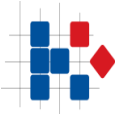


Croatian quarterly electronic communications market data for 2. quarter 2024.

Published: 18.9.2024

Data presented in this Summary of the quarterly electronic communications market indicators is based on statistical data HAKOM collects from all authorized operators quarterly. In certain cases, HAKOM cannot observe irregularities in reports/data until several consequent periods are compared. As a result, HAKOM emphasizes that minor discrepancies from actual data are possible. Also, the values of individual indicators in this report may deviate from the previously published values due to corrections and/or subsequently submitted reports by individual operators. HAKOM does not assume responsibility for the quality of data reports delivered by the operators.



Summary: Quarterly Key Data Report Q2 2024

In the first half of 2024, compared to the same period last year, there is an increase in investments in fixed assets in both the fixed and the mobile network. As expected, the highest increase was in VHCN networks investments, in which over 50 million euros were invested in the first half of 2024.

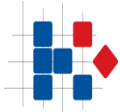
In the first half of 2024, total revenues from services on the electronic communications market amounted to EUR 879,841,153, which is an increase of 7.55 percent compared to the same period last year. Revenues from services via mobile networks are higher by 8.42 percent, and revenues from services via fixed networks by 5.99 percent.

During the second quarter of 2024, there was an increase in the total number of connections and pay television revenues compared to the same quarter last year. The biggest percentage growth was in connections via own OTT service (81.03 percent) and related revenues (113.44 percent). The structure of pay TV connections in terms of technology remains similar to earlier periods, with the largest share being connections via IPTV technology (53.02 percent). The other shares are nearly unchanged - connections via cable television (14.49 percent), satellite television (13.27 percent), terrestrial pay television (10.01 percent), and own OTT services (9.22 percent).

In the second quarter of 2024, users continued to migrate to fibre technology, resulting in an annual increase of 81,230 fibre broadband lines and a decrease of 50,482 copper broadband lines.

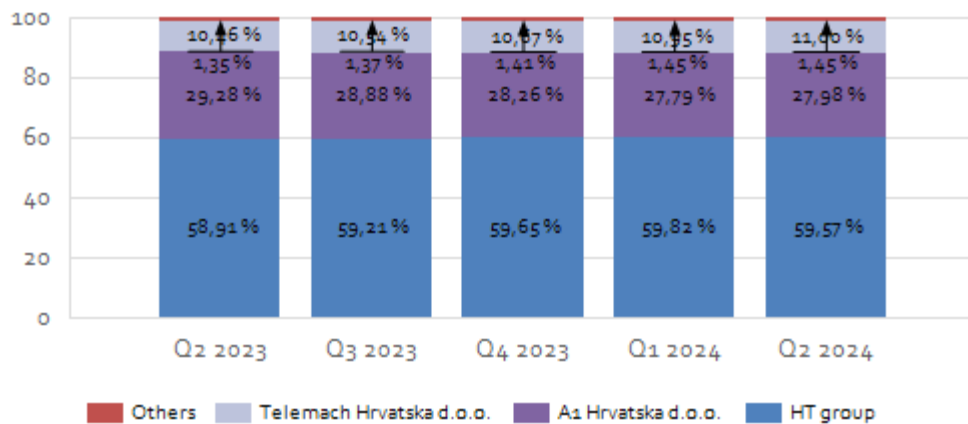
The share of VHCN broadband lines in the total number of broadband lines in the fixed network is 41.89 percent. Additionally, the proportion of broadband lines with speeds exceeding 100 megabit per second increased to 43.66 percent.

The duration of roaming calls by foreigners in national networks increased by almost 10 percent in the second quarter of 2024 compared to Q2 of last year.

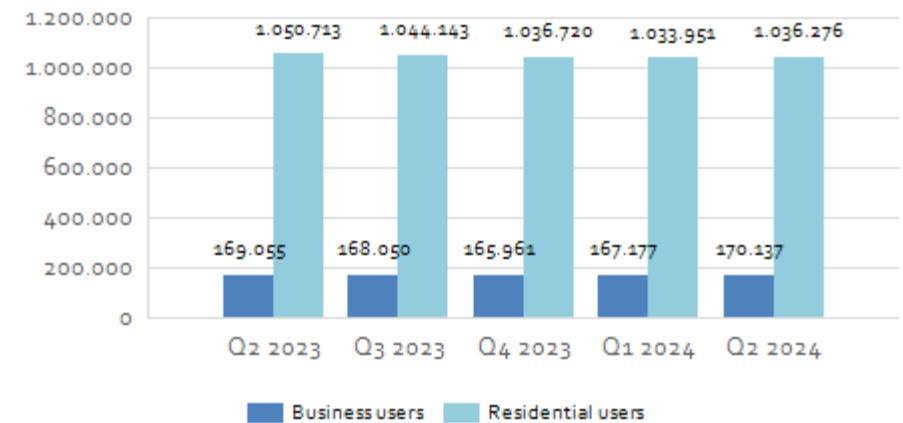


Fixed telephony services	Q2 2024	% Change Q2 2024 - Q1 2024	% Change Q2 2024 - Q2 2023
Total fixed telephony services revenue	30.383.649,86€	3,32 %	-1,85 %
Retail revenue	28.153.134,41€	2,29 %	-2,09 %
Wholesale revenue	2.230.515,45€	18,41 %	1,28 %
Total number of fixed lines*	1.206.413	0,44 %	-1,09 %
Number of subscribers	1.107.487	-0,21 %	-1,95 %
Fixed originating voice minutes (min)**	225.512.894	-9,90 %	-17,50 %

Fixed telephony service operator's market shares by number of lines

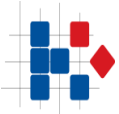


Fixed telephony lines



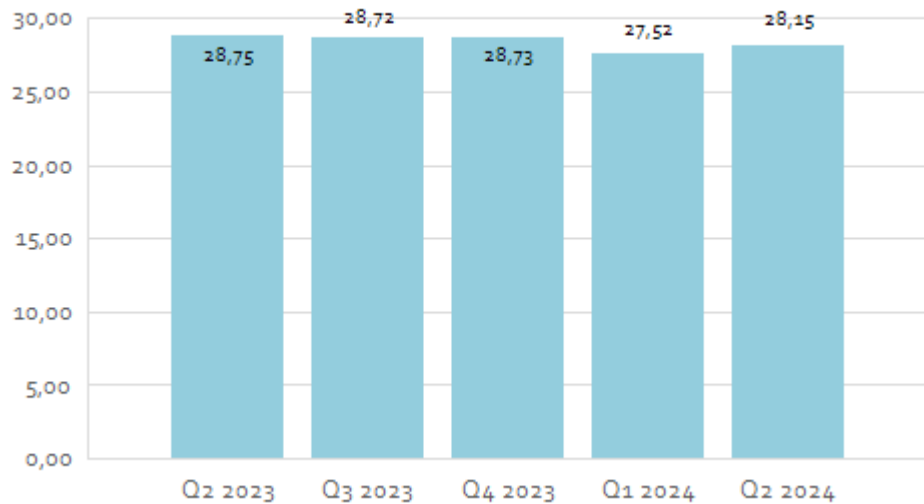
*CPS (carrier pre-selection) subscribers are included

