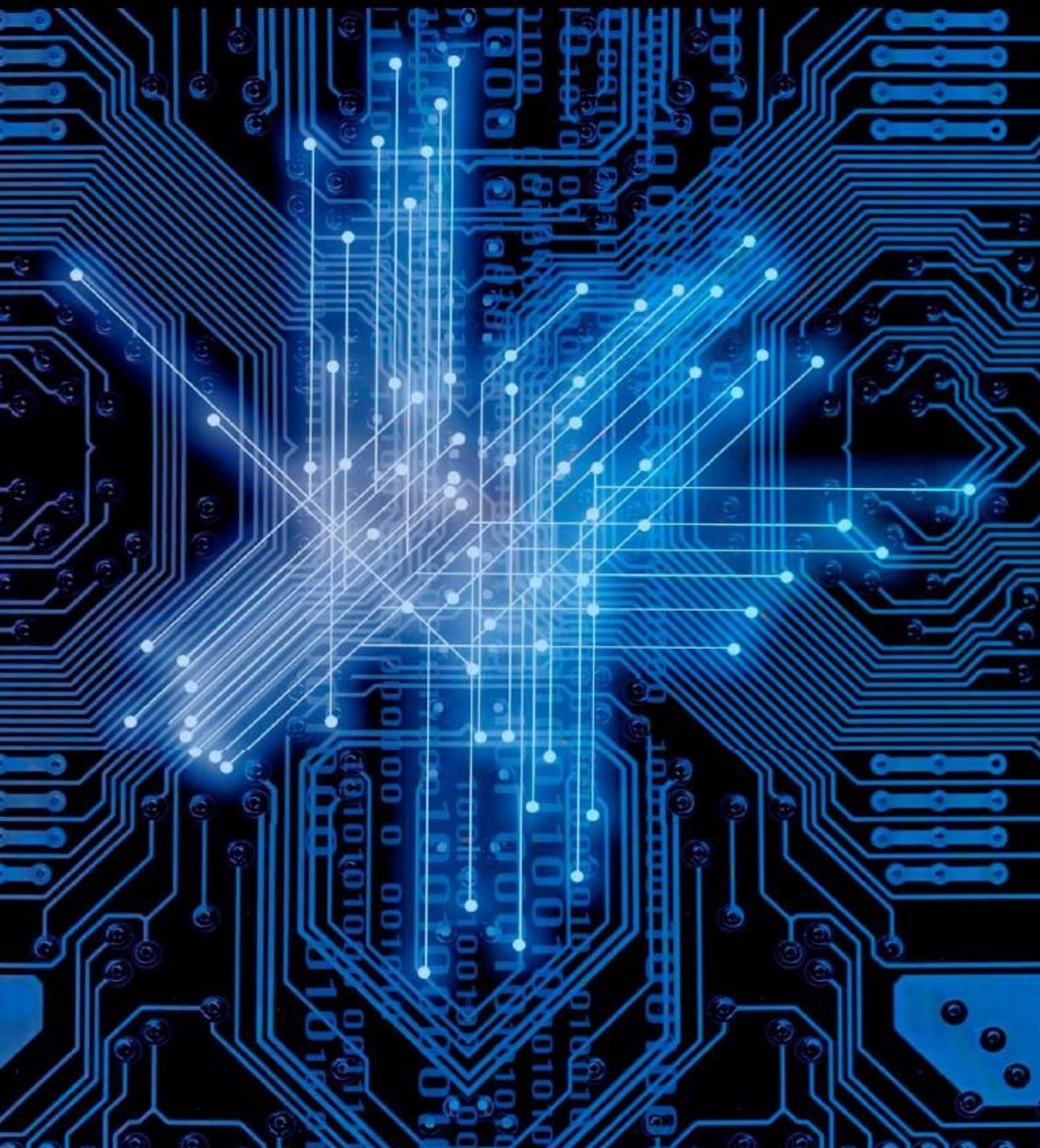


2021

Report on Spain's Supervision of
European Regulations on Open
Internet Access (**Net neutrality**)



GOBIERNO
DE ESPAÑA

MINISTERIO
DE ASUNTOS ECONÓMICOS
Y TRANSFORMACIÓN DIGITAL

Report on Spain's Supervision of European Regulations on Open Internet Access (Net neutrality)

Year 2021

© Ministerio de Asuntos Económicos y Transformación Digital
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1. EXECUTIVE SUMMARY

Aim of the report

This report has the aim of explaining in detail the supervision actions carried out in 2021 by the Secretaría de Estado de Telecomunicaciones e Infraestructuras Digitales del Ministerio de Asuntos Económicos y Transformación Digital (State Secretariat of Telecommunications and Digital Infrastructures of the Ministry of Economic Affairs and Digital Transformation), as well as the main conclusions of such actions.

Specifically, it makes reference to the established in the Regulation (EU) 2015/2120, of the European Parliament and of the Council, laying down the measures concerning open internet access and amending Directive 2002/22/EC and Regulation 531/2012. Hereinafter, TSM Regulation.

Article 5.1 of the TSM Regulation obliges the National Authorities on Regulation to the publication of an annual report on the supervision and results coming from the application of articles 3 to 6 of the Regulation.

Reference documents

Annex II to this report relates the documents, reports and rules that are frequently quoted on the said.

Criteria of the Secretaría de Estado de Telecomunicaciones e Infraestructuras Digitales (SETELECO)

Each of the paragraphs of this report shall collect the criteria of the SETELECO on each of the practices pursued, related to their possible compatibility with the rules of Network Neutrality. For the sake of clarity, ANNEX II includes a summary of all of them.



TSM regulation

The rules included in this Regulation related to open internet access guarantee to the final users a series of rights related to the internet access services providers (ISPs). This regulation became in force on 30 April 2016. Article 1 establishes the object of the rule with is “to safeguard equal and non-discriminatory treatment of traffic in the provision of internet access services and related end-users’ rights”

The rights included in the TSM Regulation imposes the ISPs are clearly divided into two. On one part, related to the insurance of right of access and distribution of information and contents. The other, related to the transparency of these aspects in the contracts and to the co-related existence of a claim mechanism facing possible breaches:

- Those established in article 3, related to the insurance of the right of the end users to “access to the information and content, as well as to distribute them, use and provide applications and services and use terminal equipment of their choice, irrespectively of the end-user’s or provider’s location or the location, origin or destination of the information, content, application or service, via their internet access service.”
- The rights related to transparency of article 4, a reflexion also of those established in the previous article. The TSM regulation recognises the rights of the users to access to information on certain aspects related to the principle of “Network Neutrality” (either published and/or included in the contracts between the ISPs and the end-users).
- As an insurance of the supervision, control and sanctioning of the compliance with such rights, the Regulation invests the National Ruling Authorities the necessary powers to oblige with the compliance of the Regulation. Likewise, it included the compulsory nature that consumers hold mechanisms to solve controversies in the subjects aim of regulation, both facing the operator and before authorities foreign to it.



National Ruling Authority in Spain.

As previously stated, the main aim of the TSM Regulation is:

- To safeguard equal and non-discriminatory treatment of traffic in the provision of internet access services and related end-users' rights.
- To ensure of the right of the end users to “access to the information and content, as well as to distribute them, use and provide applications and services and use terminal equipment of their choice, irrespectively of the end-user’s or provider’s location or the location, origin or destination of the information, content, application or service, via their internet access service”

According to article 69.f) of the Law 9/2014, of 9 May, on General Telecommunications, the specific competency for the protection of the users of the electronic communications sector belongs to the Ministerio de Asuntos Económicos y Transformación Digital (Spanish Ministry of Economic Affairs and Digital Transformation). And, in it, to the Secretaría de Estado de Telecomunicaciones e Infraestructuras Digitales (State Office of Telecommunications and Digital Infrastructures). And within it, to SETELECO.

The Oficina de Atención al Usuario de Telecomunicaciones (Customer Attention for Telecoms Office) is the specific body to solve controversies between end-users of electronic communications services and operators, and it depends on the SETELECO. According to the Annual Report 2020 published by the Office¹, it received a total amount of 22,428 claims and it answered 66,303 queries during the year.

Period of analysis and methodology

This report includes the actions of supervision and control related to calendar year 2021.

The results have been collected by:

- Supervision of the electronic communications market.

¹ <https://www.usuariostelegob.es/quienes-somos/datos-informes-oficina/Paginas/datos-informes.aspx>



- Requirement of information to the operators
- Compulsory and regular communications the operators shall pursue with the Secretaría de Estado de Telecomunicaciones e Infraestructuras Digitales (contracts, offers, modifications, etc.).
- Informal contacts with the operators, bilateral and multilateral.
- Analysis of the queries, complaints and claims received by the OAUT.

Main conclusions

Like in previous years, it can be concluded that during 2021 there have not been significant conflict issues in the compliance with the principle of network neutrality as ruled by TSM Regulation.

In this aspect, the number of complaints, claims and reports received related to the said subjects has been insignificant. As will be further explained, only a 0.62% of the claims received by the OAUT in 2021 could be considered as related to this principle. Most of them, are referred to the access speed on Internet.

In relation to the rights recognised in article 3 of the TSM Regulation, the Secretaría de Estado de Telecomunicaciones e Infraestructuras Digitales has analysed the offers the operators placed on the market, establishing their compatibility with such regulation and requirement, or if contrary, their modification or suppression to the operators. Offers of the “zero-rating” kind or those including possible limitations related to the use of terminal equipment have been analysed.

Already since 2017 importance advances related to the transparency of the information offered by the operators have taken place. Most of the operators have included in their contracts the different kinds of Internet access speed, both upload and download, according to article 4 of the TSM Regulation.



The European Commission, in this REPORT NN COMMISSION 2019² highlights the fact that a uniform application of the regulation on the Network Neutrality has taken place since it became in force. The BEREC NN REPORT 2021³ stated in the same line⁴

The pandemic situation caused by the spread of COVID 19

The pandemic situation suffered in 2020 has had influence on the performance of the telecommunications market and the use of networks and services by the consumers. The confinement situations, social distancing and, generally, the cautions required to avoid the spread of coronavirus have made of these services a key aspect in the performance of the economy and the society during the sanitary crisis.

I. INTERNATIONAL SITUATION.

To this respect, in November 2020, the Body of European Regulators of Electronic Communications (BEREC according to its acronym in English), published the report *“Overview of the Member State experiences related to the regulatory and other measures in light of the COVID-19 crisis”*, and in November 2021, the report *“Summary Report on the status of internet capacity, regulatory and other measures in light of the Covid-19 crisis”*⁵

² Vid. Annex III

⁴ Vid. Annex III

⁵ BEREC BoR (20) 234 30/11/2020.

https://berec.europa.eu/eng/document_register/subject_matter/berec/reports/9699-overview-of-the-member-states-experiences-related-to-the-regulatory-and-other-measures-in-light-of-the-covid-19-crisis

BEREC BoR (21) 184 29/11/2021.

https://berec.europa.eu/eng/document_register/subject_matter/berec/reports/10120-berec-summary-report-on-the-status-of-internet-capacity-regulatory-and-other-measures-in-light-of-the-covid-19-crisis



These analyse the impact of the crisis in this sector during the pandemic, from the point of view of all the scopes involved:

Thus, on 19 March 2020, BEREC (in a joint declaration with the European Commission) a Special Research Mechanism (SRM) was agreed to guarantee the regular tracking of the Internet traffic situation in each Member State, with the aim of quickly answer to possible capacity problems that may derive in an increase of the use of the Internet due to Covid-19 contention measures.

Since BEREC published its first report in how the Covid-19 crisis has affected Internet capacity, 33ANR has shared its data on the impact of the crisis in the electronic communication networks and on the measures adopted by the respective Member States. The SRM summarises the status of Internet capacity and the actions taken by the different NRA. All the information of the SRM published by BEREC are available on BEREC's website⁶.

Generally, three stages of the Internet traffic evolution during the crisis have been observed: a strong increase during the first weeks, a later settle and, during the last part of 2020 and until 2021, a decrease of the peak (suffered at the beginning of the crisis). The NRAs have monitored the situation and collected the information from the ISP and other market agents on the status of their networks, with a different regularity.

So, between October 2020 and April 2021, a significant increase in the traffic has been reported due to the local and national restrictions, but without network congestion problems in the fix and mobile access networks. The continuous tracking of the networks has confirmed the increased trend in the traffic also during the last months of 2021: specifically, the fix networks intensity indexes and intensity and volume in mobile networks are higher to the peaks measured in 2020 and at the beginning of 2021 when restriction measures were applied. During October 2021, the mobile data traffic has seen increases in comparison to the reference level of the week before the pandemic, both in intensity and in volume, with increases of up to +113% and +82%, respectively. Likewise, the fixed data traffic has seen important increases, in comparison to the reference levels, both in intensity as in volume, with increases of up to +83% and +54%, respectively.

The image below shows the results of the data collected by BEREC since it was launched in October 2020, related to the status of the networks in Europe.

The NRAs were requested to provide with an answer on the general status of the telecommunication networks in each of their countries, according to the following categories:

⁶ https://berec.europa.eu/eng/news_and_publications/whats_new/



- Green: the networks are working properly, and Covid-19 has not meant or caused special problems for the availability or general quality of the services. Exceptional measures on traffic management have not been needed nor implemented.
- Yellow: Covid-19 is causing limited congestion problems affecting the general quality of their services. Some exceptional measures on traffic management could be needed, but would require a detailed analysis of the NRS, according to the regulation on network neutrality.
- Red: it is possible that serious and/or general network congestion problems are suffered due to Covid-19 that affect the general quality of the services and exceptional measure on traffic management.

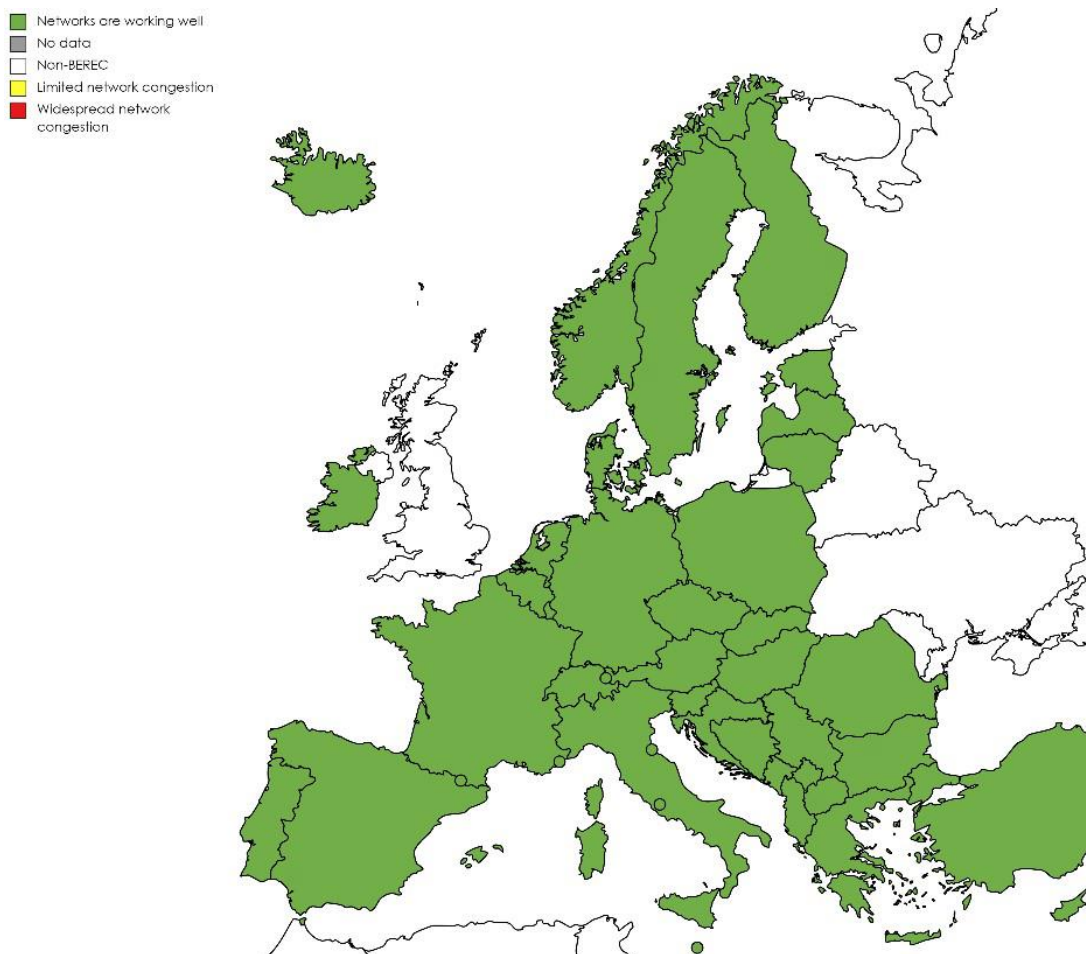


Figure 1 Status of networks (based on information submitted by NRAs, 30 April 2021)

All the NRAs have reported “green status”.



II. NATIONAL SITUATION.

1. Consumer and user protection

In March and April 2020, national authorities started several information campaigns directed to consumers, relative to the responsible use of the services to avoid network congestion. Similarly, practical recommendations to such goal were published and to guarantee the access to essential information, home office and education purposes.

Also measures for users' protection were implemented such as the prohibition of actions against those customers that were not able to pay their bills or the tracking of service cut-offs that could affect essential services.

In Spain, the Royal Law Decree 8/2020, of 17 March, on urgent extraordinary measures to face the economic and social impact of COVID-19⁷, established measures such as the following:

- Guarantee of electronic communications services maintenance. These could not be suspended or cut off for other reasons different to network and electronic communication services integrity and safety.
- Prohibition of extraordinary commercial campaigns for electronic communication services hiring that implied number portability.
- Suspension of all the home and mobile numbering portability that were not already underway which termination required the presence of the operators involved.
- Prohibition of increasing service prices on those contracts already signed, either of payment or pre-payment, whenever those services could give place to portability operations for home or mobile numbering.

2. Misinformation risk

Some Member States had focused their efforts on the fight against misinformation, especially related to the so-called links between 5G and COVID 19. Beyond this, some authorities implemented initiatives specifically directed against misinformation (especially that related to the Internet) about the pandemic. Some Member States reported that the percentage of posts or tweets including misinformation was even higher than those containing accurate information.

⁷ https://www.boe.es/diario_boe/txt.php?id=BOE-A-2020-3824 . Articles 18 – 20.



3. Suspended activities or authorisations

Some NRA suspended or delayed started proceedings (or pending of start) related to legal proceedings of the radioelectric scope. In some cases, the suspension of auctions of the band of 700 MHz was related to the delay in the transition to DVBT2, partially due to the need of guaranteeing the reception of TDT during the crisis, but also due to the restrictions of movements and the operation on site in some Member States. Other actions on this subject included the temporal assignment of the radioelectric spectrum to enable the operators to increase the capacity.

4. Safety

The competent authorities, as well as the operation, work together to guarantee the availability of the essential electronic communication services, such as voice and Internet access, especially for critical infrastructures, services and public services. Some authorities urged the operators to adopt contingency plans to identify and mitigate those risks related to continuity, integrity and service safety.

