BEREC
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Europe's Telecom Reality Check

Draft BEREC Fact finding report on connectivity, competition and regulatory highlights in different jurisdictions

12 March 2026

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1. Introduction

In this report, BEREC provides its view of where the EU stands in terms of connectivity, network quality, performance and pricing, compared to other jurisdictions. This fact-finding report is meant to provide an objective representation of several elements of the competitive context of telecommunications in Europe. It covers aspects such as the deployment of fixed and mobile fast broadband networks, services' supply, financial performance of telecom operators, as well as regulatory approaches.

Regarding the jurisdictions, BEREC has researched, analyzed and compared data from several countries – USA, Canada, Australia, China, South Korea, Japan, and the UK – with the EU-27. In certain instances specific EU Member States are also reported to provide nuance where their variance merits attention. The choice of countries was motivated by several factors including their importance in the overall geopolitical context (global positioning), the strength of the concerned economies (constituting an important share of the world's GDP[1]), as well as data availability and comparability. Despite the notable difficulties in finding comparable data for the different jurisdictions, due to diverse reporting standards, political and economic focus (e.g. connectivity targets, type of networks, technology choice, etc. not necessarily align), varying levels of transparency as regards publishing metrics, to mention a few. Based on the reliability of the results of the research, BEREC always reports on the comparison between the EU (as a whole), the USA and an Asian country[2]. For the avoidance of doubt, BEREC has sought as consistent and comparable data as possible throughout the report. Noting as well that it may not be an exact comparison in all cases, BEREC presents in this report what is deemed the most appropriate following verification.

BEREC's analysis primarily focuses on the most up to date data and generally provides trends from 2019 to 2024. Sources include EC/DESI, EU 5G Observatory, FTTH Council, FCC, ITU, OECD, Ookla, NRAs and rating-agencies' reporting[3]. Section 2 provides comparisons for 6 coverage and penetration indicators, for both fixed and mobile networks. In section 3 BEREC presents 12 indicators relating to broadband pricing and the quality of services provision, while section 4 covers the 'digital divide' by illustrating 2 indicators related to the urban-rural gap, one for fixed networks and the other for mobile. Section 5 explains access regulation using a comparative approach to the regulatory frameworks. Section 6 addresses the topic of consolidation and its impact for the sector, using examples complemented by findings from the empirical literature on the effect of mergers in telecoms. Section 7 reviews financial indicators from various sources, and finally section 8 presents BEREC's conclusions.

[1] *Amounting to approximately 73% as of 2024, based on IMF data.*

[2] *A note on China: while the performances of Chinese networks/operators are achieved in a completely different environment than in the EU or the USA (as detailed further in section 5), comparisons with China are worth including for the reader to have a* full understanding of the international benchmarks of the sector.

[3] *While there are other valuable sources of information (only accessible via subscription), BEREC has primarily relied on publicly available / open sources of data.*

2. Coverage of broadband networks and services penetration

This section compares fixed and mobile broadband networks, penetration rates and usage across selected jurisdictions, using data drawn from multiple sources. Where appliable, data has been cross-checked to ensure reliability. It is worth noting that EU member states (MS) are currently following the convergence path towards the 2030 Digital Decade Policy Programme (DDPP) targets[4]. In terms of fixed broadband, the objective is to attain Gigabit connectivity for all end users. For mobile broadband, the aim is to obtain coverage of high-speed networks (at least equivalent to 5G) everywhere. Overall, the EU broadband networks show strong growth in 5G and fibre coverage as well as Gigabit-speed adoption and mobile data usage -near or better than global peers-, while fibre take-up varies widely across countries.

2.1. Fixed broadband networks and services

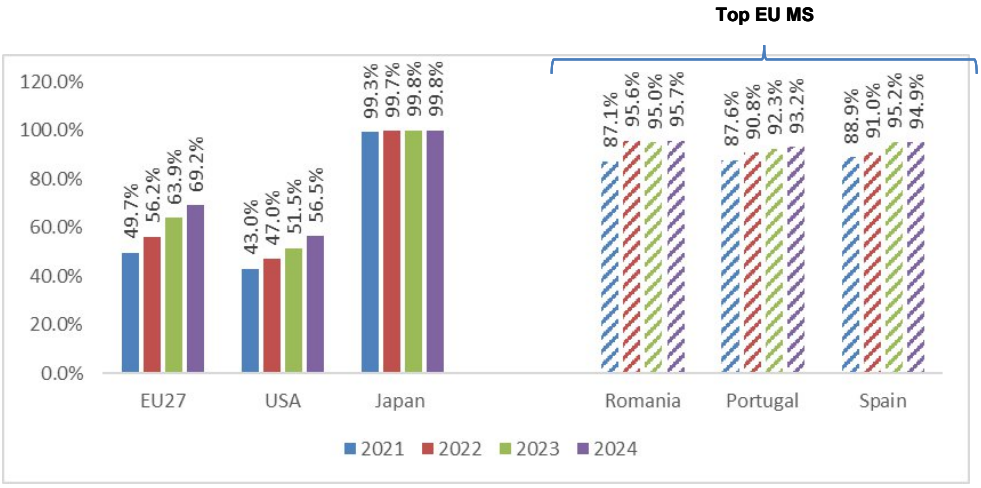
While Gigabit speeds can be provided through other technologies/infrastructures than fibre (such as DOCSIS 3.1 and subsequent evolutions of cable technology), BEREC has chosen to base its comparisons on metrics related to fibre-to-the-premise (FTTP) deployments. This option was based mainly on (i) the availability and comparability of public information across jurisdictions and (ii) the central role that fibre plays in the context of copper switch-off[5].

2.1.1. FTTP Coverage[6]

FTTP coverage[7] data is reported in terms of households passed[8].
The figure below shows that the proportion of EU households passed with fibre has increased from a 49.7% coverage rate in 2021 to 69.2% in 2024. While this lags behind the 2024 Japanese coverage rate of 99.8%[9], the EU is ahead of the USA, where, as of 2024, only 56.5% of all US households were passed with fibre.
Japan has held a very high FTTP coverage for over a decade, particularly driven by early government push to achieve nationwide reach. As for the EU, there are several reasons why the average coverage rate lags. These include differences between MS and regional deviations within them, historic network topologies and technologies - for example, the ongoing use of copper to support commercial offerings in some MS, and high costs associated with fibre deployment (especially civil engineering works), which vary between countries. Nevertheless, for the fixed segment, the three best-performing EU countries reached coverage levels comparable to Japan, in the range of 93% - 96% of FTTP coverage.

[4] *https://digital-strategy.ec.europa.eu/en/policies/digital-decade-policy-programme*
[5] *DOCSIS 3.1. and above can also deliver Gigabit speeds, but this technology is currently not as widespread, at least in the EU-27. G.fast on copper could also be considered, but copper is disregarded in this report as copper networks are expected to be switched-off in Europe.*
[6] *Calculated as the ratio of FTTP covered households over the total number of households in the jurisdiction (i.e. business units are excluded).*
[7] *The indicator was readily available for the relevant timeframe and considered jurisdictions, except for the 2022 data in the USA. Therefore, BEREC has made its own computations, based on the publicly available data, so as to assure the comparability across the jurisdictions presented. Furthermore, the EU DESI reports FTTP coverage as a percentage of households with FTTH or FTTB access, whereas US counts refer to FTTH, i.e. excluding FTTB hybrids.*
[8] *The households passed encompass the actually connected households, as well as the households for which the connection is not yet installed but could be, upon request.*
[9] *Figures for Japan 2024 are estimates, based on the Telecommunications Bureau's forecasts that national household coverage rate for fibre optic will reach 99.9% by the end of FY 2027: https://www.soumu.go.jp/english/tb/index.html*

Figure 1 – Evolution of FTTP coverage in the EU27, USA, Japan, Romania, Spain and Portugal, in the period 2021 – 2024



Source: DESI[10], FCC and other sources[11], Japan's Ministry of Internal Affairs and Communication[12]

2.1.2. FTTP Penetration[13]

FTTP penetration goes beyond access (i.e. the availability of infrastructure from a supply-side), referring to the actual usage of fibre broadband. As such, while it is dependent on the availability of fibre in a given jurisdiction, it measures the degree to which the services have been taken up. Therefore, even with high FTTP coverage, FTTP penetration depends on demand-side factors, such as affordability, competition and perceived households' need for the very high-speed connections.

Latest reports by the FTTH Council show that, as of 2024, Portugal was among the top 10 countries with the highest fibre penetration rate in the world, followed by Spain, Romania, France and Sweden in 12th, 14th, 15th and 17th place respectively. These EU MS exceed Japan's 71.1% penetration rate, which ranks 18th globally. As of 2024, the USA ranked 57th globally, at 28.7%. Overall, the EU-27's penetration rate stood at 39.9%[14], below Japan but above the USA.

When assessing the take-up indicator, demand-side factors need to be considered alongside supply-side and structural conditions. From an EU perspective, BEREC notes that in some lagging MS the uptake of FTTP remains limited not only because lower-quality fixed broadband services may be perceived as sufficient for mass-market uses, but also due to factors such as price differentials, availability constraints, legacy network persistence, and limited competitive pressure to migrate users to fibre-based services. In this context, the willingness to pay for higher performance cannot be analysed in isolation from market

[10] *DESI indicators, Data for 2021, 2022, 2023, 2024 and 2025: https://digital-decade-desi.digital-strategy.ec.europa.eu/datasets/desi/charts/desi-indicators?*

[11] *USA data has been gathered from a number of sources: 2021 [FBA report: 43% of U.S. households now have access to fiber | Fierce Network],2023 [Fiber Broadband Association Reports North America Hit Highest Annual FTTH Growth Record - Fiber Broadband Association] and 2024 [U.S. Home Fiber Deployments Top 88M homes passed - Fiber Broadband Association], corroborated with FCC's Communications Marketplace Reports, 2020, 2022, 2024: https://www.fcc.gov/reports-research/reports/consolidated-communications-marketplace-reports-released*

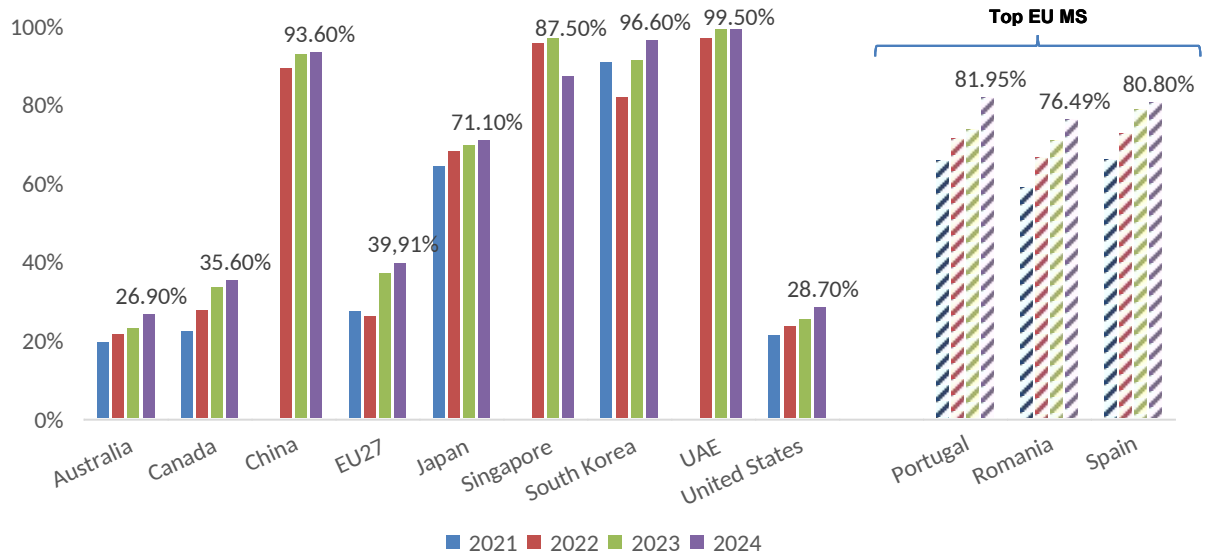
[12] *Broadband Service Coverage Rate Survey, 2020, 2021, 2022, 2023: https://www.soumu.go.jp/main_sosiki/joho_tsusin/eng/pressrelease/2025/8/22_3.html*

[13] *Calculated as the ratio of households connected to fibre in a FTTP configuration and the total number of households (i.e. Subscriptions / households).*

[14] *FTTH Council publishes data for the EU-39 in its FTTH/B Global Ranking Statistics. Therefore, EU average figures were derived by BEREC's own computation, based on FTTH Council data. For the EU-27 aggregate, total FTTP subscriptions in EU-27 where aggregated and divided by the total EU-27 households.*

conditions and policy settings. While progress has been observed – evident by the reduction in EU countries with FTTP penetration below 20% from ten to six over the past three years – significant disparities remain, due to ongoing structural and market-specific challenges.

Figure 2 – Evolution of FTTP penetration in the period 2021 – 2024, by jurisdiction



Sources: FTTH Council – Market Panorama and Global Ranking Statistics[15]

2.1.3. Subscriptions by speeds

BEREC also considers it relevant to review indicators reflective of the subscriptions to fixed broadband services at advertised download speeds[16]. In that regard, and based on the availability and comparability of data, BEREC chooses to present the time-evolution of connections with speeds higher than or equal to 100 Mbps[17], as well as the most recent data on connections at speeds of at least 1 Gbps at the time of the reporting, i.e. 2024.

