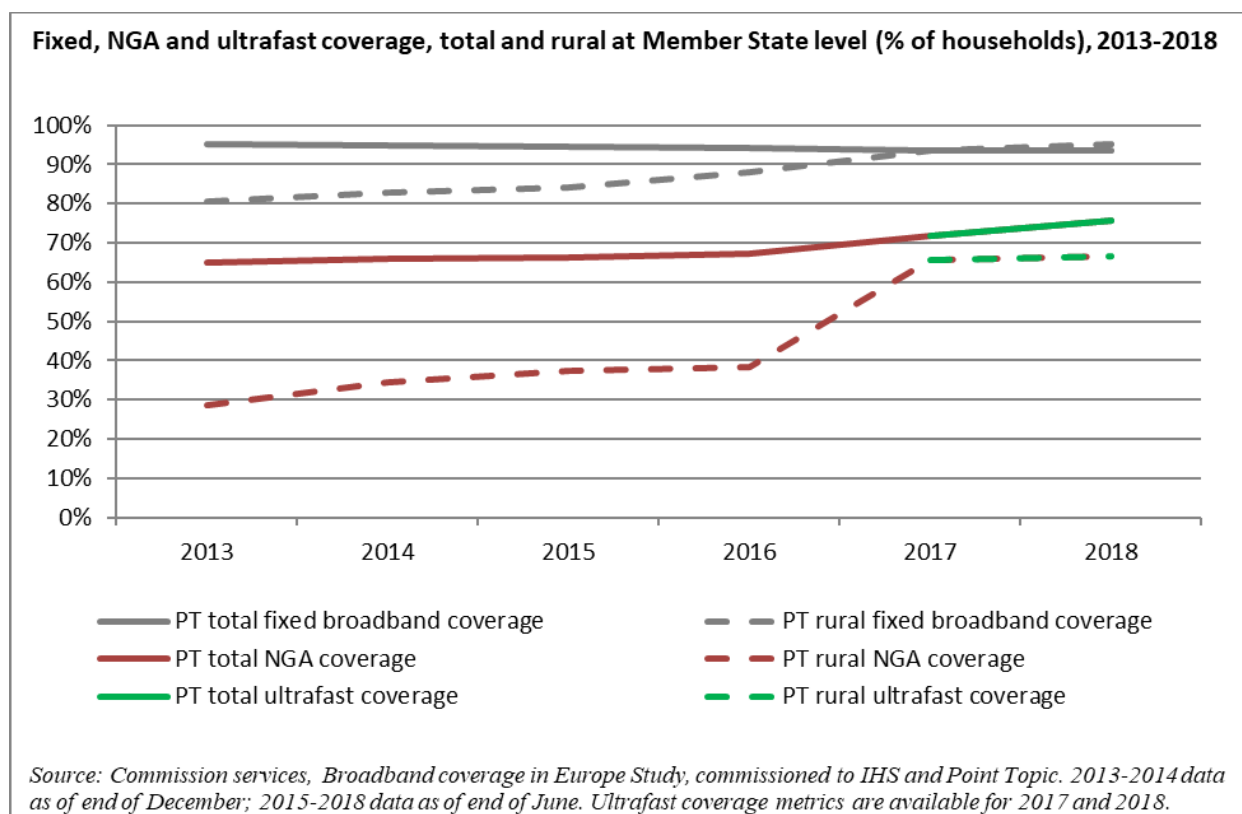


Portugal

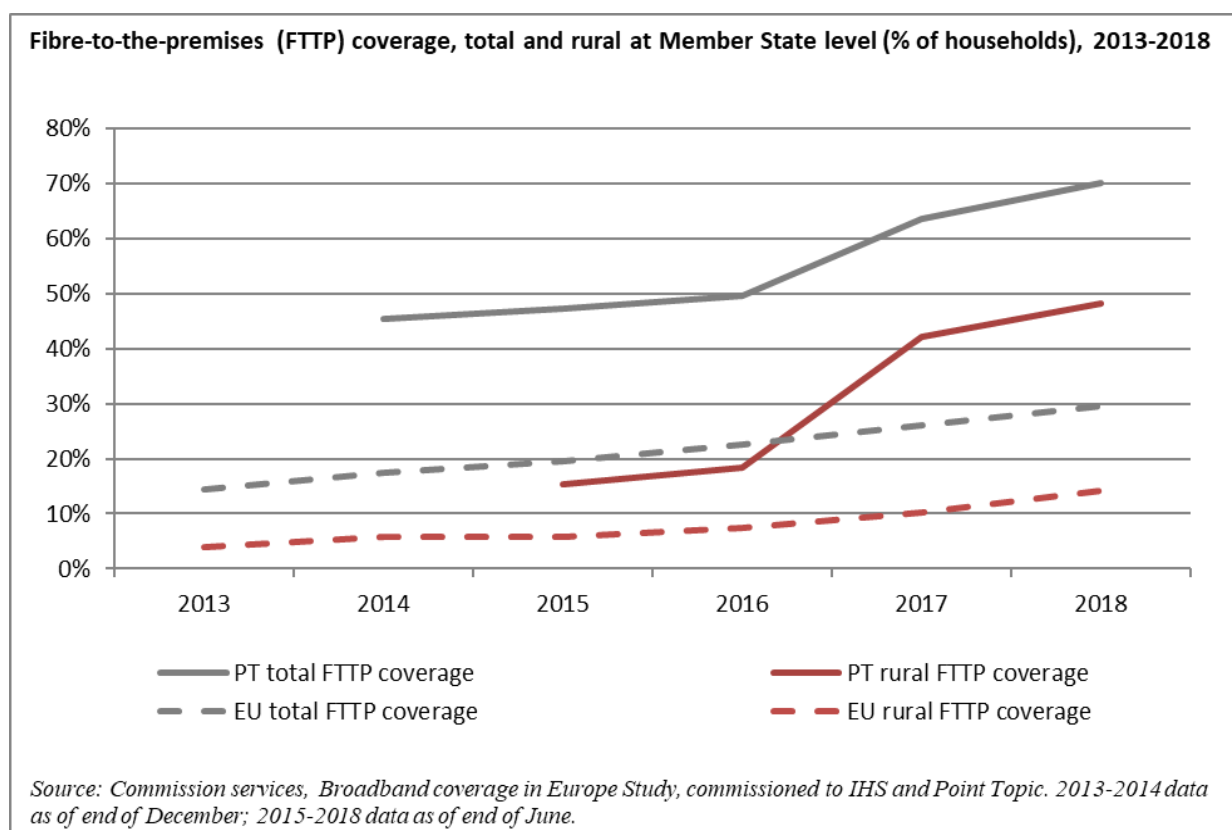
	DESI 2017	Portugal		EU	
	value	DESI 2018	DESI 2019	rank	DESI 2019
1a1 Fixed broadband coverage % households	94% 2016	93% 2017	94% 2018	23	97% 2018
1a2 Fixed broadband take-up % households	68% 2016	72% 2017	74% 2018	16	77% 2018
1b1 4G coverage % households (average of operators)	93% 2016	94% 2017	96% 2018	16	94% 2018
1b2 Mobile broadband take-up Subscriptions per 100 people	55 2016	65 2017	70 2018	27	96 2018
1b3 5G readiness Assigned spectrum as a % of total harmonised 5G spectrum	NA	NA	0% 2018	13	14% 2018
1c1 Fast broadband (NGA) coverage % households	67% 2016	72% 2017	76% 2018	22	83% 2018
1c2 Fast broadband take-up % households	43% 2016	51% 2017	56% 2018	7	41% 2018
1d1 Ultrafast broadband coverage % households	NA	72% 2017	76% 2018	13	60% 2018
1d2 Ultrafast broadband take-up % households	25% 2016	35% 2017	50% 2018	2	20% 2017
1e1 Broadband price index Score (0 to 100)	69 2016	72 2017	78 2018	21	87 2017

