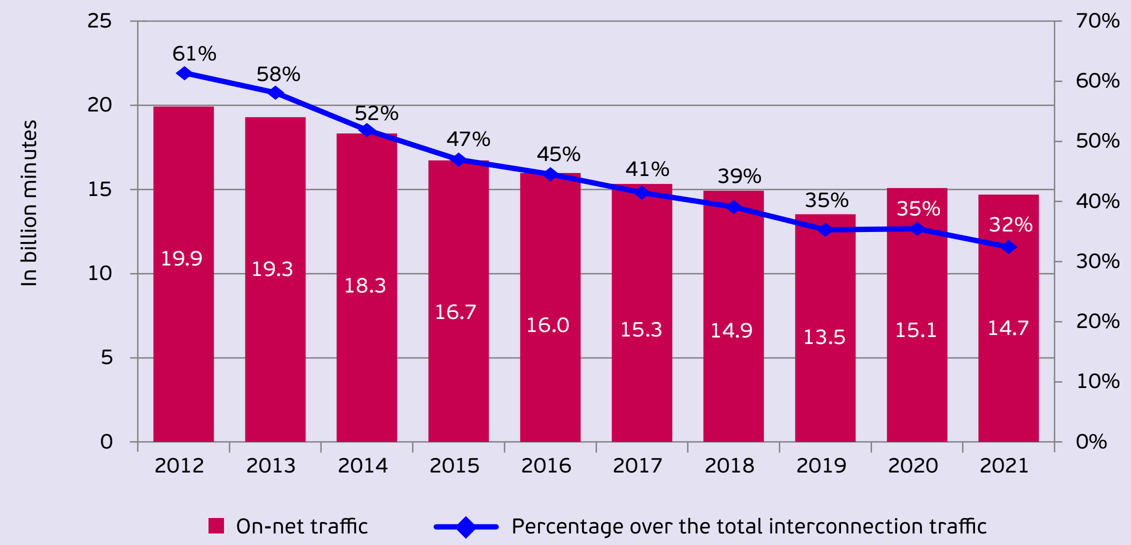
At the same time, the national traffic terminating to mobile networks kept on rising. In particular, the national calls to mobile phones increased by 2.7%, amounting to 29.3 billion minutes versus 28.5 billion minutes in 2020 (Chart 1.50). Similarly, the revenues from the national incoming traffic to mobile networks registered a 4.9% increase amounting to 91.6 million euros (Chart 1.51). Lastly, as of January 1, 2022, the call termination rates to mobile networks stood at 0.55 eurocents per minute (Chart 1.52).

Chart 1.48: MNOs' interconnection traffic



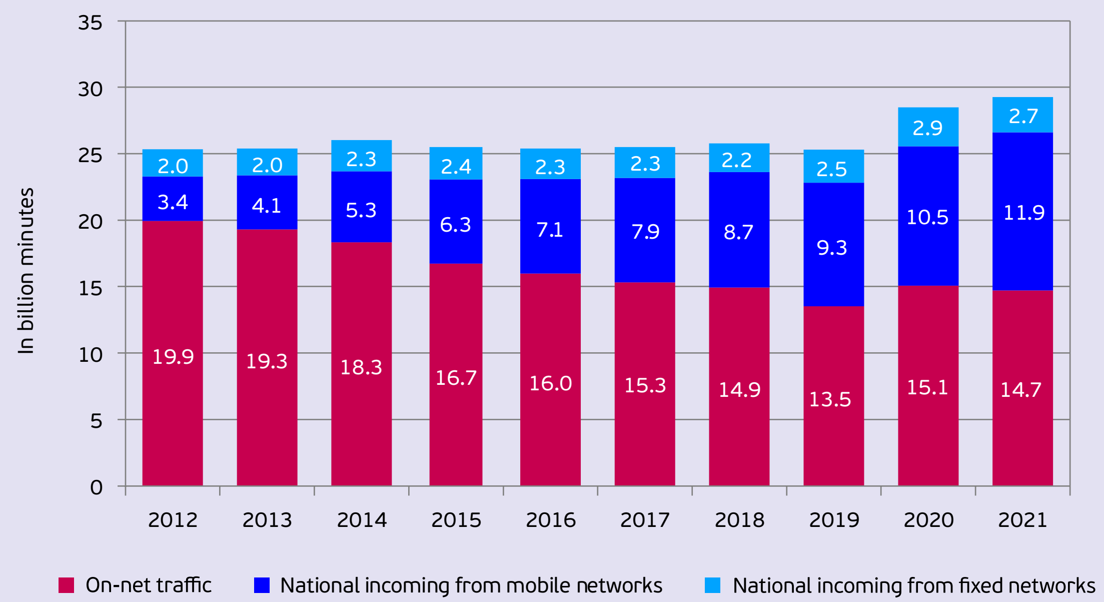
Source: EETT (based on data provided by the MNOs)

Chart 1.49: MNOs' on-net traffic



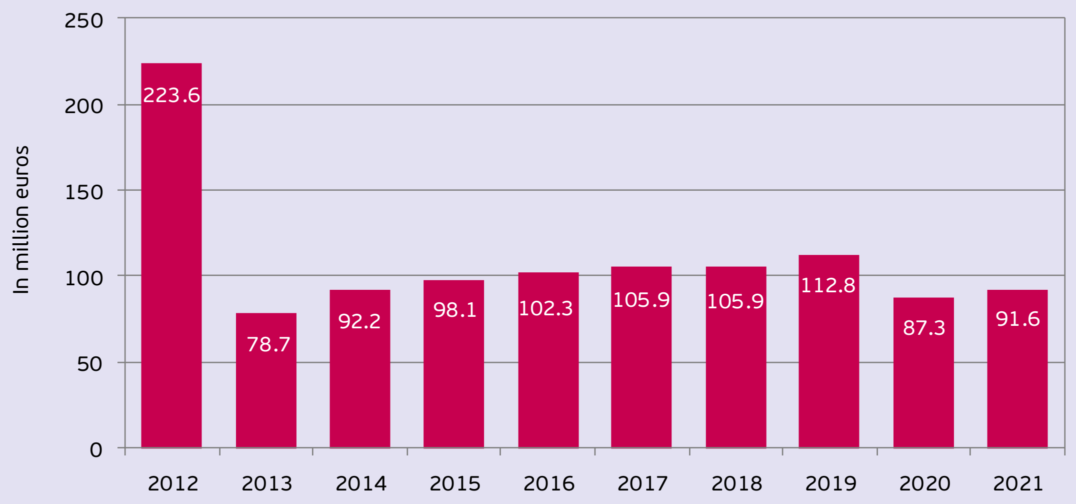
Source: EETT (based on data provided by the MNOs)

Chart 1.50: Voice calls terminating to mobiles in Greece



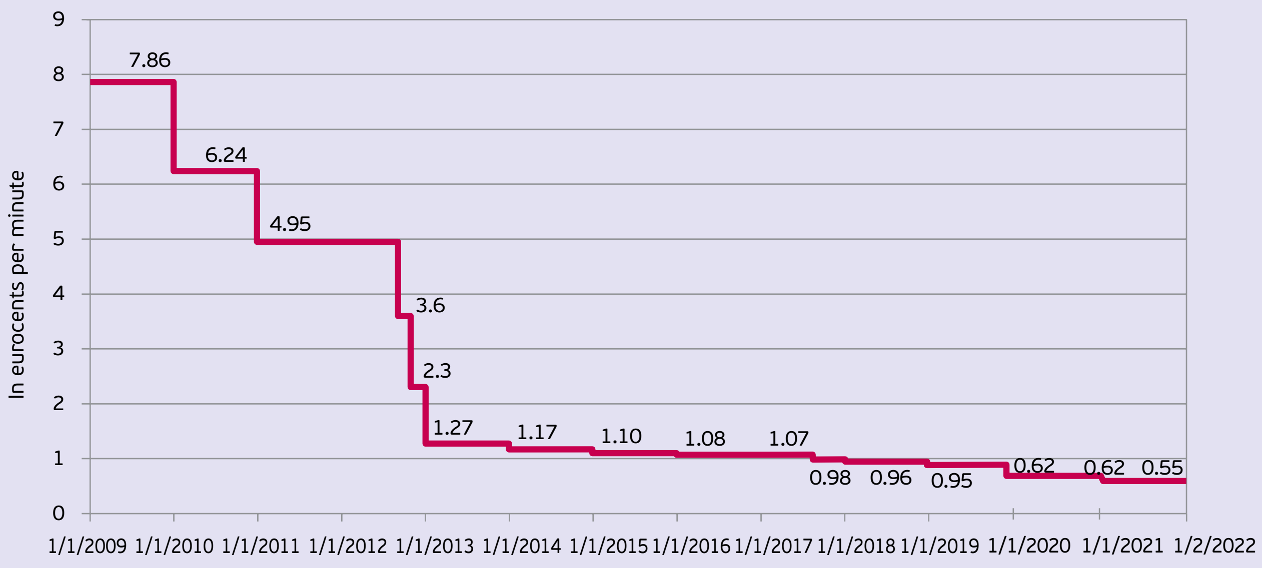
Source: EETT (based on data provided by the MNOs)

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



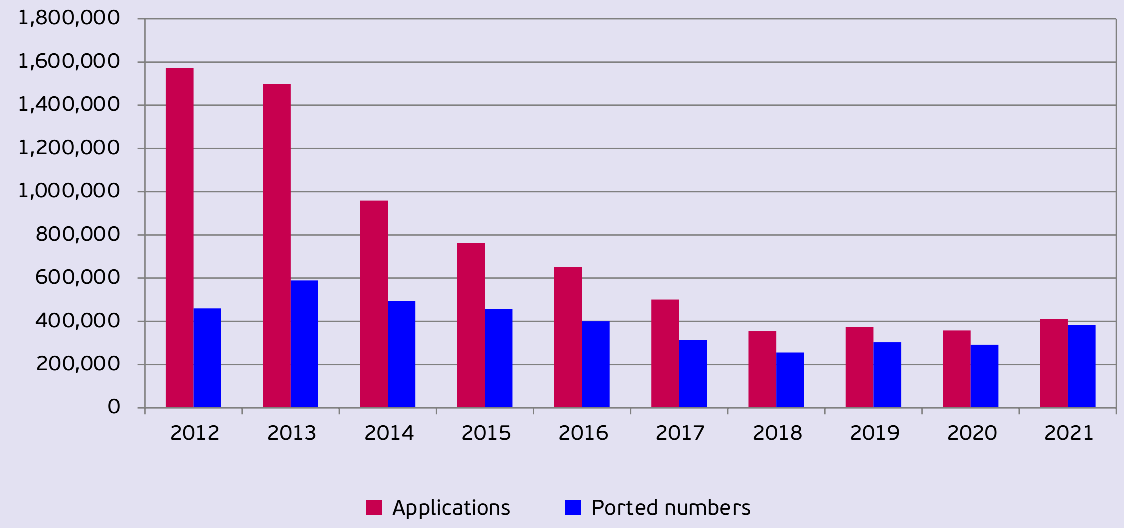
Source: EETT

Number portability in mobile telephony

The applications submitted for porting mobile telephony numbers during 2021 amounted to 411,054 versus 358,359 in 2020, registering a 14.7% increase compared to the previous year.

During the same period, 383,868 numbers were ported, increased by 31.6% compared to 2020 (Chart 1.53). In conclusion, approximately 93% 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

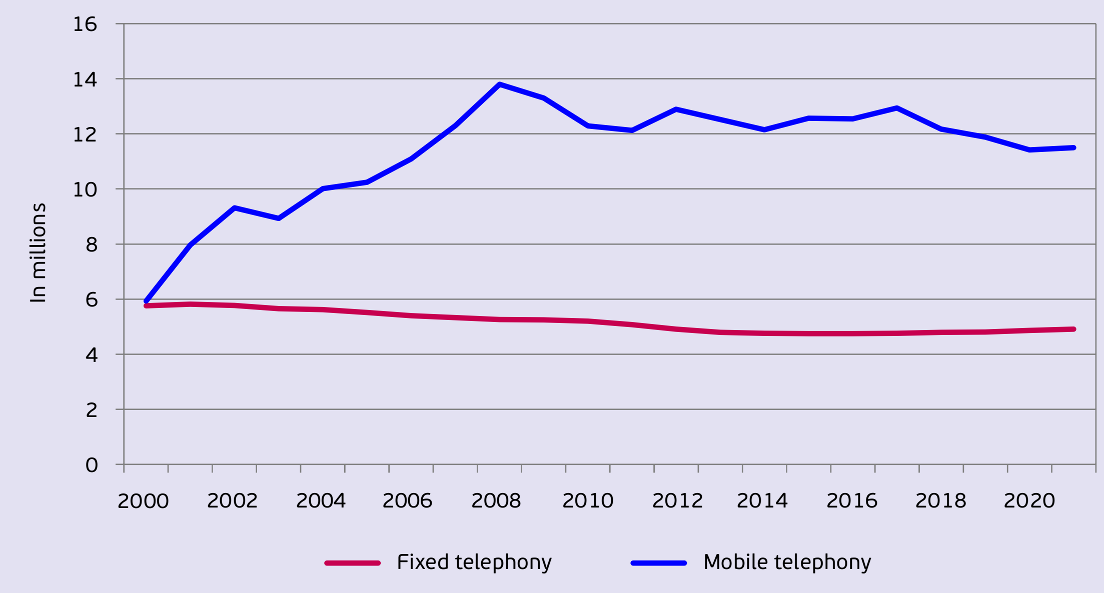
Fixed telephony connections (lines) grew by 1.1% to 4.9 million in 2021, whereas active mobile telephony connections/subscriptions increased by 0.7% amounting to 11.5 million (Chart 1.54).

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[12], for the period 2012-2021. The mobile retail revenues grew by 0.8% compared to 2020, reaching 1.6 billion euros, while the fixed services' retail revenues increased also by 2% compared to 2020, amounting to 1.5 billion euros.

Chart 1.56 presents the evolution of the volume of calls from fixed and mobile phones, taking into account the basic call types, i.e. the national fixed calls, the calls to mobiles and the international calls[13]. The volume of calls from fixed phones dropped by 7.8% in 2021, amounting to 13.1 billion minutes versus 14.2 billion minutes in 2020, mainly due to the large fall by 1.1 billion minutes of the national fixed calls. On the contrary, the volume of the basic call types made from mobiles increased by 4.6% compared to 2020 (off-net mobile calls increased by 1.4 billion minutes) and accounts for 70% of the respective total outgoing traffic (i.e. from fixed and mobile) (Chart 1.57).

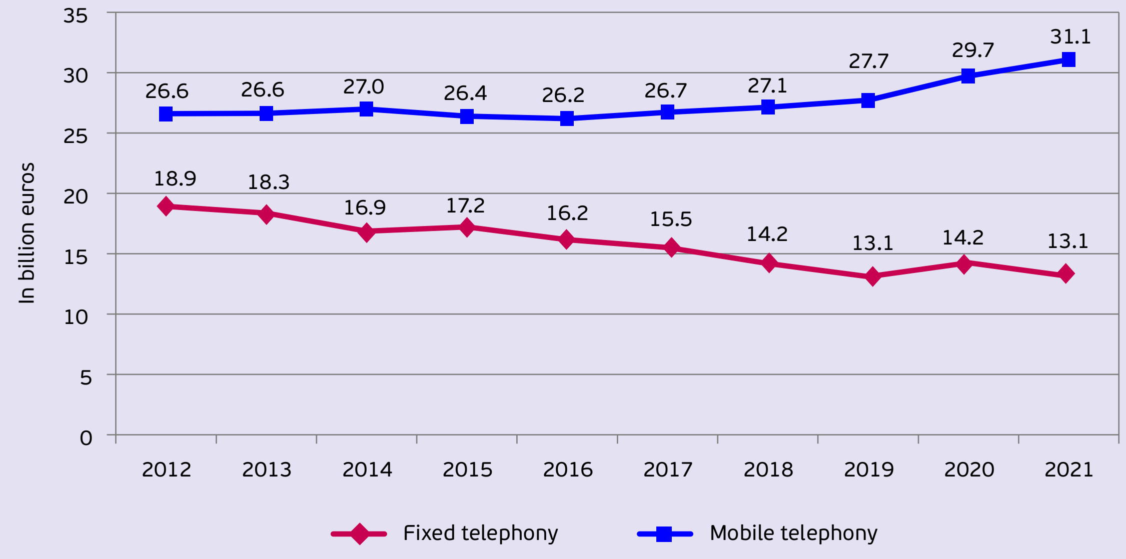
12. Revenues from handsets and other services are excluded.
13. Mobile calls entail on-net, off-net, mobile to fixed and mobile to international destinations calls.

Chart 1.54: Evolution of fixed and mobile telephony connections



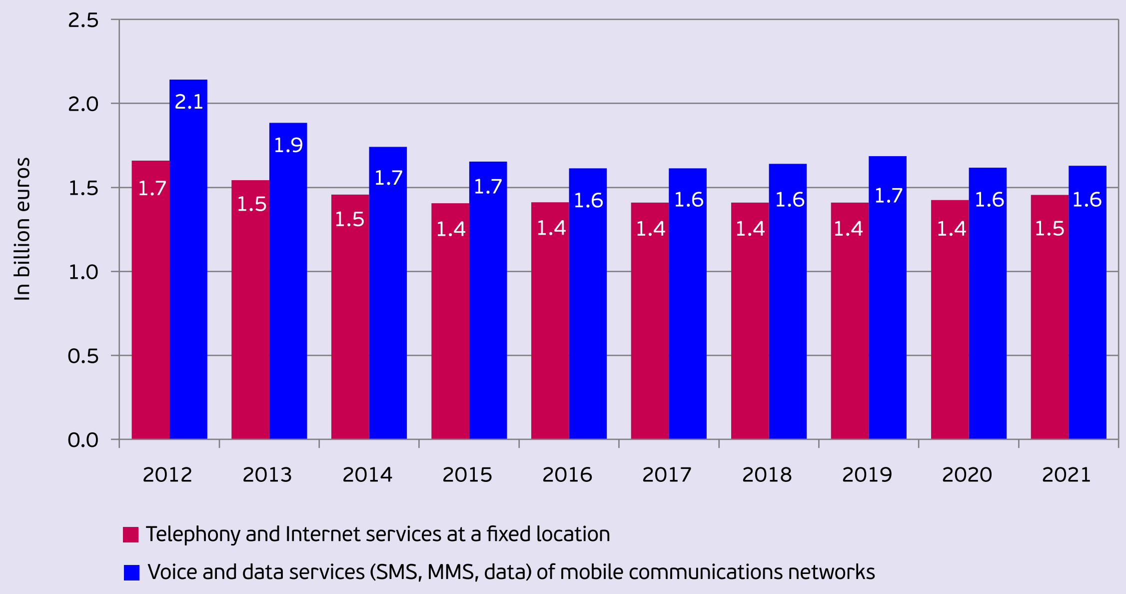
Source: EETT (based on data provided by the licensed operators)

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



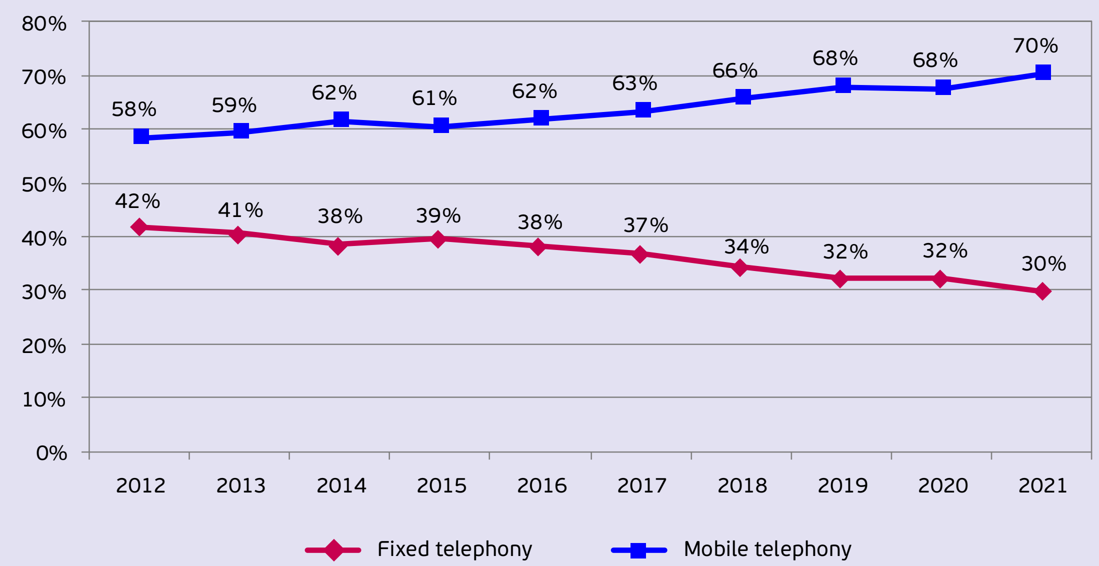
Source: EETT (based on data provided by the licensed operators)

Chart 1.55: Evolution of retail revenues



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 2021, fixed broadband connections amounted to 4,429,370 versus 4,270,473 at the end of 2020, registering an annual increase of 3.7% (versus 4% in 2020) and a 41.5% penetration rate in the population (Chart 1.58). The access lines to Next Generation Access Networks (NGA) (VDSL Vectoring/FTTH)[14] grew considerably by 66%, amounting to 796,611 lines versus 479,638 at the end of 2020.

Chart 1.59 presents the evolution of the full and shared Local Loop Unbundling (LLU) lines, as well as of the full access subloops lines[15]. The full LLU lines were further reduced at the end of 2021 to 1,504,872[16] versus 1,758,279 at the end of 2020. On the contrary, the full access subloop lines amounted to 341,345 versus 219,897 at the end of 2020, 86% of which (293,122) is allocated to the operators for developing NGA and the remaining 14% (48,223) for the development of broadband products in rural areas.

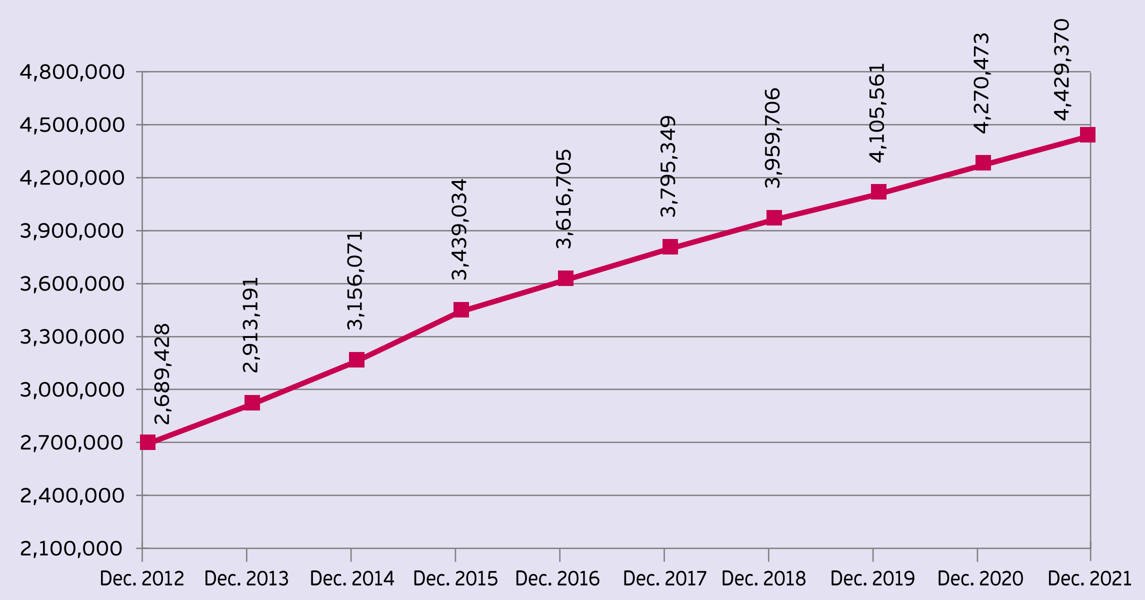
Upon upgrading the access network to NGA by implementing the VDSL Vectoring technology, the NGA network that was deployed covered the area of 1,279 of OTE's street cabins. The majority of those cabins was upgraded to Fiber to the Cabinet (FTCC) and VDSL Vectoring (745 cabins), whereas in fewer cases (534) to Fiber to the Home (FTTH) and Gigabit Passive Optical Networks (GPON). By the end of 2021, the accumulated number of the upgraded cabins amounted to 21,006 (Charts 1.60 and 1.61).

The VDSL lines at the end of 2021 amounted to 1,989,488[17], compared to 1,542,277 in December 2020 (an annual increase of 29%), accounting for 44.9% of the total broadband lines (Chart 1.62). Their penetration in the population is still low (18.6% versus 14.4% at the end of 2020).

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

- The xDSL lines via LLU were further reduced to 1,350,822, compared to 1,573,758 at the end of 2020, with their share over the total broadband lines declining to 30.5% versus 36.8% at the end of 2020. The above number excludes 125,184 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 1.63 and 1.64).
- The access lines to NGA, implemented by OTE and the alternative operators via the VDSL Vectoring/FTTH technology at the access network, reached 796,611. Their share over the total broadband lines rose to 18% in 2021, versus 11.2% at the end of 2020. The majority of the implemented products was over FTTC lines. Analytically:
  - The access lines resulting from the provision of OTE's VLU FTTC/FTTH lines to VODAFONE, WIND and NOVA reached 474,927 (286,778 at the end of 2020). Their share over the total broadband lines rose to 10.7%, versus 6.7% at the end of 2020.
  - 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 321,684 (192,860 at the end of 2020). Their share over the total broadband lines rose to 7.3%, versus 4.5% at the end of 2020.
- OTE's broadband lines, based on its own infrastructure, amounted to 2,130,671, registering a 3.4% increase compared to December 2020 (2,060,904 lines), with their respective share over the total broadband lines reaching 48.1% versus 48.2% at the end of 2020. From the total number of OTE's broadband lines, 985,149 were VLU lines (888,363 at the end of 2020) and the 47,096 lines (33,383, at the end of 2020) 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[18] lines dropped to 129,524 versus 149,313 in December 2020 (2.9% of the total broadband lines versus 3,5% at the end of 2020), due to the decrease of the number of the VPU products (125,184 versus 143,658 at the end of 2020).
- The broadband lines of other technologies remained at very low levels with a percentage estimated at 0.49%.
- Almost all broadband lines (over 99%) corresponded to nominal download access speeds of 10 Mbps and above. The highspeed broadband lines with nominal download access speeds of 30 Mbps and above, constituted 31.6% of the total broadband lines (versus 30.5% at the end of 2020). Lastly, a percentage of 14% of these lines corresponded to access speeds of 100 Mbps and above (compared to 5.8% at the end of 2020) (Charts 1.65 and 1.66).
- The Internet traffic of the fixed broadband access users during 2021, reached on average 1.87 TB per subscriber (versus 1.6 TB per subscriber in 2020).
- As far as the operators' shares are concerned, based on the number of their broadband lines, COSMOTE is ahead (45%-55%) followed by VODAFONE (15%-25%) (Table 1.14).

Chart 1.58: Evolution of broadband lines

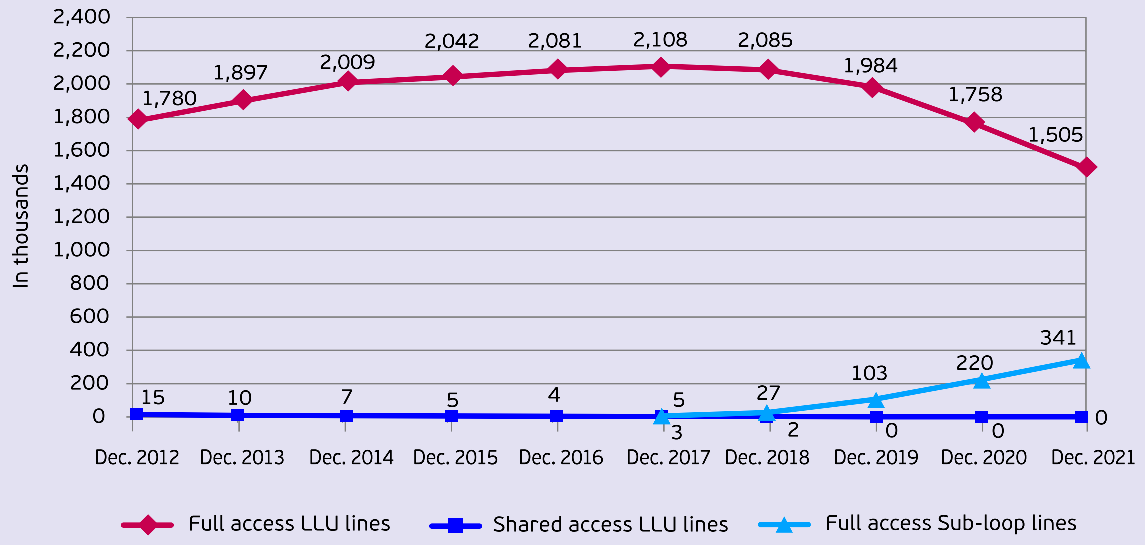


Source: EETT (based on data provided by the licensed operators)

14. 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.
15. 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.
16. The lines used for voice transfer under the VPU services are included.
17. It is noted that the VDSL (L/E)-OTE lines are included in the revised prices of the 2017-2020 period.

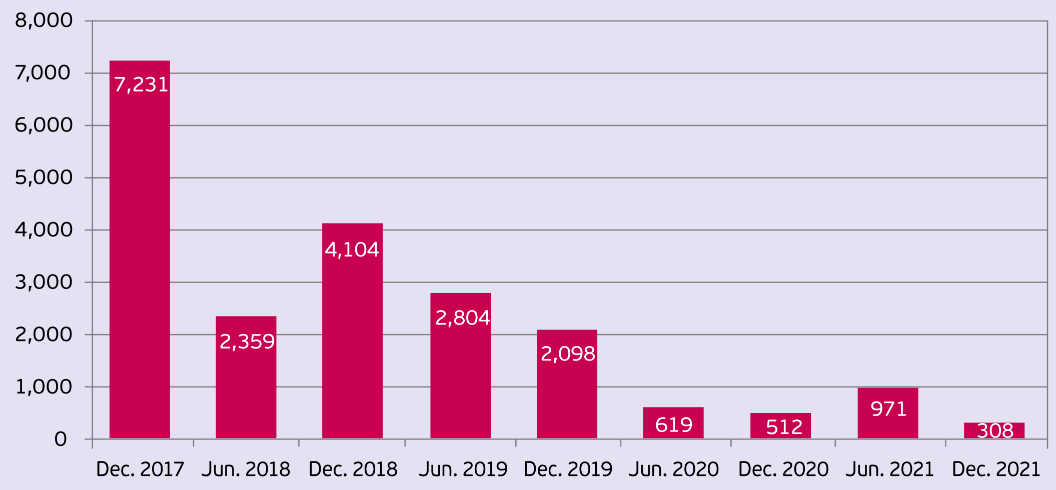
18. OTE supplies those lines to the alternative operators so they can offer VPU products.