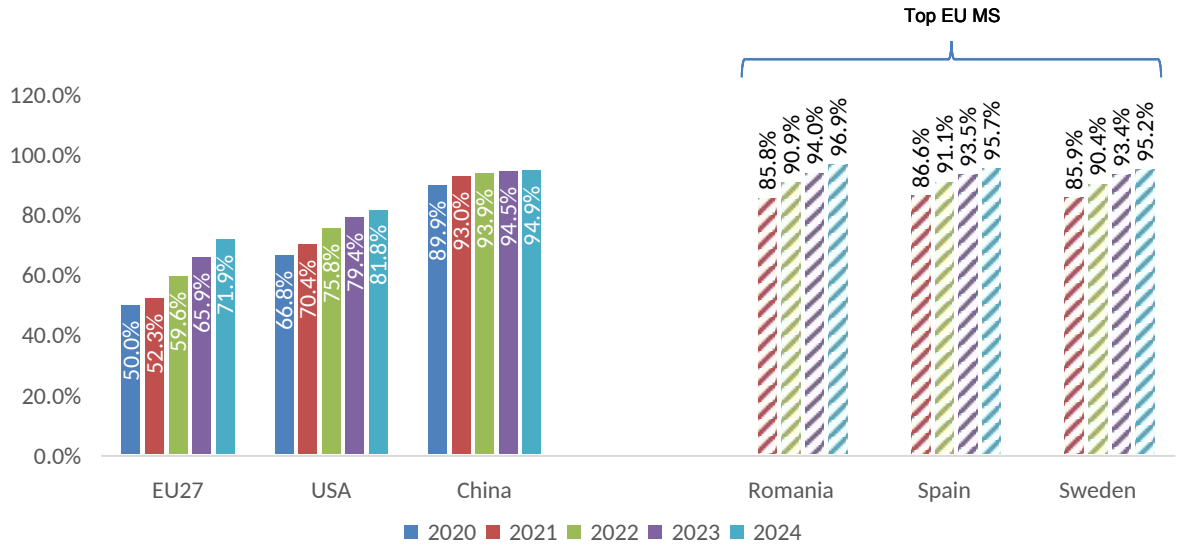
a) Share of subscriptions with speeds equal to or greater than 100 Mbps[18]

Among the three jurisdictions analysed, the average share of subscriptions with speeds of at least 100 Mbps by the EU-27 countries[19] is relatively lower than those reported by the USA and China. Despite the relatively low take-up, coverage is high: 91.1% of all EU-27 households[20] had access to speeds greater than or equal to 100 Mbps. At the same time, it is worth noting that the USA has significant high-capacity network coverage able to support higher speeds in the form of DOCSIS 3.0/3.1, while, in the EU as a whole, cable is not as

[15] *FTTH Council publishes data for the EU-39 in its FTTH/B Market Panorama. The EU average has been calculated as mentioned in the previous footnote.*
[16] *Advertised best-effort speeds.*
[17] *This indicator is not restricted to VHCNs only, as defined in the BEREC Guidelines on Very High Capacity Networks - https://www.berec.europa.eu/en/all-documents/berec/regulatory-best-practices/guidelines/draft-berec-guidelines-on-very-high-capacity-networks - and is reflective of other underlying infrastructures than fibre. It is calculated as the ratio of the number of subscribers at best-effort speeds of at least 100 Mbps and the total number of subscribers in the jurisdiction.*
[18] *Only jurisdictions for which data was publicly available are included. The selection does not imply any judgment or exclusion.*
[19] *The EU-27 average is quoted from the EC's DESI indicators, which calculates the share of subscribers with speeds greater than or equal to 100 Mbps, weighted by the total number of fixed broadband subscribers in each country.*
[20] *Broadband coverage in Europe 2024 - Publications Office of the EU*

widespread. The top EU performers, Romania, Spain and Sweden, all have higher shares than the USA[21] and China.

Figure 3 – Evolution of the share of subscriptions with speeds of at least 100 Mbps in the EU27, USA and China in the period 2020 – 2024



Sources: DESI[22], FCC[23], CNNIC[24]

b) Subscriptions with Gigabit speeds per 100 inhabitants[25]

In terms of very high speeds, the EU demonstrated notable performance in terms of gigabit-speed subscriptions per 100 inhabitants. Specifically, France, Hungary and Denmark led the European market, recording 29.4, 16.5 and 15.5 gigabit-speed subscriptions per 100 inhabitants, respectively.

In comparison to international counterparts, the EU overall surpasses South Korea and Australia in the number of gigabit-speed subscriptions per 100 inhabitants. However, North America edges ahead of the EU average, with USA having 9.17 gigabit subscriptions per 100 inhabitants and Canada leading with 13.02 gigabit subscriptions per 100 inhabitants.

[21] *2024 Data for the US refers to June 2024.*

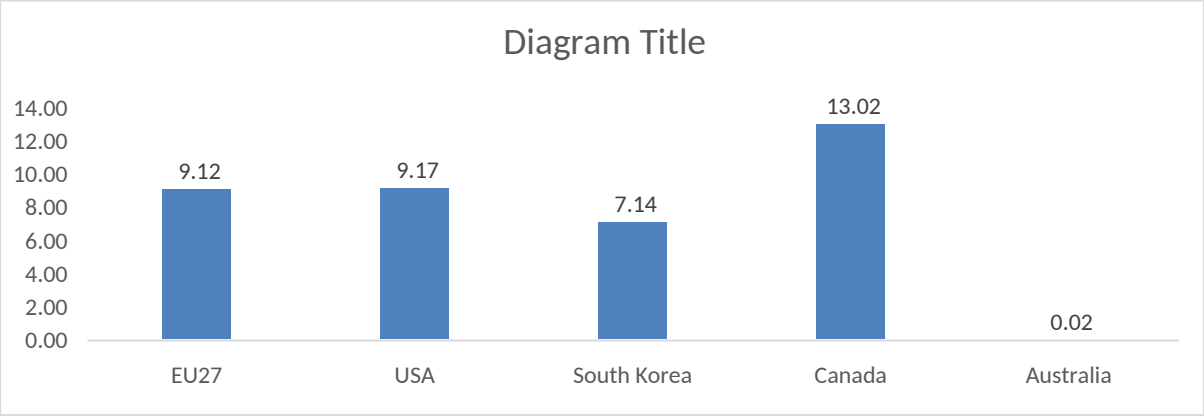
[22] *DESI indicators, Share of fixed broadband subscriptions >= 100 Mbps – Data for 2021, 2022, 2023, 2024 and 2025 (Data for 2020 is not available): https://digital-decade-desi.digital-strategy.ec.europa.eu/datasets/desi/charts/desi-indicators*

[23] *Internet Access Services: https://www.fcc.gov/document/internet-access-services-status-june-30-2024. USA figures refer to fixed broadband subscriptions with speeds equal to or greater than 940 Mbps, rather than 1 Gbps as used for other jurisdictions. Therefore, USA values may be slightly underestimated, compared to other jurisdictions.*

[24] *The 48th, 50th, 52nd and 54th Statistical Report on China's internet Development: https://www.cnnic.com.cn/IDR/ReportDownloads/*

[25] *Computed as the number of subscriptions*100 and divided by the total population in the jurisdiction. Only jurisdictions for which data was publicly available are included. The selection does not imply any judgment or exclusion.*

Figure 4 – Subscriptions with Gigabit speeds per 100 inhabitants, 2024



Sources: OECD[26], DESI[27]

2.2. Mobile broadband networks and services

Presenting an appropriate comparison of the extent to which mobile broadband networks[28] are used in the different jurisdictions proved a difficult task to achieve. Despite the difficulties encountered, BEREC presents below a picture of the evolution of 5G coverage in various jurisdictions, as well as a measure of the usage of mobile broadband networks for data traffic. Additionally, BEREC also considered 5G subscription metrics, as well as other measures for usage. Nevertheless, several aspects contributed to an overall lack of comparability in some cases, such as (i) unclear methodological notes and definitions of certain indicators[29] or (ii) a lack of reporting coherence among countries[30].

2.2.1. 5G coverage

Europe's DDPP[31] targets that "*all populated areas are covered by next-generation wireless high-speed networks with performance at least equivalent to that of 5G*". This target is not defined by reference to the 5G standalone networks but rather covers the services provided over a mobile network with a certain performance threshold. In what follows, BEREC compares 5G overall coverage, including standalone and non-standalone, for the jurisdictions of choice.

The graph below presents a comparison of 5G coverage, for any 5G network, irrespective of the specific subtypes. For the EU, the figures below refer to 5G coverage in terms of households, while for the other jurisdictions the coverage is considered with reference to the population. For comparative purposes, population coverage is approximated by household coverage at the area level ("Population coverage (in percentage terms) in a given area is

[26] *Subscriptions with speeds higher or equal to 1 Gbps, per 100 inhabitants (2024): https://www.oecd.org/en/topics/broadband-statistics.html*

[27] *DESI indicators, Share of fixed broadband subscriptions >= 1 Gbps, Data for 2024; https://digital-decade-desi.digital-strategy.ec.europa.eu/datasets/desi/charts*

[28] *Mobile broadband networks include mobile radio access networks operating in MFCN frequency bands. Basically, 4G and 5G networks are included here by the relevant organisations (ITU, EU).*

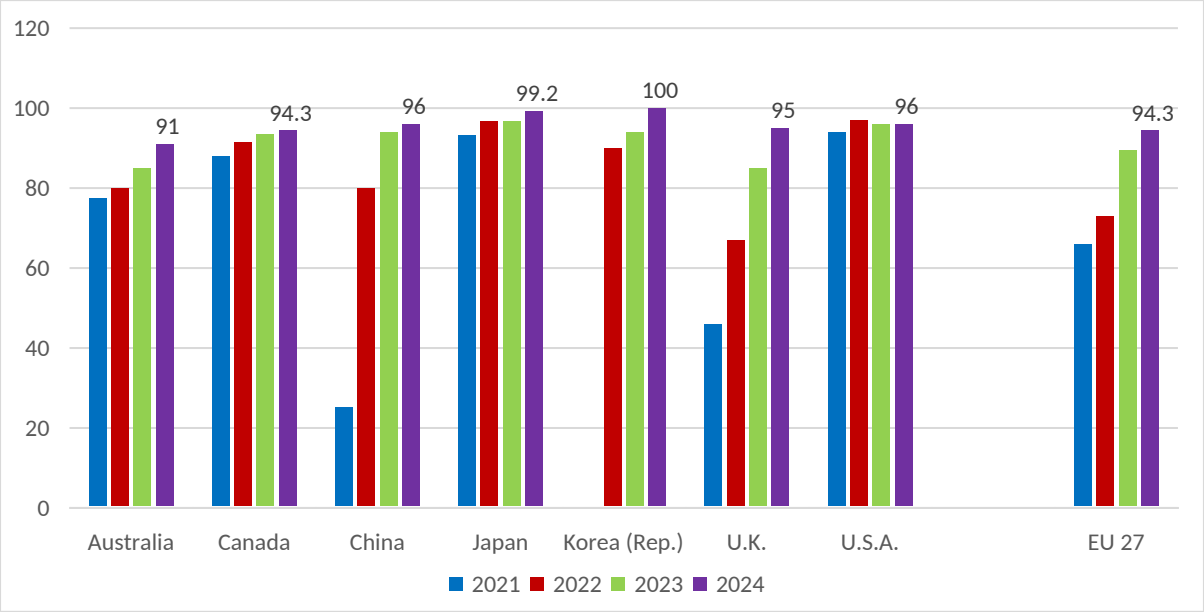
[29] *For example, in the case of 5G subscriptions, no reliable and comparable data was identified from public sources*

[30] *For instance, regarding the data traffic measures, in some cases, not all the domestic data traffic is being covered (i.e. uploaded traffic is missing).*

[31] *https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32022D2481*

understood to be equal to household coverage[32]), acknowledging that this represents a simplifying assumption.

Figure 5 – 5G coverage in the period 2021 – 2024, by jurisdiction



Source: 2021-2023: the data are from ITU datahub[33], except for the EU27 (EU 5G Observatory[34]); for 2024, the data are from ITU Datahub, except for Australia, Japan, the U.K. and the EU27 (these are from the EU 5G Observatory)

Overall, for the jurisdictions considered and treating the EU as a whole, the highest 5G coverage is in Korea with (close to) 100%, with China, USA and Canada having a coverage between 94% and 96%. Meanwhile, Australia has a lower (91%) 5G coverage. In 2024, the EU-27 average (94.3%) was comparable with other jurisdictions (that range from 91% to 100%), particularly in light of the progress made that took place over the past two years, such that, as of 2024, eight EU MS[35] had already reached 100% coverage in 5G, which is six years before the 2030 target date.
Overall, 5G coverage has reached high levels around the world, with the remainder being the most difficult and costly to cover.