1. Progress towards a gigabit society

The coverage and take-up of ultrafast broadband in Portugal is well above the EU average. Investment and competition between private operators continues to drive its expansion.



Fixed broadband is available to 94 % of households, slightly below the EU average of 97 %. Fast broadband coverage reached 76 % in 2018 increasing by 4 p.p., but still below the EU average of 83 %. Ultrafast broadband networks are available to 76 % of households (a 3 p.p. increase in the last year), well above the EU average of 60 %.



Total FTTP coverage increased by 7 p.p., from 63.6 % in 2017 to 70.2 % in 2018, well above the EU average of 29.6 %. Rural FTTP coverage also increased, from 42.2 % to 48.2 %, also above the EU average (14.2 %).

In 2011, the Commission declared the compatibility with state aid rules of a measure supporting the deployment in five rural areas of next generation networks (SA. 30317)¹. In 2 May 2018, Autoridade Nacional de Comunicações (ANACOM) reviewed the wholesale tariffs for access to those networks and proposed to the government that Fibroglobal's prices be reduced by 30-66 %. In addition, it proposed that Fibroglobal's bitstream offer be extended to 200 Mbps, 400 Mbps or 1 Gbps speeds and include a multicast functionality. The proposal was analysed by the government and a final decision was issued in April 2019, implementing the proposed changes².

The Commission Decision provided for a claw-back mechanism whereby, if the profit generated on the subsidised network exceeds the industry average, the extra profit has to be paid back to the granting authority. ANACOM assisted the government in this matter and identified the existence of over-financing, for the first five years of Fibroglobal's contracts relating to the Central and Azores areas³. It established that a reimbursement of €3.1 million was due. Accordingly, ANACOM proposed

¹ Three of them (Center, Madeira and Azores) were awarded to Viatel -Communications Technology SA (Fibroglobal) and the remaining two (North and Alentejo/Algarve) to DS Telecom SA. The networks deployed cover more than 50 % of the population of 138 municipalities, representing 6 % all Portuguese households.

² Including the introduction of (i) reference monthly price-caps (for both PON and bitstream offers); (ii) different debit category options in the bitstream offer scheme; and (iii) multicast functionality.

³ The contracts stipulate that an over-financing assessment should occur every five years of the contract. Notwithstanding the periodic analyses, a final global assessment must take place at the end of the contract duration of 20 years).

the government to forward the results of the analysis to the funds management authorities. A final decision is still pending.

Investment by commercial operators continued in 2018. In particular, MEO announced investments in the Autonomous Region of Azores in fibre optics, renewal of the mobile network and submarine cables. According to the plan, by the end of 2019, about 100,000 homes across the nine islands will have access to MEO's fibre optics. In February, MEO disclosed an investment of €4 million in its data centre in Covilhã (claimed to be the largest in Portugal), to implement, *inter alia*, the migration of the entire support infrastructure to the SAPO portal.

DSTelecom and Fibroglobal also announced investment plans in mainland Portugal, and the Azores. In 2018, NOS concluded their DOCSIS3.1 network upgrade, enabling the provision of speeds up to 1Gbps on its entire network.

As submarine cables connecting mainland Portugal, the Azores and Madeira are expected to reach the end of their useful life in 2024/2025 (Columbus III in 2024 and Atlantis-2 in 2025), the 2019 state budget (as approved in October 2018 by the Portuguese parliament) provides for the government to take the necessary measures to ensure connectivity between Mainland Portugal and the Autonomous regions (Madeira and Azores) and between the Islands of such regions.

According to ANACOM's Multi-Annual Activities Plan, , a draft for the transposition of Directive (EU) 2018/1972 of the European Parliament and of the Council of 11 December 2018 establishing the European Electronic Communications Code⁴ (EECC) will be presented to the Ministry in 2019.

For a long time, Portugal has given priority to access to civil infrastructure as a driver for investment by alternative operators on their own networks. Subject to regulation by ANACOM, operators had access to ducts and associated infrastructure (e.g. manholes, chambers) of the incumbent operator (MEO) under the reference offer of access to ducts (known as ORAC) since 2006.

2. Market developments

In 2018, there were neither new entrants on the Portuguese market nor any consolidation. There are four major operators - MEO (former incumbent), Grupo NOS, Vodafone and Grupo Cabolink (ONI and Nowo) – but a total of 51 active operators. In September 2018, KKR & Co. Inc. (a US company of global investment) notified the acquisition of indirect exclusive control over the holding company Cabolink, owned by Grupo Apax. In November 2018, the Portuguese competition authority issued a decision of non-opposition to this concentration.

In January 2018, the Portuguese competition authority was notified of the acquisition by Cube II Communications S.A.R.L. (company controlled by Cube Infrastructure Fund II, which is managed by the European infrastructure fund “Cube Infrastructure Managers”) and by DST SGPS, S.A. of the joint control of DST Telecomunicações, SGPS, S.A, which previously was solely controlled by DST SGPS, S.A. This acquisition occurred during 2108. DSTelecom Group announced that its objective was to invest another € 50 million in the country's fibre optic coverage, so as to reach 500,000 homes within 2 years.

In June 2018, Altice Europe announced that its Portuguese branch had entered into an agreement with a consortium, including Morgan Stanley Infrastructure Partners and Horizon Equity Partners, to sell 75 % of a company, ‘Torres de Portugal’ or ‘ToP’, to which it would transfer the 2,961 sites it used to operate. The transaction valued ToP at €660 million. In addition, an agreement between Altice Portugal and ToP for the construction of 400 new sites was expected to generate around 60 million

⁴ OJ L 321, 17.12.2018, p. 36–214.

Euros in additional revenues for Altice Portugal in the next 4 years. The transaction was based on a long-term partnership between Altice Portugal and ToP, and Altice Portugal will reinvest part of the revenue to acquire a 25 % financial interest in partnership with the consortium. The transaction was completed in the third quarter of 2018.