**Includes all types of calls (local, national, international calls, calls to mobile networks and calls to VAS numbers)

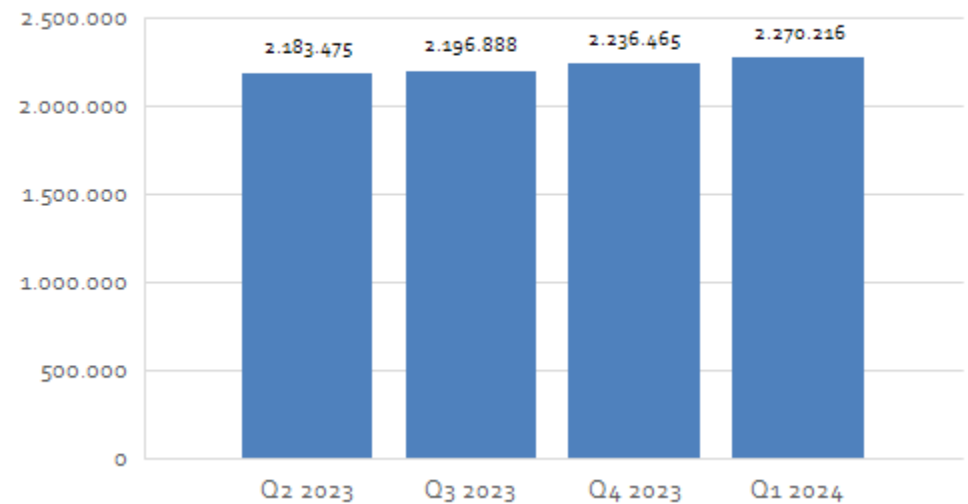


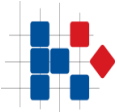
Fixed telephony services - bundles	Q2 2024	% Change Q2 2024 - Q1 2024	% Change Q2 2024 - Q2 2023
Stand-alone – fixed voice telephony subscribers	164.973	2,31 %	-7,59 %
Number of bundled services subscribers – 2D	252.517	1,93 %	4,24 %
Number of bundled services subscribers – 3D	364.368	0,74 %	0,08 %
Number of bundled services subscribers – 4D	252.651	1,58 %	3,43 %

Fixed telephony service retail revenue (millions EUR)



Fixed telephony ported numbers





Mobile telephony services	Q2 2024	% Change Q2 2024 - Q1 2024	% Change Q2 2024 - Q2 2023
Total mobile telephony services revenues	140.580.934,18€	2,77 %	8,42 %
Retail revenue	126.094.403,69€	1,54 %	11,52 %
<u>Retail revenue - Residential</u>	90.783.377,21€	1,49 %	9,51 %
<i>Prepaid subscribers</i>	20.732.736,22€	2,84 %	-3,65 %
<i>Postpaid subscribers</i>	70.050.640,99€	1,10 %	14,13 %
<u>Retail revenue - Business</u>	35.311.026,47€	1,66 %	17,03 %
Wholesale revenue	14.486.530,49€	14,89 %	-12,70 %
Total number of active subscribers (3G, 4G, 5G)*	4.702.074	3,25 %	3,06 %
Residential	3.848.695	3,65 %	2,66 %
<i>Prepaid subscribers</i>	1.560.257	6,54 %	-3,00 %
<i>Postpaid subscribers</i>	2.288.438	1,77 %	6,90 %
Business	853.379	1,50 %	4,94 %
Mobile penetration**	121,44 %	3,25 %	3,06 %
Mobile originating voice minutes (min)***	2.746.535.238	2,46 %	0,19 %
International roaming traffic - own subscribers (min)	124.204.471	-3,12 %	-9,76 %
International roaming traffic - foreign subscribers (min)	234.298.830	175,27 %	9,83 %
Total SMS sent	205.164.526	-0,18 %	-11,04 %
Total MMS sent	1.390.273	10,96 %	-8,83 %

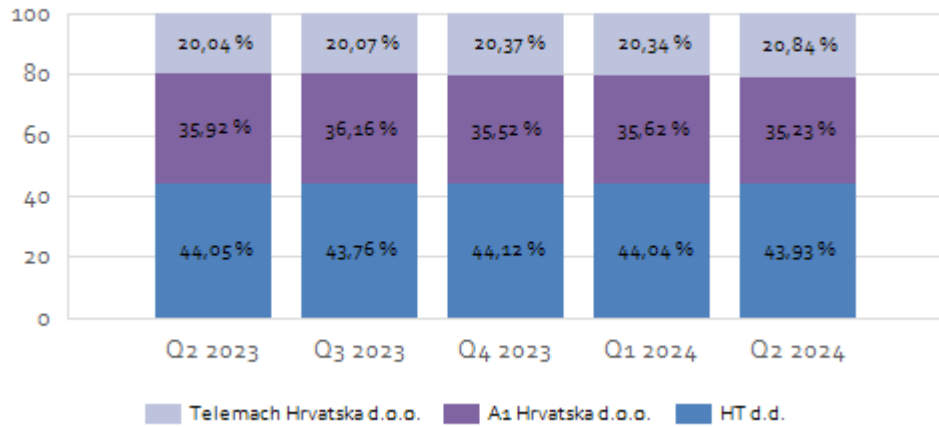
*Definition of active pre-paid subscriber: Subscriber who has used a mobile service or refilled the account in the last 90 days