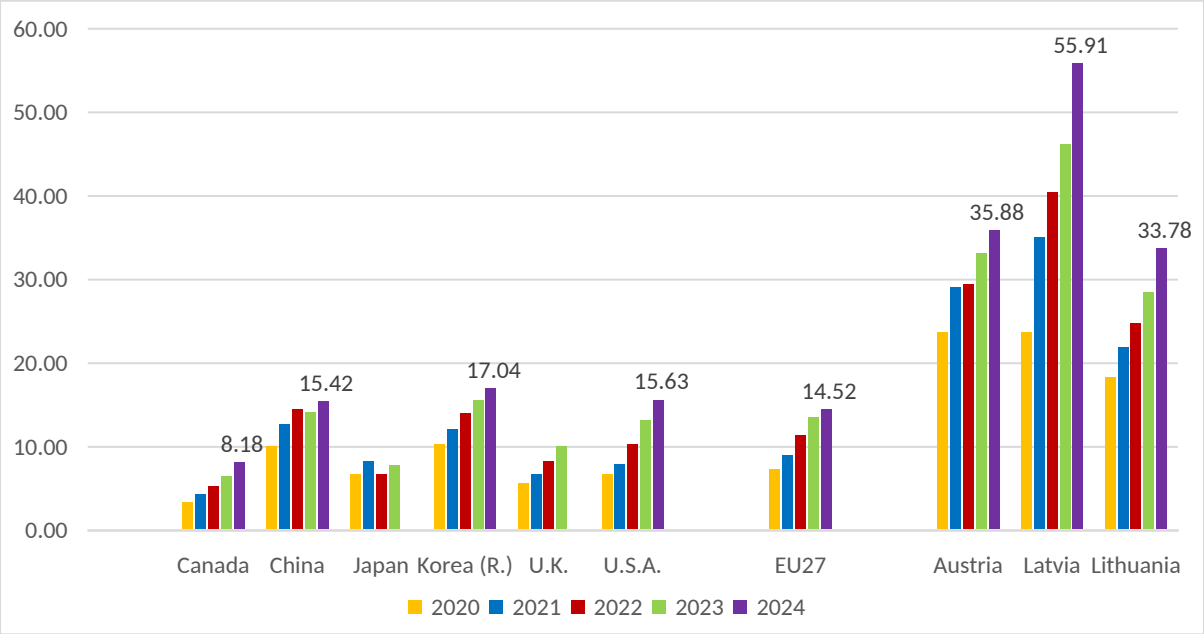
2.2.2. Mobile data traffic[36]

Considering the lack of publicly available reliable data on mobile broadband penetration, an indicator that can be deemed useful in providing contextual information on the mobile broadband networks' usage relates to monthly data traffic. This indicator therefore serves as a proxy for penetration by providing insights into usage. The figures below refer to the average monthly mobile data traffic per subscription. In 2024, mobile broadband traffic per subscriber

[32] *See, for instance, Broadband coverage in Europe 2024 Study (https://digital-strategy.ec.europa.eu/en/library/digital-decade-2025-broadband-coverage-europe-2024), definition of 5G coverage, pg. 229.*
[33] *5G coverage is reflective of the percentage of inhabitants that are within range of at least a 5G mobile-cellular signal, irrespective of whether or not they are subscribers.*
[34] *5G coverage is reflective of the percentage of households stated in coverage area of at least one 5G mobile network.*
[35] *CY, DK, MT, NL, AT, GR, LT, LU*
[36] *The indicator is reflective of the broadband traffic volumes originated within the country within a year, for which average monthly values have been computed. The available data on the countries' annual data traffic also contains some level of uncertainties, in some cases probably estimations. However, BEREC is of the opinion that this relatively low level of uncertainty does not significantly influence the main findings of the analysis.*

in EU-27[37] was 14.52GB per month, that is comparable to the benchmark jurisdictions, which ranged from 8.18GB (in Canada) to 17.04GB (in Korea).

Figure 6 – Average monthly mobile broadband data traffic per subscription in the period 2020 – 2024, by jurisdiction



Source: ITU datahub

As for the EU, there are significant differences between MS, with Latvia's peak at approximately 56GB per user/month. The top three EU performers are well above the international benchmarks. The high traffic in these countries is due to the (partial) substitutability of fixed broadband access with mobile (in all three countries considered[38]), as well as the prevalence of unlimited data plans, at low prices[39].

3. Pricing and quality of broadband services provision

This section compares the prices and quality of service experienced by consumers across jurisdictions. BEREC compiled comparable data for a subset of jurisdictions from two different sources:

- **Pricing:** The prices presented in this section are sourced from the Mobile and Fixed Broadband Prices in Europe Studies developed periodically for the EC, out of which data on the pricing of different services from 2019 to 2022 in the EU, USA[40], South Korea and Japan, adjusted for local purchasing power, were extracted[41].

[37] *Average calculated by BEREC based on the available data.*
[38] *The Austrian regulator has even included the two services in the same market, for residential users.*
[39] *See, for instance: https://lmt.lmt.lv/en/business/mobile-internet for Latvia (€19.99 monthly) and https://pildyk.lt/en/services/5g for Lithuania (€17.89 monthly) – last accessed 30.12.2025.*
[40] *Please note that the broadband tariffs provided for the USA are based solely on offers available in the states of California, Colorado and New York.*
[41] *Data was aggregated from the reports on mobile and fixed broadband prices in Europe from 2019 to 2022 developed for the EC that informed the Digital Economy and Society Index (DESI) until 2022. See Broadband Connectivity in the Digital Economy and Society Index | Shaping Europe's digital future. These reports take account of features such as one-off fees, volume limits, discounts, different contract durations, and limits for call time and data volumes.*

As regards the USA, despite the fact that the prices hereafter are reflective of the situation in three states, BEREC takes the view expressed by the EC according to which the choice can be considered representative for American consumers[42].

- **Quality of service:** The metrics presented in what follows are based on the Speedtest measurements[43], for which BEREC processed data on fixed and mobile performance. This enabled the compilation of a database containing yearly averages for both mobile and fixed download and upload speeds and latency for a selection of jurisdictions (the EU, the USA, South Korea, Japan and China).

  The information collected and processed by Ookla is mainly based on consumer-initiated testing[44], which means that the measurement is done at the terminal equipment, reflecting the actual experience that end-users have when using broadband internet access services[45].

  As regards the parameters' choice, in order to accurately and comprehensively compare the quality of broadband services in the different jurisdictions considered, BEREC makes reference to the most popular parameters that are monitored and, thus, used to describe qualitatively the provision of services, namely download and upload speeds, as well as latency. From an end-user's perspective, these are the ones that mostly affect the quality of service experienced, especially for mass-market products.

Overall, these comparisons help BEREC to understand how the value for money offered by European operators to European consumers differs from that experienced by non-EU consumers.

3.1. Fixed broadband services

In this sub-section, BEREC examines the pricing and quality of fixed broadband services. When reflecting the tariffs, the analysis is restricted to two different speed ranges: (i) between 200 Mbps and 999 Mbps, and (ii) at least 1 Gbps (for 2022 only). For each speed interval, BEREC shows the prices for standalone broadband offers, where consumers only receive fixed broadband access, and for triple-play offers, where consumers receive additional access to fixed telephony and TV services. The selection of the offers shown[46] reflects the upper thresholds included in the studies, which BEREC considers most relevant given Europe's competitive environment and the corresponding connectivity targets.

[42] *In its "Mobile and Fixed Broadband Prices in Europe 2022 Study" (https://digital-strategy.ec.europa.eu/en/library/mobile-and-fixed-broadband-prices-europe-2022), the EC explains (pg 83) that the choice of states in the USA for which data are presented is considered representative because it captures regional variations with the New York State capturing the middle-Atlantic division, Colorado accounting for the mountainous division and California being representative of the Pacific division.*

[43] *For more information about the data, see Speedtest by Ookla Global Fixed and Mobile Network Performance Maps - Registry of Open Data on AWS*

[44] *Some complementary tests can be conducted by Ookla to obtain more information and analyse different settings. For more information on the methodology, please refer to Speedtest® Methodology | Ookla®.*

[45] *Specifically, when a consumer decides to run a test, it is run in the application that measures the characteristics of the communications network between the end-user device and multiple servers which are part of the company's global network.*

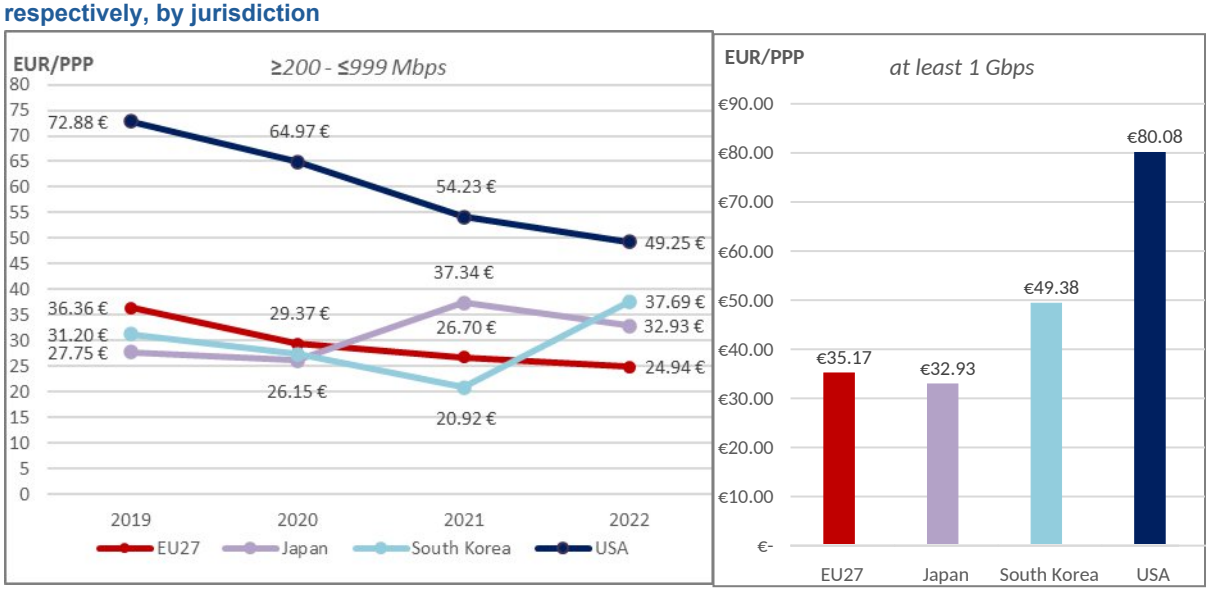
[46] *The European Commission's study also includes tariff data for lower speed baskets (10–30 Mbps, 30–100 Mbps and 100–200 Mbps). The pricing patterns observed for these speed categories are broadly consistent with those identified for higher-speed offers, while price levels and developments continue to vary across speed tiers and Member States.*

As for the fact that a comparison of tariffs for bundled offers is presented, it is worth noting that over 60% of consumers in Europe buy bundles[47]. By contrast, in the US, the share of consumers buying bundles seems significantly lower (8% in the USA, as of 2023)[48].

3.1.1. Tariffs for fixed internet only (≥200 - ≤999 Mbps & ≥1 Gbps)

The following figure presents the least expensive offers for standalone fixed internet across different jurisdictions[49]. For the broadband services with speeds between 200 Mbps and 999 Mbps there is also an evolution tracking in the period 2019 to 2022, while the data for the services with download speeds of at least 1 Gbps are reflective of the situation as of 2022, when this indicator was introduced.

Figure 7 – Lowest offers for standalone fixed broadband with speeds of [200Mbps, 1Gbps) and >1Gbps respectively, by jurisdiction



Source: Mobile and Fixed Broadband Prices in Europe reports, 2019-2022.

Between 2019 and 2022, standalone fixed internet offers in the EU became increasingly affordable relative to other major jurisdictions. For mid- to high-speed tiers (200 Mbps to 999 Mbps), the average price of the least expensive EU offer declined steadily and was the lowest among the jurisdictions reviewed by 2022. EU data for 2023 show that it decreased further, from €24.94 to €22.89[50]. In the very-high-speed segment (at least 1 Gbps), EU prices remained slightly higher than Japan's but still positioned the EU as one of the cheapest markets for consumers. As for 2023, the data show a value of €33.00.

Over the period 2019–2022, the least expensive standalone fixed-internet offer in the considered states of the USA (≥200–≤999 Mbps) was roughly twice as much as the equivalent offer in the EU. In 2022, a European consumer could find an offer for an average price of €24.94, whereas an American consumer had to pay at least €49.25. Similarly, for speeds

[47] *According to a recently published Eurobarometer study on e-communications and the Digital Single Market (January 2026 - https://europa.eu/eurobarometer/surveys/detail/3175), "over six in ten Europeans have subscribed to two or more services as part of a bundle".*

[48] *See references from "A review of the European telecoms market", Tony Shortall, Utility Law Review; https://www.lightreading.com/broadband/bundling-and-convergence-in-the-us-by-the-numbers*

[49] *Note that the EU27 datapoint is an average of the least expensive offers in each member state.*

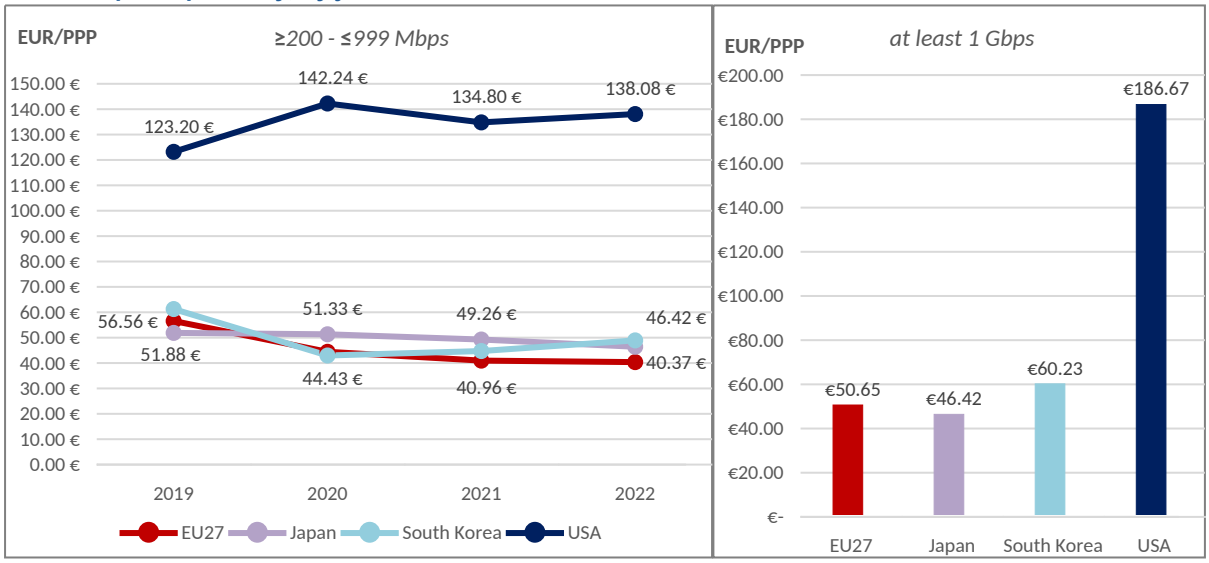
[50] *See: https://digital-strategy.ec.europa.eu/en/library/mobile-and-fixed-broadband-price-europe-2023-insights-european-broadband-market.*

equal to or above 1 Gbps, the least expensive standalone offer averaged €35.17 in the EU, compared with €80.08 in the USA.

3.1.2. Tariffs for fixed internet with fixed telephony and TV (≥200 - ≤999 Mbps & ≥1 Gbps)

As with standalone services, the least expensive 3-play offer across jurisdictions[51] is presented below.