5. Regulatory measures for wholesalers

At the beginning of the sanitary crisis, some authorities adopted extraordinary measures of the wholesale kind to improve the conditions of the service supply. Here, you will find some examples:

- Reduction of the unit wholesale costs of the copper and fibre Ethernet bandwidth.
- Requirement to the operator involved to make its infrastructure available throughout the entire national territory.
- Requirement to the operators of the bandwidth capacity increase through interconnection.
- Deferment of the previous measures on margin closing analysis, which would result in price modifications during the crisis.

6. Numeration

Some Member States have assigned specific numeration for attention lines related to COVID 19, with sanitary purposes, to avoid the congestion of the 112 emergency services lines.

Besides, some of them set temporal restrictions in number portability. Most of the mobile portabilities that were not available at the market under package services were fulfilled. However,



only a limited number of home portabilities was allowed as they required the physical action at the home of the customers.

7. Public alert system

Some Member States launched a public alert system to inform about the sanitary crisis.

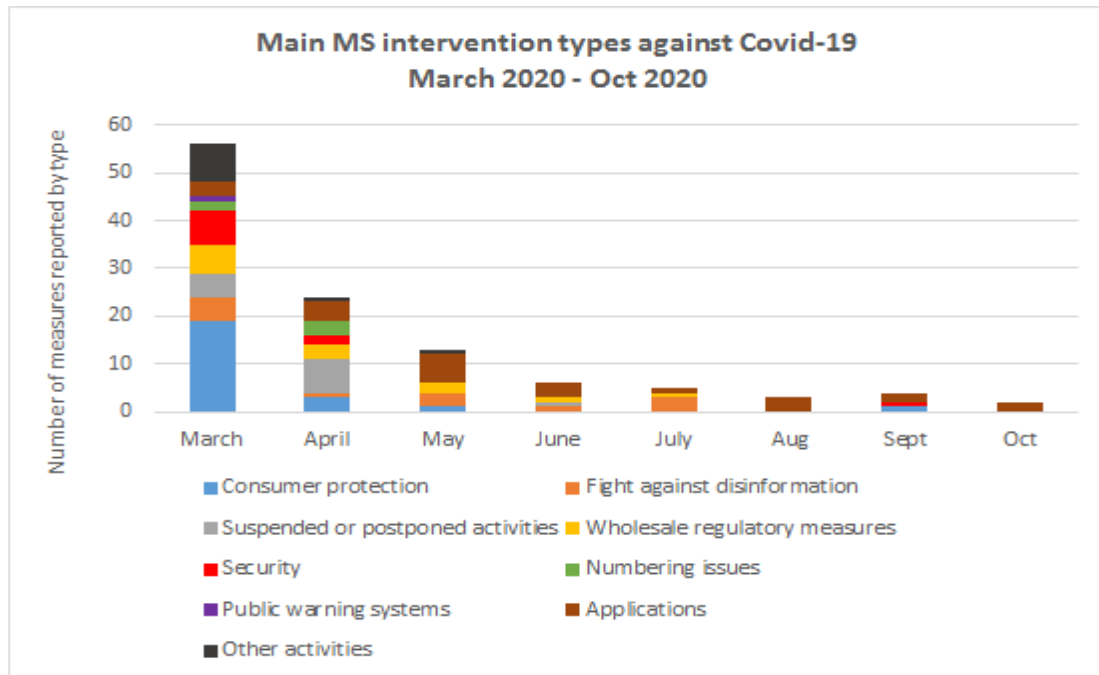
8. Applications for contract tracking

Some Member States approved new regulation to require the operators to share data about location, for the competent authorities to supervise the compliance of the mobility restriction measures or also, to collect more information on the population movements to size health services.

Other Member States reported on the adoption of an app dedicated to track positive cases, with the prior approval of the citizens. Most of these apps used anonym or pseudo-anonym data to track and register the spread of the virus based on questionnaires, but some of them also implemented solutions based on Bluetooth technology to detect and report of close contacts.

9. Measures

Next, we include a graphic with the kind of measures adopted by the Member States of the European Union during the pandemic:



Source: BEREC Overview of the Member State experiences related to the regulatory and other measures in light of the COVID-19 crisis⁸

In those aspects directly related to Network Neutrality, it is important to remember that the pandemic increased the use of the Internet access service because of the intensive use of services such as tele-working and online education. Besides, the use on free-time online services also increased (navigation, video streaming, platforms) because of the larger period of stay at dwellings.

To this respect, the aspects that were affected by the access to an open Internet would be summarized in:

- **Commercial practices**

Related to zero rating practices, new models were detected in certain sectors:

- Zero rating of education contents. In some countries, operators have submitted these services to these kinds of tariffs.
- Zero rating for tracking applications. These tariffs were applied to these COVID 19 tracking apps.
- Zero rating for Internet websites directed to inform about COVID 19.

⁸ Vid Annex III



Other commercial practices detected at international level:

- Increase of data amounts without price increase.
 - Tariff discounts;
 - Free access to payment TV contents;
 - Voice minutes increase and free SMS
- Increase of the amount of data for customers abroad

- **Traffic management measures**

Even during the first week of the pandemic, despite the important increase of the existing traffic, there were not important congestion problems, as the operators had increased their capacity wherever it was required. Despite this fact, the rules of the Regulation (EU) 2015/2120, of 25 November 2015 on the subject has been fully in force without detecting significant breaches.

- **Transparency requirements**

During the pandemic, also in force stood the different paragraphs of art. 4 of the Regulation (EU) 2015/2120, of 25 November 2015 without detecting problems on the subject.

10. Final conclusion

As a conclusion, BEREC report on December 2021, *“Report on COVID-19 crisis - lessons learned regarding communication networks and services for a resilient society”*⁹ states as follows on the behaviour of the telecommunication networks during the pandemic:

“Fortunately, European telecom networks by default are dimensioned for peak-loads; they have proven to be remarkably resilient, withstanding increased network traffic even for extended periods during the strictest lockdowns. Although download speeds were occasionally affected by network congestion, major disruptions or lasting outages were not reported. BEREC agrees that network congestions should be avoided and a holistic and technologically neutral approach should be maintained in crisis situations.”

⁹ https://berec.europa.eu/eng/document_register/subject_matter/berec/reports/10135-berec-report-on-covid-19-crisis-lessons-learned-regarding-communication-networks-and-services-for-a-resilient-society



III. SITUATION IN SPAIN

1. The connectivity agreement

The “Agreement for the connectivity of people and companies”¹⁰ was signed between the Ministerio de Asuntos Económicos y Transformación Digital and all the main operations and telco associations on 20 March 2020. With its signature, operators agreed on guaranteeing some services while the state of alarm was in force:

- **Connectivity:** they agreed to make bigger efforts to guarantee connectivity, the capacity of operation and supervision of the networks and the agility to face incidents
- **Equipment:** to maintain the equipment and the necessary operation to guarantee the network redundancy and the suitable supply of the support service for digital land broadcasting
- **Information campaigns:** development of campaigns to encourage the responsible use of communication services and to avoid illegal or fraudulent practices
- **Customer attention services.** To keep active the customer attention channels with a minimum capacity to face their needs, both remotely (online or by telephone) or physically
- **Attached service extension.** To extend, without additional costs for the user, associated services to the mobile telephony connectivity contracts for individuals, freelancers and small businesses
- **Additional contents.** To enrich additional contents of the audio-visual packages offered to customers to soothe and deal with the isolation and quarantine conditions
- **Tele-work, education and health.** To contribute to the measures developed by the Administration to encourage tele-working, open education and remote health services.
- **Free calls to health services via the 061 number**

10

https://www.mineco.gob.es/stfls/mineco/prensa/ficheros/noticias/2020/200320_np_Pacto_por_la_conectividad_COVID-19.pdf



Russian invasion of Ukraine. Measures adopted

On 2 March 2022, the EU Council, adopted additional restrictive measures to answer to the military aggression of Russian against Ukraine, without prior or any cause or justification.

In virtue of these measures, the EU urgently suspended the broadcasting activities of Sputnik and RT-Russia Today (RT-Russia Today in English, RT-Russia Today in the United Kingdom, RT-Russia Today in Germany, RT-Russia Today in France and RT-Russia Today in Spanish) in the EU, or directed to this, until the end of the aggression against Ukraine and until both the Russian Federation and its communication networks stop pursuing misinformation and manipulation actions against the European Union and its Member States.

The adoption of such measures caused the following statements by BEREC on the subject: ¹¹

- **Statement dated on 04/03/2022**

With the aim of putting light on the EU measures to modify Ruling 833/2014, directed to forbid the broadcasting or distribution of any content by the Russian state-owned communication means RT and Sputnik in the EU, BEREC emphasises that the TSM Ruling allows the ISP to put in place traffic measures to block specific contents, applications or services with the aim of complying with the Union regulations. The modification of Ruling 833/2014 is a rule included in the scope of the exceptions of article 3(3) of the TSM Regulation.

In this sense, President Mrs. Annemarie Sipkes affirmed that, to allow a fast implementation of the sanctions, there are not any obstacles in the rules of network neutrality to comply with such measures. This means that the NRA members of BEREC may help the ISPs to comply with the EU measures.

- **Statement dated on 11/03/2022**

BEREC, in the context of its role as Body of European Regulation of Telecommunications, is compromised to put light in the regulation, when needed. As recently stated, the regulation on the open Internet is not an obstacle to implement the EU sanctions to block RT and Sputnik. Also, BEREC agrees to provide with assistance to the NRA on the technical problems the ISP may have in the implementation of Ruling 2022/350.

¹¹ BEREC Statement: Open Internet Regulation is not an obstacle in implementing EU sanctions to block RT and Sputnik
https://berec.europa.eu/eng/news_and_publications/whats_new/9321-berec-open-internet-regulation-is-not-an-obstacle-in-implementing-eu-sanctions-to-block-rt-and-sputnik



BEREC understands that the obligations of blocking RT and Sputnik shall be construed in the wider extension and that all the websites belonging to the entities mentions in Annex XV of the Ruling are included, also the granting of access to those by the ISP. BEREC reiterates that Ruling 2022/350 is a rule that is included in the scope of the exception of article 3(3) of the TSM Regulation.



2. SAFEGUARD OF THE OPEN INTERNET ACCESS

Article 3

Safeguard of the open Internet access

1. End-users shall have the right to access and distribute information and content, use and provide applications and services and use the terminal equipment of their choice, irrespectively of the end-users' or provider's location or the location, origin or destination of the information, content, application or service, via their internet access service.

This paragraph is without prejudice to the Union law, or national law that complies with the Union law, related to the lawfulness of the content, applications or services.

2. Agreements between suppliers of internet access services and end-users on commercial and technical conditions and the characteristics of internet access services such as price, data volumes or speed, and any commercial practices conducted by suppliers of internet access services, shall not limit the exercise of the rights of end-users laid down in paragraph 1.

3. Suppliers of internet access services shall treat all traffic equally, when providing internet access services, without discrimination, restriction or interference, and irrespectively of the sender and receiver, the content accessed or distributed, the applications or services used or provided, or the terminal equipment used.

The first subparagraph shall not prevent suppliers of internet access services from implementing reasonable traffic management measures. In order to be deemed to be reasonable, such measures shall be transparent, non-discriminatory and proportionate, and shall not be based on commercial considerations but on objectively different technical quality of service requirements of specific categories of traffic. Such measures shall not monitor the specific content and shall not be maintained for longer than necessary.

Suppliers of internet access services shall not engage in traffic management measures going beyond those set out in the second subparagraph, and in particular shall not block, slow down, alter, restrict, interfere with, degrade or discriminate between specific content, applications or services, or specific categories thereof, except as necessary, and only for as long as necessary, in order to:

- a) comply with Union legislative acts, or national legislation that complies with Union law, to which the provider of internet access services is subject, or with measures that comply with Union law giving effect to such Union legislative acts or national legislation, including with orders by courts or public authorities vested with relevant powers;
- b) preserve the integrity and security of the network, of services provided via that network, and of the terminal equipment of end-users;



- c) prevent impeding network congestion and mitigate the effects of exceptional or temporary network congestion, provided that equivalent categories of traffic are treated equally.

4. Any traffic management measure may entail processing of personal data only if such processing is necessary and proportionate to achieve the objectives set out in paragraph 3. Such processing shall be carried out in accordance with Directive 95/46/EC of the European Parliament and of the Council (1). Traffic management measures shall also comply with Directive 2002/58/EC of the European Parliament and of the Council (2).

5. Suppliers of electronic communications to the public, including suppliers of internet access services, and suppliers of content, applications and services shall be free to offer services other than internet access services which are optimised for specific content, applications or services, or a combination thereof, where the optimisation is necessary in order to meet requirements of the content, applications or services for a specific level of quality.

Suppliers of electronic communications to the public, including suppliers of internet access services, may offer or facilitate such services only if the network capacity is sufficient to provide them in addition to any internet access services provided. Such services shall not be usable or offered as a replacement for internet access services and shall not be to the detriment of the availability or general quality of internet access services for end-users.

2.1 The principle of “Network neutrality”

According to the principle of network neutrality, Internet services suppliers shall treat any data traffic on the network equally, without discrimination, independently of the content, of the website or of the application of access. Neither shall they apply a different treatment depending on the terminal device or communication method used for the access.

The TSM Regulation establishes in *Recital 1* that its aims are:

“To establish common rules to safeguard equal and non-discriminatory treatment of traffic in the provision of internet access services and related end-users’ rights. It aims to protect end-users and simultaneously to guarantee the continued functioning of the internet ecosystem as an engine of innovation.”

On its side, the Organisation for Economic Co-operation and Development (OECD) highlights, in the OECD ZERO-RATING 2019¹² that the “network neutrality” deals with issues related to non-discriminatory treatment of Internet traffic and the ability of users of the Internet to access content and applications of their choice. The issue can be broken down into two

¹² Vid Annex III



broader areas: one deals with the factors that affect the ability of users to access content and applications (different levels of quality, degradation or blocking of access, or differential pricing). It focuses on the link between the user and the ISP. The second area relates to commercial arrangements between network operators and contents suppliers.

It has been traditionally assumed that electronic communications networks could not ensure an unconditional service quality level, but that there exist a series of factors that made the quality perceived by the user to be decreased related to a “maximum” or “advertised” level when contracting it. In this sense, the regular practice is that operators offered the so-called “best effort”.

According to the stated by BEREC¹³, Internet’s “best effort” refers to an equal treatment of the traffic of data sent by the Internet, this is, it would be done for a certain data transfer independently of the contents, the application, its origin or destination. The benefits of this “best effort” mainly consist in the separation between the network levels and the applications. This separation strengthens applications’ innovation, independently of the ISP, making the right to choose easier for the end-user.

Most of the institutions involved accept that, in higher or lesser measure, the net neutrality principle shall be guarantee by the public powers. Amongst the goals aimed with this action criterion shall be, above all, the protection of the right of free choice of operator and of access and distribute information of the final users (and, thus, freedom of expression). But also, the freedom to free competence between ISPs and contents suppliers shall be protected, as well as ensuring an environment fostering innovation. To this point, *Recital 3* of the TSM Regulation states that:

“The internet has developed over the past decades as an open platform for innovation with low access barriers for end-users, providers of content, applications and services and providers of internet access services. The existing regulatory framework aims to promote the ability of end-users to access and distribute information or run applications and services of their choice. However, a significant number of end-users are affected by traffic management practices which block or slow down specific applications or services. Those tendencies require common rules at the Union level to ensure the openness of the internet and to avoid fragmentation of the internal market resulting from measures adopted by individual Member States.”

The need of an action from the public powers has been likewise stated by the Internet Society¹⁴, that believes that the debate on network neutrality often cover worries related to

¹³ Website BEREC, entry “Net Neutrality”: <https://berec.europa.eu/eng/netneutrality/>

¹⁴ Internet Society website, paragraph “Net Neutrality”:



freedom of expression, service competence and the possibility of choice of the users; its impact on innovation, non-discriminatory traffic management practices, price setting and business models. From this dialogue on network neutrality, there are some that believe that, in order to preserve an open Internet and guarantee that it continues to be an engine for innovation, freedom of expression and economic growth; it is necessary to implement policies and ruling measures.

In the European Union, the subject has been covered by regulations via the TSM Regulation: “Regulation (EU) 2015/2120, of 25 November 2015, of the European Parliament and of the Council, laying down the measures concerning open Internet access and amending Directive 2002/22/EC on universal service and users’ rights relating to electronic communications and services and Regulation (EU) No 531/2012 on roaming on public mobile communications networks within the Union”.

The supervision of the safeguard of open Internet access, as established in article 3 of the Regulation, has mainly been carried out based on the assessment of the information on offers and prices plans the operators shall send to the ruling authorities, with an advance of at least a month prior to its launching. This analysis has been completed tracking the information published by the operators on their websites. Besides, the SETELECO has sent the operators frequent requirements of information related to the aspects of their tariffs that could affect network neutrality.



2.2. “Zero-rating offers”

Zero-rating offers

An offer is considered as “zero-rating” when the internet service provider applies a margin price of zero to the data traffic associated to an application or a specific applications category (and the data used are not counted to the effects of any general data limit). The internet service suppliers normally supply this service without any additional cost for the user.

Guideline §40 of the BEREC GUIDELINES includes examples of price plans and offers that would be considered as zero-rating:

“In zero-rating offers, data traffic associated with a particular application or category of applications does not count towards any data cap in place of Internet access. There are different types of zero-rating practices which could have different effects on end-users and the open internet. These would include, amongst others, “sponsored data” (the content suppliers bonuses its own data), or the contracts offering the end-users the possibility of choosing a zero-rating offer from a range of applications of categories previously set by the operator. Such practices may include limited or illimited data capacity. In the first case, the use of the app is deducted from the offer’s data availability. In both cases, there could be a payment of a tariff by the end-user.”

It is, hence made clear that those offers including contents which data are outside the general tariff would be considered as “zero rating”, independently of the data being limited or illimited, if they are free or of payment of a quota.

Effect of the zero-rating offers

Initially, these kinds of practices could affect the rights of the end-users, as far as the operator would not be applying different tariff offers according to the content accessed. The TSM Regulation does not expressly include and does not have any specific regulation about the zero-rating offers.

The European Commission published in February 2017 a report named “Zero-rating practices in broadband markets”¹⁵. This document includes an analysis of potential risks and benefits of the zero-rating offers. Amongst the positive aspects, we highlight:

¹⁵ <http://ec.europa.eu/competition/publications/reports/kd0217687enn.pdf>



- Encouragement of the access to the services. The offers would be an incentive for such access, considering they would not spend data to be counted in the general tariff. The report underlines this aspect as especially important for economies under development where the costs of data services access can become a barrier for the users.
- Product differentiation. These offers would have an influence in the customer satisfaction, as far as they would better fit their specific needs. Also, they would increase the creation of new business models, with higher efficiency than the current.
- Price differentiation. The offer of unlimited access to certain contents reduces the prices of Internet access for those customers valuing those contents.
- Promotion in the creation of applications and contents. The report states that these kinds of offers can help the cross-border expansion within Europe. It quotes some cases where, after the establishment of a European company supplying contents in another Member State, it reached agreements with a telecommunications operator to offer zero-rating bonuses, becoming one of the leaders in that country for that kind of contents.