Chart 1.59: Evolution of LLU lines



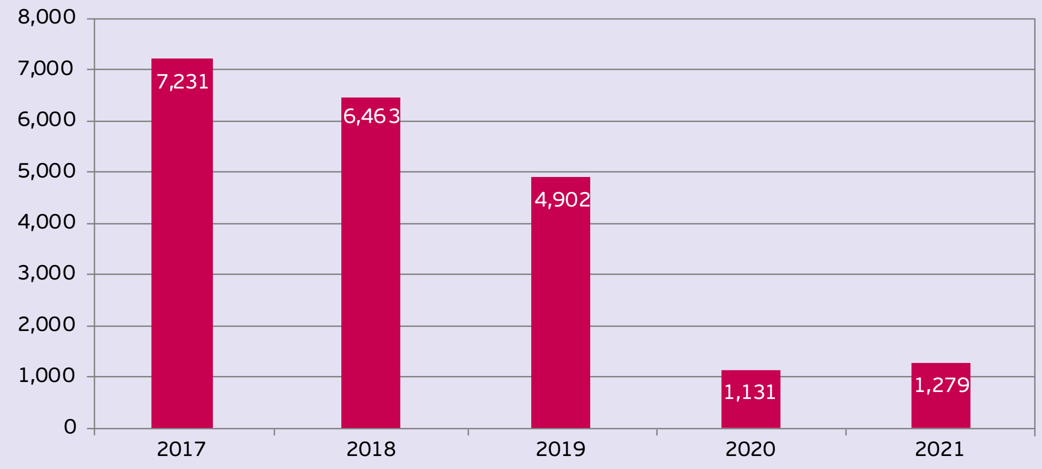
Source: EETT (based on data provided by the licensed operators)

Chart 1.60: Upgrades of OTE's street cabins per semester



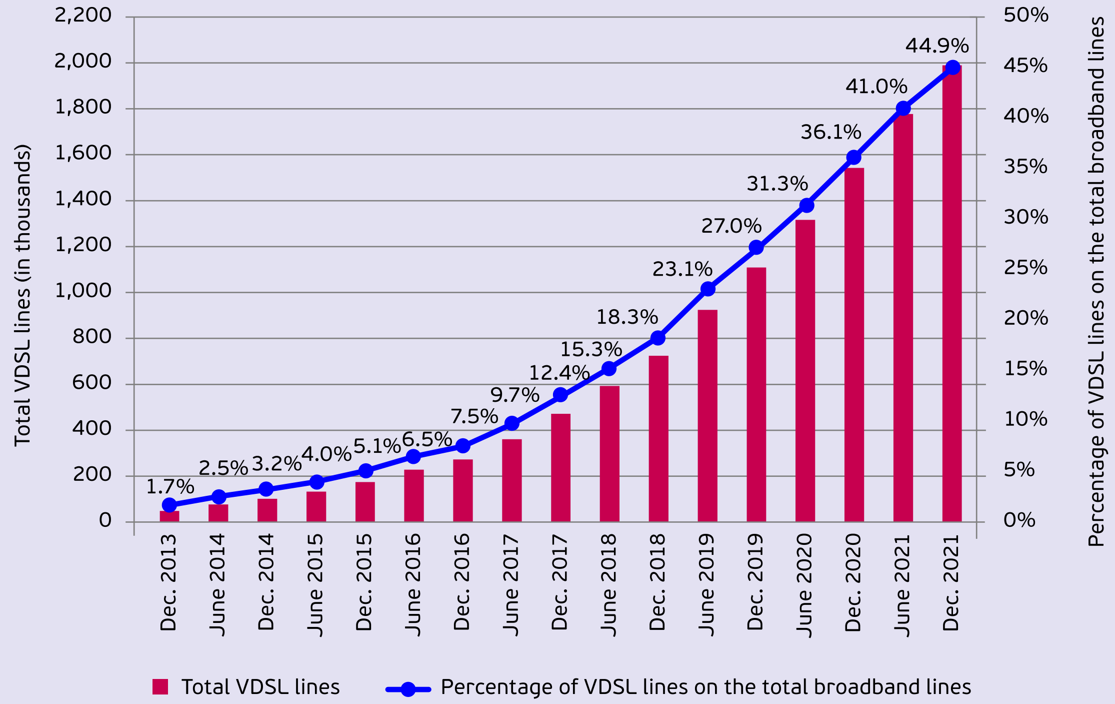
Source: EETT (based on data provided by the licensed operators)

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



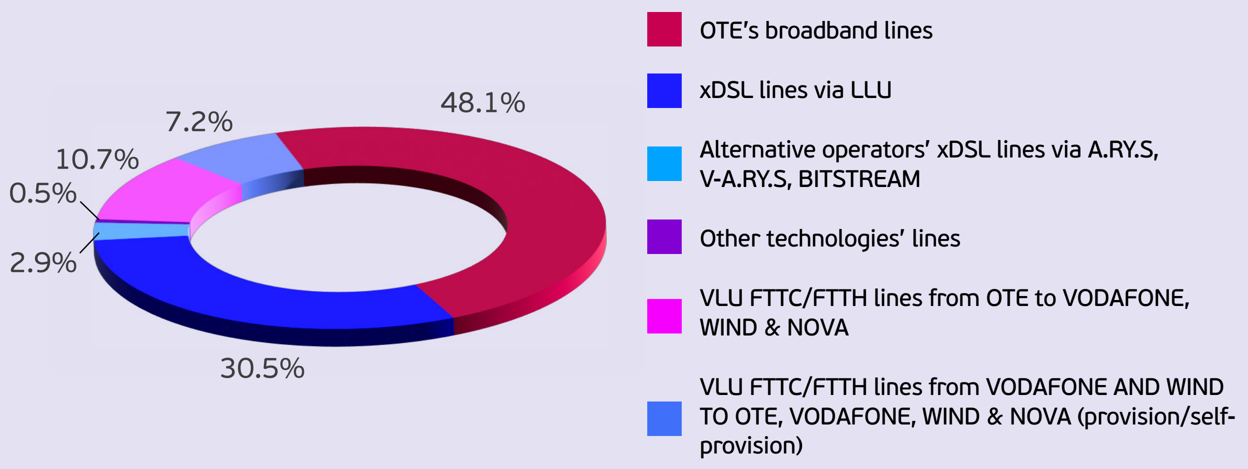
Source: EETT (based on data provided by the licensed operators)

Chart 1.62: Evolution of VDSL lines



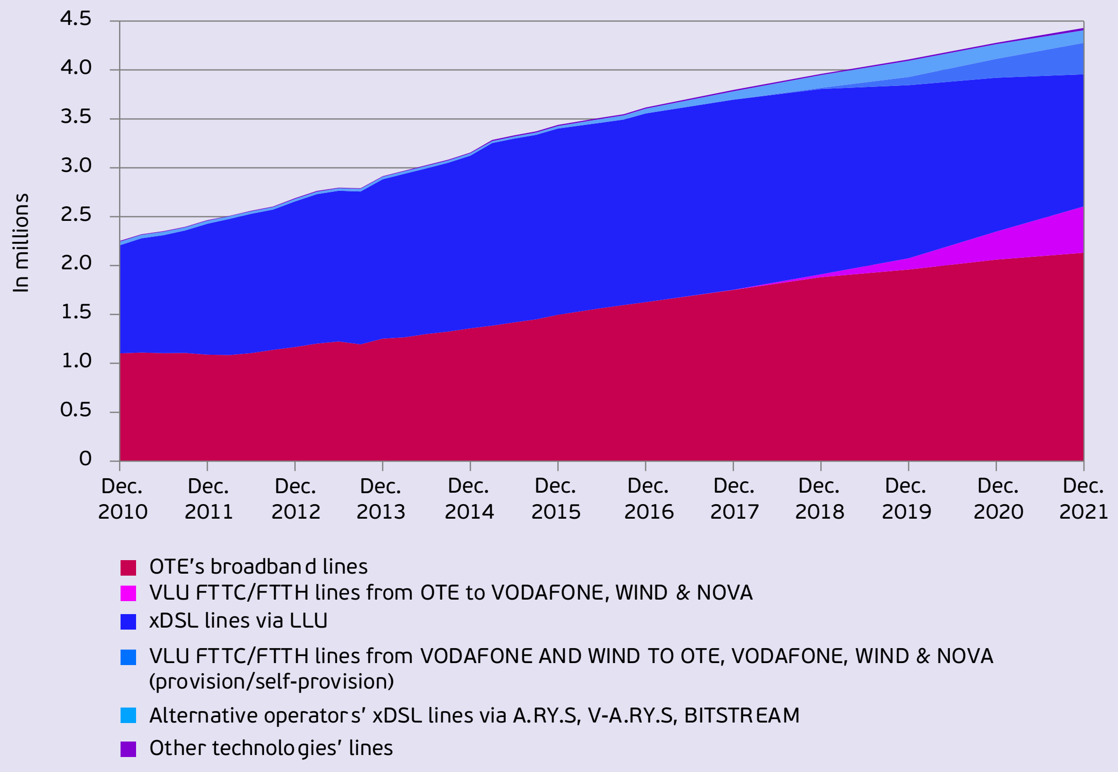
Source: EETT (based on data provided by the licensed operators)

Chart 1.63: Breakdown of broadband lines per technology, December 2021



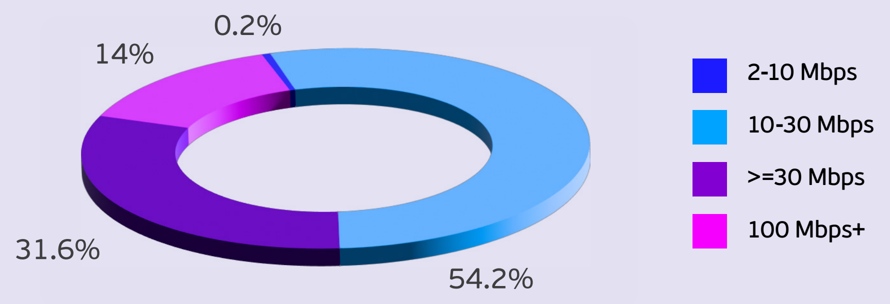
Source: EETT (based on data provided by the licensed operators)

Chart 1.64: Evolution of broadband lines per technology



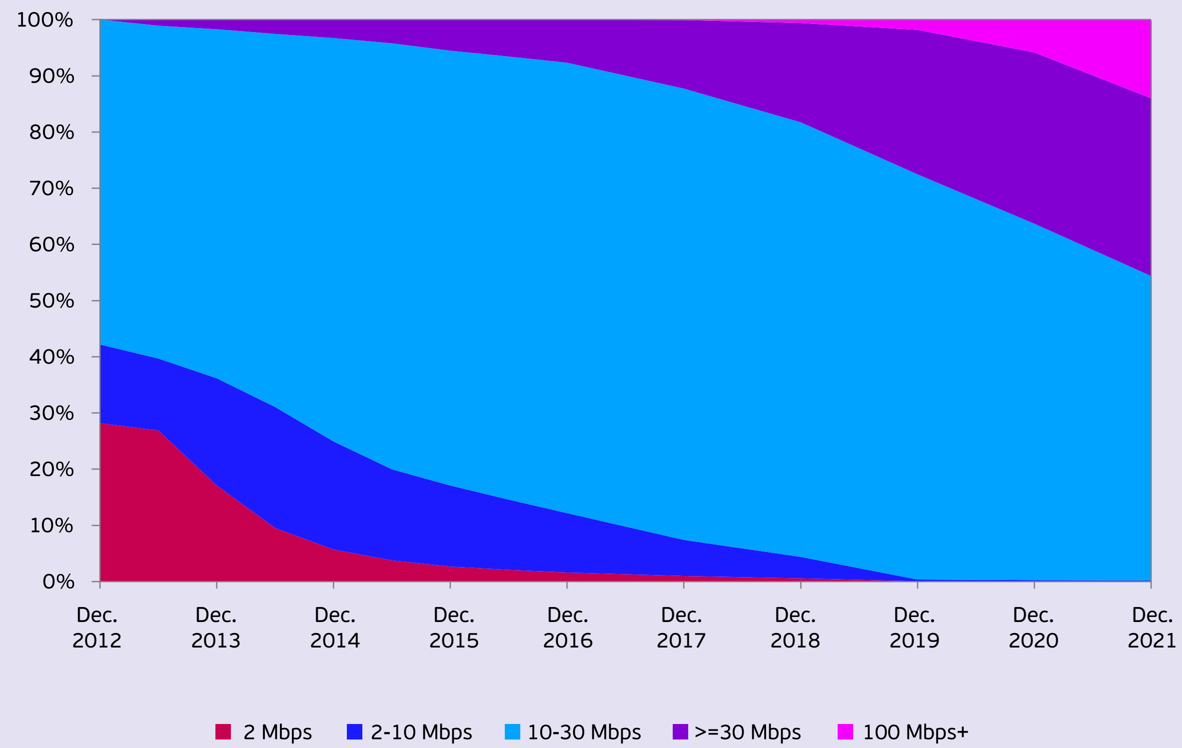
Source: EETT (based on data provided by the licensed operators)

Chart 1.65: Breakdown of broadband lines per nominal download access speed, December 2021



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

Chart 1.66: 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)

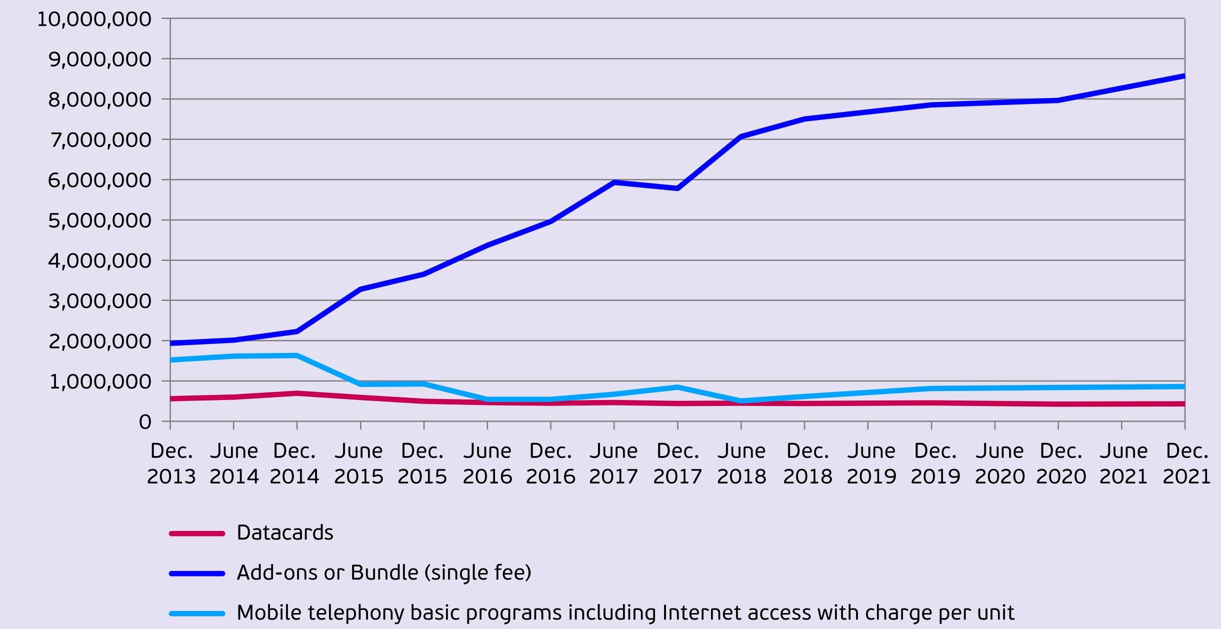
	Dec. 2021
COSMOTE	45%-55%
VODAFONE	15%-25%
WIND	15%-25%
NOVA	10%-15%

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 7%, reaching 9,875,405 at the end of 2021, versus 9,231,228 at the end of 2020 (Chart 1.67). For the majority of these connections (8,576,404 compared to 7,962,394 in 2020), 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 862,049 connections (compared to 840,393 in 2020), their subscribers opted for data services via mobile telephony programs that include, among others, Internet access with a charge per unit. Lastly, 436,952 Internet connections concerned datacards.

Chart 1.67: Evolution of mobile connections with Internet usage



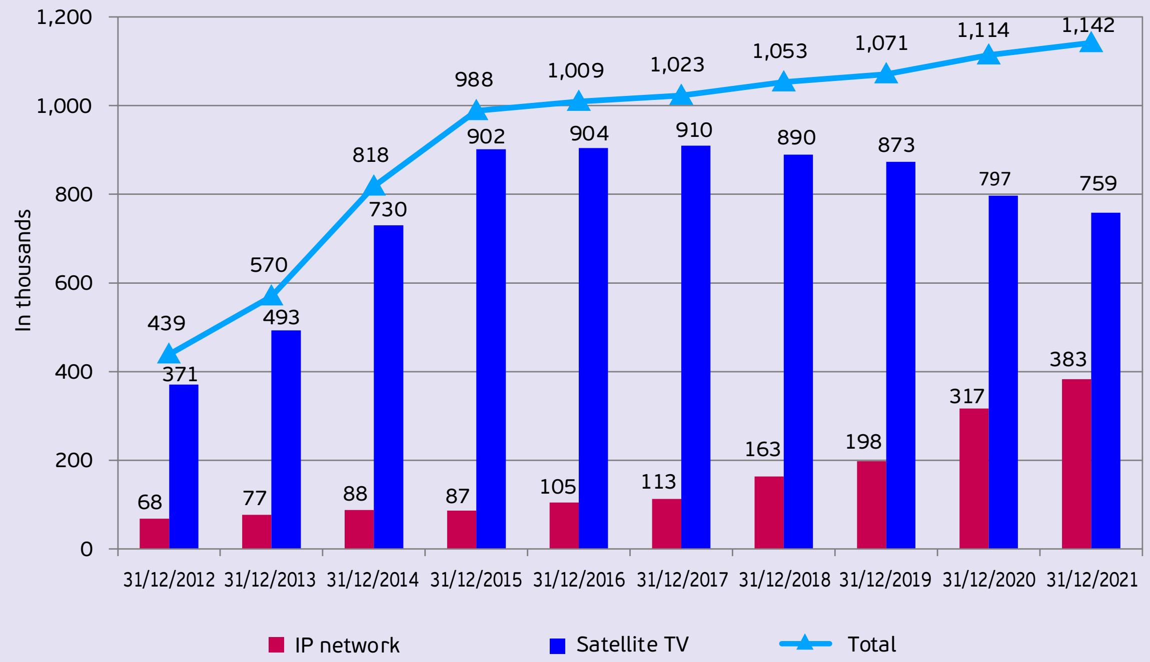
Source: EETT (based on data provided by the licensed operators)

1.2.6. Pay-TV[19]

During 2021 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 1.14 million at the end of 2021, having increased by 2.5% compared to 2020 (1.11 million). About 66% of these subscriptions was via satellite and the remaining 34% via IP (Chart 1.66). The corresponding market shares are presented in Table 1.15

Chart 1.68: Evolution of pay-TV subscriptions



Source: EETT (based on operators' data)

19. 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
CYTA	0%-5%	0%-5%	0%-5%	0%-5%	-	-	-
NOVA	45%-55%	35%-45%	35%-45%	35%-45%	25%-35%	25%-35%	25%-35%
HOL	0%-5%	-	-	-	-	-	-
OTE	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)
WIND	-	-	-	0%-5%	5%-10%	5%-10%	5%-10%

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

Source: EETT (based on operators' data)

1.2.7. Bundled offers

According to the data submitted by the operators that provide bundled offers[20], the total residential and non-residential bundled offers were over 4.5 million at the end of the 2021, recording a 4.2% increase, while the percentage of the fixed telephony connections that were bundled was estimated at 93%, compared to 90% in 2020.

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)[21], have been counted and presented.

Hence, the main conclusions for 2021 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 4,460,093 at the end of 2021, showing an increase by about 178 thousand compared to 2020 (4,282,000) (Chart 1.69). It is also noted that fixed telephony subscriptions as a total (bundled and unbundled) followed a slightly upward trend in the period 2015-2021 (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 2021, followed by VODAFONE at the range of [15%-25%] and then by WIND and NOVA with their relative shares 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 2.2 million subscriptions, making up 49% of the total bundled offers. The triple play of fixed telephony, fixed broadband access and mobile services is the second most popular offer with 1.7 million subscriptions (38% 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 2021, 7% and 4% respectively of the total bundled offers (Charts 1.70 and 1.71).

20. In 2021, OTE-COSMOTE, NOVA, VODAFONE and WIND provided bundled offers (NOVA is not currently active in providing bundled offers with mobile services).
21. Commercially available as of October 2018.

- The pay-TV subscriptions increased by about 25 thousand in 2021, amounting to 1.14 million at the end of 2021. About 55% of those concerned unbundled pay-TV subscriptions, namely subscriptions that are not part of a bundled offer (Chart 1.72). 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[22].
- Bundled offers with mobile services (post-paid and pre-paid) reached 1.9 million at the end of 2021, making up about 43.5% of the total bun-

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
"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
"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
"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
"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
Other bundled offers	83,611	82,614	41,651	49,416	52,215	44,869	43,919
Total bundled offers	**3,367,851**	**3,572,789**	**3,693,150**	**3,926,941**	**4,130,376**	**4,282,002**	**4,460,093**
Fixed telephony connections (residential and non-residential)	**Connections**						
Fixed telephony connections that are part of bundled offers on the total fixed telephony connections	72%	75%	78%	82%	87%	90%	93%
Unbundled fixed telephony connections on the total fixed telephony connections	28%	25%	22%	178	13%	10%	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**
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

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

22. 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.

dled offers compared to 41% at the end of 20 (Chart 1.73). 88% of those (i.e. 1,707,137) concerned the triple play of fixed telephony, fixed broadband access and mobile services, 10% (188,821) concerned the quadruple play and about 2% (43,918) pertained to other bundled offers (Chart 1.74 and Table 1.16).

- OTE-COSMOTE's market share based on the bundled offers that include mobile services was, at the end of 2021, at the range of [55%-65%] whereas VODAFONE's and WIND's shares ranged between [15%-25%] (Table 1.18).

- In 2021, the fixed-mobile bundled offers[23] increased by about 180 thousand while the SIM cards that participate in them increased by roughly 335 thousand reaching 3 million[24] cards (Chart 1.75). Finally, the estimated average number of SIM cards per bundled offer with mobile services was 1.6 cards at the end of 2021.

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
CYTA	5%-10%	5%-10%	5%-10%	5%-10%	-	-	-
NOVA	15%-25%	15%-25%	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%
VODAFONE	0%-5%	15%-25%(1)	15%-25%(1)	15%-25%(1)	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%

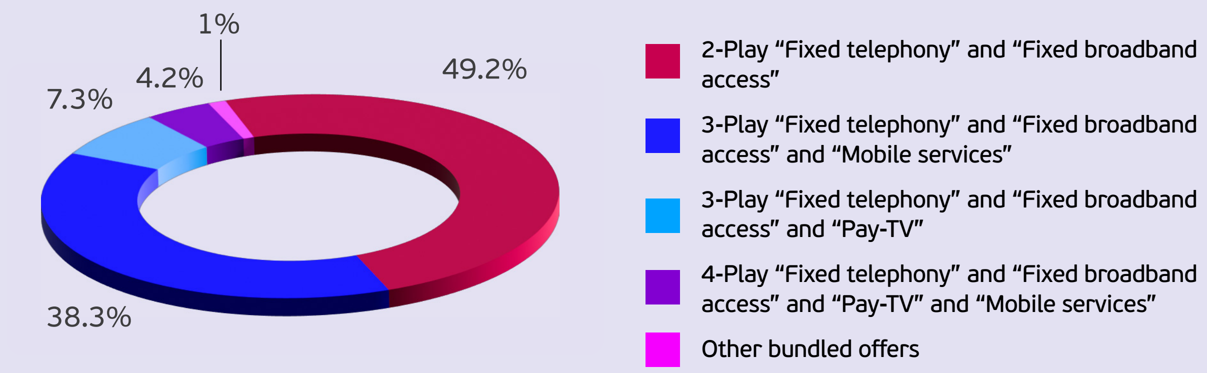
Note:
(1) Including HOL.
(2) Including CYTA.

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

Chart 1.69: Evolution of bundled offers

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

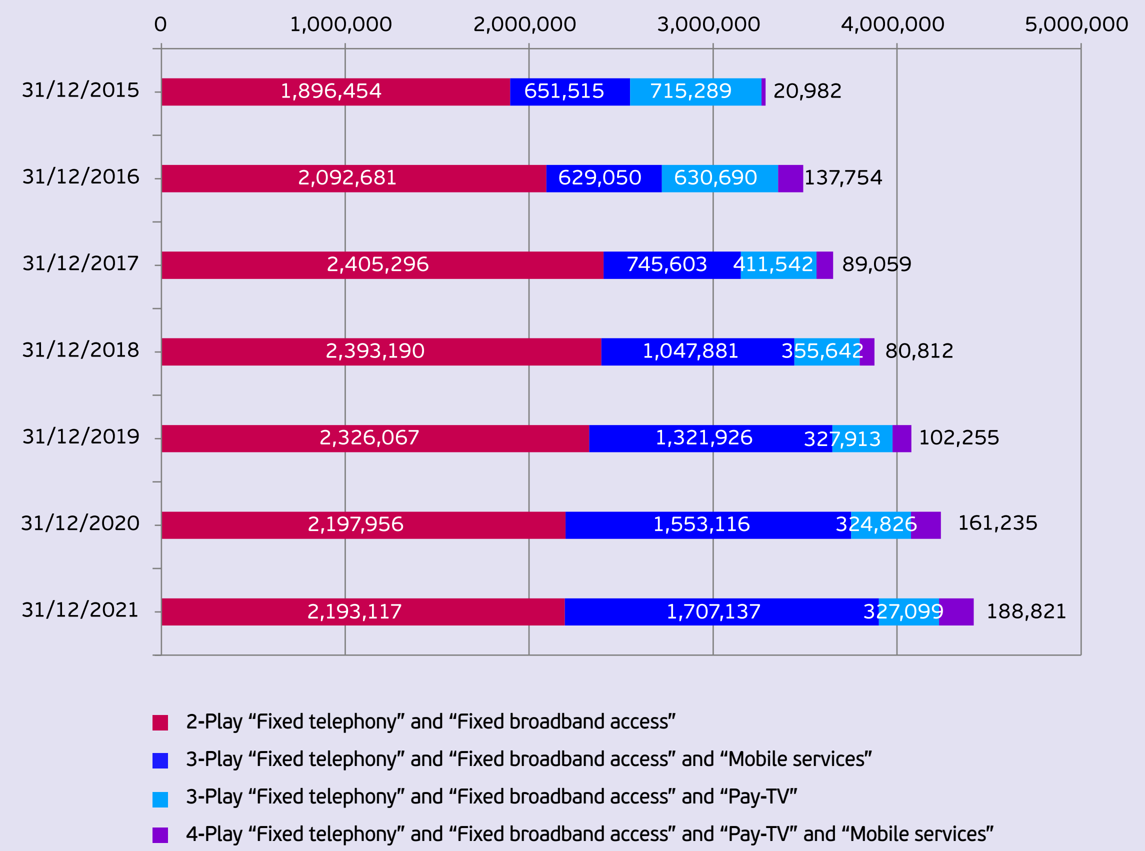
Chart 1.70: Breakdown of bundled offers per specific type, December 2021



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

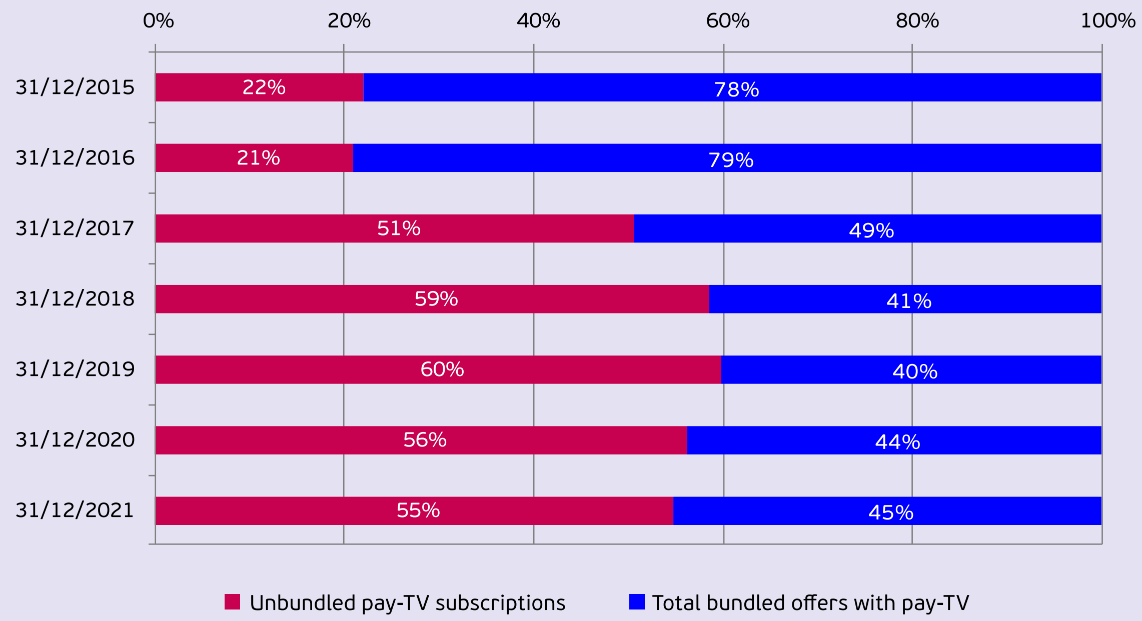
23. It is clarified that fixed-mobile bundled offers are those that include (a) "Fixed telephony" and/or "Fixed broadband access" and (b) "Mobile services", whether or not they include "Pay-TV".
24. The bundled offer that includes mobile services may correspond, mobile-wise, to more than one SIM card, post-paid or/and pre-paid.