Figure 8 – Lowest offers for 3-play (FI, FT and TV) with fixed broadband speeds of [200Mbps, 1Gbps) and >1Gbps respectively, by jurisdiction



Source: Mobile and Fixed Broadband Prices in Europe reports, 2019-2022.

The evolution of triple-play offers with fixed internet of mid- to high-speed tiers (200 Mbps to 999 Mbps) between 2019 and 2022 shows USA as the most expensive jurisdiction, with the price levels for EU-27, Japan and South Korea being closer together, highlighting the EU's relatively competitive position. In the EU, based on additional data available for 2023[52], prices show a further decrease of 5% (to €38.28). In the very-high-speed category (at least 1 Gbps), the EU remains the second-cheapest jurisdiction, maintaining a price level that is comparatively low despite some variation across MS, the descending trend having been continued in 2023 (€49.00).

Over the same period, triple-play prices in the USA remained significantly higher than those in the EU, Japan, and South Korea. In 2019 and 2020, the least expensive American triple-play offers were roughly double – and at times nearly triple – the price of equivalent offers in the other jurisdictions. By 2022, this gap persisted: for download speeds between 200 Mbps and 999 Mbps, the average least expensive triple-play offer in the EU was €40.37, whereas the corresponding price in the USA reached €138.08. As a result, the least expensive American triple-play offer in 2022 remained around 3.4 times more expensive than its EU

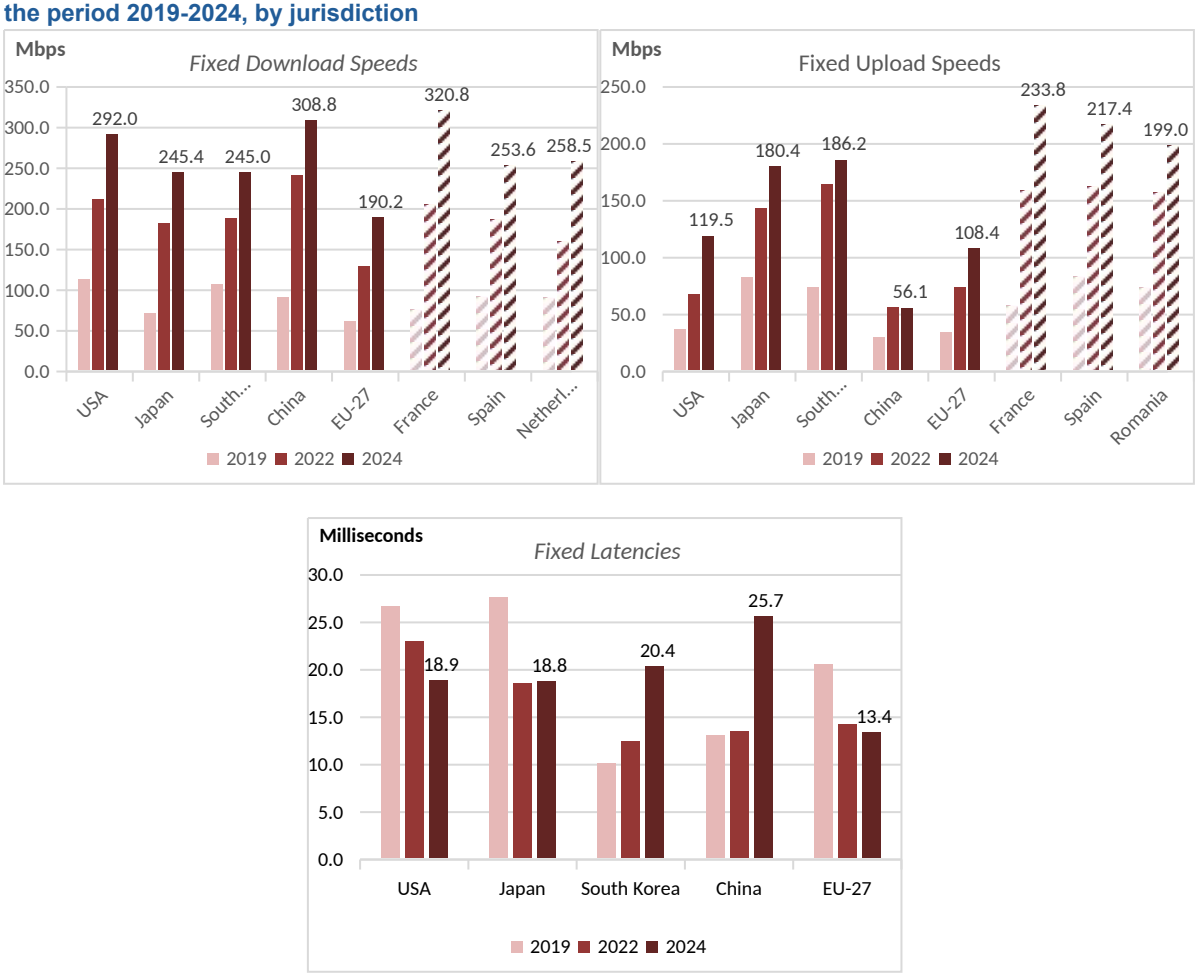
[51] *Note that the EU27 datapoint is an average of the least expensive offers in each member state.*

[52] *In October 2025, the EC published its "Mobile and fixed broadband price is Europe in 2023 Stud (available at https://digital-strategy.ec.europa.eu/en/library/mobile-and-fixed-broadband-price-europe-2023-insights-european-broadband-market). The study contains data for the EU only.*

counterpart. Similarly, for speeds of at least 1 Gbps, the least expensive triple-play offer averaged €50.65 in the EU, compared with €186.67 in the USA, thus approximately 3.7 times more expensive.

3.1.3. Quality of fixed broadband services

Figure 9 – Evolution of average download and upload speeds, latencies for fixed broadband services, in the period 2019-2024, by jurisdiction



Source: Ookla Speedtest.

The EU-27 ranks behind other jurisdictions in terms of fixed download speeds, particularly when compared with the USA and China, but performs relatively better on upload speeds and latency. The most recent data show that European users benefit from upload speeds close to those in the USA and from shorter latencies. Focusing particularly on the best EU performers in terms of fixed download and upload speeds reveals that these countries are able to achieve performance levels equivalent to or higher than those of the other considered jurisdictions. As of 2024, the European top performer, France, outperforms every other jurisdiction in terms of both metrics.

Therefore, overall, the EU delivers reasonable technical performance in fixed broadband networks, with sometimes significant variations from country to country, while consistently

offering some of the most affordable offers. Based on the reliably available data for the year 2022 and the jurisdictions considered– both for prices and quality indicators, a comparison with the USA shows that, despite (i) having download speeds about 40% lower, (ii) the EU achieved upload speeds 8% higher and provided 38% shorter latencies, while offering fixed-internet services at roughly half the price paid by US consumers. While differences in quality parameters can be considered more volatile – for instance, the USA featured a higher upload speed in 2024, the pricing differentials feature more time stability[53].

3.2. Mobile broadband services

This sub-section gives an overview of the same elements of pricing and quality of service for the mobile broadband services. By contrast to the fixed section, here BEREC focuses its analysis on data-only consumption baskets, so as to capture the pricing for the core services of interest. In terms of the consumption baskets considered, while data for the very low (1GB), low (5GB), medium (10GB), high (20GB) and very high (50GB) is available, BEREC considers the most representative to be (i) 20GB and (ii) 50GB. For the 20GB basket BEREC captures a matching time evolution, from 2019 to 2022, while for the 50GB basket only data for the year 2022 are presented, as this indicator was developed in coordination with the technological advances.

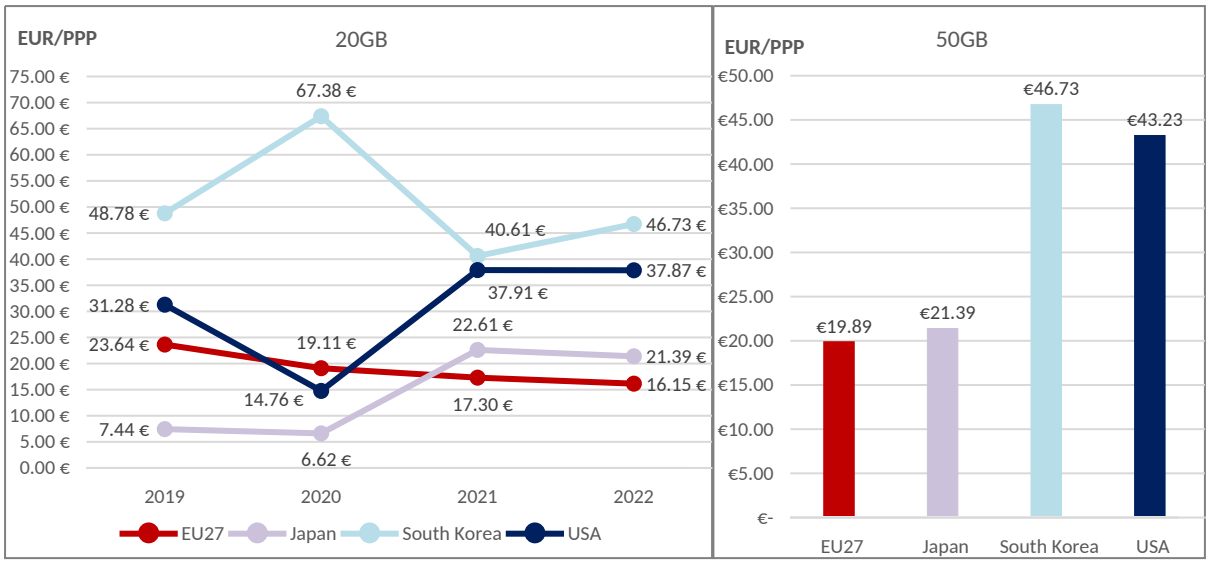
3.2.1. Tariffs for mobile data subscriptions including 20GB and 50GB of traffic respectively

As for the fixed broadband services, the least expensive offer for mobile data-only subscriptions across the various jurisdictions[54] have been considered.

Figure 10 – Lowest offers for mobile data subscriptions of 20GB and 50GB, by jurisdiction

[53] *The trends in terms of fixed network performance indicators do not seem to highlight a noticeable shift (e.g. compared to the USA, download speeds used to be on average 39% lower in 2022 in the EU compared to 35% lower in 2024). Similarly, a report by Rewheel Research based on data for the first half of 2025 seems to highlight that there was no major change in the affordability gap between fixed broadband services in the USA and in the EU.*

[54] *Note that the EU27 datapoint is an average of the least expensive offers in each member state.*



Source: Mobile and Fixed Broadband Prices in Europe reports, 2019-2022.

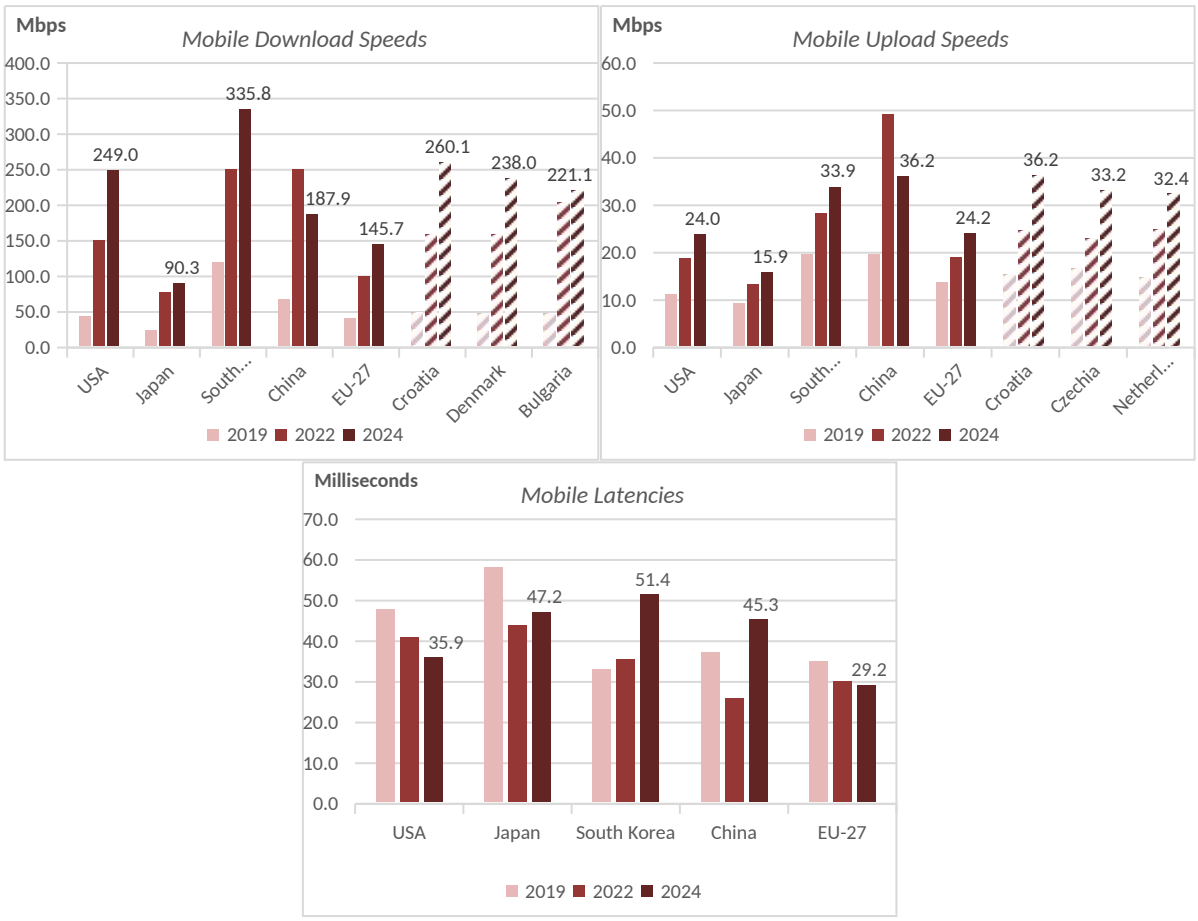
In particular, the left figure displays the price of the least expensive offer for the 20GB mobile data basket across different jurisdictions, showing that, since 2021, the EU has had the lowest average price for this basket, followed by the USA and Japan, while South Korea shows a higher average price than all other jurisdictions considered. In 2022, the EU offered the 20GB basket at an average price of €16.15[55]. In the USA, the same basket was priced, on average, at €37.87, and in South Korea at €46.73. The price of a 20GB mobile data–only basket in the USA was approximately twice as high as in the EU, and almost 3 times higher in South Korea.
The figure on the right focuses on the 50GB mobile data–only basket, for which data is available only for 2022, for comparison among different jurisdictions. In the EU the 50GB basket had an average price of €19.89, followed by Japan at €21.39 and the USA at €43.23. South Korea, meanwhile, shows a higher average price than all other jurisdictions. Comparing the USA, the EU and South Korea, the prices of the 50GB mobile data basket in the USA and Korea are, once again, approximately twice as high as in the EU, as of 2022[56]. When it comes to the comparison with Japan, the data show that the affordability of mobile services is rather similar for consumers in the EU and Japan.