On the contrary, the report warns about the potential risks the zero-rating offers may cause. Generally, these practices imply a “discrimination in the treatment of the different kinds of traffic” and, with it, they may constitute a breach of the network neutrality principle. The main inconveniences stated are:

- The limitation of the end-user’s choice ability, as there may be a distortion of the competence between content suppliers. As certain contents are submitted to these kinds of offers, these would be more attractive for the user and, thus, they would enjoy an immediate competitive advantage.
- Entry barriers in the contents’ markets. This factor arises especially when certain contents suppliers (CAP – *content and applications providers*) do not have the ability to reach agreements with the electronic communications service operators (ISPs). The report includes some examples:
 - An agreement between an ISP and a CAP according to which the services included in the zero-rating could not be extended to other suppliers.
 - The practice according to which the ISP submits a zero-rating offer exclusively to its own contents.
 - The ISP imposes technical restrictions that, in fact, hinder certain CAPs to attach to the offers.



- Harm to innovation and service development. The report warns that the establishment of technical requirements by the ISPs may limit the technical options of the CAP and decrease innovation.
- Harm to competence between ISPs. Beyond the possible distortion between content suppliers, the possible impact in the competence between the ISPs is stated, in case these last, sign an exclusivity agreement with a content leader.
- Finally, it also presents that the possible proliferation of zero-rating offers may cause that the general data limits may suffer a decrease, or, at least, reduce the increase incentives of the said.

On its side, the OECD ZERO-RATING 2019¹⁶ includes an analysis of the possible effects, both positive and negative, in the business competence. In this sense, it makes difference between the effects in the ISPs and in the content providers:

Zero-rating and competence in ISP	
Potential positive effects	Potential negative effects
Use of zero-rating as mean for product differentiation	Use by main operation via free access offers to services that could not be replicated by other operators
In countries with less acquisitive power, zero-rating may encourage wide band contracting by the promotion of economic services, contributing to market growth	Zero-rating may discourage the use of IPv6 in case only IPv4 traffic is included
Zero-rating and competence in contents	
Potential positive effects	Potential negative effects
Users may discover other apps and websites related to those included in the offer but that are not competence	Zero-rating includes an additional complexity in the economic transactions for ISP and CAP ZR offers from dominant operators may discourage other actors to enter or compete in the market
Zero-rating allows economically disadvantaged groups to access to apps without additional costs.	Even if platforms are open to other services and competitors, the first hold the control on the last

Source: OECD: *The effects of zero-rating. July 2019*¹⁷

¹⁶ Vid Annex III

¹⁷ Vid annex III



In its report, the OECD highlights three specific problems to put attention on to avoid distortions in the competence or obstacles for end-users:

- Zero-rating and traffic management. Operators should not grant privileges to the traffic on offer outside the tariff.
- Virtual mobile operators. Operators hosting access could be tempted to grant technical conditions hindering those replicate offers.
- Zero-rating and roaming. The problem would be the same of the previous paragraph. Related to both, the OECD underlines the need of establishing competitive wholesale prices which allow the replication of offers.

Depending on the effects underlined, different lobbies work pro or con the existence of this kind of offers. In relation the COMMISSION REPORT NN 2019 declares as follows:

“Interest groups hold a variety of — often contrasting — views about the impact of zero-rated offers. For example, consumer associations⁷ view the overall impact of zero-rated offers as negative for the consumer and think that they should be prohibited. They consider that such offers distort competition between the companies offering the content or applications that are included as zero-rated and other companies offering similar content and applications⁸. In contrast, internet service providers consider that the regulation allows them to propose different offers with different prices and gives freedom to the end-user to choose between these offers.”

The Commission concludes that it is more feasible that such offers benefit users in those cases where the competence level is high, either in the internet access market or in the contents and applications markets, and when data are comparatively affordable (even when a certain charge is applied). Likewise, it is less feasible that these offers cause a distortion in the contents' market if they include whole categories of applications (for example, all music transmission services), which do include a restricted list of applications.

Applicable regulations and directives

The concept of offer or zero-rating tariff is not expressly included in the TSM Regulation. However, as much as it could affect the freedoms included in article 3 of the said, it is considered as a practice that shall be analysed by the Member States of the European Union,



in order to establish its compatibility with the criteria and regulations included in the Regulation. To this point the 2019 NN COMMISSION REPORT¹⁸ states as follows:

“Although the term ‘zero-rating’ does not appear in the regulation, such commercial offers were taken into account by the co-legislators. In particular, Article 3(2) states that ‘Agreements between providers of internet access services and end-users on commercial and technical conditions and the characteristics of internet access services such as price, data volumes or speed, and any commercial practices conducted by providers of internet access services, shall not limit the exercise of the rights of end-users laid down in paragraph 1.’”

As accepted by all the Community institutions, given the variety of offer types, it is not possible to establish the *ex ante* and rigid character and the lawfulness of the offers’ categories. Thus, it is advised to pursue, case by case, an analysis of the rates and the specific conditions of each of them.

Previously, in August 2016, the Body of European Regulators for Electronic Communications (BEREC), approve the Guideline on the implementation by the national regulators of the guidelines on Network Neutrality¹⁹ (hereinafter, the Guidelines BEREC). These Guidelines, even if they do not hold a compulsory ruling value, contain how BEREC construes the Regulation on Network Neutrality.

The Guidelines BEREC (heading §40 and next) include the criteria that the zero-rating offers per se do not constitute a breach of the Network Neutrality rules, but that the conditions of the offer have to be analysed to establish if they can be a limitation on the ability of choice of the end-users. BEREC analyses these offers under the shelter of article 3.2 of the TSM Regulation and, specifically, of the point “they shall not limit the exercise of the rights of the end-users established in paragraph 1.”, in reference to the commercial and technical conditions included in the contracts between operators and users.

Amongst the main factors that BEREC suggests analysing to establish the compatibility of zero-rating offers with the TSM Regulation we find that relative to the effects the offer may have on the users, which, under their point of view, involves an analysis of three main components:

- The inclusion in the offer of a wide range of contents and/or applications the user enjoys and, thus, if the ability of choice of the users is significantly affected.

¹⁸ Vid Annex III

¹⁹

https://berec.europa.eu/eng/document_register/subject_matter/berec/regulatory_best_practices/guidelines/6160-berec-guidelines-on-the-implementation-by-national-regulators-of-european-net-neutrality-rules



- The fact that the user receives incentives for using certain applications and not others.
- The presence of conditions that *de facto* reduce the possibility of choice of the users.

In the Report BEREC NN EVALUATION 2018²⁰, this body emphasises on the need of a case-by-case analysis of the market offers, suggesting the following survey for each of them:

- To establish if is made by an ISP available for the public;
- To distinguish between traffic management measures (article 3.3 RTMS) and commercial practices (art. 3.2)
- To define the most relevant markets and the ISP's and CAP position respectively;
- To assess the effects of the offer on the CAPS (possible joining barrier);
- To assess the effects of the offer on end-users (incentives for the use of certain applications);
- To establish the scope of the offer (percentage of users affected by the zero-rating tariff).

Decision of the Court of Justice of the European Union of 15 September 2020, on the zero rating offers.

This decision expressly delivers on the practice consisting of in, once the data cap tariff is used, the possible zero-rating offers hired by the end-user shall still work. Specifically, it states as follows:

“Article 3 of the Regulation (EU) 2015/2120 of the European Parliament and of the Council of 25 November 2015 laying down the 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, shall be construed in the sense that the packages established by an internet access service supplier by agreements signed with end-users, according to which these users may hire a plan that allows them to use, without restrictions, a certain data volume and the use of certain applications and services included in a “zero tariff” to count towards the consumption of the data volume purchased and once that volume of data has been used up, those customers may continue to use

²⁰ Vid. Annex III



those specific applications and services without restriction, while measures blocking or slowing down data traffic are applied,

- They are incompatible with paragraph 2 of this article, construed jointly with its paragraph 1, given that these packages and these agreements block or lay down or limit the exercise of the rights of end-users, and
- they are incompatible with paragraph 3 of such article given that such block or lay down measures are based on commercial beliefs.”

As stated, the decision declares such practice would go against the regulation.

Decision of the Court of Justice of the European Union of 2021, on zero rating offers. Judgements in cases C-854/19, C-5/20 and C-34/20 Vodafone and Telekom Deutschland.²¹

In 2021, The Court of Justice of the EU has declared that zero tariff options go against the TSM Ruling. Thus, such commercial practices contravene the Internet neutrality principle: by these, the operators carry out a discrimination on internet traffic that is not allowed by the European Law.

The decisions were made for judgements in case C-854/19, C-5/20 and C-34/20, were Vodafone and Telekom Deutschland litigated against the Bundesnetzagentur (German Federal Network Agency) and the Bundesverband der Verbraucherzentralen, a German association for consumer protection. Two German law bodies asked the Court of Justice about the compatibility of the Law of the Union on the limitation, by an Internet access supplier, on bandwidth, tethering or the use of roaming when a customer chooses the zero tariff.

Such legal bodies shall decided on cases related to the said limitations between, from one side, Vodafone or Telekom Deutschland and, on the other, the Bundesnetzagentur (German Federal Network Agency) and the Bundesverband der Verbraucherzentralen, a German association for consumer protection.

As regards Vodafone, the “zero tariff” options called «Vodafone Pass» («Video Pass», «Music Pass», «Chat Pass» and «Social Pass») are valid only in the national territory, that is to say, in Germany. Abroad, the data volume consumed when using the services from the partner

²¹ Judgments on the Open Internet Regulation by the European Court of Justice
[Judgment of 2 September 2021 regarding the case C-854/19](#)
[Judgment of 2 September 2021 regarding the case C-5/20](#)
[Judgment of 2 September 2021 regarding the case C-34/20](#)



undertaking is offset against the data volume included in the basic package. In addition, when use is via tethering (hotspot), Vodafone counts the data consumption towards the data volume included in the package.

Telekom Deutschland Telekom Deutschland offers its end customers, for some of its packages, an additional option (also referred to as 'add-on option') in the form of a free 'zero tariff' option called 'Stream On'. Activation of that option allows the data volume consumed by audio and video streamed by Telekom's content partners not to be counted towards the data volume included in the basic package; once that data volume is used up, that generally leads to a reduction in transmission speed. However, by activating that option, the end customer accepts the bandwidth being limited to a maximum of 1.7 Mbit/s.

The Court of Justice notes that a "zero tariff" option, such as those that issue the main proceedings, draws a distinction within internet traffic, on the basis of commercial considerations, by not counting towards the basic package traffic to partner applications. Such a commercial practice is contrary to the general obligation of equal treatment, without discrimination or interference, as required by the TSM regulation.

The Court understands the equal treatment principle as a general obligation to treat all traffic as equal, which means that a technical or tariff unequal treatment for different kinds of traffic in the same tariff is forbidden. The zero-rating options consider data traffic unequally as they do not count with certain services or application in the data package included in the tariff and, thus, allow an unlimited use of the said, in comparison to the other services and applications.

Update on the BEREC Guidelines on Network neutrality

BEREC has prepared an update of its guidelines considering the said judgements²². Likewise, BEREC has invited all the interested parties to send their remarks and contributions related to such update.²³

Already in October 2021, BEREC sent a public consultation to the interested parties to give them the chance of sharing their points of view on the zero-rating offers and to have a justified backup

²² Draft Update to the BEREC Guidelines on the Implementation of the Open Internet Regulation
https://berec.europa.eu/eng/document_register/subject_matter/berec/regulatory_best_practices/guidelines/10210-draft-update-to-the-berec-guidelines-on-the-implementation-of-the-open-internet-regulation

²³ Public consultation on draft BEREC Guidelines on the Implementation of the Open Internet Regulation
https://berec.europa.eu/eng/news_consultations/Closed_Public_Consultations/2022/9397-public-consultation-on-draft-berec-guidelines-on-the-implementation-of-the-open-internet-regulation



of their decision. BEREC received 26 answers from interested parties, 23 of which were published.²⁴

Amongst others, the goal of the update is to profile the interpretation given by BEREC of the judgements and to put light on the changes suggested to the guidelines.

Zero-rating and personal data protection.

By definition, a zero-rating offer implies that the access to certain kinds of content, previously identifies, does not count in the general data capacity of the offer, but in a separate one. Thus, the operation is obliged to discriminate the traffic directed to the contents included in the said. This involves a certain degree of “supervision” or “monitoring” of the customers’ traffic. The operation shall find out which part of the data transfer shall be counted in the general tariff and which in the offer.

As a general principle, both the Directive on the protection of privacy of the electronic communications sector²⁵, as the General Data Protection Regulation²⁶, establish the general rule of end-user approval to access the data involving that monitoring or supervision.

Such Directive on the protection of privacy of the electronic communication sector in its article 5.1 prohibits *“listening, tapping, storage or other kinds of interception or surveillance of communications and the related traffic data by persons other than users, without the consent of the users concerned, except when legally authorised to do so in accordance with Article 15(1).”*

However, it clarifies that *“Paragraph 1 shall not prevent technical storage which is necessary for the conveyance of a communication without prejudice to the principle of confidentiality.”* On its side, Article 6.1 establishes that traffic data for the purposes of billing may be processed.

The problems establishing which data would need the users’ approval to be processed has led to zero-rating offers including, as condition and most of the time, the access to the contents being made by specific application and not directly via the Internet site of the supplier.

²⁴ https://berec.europa.eu/eng/news_and_publications/whats_new/9054-berec-publishes-the-received-stakeholders-input-to-feed-into-the-incorporation-of-the-ecj-judgments-on-the-open-internet-regulation-in-the-berec-guidelines

²⁵ Directive 2002/58/EC of the European Parliament and of the Council of 12 July 2002 concerning the processing of personal data and the protection of privacy in the electronic communications sector (Directive on privacy and electronic communications).

²⁶ Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data



Kinds of zero-rating offers analysed

In 2021, the presence of data download offers which normally, according to the kind of application or contents downloaded, do not count in the general tariff of data purchased by the end-user, but independently to it.

According to Article 11 of the Carta de Derechos del usuario de servicios de comunicaciones electrónicas (Real Decreto 899/2009, de 22 de mayo, “Carta de Derechos”) (Charter of Rights of the users of electronic communications services (Royal Decree 899/2009, of 22 May, hereinafter the “Charter of Rights”)), the operators shall report the offers on the market to different authorities²⁷, amongst them the Secretaría de Estado de Telecomunicaciones e Infraestructuras Digitales.

The scarce number of operators that still offer zero-rating packages, coincide that these are residual offers -even already off portfolio- meant to disappear, when facing the evident trend of customers to migrate to unlimited data packages.

An operator holds the contents offers, such as those analysed in previous years, and that are considered compatible with the BEREC Guidelines and with the SETELECO analysis criteria. They affect a small percentage of all the contract lines and the trend is to migrate the customers to unlimited data rates; this means the contract of these services to reduce year on year.

A second Group of operators has discontinued the zero-rating tariffs at commercial level and guarantees that the services still active at some customers’ will be migrated to other services.

Like in previous years, it has also been detected some zero-rating offers where the bonus does not refer to a specific kind of contents or applications, but to periods of time. The most typical case is that called “weekend bonus” or “nights”. For a certain amount, a bonus of unlimited data that will be in used during that period is purchased. The cases detected in Spain are independent of the content accessed or downloaded (“*application agnostic*”), so they would not even be found in the zero-rating category but in a limited time bonus.

Related to the zero-rating and roaming offers, it has been detected that in the little offers on zero-rating that are still in force, the operator holds the right to impose a data limit depending on the parameters established by Ruling (EU) 531/2012, of 13 June (Roaming Ruling) and its continuation

²⁷ Secretaría de Estado de Telecomunicaciones e Infraestructuras Digitales, Comisión Nacional de los Mercados y de la Competencia, Agencia de Consumo, Sanidad Alimentaria y Nutrición, Agencia Española de Protección de Datos y Consejo de Consumidores y Usuarios.



guidelines.²⁸ This is, considering the rate tariff and considering the wholesaler price of roaming data services.²⁹ (€3,00 / Gigabyte in 2021, VAT not included).

When establishing the compatibility of the zero-rating offers with the TSM Regulation it is important to underline that BEREC considers that, according to the judgements of the ECJ, zero-rating offers are not acceptable, being under public consultation to review the guidelines to, mainly but not limited to, forbid such offers.³⁰

In this sense, the German regulator, a country affected by the offers presented before the ECJ, has judged to desist from the marketing of the offers object of controversy from 1 July 2022, and the operators shall have until the end of March 2023 to pursue the transition of those users to other tariffs.

**Criteria of the SETELECO related to the zero-rating offers analysed
(Guidelines BEREC under review following the ECJ judgement)**

2.3. Restrictions on the use of equipment

2.3.1 Modem / router supplied by the operator

A large amount of operators state that, for the service of Internet access via fix nets, users must use a router provided by the operator, and there is not any possibility that the user provides its own. Initially, this could be considered as a restriction to the freedom of use of terminal equipment recognised in Article 3.1 of the TSM Regulation:

Legislation in force

²⁸ Reglamento de ejecución (UE) 2016/2286, de la Comisión, de 15 de diciembre de 2016

²⁹ Reglamento (UE) Nº 531/2012, de 13 de junio en su redacción dada por el Reglamento (UE) 2017/920, del Parlamento Europeo y del Consejo de 17 de mayo de 2017.

³⁰ https://berec.europa.eu/eng/news_consultations/Closed_Public_Consultations/2022/9397-public-consultation-on-draft-berec-guidelines-on-the-implementation-of-the-open-internet-regulation



The only applicable regulation is that included in the aforementioned Article 3.1 of the TSM Regulation:

“1. End-users shall have the right to access and distribute information and content, use and provide applications and services, and use terminal equipment of their choice, irrespective of the end-user’s or provider’s location or the location, origin or destination of the information, content, application or service, via their internet access service.”

This Article is supplemented by the established in the BEREC NN GUIDELINES 2016³¹, which has not been modified in 2020, and that states as follows:

- Guideline §25. Defines “terminal equipment” (related to Guideline 2008/63/EC) as the equipment directly or indirectly connected to the interface of a public telecommunication network. The right to choose therefore covers equipment which connects to the interfaces of the public telecommunication network. The right to choose includes, thus, any equipment connected to these interfaces (these last also defined in Article 2 of the Frame Directive of electronic communications (Directive 2002/21/CE)
- Guideline §26 affirms that, when assessing if the right to choose of the user is damaged, it should assess whether an ISP provides equipment for its subscribers and restricts the end-users’ ability to replace that equipment with their own equipment (i.e. whether it provides “obligatory equipment”)
- Finally, Guideline §27 advises that NRAs should consider whether there is an objective technological reason for the obligatory equipment to be considered as part of the ISP network. If there is not, the right to choose of the user would be damaged and the practice would be against the regulation.

Analysis of the use limitation of terminal equipment.

Despite the previously stated, it shall be analysed whether this practice limits the use of terminal equipment de facto. In fact, as some operators have stated at the request of SETELECO, the basic terminal equipment for Internet access shall be considered as that which directly interacts the user to enjoy an internet connexion service, this is, the equipment managing the applications, such as computers (PC or laptops), tablets, televisions or any other equipment used by the user for the service.