**Mobile penetration has been calculated according to the last census of population from 2021

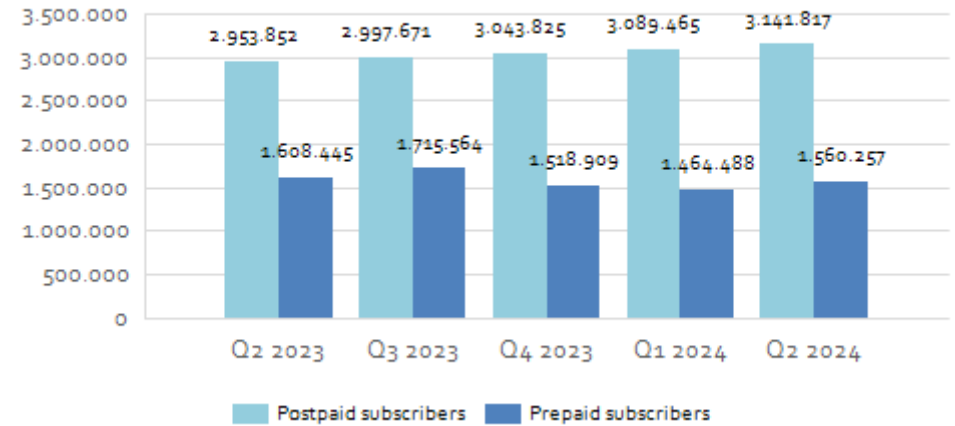
***Includes all types of calls (local, national, international calls, calls to mobile networks and calls to VAS numbers)



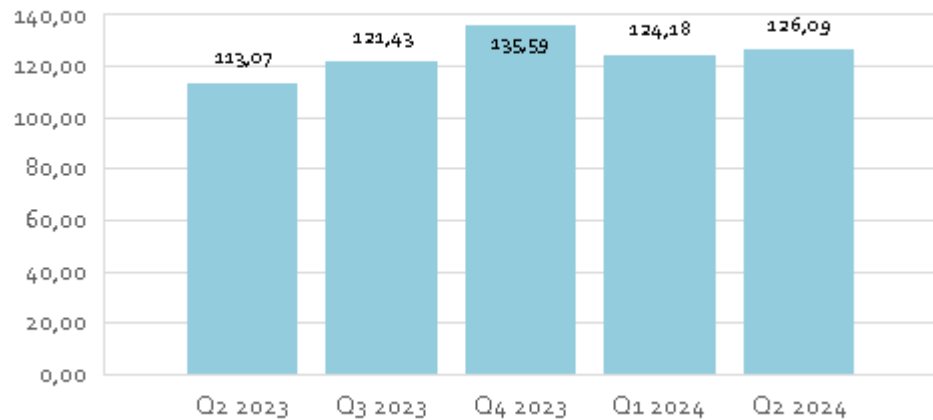
Mobile telephony operator's market shares by number of subscribers



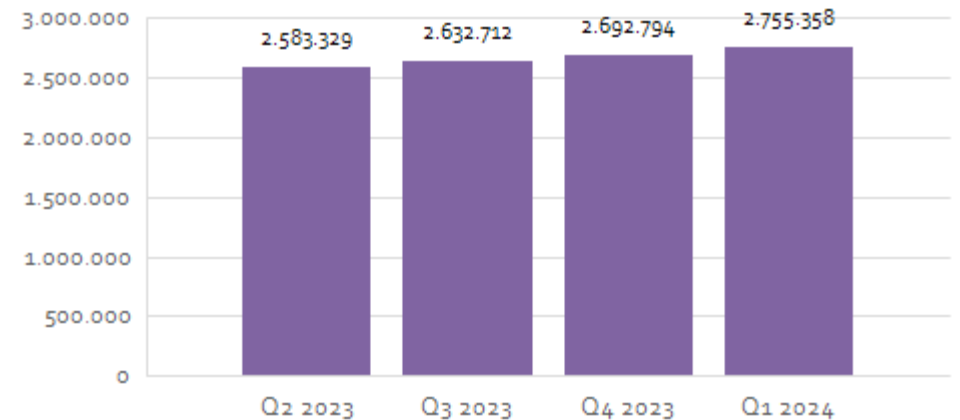
Mobile telephony service number of subscribers by quarter

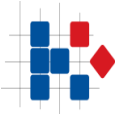


Mobile telephony service retail revenue (millions EUR)