3.2.2. Quality of mobile broadband services

BEREC retains the same parameters of choice as presented before, namely average download and upload speeds, as well as latency. The main results are presented in the graphs below.

Figure 11 – Evolution of average download and upload speeds, latencies respectively for mobile broadband services, in the period 2019-2024, by jurisdiction

[55] *In 2023, the data show that it decreased further to €13.97.*
[56] *For the EU, the downward trend was maintained in 2023, with an average tariff of the least expensive offer of €16.93.*



Source: Ookla Speedtest.

The EU delivers mobile download speeds below the other jurisdictions considered, with a mixed picture when upload speeds are accounted for. Its performance in upload is comparable to the USA, but lower than in China or South Korea, while, for latency, the EU stands out as one of the top performers. On the other hand, focusing particularly on the best European performers in terms of download and upload speeds reveals that these countries are able to achieve performance levels equivalent to or higher than those of the USA, but lower for download speeds and at par for upload speeds, when compared to the other Asian jurisdictions.

Therefore, for mobile services, while South Korea clearly outperforms all other jurisdictions in mobile quality, prices are much higher than in the EU. And there is clear evidence that EU operators provide higher value for money than their counterparts in the USA. Based on the reliably available data for the different jurisdictions – both for prices and quality indicators (2022), a comparison with the USA shows that, despite (i) having mobile download speeds about 35% lower, (ii) the EU achieved faster upload speeds and provided 26% shorter latencies, while offering mobile-internet services for roughly a third or a half of the price paid by US consumers[57].

[57] *When examining the trends in terms of mobile network performance indicators, there does not seem to have been a noticeable shift (e.g. compared to the USA, upload speeds used to be on average 1.6% higher in 2022 in the EU compared to 1% higher in 2024). Similarly, a report by Rewheel Research based on data for the first half of 2025 seems to highlight that there was no major change in the affordability gap between mobile broadband services in the US and in the EU.*

3.3. Evolution of fixed and mobile prices after 2022

As explained in the introduction of this section, the comparison of prices is up to 2022. However, beyond that year, the relative situation has remained broadly unchanged, with the EU continuing to offer consumers significantly lower broadband prices than, at least, in the USA. This is the conclusion found by Richard Feasey[58] using data from Connect Europe: "*In 2025 American consumers were paying 40% (GDP adjusted) more for fixed telecom services and almost 80% (GDP adjusted) more for mobile services each and every month than their European counterparts".*

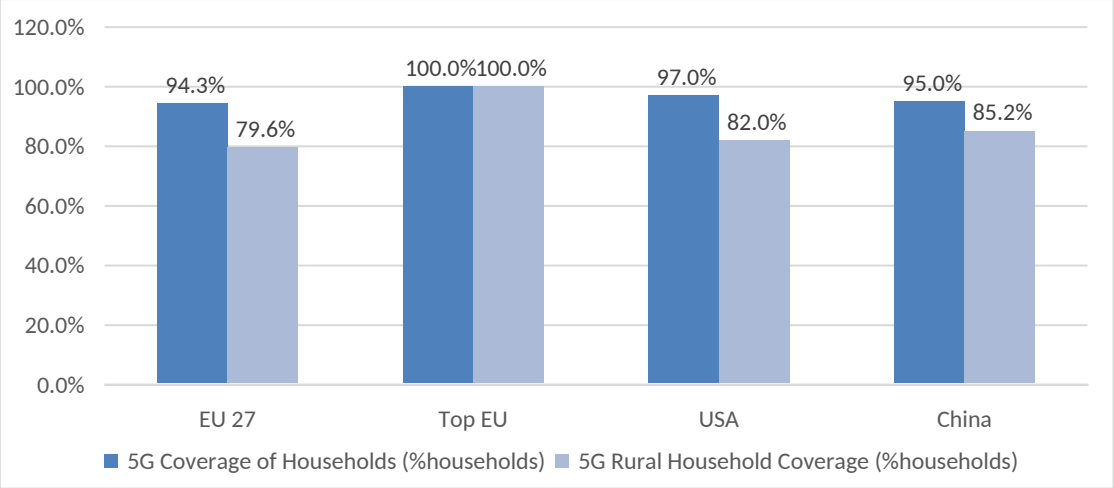
4. Perspectives related to the consumption of broadband services (urban/rural)

The indicators which have been presented in the above sections refer to nationwide situations, but it is important to disaggregate by the degree of urbanisation (i.e. urban/rural) as the picture may be somewhat different. BEREC considers the urban/rural divide relevant to examine since the larger the disparities between the urban and rural areas, the more uneven the development of fast access networks and services, with impact on the relative economic development of the regions. Even though urban areas have historically had greater levels of coverage and higher penetration rates, as the higher population density facilitates higher returns on investment, development in rural areas needs to be protected as well, as it allows citizens in all regions to participate in the digital economy. Therefore, the smaller the disparities in coverage between urban and rural areas, the better off a jurisdiction may be considered.
However, caution needs to be exercised when comparing the situation across the different jurisdictions considered because the geographies of the countries concerned play a decisive role in shaping the rollout of networks, especially in the fixed segment. Along the same line, the different jurisdictions may use slightly different methodologies to delineate between urban and rural regions. For instance, the definitions of rural areas are different between the Broadband Coverage in Europe data and the USA data[59]. However, since all the categorizations encompass a reflection of the level of urbanisation, BEREC presents the informative comparisons below.

4.1. 5G Urban / Rural Divide in coverage

Figure 12 – Total and rural 5G coverage for the EU27, USA and China, as of 2024

[58] https://www.linkedin.com/feed/update/urn:li:activity:7429888054766645248/
[59] *The EC classifies a household in Europe as rural if the square kilometer where the household is located has lower than 100 persons population, whereas the U.S. analysis uses the U.S. Census Bureau's classification of "urban" to define "non-urban" (i.e., rural) areas at the census block level (starting in 2020, the U.S. Census defines an area as urban if the territory identified encompasses at least 2,000 housing units or has a population of at least 5,000).*



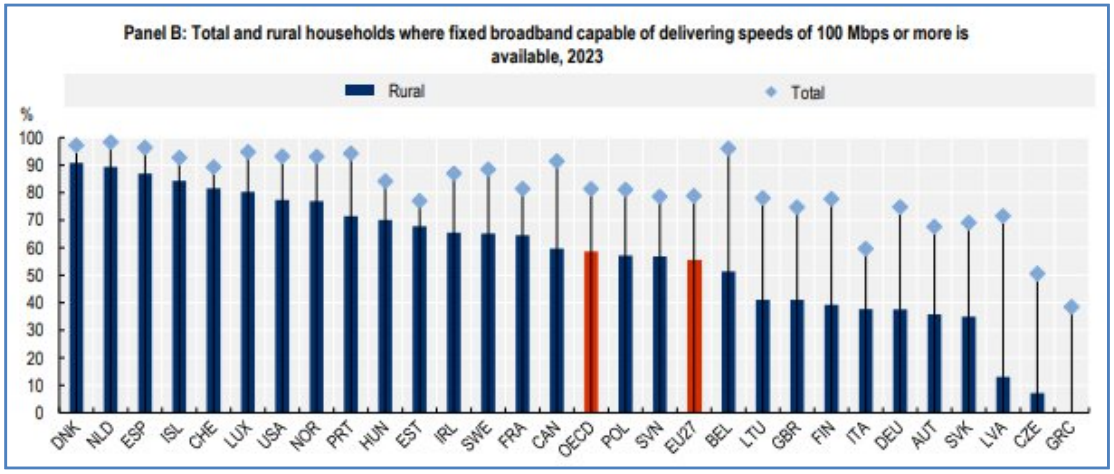
Source: European 5G Observatory data (2024)

Data indicate that, in 2024 the EU-27 compared well with the USA and China in terms of the urban/rural divide in 5G mobile coverage. The EU-27 had average figures of 94.3% 5G coverage for all households, and 79.6% for rural households, relatively close to the 82% in rural USA and 85% in rural China. As such, the urban/rural gap seem at par for the three jurisdictions. Moreover, given the geographic disparity across Europe, it is important to correlate the coverage gap with the particular geographies of the MS. For instance, Denmark and the Netherlands have achieved 100% 5G coverage in all households (including rural).

4.2. Fixed Digital Divide

As for the urban/rural divide in fixed broadband networks, the OECD published data on the availability of fixed broadband capable of delivering speeds of 100 Mbps or more in 2023. These data indicate that the average rural coverage figure for the EU-27 is marginally below the OECD average. Broadband coverage in rural regions of the USA outperforms the EU-27 on this measure. However, the top 3 OECD performers for rural fixed broadband capable of delivering speeds of 100 Mbps or more were EU countries: Denmark, the Netherlands and Spain.

Figure 13 – Total and rural households with access to fixed broadband with speeds of at least 100 Mbps, as of 2023



Source: OECD (2025)[60]

[60] *Closing Broadband Connectivity Divides for All: From Evidence to Practice, OECD Publishing, p.26,*

5. Comparative assessment of telecommunications access regulation

Access regulation in telecommunications defines the rules under which network operators must provide competitors with access to their infrastructure on fair, reasonable, and non-discriminatory terms. This comparative assessment examines how different jurisdictions structure their regulatory frameworks, balance public and private roles, and achieve varying market outcomes[61]. The analysis covers the EU's harmonized approach alongside diverse models in the United States, Canada, Australia, China, Japan, South Korea and the United Kingdom.

5.1. Government/Authorities role and institutional structure

In the EU, regulatory powers are **decentralized but coordinated**. National Regulatory Authorities (NRAs) act nationally within a common framework under the European Commission's oversight and BEREC's coordination, ensuring consistency and predictability across MS.
Other jurisdictions show varying institutional arrangements.
The USA, Canada, Japan, and South Korea maintain privately owned telecom sectors with regulatory oversight (FCC, CRTC, MIC, MSIT respectively). Intervention is case-specific and discretionary, rather than triggered by harmonized, recurring market review processes[62].
Australia represents a hybrid model: private retail competition operates above a fully public wholesale infrastructure (NBN Co), with government exercising policy direction through direct ownership[63].
China integrates regulators, operators, and policy under comprehensive government ownership, with near-total state control of network deployment and market structure[64].

5.2. Regulatory framework and market access

The EU operates under a harmonized **ex-ante regime**. NRAs impose obligations before anti-competitive conduct occurs, in markets where structural conditions give rise to significant market power (SMP). This framework mandates regular market reviews and proactive remedies, focusing on **wholesale access obligations** to enable gradual infrastructure competition, where viable. The "ladder of investment" model allows entrants to start with wholesale access products and progressively deploy their own networks[65].
By contrast, most non-EU jurisdictions rely on **ex-post or mixed systems** with varying approaches to wholesale access.

https://www.oecd.org/content/dam/oecd/en/publications/reports/2025/05/closing-broadband-connectivity-divides-for-all_17ee89fa/d5ea99b2-en.pdf

[61] *In that regard, Annex 1 provides insights into the service diversity in the different jurisdictions considered, achieved through the interplay between the regulatory and market forces.*

[62] S.652 - 104th Congress (1995-1996): Telecommunications Act of 1996 | Congress.gov | Library of Congress + Telecommunications Act + Telecommunications Business Act - English - Japanese Law Translation + TELECOMMUNICATIONS BUSINESS ACT

[63] https://www.legislation.gov.au/C2004A05145/2014-06-24/text

[64] Telecommunications Regulations of the People's Republic of China

[65] *At the same time, the provisions related to network separation and wholesale only operators may allow large network-only players to reduce financing-related risks for the rollout of new fibre networks, without affecting competition.*

The United States intervenes mainly ex-post through antitrust enforcement and relies almost exclusively on infrastructure-based competition from the outset, with minimal regulated wholesale access. The assumption is that market forces will drive parallel network deployment[66].

Canada has ex-ante regulation in markets with limited competition and ex-post oversight once effective competition is established. It maintains wholesale access for fixed broadband[67], and mandates MVNO access when the incumbent mobile operator has significant market power[68].

Japan's regulatory framework emphasizes negotiated wholesale agreements and regulatory mediation. Some ex-ante access rules remain to safeguard competition in areas with dominant providers[69].

In **South Korea,** facilities-based operators must sign and report wholesale deals, while the Ministry (MSIT) may designate, regulate, correct or revoke mandatory wholesale services. Designation and pricing are statutory processes under the Act [70], not a formal SMP market analysis regime like in the EU. BEREC has only found evidence that access to wholesale mobile services has been imposed, not fixed ones[71].

Australia regulates proactively via a single, publicly owned wholesale provider (NBN Co) that ensures nationwide open access; i.e., a state-owned wholesale monopoly, rather than regulating multiple private operators[72].

China maintains ministry oversight of the sector, keeping infrastructure under direct state control via vertically integrated, majority state-owned carriers. Access is available, yet it is structured by administrative licensing and ministry-approved interconnection, not competitive wholesale arrangements[73].