To supply the internet access service, the provision and specific setting by the operator of a modem is required. This equipment adapts the signal from the equipment used by the user

³¹ Vid. Anexo III



for Internet access (as specified in the first point) offering a connexion interface required for the interoperability and transfer of the network signal. This equipment is set to synchronise the communication with the network header where the Internet access servers of the operation are placed.

The router is an equipment with a functionality additional to the previous. It is an equipment with limited functionality which, basically, enables the interconnection of networks of users' equipment for their Internet access. This is, its functionality is the management of a group of equipment that are at the same time connected to a single access. Thus, a user connects to the Internet with a single device, currently not with a router, as it is enough with the connection functionality offers by the modem. The functionality of this device is basic and limited but it became relevant in the experience of Internet access of the individuals as it has included for years the functionality of connection management via wireless wi-fi interface.

Considering the previous structure, it shall be highlighted that the operation could grant full freedom for the user to choose the basic terminal equipment for Internet access explained in the first point. There would not be a restriction for the use of computers, tablets or any other device managing the applications used by the user for Internet access.

To enable Internet service access, the operator sets up a modem equipment that manages the communications between the terminal equipment and the network. This equipment has a specific setting and oversees managing, amongst other Internet service aspects, the IP directioning, the safety measures and the specific setting of the service hired by the user. It is an equipment customised for the operator's network. Thus, it should be considered that, to the effects of provision of services, the terminal point of the network is at the exit of the modem (ONT equipment in case of the FTTH networks and cable modem for HFC networks). This equipment is responsible for the supply of the Internet access service, but it also manages on the HFC and FTTH, the additional telephone and television services that are currently supplied on the NGA networks with IP technology.

The modem equipment has the router functionality for user integrated. This is, a single device offers both the modem and the router functionality. This is a Benefit for the user as the integration in a single device means efficiency from the point of view of electricity connection, room saving and optimal integrated operation of the two functions.

Considering the integration in a single equipment of the modem and router functionalities, the initial premise is true, this is, the theoretical impossibility of a user installing its own terminal equipment. However, this premise was directed to the supply of a single equipment including the functionalities of modem and router, but if these are separated, nothing would



hinder the user from connecting its own router for the management of the group of connections and signal multiplexing.

In case these conditions met, the user could connect its own router to manage the internet access service to the net equipment supplied by the operator. Thus, the router equipment could be freely purchased by the user, if so wished.

To this point, the consequence of accepting this network setting could be considering the modem supplied by the operator as part of its network, and thus, of its liability.



Situation of other countries of the European Union.

The BEREC NN REPORTS³² give its opinion about this problem in some countries of the European Union. The most relevant are:

Cyprus: it researched ISPs offering services accompanied by its own terminal equipment which they consider compulsory with the aim of offering support and services packages. Found in line with the regulation. The NRA found this practice in line with the regulation.

Users, on their side, hold the right protected by law, to use their own device.

- Finland: Its NRA has obliged an ISP to cancel a condition which would only accept cable modems the operator had to accept previously.
- Italy: In August 2018 approved a “decision” establishing the right of the users to choose its router. Subsequently, the operator could not impose a router supplied by it. It is reported that this decision was appealed.

It believes it is in line with the regulation the use of the modem supplied by the ISP in cases of FTTH and FWA, because of the technical requirements. It published a measure that establishes that operators offering modems shall set an alternative without modem.

Similarly, it sanctioned an operator that refused to hire if the terminal equipment provided by the operator was not included.

In April 2021 there have been sanctions on the operators because, in some cases, it has hindering the contract of FTTH offers if the terminal device was not included in the package.

- France. In mobiles, the NRA has obliged to modify the conditions limiting the use of terminal equipment. In fix networks, the ISP hindering the use of equipment different to the standard decoder (“standard set top box”) is under survey.
- Czech Republic: IT has been confirmed that the ISP offer terminal devices under rental or purchase. The terms and conditions of the contracts include a list of technical parameters that shall be fulfilled by such device, which helps the end users to make a grounded decision when choosing their own device.

³² Vid. Anexo III



The NRA investigated some cases for possible restriction of the rights of the end users related to the choosing of their own device, but infractions of the Regulation have not been found.

- Greece: it is investigating the restriction of some operators on the use of third-party routers.
- Hungary: it considers a breach of the regulation a clause associated to a tariff that allows the use of the SIM only on mobile devices. It also found against the regulation a tariff that did not allow the use of a SIM for M2M devices (i.e. remote monitoring). Similarly, it considered against the rule a clause that obliged to the use of the SIM card only with the device supplied.

In Spain, it seemed that some ISP restricted the use of different routers to those provided by the ISP. Finally, the information provided by them showed that end users could use the device of their choice.

Despite this fact, two operators are under investigation for the possible rejection to provide the setting parameters.

SETELECO criteria related to the offers analysed affecting the free choice of router

Some operators find it essential the installation only of routers provided by them. This practice is not found against the regulation in case the user has the possibility of installing, next, its own router but the operator must provide the setting parameters necessary that are required by the user.

2.3.2. Restrictions on the use of connected equipment: tethering

The practice called “tethering” consists in the sharing of the mobile data connection with several devices, from that initially receiving the connection. This practice implies the use of a smartphone to connect to the general mobile network and share that connection with other devices via setting a wi-fi access point from that smartphone. Even if the number is little, in Spain some offers limiting this possibility have been detected.



BEREC guidelines (§27) analyse this practice as part of the contents of Article 3.1 of the TMS Regulation, especially with the right of the end-user to “user the terminal equipment of his choice”:

“(27) Moreover, NRAs should consider whether there is an objective technological necessity for the obligatory equipment to be considered as part of the ISP network. If there is not, and if the choice of terminal equipment is limited, the practice would be in conflict with the Regulation. For example, the practice of restricting tethering is likely to constitute a restriction on choice of terminal equipment because ISPs “should not impose restrictions on the use of terminal equipment connecting to the network in addition to those imposed by manufacturers or distributors of terminal equipment in accordance with Union law” (Recital 5).”

As it is clear, this guideline is not conclusive as the said paragraph affirms that this practice “is likely” to constitute a restriction on choice of terminal equipment, referring also to *Recital 5* of the TSM Regulation, states that “*Providers of internet access services should not impose restrictions on the use of terminal equipment connecting to the network in addition to those imposed by manufacturers or distributors of terminal equipment in accordance with Union law.*”

The aforementioned *Recital* appears to be related to the possible restriction of the kind of equipment used, not to the number of them. In this sense, operators state that the lack of restrictions in this sense could lead to multiple users using a single line for data. In fact, the little offers detected that restricted tethering were, at the same time, zero-rating bonuses.

This last fact is important as the market’s tariff dynamics may arise a larger number of tariffs including tethering limitations. In this sense, the increase of plans or offers of mobile data of the “infinite or unlimited” kind or the zero-rating, may take the operators to limit tethering as a sort of “reasonable use policy” the same the limitations have been included in other services like roaming or even calls in unlimited tariffs.

Reasons invoked by the operators to introduce limits in tethering

Tethering restrictions are introduced for the download of data in mobile networks. To this respect, there are two factors to be considered for their establishment:

- The use of the data network constitutes a shared resource and its saturation must be avoided.
- Related to this, the lack of restrictions may lead to the use of mobile data as substitution of the Internet access by fix access nets.



Operators have given the following reasons:

- The mobile data service is intended to be used in mobility. In this sense, it should be considered that the applications used in mobility (messaging, applications working, games in mobility...) have a data consumption very different (lower) than those used in fix lines. The services and applications that use a great bandwidth are not generally used with mobile devices directly connected to the network.
- The network providing the service is mobile and, thus shared, which required high availability of different applications. The bandwidth availability is more limited.
- A disproportionate use would negatively affect the service quality of other users.
- According to the reports available, the data consumption via fix networks would multiply ten time that of mobile. An unlimited tethering would have the effect of substituting wi-fi for mobile connections.
- Actions to encourage fix coverage by Wireless technologies would likewise be adopting a similar scope, allowing limited the data amount when supplying communication with mobile technology.

In conclusion, operators believe that extending mobile unlimited offers shall be accompanied by these measures. In this sense, these offers shall easy data consumption in mobility, not a substitution of fix. Thus, operators believe this measure would not be restrictive, but that it shall be based in a reasonable use to avoid both a non-permitted use (sell or resell of the service) as a use damaging the stability and quality of the service.

Situation in other countries of the European Union.

To date, there are little decisions made on this subject, related to the practice of limiting tethering. The BEREC NN REPORTS³³ presents the following:

- Norway: Restricting tethering or the impossibility of inserting the SIM card in a router was considered against the regulation.
- United Kingdom: it is reported that a research on the limitations included by a mobile operator was under way. The operator voluntarily decided to retire the restriction

³³ Vid. Annex III



before there was a formal decision. Another paragraph of the report stated that these limitations were found amongst the practices which would mean a breach of the regulation on Network Neutrality.

- Germany. A legal suit presented by an association of consumers and users is quoted related to the tariff “Vodafone Pass” (zero-rating offer), where the traffic on tethering was excluded of the bonus and charged to the main tariff. It is briefly explained that the court dismissed the suit because of contract reasons.³⁴
- Greece. A new judgement case related to the terms restricting tethering in the contracts was found: ISPs answered that the link was not in practice applied and that the sole restrictions made reference to the data Exchange between different SIM cards. Terms and conditions were explained and the case was closed.

In the case of Spain, the operators confirm that currently there are not access limitations associated to the devices by tethering.

SETELECO criteria related to the offers analysed with limits in the sharing of data with equipment not directly connected to the net (tethering)

The offers including a limit in the sharing of data with equipment not directly connected to the net have been considered as opposed to the regulation on Network Neutrality. They could only be admitted in case of being established as a measure for temporary and exceptional traffic management in case of network congestion.

2.3.3. Restrictions on the use of multiSIM cards

The spread of illimited tariffs for data download in mobile services has arisen a certain trend of the operators to restrict certain practices or contract conditions. Besides tethering (previous paragraph), some operators restrict or eliminate the possibility of hiring the called “multiSIM service” linked to illimited mobile data tariffs.

³⁴ “The court argued that counting data consumed by tethering against the data allowance does not constitute a violation of Article 3(1). The main reason for this was that tethering is not contractually forbidden.”



MultiSIM service would consist in buying additional SIM cards or complementary to the principal, associated to the same mobile telephone line, for its use in devices different to the main one which is associated to the original card (PCs, tablets, Smart watches, or any other). Secondary cards can adopt the traditional share of a “physical” SIM or eSIM.³⁵

This possibility does not present special problems for the operators in limited data tariffs, as much as the total amount of data would be the download limit adding all the devices.

However, the maintenance of this service in illimited tariffs would mean, in practice, that a line becomes, at the same time, two or more lines with illimited tariff, as these would be used like that by each of the devices where the secondary card is placed.

Legislation in force

Neither the TSM regulation nor the BEREC GUIDELINES 2020 establish any provision related to this specific subject besides the general clause of article 3.1 of the Regulation:

“1. End-users shall have the right to access and distribute information and content, use and provide applications and services, and use terminal equipment of their choice, irrespective of the end-user’s or provider’s location or the location, origin or destination of the information, content, application or service, via their internet access service.”

Similarly, BEREC reports on the implementation of the regulation neither include specific references to this problem.

Existing practices in Spain

- Setting of two modes to hire a multiSIM services linked to a tariff; a more economic one reducing the mobile data download speed in secondary cards; and another of higher price without such restriction.
- Some operators provide this service without any restriction.
- The presence of offers of illimited data have been found which establish restriction on mobile data consumption limits. In one of the case, clarification has been asked to see if these restrictions also affect limited mobile data offers, as such difference is not made clear.

³⁵ Una eSIM, SIM virtual o tarjeta virtual integra el chip de estas en el propio hardware del teléfono móvil, de la tableta o del reloj inteligente. De esta forma se elimina la necesidad de introducir físicamente la tarjeta o de cambiarla por una nueva en los procesos de cambio de operador.



SETELECO criteria related to offers with multiSIM cards:

In offers with limited mobile data, there is no reason for the restriction of the use of multiSIM cards. Any restriction shall be against the TSM Regulation.

In offers with illimited data, restrictions tending to avoid the use of the line that may make that a contract could become multi-line shall be accepted, as they associate different cards to each device. However, there shall be an equal treatment between the data use in each of the secondary devices used.

2.3.4. Restrictions on the use of SIM cards

The freedom of choice of the terminal device of the TSM Regulation includes the possibility of using or inserting the SIM card for the mobile line in any device. Neither the Regulation nor the BEREC GUIDELINES expressly include this specific right, implicitly derived from the freedom to choose the device.

Actions during 2021

During this year the conditions established by the operators on the subject have been analysed. It has been stated that the prohibition of use of SIM cards in devices different to the mobile telephone was exclusively directed to their introduction in devices directed to cause an irregular traffic or to the resell of traffic (*SIMBOX*)

SETELECO criteria related to the offers analysed with limits on the use of the SIM card in certain devices.

The offers that included a limitation in the use of SIM cards in certain devices has been considered against the regulation on Network Neutrality. These would only be accepted in case of being referred to devices directed to causing an irregular or undue traffic, or to the resell of telephone traffic.



2.4. Traffic management measures

Paragraph 3 of article 3 of the TMS Regulation established the general principle of equal treatment of all kinds of traffic by the operator.

“3. Providers of internet access services shall treat all traffic equally, when providing internet access services, without discrimination, restriction or interference, and irrespective of the sender and receiver, the content accessed or distributed, the applications or services used or provided, or the terminal equipment used.”

The following paragraphs of this article explain the principle and include some exceptions to it, in defence of interests such as network integrity and safety or the compliance of legal orders, amongst others.

To this point, the OECD ZERO-RATING 2019³⁶ stated that *“As a starting point, it is important to note that the principal idea behind net neutrality is equal treatment of all data traffic – a bit is a bit, irrespective of its content, its origin or destination.”*

The said OECD report stated that some basic traffic management measures would be acceptable, even if requiring different treatments for the different traffic categories (i.e., urgency reasons). This could justify the qualitative differences in the treatment of different kinds of data, giving priority to live services, such as voice. The OECD quotes the European Union as an example where the regulation on Network Neutrality allows these differences whenever they are based on quality requirements objectively different.

Internet Society³⁷ warns about the possible use of traffic management measures with interests or aims different to those foreseen in the regulation. This would be one of the cores of the Network Neutrality principle. It underlines some network operators that use congestion management technique and traffic shaping to keep their networks working without problems. Subsequently, there are some showing concern because net operators have the technical capacity required to use some traffic management practices offering preferential use to certain data traffic. Others are concerned because some practices adopted to increase their income may block contents considered as competence or grant unfair advantages to certain contents over others. These people find these practices a problem, especially when they intentionally discriminate against certain kinds of content delivery, in detriment of end-users. This may have led to a higher public concern in the sense that this kind of practices put at risk the principle of Internet openness and transparency.

³⁶ Vid. Annex III

³⁷ <https://www.internetsociety.org/es/policybriefs/networkneutrality/>



A key element of Internet architecture would consist of the users' data being transferred in standardised information packages, without considering their content, the issuer or the recipient. This non-discriminatory scope face Internet traffic is a key premise of Internet performance. It allows data flowing through the networks without finding obstacles caused by the nature of the same. Basically, this scope of open interconnection is one of the pillars holding Internet and that led to its success.

However, in practice, data packages are sometimes treated in different ways, either to face network congestion, limits related to resources, commercial agreements and other practical considerations related to the network performance. Some network suppliers state that the current bandwidth and infrastructure resources are jammed and that, in order to solve the problem and offer a good service quality to the customers, requires an important action related to network management. These network management practices create debate about whether they constitute or not a fair and impartial treatment of the data travelling on the Internet. It also questions the reach of the network management activities constituting discriminatory practices, potentially restricting the access to contents and limiting freedom of expression of Internet users.

2.4.1. Traffic management measures and 5G technology

The launching of 5G mobile technology and the potentials it offers to pursue a different treatment of traffic per category that make specific problems related to Network Neutrality and this technology rise. On one side, the possibility of introducing traffic management measures by the operators increase. On the other, these fear that a too strict regulation on the subject may obstacle the appearance of new services and, thus, technological innovation.

In this sense the NN COMMISSION REPORT³⁸ affirms that:

“5G enables industrial transformation through wireless broadband services provided at gigabit speeds. 5G promises high-speed data connections, low latency and the capability to exploit any available wireless resources from Wi-Fi to 4G and to handle millions of connected devices simultaneously (the 'internet of things'). It also opens the possibility to make network organisation flexible, with software parameters allowing innovative

³⁸ Vid Annex III



business models across multiple sectors (e.g. transport, health, manufacturing, logistics, energy, media and entertainment)."

Generally, the European institutions, both the Commission as BEREC, consider that the presence of 5G does not imply the need of an in-depth review of the Network Neutrality regulations. Amongst the conclusions of the BEREC NN EVALUATION 2018³⁹, the following is stated:

"Despite assertions from some stakeholders that the BEREC NN Guidelines are limiting innovation and that BEREC is exceeding its mandate, no concrete examples have been provided that this is the case. This applies also to the emerging 5G technologies where BEREC considers that the Regulation and the Guidelines provide ample room for innovation in the network"

"According to the current criteria and analysis of BEREC, the Regulation [TSM] leaves considerable room for the implementation of 5G technologies, such as network slicing, 5QI y el Mobile Edge Computing. To date, BEREC has no knowledge of any concrete example given by stakeholders where the implementation of 5G technology would be impeded by the Regulation. As with all other technologies, the specific use of 5G must be assessed on a case-by-case basis."

Independently to this, BEREC does not exclude that a review of the Guidelines is required to clarify those aspects related to 5G. In any case, this body departs from the consideration that both the Regulation and the Guidelines were developed with a technologically neutral scope and would serve to be applied to services supplied via this new technology. To this point, it is believed that:

- The NN regulation is independent to technology and, a priori, it does not forbid any use. Subsequently, BEREC considered that it is not appropriate to make reference to specific technologies.
- The matters that arise, in general, with the use of new technologies normally make reference to the category of the specialised services and the traffic categories to be considered in the reasonable management measures of the same.

³⁹ Vid. Annex III



- BEREC also reminds that, while the level differentiation of QoS by traffic category has been available for years, they have not been implemented on the Internet, opposed to the specialised services within the operator's net, like IPTV.

On its side, the European Commission presents a similar conclusion in its NN COMMISSION REPORT 2019⁴⁰:

“At this stage, the Commission is not aware of any concrete example where this provision would hinder implementation of slicing technology. The Commission will continue to follow this key issue closely as 5G develops in the market.”

This report also underlines the technological possibilities and the validity of 5G for the opening of “innovative business models in multiple sectors” warning, however, that the Regulation was thought so it could be flexibly applied to the development of new technologies.

“5G enables industrial transformation through wireless broadband services provided at gigabit speeds. 5G promises high-speed data connections, low latency and the capability to exploit any available wireless resources from Wi-Fi to 4G and to handle millions of connected devices simultaneously (the 'internet of things'). It also opens the possibility to make network organisation flexible, with software parameters allowing innovative business models across multiple sectors (e.g. transport, health, manufacturing, logistics, energy, media and entertainment).