Chart 1.71: Most popular bundled offers per specific type



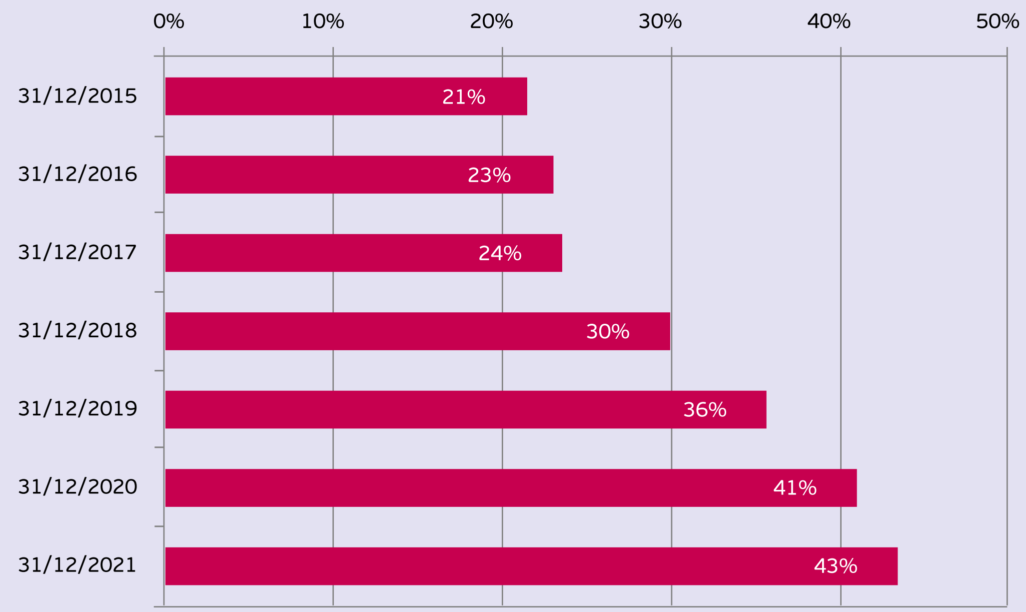
Source: EETT (based on data provided by the licensed operators)

Chart 1.72: Breakdown of bundled and unbundled pay-TV subscriptions



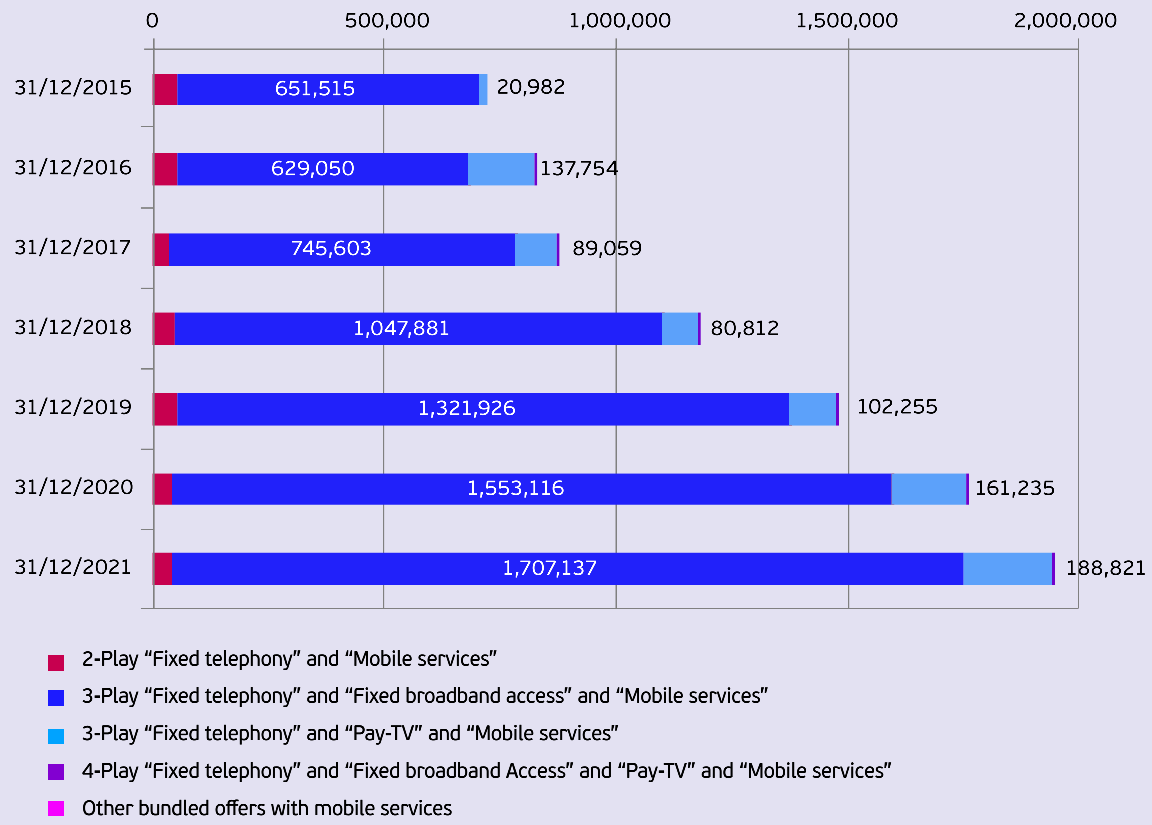
Source: EETT (based on data provided by the licensed operators)

Chart 1.73: Bundled offers with mobile services as a % on the total bundled offers



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

Chart 1.74: Bundled offers with mobile services



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

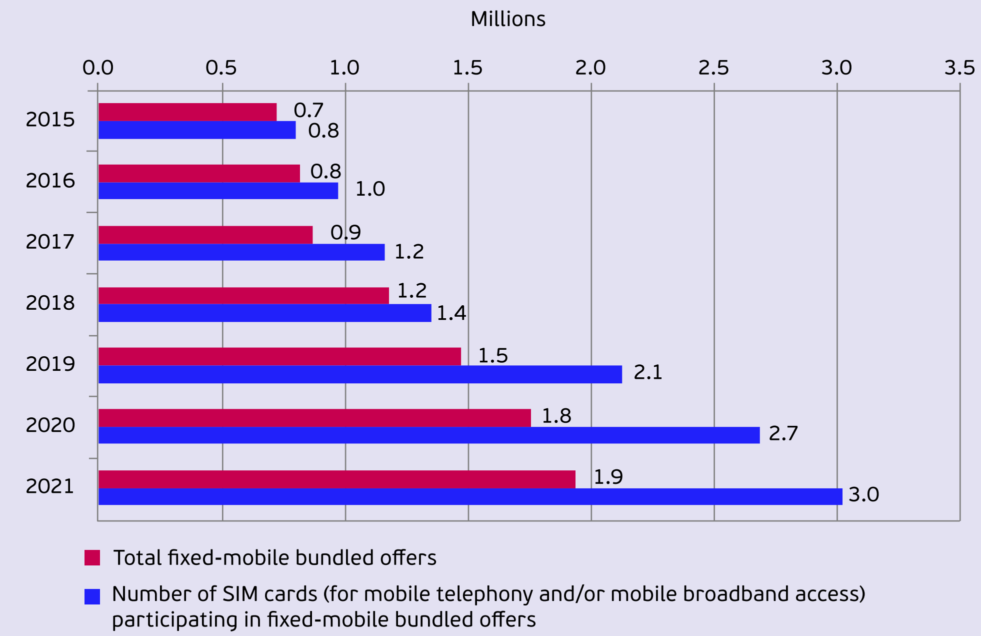
Table 1.18: Shares based on total number of bundled offers with mobile services

	31/12/2015	31/12/2016	31/12/2017	31/12/2018	31/12/2019	31/12/2020	31/12/2021
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%
VODAFONE	0%-5%	25%-35%(1)	25%-35%(1)	25%-35%(1)	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%

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

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

Chart 1.75: 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

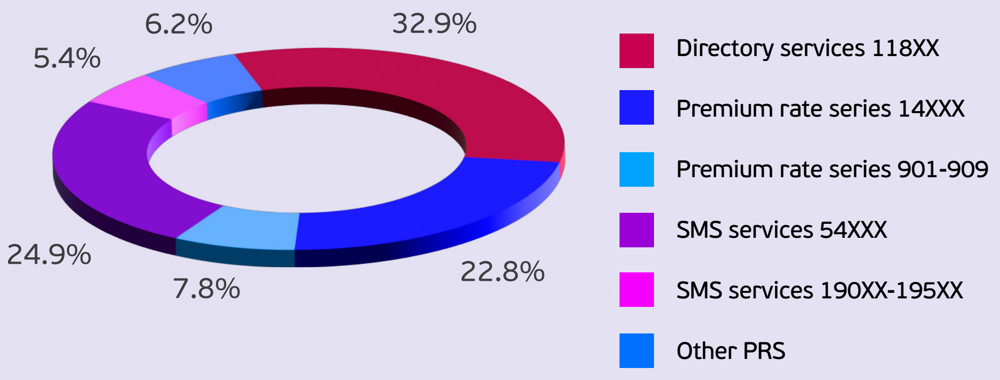
Based on data collected from 21 operators out of a total of 70 licensed companies, the traffic and revenues of telecommunications operators from Premium Rate Services (PRS) and directory services in 2021 declined.

More specifically, the total invoiced traffic was 22.9 million minutes compared to 25.7 million minutes in 2020 and 25.8 million calls/messages (compared to 30.4 million calls/messages in 2020), generating revenues of 51 million euros, reduced by 10.5% compared to 2020.

In 2021, the revenues from directory services 118XX amounted to 16.8 million euros, accounting for 32.9% of the total market and having dropped by 9.6% compared to 2020. The revenues from premium rate series (14XXX and 901-909) increased by 8.2% compared to 2020, reaching 15.6 million euros and making up 30.6% of the total market. The revenues from SMS services (54XXX and 190XX-195XX) amounted to 15.5 million euros, having dropped by 8% compared to 2020 and making up 30.3% of the total market. The rest PRS, i.e. those that do not fall in the above categories, accounted for 6.2% of the total turnover (3.2 million euros) having plummeted by 56% compared to the previous years (Charts 1.76 and 1.77). Finally and as shown in Chart 1.78, the providers who have been secondarily assigned numbers for the provision of PRS, generate over time more than 65% of the total revenues from PRS[25].

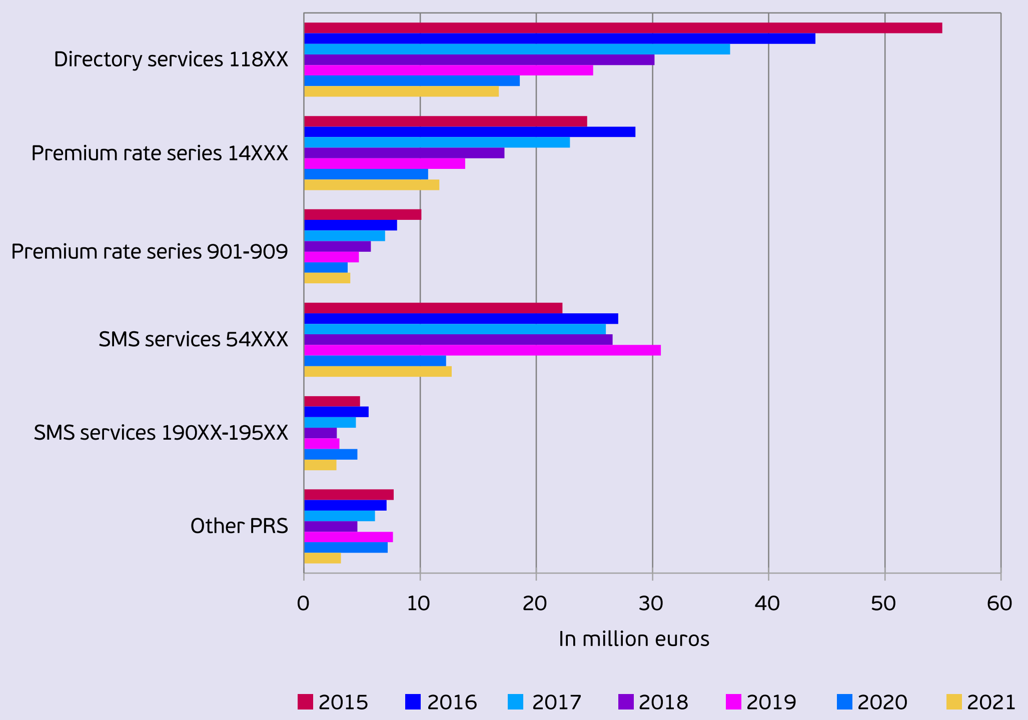
25. The companies, that have been primarily assigned by EETT the numbers for the provision of PRS, are called network providers and can secondarily assign the numbers in question to other companies that are the PRS providers. It is possible for the network provider the PRS provider to be the same.

Chart 1.76: PRS and directory services' shares based on revenues, 2021



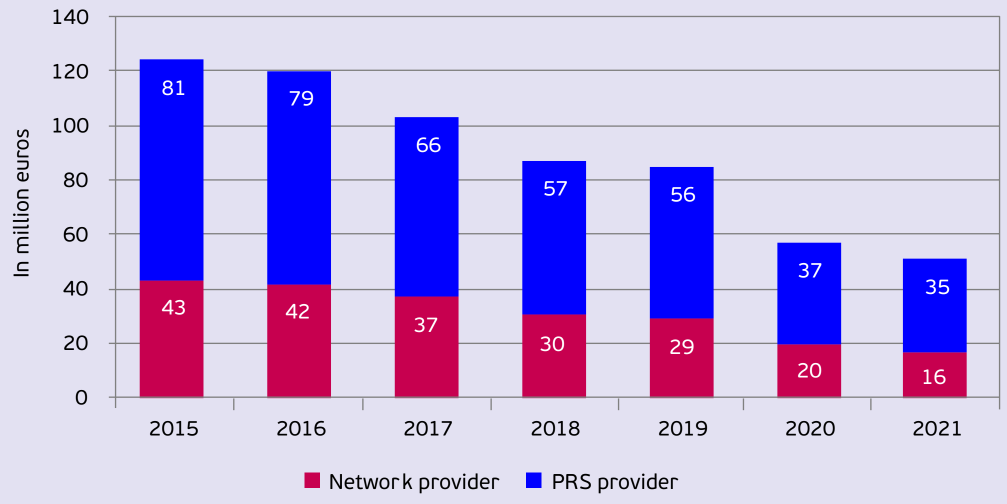
Source: EETT (based on data provided by the licensed operators)

Chart 1.77: Evolution of PRS and directory services' total revenues



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

Chart 1.78: Evolution of total revenues for network and PRS providers

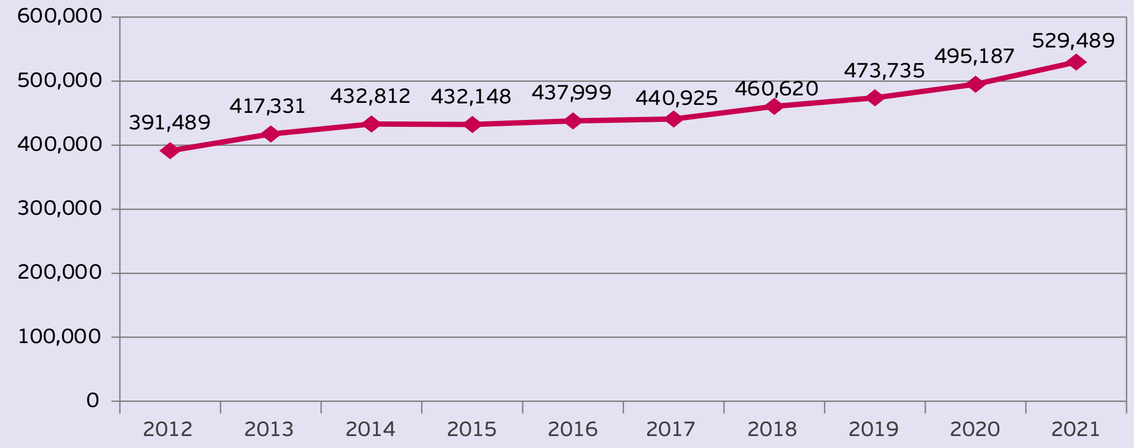


Source: EETT (based on data provided by the licensed operators)

1.2.9. Domain names [.gr] and [.ελ]

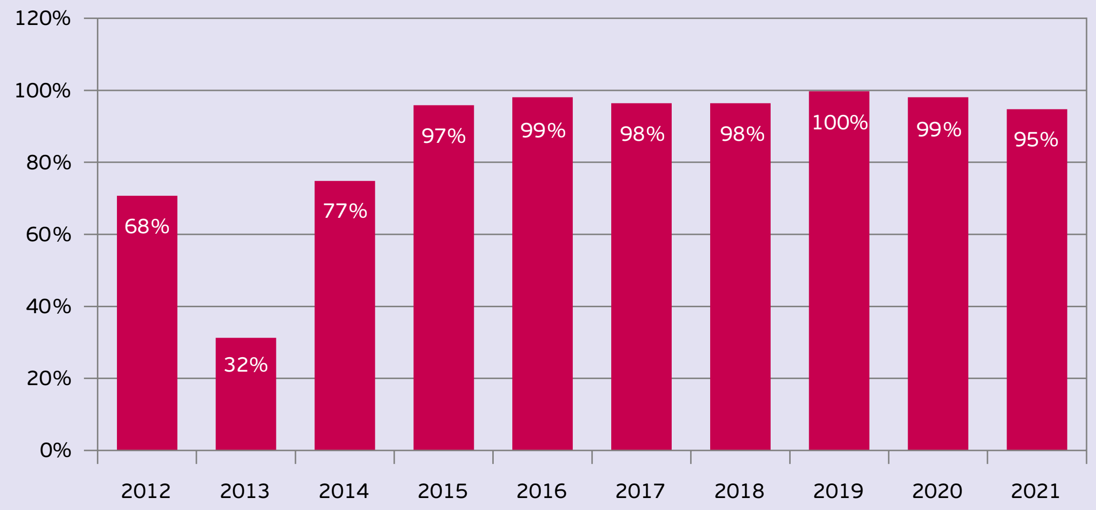
In 2021, the total number of [.gr] and [.ελ] domain names, including the sub-domains (.com. gr, .net.gr, .org.gr, .edu.gr, .gov.gr, .ελ), amounted to 529,489, registering a 6.9% increase compared to 2020. Chart 1.79 presents the evolution of the total domain names and Chart 1.80 depicts the annual evolution of the average assignment rate over the number of submitted applications, which was 95% for 2021.

Chart 1.79: Evolution of domain names



Source: EETT

Chart 1.80: Average assignment rate for domain names



Source: EETT

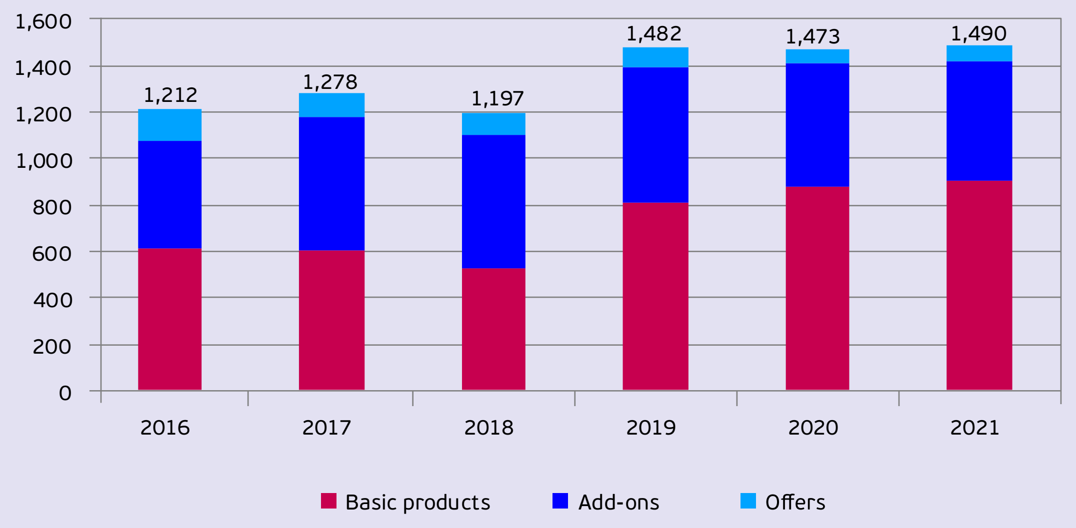
1.2.10. Price Observatory's comparison of retail prices (Pricescope)[26]

Based on the data registered by the telecommunications operators in the Price Observatory (Pricescope), at the end of 2021, the companies NOVA, OTE-COSMOTE, VODAFONE and WIND were offering approximately 1,500 products/packages in the domestic market[27] (Chart 1.81), roughly at the same level of the last years. These products entailed about 90,000 possible and dynamically produced combinations (product solutions) of basic products[28], add-ons[29] and offers[30]. The basic conclusions drawn from Pricescope are summarized as follows:

- WIND had more commercially available products than the other operators, followed by COSMOTE and NOVA (Chart 1.82).
- COSMOTE relied mainly on add-on programs (52% of its total programs), whereas NOVA, OTE and WIND laid emphasis on basic programs (94%, 74% and 65% respectively). VODAFONE had about the same ratio of add-on and basic programs (Chart 1.83).
- About 5% of the commercially available programs of the domestic market was marketed as an offer, while 34% of the products was add-ons, demonstrating the need for multiple bundled, differentiated and customized solutions (Chart 1.84).
- About 47% concerned mobile communications' products, with approximately 42% corresponding to mobile voice products and 5% to mobile broadband products. Thus, around 53% 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 the TV programs. From 2020 and onwards, this percentage remained stable (Charts 1.85 and 1.86).
- 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 1.87 till 1.89), being stable though for mobile post-paid and showing a drop for fixed telephony, compared to the respective figures of 2020 (Chart 1.90).
- 64% of the products was addressed exclusively to residential customers, 19% targeted only business customers, while 17% of products targeted both customers groups (Chart 1.91).
- The mobile pre-paid products were mainly addressed to residential customers, while most of the mobile post-paid 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 1.92).
- The programs of COSMOTE, NOVA and WIND were primarily addressed to residential customers, while a large percentage of VODAFONE's programs aimed at business customers. Most of OTE's programs were directed at both customers groups (Chart 1.93).
- About 38% of mobile telephony connections was post-paid ones, the overwhelming majority of them including call and data allowances.
- 48% of the mobile post-paid telephony programs with a minimum of voice service offered unlimited call minutes to all. The volume of these programs in relation to their monthly fees is shown in Chart 1.94. 73% of the remaining products consisted of a monthly fee up to 55 euros, with an average price[31] of 35 euros, median price[32] of 38 euros and a call allowance of around 546 minutes based on the median price (Chart 1.95). Compared to 2020, it turns out that during 2021 the prices of the mobile post-paid programs slightly decreased while at the same time the call allowance minutes to all increased.
- 22% of the mobile post-paid telephony programs with voice and data services provided unlimited data. The volume of these programs in relation to their monthly fees is shown in Chart 1.96. 69% of the remaining products consisted of a monthly fee up to 55 euros, with an average price of 36 euros, median price of 38 euros and a data allowance of around 5 GB, based on the median price (Chart 1.97). In 2021, the prices of mobile post-paid programs slightly decreased compared to 2020 without any notable change in the data allowance.
- 63% of the mobile post-paid telephony programs with only data services consisted of a monthly fee up to 30 euros, with an average and a median price of 15 euros and a data allowance of around 12 GB, based on the median price (Chart 1.98). There weren't any notable changes in relation to 2020.
- About 90% of the commercially available fixed telephony programs (1-play, 2-play, 3-play) offered unlimited call minutes to fixed phones.
- 16% of the fixed telephony programs with a minimum of a voice service offered unlimited call minutes to mobiles. The volume of these products in relation to their monthly fees is shown in Chart 1.99. 58% of the remaining products consisted of a monthly fee up to 55 euros, with an average price of 39 euros, median price of 40 euros and a call allowance of 349 minutes to mobiles, based on the median price (Chart 1.100).
- Lastly, Chart 1.101 illustrates 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.

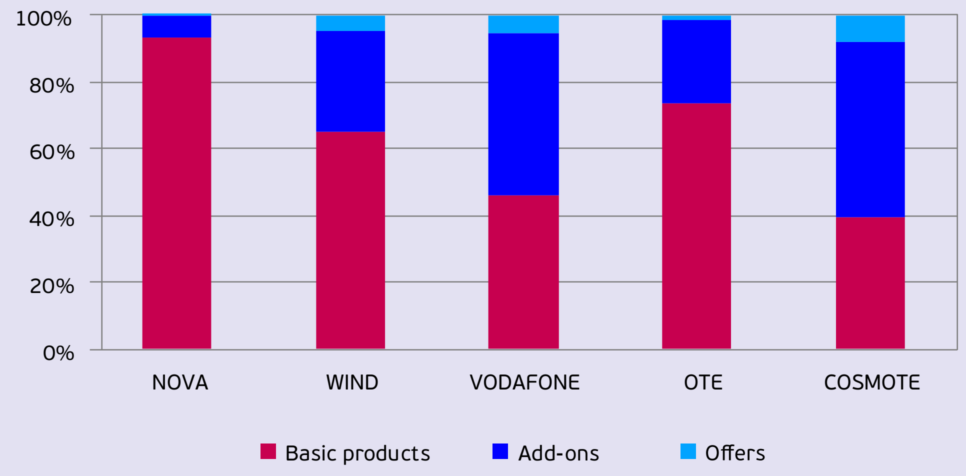
26. The information of this section derives from data registered by the operators OTE-COSMOTE, VODAFONE, WIND, NOVA in the data repository of EETT Pricescope.
27. Setting aside commercially available products, there are also additional products registered that, even though are not commercially active, 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.
28. 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.
29. An add-on is a product that is not commercially available by itself but must be combined with a basic product.
30. An offer is a basic or an add-on product, which is available under certain restrictive terms.
31. The average price (or arithmetic average) is the sum of the values of a group of numbers divided by their volume.
32. 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.

Charts 1.81: Number of products in the domestic market



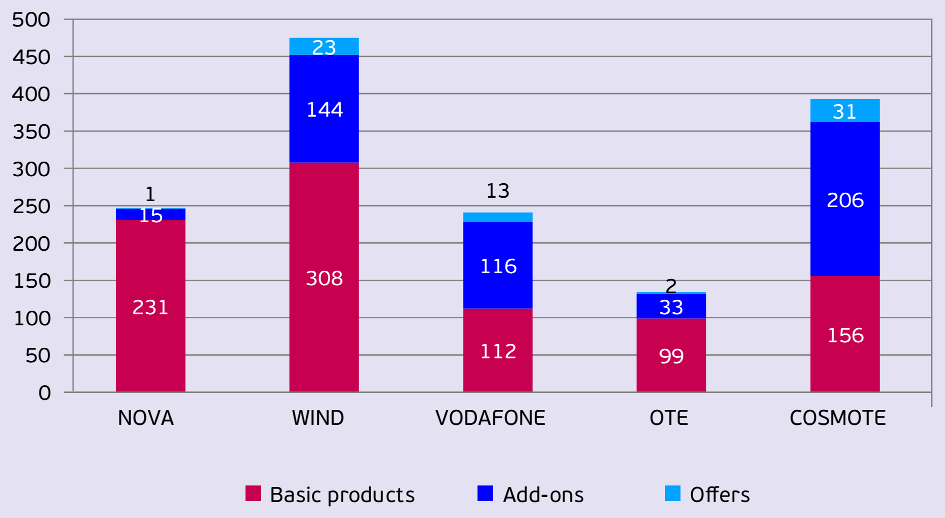
Source: EETT

Chart 1.83: Breakdown of commercially available products per operator, 2021



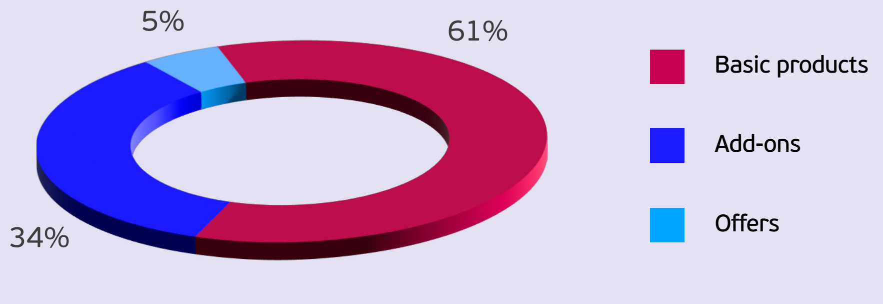
Source: EETT

Chart 1.82: Commercially available products per operator, 2021



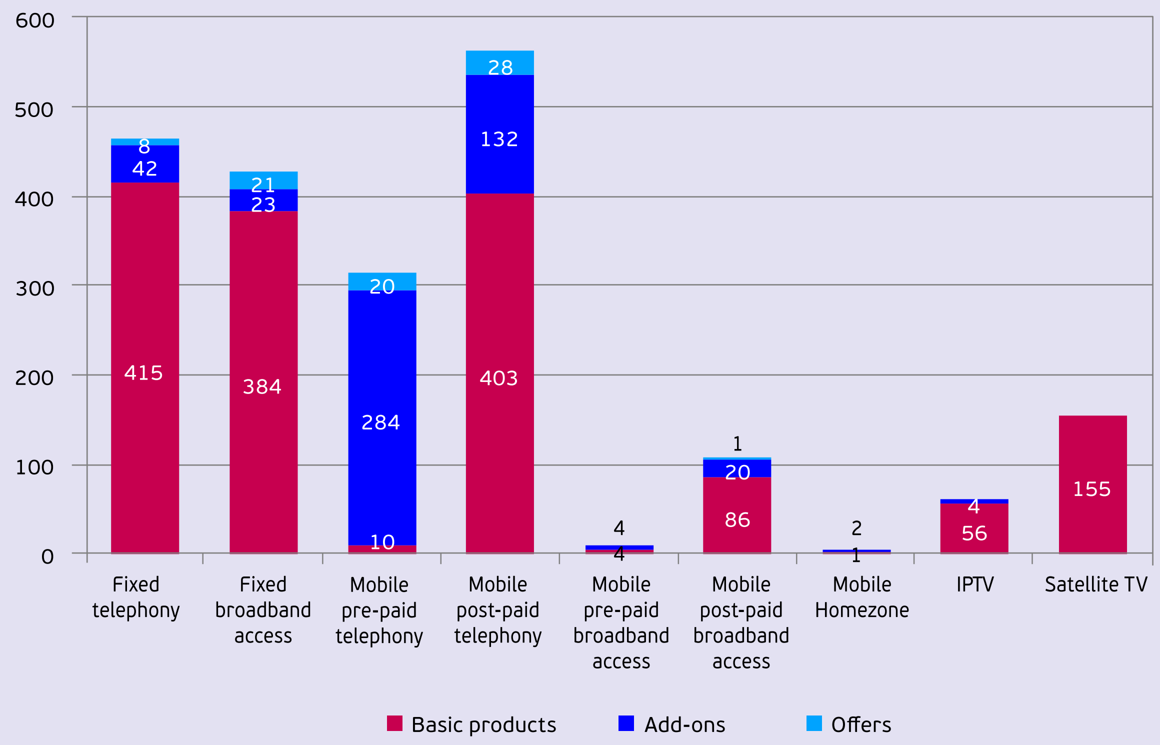
Source: EETT

Chart 1.84: Breakdown of commercially available products, 2021



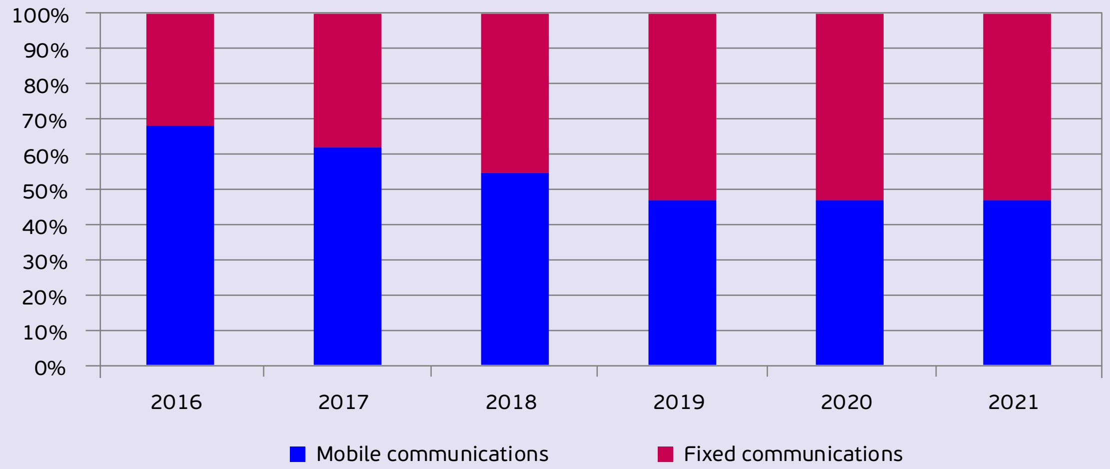
Source: EETT

Chart 1.85: Number of products per service, 2021



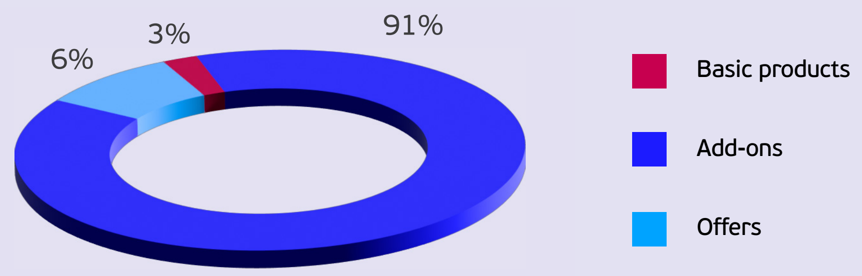
Source: EETT

Chart 1.86: Fixed versus mobile communications products



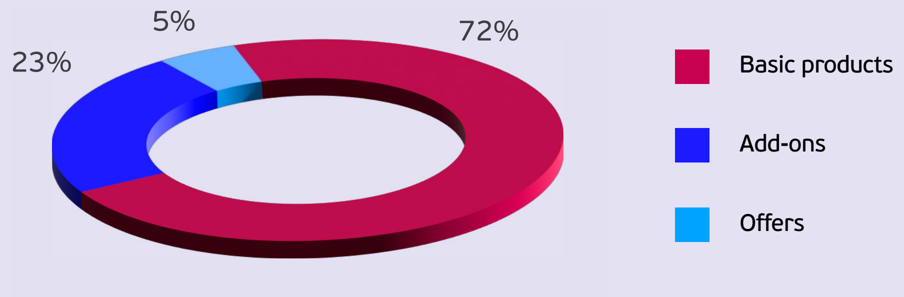
Source: EETT

Chart 1.87: Breakdown of mobile pre-paid telephony products per product type, 2021