Following ANACOM's March 2017 decision not to regulate access to MEOs fibre network, Vodafone and NOS signed an agreement to develop and share infrastructure nationwide, enabling both operators to extend their commercial offers over the shared network. The agreement, which entered in force in early 2018 and has 25-years lifetime, involves the operators investing equal amounts and sharing dark fibre to around 2.6 million homes. The partnership also applies to mobile infrastructure, with a minimum of 200 mobile towers to be shared.

The demand for bundles is the main driver for the development of communications networks and services in Portugal. In fact, there is almost no consumption of standalone services. This is particularly relevant for the fixed broadband mass market. At least 88 % of subscriptions for residential bundles include a pay TV service. Of the operators' publicly available offers at the end of 2017, 72 % included a pay-TV service. The digital terrestrial television (DTT) service is provided on a standalone basis (in July 2018, around 15 % of households received TV services exclusively on DTT).

2.1. Fixed markets

The share of cable in total broadband access decreased (from 33 % to 31.8 %) as did that of DSL (from 23.9 % to 18.5 %). The decrease was to the benefit of fibre to the home/building (FTTH/B) technology, which has seen a strong upward trend (from 35.4 % to 41.9 %).

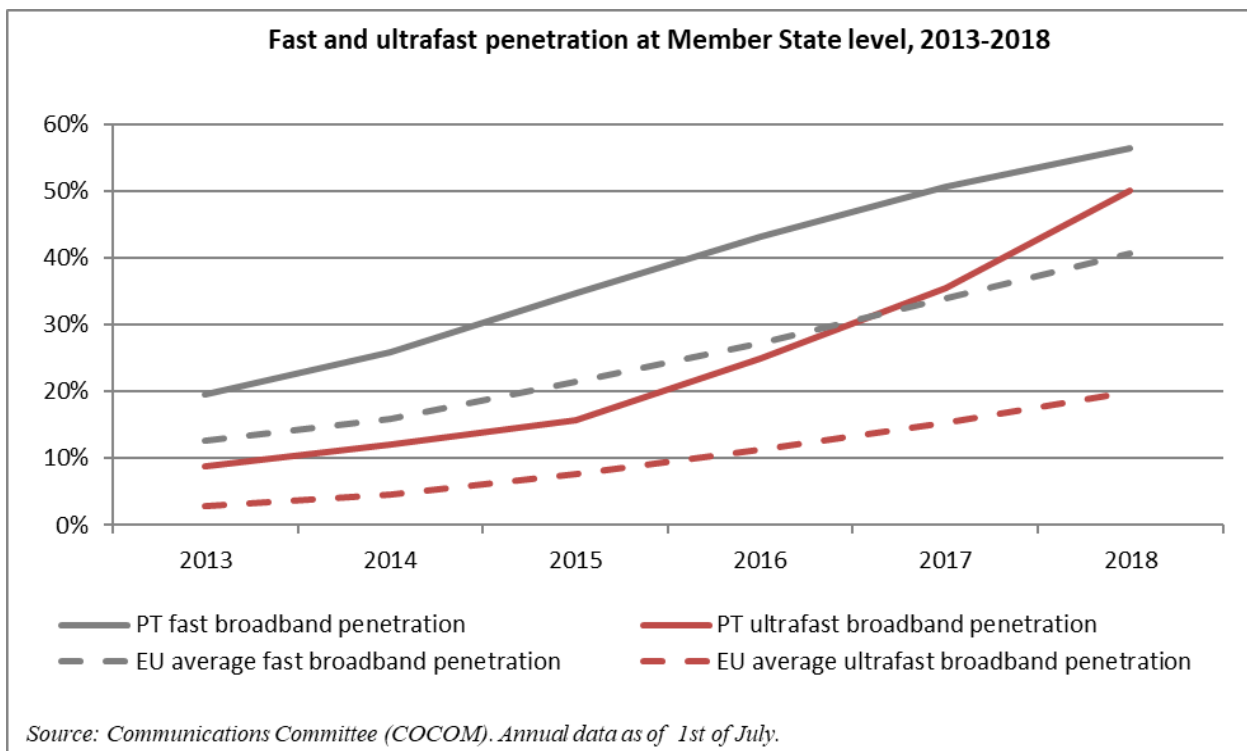
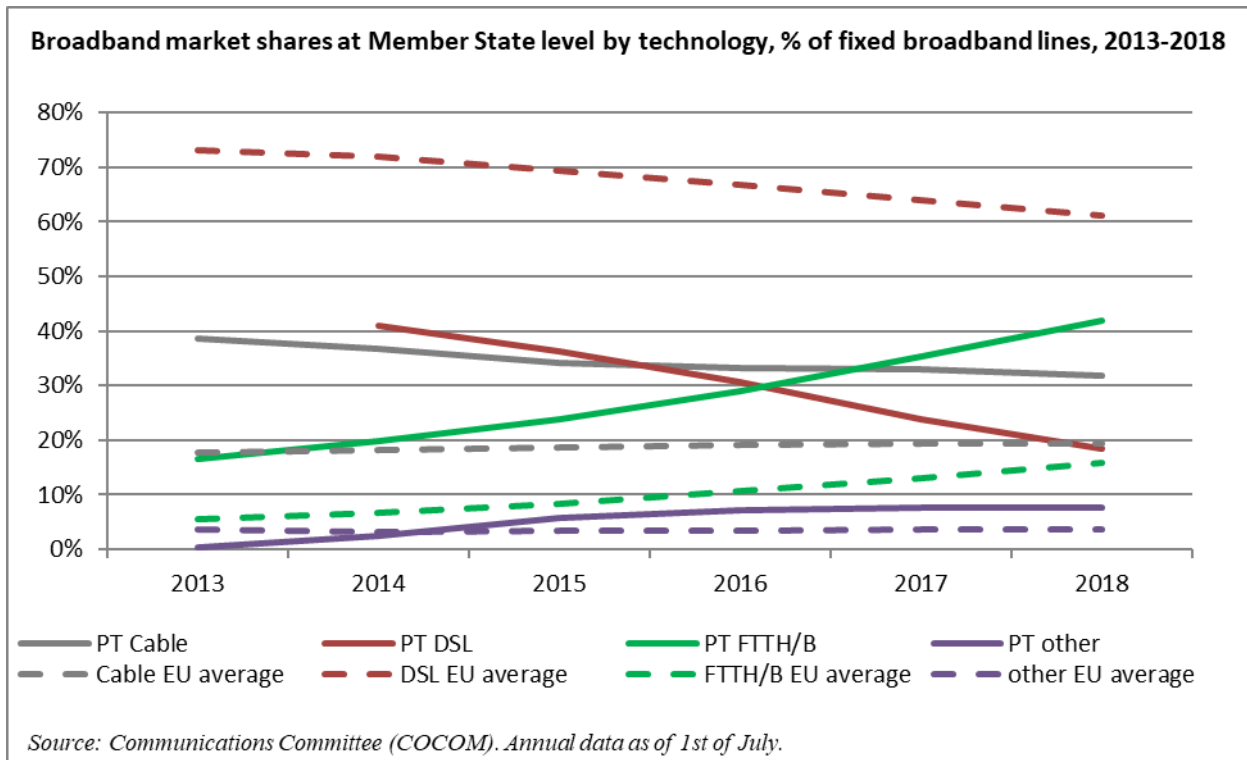
Fixed broadband take-up improved but still remains a challenge. It increased by 2 p.p. (from 72 % in 2017 to 74 % in 2018), narrowing the gap with the EU average (77 %). Fast and overall ultrafast broadband take-up are one of main sources of improvement in the DESI. While fast broadband take-up increased by 5 p.p. (from 51 % to 56 %, above the EU average of 41 %), ultrafast broadband take-up increased by 15 p.p. (from 35 % to 50 %), well above the EU average of 20 %.