The regulation was deliberately conceived as a principles-based set of rules so that it could be applied to the foreseeable development of new technologies and services, provided they remain consistent with the open internet ecosystem. This is reflected in recital (1) which identifies the double objective of the regulation: “to protect end-users and simultaneously to guarantee the continued functioning of the internet ecosystem as an engine of innovation»”

Technologies or network architecture related to 5G.

Despite the previous, it is necessary to analyse different aspects related to 5G technology that may be directly related to traffic management measures:

- a) **Network slicing.** It is a network architecture that enables the multiplexation of virtual and independent logical networks which would be inside the infrastructure of a physical network. Each layer (slice) would be a point-to-point network, independent and adapted to the

⁴⁰ Vid. Annex III



requirements of a certain application. Like this, it is possible that different slices supply different services within the same network.

The BEREC NN EVALUATION 2018⁴¹ deepens in this matter, considering that network slicing may be used as a way for ISPs to supply specialised services, contributing, at the same time, to the prevention of a reduction of the Internet access service quality. In any way, BEREC states, the NRAs shall continue pursuing a case-by-case analysis related to whether those specialised services supplied comply with the regulation on Network Neutrality.

In this report, BEREC insists that any explicit reference in its Guidelines was included due to its technologically neutral scope. The draft of the new guidelines seems not to have included any, what would support this consideration.

On its side, the Commission (NN COMMISSION REPORT 2019⁴²), highlights the great possibilities provided by the use of this technology:

“5G introduces more possibilities to deliver connectivity that is adapted to the service being offered. Some services need high and consistent data speed (for example augmented reality), and some need different features like the possibility to connect a number of low-power devices (for example health sensors in a house).

5G architecture could enable forms of reasonable traffic management measures that optimise traffic depending on the objective characteristics of the content, application or service, thereby improving the system’s general performance and flexibility.”

However, the Commission calls its attention on the conditions established by article 3.3 of the TSMR, in the sense that the reasonable traffic management measures shall not monitor the specific contents of the said:

“Article 3, paragraph 3, second subparagraph establishes that providers shall apply reasonable traffic management measures. However, “such measures shall not monitor the specific content and shall not be maintained for longer than necessary”. Depending on the decisions taken when deploying 5G networks, in the future it would be necessary to assess which contents are “specific” and which are not”.

- b) 5G QoS Class Identifier (5QI).** 5QI is a mechanism where packages are classified under different kinds of quality of service (QoS). Like this, the quality can be set up and adapted to specific requirements. Each kind of QoS has its own characteristics assigned in relation

⁴¹ Vid. Annex III

⁴² Vid. Anexo III



to quality (such as delay and package loss). Subsequently, some packages would enjoy more QoS than others.

The report BEREC NN EVALUATION 2018⁴³ states that, if it is considered a network architecture through which the Internet access service is provided in parallel with specialised services in other slices, the 5QI technology could be used as a traffic management service for the supply of an Internet access service that is in line with the Network Neutrality regulation in that related to the reasonable management measures for different traffic categories.

Again, BEREC believes this practice would already be covered in the Guidelines §57 – 75 (relative to the general principle of equal treatment of all kinds of traffic).

c) **Mobile Edge Computing (MEC)**. Also called Multi-access Edge Computing (MEC), is a network architecture that allows cloud computing to be performed “on the edge” of a mobile network, this is, a place close to the base station. Currently, many applications perform online calculations and content storage in services far from the devices and the end-user. MEC brings those processes closer to the user when embedded with the local cell base stations.

It is expected that this technology provides low latency services, point-to-point, via 5G mobile networks. Again, the report BEREC NN EVALUATION 2018⁴⁴ warns about the possibility that the use of this technology by IPS would have the effect of limiting the rights recognised to the end-users under article 3.1 of the TSM Regulation. To this point, BEREC advises the NRAs:

- In case this technology is used together with the provision of the Internet access service, the measures shall comply with the established in article 3.3. (traffic management).
- If used in the provision of specialised services, the required in article 3.5 shall be complied.

⁴³ Vid. Annex III

⁴⁴ Vid. Annex III



2.4.2. Reasonable traffic management measures

According to paragraph two of article 3.3. of the TSM Regulation

“The first subparagraph shall not prevent providers of internet access services from implementing reasonable traffic management measures. In order to be deemed to be reasonable, such measures shall be transparent, non-discriminatory and proportionate, and shall not be based on commercial considerations but on objectively different technical quality of the service requirements. Such measures shall not monitor the specific content and shall not be maintained for longer than necessary.”

According to this rule, operators may adopt traffic management measures that are “reasonable”. For this purpose, the following criteria shall be met:

- That they are “transparent, non-discriminatory and proportionate”
- That they are not based on commercial considerations but on “objectively different technical quality of the service requirements”
- That they do not monitor the specific content.
- And finally, that they are not maintained for longer than necessary

Since the beginning, certain practices complying with these requirements have been identified.

a) Differentiation of the service quality

It is considered that it would be in line with the regulation to offer different levels of mobile internet access speeds with different prices. Similarly, contract models offering different latency parameters, jitter and loss if packages would be admissible. So is accepted in the BEREC NN EVALUATION 2018⁴⁵, stating as follows:

“The question whether offering different contract models with different non-discriminatory QoS classes would be allowed, for example, to implement different speeds for different mobile IAS subscriptions. BEREC understands this to be a practice and compatible with the Regulations as long as the practice does not limit the exercise of rights of end-users.

It is reasonable to conclude that further QoS parameters, other than data volumes and speeds, such as latency, jitter and packet loss, could be agreed upon. Therefore, it would be permissible for the ISP to provide different QoS classes based on combinations of the above

⁴⁵ Vid Annex III



QoS parameters for different IAS subscriptions where the QoS classes are application-agnostic and transparency is ensured.

Regulation does not prevent end-users from buying more than one subscription with different QoS classes, and using them as they want for different applications.”

THE NN COMMISSION REPORT 2019⁴⁶ deepens in this idea, considering that it is legally possible to offer different QoS whenever transparency is ensured. Despite there are different factors that may make two users experiencing different qualities (such as the terminal equipment of the contents reached), it is considered they receive the same treatment if the traffic management measures are based on objectively technical matters in favour of the global quality or network efficiency.

Related to this aspect, BEREC establishes certain limits to the difference with QoS:

- One of them would consist in a possible “Premium” QoS offer shall not erode the other services under the speeds offered according to art. 4 (different speeds that shall appear in the contracts) or in the case, minimum levels established by the NRAs according to art. 5
- On the other side, it shall not be accepted that the QoS holds disproportionate capacities in prejudice of lower kinds in case of congestion.

b) Traffic compression or slow down

Under this heading different kinds of management measures that tend to reduce the speed, definition or transfer rate would be included. Normally, operators include these practices associated to the video streaming contents access.

Initially, these practices are forbidden by the third paragraph or article 3.3. of the TSM Regulation, which accepts them only for exceptional cases:

“Providers of internet access services shall not engage in traffic management measures going beyond those set out in the second subparagraph, and in particular shall not block, slow down, alter, restrict, interfere with, degrade or discriminate between specific content, applications or services, or specific categories thereof, except as necessary, and only for as long as necessary, in order to:

(a) comply with Union legislative acts, or national legislation that complies with Union law, to which the provider of internet access services is subject, or with measures that comply with Union law giving effect to such Union legislative acts or national legislation, including with orders by courts or public authorities vested with relevant powers;

⁴⁶ Vid. Annex III



(b) preserve the integrity and security of the network, of services provided via that network, and of the terminal equipment of end-users;

(c) prevent impending network congestion and mitigate the effects of exceptional or temporary network congestion, provided that equivalent categories of traffic are treated equally.”

Outside these exceptions “slow down, alteration or restriction” shall be forbidden. However, *Recital 11* of the TSM Regulation states as follows:

Rules against altering content, applications or services refer to a modification of the content of the communication, but do not ban non-discriminatory data compression techniques which reduce the size of a data file without any modification of the content. Such compression enables a more efficient use of scarce resources and serves the end-users’ interests by reducing data volumes, increasing speed and enhancing the experience of using the content, applications or services concerned.

To these effects, BEREC NN EVALUATION 2018⁴⁷, presents two kinds of this kinds of measures: throttling and data compression. According to this difference, this body considers the TSM Regulation does not forbid non-discriminatory compression techniques which reduce the size of a data file without modifying the contents. This way, lossless compression, where the original data can be exactly rebuilt from those compressed but be in line with the Regulation.

However, throttling video traffic is not in line with article 3.3 of the Regulation as it does not comply with the requirement of lack of a “restriction or interference” in the traffic. By analogy, BEREC also considers it is not allowable to use such application-specific throttling to force a CAP to supply video content in a lower resolution by the use of adaptive bitrate coding. Such practices, says BEREC, would not represent data compression according to *Recital 11* of the Regulation.

Operators’ position

Operators, answering to information requirements from the SETELECO, state that, once identified, this traffic runs through the video optimiser applying Adaptive Bit Rate (ABR). By the use of ABR, video quality controls a specific image resolution.

By the use of the adaptative speed of ABR videos (used by most of video contents suppliers) a most efficient download of the videos is achieved, minimising bad user experience in case of network congestion. Like this, the limited resources of the mobile network are efficiently

⁴⁷ Vid. Annex III



divided, providing a better user experience as it allows watching videos continuously without interruption, even if the network may have a certain degree of saturation.

THE ABR mechanism, which avoid the user to access to the maximum levels of video quality in a mobile screen are imperceptible in relation to lower quality levels, is able to provide a consistent user experience.

This functionality is based on the quality of the video streaming service from the information available on terminal equipment capacity in terms of resolutions, information that is available and held in the databases of the GSMA. Considering the capacity of the terminal equipment, the most suitable service quality is associated so it has a more efficient use of the bandwidth in ABR services.

These video streaming optimization measures would not make differences between content and video suppliers, but they only would consider the terminal equipment's capacity criteria. This is, the video streaming speed is adjusted depending on the equipment (resolution) the customer is using to watch the contents: without considering the tariff hired, without differences between contents suppliers and without affecting the user experience of the end-user.

So, this measure, besides preserving our network integrity, would optimize the consumption of the data package hired by our customers as qualities adapted to the capacity/resolution of the terminal equipment used are on offer.

Operators insist in the need of these practice, especially facing the forecast of increase of the mobile network data use. According to the report "The Mobile Economy 2019" by the GSMA⁴⁸, current forecasts foresee an average consumption per user in Europe and the former Soviet Republics of 38 GB/month in 2026, face the 9.3 GB in 2020.

⁴⁸ <https://www.gsmaintelligence.com/research/?file=b9a6e6202ee1d5f787cfebb95d3639c5&download>, page 17.

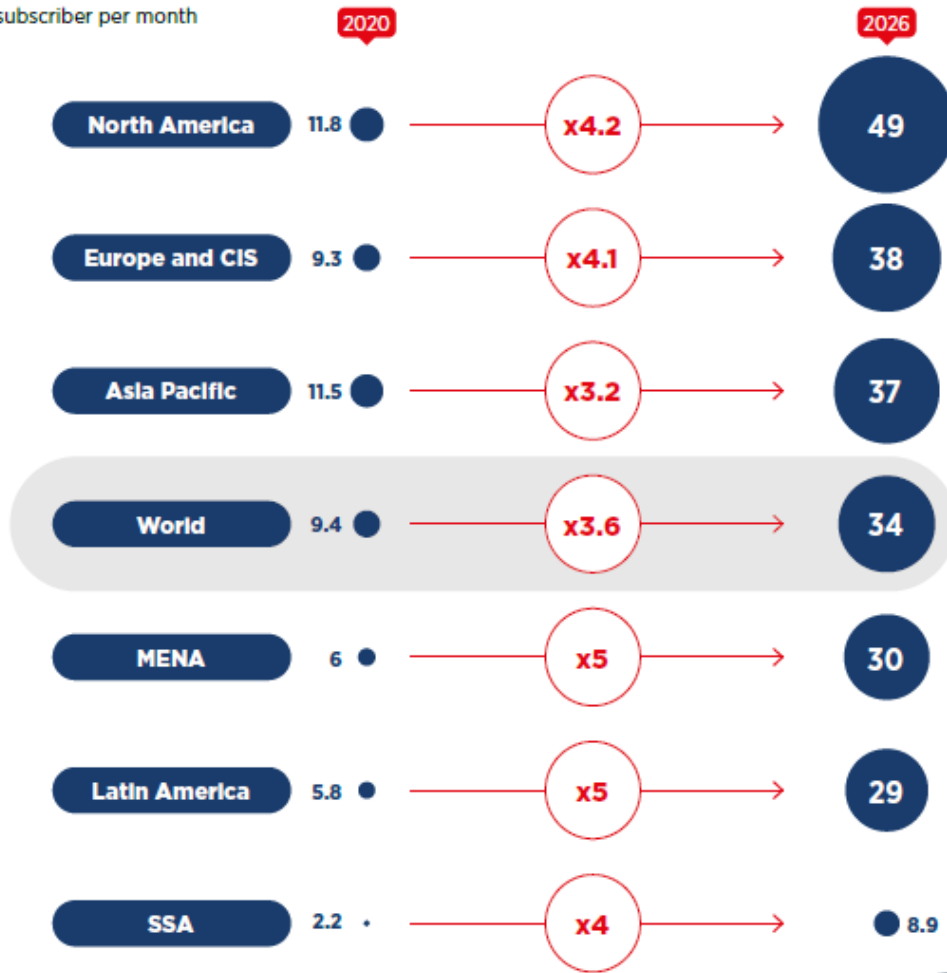


Figure 9

Source: Ericsson, GSMA Intelligence

Growth in global mobile data usage will continue as digital content and services become more integral to everyday life

GB per subscriber per month



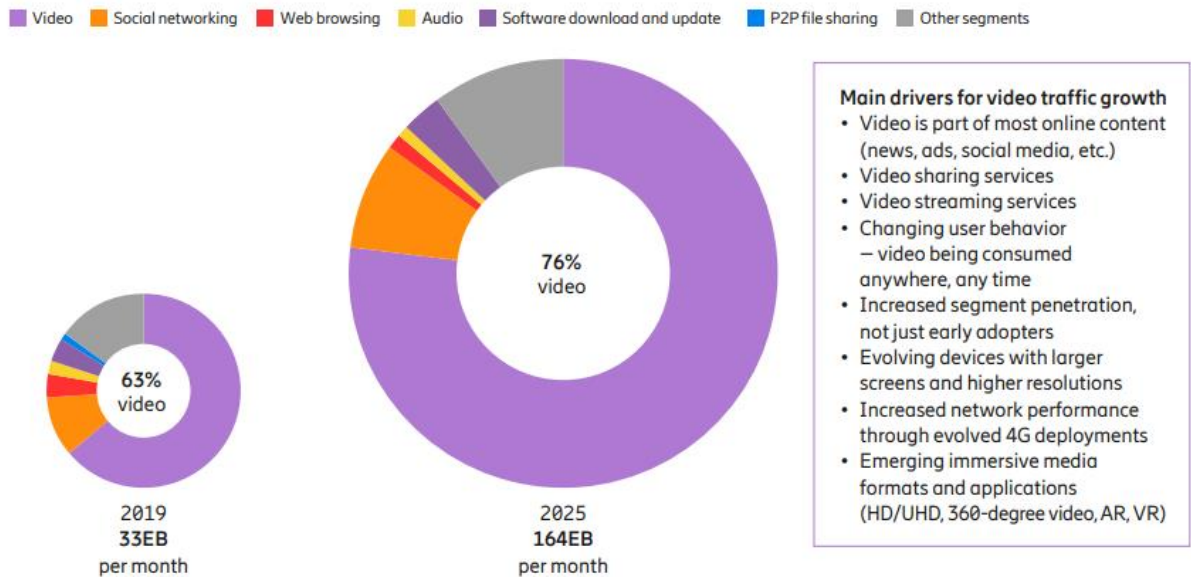
Source: GSMA. The Mobile Economy 2021

Likewise, the “Ericsson Mobility Report”, of June 2020⁴⁹, predicts a growth of more than a 31% annual of the consumption of mobile data in the next 5-6 years, and a relative weight of video growing on that total consumption from 63% to meaning almost three fourths of the total:

⁴⁹ <https://www.ericsson.com/assets/local/reports-papers/mobility-report/documents/2020/june2020-ericsson-mobility-report.pdf>



Figure 16: Mobile traffic by application category per month (percent)



The BEREC Guidelines 2020.

The PUBLIC CONSULTATION BEREC 2019⁵⁰ includes a specific heading to this subject. Aware that *Recital* 11 could open a way for operators to establish this kind of measures considering them as “data compression techniques”, allowed according to such *recital*, links Guideline §77 to a possible change. The consultation document states as follows:

- Description of the modification: ISPs may implement data compression techniques whenever these are lossless, for example, when the content originally sent arrives to the recipient without modification. Obliging to an adaptive bitrate coding does not constitute a data compression technique according to *recital* 11.
- Explanation. It is stated that different agents argue that a slowdown of specific application obliging the content providers to supply them with a lower resolution, via adaptive bitrate coding was included in the category of “data compression”.

⁵⁰ Vid. Annex III



The writing of the new guideline § 77.a establishes as follows:

“ISPs may use non-discriminatory data compression techniques in their networks as long as the content originally sent by an end point reaches its destination end point(s) unmodified (i.e. lossless compression. The use of application specific throttling e.g. to force a CAP to supply video content in a lower resolution by the use of adaptative bitrate coding does not represent data compression according to recital 11”⁵¹

As seen, this new guideline bases the criteria of what is permitted in two factors:

- On one side, any technique that may be used shall not be discriminatory.
- On the other, that the content sent could not be modified. To these effects, the adaptative bitrate is considered to modify the content sent, as it obliges to send it with lower resolution.

Situation in other Member States of the European Union

BEREC NN REPORT 2019⁵² identifies the following actions:

- Greece found the practice of video streaming slowdown in social networks against the Regulation.
- United Kingdom. OFCOM obliged the operator to eliminate these practices, such as the slowdown of the video traffic or certain categories of traffic like P2P or VPN; the application of compression techniques related to the contents and images in websites; or the slowdown of the traffic to users in roaming.

⁵¹ “ISPs may use non-discriminatory data compression techniques in their networks as long as the content originally sent by an end point reaches its destination end point(s) unmodified, i.e. lossless compression. The use of application-specific throttling e.g. to force a CAP to supply video content in a lower resolution by the use of adaptive bitrate coding does not represent data compression according to Recital 11”.

⁵² Vid. Annex III



Actions during 2021

Two operators have been under investigation with the aim of establishing if the practice of using a system to compress files is in agreement with the new paragraph 77^a of the BEREC Guidelines 2020, confirming the end of the use of the said practice.

SETELECO criteria related to the offers including traffic compression techniques

The new BEREC Guidelines largely restrict the possibility to use image compression techniques such as ABR. Related to the operator having declared to use them, the subject is still under survey.