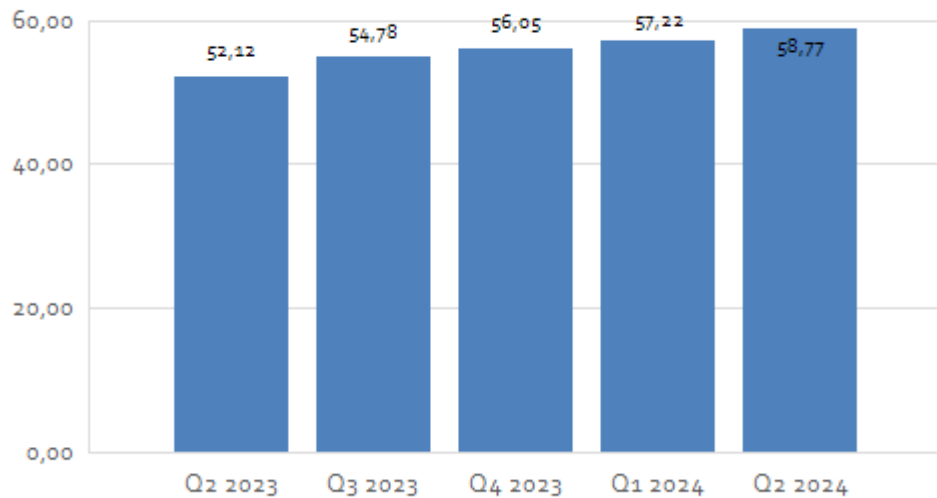
Mobile telephony ported numbers



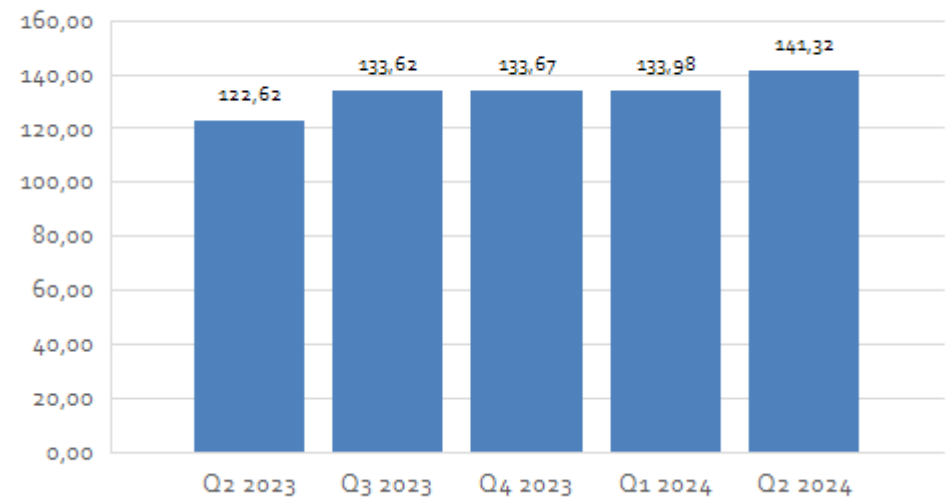


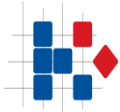
Internet access service (retail level) - revenues and total subscriptions	Q2 2024	% Change Q2 2024 - Q1 2024	% Change Q2 2024 - Q2 2023
Total broadband Internet access services revenues	200.421.953,50€	4,69 %	14,62 %
Fixed broadband Internet access service revenue	58.766.102,84€	2,70 %	12,75 %
Mobile broadband Internet access service revenue	141.315.767,64€	5,48 %	15,25 %
Satellite access revenue	340.083,02€	39,86 %	183,39 %
Total number of broadband subscriptions (lines)	6.803.928	3,33 %	4,07 %

Fixed broadband Internet access service retail revenues (millions EUR)



Mobile broadband Internet access service retail revenues (millions EUR)

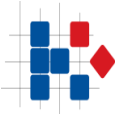




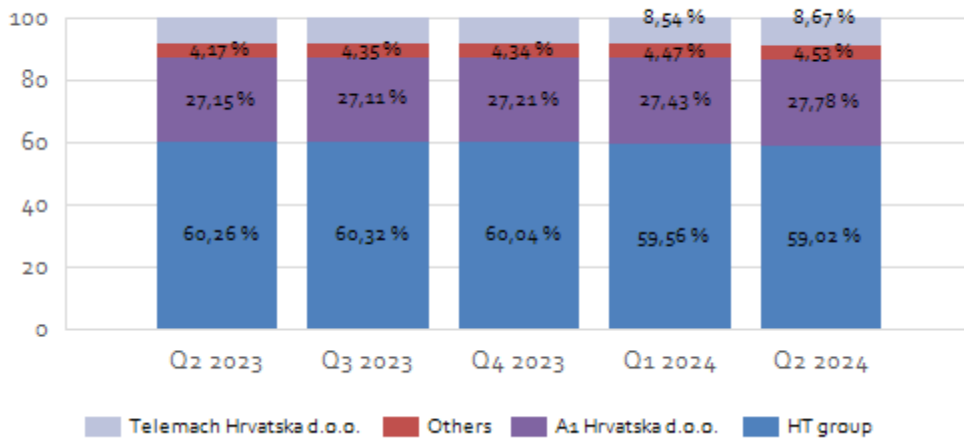
Internet access services (retail level) - fixed broadband network	Q2 2024	% Change Q2 2024 - Q1 2024	% Change Q2 2024 - Q2 2023
Fixed broadband Internet access service subscriptions (lines)*	1.136.947	1,43 %	4,01 %
<u>Copper access network</u>	597.326	-3,50 %	-7,79 %
<i>Access over own copper access network</i>	472.803	-3,91 %	7,63 %
<i>xDSL based broadband using full local-loop unbundling</i>	36.595	-8,58 %	-17,27 %
<i>xDSL based broadband using shared access</i>	11	450,00 %	450,00 %
<i>Bitstream access over copper access network (xDSL)</i>	87.917	1,16 %	-46,48 %
<u>Fiber optic access network</u>	305.231	7,81 %	35,64 %
<i>Accesses over own fiber access network</i>	264.485	6,29 %	49,48 %
<i>Fiber unbundling access</i>	19.353	10,65 %	31,22 %
<i>Bitstream access over fiber optic access network</i>	21.393	27,51 %	-35,85 %
<u>Cable access network</u>	171.725	-0,23 %	-2,61 %
<u>Fixed wireless access (FWA)</u>	51.608	40,64 %	45,37 %
<u>Satellite access</u>	2.908	39,74 %	123,86 %
<u>High Quality Access</u>	8.149	2,92 %	13,91 %
<u>Fixed broadband traffic (TB)</u>	1.207.929	21,99 %	70,72 %

*Broadband access service at fixed location via mobile network is not included - it is included in the mobile broadband table.

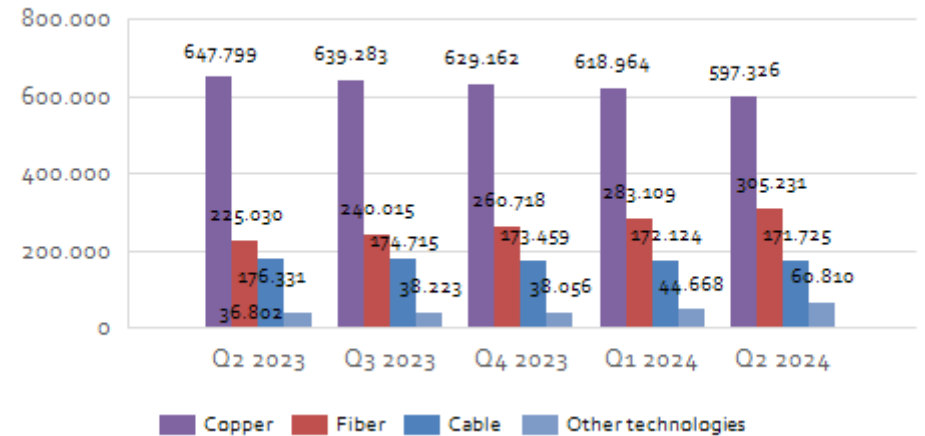
Internet access services (retail level) - bundles	Q2 2024	% Change Q2 2024 - Q1 2024	% Change Q2 2024 - Q2 2023
Number of standalone internet access service subscribers	4.727.682	4,22 %	4,01 %
Number of bundled services subscribers – 2D	405.385	2,64 %	4,42 %
Number of bundled services subscribers – 3D	422.492	0,86 %	0,78 %
Number of bundled services subscribers – 4D	252.651	1,58 %	3,43 %