Following data provided by ANACOM, in the case of fixed services, MEO managed to keep or even slightly increase its market shares (its fixed voice line share rose by 0.3 p.p. and its pay TV subscribers' share by 0.6 p.p. between 1S 2017 and 1S 2018). Vodafone's shares also grew (fixed voice line share by 0.8 p.p. and pay TV subscribers' share by 1.2 p.p.) but NOS experienced a losses (fixed voice line share down by 1.1 p.p. and pay TV subscribers' share by 1.4 p.p.). In absolute numbers, MEO has been able to attract the largest number of new customers since it started to expand its FTTH network. Looking at residential next-generation access (NGA) subscribers only, it saw a significant increase in its market shares (4.8 p.p. from 1S 2017 to 1S 2018).

ANACOM reports that there were 3.7 million fixed broadband lines the first half of 2018, an increase of 5.9 % over the previous 12 months. About 68 % of fixed broadband lines have a (theoretical) download speed of 100 Mbps or faster. Over 98 % of fixed broadband lines were part of a bundle with other electronic communication services. The growth in the number of fixed broadband lines is mostly from FTTH lines, which increased by 25.5 % from the first half of 2017. Cable modem and fixed wireless access increased by 1.9 % and 5.7 % respectively and ADSL decreased by 18.3 %.

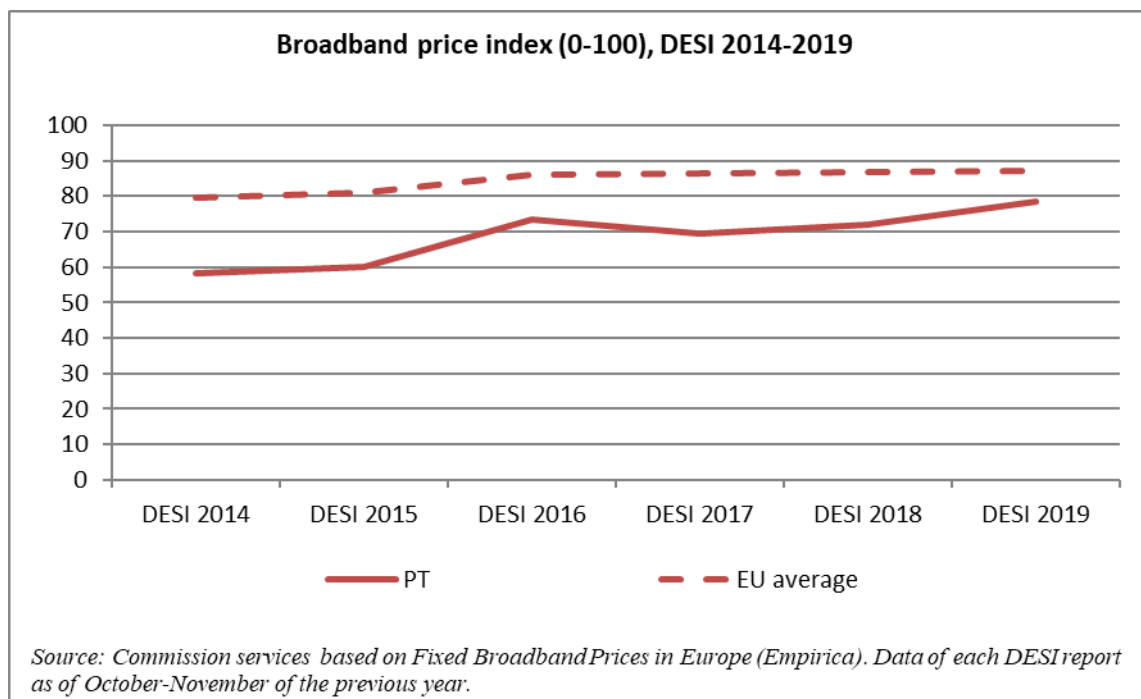
As a result of these trends, FTTH became the main broadband access technology in Portugal (42 % of broadband lines), followed by cable modem (31.9 %) and ADSL (18.4 %).

Average traffic has been climbing steadily, surpassing the 100 GB/line/month mark in Q3 2018.



Despite an improvement in the broadband price index in 2018, Portugal still ranks 21st. However, concerning this ranking, convergent bundling (i.e. including fixed and mobile internet and voice services) is the most representative method used by operators to sell electronic communications services in the country⁵.

⁵ The fixed broadband price index weighs the cheapest retail offers from: standalone, double play (BB + TV, BB + fixed telephony) and triple play (BB+TV+fixed telephony) and three speeds categories - 12-30 Mbps, 30-100 Mbps and +100



2.2. Mobile markets

4G coverage also improved in the DESI in 2018, from 94 % to 96 %, 2 p.p. above the EU average of 94 %. While mobile broadband take-up improved substantially (from 65 % in 2017 to 70 % in 2018), it is still behind the EU average (96 %).

At the beginning of 2018, eight entities currently provide mobile services in Portugal. In addition to the three network operators (MEO, Vodafone and NOS) five mobile virtual network operators (MVNOs) are active in the market (CTT-Phone-ix⁶, Lycamobile NOWO, Onitelecom and Vectone⁷).

Starting with UMTS back in 2004, the mobile operators are sharing some elements of the network infrastructure. They have also implemented various 4G network-sharing practices.

There are no plans to phase out 2G or 3G networks or refarm the relevant spectrum. Mobile operators are allowed to implement technologies other than 2G or 3G, on the basis of technology-neutrality.