- Blocking of contents managed by the user

To this point, the NN COMMISSION REPORT 2019 states that, from the inputs of the different agents, the launching of services where the objects connected would only be connected to the application of the manufacturer is intended for the future, and where the end-user may want to restrict the connection possibility solely to its own devices. The Commission pursues the following analysis:

““A typical example would be a person buying a burglar alarm or a webcam and restricting the devices that are authorised to configure it to those of the premises’ inhabitants. In such a case, the internet service provider would implement the access restrictions in the network, but at the request of the end-user. In this case, the choice given to the end-user by Article 3(2) to agree on technical conditions with the internet service provider is relevant. In such a scenario, the obligations in Article 3(3) that apply to the operator blocking end-points do not apply to cases where the end-user is fully in control of — and establishes item by item — what is blocked or not (and the other technical or commercial conditions of the internet access service do not vary depending on their choice.) However, such practices should be closely monitored in order to ensure that no such choice is imposed by the internet service provider. On the contrary, it should remain under the permanent control of the end-user with easy initial opt-in and subsequent opt-out”

As it can be seen, the key to decide on the compatibility of this practice with the regulation would lay on who is the subject deciding on its implementation (user or operator). In any case, it should be highlighted that in this paragraph we are mentioning blocking decided by the user, which differ from others imposed by the regulation, as those referring to illegal contents, court



order or based on the temporary need of guaranteeing the network integrity or safety (letters a), b), c) of article 3.3.)

The BEREC NN EVALUATION 2018⁵³ also includes some remarks on the subject. The most relevant are:

- The regulation on Network Neutrality does not include the use of software being installed beyond the network's end point. An example would be parent control of contents.
- The regulation affects the scope of the Internet access service, as electronic communications service. But not the OTTs or the contents nor the applications. Like this, an anti-spam filter set in an e-mail server could be analysed according to this regulation.
- The filter or blocking of network contents would not be allowed. For example, if the operator sets a middlebox in the ISP's network which suppresses advertising.

Related to the first of these points, BEREC GUIDELINES in its modification of 2020 have added the possibility that uses such as parental control are offered by the ISP, and then they shall be subject of analysis according to the guidelines:

"However, as described in paragraph 32^a, ISPs can offer end point-based services (such as parental control or filtering services in Internet access) as offer by CAPs. (...). In a case-by-case analysis, restriction such as blocking shall be assessed under article 3.2, as stated in paragraph 32.a and next."

BEREC REPORTS also declare some practices in Member States of the European Union:

- GERMANY is investigating the use of parental control filters, website blocking or downloads. It finds acceptable with the following requirements: the underlying IAS shall be independent to the application; the end-user shall have full control of the filters; the activation or deactivation shall not affect the offer price.
- SLOVAKIA has approved regulations related to gambling and privacy and infant protection, to block inappropriate contents. The list of websites blocked is published by the Financial Authorities.

⁵³ Vid Annex III



2.4.3. Traffic management measures for the network safety and integrity

Regulation

Article 3.3 of the TSM Regulation establishes that

“Providers of internet access services shall not engage in traffic management measures going beyond those set out in the second subparagraph, and in particular shall not block, slow down, alter, restrict, interfere with, degrade or discriminate between specific content, applications or services, or specific categories thereof, except as necessary, and only for as long as necessary, in order to::

- a) (...)
- b) Preserve the integrity and security of the network, of services provided via that network, and of the terminal equipment of end-users;
- c) (...)

The requirement established, thus, to arbiter measures guaranteeing the integrity and safety of the network is that, in first place, these are necessary and, secondly, that they are held only for the time necessary to preserve such integrity. Thus, undefined termination measures are not fit except if found under another recital of the Regulation.

On its side, *recital* 14 of the Regulation underlines the need of adopting traffic management measures to avoid safety incidents, stating as follows:

“(14) Second, traffic management measures going beyond such reasonable traffic management measures might be necessary to protect the integrity and security of the network, for example by preventing cyber-attacks that occur through the spread of malicious software or identity theft of end-users that occurs as a result of spyware”

Later, the BEREC GUIDELINES NN ⁵⁴ devote several paragraphs to this subject. Specifically, paragraphs §83 to §87:

- It provides several attacks or threats that may put at risk the network’s integrity:
 - Overloading network components or terminal equipment to overload the service (such as attacks of service refusal)
 - Creation of IP packages with a false IP Direction, with the aim of pretending to be another user (spoofing).

⁵⁴ Vid Anexo III



- Hacking of network components or terminal equipment. Distribution of viruses or other malicious software.
- The measures to adopt would consist in the restriction of connectivity or blocking of traffic to certain points of terminations (IP address blocking or certain docks)

To these effects, the use of monitoring systems used by the ISPs may be justified, to identify threats. Even permanently. The threats may also be identified from the users' complaints. Given that is exception is large, NRAs shall supervise the justification

In the modification of the guidelines 2020, BEREC has added a modification in guideline §85 for a better distinction in the monitoring measures for the detection of threats and the reactive measures when these become real:

“NRAs should consider that, in order to identify attacks and activate security measures, the use of security monitoring systems by ISPs is often justified. Such traffic management systems consist of two separate components: one component that executes the traffic management itself and one component that monitors traffic on an ongoing basis and triggers the traffic management. Monitoring of traffic to detect security threats may be implemented in the background on a continuous basis. Traffic management measures (such as those listed in paragraph 84) preserving integrity and security are only triggered when concrete security threats are detected. Therefore, the precondition “only for as long as necessary” does not preclude implementation of such monitoring of the integrity and security of the network.”

Besides this, the new guideline §87 includes an explicit reference of the ENISA Guidelines that are now quoted.

ENISA Guidelines

On December 2018, the European Network and Information Safety Agency (ENISA) published the document “Guidelines on assessing security measures in the context of article 3(3) of the open Internet Regulation”. It provides with specific guidelines for the application of the exception of article 3.3.b) of the TSM Regulation.

These Guidelines suggest a proceeding for the analysis of risks for safety and the establishment of the measures to be implemented. The analysis would be as follows:

- a) Safety risks, by the assessment of the following factors:
- Seriousness and emergency of the safety threat.
 - Potential impact of the threat.
 - Feasibility that the threat becomes real.



b) Efficiency of the measure. Factors to assess:

- In which measure is the risk reduced if the measure is implemented.
- Which would be the impact on the network, the services and the users if the measure is not accomplished.
- Which would be the residual damage.

c) Proportionality.

- The scope of the measure applied limits to a specific traffic, network or user.
- Duration of the measure, especially if temporal.
- Possible impact in the “legitimate traffic”.
- Impact on the end-users

d) Suitability

- Considering the measure as appropriate to mitigate the risk of threat.
- Checking whether the measure is recommended in the industry by the standards or “good practices”.
- Possible presence of more efficient or proportionate options.

Application in other EU Member States.

Related to the application in other countries of the European Union, the BEREC NN REPORTS⁵⁵ state as follow:

Several countries have detected a port blocking by ISPs to avoid safety threats. Almost any NRA has placed blockings on the implementation of these measures.

⁵⁵ Vid. Annex III



However, according to BEREK REPORT 2020⁵⁶, FRANCE would have obliged to eliminate those practices related to port blocking⁵⁷, as complaints were received related to the access to certain applications.

In 2021, the following countries have supervised this kind of practices:

- Austria
- Bulgaria
- Spain
- Greece
- Croatia
- Ireland
- Italy
- Latvia
- Malta
- Slovenia
- Poland

Practices analysed

From the checking and requirements of information in our country: only two have been detected: one of them, blocking of dock 25. The reasons given by the operators to implement this measure are focused on avoiding the sending and reception of e-mails containing commercial communications or other junk mail (spam).

Operators state that “spam” shall be construed as any e-mail not wanted by the user, with the look of advertising, but that may involve a safety risk for the customer as it hides, in certain cases, malware. Under extreme situation, it may mean a safety risk for the network.

⁵⁶ Vid. Annex III

⁵⁷ *“In addition, end-users also reported that some services or applications were not reachable because of potential port blocking practices from one ISP. Arcep opened an informal dialogue with the concerned ISP, which revealed that the issues were caused by a legacy system implemented in the ISP's network. After identifying the problem, the ISP is taking action to remove this blocking.” BEREK REPORT 2020, page 17.*



Additionally, spam is a source of consumption of large resources, both of the network, meaning a significant volume of Internet's traffic, as for the user, which proliferation, also, may mean serious damages for the customer in cases of mailbox overloading avoiding receiving important or necessary e-mails, or malware incidents.

In this context, considering the risks involved both for the network and the users, some operators have decided to implement the filtering of dock 25 in the network. So, in some cases of spam incidents and the potential malware attached to the same, a blocking of the outgoing connections from the users to dock 25 of the servers of external e-mails was done. This filter as applied at network level. Likewise, it is stated that these connections were frequently made by e-mail servers, but also because malware was used to send spam.

Operators find necessary to underline that the implementation of traffic management measures, such as port blocking, directed to ensure the safety and integrity of the network as well as of the services provided in it, are permitted practices by the Regulation on Network Neutrality (Art.3.3.b) and included by the BEREC Guidelines on the application of the Regulation. Similarly, they underline that they have the obligation, with general character and in agreement with the established in the Law 9/2014, of 9 May, on General Telecommunications (hereinafter, the "LGTel") in its article 44, on managing the safety and integrity of its networks and services.

Finally, they underline that this practice always answered to the right to choose and the agreements between customers and operators (Art.3.1 and 3.2 of the Regulation), given that when a customer was negatively affected by this block, for example, because of having an e-mail server working from their home, they could request the operator to unblock the same.

The second practice would be the restriction of traffic when detecting a distributed denial of service (DDoS): When a DDoS attack is detected, traffic is redirected to one of the equipment blocking the illicit traffic and licit is allowed to pass.

There is not significant news on the subject in 2021.

SETELECO criteria related to the offers including port blocking for safety reasons

It is considered that these offers, with the practice related to port blocking because of safety reasons, with the aim of avoiding spam or malware are sheltered by the Regulation on Network Neutrality.



2.4.4. Traffic management measures caused by network congestion

Regulation

Article 3.3 of the TSM Regulation established that:

“Providers of internet access services shall not engage in traffic management measures going beyond those set out in the second subparagraph, and in particular shall not block, slow down, alter, restrict, interfere with, degrade or discriminate between specific content, applications or services, or specific categories thereof, except as necessary, and only for as long as necessary, in order to:”

“c) prevent impending network congestion and mitigate the effects of exceptional or temporary network congestion, provided that equivalent categories of traffic are treated equally.”

This Regulation dedicates long *recital* 15 to this exception. The following aspects highlight:

- The principle of proportionality requires that traffic management measures based on that exception treat equivalent categories of traffic equally.
- “Temporary congestion” shall be understood as: “a specific situations of short duration, where a sudden increase in the number of users in addition to the regular users, or a sudden increase in demand for specific content, applications or services, may overflow the transmission capacity of some elements of the network”
- Temporary congestion problems might occur especially in mobile networks, which are subject to more variable conditions, such as physical obstructions, lower indoor coverage or variable number of active users with changing location.
- The possible causes in these situations include technical issues such as service breakdown due to cable breaking or other infrastructure elements, unexpected changes in the traffic driving or large increases of traffic in the network due to emergency situations or alike outside the control of the internet access service supplier.
- The need to apply traffic management measures going beyond the reasonable traffic management measures in order to prevent or mitigate the effects of temporary or exceptional network congestion should not give providers of internet access services the possibility to circumvent the general prohibition on blocking, slowing down,



altering, restricting, interfering with, degrading or discriminating between specific content, applications or services, or specific categories thereof. Recurrent and more long-lasting network congestion which is neither exceptional nor temporary should not benefit from that exception but should rather be tackled through expansion of network capacity.

On its side, las BEREC GUIDELINES NN 2020 (which have not been subject of review in the 2020 update) provide certain criteria in its Guidelines §88 to §93:

- The management measures implemented to prevent network congestion may be preventive or reactive. But in any case, they shall be adopted with exceptional or temporary character.
- Two key aspects to be controlled by the NRA are the following:
 - The proportionality of the measures. According to this principle, for example, it would rather slowdown the traffic than blocking it.
 - That these measures are not used to elude the application of the general principles on Network Neutrality.
- The measures established shall not discriminate between application. This make necessary to analyse both the kind of applications concerned as the size to which they are affected.
- Due to the exceptional and temporary character, these measures shall not be applied recurrently, as they would arise a structural problem.

Practices analysed

Based on these exceptions, the general contracting conditions of the operators foreseen, in a more or less generic manner, the possibility of including traffic restrictions because of safety, integrity or network congestion.

The analysis pursued in 2019 showed that the clauses foreseeing these measures were too generic, both related to the duration of the measures as to the type of specific measures that would be adopted in case of network congestion. Subsequent to the requirements made by the Secretaría de Estado de Telecomunicaciones e Infraestructuras Digitales, the clauses have been specified checking that they are established, as required by the Regulation, with temporal character and all of them allowing prioritization or not of certain kinds of traffic in case of congestion:

- Unprioritizing traffic that is not voice or video, without difference between suppliers.



- Prioritization of voice over IP on other kinds of traffic.
- Unprioritizing P2P traffic.
- Sending of spam messages, massively and continuously sent, that damage other users.

On 2021 there have not been important news on this subject.

Application in other EU countries.

Related to the practices in other countries of the European Union, the BEREC NN REPORTS⁵⁸ include the following:

- Poland. It detected an offer where, in case of network congestion, the companies' traffic was to be prioritised. The regulator declared it against the regulation.
- United Kingdom. The regulator enquired and the operators, voluntarily, withdrew the following practices:
 - Slow-down of the traffic categories such as P2P and VPNs.
 - In case of congestion, prioritization of the video streaming and traffic associated to social networks.

SETELECO criteria related to the offers including traffic prioritization because of network congestion reasons.

The traffic management measures aimed to avoid the network congestion are considered in line with the regulation whenever they comply with the following requirements:

- **That full traffic categories are applied and that they do not discriminate between applications, services or contents between them.**
- **That they are conceived with temporary and exceptional character in the terms of article 3 of the TSM Regulation**

⁵⁸ Vid. Anexo III



2.5. Specialised services.

Regulation

The definition and regulation for the provision of specialised services is ruled in article 3.5 of the TSM Regulation:

“5. Providers of electronic communications to the public, including providers of internet access services, and providers of content, applications and services shall be free to offer services other than internet access services which are optimised for specific content, applications or services, or a combination thereof, where the optimisation is necessary in order to meet requirements of the content, applications or services for a specific level of quality.

Providers of electronic communications to the public, including providers of internet access services, may offer or facilitate such services only if the network capacity is sufficient to provide them in addition to any internet access services provided. Such services shall not be usable or offered as a replacement for internet access services and shall not be to the detriment of the availability or general quality of internet access services for end-users.”

Depending on this regulation, the conditions to be complied by the specialised services to be legally provided would be the following:

- That the network has enough capacity, additional to the Internet access itself.
- That the services are not provided as substitution to the Internet access.
- That they do not damage the quality or availability of the access

The document BEREC GUIDELINES NN 2020 includes a large explanation on the subject, paragraphs §99 to §127. Basically, it summarised in the following:

a) Guidelines to follow by the NRA

- The NRAs shall supervise whether the quality requirements for the provision of the service are objectively necessary.
- The NRAs could request the service supplier information on the QoS requirements (such as latency, jitter or package loss). The specific quality level required by these services shall be motivated.



- It shall be checked that the guarantee of the quality level cannot be simply achieved by giving general priority over comparable contents.
- It shall also check that optimization is objectively necessary. To these effects, it shall be analysed whether a level of quality that cannot be guaranteed by the Internet access service itself or not.

b) Requirements of the specialised services:

- Related to the network capacity, the services shall not be provided whenever they cause a general wearing of the general access quality to Internet.
- Related to the impossibility of damaging the access, the quality measurements shall be carried out during the provision of the service and in absence of it.
- In mobile networks, it is considered that there would not be prejudice for the access whenever the possible negative impact of the service is unavoidable, minimum and limited to a short period of time. On the contrary, those unpredictable effects (related to the number of users and volume) of traffic shall not normally take place in fix networks.
- Related to the requirement that these services are not used as a substitution of Internet access, to so establish a crucial aspect would be whether the specialised service supplies Internet access but in a restricted manner, with higher quality and a differential traffic management. In case these circumstances occur, it would be considered that the service evades the Regulation on Network Neutrality.

The modification of this Guidelines of 2020 has added the following contents:

- a) Reliability of the specialised services (§ 108). Initially, these services would be objectively justified for service quality technical reasons. This, according to the market, would imply reliability. However, they state that this reliability cannot be achieved by the device characteristics, especially in those resource constrained devices, which could be affected by supply, interferences or safety threats. These devices are characterised by a limited processing power and memory capacity, and they are normally supplied by batteries.



On this subject, the agents have stated that, especially related with 5G, services like M2M or IoT could include this kind of devices and that these require specific network conditions. This, they affirm, shall be included in the guidelines.

Subsequently, the new guideline §108.a clarifies that the specific level of quality of the specialised services could also be referred to resource treatment, for example, in new network paradigms such as IoT or M2M.

b) Dedicated connectivity and logical separation of traffic.

The new guidelines suggest including two new paragraphs (§110.a and §110.b) related to certain clarifications that are required related to these subjects, this is, dedicated connectivity at the application layer and the logical separation of traffic between specialised services and IAS. According to the consultation, the existing guidelines would now have been “misunderstood” and a new clarification on the subject would be required, at BEREC’s consideration.

c) Improvement of the service quality, especially with 5G. A positive evolution of the QoS is seen which would lead to a situation where the specialised services may stop being necessary. With this, the NRAs would need to reassess if the criteria for the provision of these services are met.

BEREC NN EVALUATION 2018⁵⁹ deepens in these characteristics. It calls the attention on the fact that BEREC Guidelines characterise these services as those that “do not provide Internet connection” and “are logically separated from the Internet access service”. Related to the first requirement, at network level, these services cannot be used to substitute IAS for a service prioritising a specific application while providing Internet access. Similarly, at application level, it could be the case of voice communication between a specialised service (Voice over LTE - VoLTE) and an application service (Skype). There would not be connectivity of the user with Internet and, with it, it is not considered to substitute the Internet access, so it would be according to the regulation.

⁵⁹ Vid. Annex III



Related to the second requirement (logic separation), the Guidelines explain it as a possible method to provide the service but not as compulsory requirement. Thus, it would not be a requirement to provide it.

Likewise, related to the quality measurements helping to establish the compatibility of the service with the Regulation, BEREC refers to a future measurement tool that is being developed by this body.

Specialised services and 5G

As checked in the heading of traffic management measures, the arrival of 5G open the door to a growth of specialised services. The techniques enabled by this technology (such as network slicing) make it ideal for the provision of services different to Internet access, with specific requirements and without prejudice of the general quality.

The European Commission, in its NN COMMISSION REPORT 2019⁶⁰, is reporting the doubts and worries expressed by the sector's agents related to whether the current regulation on Network Neutrality is going to allow it or if it is going to be an obstacle for the development of new specialised services. These doubts and worries are summarised in the following:

- The possibility that a strict interpretation obliges them to reserve specific resources for these new services and to loss the benefit of dynamic attribution of the capacity.
- Doubts related to requesting a prior authorisation for the provision of the services.
- The possibility that the methodology of measurement of access quality implies the temporal switch-off of the specialised services.