The United Kingdom, post-Brexit, maintains EU-style ex-ante principles, with Ofcom as the independent regulator[74].

These different regulatory and institutional approaches tend to be reflected in distinct market results. BEREC provides some illustrative comparisons in the Annex I.

6. Consolidation trends and implications for telecoms

BEREC considers the debate about the scale of operation needed to perform in the telecommunications markets important. However, it is BEREC's view that the empirical evidence from markets does not indicate that telecoms markets in the EU lack efficiency due to a lack of scale and importantly, competition law or competition policy do not appear to be major obstacles to efficient consolidation.

In several of its contributions so far, BEREC stated that "*a scenario of market consolidation leading to few pan-European players*" could pose a threat to "*the current objectives pursued in the electronic communications sector, i.e., promoting connectivity, competition, the*

[66] *FCC-19-119A1.pdf. In this notice of November 22, 2019, the FCC affirms its position on removing unbundling obligations page 11, para 23 &24.*
[67] *Telecom Regulatory Policy CRTC 2024-180 | CRTC. In this notice of 13 august 2024, the CRTC forces the largest Telco's to provide competitors with workable access to their fibre networks.*
[68] *Telecom Regulatory Policy CRTC 2021-130 | CRTC. In this notice of 15 April 2021, the CRTC mandates mobile network access for MVNO's, in case of significant market power of the incumbent mobile operator.*
[69] *Telecommunications Business Act - English - Japanese Law Translation, article 6.*
[70] *TELECOMMUNICATIONS BUSINESS ACT Article 38*
[71] *https://www.lightreading.com/5g/south-korea-plans-to-cut-wholesale-telco-rates-to-boost-mvno-growth-report*
[72] *Competition and Consumer Act 2010 - Federal Register of Legislation. See volume 3.*
[73] *Telecommunications Regulations of the People's Republic of China*
[74] *Communications Act 2003. Part 2-4 & 87-88.*

completion of the single market and the protection of end-users' rights"[75] and that "*uncontrolled consolidation in the telecoms sector could lead to tighter oligopolies dominated by a few large players and accompanied by a deterioration of the competitive situation in the network industry under NRAs remit*"[76]. BEREC cautioned against the assumption that greater market consolidation will automatically yield enhanced benefits, in terms of quality, price and innovation.

In this report, BEREC examines recent mergers and trends in the telecoms sector and the economic outcomes that can be observed, complemented by recent literature on the topic.

6.1. Case studies to illustrate trends in telecoms

Lately, the European telecommunications sector witnessed the downsizing of the operations of several multi-country providers so as to be able to focus on what they consider core markets or, put differently, the markets with the largest potential from their standpoint.

Vodafone has conducted a "rightsizing" exercise to slim down its portfolio in the last few years. It exited Italy in December 2024 with an €8bn sale to Swisscom,[77] Zegona purchased Vodafone Spain in May 2024,[78] and Vodafone left the Hungarian market in January 2023.[79]

In the same vein, Telefonica is going through a series of divestments, in particular in Spanish speaking Latin America, including in Argentina, Peru, Colombia, Uruguay, Ecuador, El Salvador, Panama, Costa Rica, Nicaragua, and Guatemala. According to relevant news reports, Telefonica is currently in negotiations regarding divestments of its Mexican and Chilean businesses as well[80]. Telefonica stated its intention to put a stronger focus on its 4 core markets, i.e. Spain, Germany, UK and Brazil.

The above examples suggest that maximising 'scale' may not be the only relevant factor for operators when considering the management of their operations. Reasons might be that the costs for infrastructure deployment may not be significantly affected by additional scale above a certain level. On the other hand, it appears that other factors, such as population density or labour costs may be more relevant[81]. Furthermore, downsizing trends suggest that scale may not have provided the expected benefits (i.e. scale when no or little business opportunities arise is not worth it).

Therefore, irrespective of the jurisdiction considered, BEREC underlines that scale would respond to the arising business opportunities and, as evidenced in 6.2 below, there is no clear evidence/implication that a larger scale in the EU would be translated into higher investments which result in more innovation and more competitiveness for Europe.

Secondly, even without purportedly pursuing a consolidation objective in the EU, cross border consolidation is happening naturally, once the synergy/efficiency potential is recognized by the parties. Moreover, the authorities are supportive insofar as the movements in the markets do not prove harmful[82].

[75] *BEREC's input to the EC public consultation on the White Paper "How to master Europe's digital infrastructure needs?" BEREC style guide (p.5)*

[76] *BoR(25)114, BEREC Input to the European Commission's public consultation on the revision of the Merger Guidelines, pg. 4*

[77] *Assembly Research, Swisscom's acquisition of Vodafone Italia, Dec 2024*

[78] *Zegona Press release, ZEGONA COMPLETES €5BN ACQUISITION OF VODAFONE SPAIN, May 2024*

[79] *Vodafone completes sale of Vodafone Hungary*

[80] *https://www.reuters.com/business/media-telecom/spains-telefonica-reshapes-latin-america-strategy-after-leadership-change-2025-06-16/*

[81] *A review of the European telecoms market. T Shortall. Utility Law Review 24 (6), 279-295, page 280 - 282.*

[82] *6 National Competition Authorities (NCAs) released a joint statement which highlighted that under the current merger control regime "Competition law enforcement does not, and will not, prevent cross-border mergers that can benefit European businesses and consumers." - Strengthening Competitiveness and Competition in the EU Single Market, Joint statement of 6 NCAs of April 2025, https://www.bwb.gv.at/en/news/detail/six-european-competition-authorities-publish-joint-statement-on-the-*

The above example where Swisscom purchased Vodafone Italia[101] is a factual example which illustrates that cross-border consolidation to achieve greater scale is possible under the current merger framework.

Therefore, BEREC underlines that it is common for the large European telecoms operators to operate in multiple EU countries as a result of cross border mergers, standing as further evidence that the current European framework is flexible enough for operators to pursue their business growth opportunities.

As far as in-country consolidation is concerned, there is a pleiad of examples that BEREC could point to, suggesting that European operators do not face relevant legal obstacles to scale up through acquisitions inside jurisdictions. For instance, of the noteworthy cases, in February 2024 the EC approved the joint venture between Orange and Másmóvil in Spain[83]. This would have reduced the number of Mobile Network Operators from 4 to 3 (MNOs) but the EC imposed a structural remedy which saw the new entity divest spectrum to Digi (an MVNO), which in effect ensured that the merger resulted in 4 market players at retail level, in consideration of the overall market structure.

Another example is that of the United Group/Wind Hellas merger in Greece[84] of 2021, which received unconditional clearance as there was "*no overlap in mobile telecommunications services, combined market share between 10 and 20%, minimal overlap in other markets*"[85], and further evidences that in-country consolidation is possible even without remedies in some circumstances.

In the UK, the recently approved merger between Vodafone and Three received quite some scrutiny. The proposal from June 2023[86] included the reduction in the number of MNOs in the UK from 4 to 3. Following a Phase 2 investigation, this merger received conditional approval from the CMA in December 2024 with binding behavioural remedies[87]. The merged entity made three legally binding commitments - (i) delivery of the joint network plan, (ii) capping selected mobile tariffs for 3 years and (iii) offering preset wholesale prices and contract terms for 3 years. These commitments would be monitored by Ofcom and the CMA.

6.2. Literature on the effects of consolidation in mobile markets in various jurisdictions

A report by Lear et al. (2024)[88] for the EC provides a new empirical analysis based on data from 29 OECD countries for the period 2009-2019. They find that one additional MNO is associated with a 7% reduction in average revenue per user (ARPU), which benefits end-users who pay lower prices. The same report further states that a higher market concentration is associated with lower levels of investment. Regression results show that a rise in the number of MNOs is positively associated with country-level investment in mobile telecommunications (+10% for an additional MNO). Other methodological approaches also do not show a clear or statistically reliable link between the number of operators and investment. This analysis was a key input into the DG-Comp Report 'Protecting competition

importance-of-competition-in-the-telecommunications-sector; Cullen International

[83] *EC, Commission approves joint venture between Orange and MásMóvil in Spain, subject to conditions Joint venture between Orange and MásMóvil, February 5*

[84] *United Group completes acquisition of Greek telecoms operator Wind Hellas | United Group*

[85] *CERRE_The-Future-of-European-Telecommunications-In-depth-Analysis_FINAL.pdf*

[86] *Vodafone, Merger of Vodafone UK and Three UK to create one of Europe's leading 5G networks, 14th June 2025 LINK*

[87] *CMA clears Vodafone / Three merger, subject to legally binding commitments (LINK)*

[88] *Lear, E.CA Economics, Fideres, Prometeia, the University of East Anglia and Verian (2024), Exploring aspects of the state of competition in the EU: Final report, June.*

in a changing world' (2024)[89] which concluded that "*consolidation in mobile telecoms tends to lead to higher prices for users, while positive effects on investment in networks relevant to user experience or 4G roll-out could not be reliably discerned*" (p.131).
"*An approximation by Lear et al. (2024) of the cost savings for European citizens deriving from higher competition (computed as the savings that would arise if all EU countries had four MNOs operating in the market) amounts to approx. EUR 800 million per year*." (p.131)
BEREC also published a Report on Post-Merger Markets Developments which covered the price effects of Mobile Mergers in Austria, Ireland and Germany[90]. This report contributes to the literature on the estimation of post-merger price effects and compared the results in these jurisdictions with a control group of 10 EU countries. The report provides some evidence that, even with MVNO remedies, the studied mergers led to price increases compared to a situation without the mergers in the short to medium term.
Finally, in a recent article, Shortall specifically addresses the impact of mergers and the related effects of gains in scale in Europe on the market position of operators. He argues that

> *"there is no indication that the financial performance of mobile operators in a Member State acquired by another mobile operator with scale on a European (or even global) basis has been better than those without scale. There has not been one recorded instance of a firm with scale at a European level buying a third or fourth operator within a Member State and translating that scale into a market performance that would allow them to reposition themselves in the market. It would therefore appear that an increase in scale confers little local comparative advantage that is of significance on mobile markets, especially since most of the arbitrage possibilities that once existed for cross border market actors (for example, roaming) are today less remunerative. There is thus no evidence that cross-border consolidation helps MNOs to improve their economic fundamentals, either because the cost savings are not particularly important or because the benefits of scale have already been exploited."*[91]

7. Overview of financial indicators

This section reviews financial indicators to provide important context surrounding the state of competition across jurisdictions. Arguments have been put forward based on financial indicators to justify changes to European telecoms regulation, and to seek a lessening of the well-established merger controls in the case of telecoms.
BEREC's overall assessment is that the arguments put forward do not appear justified. Instead of supporting a bonfire of regulation and merger controls, BEREC's review has found that European operators have a positive future, characterized by expected increases in revenues and lower costs, as the investments over the past decade will lower operational costs and increase profit margins. BEREC's assessment is based on reviewing expert evidence which covers metrics on profitability, cashflow, capex, and investor perspectives, which are set out below.

7.1. Profitability ratios

[89] *DG-COMP Protecting Competition in a changing world (2024)* https://competition-policy.ec.europa.eu/system/files/2024-06/KD0924494enn_Protecting_competition_in_a_changing_world_staff_report_2024.pdf
[90] https://www.berec.europa.eu/en/document-categories/berec/reports/berec-report-on-post-merger-market-developments-price-effects-of-mobile-mergers-in-austria-ireland-and-germany?utm_source=chatgpt.com
[91] *A review of the European telecoms market. T Shortall. Utility Law Review 24 (6), 279-295, page 292.*

Simply put, profit is what remains after a business' expenses are subtracted from the revenues generated. A firm/industry would not be viable in the long run unless it generated profits, and these profits should be sufficient to cover the cost of financing the business. For these reasons, profitability ratios are widely assessed in many reports. BEREC considers two key profitability metrics in this review, one which assesses operating efficiency (EBIDTA Margin), and another which assesses a business' capital efficiency (ROCE).

7.1.1. Operating efficiency

Amid macroeconomic pressures, characterized by relatively high inflation (3.5% simple average each year between 2020 and 2025 as per ECB[92]), European operators maintained a stable EBITDA margin, with S&P's 2026 Industry Credit Outlook forecasting that it will remain at approximately 40% in the coming years[93]. This stable metric is likely reflected by consistent revenue growth, which, looking forward, S&P also forecasts that globally the indicator will continue to grow over the next year by 3%[94]. The latest available 5-year-ahead inflation forecast of the ECB is 2.0 % (as of Q4/2025)[95].

Compared to other jurisdictions, S&P's 2024 forecast indicates that European operators' EBITDA margins are expected to exceed Asia-Pacific's, but will not be as high as North America and Latin America's average. BEREC considers this to be an expected result, given the highly competitive nature of the European market, where intense competition generally leads to lower prices and, consequently, lower EBIDTA margins. In essence, there tends to be an inverse relationship between the level of competition and EBITDA margins, as greater price pressure from competition can reduce revenues and thus EBITDA[96], improving the pass-through of rents from operators to consumers.

Naturally, service providers' overall investments are in both the fixed and the mobile segments (OECD 2024[97]), although investments in the latter market are more cyclical, as it is dispersed across generations of mobile technology. OECD's 2024 study finds that EBITDA figures are in line with the results presented by S&P's 2024 Outlook[98], although their focus was on the mobile segment, reporting an average mobile EBITDA figure of 32% between 2019 and 2023. Indeed, mobile spending for 5G was at its peak throughout this period.

7.1.2. Capital efficiency

Separately, ROCE is an appropriate and suitable profit indicator as the telecommunications sector is capital intensive (as explained below), and the divisor (capital employed) is agnostic to a company's preference between debt and equity.

ROCE indicates the operating profit a company is generating for its capital employed. Thus, a higher ROCE indicates stronger profitability.