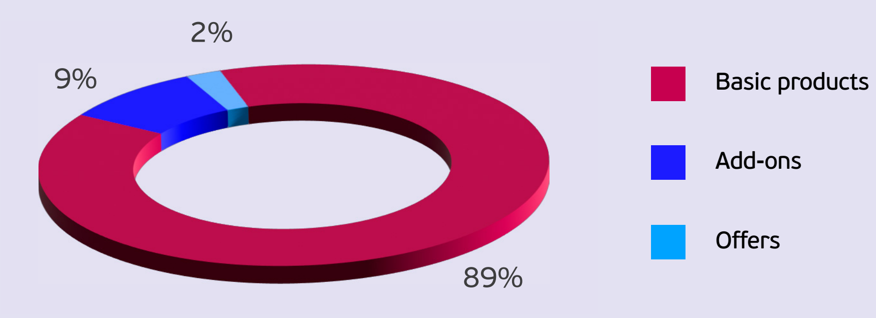
Source: EETT

Chart 1.88: Breakdown of mobile post-paid telephony products per product type, 2021



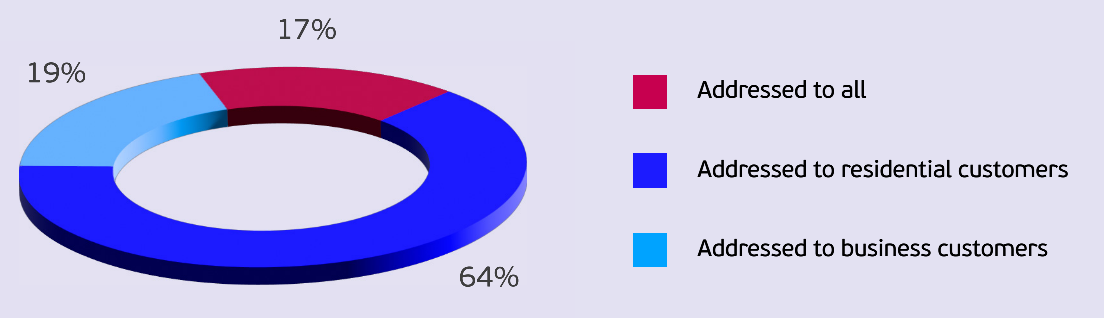
Source: EETT

Chart 1.89: Breakdown of fixed telephony products per product type, 2021



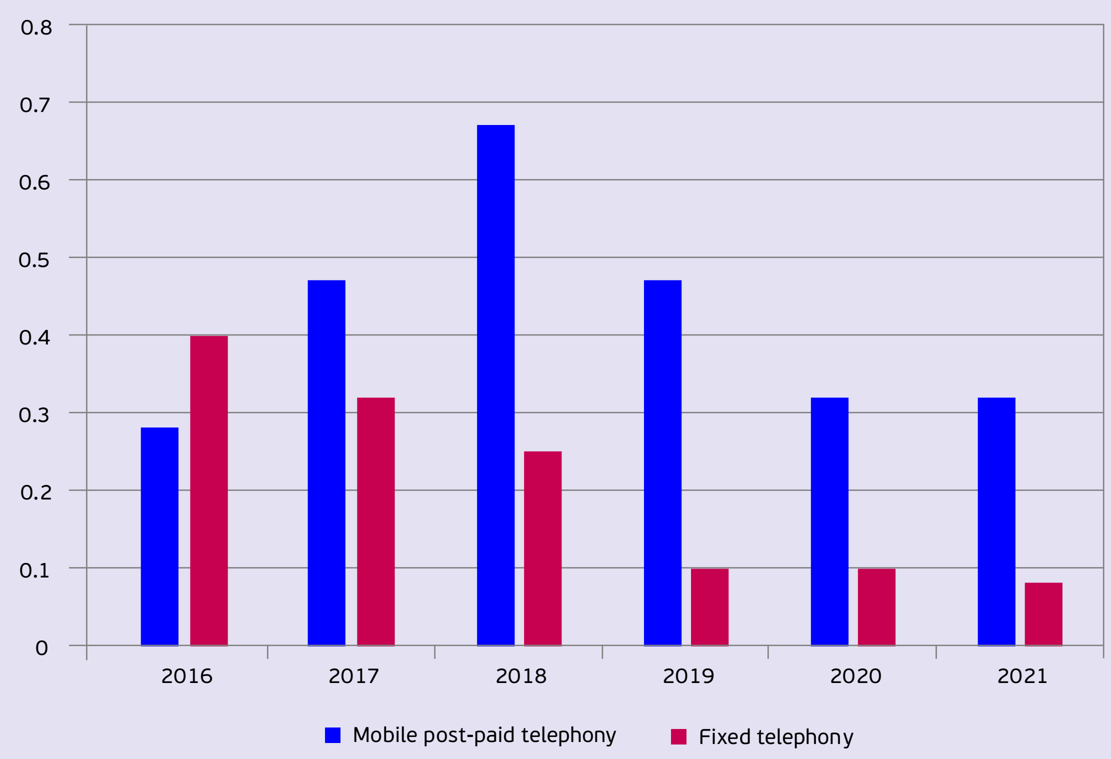
Source: EETT

Chart 1.91: Target-markets of telecommunications products, 2021



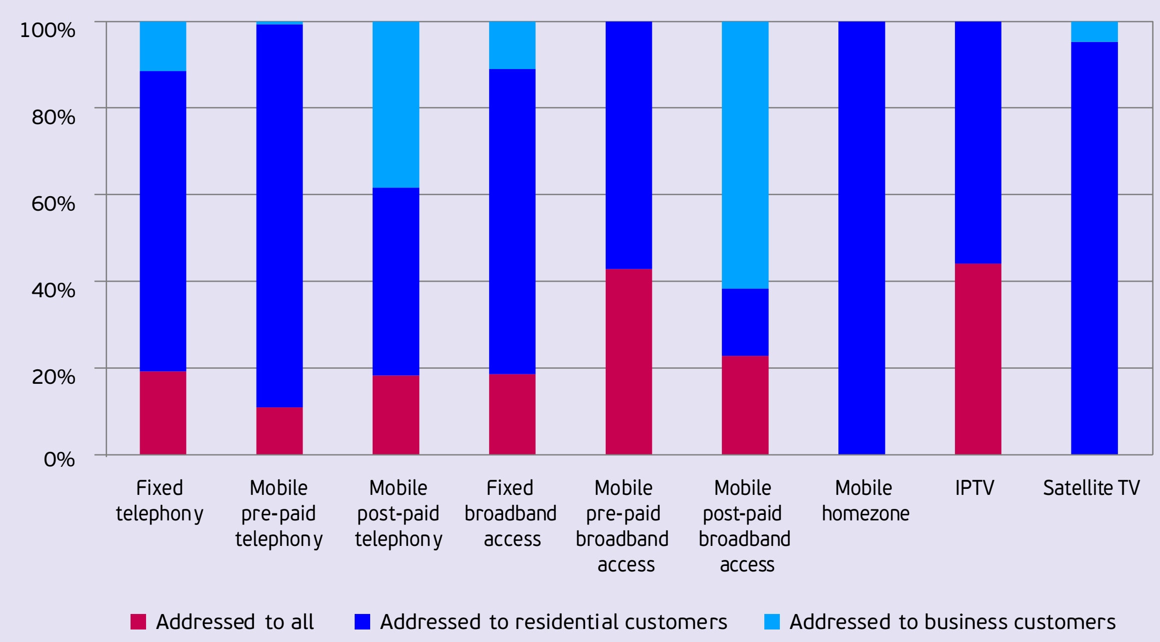
Source: EETT

Chart 1.90: Ratio of add-ons to basic products for mobile post-paid and fixed telephony



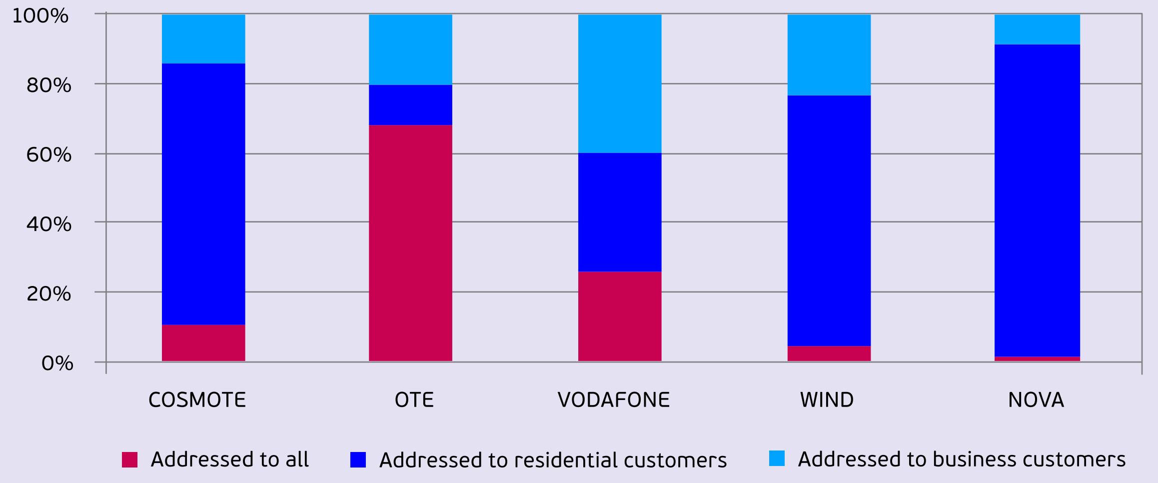
Source: EETT

Chart 1.92: Breakdown of products per service in the target-markets, 2021



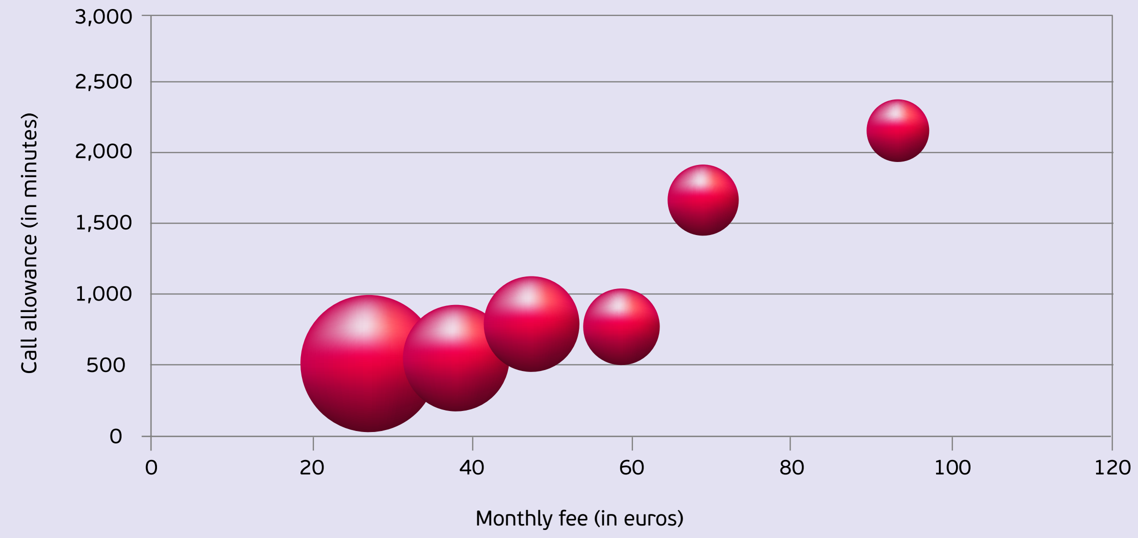
Source: EETT

Chart 1.93: Breakdown of products per operator in the target-markets, 2021



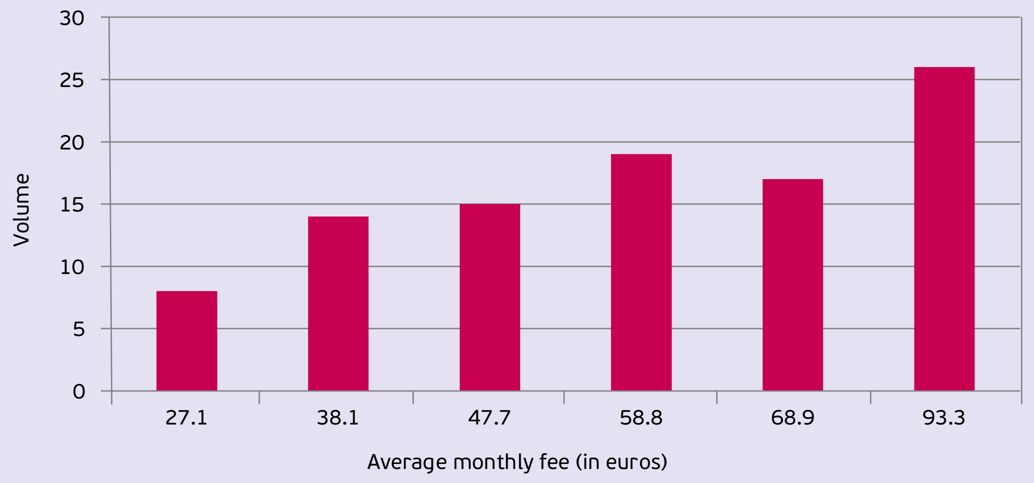
Source: EETT

Chart 1.95: Concentration of products with call allowance in relation to their monthly fees for mobile post-paid telephony, 2021



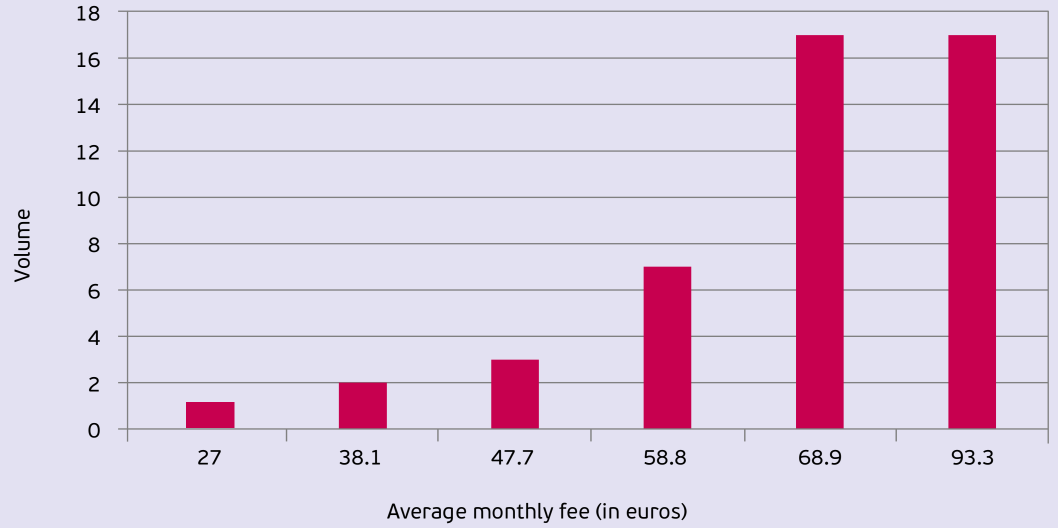
Source: EETT

Chart 1.94: Volume of mobile post-paid products with unlimited call minutes to all in relation to their monthly fees, 2021



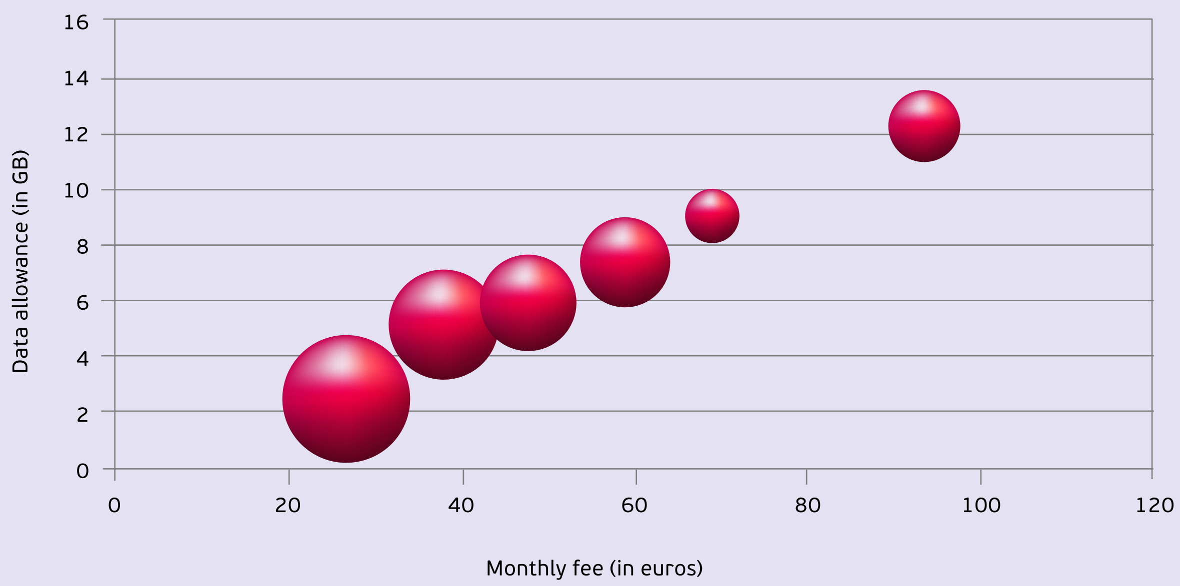
Source: EETT

Chart 1.96: Volume of mobile post-paid products with unlimited data in relation to their monthly fees, 2021



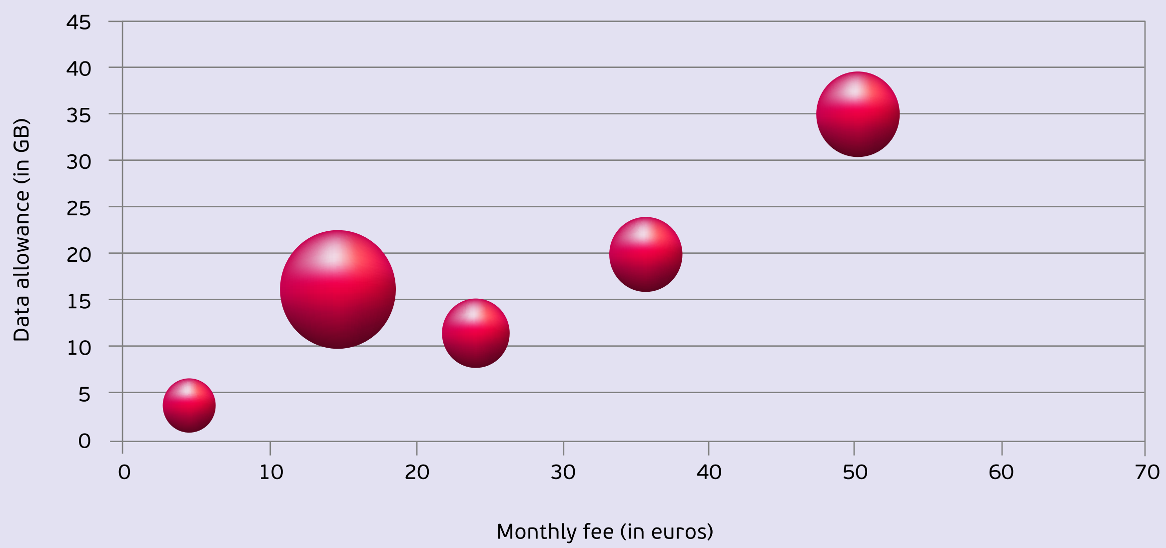
Source: EETT

Chart 1.97: Concentration of products with voice services and data allowance in relation to their monthly fees for mobile post-paid telephony, 2021



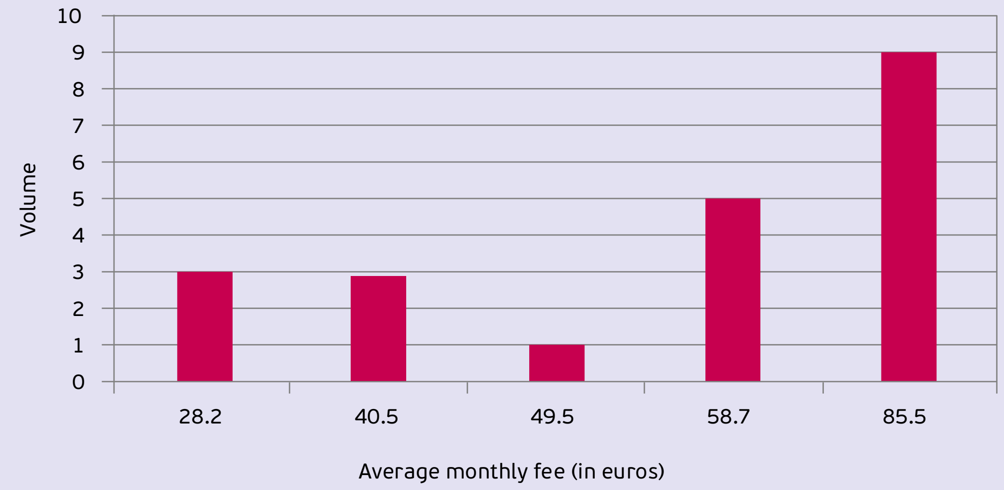
Source: EETT

Chart 1.98: Concentration of products with data allowance in relation to their monthly fees for mobile broadband post-paid telephony, 2021



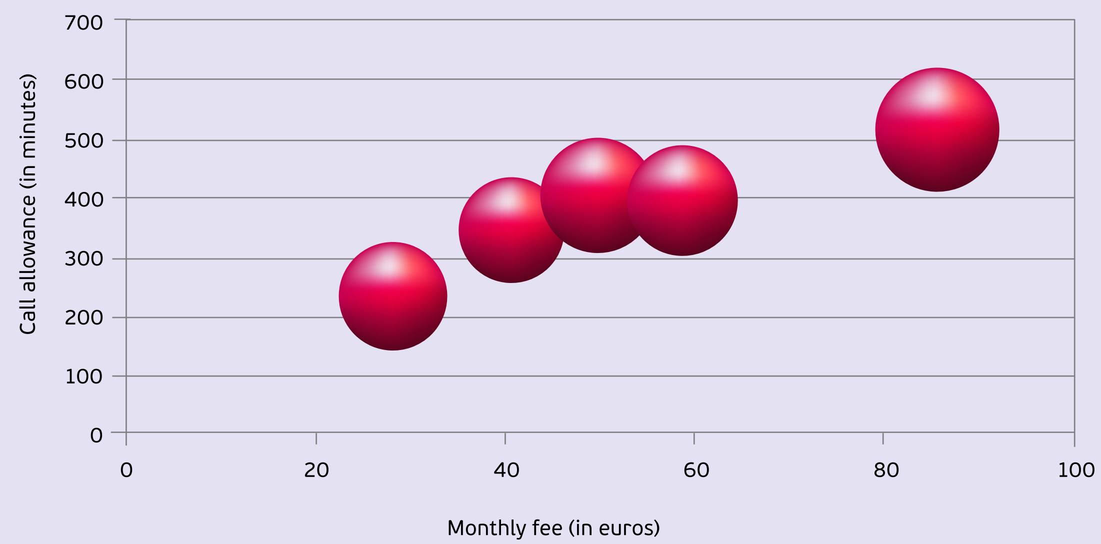
Source: EETT

Chart 1.99: Volume of fixed telephony products with unlimited call minutes to mobiles in relation to their monthly fees, 2021



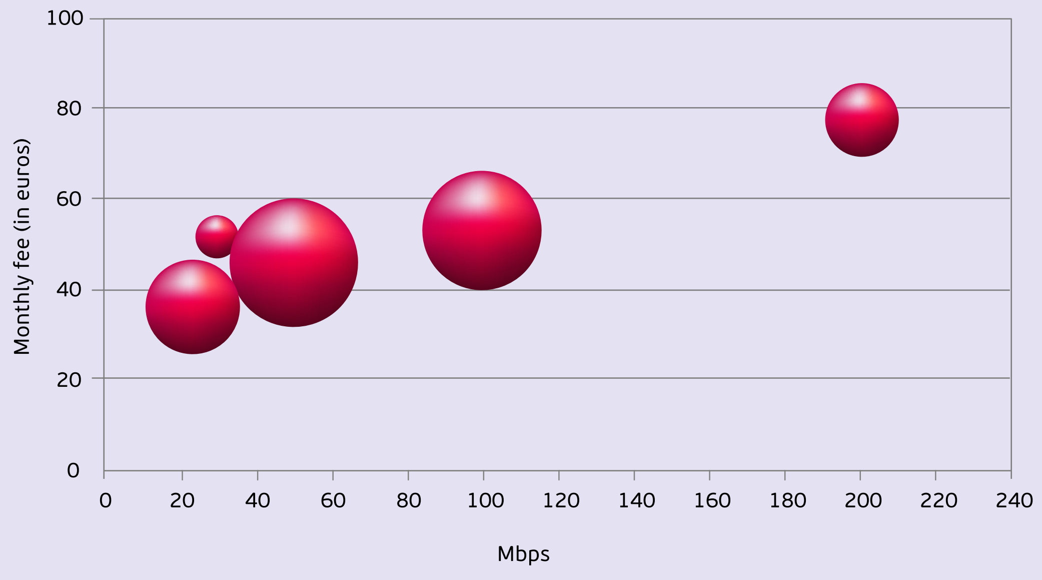
Source: EETT

Chart 1.100: Concentration of products with a call allowance to mobiles in relation to their monthly fees in fixed telephony, 2021



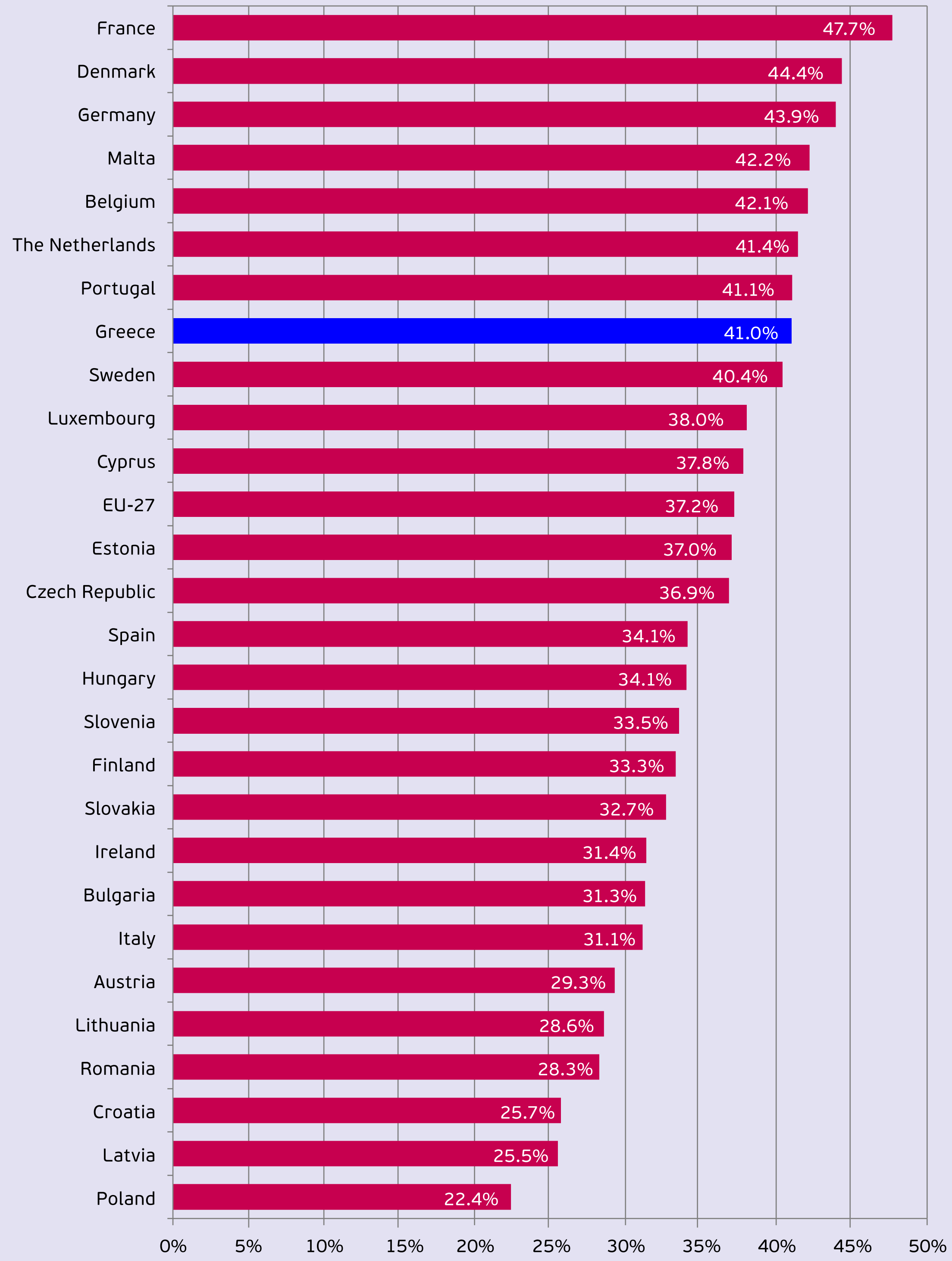
Source: EETT

Chart 1.101: Concentration of programs with different download speeds in relation to their monthly fees in fixed telephony, 2021



Source: EETT

Chart 1.102: Fixed broadband penetration in the EU, June 2021



Source: EETT (based on Digital Economy & Society Index data)

1.2.11. Comparison of the Greek and European market indicators[33]

Fixed broadband

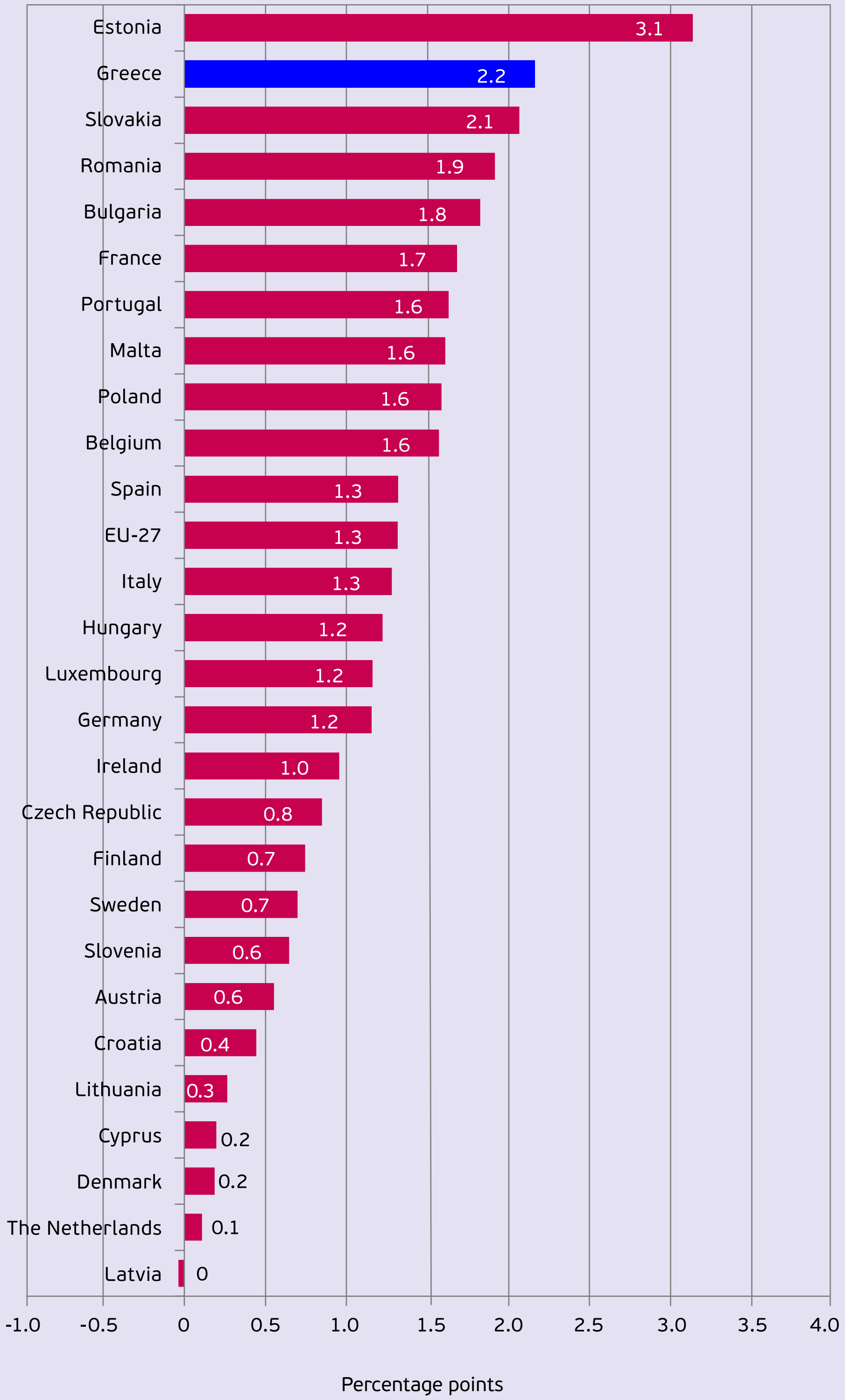
During 2021, the penetration of fixed broadband in the population, i.e. the number of broadband connections per 100 people, continued to increase in Greece.