To this respect, the Commission suggests a flexible interpretation of the TSM Regulation and considers that the current framework would not imply provision difficulties. However, it does not dismiss an analysis of whether a modification in the writing of article 3.5 of the Regulation is necessary:

“The industry expects new specialised services to appear, facilitated by 5G networks. No commercial 5G services are available yet and stakeholders have expressed uncertainty about the future interpretation of Article 3(5) by national regulatory authorities. The condition laid down in Article 3(5) is that specialised services can be offered ‘only if the

⁶⁰ Vid. Annex III



network capacity is sufficient to provide them in addition to any internet access services provided’ and that ‘[s]uch services shall not be usable or offered as a replacement for internet access services, and shall not be to the detriment of the availability or general quality of internet access services for end-users’.

While internet service providers support the underlying principle of the regulation, they are concerned — along with some content providers — that the current BEREC guidelines do not provide sufficient flexibility in its examples of how to satisfy those conditions, obliging them to reserve dedicated resources for these new services and lose the benefit of the dynamic allocation of capacity. They also point out that any specialised service that complies with the conditions in Article 3(5) should be permitted without needing prior authorisation before it is launched. Providers underline that they want to avoid a situation in which the presumed complexity of the ex post assessment would lead them in practice to seek explicit permission before developing or launching any service. They have also emphasised that the example in the guidelines concerning measuring performance by making a test of the internet access service while all specialised services are shut down is hardly applicable in practice since some vertical services cannot be delayed due to their special nature.

Consumer and civil society organisations and content providers consider that both the regulation and the guidelines are flexible enough to accommodate 5G services.

In view of a next generation of specialised services, questions on the application of Article 3(5) may come up. It might become necessary to further clarify when optimisation of services can be considered to be necessary on technical or commercial grounds, when ‘network capacity is sufficient’ and when specialised services are ‘to the detriment of the availability or general quality of internet access services. Such clarifications may be necessary’. Such clarifications may be necessary in order to ensure end-user protection and to guarantee the continued functioning of the internet ecosystem as an engine of innovation”.

BEREC has announced that it will consider providing further clarifications in the guidelines on how to assess, on case-by-case basis, whether a service other than internet access complies with the conditions set out in Article 3(5). The Commission will work closely with BEREC on this update to the guidelines.”

The Commission also calls attention on the fact that slicing presents the challenge on how to give end-users the flexibility needed to benefit of a dynamic resource provision and comply with the obligation of article 3, paragraph 5.



Related to the unnecessary nature of modifying the regulation because it had been approved on a technological neutral basis, BEREC also states that:

“First of all, one should realise that in principle there is no difference in regard to the Regulation between 5G and any other existing or emerging network technology. The Regulation applies on a technologically neutral basis. The goal of the Regulation is to safeguard IAS, and at the same time allow objectively and technically necessary specialised services (SpS) to be provided. This applies to any network technology, and 5G is no exception.

Furthermore, BEREC could consider clarifying in the NN Guidelines that services that have higher requirements in only one characteristic of the IAS, but lower requirements in other characteristics, could also be a legitimate reason to provide a SpS (e.g. connected IoT devices that may have low latency requirements but no requirement for high speed).”

Offers analysed

As in previous years, the only service clearly specialised that operators would be providing would be IPTV. Related to this service, there is a doubt whether it could be according to the Network Neutrality principle for those case where the general quality of the Internet access, especially in lower capacity networks (XDSL)



1. TRANSPARENCY MEASURES TO ENSURE OPEN INTERNET ACCESS

Article 4

Transparency measures for ensuring open internet access

1. Providers of internet access shall ensure that any contract which includes internet access services specifies at least the following:

- a) information on how traffic management measures applied by that provider could impact on the quality of the internet access services, on the privacy of end-users and on the protection of their personal data;
- b) a clear and comprehensive explanation as to how any volume limitation, speed and other quality of the service parameters may in practice have an impact on internet access services, and in particular on the use of content, applications and services;
- c) a clear and comprehensive explanation of how any services referred to in Article 3, paragraph 5, to which the end-user subscribes might in practice have an impact on the internet access services provided to that end-user;
- d) a clear and comprehensible explanation of the minimum, normally available, maximum and advertised download and upload speed of the internet access services in the case of fixed networks, or of the estimated maximum and advertised download and upload speed of the internet access services in the case of mobile networks, and how significant deviations from the respective advertised download and upload speeds could impact the exercise of the end-users' rights laid down in Article 3(1);
- e) a clear and comprehensible explanation of the remedies available to the consumer in accordance with national law in the event of any continuous or regularly recurring discrepancy between the actual performance of the internet access service regarding speed or other quality of service parameters and the performance indicated in accordance with points (a) to (d).

Providers of internet access services shall publish the information referred to in the first subparagraph.

2. Providers of internet access services shall put in place transparent, simple and efficient procedures to address complaints of end-users relating to the rights and obligations laid down in article 3 and paragraph 1 of this article.

3. The requirements laid down in paragraphs 1 and 2 are in addition to those provided for in Directive 2002/22/EC and shall not prevent Member States from maintaining or introducing additional monitoring, information and transparency requirements, including those concerning the content, form and manner of the information to be published. Those requirements shall comply with this Regulation and the relevant provisions of Directives 2002/21/EC and 2002/22/EC.

4. Any significant discrepancy, continuous or regularly recurring, between the actual performance of the internet access service regarding speed or other quality of services



parameters and the performance indicated by the provider of internet access services in accordance with the points (a) to (d) of paragraph 1 shall, where the relevant facts are established by a monitoring mechanism certified by the national regulatory authority, be deemed to constitute non-conformity of performance for the purposes of triggering the remedies available to the consumer in accordance with the national law.

This paragraph shall apply not only to contracts concluded or renewed from 29 November 2015.

3.1. Legislation in force

With general character, the specific legislation on the rights of the end-users of electronic communication services is included in the Spanish Law 9/2014, of 9 May, on General Telecommunications and, in development of the said, in the Chart of Rights of the User of Electronic Communications Services (Royal Decree 899/2009, of 22 May).

In Spain, the legislation in force obliges that any contract and its modification are reported, other than to the users affected, to the Secretaría de Estado de Telecomunicaciones e Infraestructuras Digitales

This Secretaría de Estado analyses the contents of the contracts and their modifications to established whether they attach to the Spanish and European legislation on protection of end-users of electronic communications services.

Likewise, the legislation obliges to such communication being also made to other bodies:

- The Dirección General de Consumo del Ministerio de Consumo (anterior Agencia Española de Consumo, Seguridad Alimentaria y Nutrición – AECOSAN), a body in charge of supervising the compliance of the general regulation on protection of users and consumers. It may thus detect the possible presence of abusive clauses or practices against the rights of consumers.
- The Consejo de Consumidores y Usuarios. It is an associated body where consumer associations of larger scale are represented.
- The Agencia Española de Protección de Datos. It checks whether the contents of the contracts meet the general regulations on the subject, and the specific on data protection in the field of electronic communications.
- The Comisión Nacional de los Mercados y de la Competencia.



Any amend of the contract terms and conditions made by the operators shall be reported to all customers affected with an advance of a month. In such notice, the operator shall inform the final user of his right to unsubscribing without penalty in case of disagreement with the amends.

3.2. Traffic management measures in contracts

Already since the passing of the Law 9/2014, of 9 May, on General Telecommunications, the operators have adapted their contracts, including:

- Possible limitations in the use of the services.
- Possible restrictions in the related to the possibilities of using the terminal equipment provided.
- Information on any condition limiting the access or the user of services and applications.
- Information on any proceeding established by the operator to measure and management the traffic so it avoids wearing or collapse the network link, and information on the way these proceedings may affect the quality of the service.
- The measures that may be implemented by the operator in case of safety or integrity incidents or threats or vulnerability.

Generally, in the contract reported by the operators in the year 2019 a positive evolution related to the specificity of the clauses related to Network Neutrality is seen. The cases where these measures may be applied, as well as the temporal horizon where these could be implemented, when temporal is specified.

Operators include clauses that attach to the cases of traffic congestion measures in the TSM regulation, such as:

a) Reasonable measures of traffic management (art. 3.3. TSM Regulation)

- Optimization mechanisms for video, for video streaming origins that hold dynamic ABR mechanisms to optimise the terminal's resolution.
- In fix wireless access, bandwidth limitation available for quality for being a shared resource.



b) Traffic management measures because of safety and network integrity (art. 3.3. b TSM Regulation)

- Blocking of websites only by request of the Courts.
- Traffic restriction when detecting DDOS attacks. In this case, traffic is redirected to equipment blocking the illicit data traffic.
- Blocking of port 25 to avoid *spam* or *malware*.

c) Traffic management measures to avoid the congestion or saturation of the network (art. 3.3.c TSM Regulation)

- Only in cases of congestion: it dismisses any traffic not being voice or video but without making provider distinctions”.
- Prioritization of voice over IP on other kinds of traffic.
- P2P traffic de-prioritization.
- With general character, possibility of slowing down the traffic in temporary situations of congestion.

3.3. Data volume limits

With general character, operators’ contracts include a clear explanation on the data volume limits. Also, related to the consequences, from the point of view of service experience and applicable prices, when reaching that limit. The evolution observed in this aspect specifies as follows:

- Generally, there are not data volume limits in “flat tariffs” associated to fix lines.
- In mobile services, the consequence of reaching the limit would consist in a drastic reduction of the access speed, so the risk of shocking bills is avoided.
- Operators offer additional data bonuses once the limit is reached to continue navigation with the maximum speed available.

To be mentioned also are the possible limits of data volume when the operator is in itinérance. In this case, operators are frequently including the limitations foreseen in the specific regulation for roaming (Regulation (EU) no. 531/2012, of 13 June and Execution Regulation (EU) 2016/2286, already mentioned under the zero-rating offers heading). Like this, the limit



is the result of dividing the bonus price by the established wholesaler price under data itinerance (€3.00/ GB in 2021, VAT not included) and multiplied by 2.

The Secretaría de Estado de Telecomunicaciones e Infraestructuras Digitales checks, for each offer, that the possible limitation on data during roaming are in line with the stated European regulation.

Unlimited tariffs

In the year 2019 the first unlimited tariffs appeared in Spain. These offer unlimited data download. The presence of these offers would have a positive effect in some respects related to Network Neutrality. For example, the zero-rating offers. With the gradual extension of unlimited offers, these would become less important.

On the other side and amongst other aspects, it would be advisable to pursue a special analysis from the point of view of Network Neutrality, as, in compensation of the unlimited data offers, operators may impose some kind of clause of “reasonable use policy” to avoid a disproportionate or abusive use of the tariff. So happened in previous years with voice services, with the introduction of clauses limiting the number of numbers called or the use of devices (like *SIMBOX*) allowing the service resell.

Actions during 2020

In data service we walk the land of Network Neutrality and these clauses could be in conflict with the regulation. The following clauses have been analysed:

- a) Limits in the use of multiSIM cards in devices other than mobile telephones:
 - Conversations with an operator on the reach of the limits of its mobile data offers.

- b) Limits on the roaming data offers, both inside and outside the European Union. The correct application of the roaming data availability formula has been controlled.



3.4. Internet access speeds in the contracts

Applicable regulation

Related to the access speeds that shall be included in the contracts, during 2017 several requirements were sent to the main operators to adapt their contracts to the established in article 4.1.d) of the TSM Regulation. This establishes that contracts shall include:

“d) a clear and comprehensible explanation of the minimum, normally available, maximum and advertised download and upload speed of the internet access services in the case of fixed networks, or of the estimated maximum and advertised download and upload speed of the internet access services in the case of mobile networks, and how significant deviations for the respective advertised download and upload speeds could impact these exercise of the end-users’ right laid down in article3, subparagraph 1;”

This is, the following access speeds kinds shall be reported:

- Fixed networks: maximum, advertised, minimum and normally available, both upload and download.
- Mobile networks: maximum and advertised speed, both upload and download.

The BEREC GUIDELINES NN 2020 provide some interpretation steps related to the different kinds of speed that shall be included in the contracts. There have not been modifications on the subject in 2020. Specially interesting are those relative to fixed networks:

- Minimum speed (§143 – 144):
 - It considers it should be the real reachable speed at any moment.
The NRAs may establish criteria on the speed the operators include in the contracts as minimum. For example, a certain proportion to the maximum
- Maximum speed (§145 – 146):
 - It would be that expected to be received by the user at some point of a period of time (for example, once a day).
NRAs may establish requestable criteria (for example, a number of times during a period of time).



- Normally available speed (§147 – 149):
 - It would be that expected to be received by the user most of the time. It would have two dimensions: a number value and a percentage of availability during a period of time.
 - NRAs may establish it via different criteria, for example, a percentage of availability in peak hour and valley hours; or a certain compulsory proportion related to the maximum speed.

The only important news included in BEREC PUBLIC CONSULTATION 2019⁶¹ to this respect refers to the speed to be shown in the fixed access contracts with wireless technology, with is further covered.

Fixed access network via wireless technology

This kind of networks lack a specific problem related to the speeds that shall be included in the contracts. On one side, and face to the end-user, they provide a fixed internet access. With it, the different kinds of speed of article 4.1.d) for these kinds of networks would be of application. This is, these contracts shall include the advertised, maximum, normally available and minimum speeds.

However, it cannot be forgotten that they use wireless technologies to provide access, and it would be a shared resource. This would advise a similarity with mobile networks, and it would only oblige to state the maximum and advertised speeds in the contracts. The contracts analysed in Spain tend to include only the maximum and advertised speeds for these kinds of access.

The modification of the BEREC GUIDELINES 2020 include a specific reference. Modifications have been included in the guidelines to include clarifications on how the “hybrid internet access services” shall be treated, for the sake of transparency, and certain kinds of fixed wireless access (FWA).

It is accepted that there may be a relative uncertainty about the transparency rules that would be applied to these networks (those relative to fixed or mobile). The modifications introduced intend to clarify the circumstances under which BEREC considers they shall be included in one or another kind of network.

Two new paragraphs have been included (§141.a and 141b):

⁶¹ Vid. Annex III



- In the first, fixed networks would be compared to certain types of FWA: it would be those where the mobile network is used to provide and Internet Access Services in a fixed location with dedicated equipment and the use meets the band capacity in a specific degree. In this case, the fixed networks transparency requirements shall be met.
- BEREC considers that hybrid access networks as fixed networks when they consist of a combination of fixed and mobile technology in a single contract, the access is supplied in a fixed location and is sold as a fixed service. the fixed networks transparency requirements shall be met.

It then explains, however, that if all these requirements do not meet, the fixed part of the service shall have applied the requirements of these types of networks and those of mobile to such.

Reflection of the different kinds of speed in the operators' contracts

Until 2016, operators normally limited to include in their contracts a reference to the information that was published on their websites about the internet access speed. However, these practices did not allow to consider paragraph d) as complied, even it expressly obliged to have the information present “in any contract including an Internet access service”.

Thus, it is considered that the information shall be included in a document being part of the contract, either in the general or specific conditions or in the document itself – a summary that includes the customer data and the services contracted.

Operators have been adapting the contracts to these requirements, underlining the following remarks.

- a) The most used path is including the general conditions in a “chart-summary” of the different technologies and methods (i.e. ADSL, FTTH) sell by the operator. In this sense, operators have been obliged to include the speed methods for any of the offers on the market.
- b) In other occasion, operators have chosen to include the speeds in the document including the special conditions or tariff charts that are handed to the user, together with the contract, when registering.



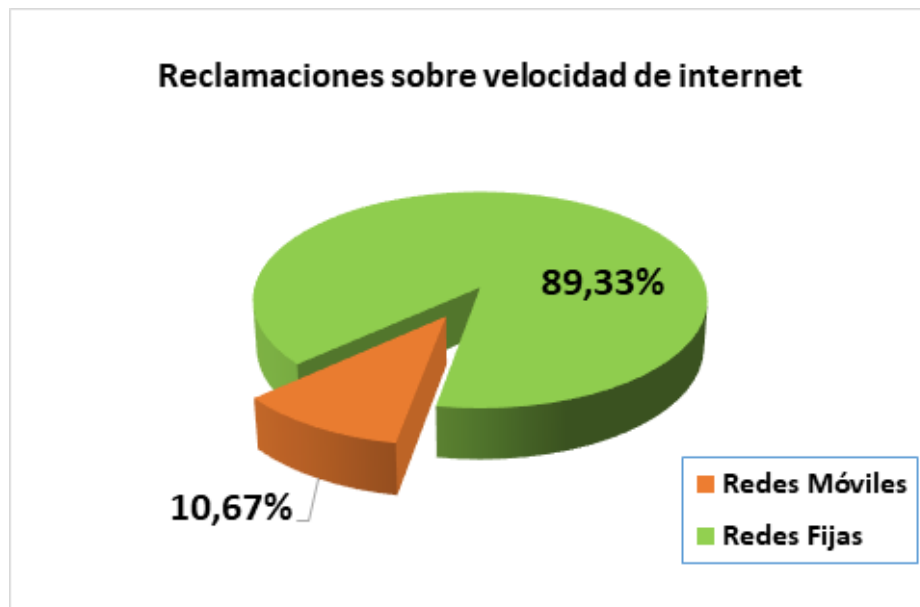
3.5. Controversies on the Internet access speeds

Article 4.4 of the TSM Regulation states as follows:

“4. Any significant discrepancy, continuous or regularly recurring, between the actual performance of the internet access service regarding speed or other quality of service parameters and the performance indicated by the provider of internet access services in accordance with points (a) to (d) of paragraph 1 shall, where the relevant facts are established by a monitoring mechanism certified by the national regulatory authority, be deemed to constitute non-conformity of performance for the purposes of triggering the remedies available to the consumer in accordance with national law.”

In first place, it should be remembered that the claims received by the Oficina de Atención al Usuario de Telecomunicaciones del Ministerio de Asuntos Económicos y Transformación Digital related to the Internet speed are little. Specifically, during 2021, only a 0.35% of the claims received by the Oficina were related to the Internet speed. Divided by network, the distribution was:

Related such claims, most of the said were related to the speed on fixed networks (89.33%), being only a 9.3% related to mobile networks.



Claims received by the Oficina de Atención al Usuario de Telecomunicaciones on Internet access speed during 2021



Article 4.4 makes clear that an infringement of the different kinds of speed stated in the Regulation, and shown in the conditions of the operator, shall be considered as an individual contract infringement towards the customer. The requirement shall be that there must be a “significant discrepancy” (between the contract speed and the real) and that, also, this must be “continuous or periodically recurrent”. This makes those measurements to be made shall take place in a certain period of time.

This consideration makes necessary to cover different questions that come out or that have been analysed, together with the main operators, since 2018.

a) Mechanism for speed measurement

Currently, Spain has not adopted, according to the Regulation’s terminology, a “mechanism of certified supervision” that allows establishing the possible lack of agreement with the Regulation. This matter is considered especially complex due to the environment and to the conditions where the speed measurements shall be made to provide with an accurate result. Specifically, it shall be required that the measurement is done directly via cable connection to the route, dismissing the possible influence both of the use of wireless technologies (measurements made in a place after the router-Wi-Fi) as of a possible fault in the cable’s installation inside the home of the end-user.

Likewise, the mechanism to be implemented shall dismiss the influence of other factors such as when performing the measurement there are more devices connected to the router or that the terminal equipment where the measurement programme is executed does not have enough performance, amongst others.