ANACOM reports that, about 96 % of residents in Portugal subscribe to a mobile service. The number of mobile subscribers grew by 0.9 % in the last 12 months. There were about 1 million M2M subscribers (about 6 % of the total) at the end of the first half of 2018. The number of mobile broadband subscribers reached 7.2 million and is growing at a rate of 6.9 % a year. Smartphone penetration reached 77 %. The growth in the number of subscribers is associated with bundles. In total, 42 % of residential mobile subscribers have a bundle that includes both fixed and mobile services. On the other hand, these ‘convergent’ bundles now represent 57 % of subscribers’ bundles. This is also leading to an increase in the proportion of post-paid subscribers, to 55 % of the total.

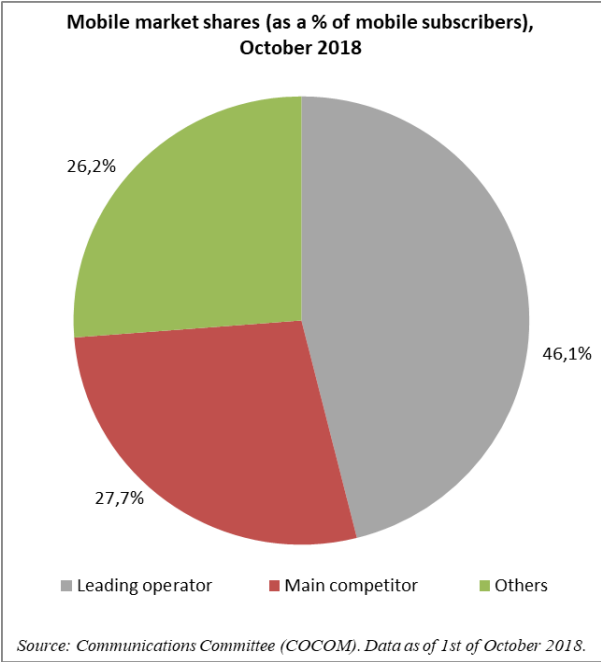
Total and average voice traffic is still increasing at a rate of 6-7 % a year and average call duration is also increasing (ANACOM). The growth stems from off-net calls, which now represent 39 % of the volume and, to a lesser extent, from mobile-fixed calls. This is due to the fact that bundles include unlimited national traffic and no on-net/off-net price difference.

Mbps. This indicator presents values from 0 to 100 (which should not be read as prices) and the higher the values, the better the country performs in terms of affordability of prices relative to purchasing power.

⁶ CTT-Phone-ix ceased its activity in early 2019.

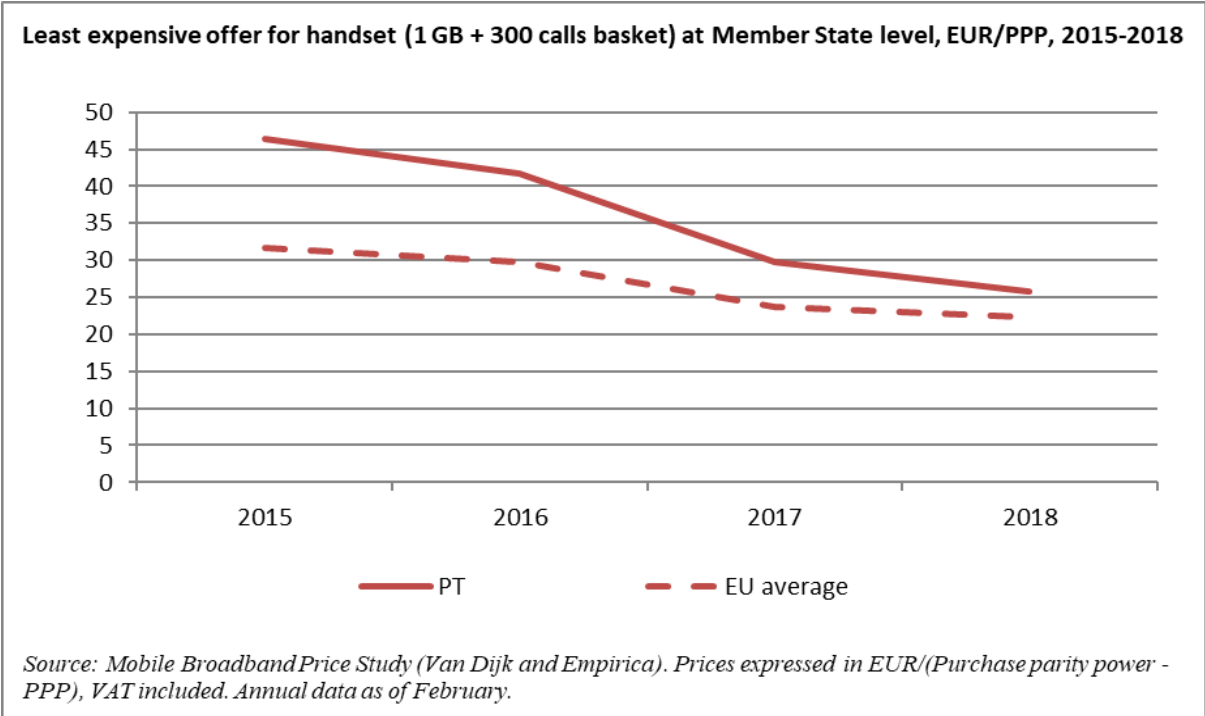
⁷ On 4 July 2018 Vectone ceased providing services in Portugal.

ANACOM reports that SMS traffic has been decreasing since 2012 because of alternative messaging services. The average number of SMSs per month is now 114 (4 years ago it was 172). Data traffic increased 30 % in the last year. Average data traffic reached a peak of 3.3 GB/month. In July 2018, about 1.4 million mobile users (13 % of the total), subscribed to a zero-rated-type offer.



In Portugal the mobile market shares of the leading operator are equal to 46.1 % while mobile market shares of the main competitor are 27.7 %.

Concerning the impact of over-the-top services on consumer choices, in the beginning of 2018 46 % of internet users made voice and video calls over the internet, up 2 p.p. from 2017. At the end of 2018 instant messaging was used by 60 % of mobile users. About 11 % of individuals subscribed to a paid video-streaming service (e.g. Netflix, NPlay, FOXPlay, Amazon Prime Video).