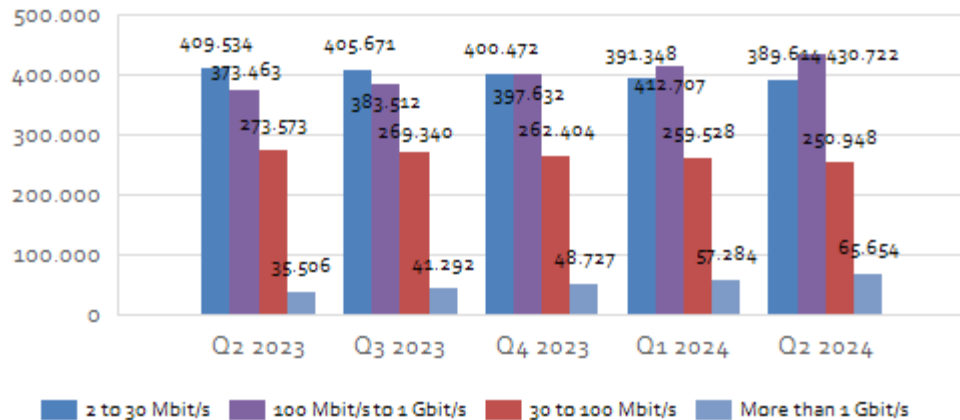
Fixed broadband Internet access service operator's market shares by number of lines



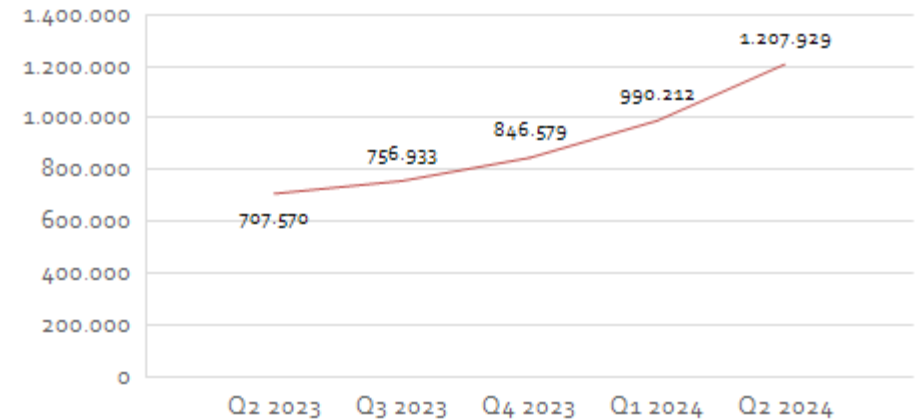
Fixed broadband Internet access service by technologies



Fixed broadband Internet access service by download speeds



Total fixed broadband data traffic (TB)



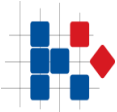


CROATIAN QUARTERLY ELECTRONIC COMMUNICATIONS MARKET DATA

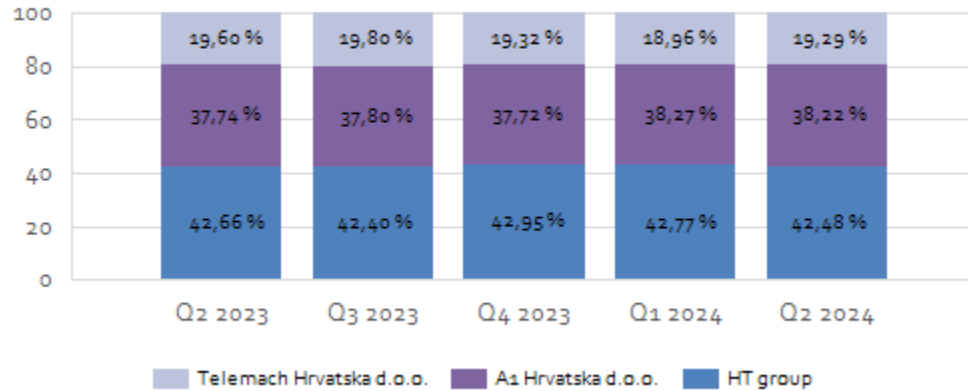
2. Quarter 2024.

Internet access services (retail level) - mobile broadband network	Q2 2024	% Change Q2 2024 - Q1 2024	% Change Q2 2024 - Q2 2023
Mobile broadband Internet access service subscriptions (3G, 4G, 5G etc)*	5.666.981	3,72 %	4,08 %
<u>Residential (3G and 4G)</u>	3.218.824	3,43 %	-11,23 %
<i>Dedicated data subscriptions (cards/modems/keys etc.)</i>	183.625	19,28 %	8,08 %
<i>Mobile phones*</i>	2.844.739	2,67 %	-12,23 %
<i>M2M</i>	2	0,00 %	-33,33 %
<i>Broadband access at fixed location via mobile network</i>	190.458	1,71 %	-11,28 %
<u>Residential (5G)</u>	1.055.159	7,66 %	100,75 %
<i>Dedicated data subscriptions (cards/modems/keys etc.)</i>	29.247	27,59 %	584,14 %
<i>Mobile phones</i>	1.004.701	6,54 %	95,36 %
<i>M2M</i>	0	#NA	#NA
<i>Broadband access at fixed location via mobile network</i>	21.211	50,38 %	200,23 %
<u>Business (3G and 4G)</u>	1.104.357	0,17 %	-3,96 %
<i>Dedicated data subscriptions (cards/modems/keys etc.)</i>	131.431	0,50 %	-1,42 %
<i>Mobile phones</i>	624.639	0,32 %	-10,56 %
<i>M2M</i>	300.585	0,49 %	13,05 %
<i>Broadband access at fixed location via mobile network</i>	47.702	-4,51 %	-8,81 %
<u>Business (5G)</u>	288.641	7,24 %	100,93 %
<i>Dedicated data subscriptions (cards/modems/keys etc.)</i>	21.022	21,29 %	118,18 %
<i>Mobile phones</i>	228.725	4,89 %	99,24 %
<i>M2M</i>	36.809	15,36 %	105,37 %
<i>Broadband access at fixed location via mobile network</i>	2.085	12,95 %	60,38 %
Mobile broadband traffic (TB)	367.924	3,69 %	21,99 %

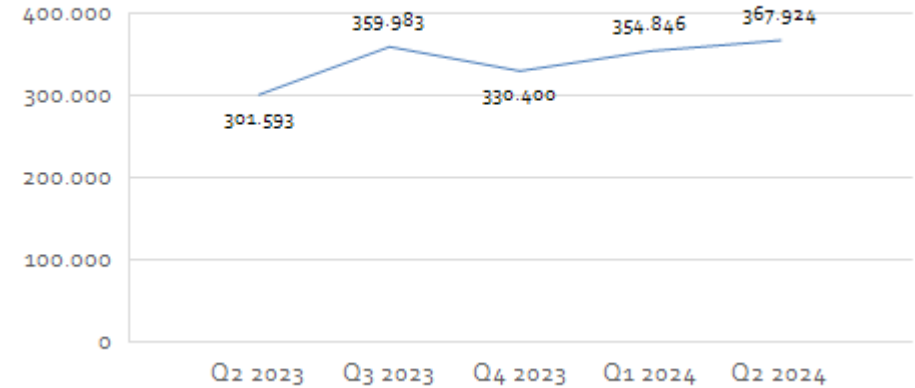
*Number of subscribers which have made an internet mobile connection in the last 90 days through mobile phones