[92] ECB charts

[93] *S&P Industry Credit Outlook 2026: Telecoms. Chart 6 page 16 – https://www.spglobal.com/ratings/en/regulatory/delegate/getPDF?articleId=3502552&type=COMMENTS&defaultFormat=PDF*

[94] *For more information and detailed data, refer to S&P Industry Credit Outlook 2026: Telecoms*

[95] *For more information and detailed data, refer to S&P Industry Credit Outlook 2026: Telecoms*

[96] *For more information and detailed data, refer to S&P Industry Credit Outlook 2026: Telecoms.*

[97] OECD : https://www.oecd.org/content/dam/oecd/en/publications/reports/2024/06/financing-broadband-networks-of-the-future_812ce667/eafc728b-en.pdf

[98] *S&P Industry Credit Outlook 2024: Telecommunications. .Chart 24B page 32.*

BEREC's 2025 WACC parameters report shows that, on average, the 14 EU telecom[99] operators' ROCE[100] has been on the rise for almost all operators, with the overall average rising from 8.89% in 2023 to 10.96% in 2024. Additionally, European operators are generally making returns greater than their cost of capital (which for 2024 for the 23 NRAs imposing a WACC rate was 6.08% for the fixed legacy network[101]). A recent analysis by the EC DG Competition's Chief Economist and its team finds that "*on average, returns have exceeded the cost of capital over the past decade, although performance varies significantly across firms and investment cycles. The gap between returns and cost of capital has also remained positive, on average, when analysing in-country operations*"[102].
As per S&P's[103] calculations, the global telecom's sector ROCE stood at around 5% in 2023, indicating that the EU 14 peer group operators' ROCE (8.9% in 2023, as in BEREC calculation) is greater than the global average. BEREC has not found more detailed per-country ROCE information about telcos in other jurisdictions.

7.2. Financial health

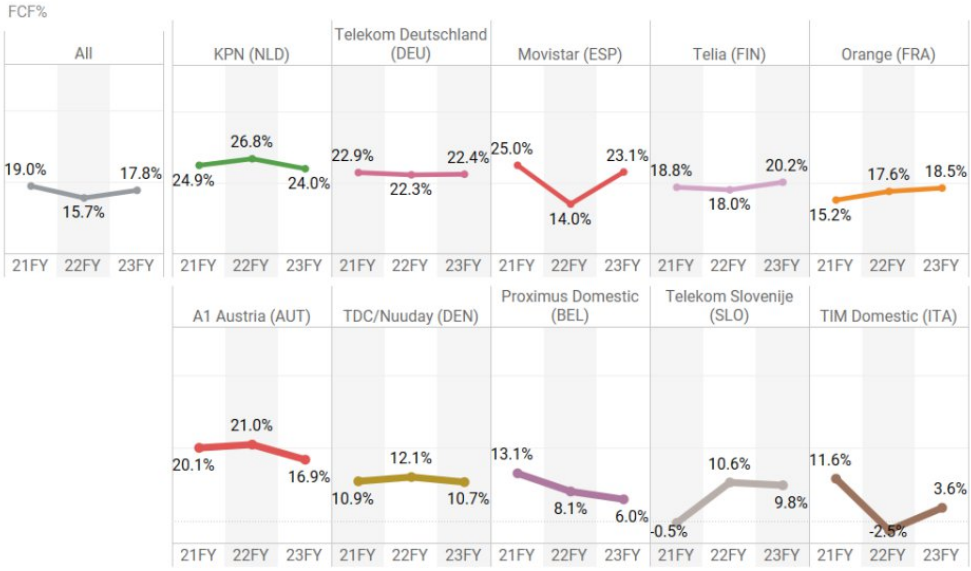
For a full picture of a firm's financial health, it is important to focus on more than just profit metrics, as the effectiveness of a firm to turn revenues into cash is also of significance. Profit margins for a firm may be influenced by accounting policies such as depreciation/amortisation. Therefore, BEREC considers it essential to also analyse the free cashflow generation of telcos. Free operational cashflow, after paying tax and the interest on borrowings, permits a company to pay out dividends, buy back shares, build reserves, and/or make further investments. This, combined with the profitability metrics, provide a more thorough understanding of the financial health of telcos.

7.2.1. Cash conversion and efficiency

Poulus et al. (2024) find that the free operational cash flow to sales ratio[104] for the 10 EU[105] operators considered is around 18%. Four out of ten incumbent operators, namely KPN, Movistar España, Telekom Deutschland and Telia Finland had relatively high conversion rates, with FCF-to-sales margins of over 20%.
It is important to note that the results referred to above were adjusted to remove the cyclical capital expenditure (Capex) tied to acquiring licences (i.e. spectrum and content such as sports rights). Poulus et al. had this approach, as license issuances are at different times, and for varying durations.

[99] *The operators in the peer group, namely Deutsche Telekom, Elisa, KPN, NOS, Orange, Proximus, Tele2, Telia, Telefonica, Telnor, TIM, Vodafone, DIGI and TKA. Further details can be found in the BEREC WACC parameters Report – https://www.berec.europa.eu/system/files/2025-06/BoR%20%2825%29%2064%20BEREC%20Report%20on%20WACC%20parameters%202025.pdf*
[100] *Return on capital employed = EBIT/(total asset-current liabilities)*
[101] *https://www.berec.europa.eu/system/files/2025-12/BoR%20%2825%29%20168_BEREC%20Regulatory%20Accounting%20Report%202025_WACC_.pdf*
[102] *"An analysis of the EU telecom sector's ability to remunerate its cost of capital", Emanuele Tarantino, Chiara Atzeni, Chiara Cirignaco, Dominik Erharter, Hans Zenger - https://cepr.org/voxeu/columns/analysis-eu-telecom-sectors-ability-remunerate-its-cost-capital*
[103] *S&P Industry Credit Outlook 2024: Telecommunications. .Chart 27 page 33.*
[104] *The FCF to Sales ratio is calculated by dividing the Operational FCF (before interest and tax costs) by the Revenues. Operational FCF refers to Revenue minus Opex minus Capex.*
[105] *The Telecompaper analysis looks at the following 10 incumbent EU operators: KPN, Proximus Domestic, Orange France, Telekom Deutschland, A1 Austria, Telekom Slovenije, Movistar Espana, TIM Italia, TDC and Telia Finland. Where applicable, international operations were disregarded.*

Figure 14 – Free cash flow to sales ratio for operators in different jurisdictions



Source: Poulus et al. (Telecompaper 2024)

On a forward-looking basis, BEREC notes that Fitch[106] expect stronger free operational cashflow for European operators. This outcome is also expected by Felten et al. (2025)[107], who noted that this is being driven by peaking Capex, diminishing operational expenditure (Opex) and rising ARPU. BEREC considers that this outcome is likely, and notes that Capex reached its peak in 2022 (as discussed in the next subsection), following investment in fibre tied to copper switch-off. In turn, BEREC adds that the replacement of copper will likely lead to lower Opex given that fibre is a cheaper network to run. The entrenchment of remote working and increasing reliance on faster services from 5G and fibre is also likely to support a positive outlook for telcos revenue generation potential and hence free operational cash flows.

For US telcos, Bain & Company[108] projects that by 2028, the US will have a $28 billion FCF gap to achieve their share price goals, driven by saturation within the mobile sector and declining pay TV revenues. Even after US telcos have implemented substantial cost cuts, Bain & Company notes that *"... these cuts will not free up nearly enough cash flow to generate the additional shareholder value these companies have targeted."*

7.3. Investment and growth indicators

The telecoms sector is a highly capital-intensive sector, which use cyclical and heavy Capex (OECD 2024)[109] to remain competitive. For this reason, BEREC considers that EBITDA figures alone do not provide the whole picture, as the metric naturally does not account for depreciation and amortization costs. Therefore, a deeper assessment of the capex-to-sales ratio is crucial to be able to analyse the level of investment that operators are making.

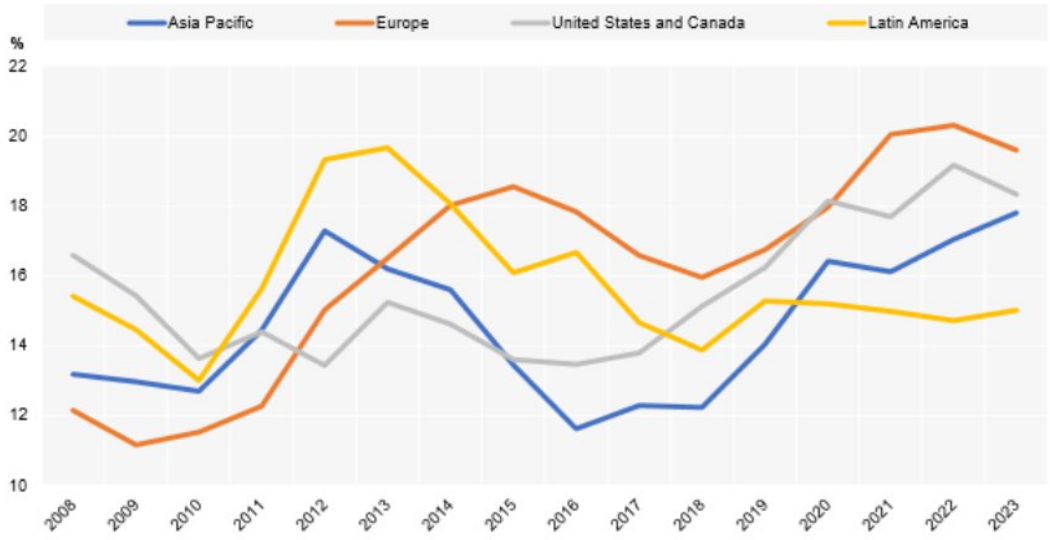
[106] Western European Telecom Trends Diverge with Incumbents Faring Better
[107] https://static1.1.sqspcdn.com/static/f/1321365/28702115/1761072978983/2025-10-16+-+EUROPEAN+TELECOM+OPERATORS+ARE+WELL+PLACED+TO+MEET+FUTURE+INVESTMENT+REQUIREMENTS+IN+DIGITAL+INFRASTRUCTURE+FINAL2.pdf?token=oF1A1%2BNPQSEDze5DP6mdZpU%2BGJQ%3D
[108] The US Telecom Cost-Cutting Imperative: $28 Billion by '28 | Bain & Company
[109] https://www.oecd.org/en/publications/financing-broadband-networks-of-the-future_eafc728b-en.html

As noted by Felten et al, Europe is "very largely" on track to reach the 2030 Digital Decade Policy Programme goals related to FTTP and 5G. Indeed, the rise in capex-to-sales between 2018 and 2023 reflects the operators' rollout of fibre and 5G. This view is supported by the OECD's report which indicated that in 2023 European operators had a capex-to-sales ratio of 19.6%, which was higher than the other jurisdictions (USA and Canada: 18.3%, Asia Pacific: 17.8% and Latin America: 15%). In absolute terms, BEREC found that US and European operators reached a peak in capex between 2021 and 2022, with circa $70 billion[110] and €70 billion[111] respectively, partially attributed to the impact of comparatively low interest rates which facilitated access to capital.

Forecasts of Fitch[112] expect a lower capex for European operators, and other markets where deployment of 5G and fibre has occurred. In a similar vein, Felten et al. 2025 note that more investment is needed to reach an EU-wide 95% population coverage for FTTP and 5G respectively. BEREC notes this on-going need for capex to achieve the coverage, but it is unlikely that a new peak will emerge.

As is observable from the graph below from the OECD 2024, between 2013 and 2023, European operators' ratio increased by approximately 4%, US operators' by circa 3%, and Asian operators' ratio increased by approximately 2%.

Figure 15 – Capex to revenue ratio of mobile operators in regions of the world



Source: Capex to revenue ratio, OECD Financing Broadband Networks of the Future (2024)

[110] *S&P Global Ratings - U.S. Telecom And Cable 2025 Outlook: Convergence, Consolidation, and Disruption. Chart 11,*
[111] *S&P Industry Credit Outlook 2024: Telecommunications. Chart 15 page 17.*
[112] *Western European Telecom Trends Diverge with Incumbents Faring Better, 9 January 2025.*

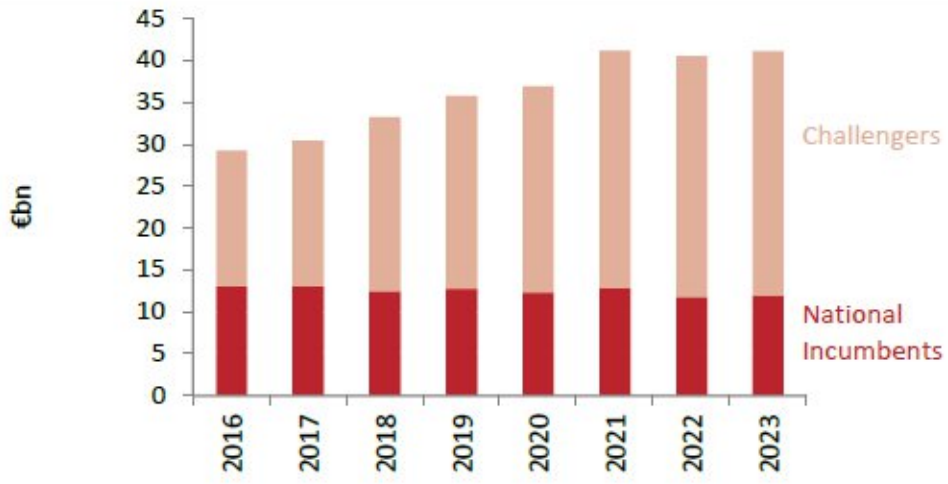
Following the decade-long intensive investment period in future-ready networks, less capex intensity going forward is expected globally (but this depends on each market's progress on 5G/fibre deployments), which ultimately supports more discretionary cashflow for operators, leading to greater financial flexibility. Indeed, these investments will also benefit operators in the future through a decline in costs, as fibre, for instance, is cheaper to run on an on-going basis than copper.

However, GSMA[113] expects that investment will continue to grow within the mobile segment, such that capex is expected to reach $1.5 trillion by 2030. This expected growth is likely related to the continued expansion of 5G network, and the launch of 6G networks. Capex in the mobile segment is generally more stable than in the fixed segment, as advancements in the mobile segment are generally segmented over a decade (Poulus et al., 2024).