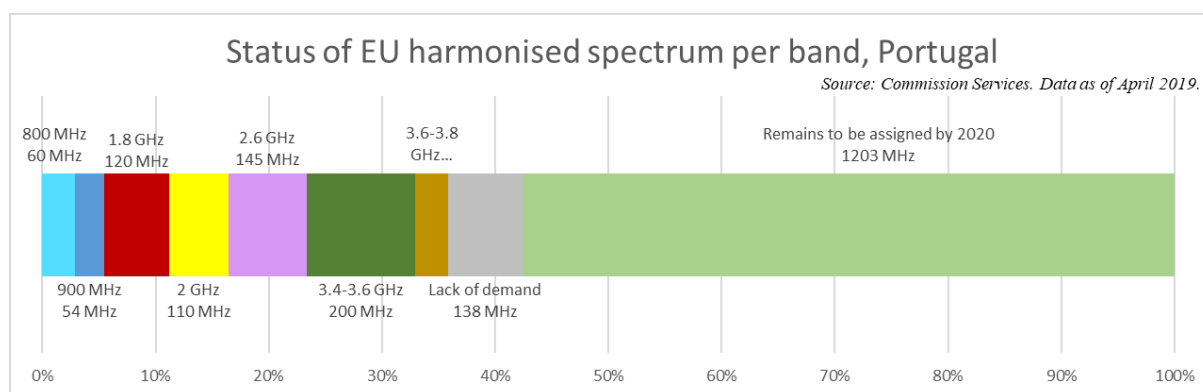
Other online services have a high penetration rate: social networking (82 % of mobile users), maps (73 %), video streaming (67 %), audiostreaming (48 %), online gaming (25 %). Some operators have included third-party or their own video-streaming services in their telecom bundles, along with other services (e.g. home security, location, M2M-type applications, etc.).

Stand-alone mobile broadband prices for handset offers decreased (from €/PPP 29.8 to EUR/PPP 25.70); but continue to exceed the EU average (€/PPP 22.30).

3. Regulatory developments

3.1. Spectrum

In Portugal, 35.8 % of the spectrum harmonised at EU level for wireless broadband is assigned⁸. The spectrum that remains to be assigned is mainly in the 700 MHz, 1.5 GHz and 26 GHz bands and some in the 3.6-3.8 GHz bands. No new spectrum rights were granted in 2018 but the rights of use on the 2.1 GHz have been renewed for 15 additional years (until 2033). The last spectrum award took place in 2012. While Portugal has assigned 200 MHz in the lower part and 60 MHz in the upper part of the 3.4-3.6 GHz band, the technical conditions are not in line with Commission Decision (EU) 2019/235⁹ leading to a scoring of 0 in the DESI 5G readiness indicator.



Coordination with Spain on the 700 MHz band has been concluded and work is being finalised with the Moroccan regulator. In March 2018, ANACOM launched a public consultation on the assignment of the 700 MHz band¹⁰. In July, it issued the national roadmap for the release of the 700 MHz band, which is to commence in the last quarter of 2019 and be completed by the end of May 2020. This will require the migration of DTT to a new frequency band. The roadmap provides for the adoption of the simplest migration scenario, through the maintenance of current technology and without the need for a period of simultaneous transmission.

The March 2018 public consultation on 700 MHz assignment also covered the assignment of the 3.4-3.8 and 26 GHz bands¹¹. Two operators have rights of use in this band until 2024/2025. Portugal is studying the possible scenarios for reorganising and allowing the use of sufficiently large blocks in the band by 31 December 2020, as required by Article 54 EECC.

Coordination of civil/military use of spectrum is part of existing practices. Some of the latest EU spectrum harmonisation measures (e.g. 800 MHz) required detailed coordination with the military counterpart.

A licensed share access agreement (LSA) trial was developed in the band 2300-2400 MHz. Depending on the conclusions reached, LSA could be considered as a possibility to be implemented. The band currently accommodates services ancillary to programme making / services ancillary to broadcasting (SAP/SAB) applications. Spectrum trading takes place in a few sectors, such as sound broadcasting and private mobile radio.

⁸ The 5G spectrum readiness' indicator is based on the amount of spectrum already assigned and available for use for 5G by 2020 within the '5G pioneer bands' in each EU Member State. For the 3.4-3.8 GHz band, this means that only licences aligned with the technical conditions annexed to Commission Decision (EU)2019/235, are considered 5G-ready. However, the percentage of harmonised spectrum takes into account all assignments in all harmonised bands for electronic communications services (including 5G pioneer bands), even if this does not meet the conditions of the 5G readiness indicator.

⁹ Commission Implementing Decision (EU) 2019/235 of 24 January 2019 on amending Decision 2008/411/EC as regards an update of relevant technical conditions applicable to the 3400-3800 MHz frequency band (*OJ L 37, 8.2.2019, p. 135*)

¹⁰ <https://www.anacom.pt/render.jsp?contentId=1430582>

¹¹ <https://www.anacom.pt/render.jsp?contentId=1430582>

In terms of mobile networks and coverage in rural areas, ANACOM imposed coverage obligations on mobile operators following the acquisition of 2 x 5 MHz of 800 MHz in the multi-band auction and in the framework of the renewal of rights of use of frequencies in the 2.1 GHz band. The first to benefit were 480 mostly rural parishes. This obligation was intended to strengthen mobile data coverage in areas where it did not exist or it was deficient, therefore mainly in remote areas or the country's interior. The reference speeds associated with the obligations to which each operator is subject in the 800 MHz frequency band are currently of 43.2 Mbps for MEO, 4.0 Mbps for NOS and 7.2 Mbps for Vodafone. The new obligations imposed within the framework of the renewal of rights of use of frequencies of the 2.1 GHz benefit 588 additional parishes, 75 % of the population of which is to be covered by a mobile broadband service that allows data transmission speed of 30 Mbps (maximum download speed), and will be applied in full in 2019.

3.2. Regulated access

On 28 September 2018¹², ANACOM approved final decisions on the wholesale market for call termination on the public telephone network at a fixed location (Market 1 in the 2014 Recommendation on relevant markets¹³). All providers of voice-call termination services on individual public telephone networks at a fixed location were designated as having significant market power (SMP) in this market; this group includes all providers with geographical and nomadic numbering resources (30 numbering range). Based on a review of ANACOM's pure BU-LRIC model, the new price cap for fixed call termination was set at 0.047 euro-cents per minute. ANACOM proposed to set the price caps for 2019 and 2020 by updating the fixed termination rate (FTR) model in line with inflation. On 5 January 2018, it approved the final decision on IP interconnection (also Market 1/2014¹⁴), which covered the technical characteristics for the IP interconnection and the migration plan.

On 21 June 2018, ANACOM approved the final decisions¹⁵ on the wholesale markets for voice-call termination on individual mobile networks (Market 2/2014). All operators active in the market providing mobile termination services are identified as having SMP in this market, and are subject to the same set of obligations. Based on a review of ANACOM's pure BU-LRIC model, it is proposed that the new price cap for mobile call termination be set at 0.42 eurocents per minute. ANACOM also proposed to set the price caps for 2019 and 2020 by updating the mobile termination rate (MTR) model in line with inflation.

In October¹⁶, ANACOM approved the final decision¹⁶ on the wholesale market for call origination on the public telephone network provided at a fixed location for the provision of retail telephone services (Market 2 in the 2007 Recommendation on relevant markets¹⁷) which deregulated that market. As MEO was previously the SMP operator, all the obligations to which it was subject were removed. Nevertheless, the wholesale line rental (WLR) offer and the prices charged for wholesale origination

¹² https://www.anacom.pt/streaming/Decisao_M1_VF.pdf?contentId=1460266&field=ATTACHED_FILE

¹³ Commission Recommendation of 9 October 2014, on relevant product and service markets within the electronic communications sector susceptible to ex ante regulation in accordance with Directive 2002/21/EC of the European Parliament and of the Council on a common regulatory framework for electronic communications networks and services (OJ L 295, 11.10.2014, p. 79–84).