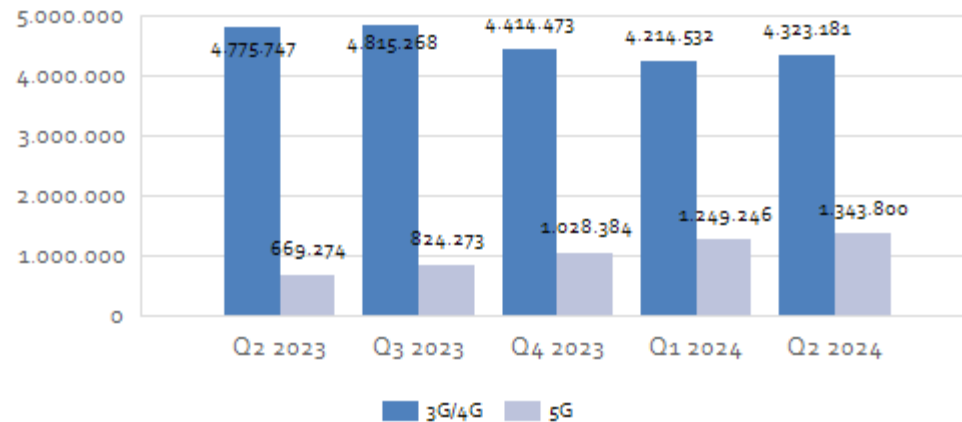
Mobile broadband Internet access service operator's market shares by number of subscriptions



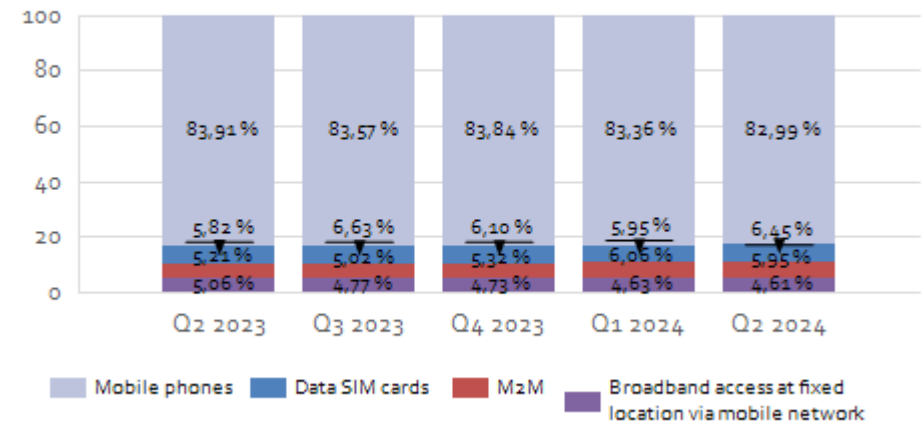
Total mobile broadband data traffic (TB)