That said, similar efforts are being made by fixed network operators to reach the EU 2030 FTTP goals. Felten et al. (2025) states that EU countries that are well on track to achieving the FTTP coverage EU 2030 goals (such as France, Spain and Sweden) have already reached their peak, whereas those that are behind (such as Germany and Belgium) are expected to reach their peak in the near future, as also reflected upon by Larsen 2024[114].

Felten et al. (2025) also mention that in major European markets, such as France, Germany, Italy and Spain, challengers have invested more extensively than traditional incumbents. Therefore, this finding challenges the proposed solution that "scaling up" will somehow support investment.

Figure 16 - Total telecom Capital expenditure for four EU countries, in absolute terms



Source: Total Capex in the Spanish, German, Italian and French markets, (Felten et al. 2025)

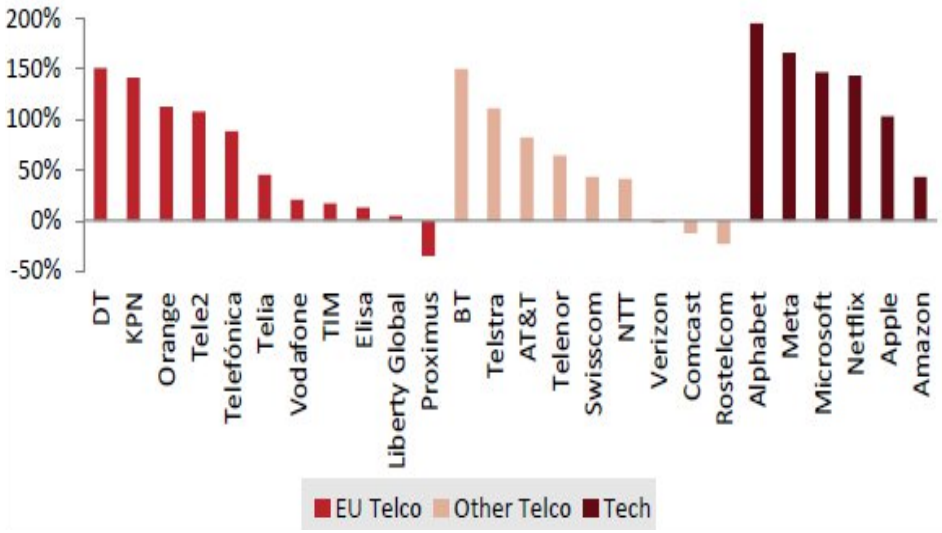
[113] https://www.gsmaintelligence.com/research/the-spend-of-an-era-mobile-capex-to-reach-1-5-trillion-for-2023-2030

[114] https://strandconsult.dk/blog/telecom-capex-past-present-and-the-future/

7.4. Investor perspectives

Felten et al. (2025) notes that, based on a simple average, the 11 EU operators[115] in their study performed stronger than other global non-EU operators[116] in their dataset. BEREC has unfortunately not found references to other sources with regards to shareholder performance.

Figure 17 - Five-year shareholder return (%) of EU and other non-EU operators



Source: Five-year shareholder return (%), EU & other listed telcos, and tech companies (Felten et al. 2025)

With regards to credit ratings, Felten et al. (2025) show that seven incumbent EU operators hold investment-grade ratings, of BBB- or higher, specifically, this means those with a rating of BBB or higher have sufficient headroom to increase their borrowings in the short term.
Felten et al. (2025) note that the 2025 EU average is slightly lower than other international counterparts (BBB+). In this regard, BEREC notes that over the past decade, telcos operators have invested heavily in emerging technologies both within the fixed and the mobile segments, and therefore, their FCF (available for shareholders) were reduced due to the increasing Capex.
In summary, BEREC supports the assessment of Felten et al. (2025), that the ratings outlook for European operators is mostly positive, following their stabilisation post-2021 (*Slijkerman 2024*)[117]. This is particularly the case as many European operators are now approaching completion of their heavy investment phase of the investment cycle, making them more attractive to investors, as the reduction in heavy investment frees up cashflow and increases the possibility of redistribution to shareholders or paying down debt.

8. Conclusions

Overall, the EU telecom sector shows strong competitive dynamics, affordable prices, improving coverage and solid financial conditions, though performance varies among MS. International benchmarking highlights that competition remains a key driver of investment and

[115] *DT, KPN, Orange, Tele2, Telefonica, Telia, Vodafone, TIM, Elisa, Liberty Global, Proximus. Felten et al., note that DT's share performance reflects its share of T-Mobile USA.*
[116] *BT, AT&T, Swisscom, Telenor, Telstra, NTT, Verizon, Comcast, Rostelecom.*
[117] *How strong financial policies are set to shield telcos from economic turbulence | articles | ING Think*

consumer welfare, while the EU's pro-investment regulatory framework – including coordinated ex-ante rules and access obligations – also supports connectivity objectives effectively. Accordingly, BEREC strongly believes that competition, together with the regulatory framework that enables it, is the primary driver of investment, innovation, and sectoral progress[118].

Connectivity is advancing, but unevenly. The EU has made important progress on FTTP and 5G coverage – now broadly comparable with some of the global peers – yet performance still varies markedly across MS. Top EU performers typically rank among the world's leaders, while several countries trail in fibre take-up.

Value for money is a clear EU strength. EU consumers benefit from consistently lower fixed and mobile broadband prices than in the USA and South Korea, and broadly comparable affordability to Japan. While average EU download speeds trail global leaders and upload performance is moderate, latency remains a clear EU strength, and top-performing EU countries achieve world-class broadband quality in every parameter.

The EU has largely narrowed the urban–rural broadband gap. Average 5G disparities are comparable to the USA and China, top EU countries lead globally, though some MS still lag in rural fixed broadband coverage.

Consolidation remains possible under current EU rules, both cross-border and in-country, sometimes with remedies. Meanwhile, some large operators are exiting secondary markets to refocus on core operations, suggesting diminishing returns to scale. Empirical evidence links mergers to higher consumer prices and uncertain gains in investment and innovation.

The EU's harmonised ex-ante, asymmetric and symmetric-based regimes, mandate wholesale access to foster competition while maintaining incentives to invest in new infrastructure where viable. This contrasts with ex-post approaches in USA/parts of Canada, negotiated or hybrid regimes in Japan/Korea, and state-centred models in Australia/China. These choices shape the market structure, with the EU generally sustaining more competitors and wholesale entrants, supporting diversity and competition.

BEREC's research has showed that the European operators seem financially healthy. They generally enjoy returns above their cost of capital (albeit with differences in some cases), stable margins, peaked capex, declining costs, rising cash flows, and positive investor and credit outlooks as fibre and 5G rollouts mature. Challengers have been major investors in key markets. Therefore, BEREC finds no financial justification for loosening telecom regulation or merger controls.

[118] *BoR(25)114 Page 20*

Annex I - Service diversity

In this annex BEREC provides some illustrative comparisons that steam from the different regulatory and institutional approaches that tend to be reflected in distinct market results.

The European Union[119]: for fixed broadband services, in many MS there are at least four nationwide operators; for example, Germany and the Netherlands each offer four[120] nationwide alternatives, Italy counted seven[121] relevant fixed operators in 2025 that together accounted for about 90% of the market, and Spain[122] and France[123] currently have four main nationwide fixed-mobile integrated operators. For mobile services (2024), MS typically have three or four MNOs, while MVNOs usually represent 5–20% of the market; around 20%[124] in Germany and in the Netherlands[125] (with several MVNOs each with a considerable number of i.e. > 0.5 million customers). Italy's MVNO share is at 8–10%, with four MNOs[126].
The USA: for fixed broadband services there is 1 provider that covers more than 60% of the U.S. population, while another 4 cover between 30-38%[127], and "*more than a third of Americans have only one provider of high-speed broadband or lack access altogether*"[128]. In mobile markets, there are three nationwide service providers with a market share of over 90%, and 5 MVNOs accounting for circa 7% of the market[129].
Canada: for fixed broadband, most homes are served by two networks capable of providing broadband internet services via their own network: one owned by the local telephone company, and the other owned by the local cable company[130]. Across Canada there are 7 main incumbents, accounting for more than 80% of connections[131] and independent ISPs competing via wholesale high-speed access. The mobile market is dominated by 3 MNOs, with market share of MVNOs of 13,1% as of 2023[132].
Australia: there are at least 7 relevant retail broadband operators using **national coverage** through the wholesale National Broadband Network (NBN). The mobile market consists of 3 MNOs, which together control 89% of the market. MVNOs (some of them owned by the MNOs) serve the remaining 11% of the market[133].
Japan: for fixed broadband, multiple retailers rely on wholesale FTTH access from the single nationwide fibre network operator, which accounts for over 50% of all FTTH subscribers. This fibre network operator also competes at a retail level[134]. Only one other operator has high fibre coverage (70–80%)[135]. For mobile services, the market features three main MNOs accounting

[119] *In its recently published impact assessment accompanying the proposal for a Regulation on Digital Networks, the EC underlines that "there are multiple operators in each country on average 3-5 mobile operators and around 10 fixed operators, and even about 20 MVNOs in some Member States".*
[120] https://www.accenture.com/content/dam/accenture/final/accenture-com/document-3/Accenture-Connect-BroadbandFixed-Line-Network-Test-Germany.pdf
[121] Osservatorio sulle Comunicazioni 3/2025 | Agcom
[122] https://www.cnmc.es/prensa/datos-diciembre-telecos-20250306
[123] https://en.arcep.fr/news/press-releases/view/n/french-telecoms-market-telconomics-2025-230525.html
[124] Telecoms Annual Report 2024, *page 10.*
[125] ACM Telecommonitor tweede kwartaal 2025 | ACM
[126] Osservatorio sulle Comunicazioni 3/2025 | Agcom
[127] https://docs.fcc.gov/public/attachments/FCC-24-136A1.pdf *FCC last 2024 Communications Marketplace Report, pp-7-9.*
[128] https://www.benton.org/blog/more-third-americans-have-access-one-or-no-broadband-provider *Also in the FCC report on page 6.*
[129] *FCC report, pages 45-49. MNOs: 375 million connections, main MVNOs: circa 28 million connections.*
[130] https://competition-bureau.canada.ca/en/how-we-foster-competition/promotion-and-advocacy/regulatory-adviceinterventions-competition-bureau/market-study-notice-competition-broadband-services
[131] https://crtc.gc.ca/eng/archive/2024/2024-180.htm *See "Background".*
[132] Canadian Telecommunications Market Report 2025 | CRTC, *5.2 Competition.*
[133] Trends and developments in telecommunications 2023-24.pdf, page 10 and 16.
[134] https://www.soumu.go.jp/main_sosiki/joho_tsusin/eng/pressrelease/2024/pdf/000382186_20240628_2.pdf page 12 and 13.
[135] https://www.sakuramobile.jp/blog/japan-home-internet/au-hikari/

for about 83% of subscribers (plus a smaller fourth MNO). MVNOs hold roughly 17% of the market[136].

South Korea: the market is dominated by three nationwide integrated fixed-mobile operators that together account for about 90% of fixed-broadband subscriptions[137] and 83% of mobile services, while MVNOs account for 17%[138].

China: there are three main nationwide fixed-mobile integrated operators which are state-owned. They account for over 90% of the market share[139], with MVNO representing around 4% of connections[140].

The United Kingdom: there are multiple fixed broadband providers offering nationwide offers, most of them using wholesale services via Openreach[141].The mobile market consists of 4 MNOs with circa 80% market share, and a MVNO market share of circa 20% with 62 different operators[142], 5 of them with relevant market shares[143].

Table summarizing service diversity:

Jurisdiction	Fixed broadband market structure	Mobile market structure
European Union	Many MS have ≥4 nationwide fixed operator.	Typically 3–4 MNOs. MVNOs generally 5–20%
USA	One provider covers more than 60% of population; four others cover 30–38%; over one-third of Americans have only one high-speed provider or none.	3 nationwide MNOs. MVNOs around 7%.
Canada	Most homes are served by two networks (telephone and cable); seven incumbents hold over 80% of connections; independent ISPs compete via wholesale access.	3 dominant MNOs. MVNO share around 13%.
Australia	≥ 7 retail broadband operators using nationwide access through NBN.	3 MNOs. MVNOs around 11%.
Japan	Multiple fixed providers; about half of FTTH retail offers come via a single nationwide wholesale fibre operator; only one other operator covers 70–80%.	3 main MNOs plus a smaller fourth MNO. MVNOs around 17%.
South Korea	3 integrated operators account for ~90% of fixed-broadband subscriptions.	3 MNOs. MVNOs about 17%.
China	3 state-owned integrated operators hold over 90% of the fixed–mobile market.	Same 3 fixed operators dominate the mobile market. MVNO share around 4%.
United Kingdom	Multiple fixed providers, most relying on Openreach wholesale access.	4 MNOs. MVNOs about 20%, with 5 significant ones.

[136] *SoftBank Corp. Integrated Report 2025, page 121.*
[137] *http://stat.ktoa.or.kr/02_service/service_03_client.asp*
[138] *As of June 2025, the number of MVNO subscribers reached 10.11 million lines, exceeding 10 million fo.. - MK.*
[139] *https://www.marbridgeconsulting.com/marbridgedaily/archive/article/115200/chinas_three_main_telcos_report_q1_2025_subscriber_totals However, there is a fourth, smaller integrated fixed-mobile player (China Broadnet; mobile from 2022): https://www.telecoms.com/5g-6g/china-broadnet-strengthens-market-position-through-digitalization*
[140] *https://www.chyxx.com/industry/1204116.html MVNO: 80,84 million users*
[141] *Broadband market share in the UK.*
[142] *https://www.spglobal.com/market-intelligence/en/news-insights/research/mvnos-world-2025-esims-and-cloud-solutions-expand-opportunities Data from 2023.*
[143] *Mobile Networks UK: Complete Providers' Guide 2025 | Ringover. Market shares data from 2022.*