In June 2021, the penetration of fixed broadband in the EU was 37.2% (Chart 1.102) compared to 35.9% in June 2020. The respective figures for Greece were 41% in June 2021 versus 38.9% in June 2020, recording the second largest increase by 2.2 percentage points, (Charts 1.103 and 1.104) and thus ranking Greece in the 8th 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 six years (Chart 1.105).

Additionally, the demand for high-speed broadband access kept on growing, and as a result, the EU broadband connections with advertised download access speeds of at least 30 Mbps in June 2021 accounted for about 73.9% of total connections versus 67% in June 2020. Greece however, is an outlier among the EU member states with 41.1%, compared to 33.2% in June 2020 (Chart 1.106). Similarly, the EU broadband connections with advertised download access speeds greater than or equal to 100 Mbps accounted for about 52.2% of total connections versus 44.4% in June 2020, whereas Greece is in the last position with 10.5% (versus 3.5% in June 2020) (Chart 1.107).

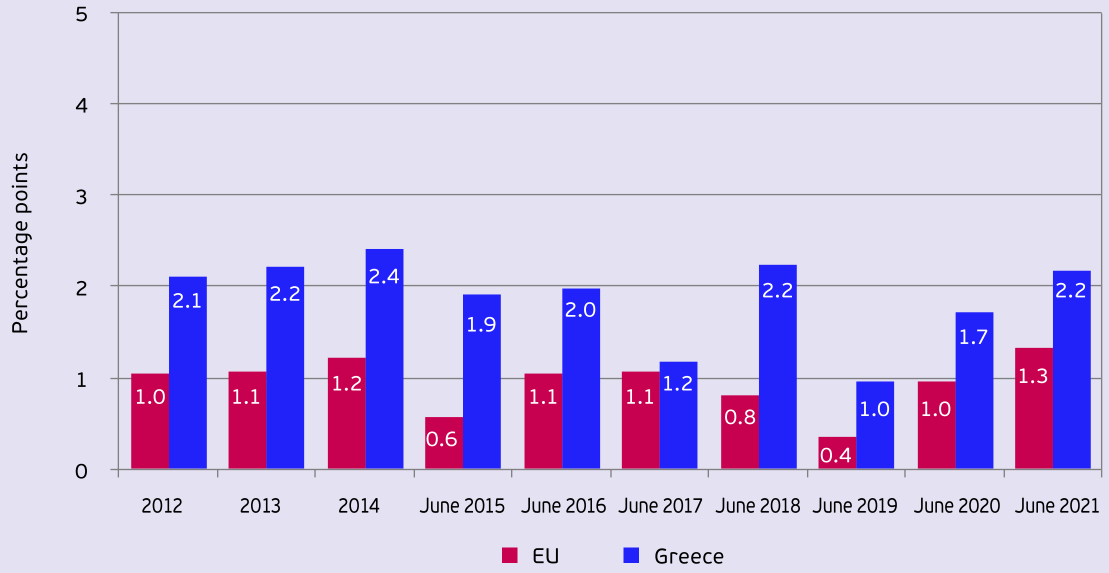
33. Based on charts published in Digital Economy & Society Index.

Chart 1.103: Fixed broadband penetration change in the EU, June 2021



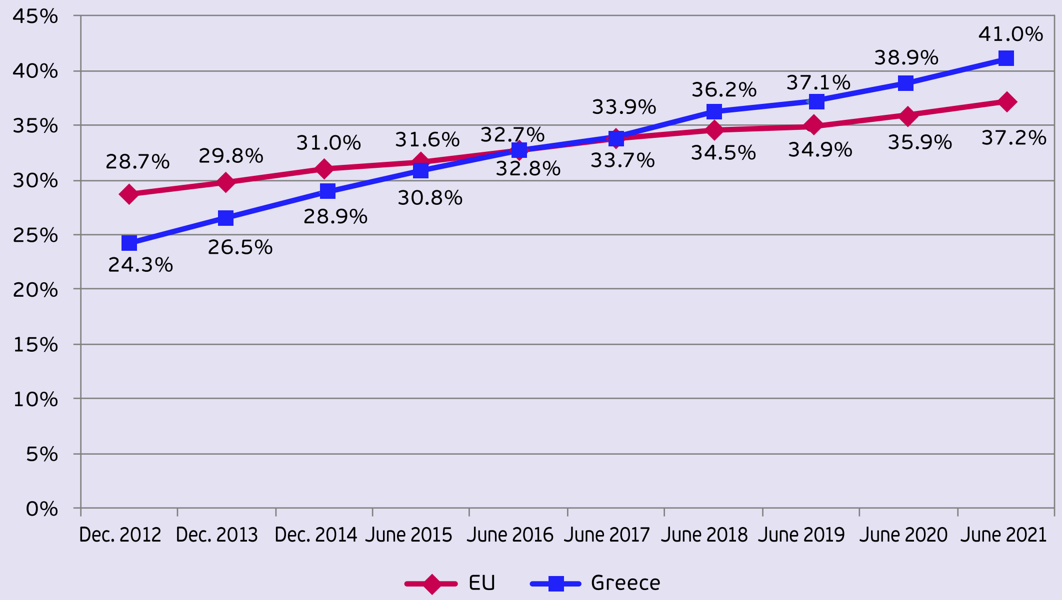
Source: EETT (based on Digital Economy & Society Index data)

Chart 1.104: Change in fixed broadband penetration in Greece and the EU



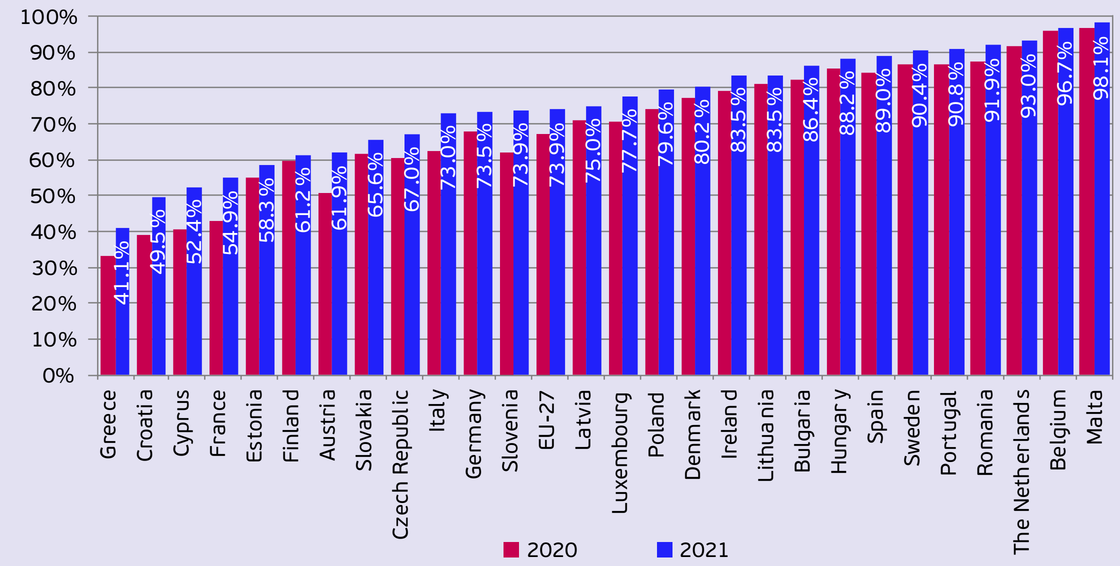
Source: EETT (based on Digital Economy & Society Index data)

Chart 1.105: Evolution of fixed broadband penetration in Greece and the EU



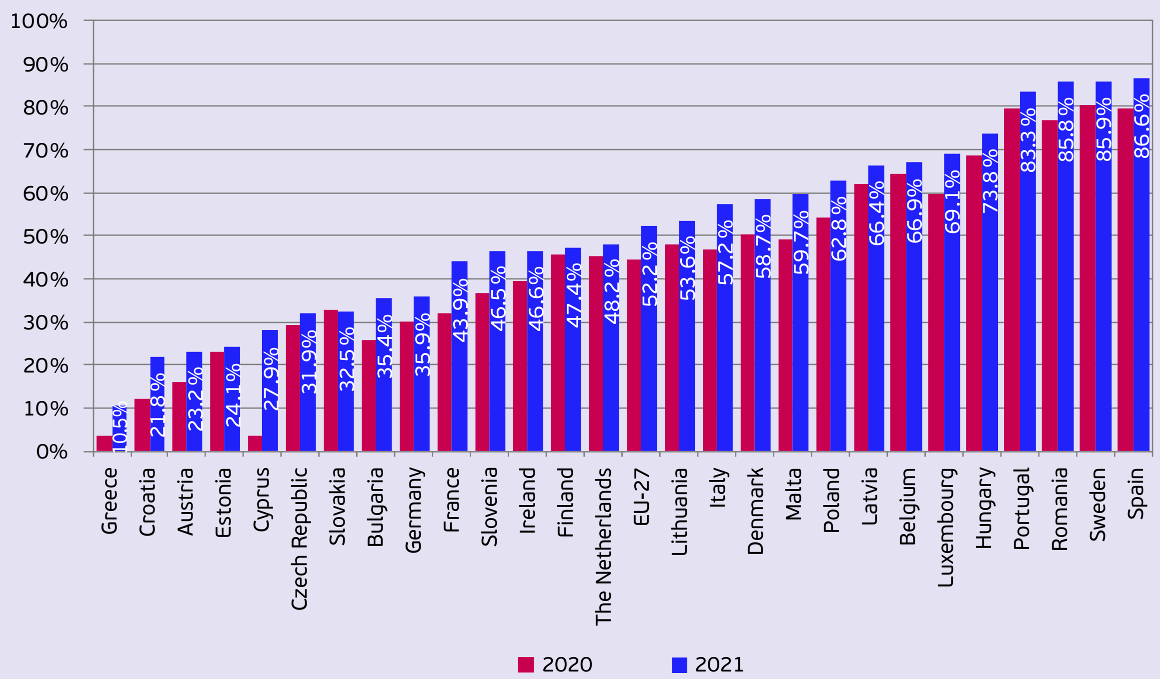
Source: EETT (based on Digital Economy & Society Index data)

Chart 1.106: Percentage of lines with advertised download access speeds ≥ 30 Mbps in the EU, June 2021



Source: EETT (based on Digital Economy & Society Index data)

Chart 1.107: Percentage of lines with advertised download access speeds ≥ 100 Mbps in the EU, June 2021

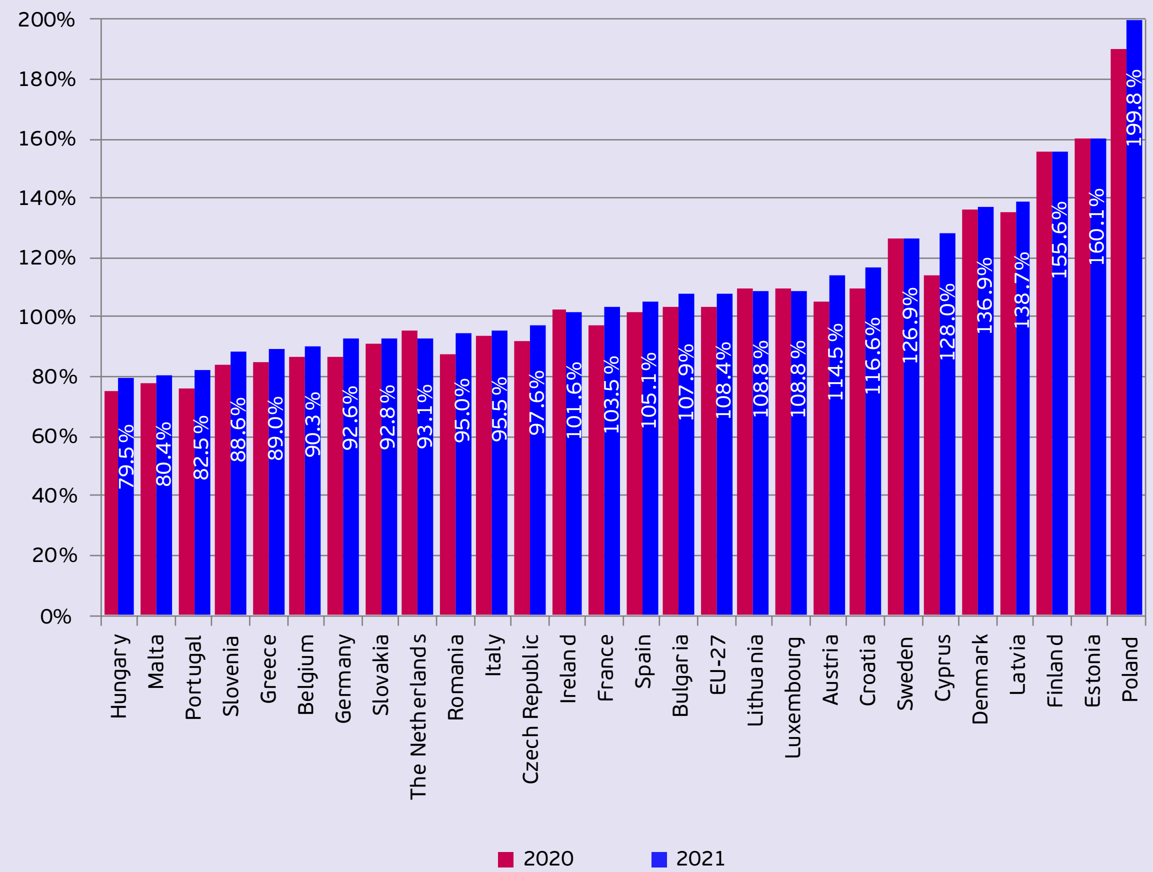


Source: EETT (based on Digital Economy & Society Index data)

Mobile broadband

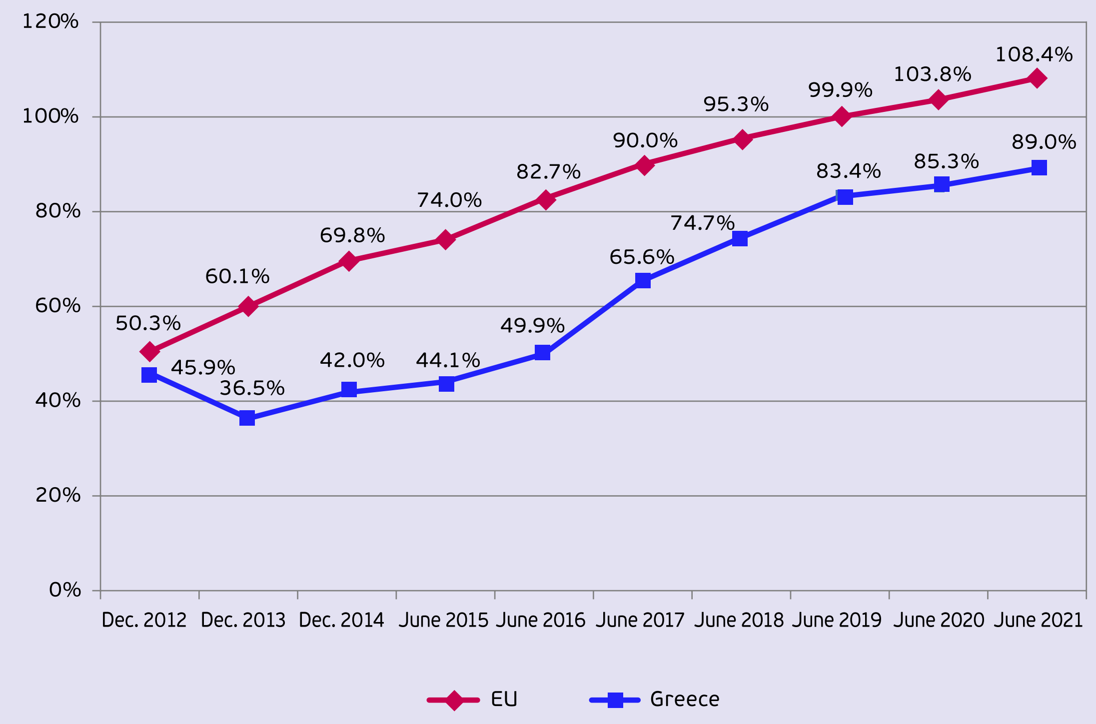
The mobile broadband penetration in the EU continued its steady upward trend, reaching 108.4% (connections per 100 people) in June 2021, versus 103.8% in June 2020 (Chart 1.108). However, Greece, with a 89% penetration, is among the last countries with the lowest mobile broadband penetration, widening again the gap with the EU average penetration, as within a year it increased by 3.7 percentage points versus 4.5 percentage points of the EU (Chart 1.109).

Chart 1.108: Mobile broadband penetration in the EU (connections per 100 people), June 2021



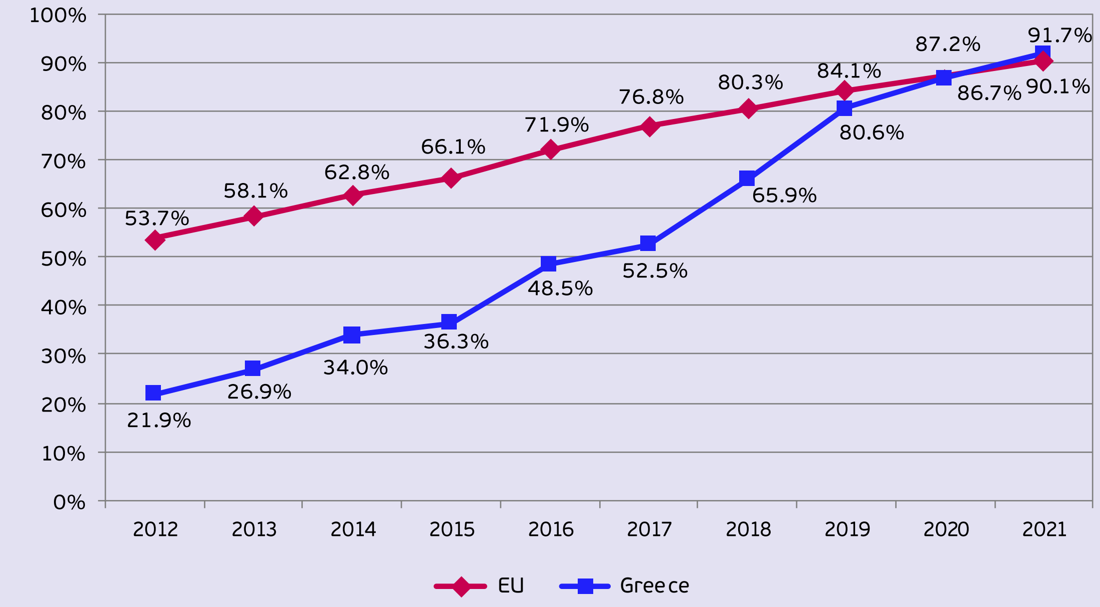
Source: EETT (based on Digital Economy & Society Index data)

Chart 1.109: Evolution of mobile broadband penetration in Greece and the EU (connections per 100 people)



Source: EETT (based on Digital Economy & Society Index data)

Chart 1.110: NGA broadband coverage in Greece and the EU



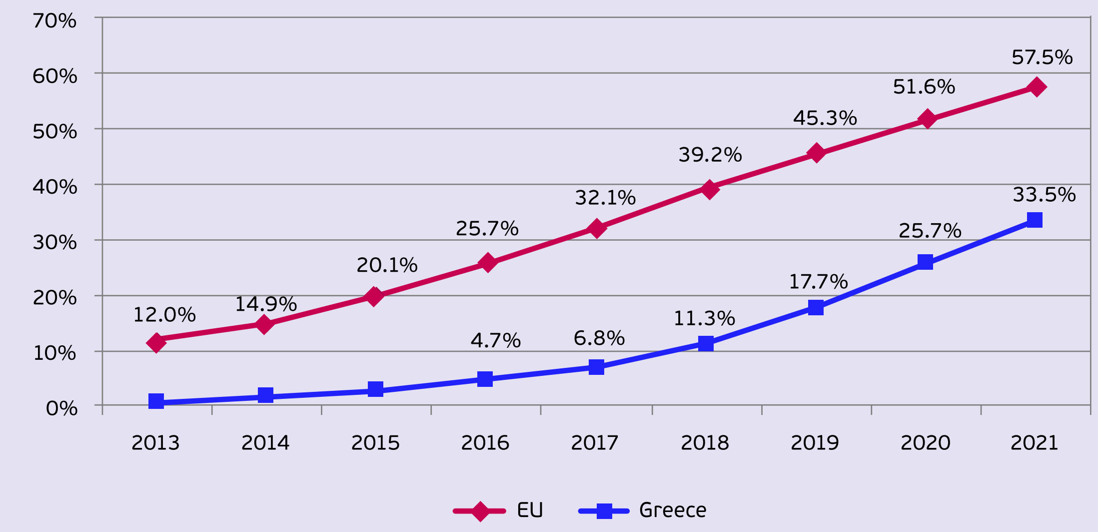
Source: EETT (based on Digital Economy & Society Index data)

Network infrastructure deployment

The broadband coverage of the NGAs in the EU reached 90.1% of households by mid-2021, versus 87.2% as of mid-2020 (Chart 1.110). Greece, for the first time, exceeds the European average by 1.6 percentage points, with 91.7% coverage versus 86.7% as of mid-2020, since within a year it increased by 5 percentage points. This growth is attributed to the development of access networks via the VDSL Vectoring technology. However, the NGA broadband penetration rate of households is still low (33.5%) far away from the European average (57.5%) (Chart 1.111).

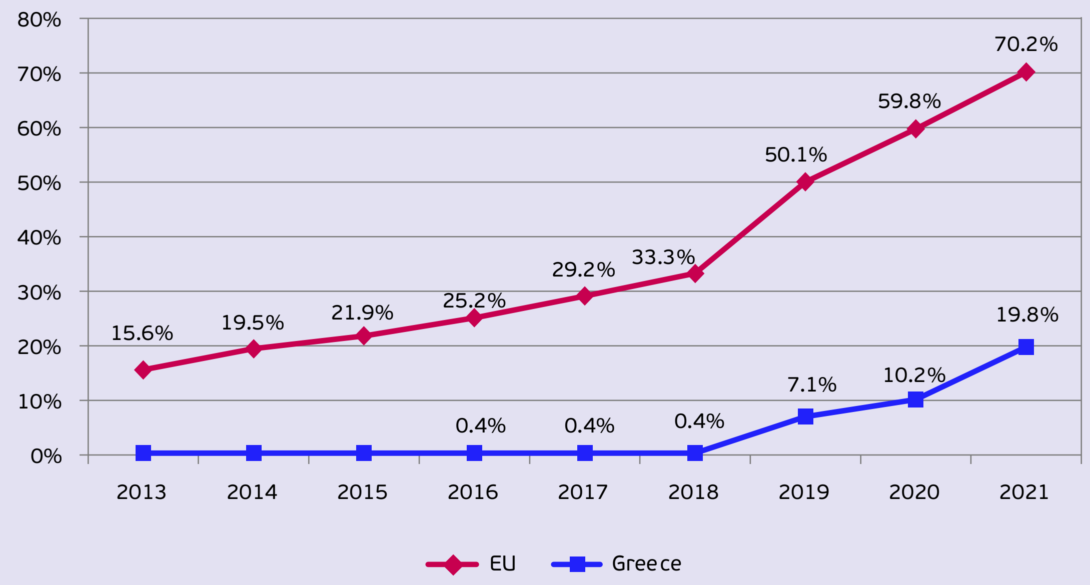
Regarding the Very High Capacity Networks (VHCN), Greece increased its network coverage rate by 9.6 percentage points (19.8% in 2021 compared to 10.2% in 2020) and by 5.8 percentage points in the households' penetration rate (8.5%). Nevertheless, Greece still lags behind the respective European averages (70.2% and 40.6%) (Charts 1.112 and 1.113).

Chart 1.111: NGA broadband penetration rate in Greece and the EU



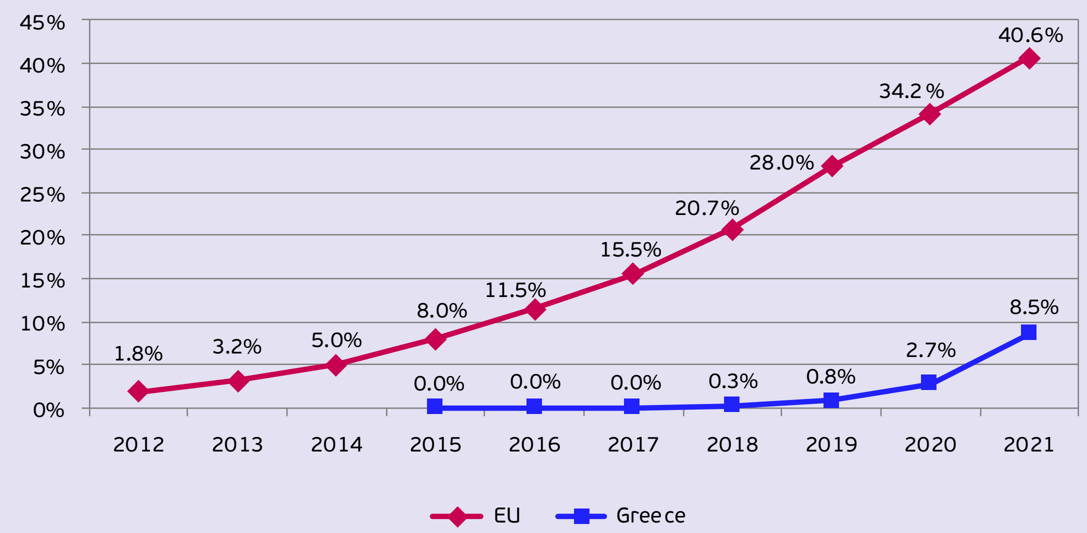
Source: EETT (based on Digital Economy & Society Index data)

Chart 1.112: VHCN broadband coverage in Greece and the EU



Source: EETT (based on Digital Economy & Society Index data)

Chart 1.113: VHCN broadband penetration rate in Greece and the EU

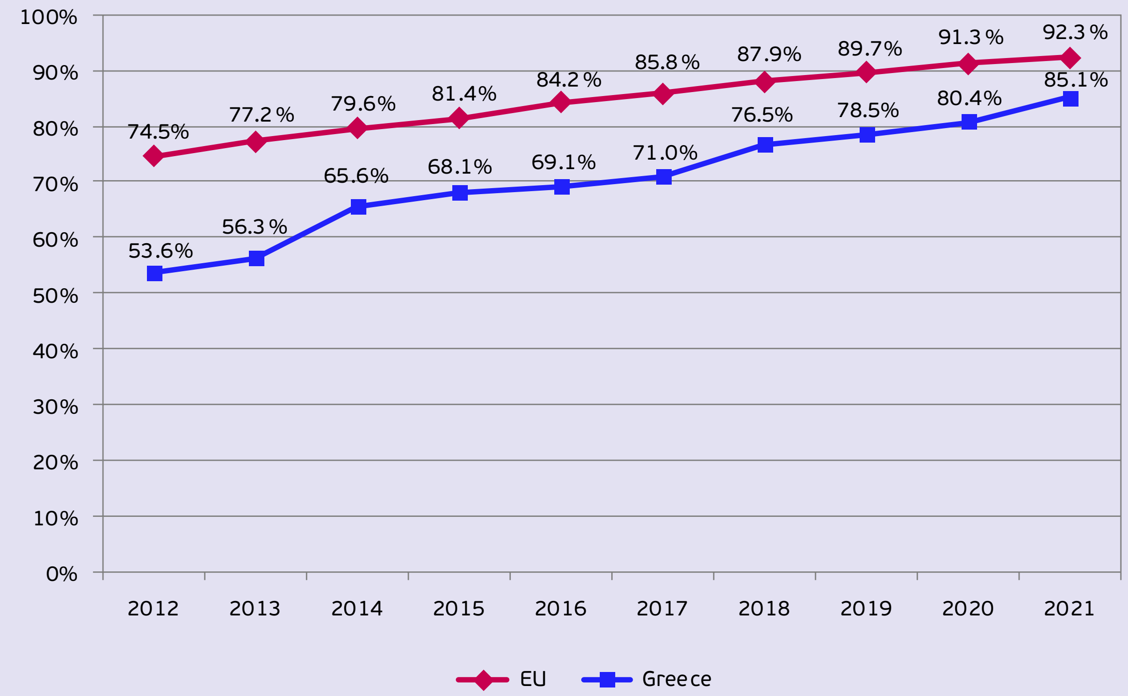


Source: EETT (based on Digital Economy & Society Index data)

Internet access

In 2021, 85.1% of Greek households had access to the Internet, with the respective European average reaching 92.3%. As a result, the gap between Greece and the EU narrowed by 7.2 percentage points in 2021 versus 10.9 percentage points in 2020 (Chart 1.114).