Mobile broadband Internet access service subscriptions by technologies



Mobile broadband Internet access service subscriptions by type of access

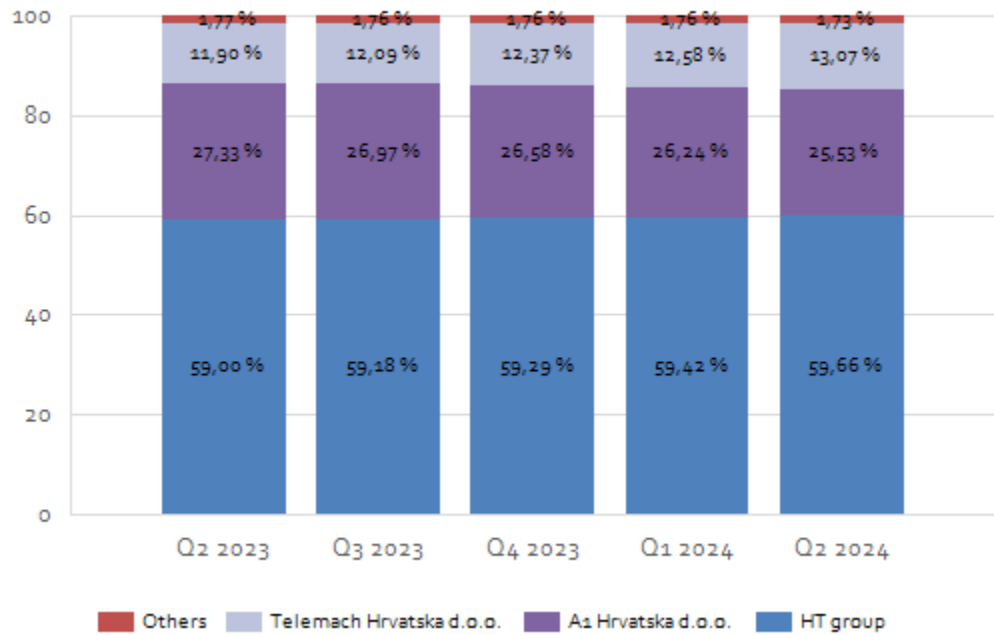




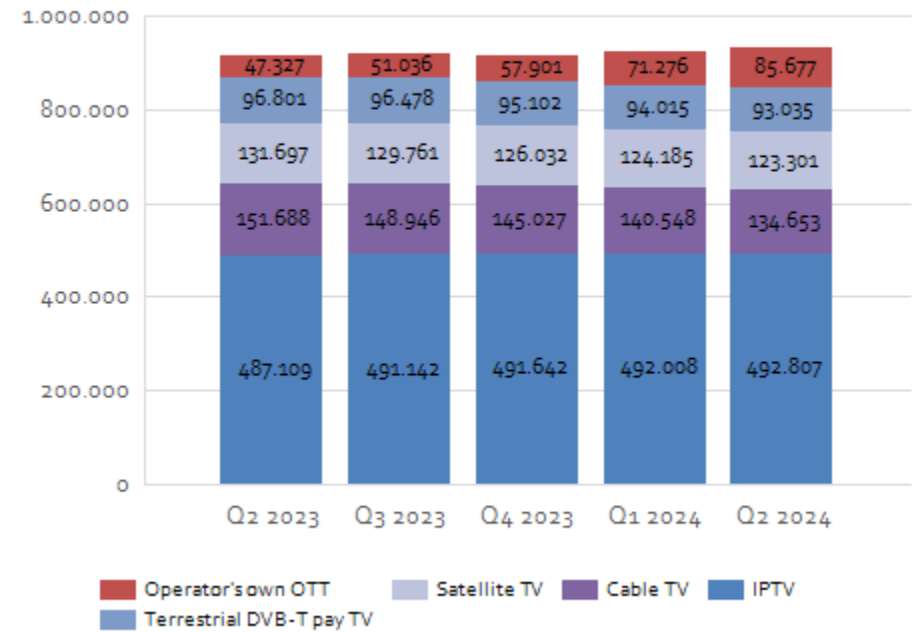
Television services	Q2 2024	% Change Q2 2024 - Q1 2024	% Change Q2 2024 - Q2 2023
Television services revenues	34.458.438,44€	4,65 %	10,05 %
Cable TV revenue	5.480.240,52€	12,78 %	1,12 %
IPTV revenue	20.001.950,60€	2,04 %	10,75 %
Satellite TV revenue	3.981.794,76€	1,71 %	2,58 %
Digital terrestrial TV revenue	3.066.340,51€	0,09 %	0,71 %
Own OTT service revenue	1.928.112,05€	29,57 %	113,44 %
Total number of pay-TV subscriptions (lines)	929.473	0,81 %	1,62 %
Cable reception	134.653	-4,19 %	-11,23 %
<i>Residential</i>	131.118	-4,27 %	-11,38 %
<i>Business</i>	3.535	-1,28 %	-5,20 %
IPTV	492.807	0,16 %	1,17 %
<i>Residential</i>	466.021	0,15 %	1,11 %
<i>Business</i>	26.786	0,30 %	2,31 %
Satellite reception (SAT TV)	123.301	-0,71 %	-6,38 %
<i>Residential</i>	113.423	-1,52 %	-6,60 %
<i>Business</i>	9.878	9,61 %	-3,71 %
Digital terrestrial reception – pay TV	93.035	-1,04 %	-3,89 %
<i>Residential</i>	92.035	-1,08 %	-4,04 %
<i>Business</i>	1.000	2,15 %	12,23 %
Own OTT service	85.677	20,20 %	81,03 %
<i>Residential</i>	76.938	22,61 %	94,84 %
<i>Business</i>	8.739	2,49 %	11,48 %



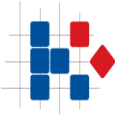
Pay TV operator's market shares by number of subscriptions



Pay TV subscriptions by technologies

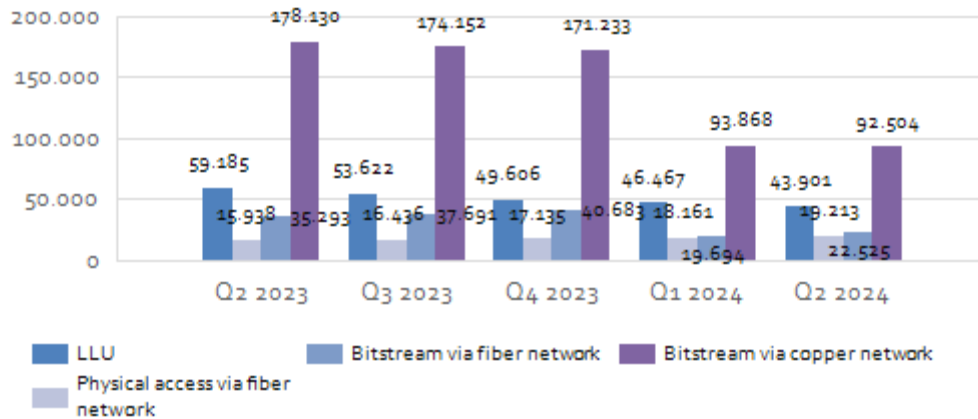


Television services - bundles	Q2 2024	% Change Q2 2024 - Q1 2024	% Change Q2 2024 - Q2 2023
Stand-alone – TV subscribers	264.126	9,77 %	6,78 %
Number of bundled services subscribers – 2D	85.336	0,40 %	-2,23 %
Number of bundled services subscribers – 3D	304.789	1,38 %	2,97 %
Number of bundled services subscribers – 4D	252.651	1,58 %	3,43 %

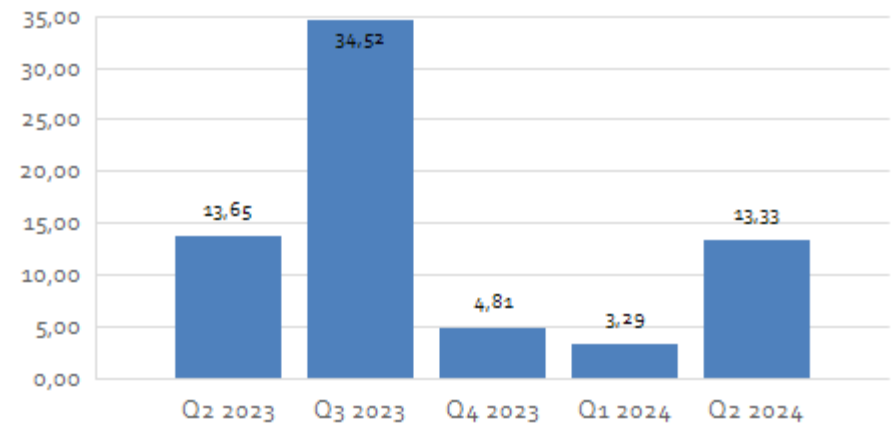


Wholesale broadband access	Q2 2024	% Change Q2 2024 - Q1 2024	% Change Q2 2024 - Q2 2023
Wholesale broadband access services via copper network revenues	3.336.000,01€	2,55%	-41,49 %
Wholesale broadband access services via fiber network revenues	1.234.353,92€	13,46 %	-14,85 %
Data roaming revenues	13.329.821,64€	304,92 %	-2,34 %
Physical wholesale access via copper network(LLU)-number of lines	43.901	-5,52 %	-25,82 %
Bitstream wholesale access via copper network-number of lines	92.504	-1,45 %	-48,07 %
Physical wholesale access via fiber network (unbundled fiber at distribution node) - number of lines	19.213	5,79 %	20,55 %
Bitstream wholesale access via fiber networks - number of lines	22.525	14,37 %	-36,18 %