¹⁴ <https://www.anacom.pt/render.jsp?categoryId=393319>.

¹⁵ <https://www.anacom.pt/render.jsp?contentId=1455978>.

¹⁶ https://www.anacom.pt/streaming/DecisaoFinal4out2018exM2.pdf?contentId=1460546&field=ATTACHED_FILE

¹⁷ Commission Recommendation of 17 December 2007, on relevant product and service markets within the electronic communications sector susceptible to ex ante regulation in accordance with Directive 2002/21/EC of the European Parliament and of the Council on a common regulatory framework for electronic communications networks and services (OJ L 344, 28.12.2007, p. 65–69).

must be maintained for 18 months. Only then, will MEO be allowed to change prices or remove the offer

In May, ANACOM launched a public consultation on a draft decision on changes to the reference duct access offer (ORAC) and the reference poles access offer (ORAP). The approved measures are aimed at facilitating other operators' access to MEO's ducts and poles by simplifying procedures or lowering prices. They are also aimed at improving competition by allowing faster and more flexible service installation and thus streamlining the service offered to users.

On 7 November, ANACOM approved a draft decision requiring MEO to reduce the maximum prices applied to circuits connecting the mainland, the Azores and Madeira (CAM) and inter-island circuits (in Azores). The decision was taken in the context of the leased lines reference offer (ORCA) and the reference Ethernet leased lines offer (ORCE) and applies until the next annual review of these prices. The final decision was approved in March 2019.

Under the 2018-2020 multi-annual activities plan analysis of markets 3a, 3b and 4 in the 2014 Recommendation on relevant markets were to begin in 2018 and be concluded in the course of 2019.

In August, ANACOM adopted a final decision on a request to resolve a dispute between MEO and Vodafone over non-compliance with procedures set out in the reference poles access offer (ORAP). It ordered Vodafone to cease its current practice and comply immediately with the rules in version 3.1 of the ORAP as regards the procedures governing the installation of customer drops. However, following Vodafone's appeal on 9 October, ANACOM revoked its decision and suspended the dispute resolution procedure pending adoption of a decision to amend the ORAP.

In October, ANACOM resolved a dispute between Vodafone and MEO regarding the payment of penalties under the reference duct access offer (ORAC). The dispute concerned MEO's obligation to pay penalties for erroneous responses to feasibility analysis requests submitted by Vodafone.

There is no take-up data for access to ducts and poles. Take-up of copper local loop unbundling is decreasing steadily. In the second quarter of 2018, it accounted for less than 2 % of all broadband accesses. Take-up of bitstream over copper is also decreasing steadily. In the second quarter of 2018, it accounted for less than 0.3 % of all broadband accesses. There is no data for take-up of high-quality services, but demand for traditional leased lines is decreasing steadily (in the second quarter of 2018 there were around 1,500 leased lines) and demand for high-quality Ethernet services is decreasing slowly (in the second quarter of 2018 there were fewer than 1,000 Ethernet leased lines).

In Portugal, there are no remedies applied to the SMP operator's NGA network. There is regulated access to the SMP operator's civil infrastructure and symmetrical access to in-house infrastructure and to ducts and poles that can be used to install NGA networks.

In practice, the energy operator's (Energias de Portugal) poles are used extensively and the transport utility's (Infraestruturas de Portugal) ducts to a degree. The relevant local authorities determine the methodology for establishing of the value of, or remuneration in exchange for access to and use of, suitable infrastructures that they hold or manage. Fragmentation in municipality legislation creates uncertainty in the sector, which may hamper 5G deployment and achievement of the 2020 and 2025 digital targets. ANACOM and the Ministry of Infrastructure and Housing (*Ministério das Infraestruturas e da Habitação*) agreed to set up forum with all municipalities to discuss and address these issues.

Finally, in July, ANACOM approved a draft decision requiring MEO to implement a reduction of 15.16 % in the annual price per Mbps that it charges to television operators (RTP, SIC and TVI) for the provision of the DTT service¹⁸.

4. End-user matters

According to the 2018 consumer markets scoreboard¹⁹, ‘TV subscriptions’ and ‘Mobile telephone services’ are in the bottom two of the MPI²⁰ score, being the markets that shows the greatest discrepancies with the EU-28 average (-10.7 ‘TV subscriptions’ and -8.0 ‘Mobile telephone services’) and with largest drops (-7.8, Mobile telephone services’ and -5.9, ‘TV subscriptions’). ‘Internet provision services’ is the fifth worst positioned in the ranking, being also below the EU-28 average (-5.7). Fixed telephone service, although best positioned (the 12th of 26 services analysed) is still slightly below the EU-28 average (-0.4).

In the first half of 2018, consumers made 41,500 complaints relating to electronic communications (in hard copy or filed electronically in the Portuguese Complaints Book or sent directly to ANACOM). The issues giving rise to most complaints entered in complaint books were billing (15 %), service faults (15 %) and service cancellations (10 %).

ANACOM launched COM.escolha (a tariff comparison and simulation tool) in 2011 and has since upgraded/adapted it several times. In October 2018, it introduced a specific field for the data transmission speeds provided for in Regulation (EU) 2015/2120 (TSM Regulation²¹) in the page for details of internet service providers’ (ISPs’) tariff plans. The ISPs have been entered the relevant figures.

In February 2017, ANACOM decided to initiate the regulatory procedure to amend the Regulation 829/2016 on pre-contractual and contractual information, which required its temporary suspension and stakeholder consultation. It approved the draft amending Regulation and the launch of a public consultation on 5 June 2017. The consultation ended on 28 August 2017 and the final decision is under preparation²². The amendment of the regulation allows for more flexibility as regards the media to be used in providing end-users with the simplified information sheet (FIS) in pre-contractual and contractual situations and to adapt the FIS template to the existing offers.

In June 2018, ANACOM issued a decision laying down requirements to be fulfilled by operators in their responses to customers’ complaints through (physical or electronic) complaint books, as from 1 July 2018. The aim is to improve responses to complaints and thus enhance consumer rights.

On 27 March 2018, ANACOM approved a recommendation, requiring providers of electronic communications services, not to charge any amount for issuing non-itemized invoices or invoices with a minimal level of detail, regardless of the medium used. .By final Decision of 5 September 2018, ANACOM approved the definition of the minimum level of detail and information in bills provided to subscribers without charge.