Chart 1.114: Evolution of Internet penetration in households in Greece and the EU



Source: EETT (based on Digital Economy & Society Index data)

Postal services

2

2.1. The Greek postal market

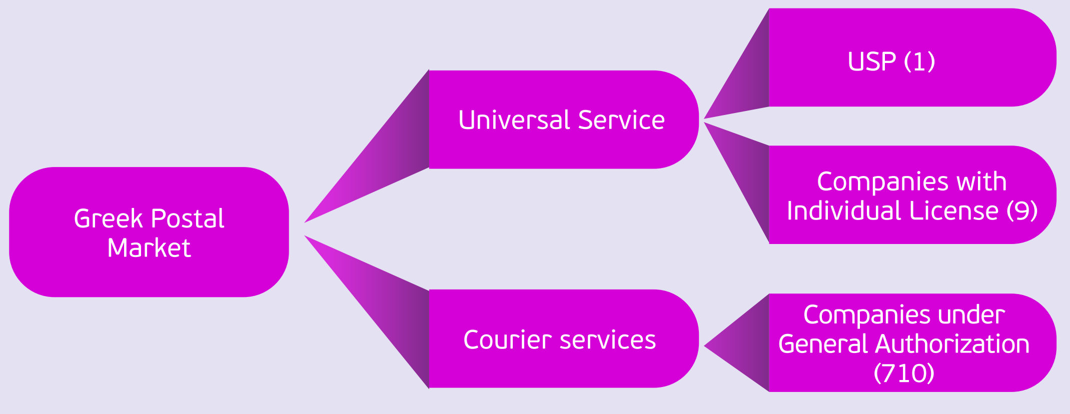
The number of companies that operated in the Greek postal market in 2021 increased significantly by 20%, totaling 720 companies[34] versus 601 companies in 2020 (Graph 2.1). More precisely, a) the Universal Service Provider-USP (Hellenic Post-ELTA) and nine private companies holding an Individual License operated in the Universal Services (US) sector, and b) 710 companies under General Authorization operated in the courier services sector (Chart 2.1).

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

The financial analysis of section 2.2.1 takes into account the published financial statements of the USP (ELTA) and six of the largest companies operating in the courier sector (under General Authorization). The postal companies under General Authorization, included in this analysis, represent 74% of total revenues and 86% of total volume of the postal items in the courier sector for 2021.

The analysis of the remaining figures of the Greek postal market (subsections 2.2.2-2.2.4) as well as the analysis of the competition (section 2.3) 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.

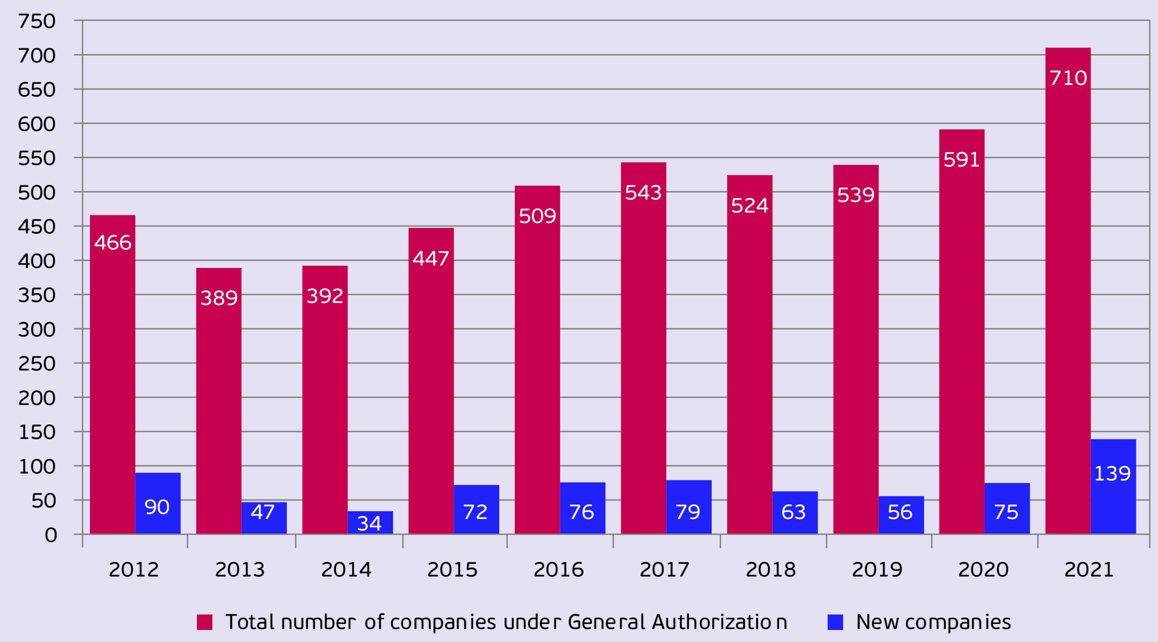
Graph 2.1: Number of companies in the Greek postal market



Source: EETT (Register of postal services providers)

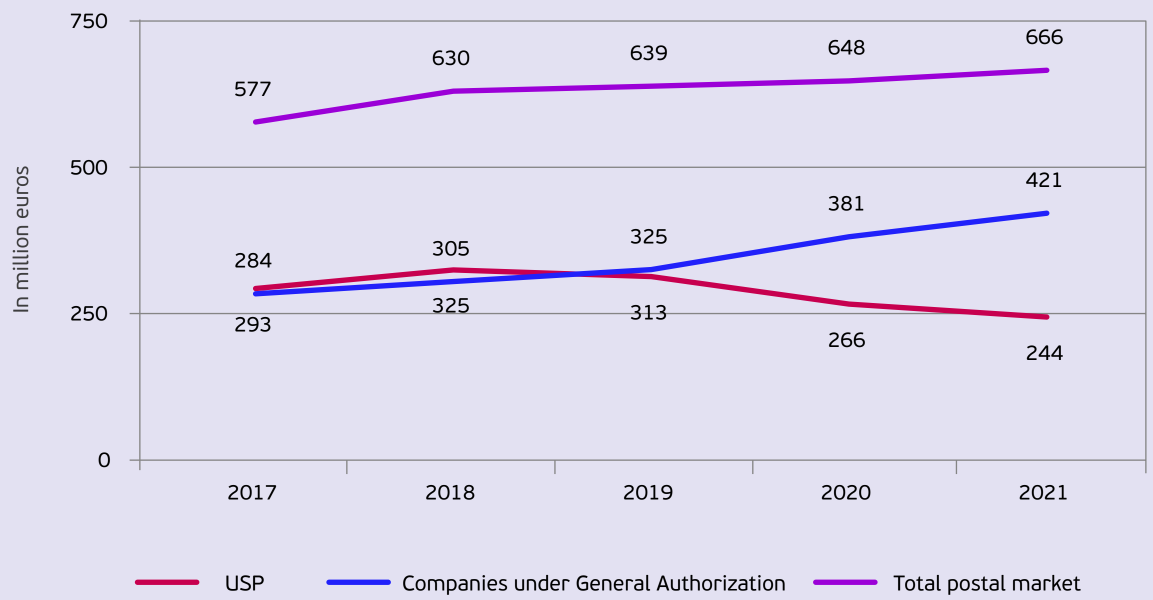
34. There are some companies holding simultaneously an Individual License and a License under General Authorization.

Chart 2.1 Number of companies under General Authorization



Source: EETT (Register of postal services providers)

Chart 2.2 Evolution of postal companies' turnover



Source: Annual published financial statements

2.2.1. Financial data from the published financial statements

The total turnover of companies, as presented, includes data from all their activities and, therefore, may include revenues from non-postal activities as well. As a result, the turnover may present a deviation, in relation to the amount of revenues[35] which are analyzed below and concern exclusively the postal market.

As seen in Chart 2.2, the market's overall turnover increased, rising from 648 million euros in 2020 to 666 million euros in 2021. In particular, the companies under General Authorization showed an 11% rise in turnover compared to the prior year due to the favorable impact that the growth in e-commerce sales had on the use of distribution services. The turnover of the USP, on the other hand, decreased by 8% compared to 2021. This decline is primarily attributed to the reduction of correspondence from corporate customers as a result of the increased use of electronic communication and governance, as well as to the electricity sector, as noted in the company's financial statements.

The turnover and the key financial data relevant to the profitability of the postal companies are listed in Table 2.1.

According to the company's published financial statements, the considerable decline in the UPS's 2021 financial results is attributed to the decline in turnover and mostly to expenses of 112 million euros for a voluntary exit scheme. The increase in e-commerce sales and the associated surge in demand for parcel delivery services helped boost courier companies' revenues in particular.

Table 2.1: Key financial data of postal companies 2021

	Turnover (in million euros)	Gross profit (In million euros)	Gross profit margin	Net profit (in million euros)	Net profit margin
USP	244	-1	-0.2%	-132.6	-54.3%
Companies under General Authorization	421	70	16.6%	20.5	4.9%

Source: Annual published financial statements

35. These data are obtained from the postal companies through EETT 's questionnaires.

Balance sheet analysis

Building infrastructure and vehicles are used by companies in the postal services sector to carry out their postal activity. During 2021, the postal companies invested in infrastructure, as their fixed assets increased by almost 10%.

A considerable part of the total assets of the companies in the industry (56% for USP and 55% for courier companies) was maintained as current assets, which, however, followed a downward trend compared to 2020 (Table 2.2.).

Due to a considerable growth in equity, the obligations of companies under General Authorization were formed at 70% of their liabilities with regard to the liability structure. However, the USP's financial situation deteriorated as a result of the substantial losses incurred in 2021. (Table 2.3.).

The equity capital of companies in the postal services sector followed a similar path to that of their financial results for 2021. More specifically, the companies under General Authorization significantly increased their equity capital, while the corresponding size of the USP was affected by the negative results of use.

Finally, the obligations of the companies constituted an important part of the funds used for the companies' activity.

The evolution of the postal companies' individual financial figures is analyzed in Charts 2.3 to 2.6.

Table 2.2: Assets' share in the postal market

	2019	2020	2021
Companies under General Authorization			
Fixed assets	25%	30%	40%
Current assets	72%	65%	55%
Other assets	3%	5%	5%
Total assets	**100%**	**100%**	**100%**
USP			
Fixed assets	33%	29%	44%
Current assets	67%	71%	56%
Other assets	0%	0%	0%
Total assets	**100%**	**100%**	**100%**

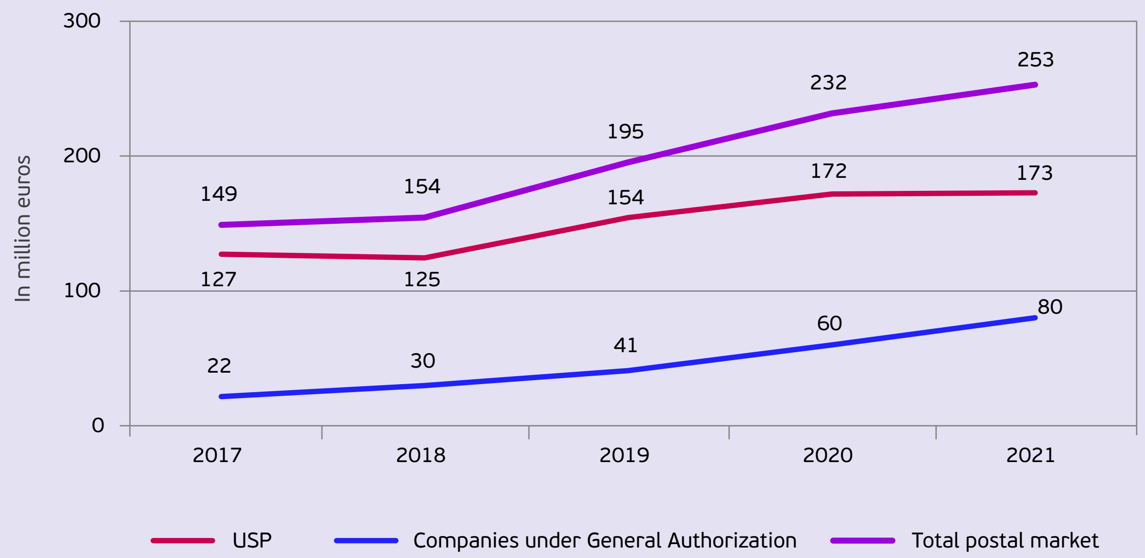
Source: Annual published financial statements

Table 2.3: Liabilities' share in the postal market

	2019	2020	2021
Companies under General Authorization			
Shareholder's equity	26%	19%	30%
Liabilities	74%	81%	70%
Total liabilities	**100%**	**100%**	**100%**
USP			
Shareholder's equity	-10%	10%	-13%
Liabilities	110%	90%	113%
Total liabilities	**100%**	**100%**	**100%**

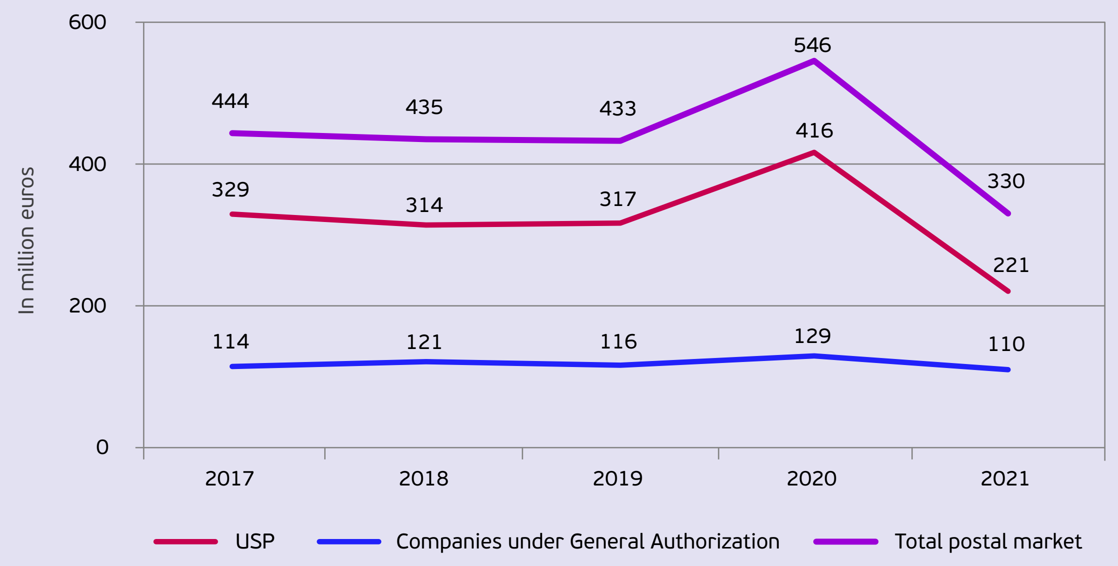
Source: Annual published financial statements

Chart 2.3: Evolution of investments in postal companies' fixed assets



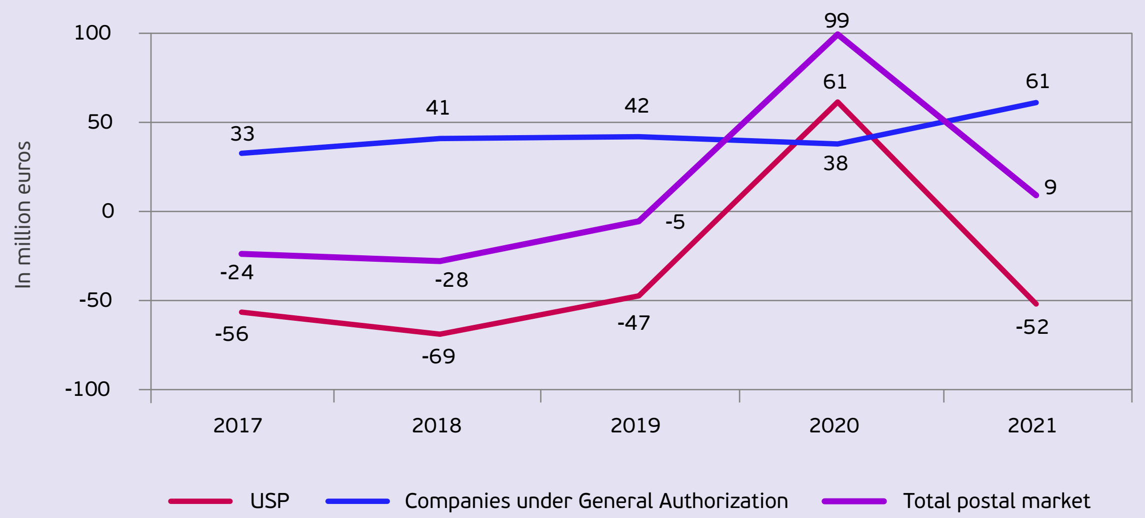
Source: Annual published financial statements

Chart 2.4: Evolution of postal companies' current assets



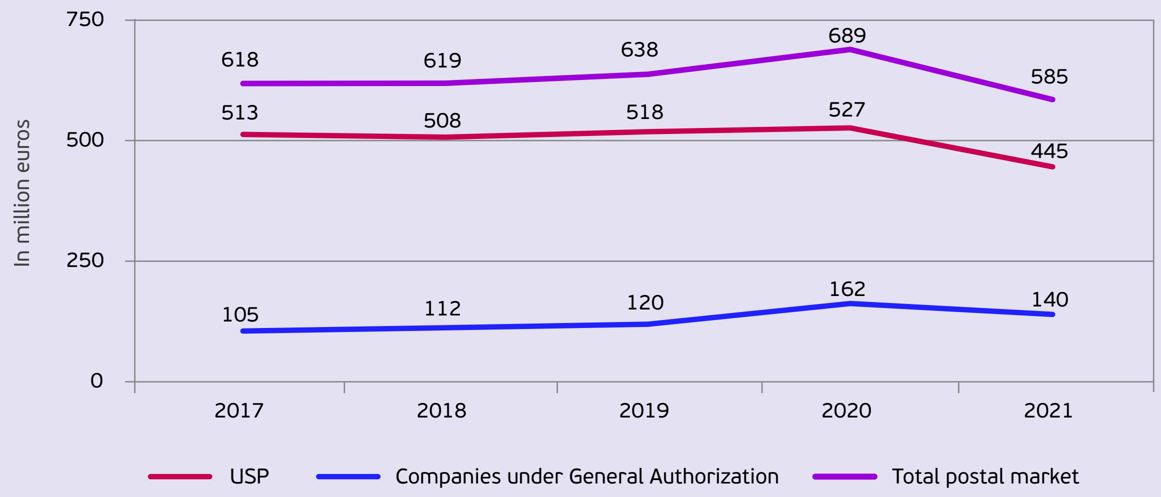
Source: Annual published financial statements

Chart 2.5: Evolution of postal companies' equity capital



Source: Annual published financial statements

Chart 2.6: Evolution of postal companies' liabilities



Source: Annual published financial statements

Ratio analysis

The main ratios derived from the analysis of the balance sheets of the postal companies are presented in Table 2.4.

The liquidity ratio, which reflects the capacity of the postal companies to cover their current liabilities with current assets, in 2021 was estimated approximately to a unit for the companies under General Authorization.

The return on equity index is a function of net profit margin and the speed of recycling shareholder's equity. The return on equity capital ratio remained at a satisfactory level for companies under General Authorization, while the corresponding index for the USP was not calculated due to negative operating results and negative shareholder's equity.

Profitability ratios depict gross profits and pre-tax profits as a percentage of turnover. Companies under General Authorization showed an increase in their net profit margin, while the results of the USP were affected by the significant losses recorded during 2021.

2.2.2. Postal revenues and volume

Total postal market

In 2021, the Greek postal market continued its upward trend of the last two years, as regards to revenues, while the volume of the postal items continued to drop, due to the continued drop of letters. Specifically, 317 million postal items were handled, generating revenues of 631 million euros.

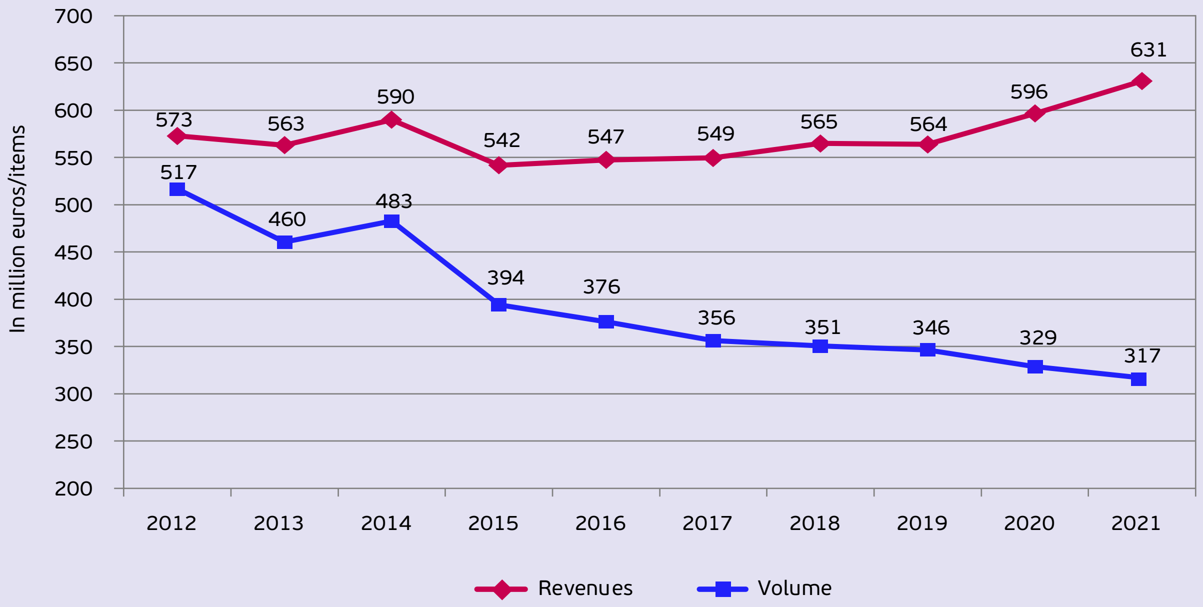
The course of postal market over the last ten years is presented in Chart 2.7.

Table 2.4: Postal market financial indicators

Liquidity ratio Current assets/Short-term liabilities	2019	2020	2021
USP	0.82	0.99	0.57
Companies under General Authorization	1.31	0.98	0.99
Return on equity capital Net results before taxes/Total equity	**2019**	**2020**	**2021**
USP	-16%	-40%	-
Companies under General Authorization	22%	41%	36%
Efficiency Ratios	**2019**	**2020**	**2021**
Gross Profit Margin			
USP	3%	-2%	0%
Companies under General Authorization	17%	17%	17%
Net Profit Margin	**2019**	**2020**	**2021**
USP	2%	-9%	-54%
Companies under General Authorization	3%	4%	5%

Source: Annual published financial statements

Chart 2.7: Revenues and postal items volume of the Greek postal market



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

Per market sector

In 2021, the total revenues of the postal market increased again by 5.8%, driven by a 12.6% increase in the revenues of companies under General Authorization. However, the total volume of handled postal items decreased in 2021 by 3.7%, despite the increase by 12.5%. of handled items by companies with a General Authorization. The USP reported a new significant decrease both in revenues (-13.6%) and in the volume of the handled postal items (-14.5%). The course of the US, Individual License and General Authorization sectors is shown in Tables 2.5 and 2.6.

Table 2.5: Postal market revenues (in thousand euros)

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2021/20
USP	317,486	282,919	272,658	227,417	207,313	195,059	185,273	174,307	149,895	129,574	-13.6%
Companies with Individual License	3,486	2,471	14,496	14,309	15,865	18,251	19,220	20,852	18,409	19,121	3.9%
Companies under General Authorization	251,814	277,628	302,753	299,954	324,086	336,110	360,274	368,575	428,195	482,172	12.6%
Total	**572,786**	**563,018**	**589,907**	**541,680**	**547,265**	**549,421**	**564,768**	**563,734**	**596,499**	**630,867**	**5.8%**
Annual change	-10.7%	-1.7%	4.8%	-8.2%	1.0%	0.4%	2.8%	-0.2%	5.8%	5.8%	-

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

Table 2.6: Postal market volume (in thousand items)

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2021/20
USP	461,361	402,818	398,325	308,300	278,523	248,452	231,607	213,496	176,694	151,054	-14.5%
Companies with Individual License	8,065	5,326	26,854	27,251	32,060	37,136	42,312	48,681	46,049	46,249	0.4%
Companies under General Authorization	47,162	52,278	57,563	58,578	65,752	70,613	76,624	84,199	106,000	119,288	12.5%
Total	**516,588**	**460,422**	**482,742**	**394,129**	**376,334**	**356,201**	**350,543**	**346,376**	**328,744**	**316,590**	**-3.7%**
Annual change	-12.5%	-10.9%	4.8%	-18.4%	-4.5%	-5.4%	-1.6%	-1.2%	-5.1%	-3.7%	-

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

Per postal service

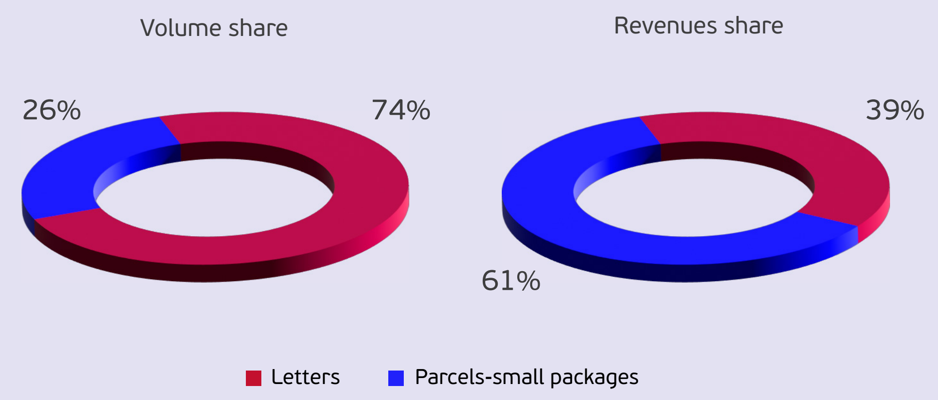
The postal items are categorized to letters (including direct mail, newspapers, periodicals) and parcels (including the small packages). In 2021, the parcel sector accounted for 61% of total revenues of postal market, handling 26% of the total postal items (Chart 2.8). In particular, revenues from the handling of 83 million parcels amounted to 387 million euros, marking an increase of 14%.

Regarding the number of handled letters, a 9% drop was recorded in 2021, although letters accounted for 74% of the volume of the handled postal items. More specifically, 234 million letters were handled, generating revenues of 244 million euros (a 5.5% decrease).

The over time growth of volume and revenues of parcels-small packages, as well as the respective decline of volume and revenues of letters, are mainly due to the continued e-commerce growth and e-substitution of letter mail.

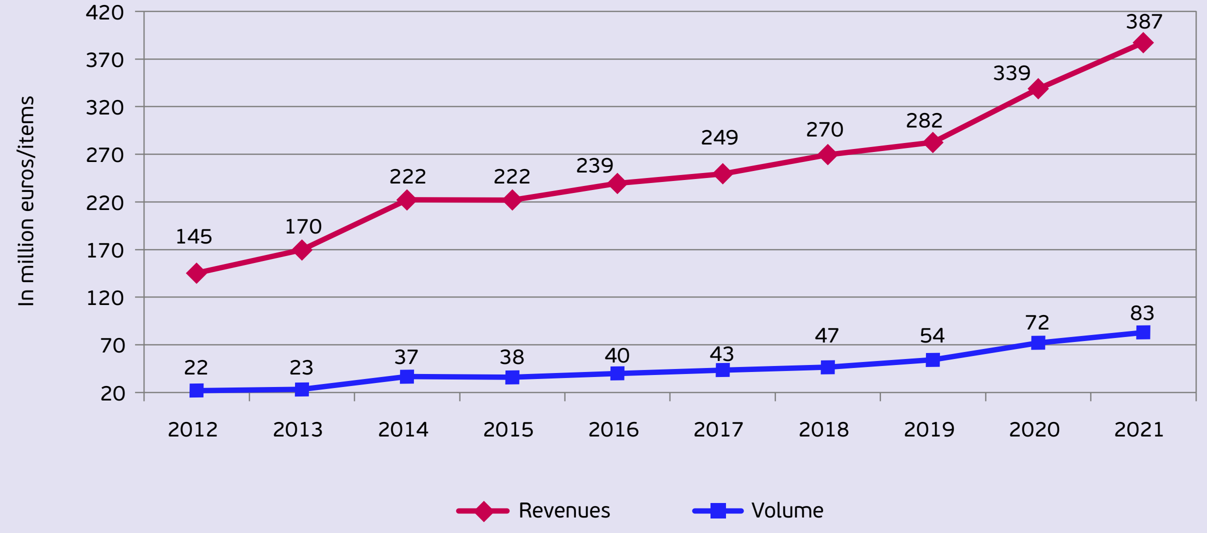
The course of volume and revenues of the two postal services over the last decade is presented in Charts 2.9 and 2.10 respectively.