Wholesale broadband access by type of service



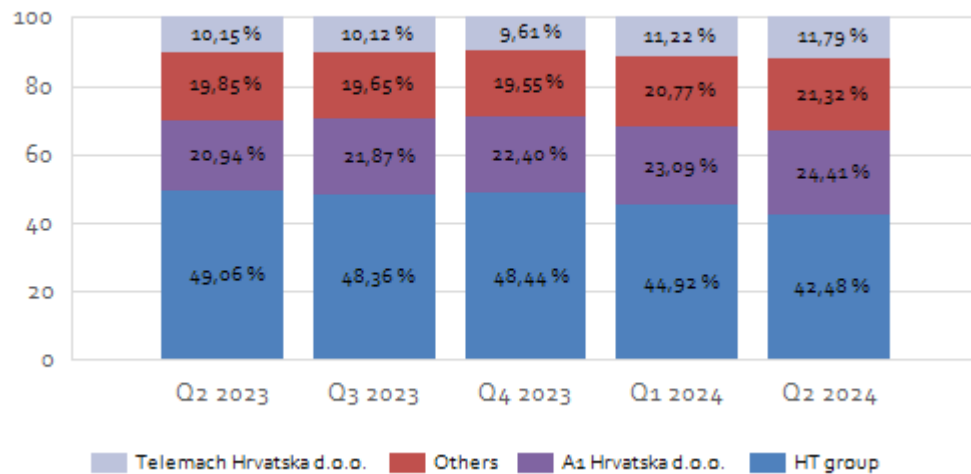
Data roaming revenues (millions EUR)



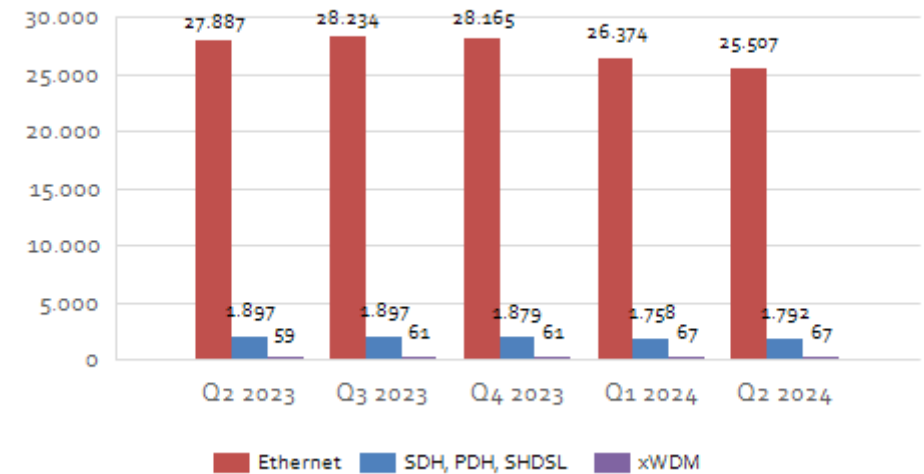


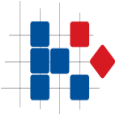
Dedicated capacity services (high-quality access) - retail level	Q2 2024	% Change Q2 2024 - Q1 2024	% Change Q2 2024 - Q2 2023
Traditional digital lines (SDH, PDH, (S)HDSL revenue	788.799,59€	-2,18 %	7,52 %
Ethernet technology services revenue	10.707.146,64€	-4,20 %	-8,16 %
xWDM technology services revenue	372.538,62€	-16,35 %	-16,35 %
"Dark fiber" services revenue	481.264,08€	-1,00 %	4,00 %
Total number of connection points of traditional digital lines (SDH, PDH, (S)HDSL)	1.792	1,93 %	-5,54 %
Total number of Ethernet technology connection points	25.507	-3,29 %	-8,53 %
Total number of xWDM technology connection points	67	0,00 %	13,56 %
Total length of fiber as a part of "dark fiber" service (km)	6.113	-0,83 %	31,18 %

Dedicated capacity market operator's shares by number of connection points



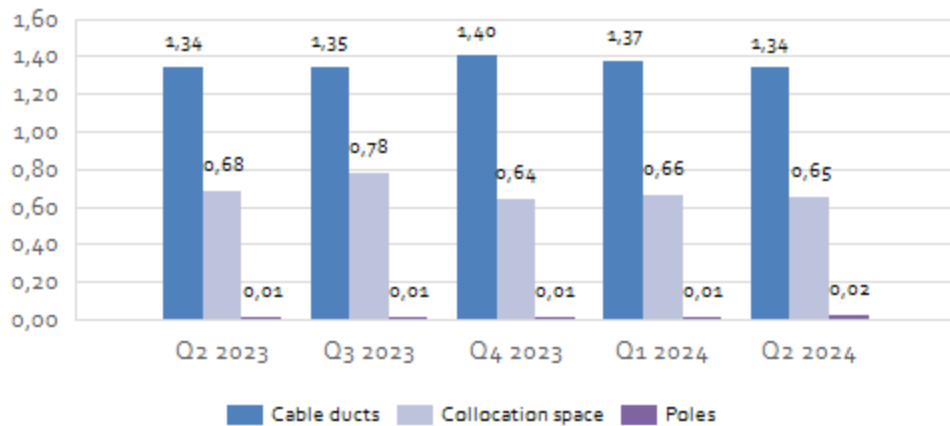
Dedicated capacity market connection points by technologies





Shared use of electronic communications infrastructure	Q2 2024	% Change Q2 2024 - Q1 2024	% Change Q2 2024 - Q2 2023
Cable duct system shared use revenue	1.336.353,54€	-2,57 %	-0,11 %
Poles for installation of aerial network cables rental revenue	17.468,22€	41,44 %	79,65 %
Colocation spaces rental revenue	652.404,35€	-1,09 %	-4,52 %
Total length of shared use cable duct systems (km)	19.633	2,59 %	1,02 %
<i>Pipes length, 63-110 mm diameter (km)</i>	0	#NA	#NA
<i>Pipes length, 50 mm diameter (km)</i>	0	#NA	#NA
<i>Pipes length, 20-40 mm diameter (km)</i>	6.185	0,06 %	-7,82 %
<i>Pipes length, 3-16 mm diameter (km)</i>	13.448	3,80 %	5,69 %
Total number of rented poles for the installation of aerial network cables	3.992	8,74 %	39,43 %

Shared use of electronic communications infrastructure revenues (millions EUR)



Total length of shared cable ducts (km)