¹⁸ ANACOM’s analysis of pricing concluded that the prices currently in force, agreed between MEO and the television operators, do not comply with one of the principles introduced by Law no. 33/2016 of 24 August, insofar as they exceed the price limit presented in the proposal that won the public tender for allocation of the Mux A licence (€885,000 per annum and per Mbps).

¹⁹ Consumer Markets Scoreboard, 2018 Edition, Justice and Consumers, European Commission.

²⁰ The MPI is a composite indicator ranging from 0 to 100 which measures how well a given market performs according to consumers.

²¹ Regulation (EU) 2015/2120 of the European Parliament and of the Council of 25 November 2015 laying down measures concerning open internet access and amending Directive 2002/22/EC on universal service and users’ rights relating to electronic communications networks and services and Regulation (EU) No 531/2012 on roaming on public mobile communications networks within the Union (OJ L 310, 26.11.2015, p. 1).

²² <https://www.anacom.pt/render.jsp?contentId=1414717&languageId=1>

a. Net neutrality

The inclusion in the Portuguese regulatory framework of the system of penalties for non-compliance with the TSM Regulation still requires amendment of the Electronic Communications Law. The legislative process is ongoing.

Monitoring of ISPs' compliance with the transparency obligations in Article 4 of the TSM Regulation focused on information on data transmission speeds and the impact of traffic management on the quality of services. Although transparency seems to be improving, ANACOM continues to monitor the situation in order to intervene if necessary.

On 3 July 2018, ANACOM issued a decision prohibiting zero-rating and similar commercial and traffic management practices that differentiate between general and specific traffic allowances or applications not subject to traffic limits, once the data cap was reached, in violation of net neutrality rules. Internet service providers implemented ANACOM's decision. It is still monitoring the market.

ANACOM provides users with a tool for monitoring speed and other quality of service parameters²³. In 2017 and 2018, consumer satisfaction with fixed and mobile broadband speed did not change to any statistically significant degree. On a scale of 1 to 10, satisfaction with fixed broadband speed was 7.6 throughout 2018, while satisfaction with mobile broadband speed varied between 7.3 and 7.6.

b. Roaming

Portuguese end-users consumed twice as many roaming minutes (calls made) and 4.6 times more roaming data in Q1 2018 than in Q1 2017²⁴. According to "Mobile broadband prices in Europe 2018"²⁵, prices in Portugal for packages that include voice and data are on a downward trend.

In its decision of 3 July 2018 (see previous section), ANACOM found that, contrary to the 'roam like at home' (RLAH) principle enshrined in Regulation n° 531/2012²⁶, some tariff plans, in particular some add-ons including data traffic to certain applications/contents, could only be used in the Portuguese territory. Customers travelling in the European Economic Area (EEA) could not use those add-ons. Following that decision, internet service providers amended zero-rating and similar commercial practices in accordance with RLAH rules.

According to ANACOM, most roaming complaints concern misleading or deficient information on tariffs and billing.

c. Emergency communications - 112

In Portugal, 112 is the single emergency number, so no alternative emergency numbers are available. According to responses to the 2018 Communications Committee (COCOM) 112 questionnaire, 112 calls are answered within 6 seconds and users with disabilities can use SMS to a National Guard long number as an alternative means of access. However, the Portuguese authorities have indicated that an application allowing end-users with disabilities to make 112 data and video calls, with simultaneous translation into Portuguese sign language, is in its final stage of implementation.

According to responses to the 2018 COCOM 112 questionnaire, caller location information is provided for every emergency call, with a rate of 5 % of calls when network-based location information is not available. All end-users of all mobile and mobile virtual networks are located

²³ <https://netmede.pt>

²⁴ International roaming BEREC benchmark data report (October 2017- March 2018), published on 4 October 2018.

²⁵ Mobile broadband prices in Europe in 2018, Empirica, a study conducted for the European Commission.

²⁶ Regulation (EU) No 531/2012 of the European Parliament and of the Council of 13 June 2012 on roaming on public mobile communications networks within the Union (OJ L 172, 30.6.2012, p. 10), as amended by Regulation (EU) 2015/2120 and Regulation (EU) 2017/920.

instantly. The Commission services are currently looking into the functioning of emergency communications and the 112 number in Portugal, with particular regard to caller location information.

Portugal is promoting the creation of a public warning system for emergencies as part of its civil protection arrangements. At a meeting in February 2018, the relevant authorities and stakeholders (ANACOM, the Ministry of Internal Administration, the National Civil Protection Authority, and electronic communication and radio operators) agreed to put this project into operation.

d. Universal service

In October 2018, the Commission decided to refer Portugal to the Court of Justice. compensation mechanism for the financing of universal service obligations obliges operators to compensate retroactively for the net cost incurred, a long time after the services were provided and prior to the universal service being entrusted to an operator by way of a competitive tender.

As reported in the 2018 DESI Report, a public consultation closed in summer 2017. In April 2018, ANACOM recommended to the government that, due to the low usage levels of universal service it should no longer designate universal service provider. ANACOM also underlined the need to amend the current Electronic Communications Law in line with its recommendation.

5. Institutional issues

The competences referred to in Article 5 EECC rest mostly with ANACOM, whose independence (within the meaning of Article 8 EECC) is guaranteed. In particular, ANACOM has sole competence for: (i) ex ante market regulation; (ii) resolution of disputes between undertakings; (iii) general authorisation; (iv) spectrum; (v) net neutrality; (vi) dispute resolution and the single information point under the Broadband Cost Reduction Directive²⁷; (vii) numbering (granting numbering resources and managing the numbering plan) and (viii) assessing the unfair burden and calculating the net cost of providing the universal service and approving the specifications of the universal service provision.

On matters relating to the application of the legal framework for competition in the electronic communications sector, ANACOM and the competition Authority (*Autoridade da Concorrência*) cooperate in line with their respective powers²⁸. The Electronic Communications Law and the Competition Law provide for cooperation on issues relating to transfer and lease of rights of use for frequencies, market review, antitrust, mergers and acquisitions, sector studies and enquiries.

In May 2018, ANACOM approved an amendment to the Portability Regulation, in order to streamline the process of numbering regulation. In addition, it was decided that the on line voice message disclosed on mobile-to-mobile calls to ported numbers should no longer be disclosed by default and should be made available to the customer on request.

6. Conclusion

Portugal performs well in the deployment of fast and ultrafast broadband connectivity. An additional effort is still required to ensure that fast and ultrafast broadband reach all households, including rural areas, by 2020 and 2025 respectively. Price levels present a challenge for wider take-up. The authorities are preparing the ground for the deployment of 5G.

²⁷ Directive 2014/61/EU of the European Parliament and of the Council of 15 May 2014 on measures to reduce the cost of deploying high-speed electronic communications networks (OJ L 155, 23.5.2014, p. 1).

²⁸ Decree-Law 39/2015, of 16 of March - By-laws of ANACOM - and Decree-Law 125/2014, of 18 August - By-laws of Autoridade da Concorrência.