Chart 2.8: Postal items volume and revenues shares, 2021



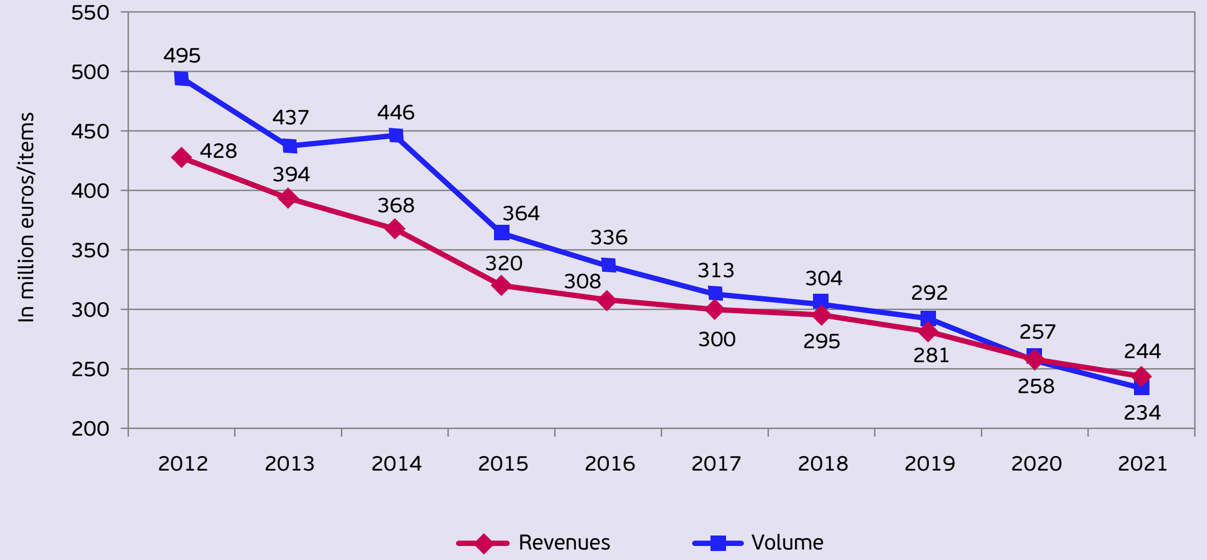
Source: EETT (based on data provided by postal services providers)

Chart 2.9: Volume and revenues of parcels-small packages



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

Chart 2.10: Volume and revenues of letters



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

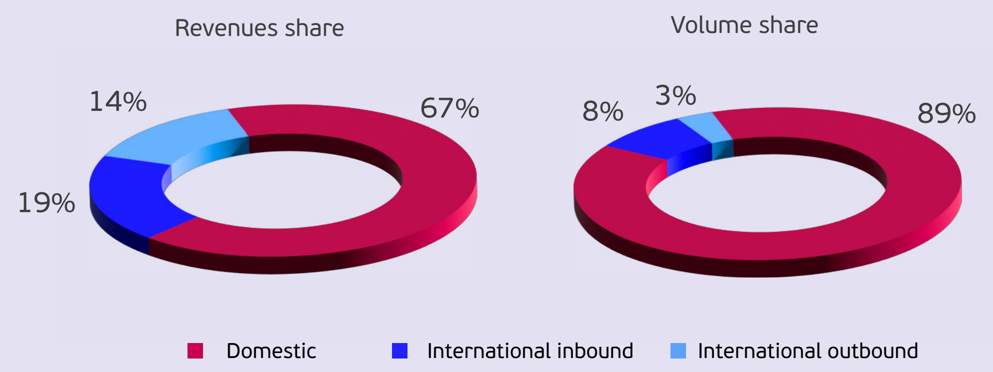
Per destination and origin of deliveries

In 2021, 67% of revenues in the Greek postal market resulted from domestic traffic (89%). 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 (72%) and Macedonia (13%) 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, 43% of postal items was delivered in Attica and 18% in Macedonia (Chart 2.12).

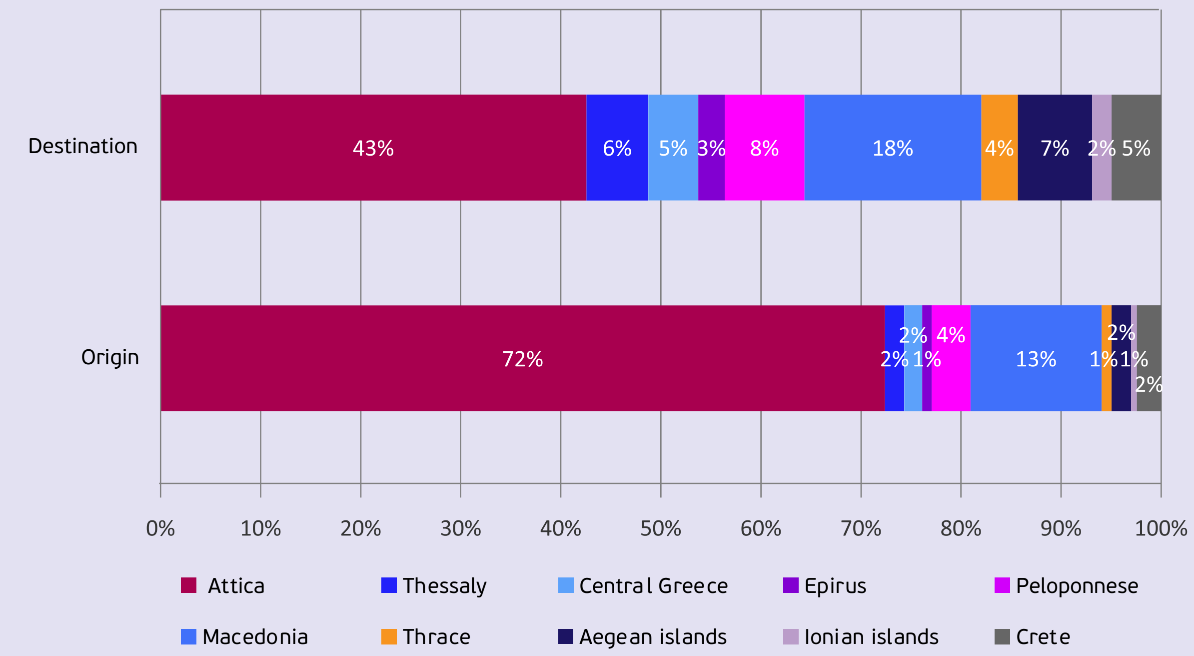
Moreover, the largest volume of postal items delivered in Greece from international destinations came from the European Union (EU) (71%), Asia (14%) and the rest of Europe (10%), while the deliveries of postal items to international destinations concerned mostly the EU (58%), the rest of Europe (17%) and the USA-Canada (14%), as presented in Chart 2.13.

Chart 2.11: Breakdown of revenues and postal items volume shares per domestic-international service, 2021



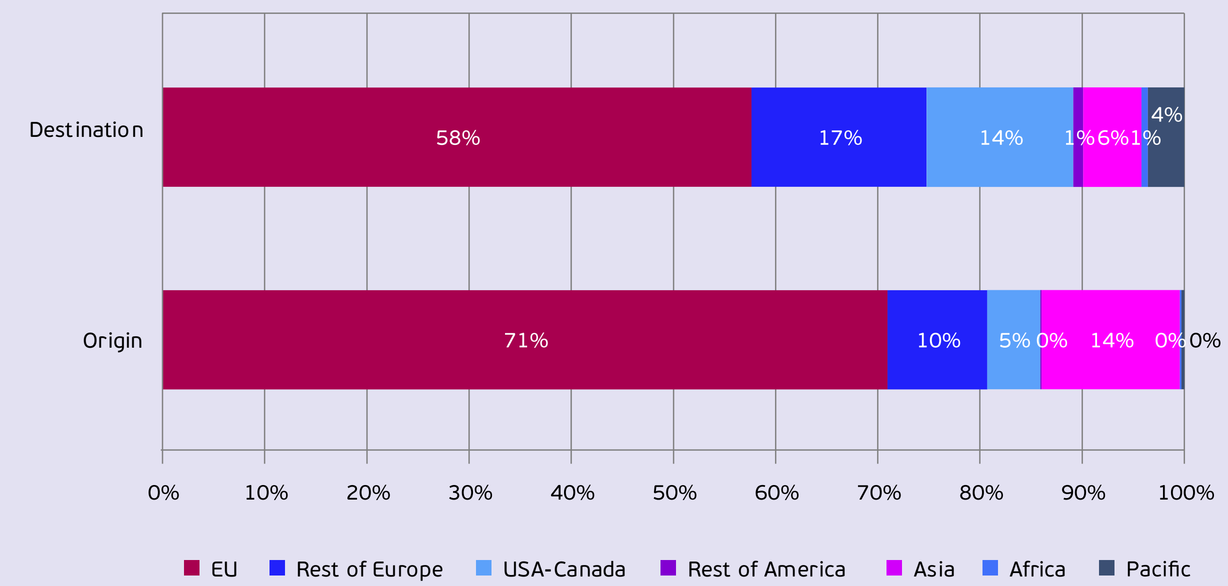
Source: EETT (based on data provided by postal services providers)

Chart 2.12: Destination and origin of postal items deliveries per geographic region, 2021



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

Chart 2.13: Destination and origin of international postal items deliveries, 2021



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

2.2.3. Employment and infrastructure of postal companies

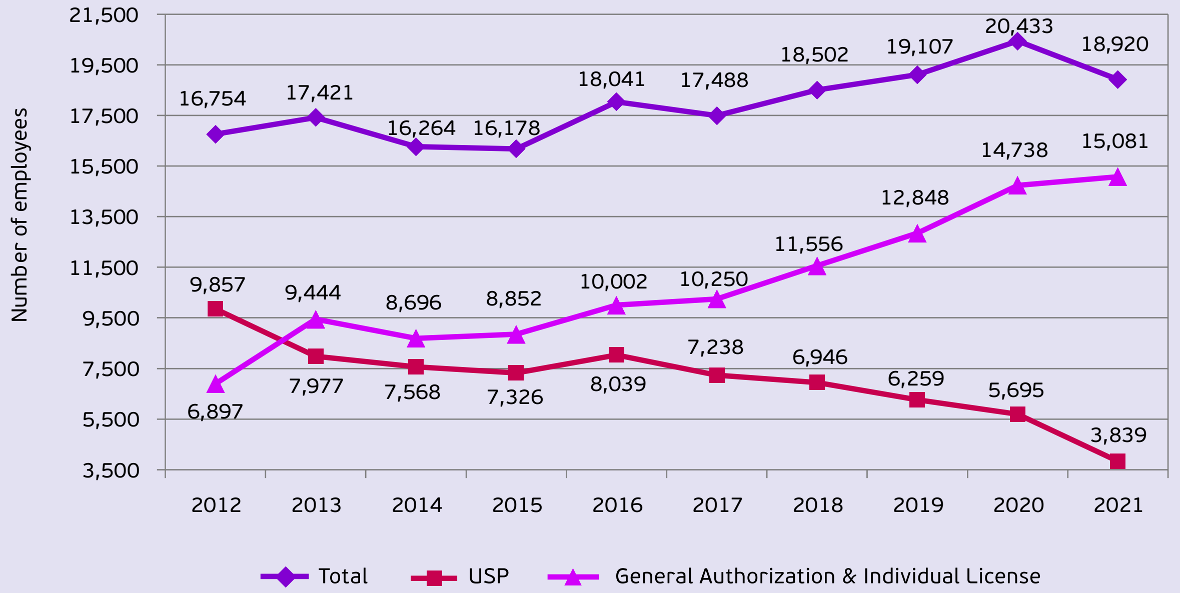
The total number of people employed in the Greek postal market, in 2021, reached 18,920 employees, showing a 7.4%[36] decrease compared to 2020 (20,433 employees). In particular, 20% of people was employed by the USP, while the remaining 80% was employed by the other postal services providers with Individual License or under General Authorization (Chart 2.14).

Regarding the infrastructure of postal services providers, in 2021, the USP owned 1,155 post offices and 2,350 vehicles, while the other providers with Individual License or under General Authorization owned 1,139 post offices and 8,417 vehicles.

It is worth noting that in recent years, courier companies, in their effort to offer additional flexibility to consumers, have begun to promote parcel lockers, as a new alternative method of delivering postal items. 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.

In Greece, in 2021, only four postal providers offered the service of parcel lockers, having placed relevant facilities in 255 points, mainly in the wider area of Attica.

Chart 2.14: Employment in the Greek postal market



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

2.2.4. Consumers complaints for postal companies

The complaints received by postal companies in 2021 reached 49,386, marking an increase of approximately 19% compared to 2020. Table 2.7 shows the over time evolution of consumers complaints submitted to postal companies.

More specifically, the USP received 13,218 complaints in 2021 (a 10.9% increase compared to 2020), referring to a total of 151 million handled postal items. All other companies with Individual License received 14,615 complaints referring to a total of 46 million handled postal items. As far as the companies under General Authorization are concerned, a remarkable increase of approximately 53% was recorded in the complaints submitted (21,553 complaints in a total of 119 million handled items).

More specifically, the cases regarding differences resolution between consumers and companies under General Authorization referred mainly to delays, losses of postal items and damages. The compensations given referred mainly to cases of loss and damage of postal items (Chart 2.15).

Table 2.7: Evolution of consumers' complaints to postal companies

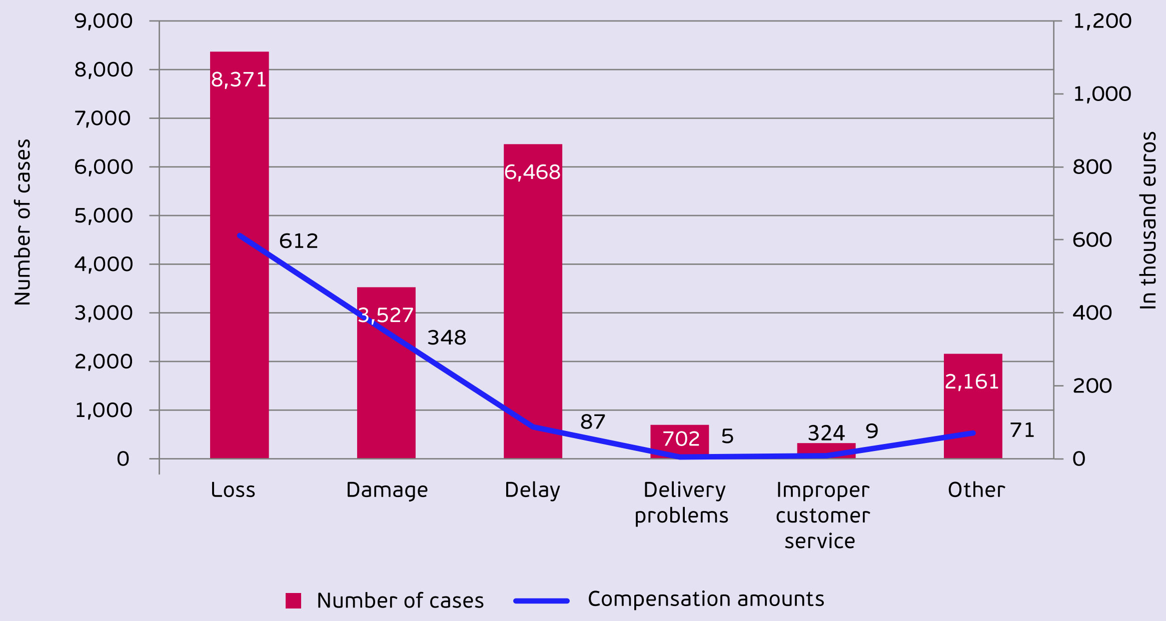
	2017	2018	2019	2020	2021
Complaints to USP	18,646	13,533	10,404	11,918	13,218
Complaints to other companies with Individual License	11,146	10,789	22,467[37]	15,574	14,615
Complaints to companies under General Authorization	10,347	12,004	13,709	14,108	21,553

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

36. This change is due to the corporate transformation of the USP, which took place in 2021 and led to the leave of a significant number of employees through voluntary exit.

37. According to the postal company to which the complaints have been increased around 10,000 compared to the previous year, this increase was caused due to incorrect delivery addresses provided by the client.

Chart 2.15: Classification of cases regarding differences resolution between consumers and companies under General Authorization and compensations per case category, 2021



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

2.3. Competition in the postal market

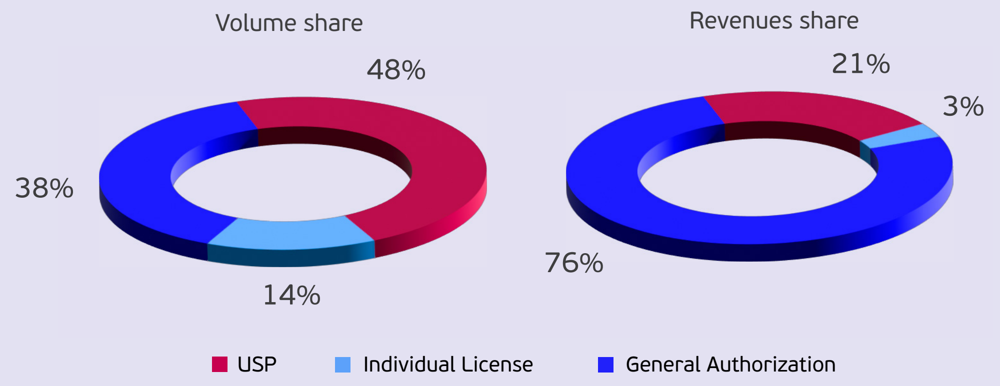
2.3.1. Market shares

In 2021, the USP accounted for 48% of the market in terms of volume of postal items, while the postal services providers with Individual License and under General Authorization accounted for 14% and 38%, respectively (Chart 2.16).

The USP' revenues share continued to decrease for another year (21% in 2021 versus 25% in 2020), while the respective figure for companies under General Authorization steadily increased, reaching 76% versus 72% in 2020. Finally, the share of companies with Individual License remained stable (Chart 2.17).

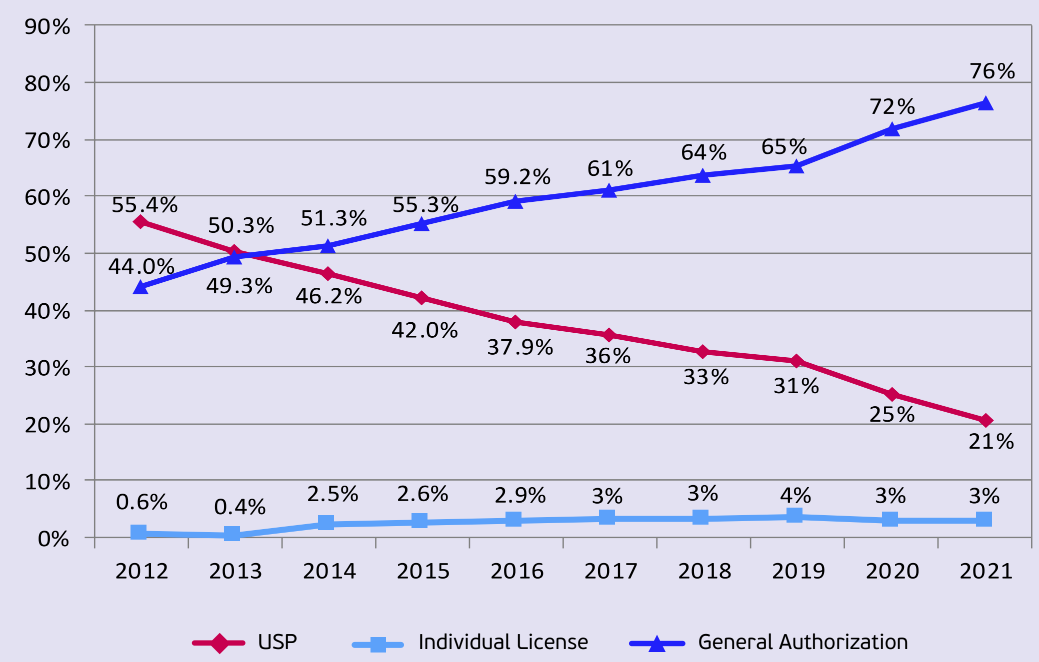
Regarding the services provided, it is obvious that the US dominates the letter mail sector[38], accounting for 84% of the volume and 55% of the revenues, in 2021. As regards to the sector of parcels-small packages, courier companies had a dominant role, accounting for 98% of the volume and 96% of the revenues (Chart 2.18).

Chart 2.16: Postal items volume and revenues shares of postal services providers, 2021



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

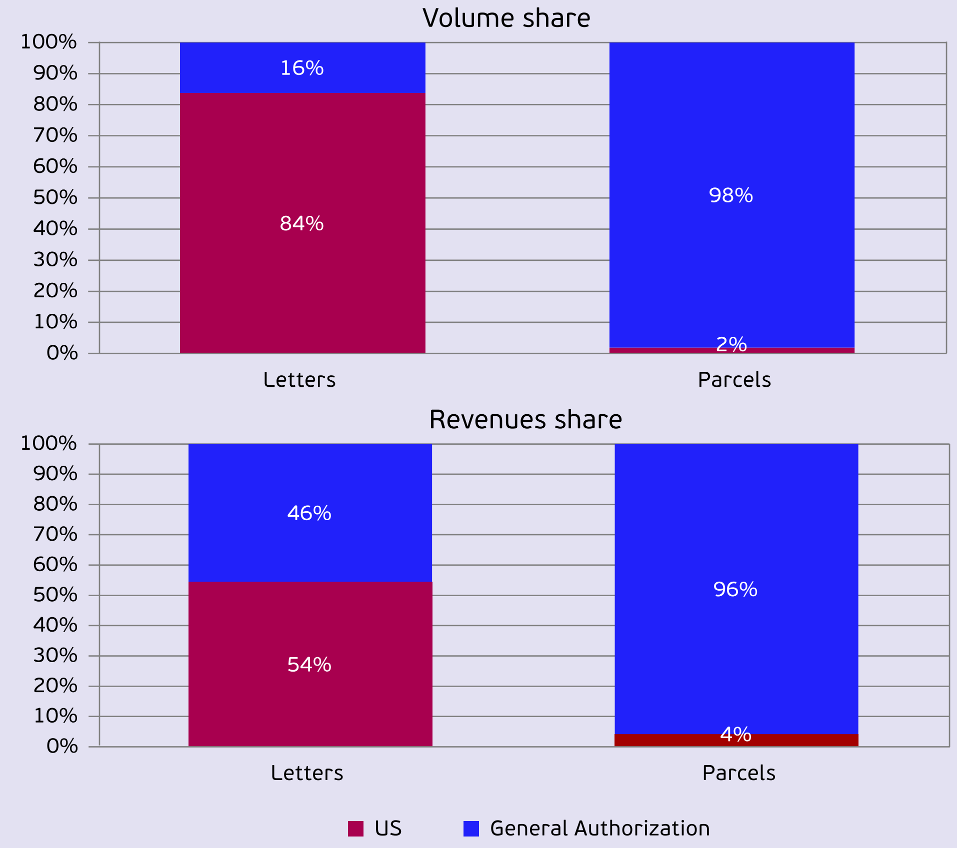
Chart 2.17: Revenues shares of postal services providers, 2021



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

38. Including direct mail, newspapers, books, catalogues and periodicals

Chart 2.18: Letters and parcels shares for the US and the courier services, 2021



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

2.3.2. 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 until 31/12/2028[39]. 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. As shown in Table 2.8, letters were the prevalent postal item in the US sector, accounting for 91.1% of the sector's volume and 84.2% of its revenues for the 2021 (Table 2.8).

The USP remained the dominant player in the US market in 2021, accounting for 77% of the volume (versus 81% in 2020) and 87% of the revenues from the postal items (versus 89% in 2020), as presented in the Chart 2.19.

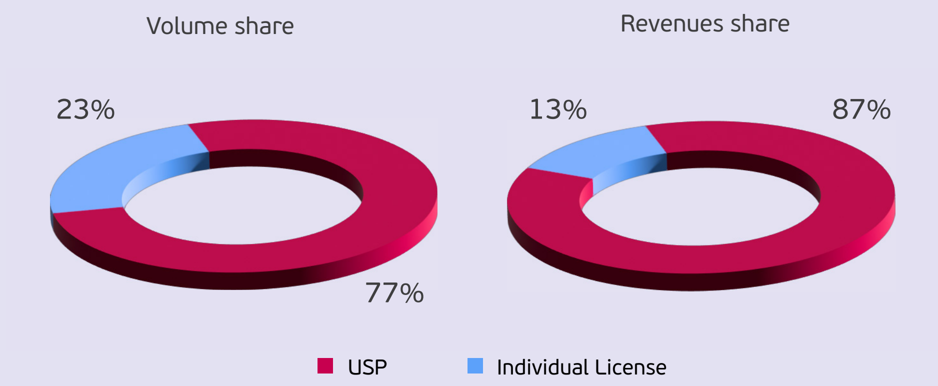
39. Law 4053/2012 "Regulation of the operation of the postal market, electronic communications issues and other provisions", Government Gazette 44/A/07-03-2012.

Table 2.8: Volume and revenues shares of postal items within the US sector, 2021

	Volume	Revenues
Letters	91.1%	84.2%
Direct mail	3.4%	1.5%
Newspapers	4.5%	3.5%
Books-catalogues-periodicals	0.1%	0.08%
Parcels and small packages	0.8%	10.8%
US total	**100%**	**100%**

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

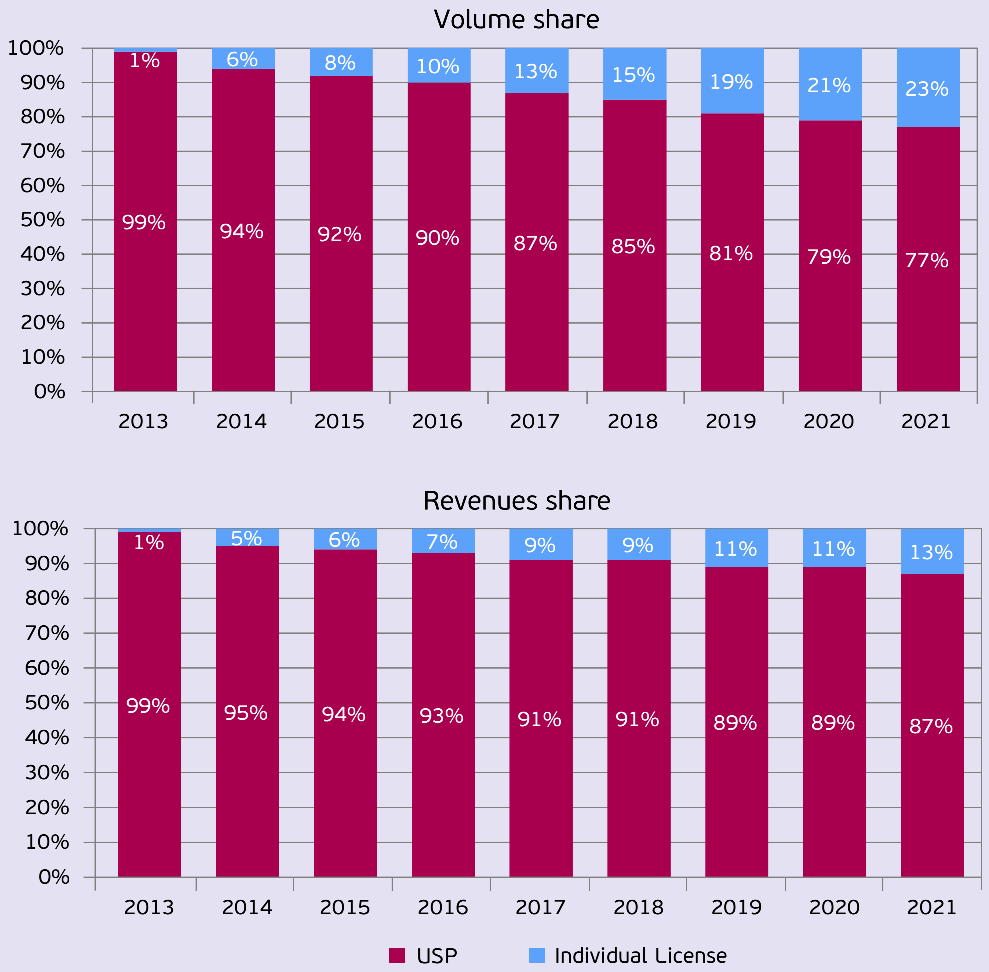
Chart 2.19: Postal items volume and revenues shares of postal services providers within the US sector, 2021



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

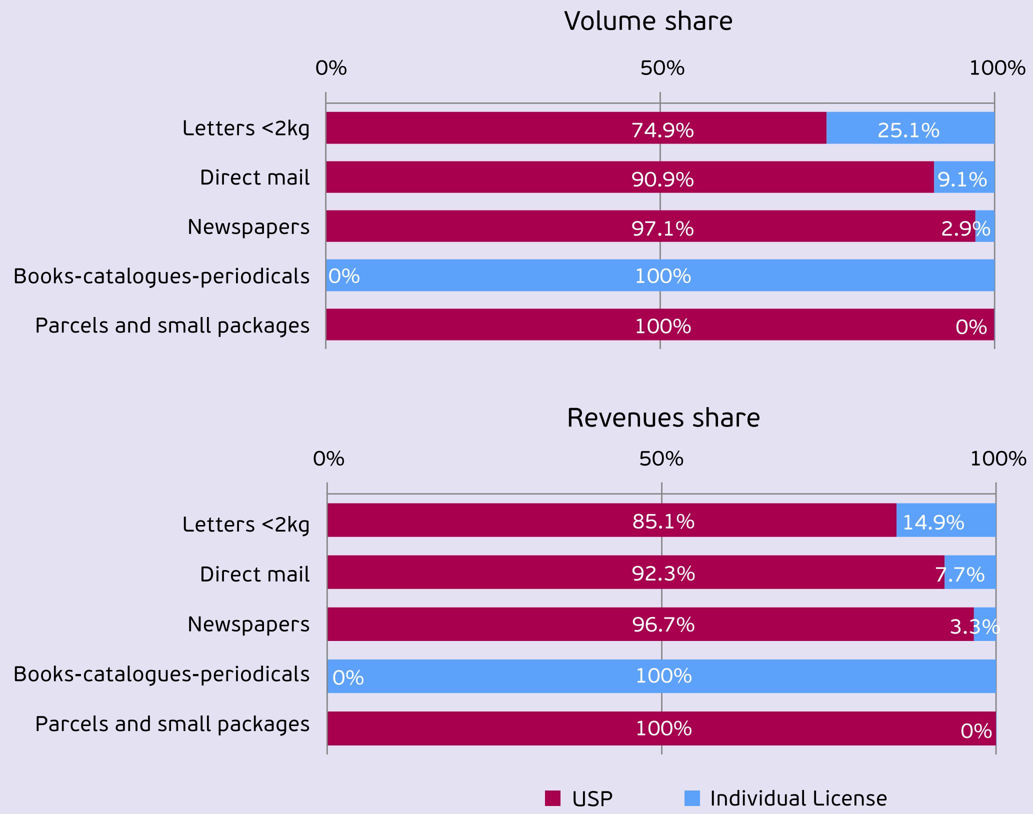
However, the course of market share of companies within the US sector over the last nine years, demonstrates the gradual increase in the market share of companies with an Individual License (Chart 2.20). More specifically, in 2021, the companies with an Individual License increased their share, in terms of the handled items volume, to 23%, compared to 21% in 2020, generating 13% of total revenues, compared to 11% in 2020. This increase came mainly from the handling of letters up to 2 kg. The market shares of companies within the US sector are presented in Chart 2.21.

Chart 2.20: Evolution of postal services providers market shares within the US sector



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

Chart 2.21: Market shares of postal services providers by postal items type within the US sector, 2021



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

The Universal Service Provider (USP)

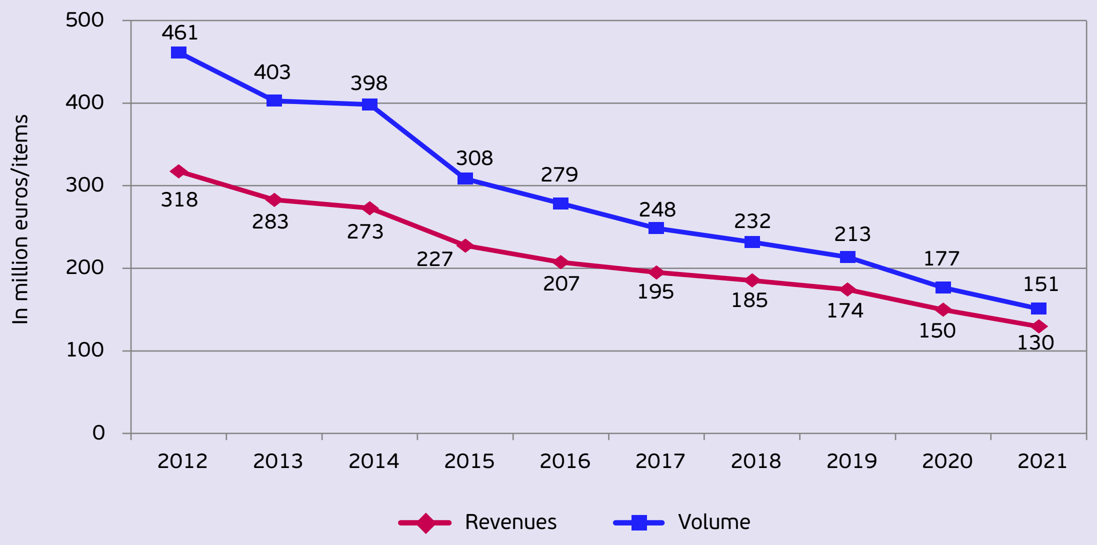
In 2021, USP's revenues totaled 130 million euros, decreased by 14% compared to the previous year. These revenues came from the handling of 151 million postal items, 15% less compared to 2020. The over time progress of the USP's revenues and volume during the last decade is presented in Chart 2.22.

The majority of the USP's revenues (82.2%) was generated mainly from the handling of letters up to 2 kg, followed by parcels up to 20 kg (10.8%) and newspapers (3.8%). In 2021, the average revenue for parcels up to 20 kg showed a notable increase of 23.4%. The average revenue in other categories showed a smaller increase, such as letters (3.7%), newspapers (2.2%) and small packages (4.6%), while the average revenue of direct mail decreased by 5% (Table 2.9).

The USP's revenues were generated by 38% from customers holding a contract and 62% from retail customers. The USP's customer portfolio consisted mainly of public sector companies (19%), banks/assurance companies (14%), while individuals make up 25%.

The number of employees of the USP decreased in 2021 compared to 2020, to 3,839 employees. In terms of infrastructure, the USP owned 1,155 post offices, 521 of which were agencies. It also owned 517 cars and 1,833 motorbikes.

Chart 2.22: USP's revenues and postal items volume



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

Table 2.9: USP's revenues and postal items volume shares per service, 2021

	Total items (%)	Total revenues (%)	Average revenue (in euros)	Difference 2020-2021 (%)
Letters	89.1%	82.2%	0.79	3.7%
Direct mail	4.1%	1.6%	0.33	-5%
Newspapers	5.8%	3.8%	0.57	2.2%
Books-catalogues-periodicals	0%	0%	0%	0%
Small packages	0.4%	1.6%	3.17	4.6%
Parcels	0.6%	10.8%	14.89	23.4%
Total	**100%**	**100%**	-	-

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

Companies with an Individual License

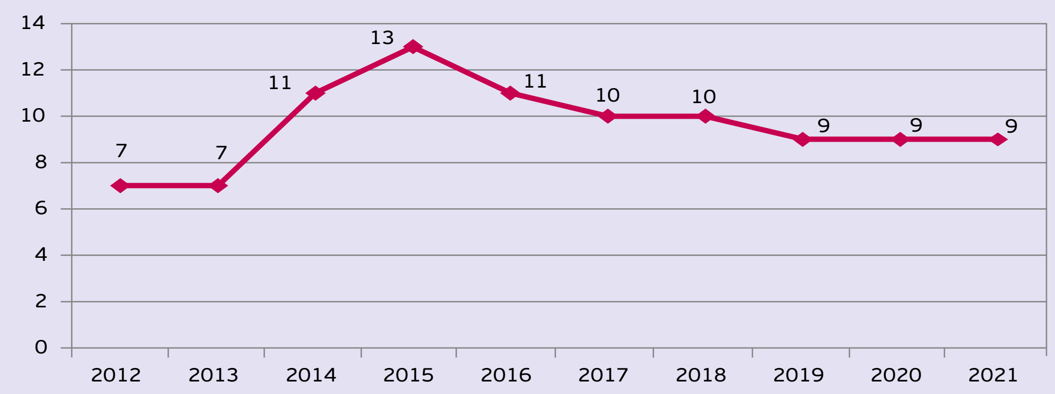
Nine companies with an Individual License operated in the US sector, in 2021 (Chart 2.23). Particularly, four companies with an Individual Licence operated in the handling of letters, three in the distribution of direct mail, one in the distribution of newspapers, two in the distribution of books/catalogues/periodicals and two in the distribution of parcels. 83% of the revenues came from two companies, which handled 84% of letters.

In 2021, the companies with an Individual Licence showed a marginal increase in revenues and in the volume of postal items. In particular, the revenues of companies with an Individual License accounted for 19 million euros, increased by 4% compared to the previous year, while the handled postal items were 46 million, 0.4% more compared to 2020.

The over time course of the revenues and volume of companies with an Individual License, during the last decade, is presented in Chart 2.24.

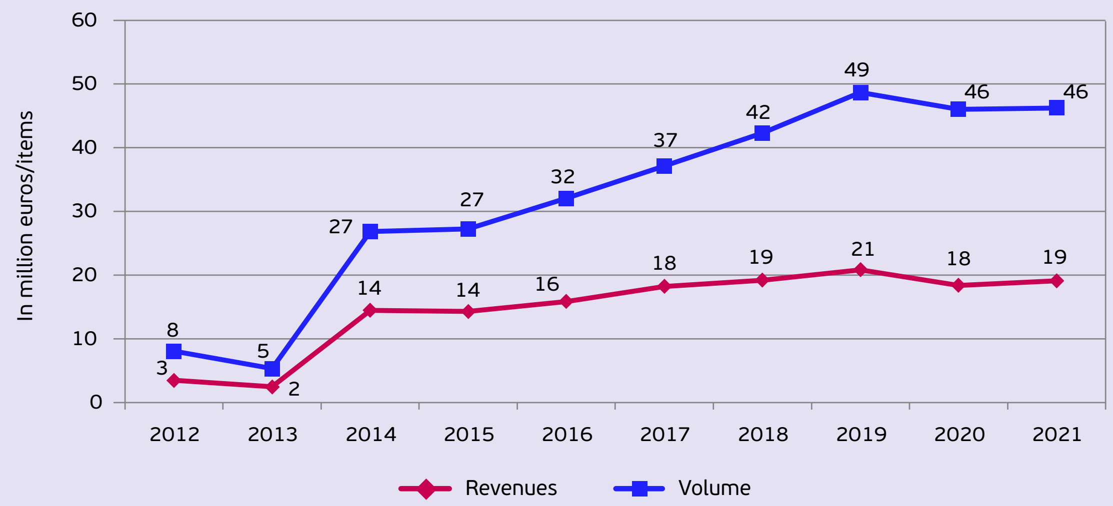
As presented in Table 2.10, in 2021, letter mail handling almost monopolized the sector's activity, as in previous years.

Chart 2.23: Number of companies with an Individual License



Source: EETT (Register of postal services providers)

Chart 2.24: Revenues and postal items volume of companies with an Individual License



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

Table 2.10: Postal items volume and revenues shares per service for companies with Individual License, 2021

	Total items (%)	Total revenues (%)
Letters	97.6%	97.6%
Direct mail	1.3%	0.9%
Newspaper	0.55%	0.9%
Books-catalogues-periodicals	0.6%	0.6%
Parcels and small packages	0.001%	0.0%
Total	**100%**	**100%**

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

2.3.3. 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 2021, 139 new companies entered the courier services sector, raising the total number of companies operating under General Authorization to 710[40] versus 591 in 2020.

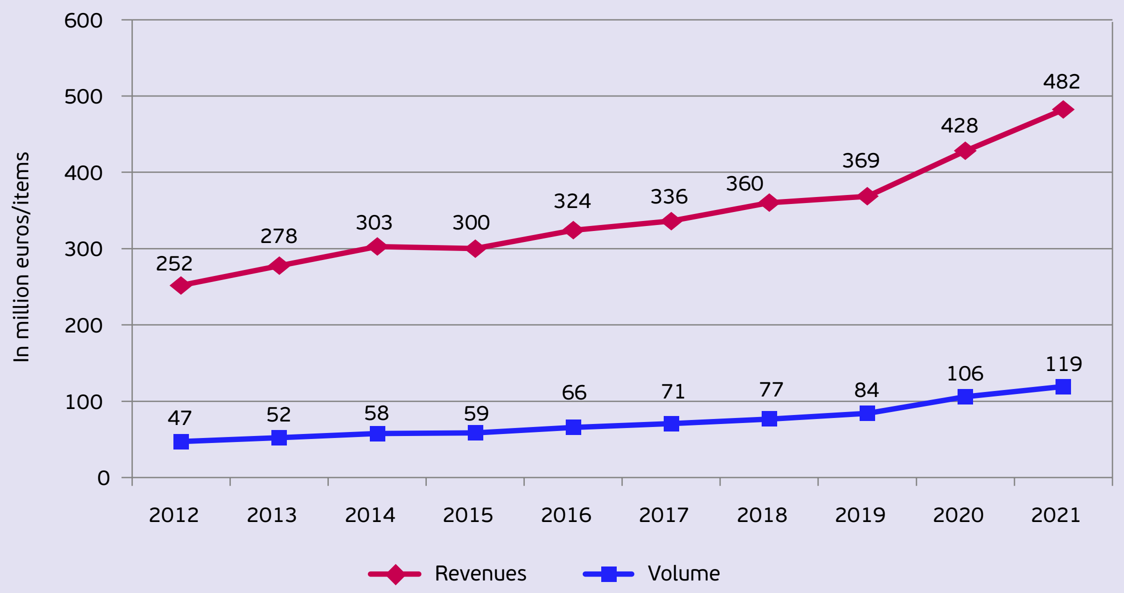
The revenues of companies operating under General Authorization amounted to 482 million euros, increased by 13% compared to 2020, with 119 million postal items handled, 13% more than the previous year. The increase in revenues and volume of postal items is due to the continued growth of e-commerce, which is constantly increasing the demand for handling small packages and parcels. The over time growth of revenues and the postal items volume of companies under General Authorization, over the last decade, is presented in Chart 2.25.

In particular, letters constitute 32% of postal items handled by courier companies, whereas parcels and small packages constitute 68%. Correspondingly, letters generated significantly less revenues (23%) for companies under General Authorization than small packages (77%). The volume and revenues share of postal items handled by the courier companies are shown in Chart 2.26.

Regarding the infrastructure, in 2021, courier companies owned in total more than 1,063 branches (including network outlets) and 592 parcel lockers. Additionally, they owned more than 7,988 vehicles (cars and motorbikes, conventional and new technology) and employed more than 14,380 employees.

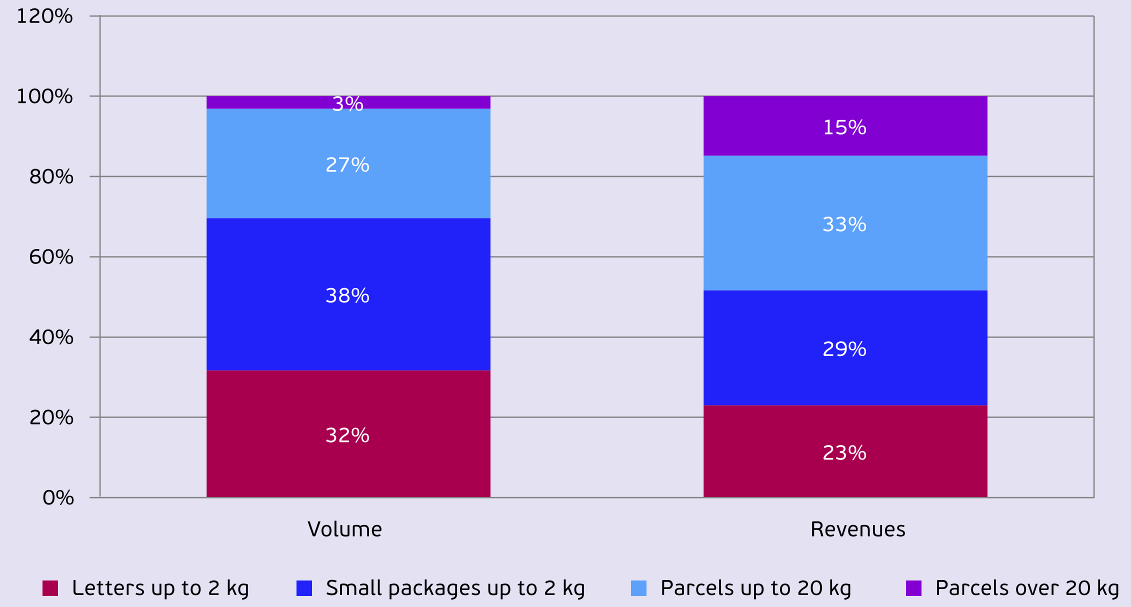
40. It includes companies that were operate, even for part of the reference year.

Chart 2.25: Revenues and postal items volume of companies under General Authorization



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

Chart 2.26: Postal items volume and revenues shares per service in the courier sector, 2021



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

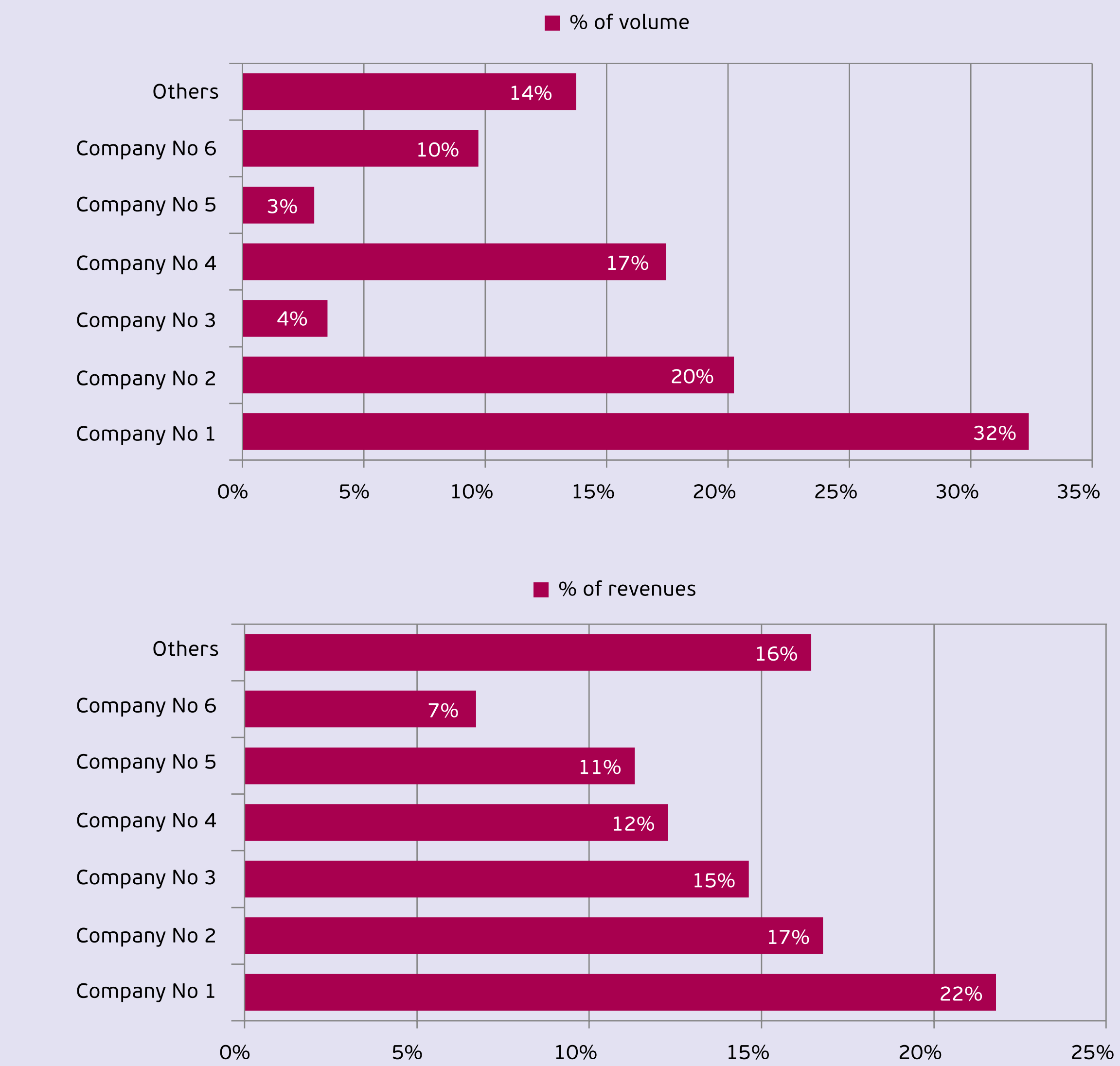
Competition in the courier services sector

Although 710 companies operated in the courier market in 2021, 86% of postal items was handled by just six companies, generating a 84% share of the market's revenue. Approximately 80% of postal items was delivered from the regions of Attica and Macedonia to domestic and international destinations, as presented in Chart 2.28. Furthermore, 60% 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 13% of their revenues was generated by international outbound traffic and 21% of their revenues generated by international inbound traffic. The most significant part of outbound traffic was directed to EU countries (71%) and USA-Canada (11%), while the majority of inbound traffic originated from EU countries (93%) and Asia (3%) (Chart 2.29).

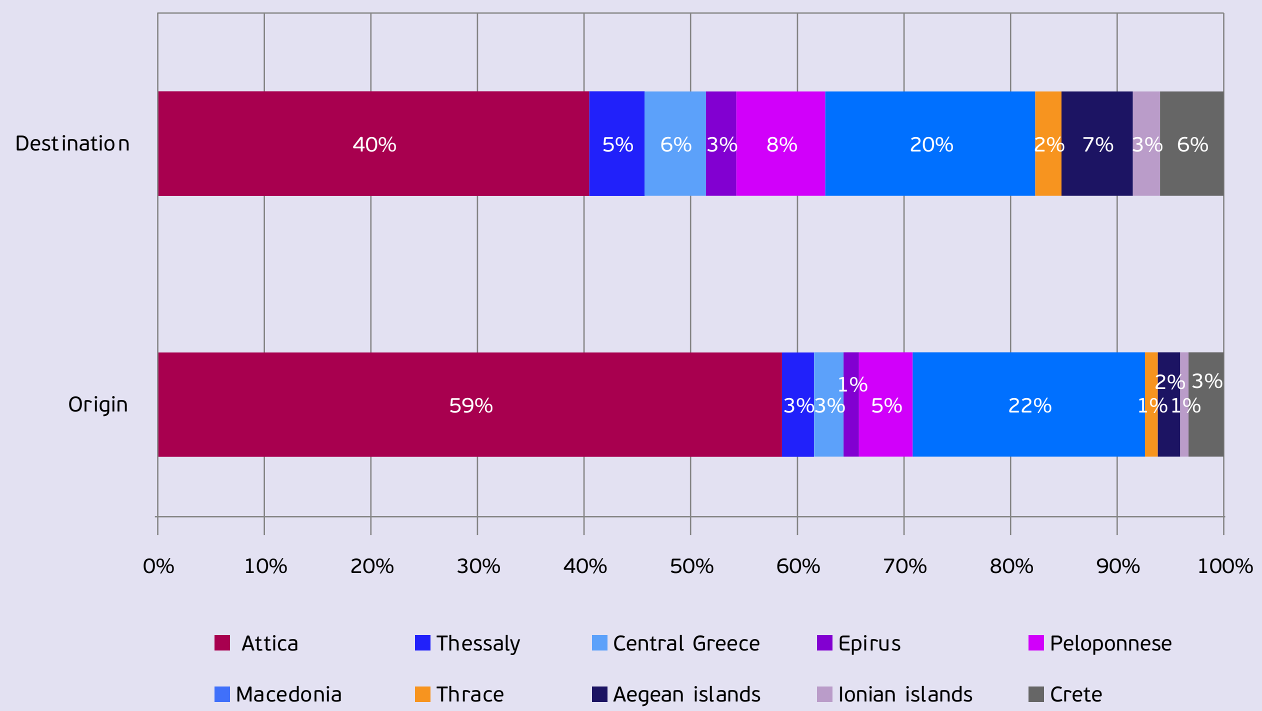
Customers holding a contract generated 91% of courier companies' revenues, while retail customers generated 9%. The revenues per customer type are depicted in Chart 2.30.

Chart 2.27: Revenues and postal items volume shares of courier companies, 2021



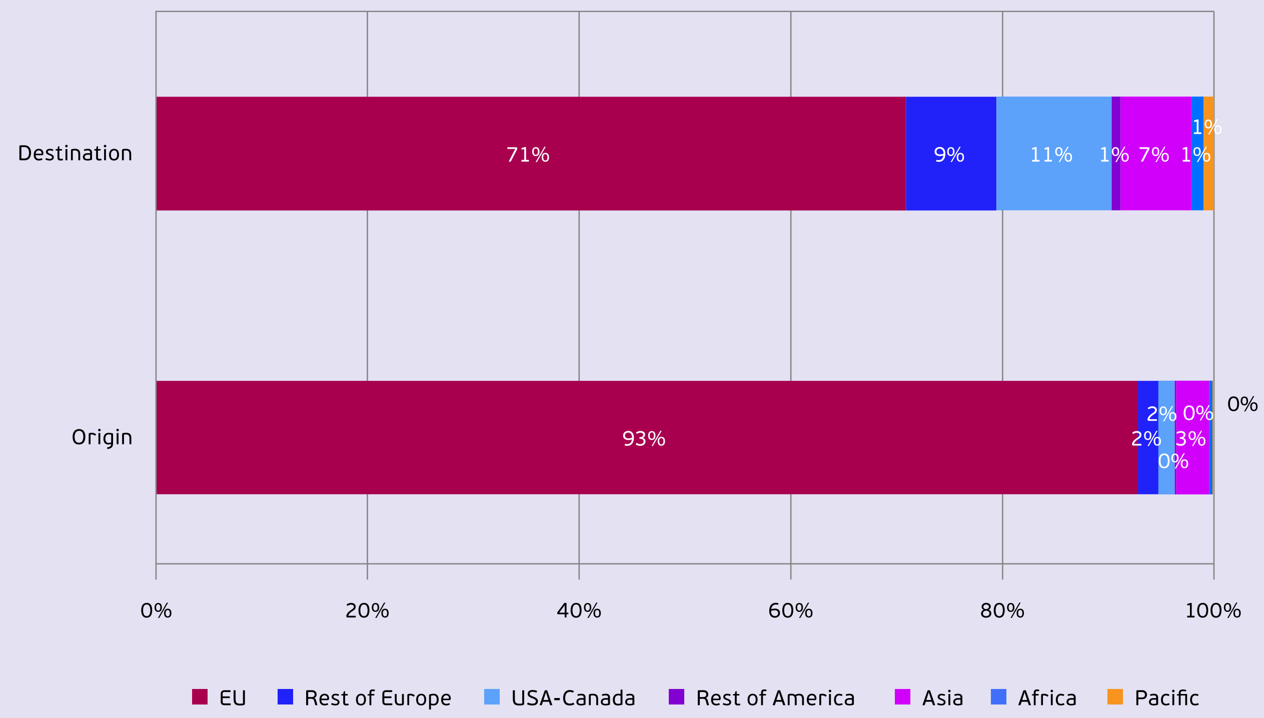
Source: EETT (based on data provided by postal services providers)

Chart 2.28: Destination and origin of courier items deliveries per geographic region, 2021



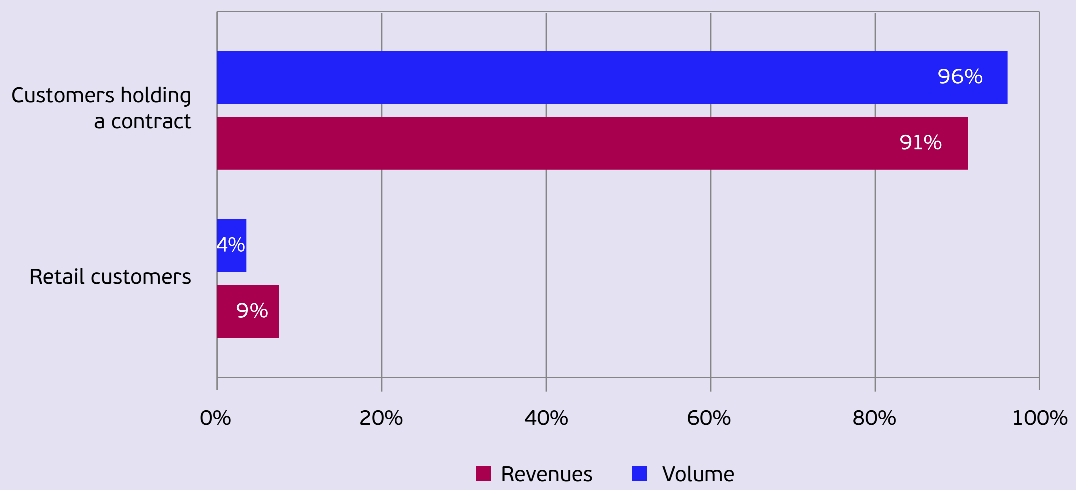
Source: EETT (based on data provided by postal services providers)

Chart 2.29: Destination and origin of cross-border courier deliveries per geographical region, 2021



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

Chart 2.30: Postal items volume and revenues of courier companies per customer type, 2021

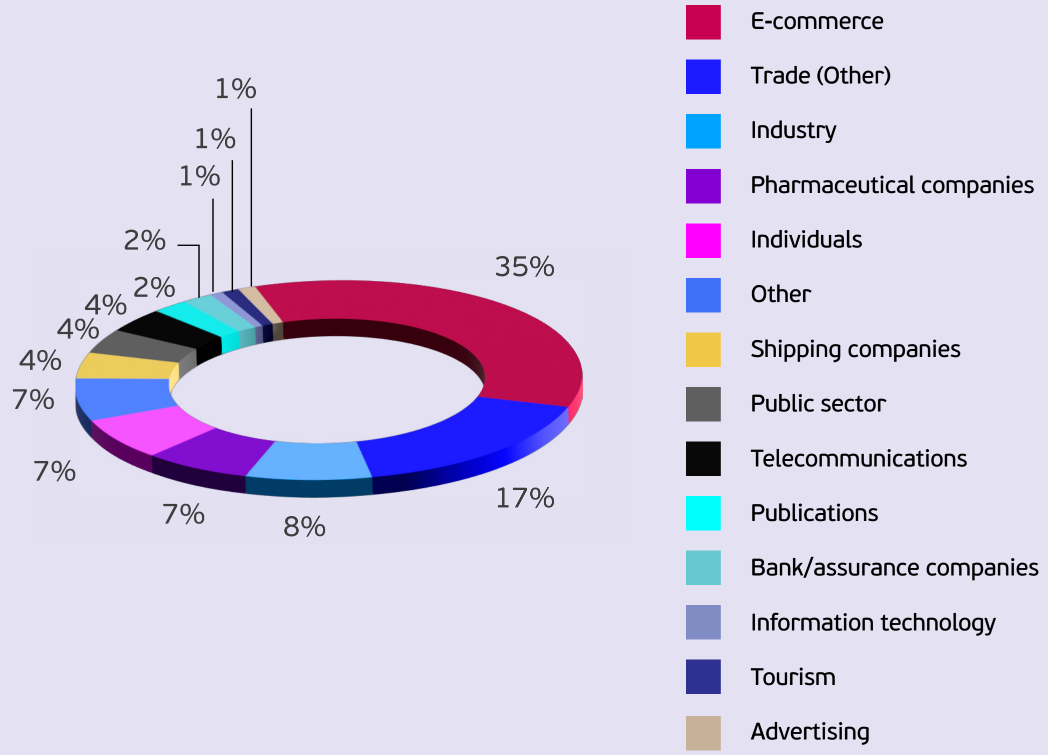


Source: EETT (based on data provided by postal services providers)

The clientele of courier companies consisted mainly of companies and less of individual consumers, as shown in Chart 2.31. In particular, the main business customers came from the e-commerce sector, followed by customers from general trade, industry, the pharmaceutical industry, individuals, etc.

Herfindahl-Hirschman Index (HHI)[41] 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 concentration. Particularly, a HHI index between 1,000 and 1,800 indicates a moderate level of market concentration. In 2021, the HHI index for the courier market was reduced compared to the previous year, ranging in a moderate degree of concentration (Chart 2.32). For the individual sector of letters, the HHI index moved upwards (11.8%) while for the parcel sector it moved downwards (-2.7%).

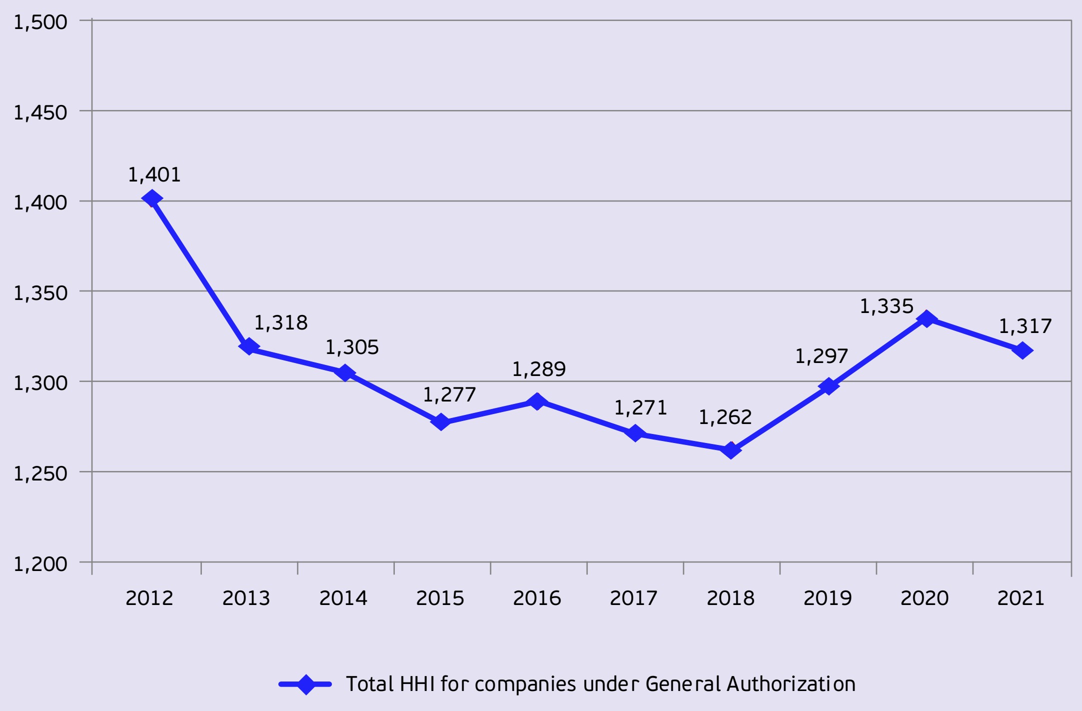
Chart 2.31: Breakdown of revenues by courier companies' clientele, 2021



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

41. 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.

Chart 2.32: Herfindahl-Hirschman Index of companies under General Authorization



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

Index of Charts & Tables

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