In first place, it shall be reminded that BEREC is working in the creation of a tool that allows the measurement of quality parameters. Amongst them, speed. So is stated in the document BEREC NN EVALUATION 2018⁶², which finds it is an essential element for the NRAs to make statements on this and other subjects, as would have been made if the specialised services were suffering an impact on the general quality of the internet access service. So, currently we are expecting the presentation of this tool. Also related, reference is made to the NN COMMISSION REPORT 2019⁶³, where this body states that BEREC is working on the update of the guidelines in this field and that it has launched a contract proceeding to develop the suitable IT tool.

⁶² Vid. Annex III

⁶³ Vid. Annex III



Until that tool is available, the State Secretary of Telecommunications and Digital Infrastructures has explored, together with the operators, satisfactory mechanisms to allow solving the claims of the users.

To this respect, it is necessary clarify that most of the claims received related to internet access speed normally do not mean controversy on the real speed the user is living. Frequently, when the user receives a real speed lower than that foreseen in the contract, the operator admits it and tries to solve the problem adapting the tariff of the customer. Or, in case of not being possible, offering the user a termination of the contract without penalties.

Until now, the path chosen by the State Secretariat for the measurement of the speed (we insist, until the presentation of a tool on measurement by BEREC), would consist in the pursue of remote measurements by the operator. This option would not allow dismissing the influence that may have on the measurement, aspects such as the possibility that the user pursues them in a non-reliable environment (i.e., by the wireless connection to the router or with deficient equipment).

In this sense, the Proyecto de Ley General de Telecomunicaciones⁶⁴ - of imminent approval by the Cortes Generales when this report was written – is to synthetise what is now explained:

“Article 69. Quality of the service.

- 1. The Comisión Nacional de los Mercados y la Competencia, after the report of the Secretaría de Estado de Telecomunicaciones e Infraestructuras Digitales, shall specify the parameters of service quality to be amounted and the applicable measurement methods, as well as the contents and format of the information to be made public, including the possible quality certification mechanisms. For this, the Guidelines established by BEREC shall be considered and the measurement definitions and methods included in Annex C of the European Electronic Communication Code.*
- 2. The Comisión Nacional de los Mercados y la Competencia could request the operators providing services of Internet access and interpersonal communications services available to the public to publish the full, comparable, accurate, user-friendly and updated information on the quality of its services directed to end users, as much as at least one of the elements of the network is controlled by them, either directly or in virtue of an agreement of level of service in this sense, and on the measures adopted to guarantee an equivalent access for disabled end users.*

⁶⁴ https://www.congreso.es/public_oficiales/L14/CONG/BOCG/A/BOCG-14-A-74-1.PDF



The Comisión Nacional de los Mercados y la Competencia could also request the interpersonal communication service operators available to the public to inform the consumers in case the quality of the services provided depended on any external factor, such as the signal broadcasting signal or the network connectivity.

At request, such information shall be provided to the Comisión Nacional de los Mercados y la Competencia, prior to its publication.

The measures established by the operators providing services of Internet access and interpersonal communications services available for the general public to guarantee the quality of their services shall be pursuant to Regulation (EU) 2015/2120, of the European Parliament and the Council, of 25 November, where the measures related to the open Internet access and detail sales for regulated intra-communitarian communications and are modified by Guideline 2002/22/CE and Ruling (EU) 531/2012.”

b) Types of fixed networks

It is believed that the discrepancy problems between the contract and real speeds which, at the time, would require measurements to be made, would be caused in network of access via xDSL technologies. The claims related to the speed for FTTH networks, even if they may take place, would not need measurements even if this kind of access guarantees the speed received by the end-user. In fact, of those claims received, it is checked that they are normally solved immediately as there have been breakdowns or, simply, mistakes in the line provision proceeding, which is later adapted to the speeds offered to the user.

c) Speeds shown in the contracts.

From the analysis of the speed tables published by the operators in the contracts or in websites, the following can be deducted:

- For FTTH networks, the average speed (“normally available”) with general character is compared to the maximum. However, some operators place it around the 85% of the said. About the minimum speed, it is around a 50% and a 92% of the maximum speed, according to operators.
- For fixed xDSL networks, the minimum speeds normally vary from 30 – 40% of the maximum speed, while that normally available is placed around 50 – 60% of it.



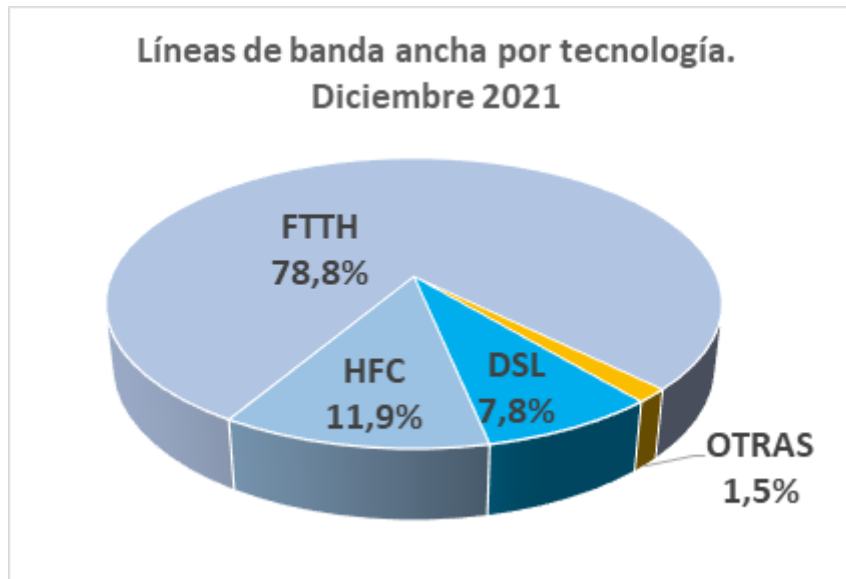
- For 3G mobile networks, the maximum speeds are between 16 Mbps and 42 Mbps (download) and between 4 Mbps and 8 Mbps (upload)
- For 4G mobile networks (some operators publish speeds in the 4G+), the speeds are between 500 Mbps and 40 Mbps (download) and between 5.7 Mbps and 75 Mbps (upload)

In the analysis of article 4.4 of the TSM Regulation, these speeds would be those taken into account in the individual claims because of possible lack of internet access speed.

According to the information of the Comisión Nacional de los Mercados y de la Competencia (National Commission for Markets and Competence) currently the FTTH access largely exceed those via ADSL. Even if this technology is more favourable to the reception of claims, the trend shall also be decreasing.

The information published by the CNMC for December 2021 are the following:

DEC 2021	FIXED BROAD BAND LINES BY TECHNOLOGY	
DSL	1,265,672	7.83%
HFC	1,915,54	11.86%
FTTH	12,727,756	78.78%
OTRAS	246,322	1.52%
TOTAL	16,155,104	



Source: CNMC: broad band lines per technology December 2021

d) Consequences of the lack of agreement.

It is necessary to establish which rights are going to be recognised to the user that suits a claim in case it is finally declared that the speed received does not match those shown in the contract. The conclusions of the analysis made in 2019 show that three different rights may be recognised:

- A possible economic compensation for contract infringement.
- The right to terminate the contract, for infringement, without penalty.
- The obligation of the operator of adapting the contract conditions to the real speed received.

e) Conclusions

Even if during 2021 some advances on the analysis of the said aspects has been made, it is expected that both the measurement and the claim systems related to internet access speed is fully implemented in 2022. Up to date, the most significant problems detected would be reduced to two:

- The speeds the operators include in the xDSL lines contracts considering there are individual factors that have influence on the speed of each line.



- The establishment of the speed measurement system that allows reaching a balance between the dedicated resources and the reliability of the results achieved.

3.6. Claims on the internet access speeds

- **Related to the claim ways at disposition of the users**, to make a claim in case of infringement of this article, the main is the claim proceeding before the Oficina de Atención al Usuario de Telecomunicaciones del Ministerio de Asuntos Económicos y Transformación Digital⁶⁵.

Since 2005, this Office processes and solves the claims the citizens present against the operators in the exercise of the rights belonging to them as end-users of electronic communications services.

It is a problem-solving extrajudicial proceeding between operators and end-users. The main characteristics are:

- The submission of the operators to this proceeding is compulsory.
- The proceeding ends with a binding order for both parties. The operator, thus, is obliged to comply with the order.
- It is an agile and little formalist proceeding. In December 2018 the average processing period was of 4.3 months (below the legal average of 6 months).
- It is a free proceeding for users.

In 2021, the Office received 21,941 claims. This means a decrease of 2.17% vs the previous year, a slight decrease mainly caused by the soothing of the pandemic effects.

The claims because of damage of the TSM Regulation is included in the field of action of the Office. However, in 2021, only a 0.35% of the claims referred to subjects related to Network Neutrality and, amongst them, most were referred to the lack of internet access speed. Subsequent to the processing of the said, with general character the

⁶⁵ www.usuarioteleco.gob.es



compliance by the operators of the compromises assumed by contract were complied with.

With general character, it can be thus affirmed that this subject is not currently a significant problem for the end-users in Spain.

- **Related to the publication of information**, it is necessary to state that operators are obliged to publish in their websites the general conditions of all and each of their contracts. Thus, as far as the content analysed in the previous paragraph shall be included in the contract, also its publication is compulsory, according to the transparency framework established by the General Law on Telecommunications and the Chart of Rights for users of electronic communication services.

- **Ways to claim against the operators**. The operators are obliged, according to the Spanish regulation on protection of users of electronic communication services, to dispose of a service of customer attention that processes the consultations, claims, complaints and, in general, any contract incident. In this sense, the Chart of Rights for users of electronic communications services imposes the following obligations:
 - The service shall be free for the customer.
 - It shall always offer the user the possibility of disposing of a documental accreditation of the operations made by telephone.
 - The possibility of suiting a claim by telephone shall always be admitted, giving the user the reference number for its tracking.
 - The operator must have solved the claim in a maximum period of a month. In case of not doing so, the claim requirement shall be construed as solved before it and they could use other controversy resolution solving, such as the Oficina de Atención al Usuario de Telecomunicaciones.

All the rights included in the TSM Regulation, as being part of the set of rights of the users of electronic communications services, would be object of claim before the operator according to the described in the previous paragraphs.



4. SUPERVISION AND ENFORCEMENT MEASURES

Article 5. Supervision and enforcement measures.

1. National regulatory authorities shall closely monitor and ensure compliance with Articles 3 and 4 and shall promote the continued availability of non-discriminatory internet access services at levels of quality that reflect advances in technology. For those purposes, national regulatory authorities may impose requirements concerning technical characteristics, minimum quality of service requirements and other appropriate and necessary measures on one or more providers of electronic communications to the public, including providers of internet access services.

National regulatory authorities shall publish reports on an annual basis regarding their monitoring and findings, and provide those reports to the Commission and to BEREC.

2. At the request of the national regulatory authority, providers of electronic communications to the public, including providers of internet access services, shall make available to that national regulatory authority information relevant to the obligations set out in Articles 3 and 4, in particular information concerning the management of their network capacity and traffic, as well as justifications for any traffic management measures applied. Those providers shall provide the requested information in accordance with the time-limits and the level of detail required by the national regulatory authority.

4.1. System designed.

According to the Spanish legislation on the quality of the service (Order IET/1090/2014, of 16 June) the internet access suppliers with incomes higher to €20K have to measure the data transfer speed achieved both of upload and download of the main services offered to its users for fixed technologies (ADSL/VDSL, FTTH, cable) and mobile (3G, 4G).

The definition of the measurement method is based on the guides ETSI EG 202 057 part 4, plus a series of additional requirements developed by the quality work group that supplement the method included in such guides. The work group consists of representatives of the industry, telecommunication operators, users and the national regulation authorities.



Each provider shall deploy a group of test lines depending on the number of users they have and carry out measurements against a server located in its network with a regularity of, at least, 20 minutes. The results of the measurements made are analysed using a traffic pattern provided by the MINECO (Ministry of Economic Affairs and Digital Transformation).

Before the deployment of the measurement system for a certain service, the operator shall provide the MINECO with a detailed description of the said for its approval. Once done, the system is submitted to an annual audit made by an independent body. The MINECO also verifies the audit reports annually.

The internet access suppliers publish the results of the measurements on a quarterly basis (percentile 95% of the transfer speed achieved in kbit/s, percentile 5% of the transfer speed achieved in kbit/s and average value of the data speed achieved in kbit/s). Also, MINECO publishes in its website a comparison survey of the data published by the operators.

To coordinate the methodology of collection of this data, in 2006 the Comisión de Seguimiento de Calidad en la Prestación de servicios de Telecomunicaciones (Commission to Track the Quality, depending on the State Secretary of Telecommunications and Digital Infrastructures. This Commission represents, besides the Administration, both operators and consumers.

At the address:

<https://avancedigital.gob.es/es-es/Servicios/CalidadServicio/informes/Paginas/Informes09.aspx>

more information can be obtained on this project and access the quarterly publications of the operators and the State Secretary of Telecommunications and Digital Infrastructures

4.2. Results achieved.

Even if the service quality frame obliges to each operator to publish the results on the subjects on its website, the State Secretary of Telecommunications and Digital Infrastructures of the Ministry of Economic Affairs and Digital Transformation pursues comparative synthesis of the results amongst the operators, which is more useful for the users.

You will now find the results achieved in IV quarter 2021

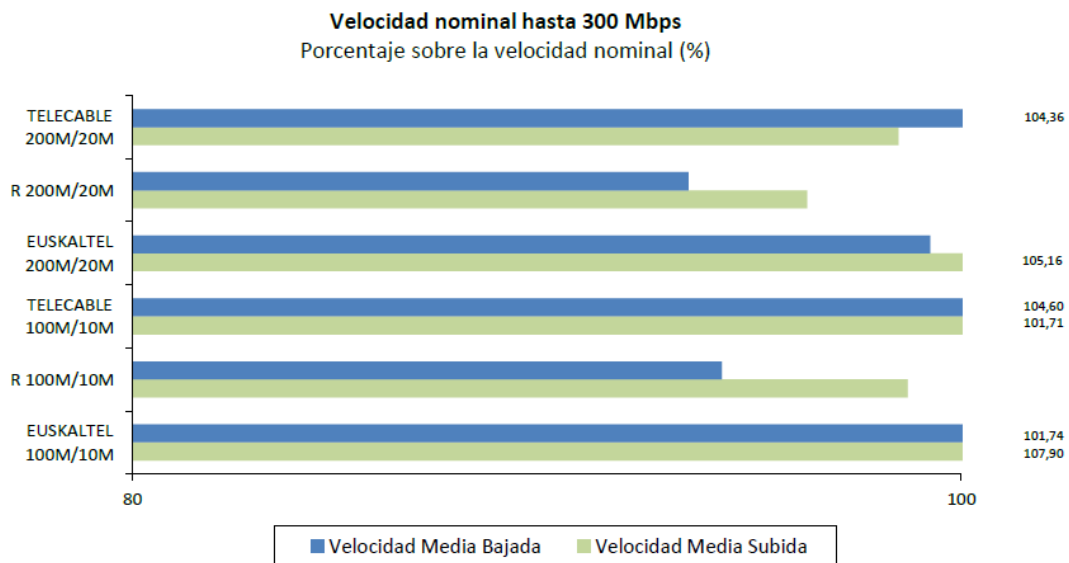


FIXED INTERNET ACCESS SERVICE

SERVICES PROVIDED ON HFC TECHNOLOGY.

- Nominal speed up to 300 Mbps

OPERATOR and service	Download nominal speed	AVERAGE SPEEDS (Kbps)		
	Upload nominal speed	Minimum	Average	Upload nominal speed
EUSKALTEL 100M/10M	100 Mbps	94,835	101,736	104,346
	10 Mbps	10,599	10,790	10,828
R 100M/10M	100 Mbps	89,146	94,223	94,892
	10 Mbps	9,530	9,871	10,089
TELECABLE 100M/10M	100 Mbps	103,822	104,602	104,728
	10 Mbps	7,930	10,171	10,513
EUSKALTEL 200M/20M	200 Mbps	178,187	198,500	207,109
	20 Mbps	19,706	21,032	21,249
R 200M/20M	200 Mbps	179,978	186,830	188,594
	20 Mbps	17,740	19,256	19,470
TELECABLE 200M/20M	200 Mbps	205,838	208,723	209,233
	20 Mbps	13,902	19,698	20,987

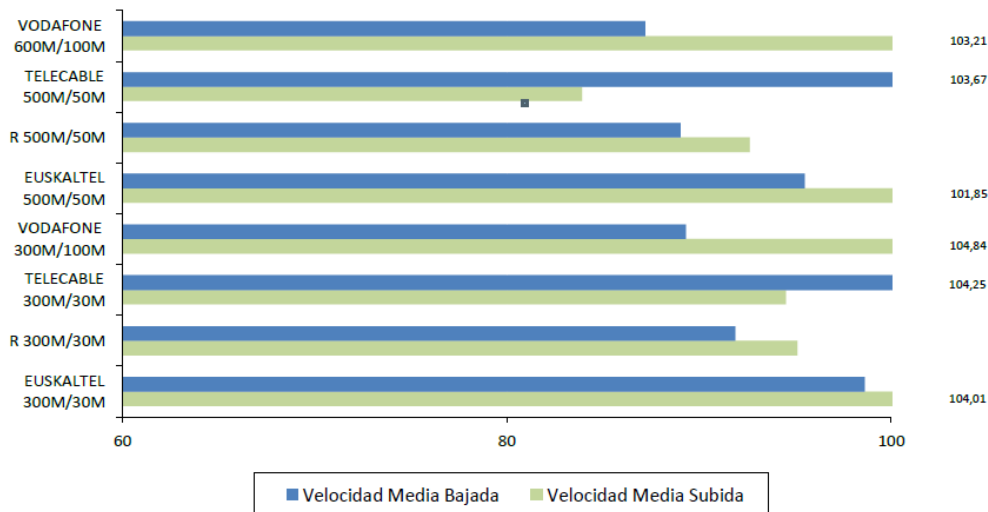




- Nominal speed over 300 Mbps

OPERATOR and service	Download nominal speed	AVERAGE SPEEDS (Kbps)		
	Upload nominal speed	Minimum	Average	Upload nominal speed
EUSKALTEL 300M/30M	300 Mbps	266,919	295,872	308,374
	30 Mbps	28,426	31,203	31,652
R 300M/30M	300 Mbps	269,017	275,655	279,362
	30 Mbps	24,805	28,538	29,112
TELECABLE 300M/30M	300 Mbps	307,520	312,761	313,625
	30 Mbps	17,578	28,357	31,451
VODAFONE 300M/100M	300 Mbps	199,582	267,997	303,009
	30 Mbps	93,749	104,837	107,717
EUSKALTEL 500M/50M	500 Mbps	426,670	477,485	506,149
	50 Mbps	42,635	50,926	52,411
TELECABLE 500M/50M	500 Mbps	497,635	497,635	497,635
	50 Mbps	25,032	41,956	51,162
R 500M/50M	500 Mbps	420,601	445,241	458,334
	50 Mbps	35,189	46,313	47,990
VODAFONE 600M/100M	600 Mbps	363,566	523,302	598,782
	100 Mbps	95,671	103,212	105,646

Velocidad nominal superior a 300 Mbps
Porcentaje sobre la velocidad nominal (%)

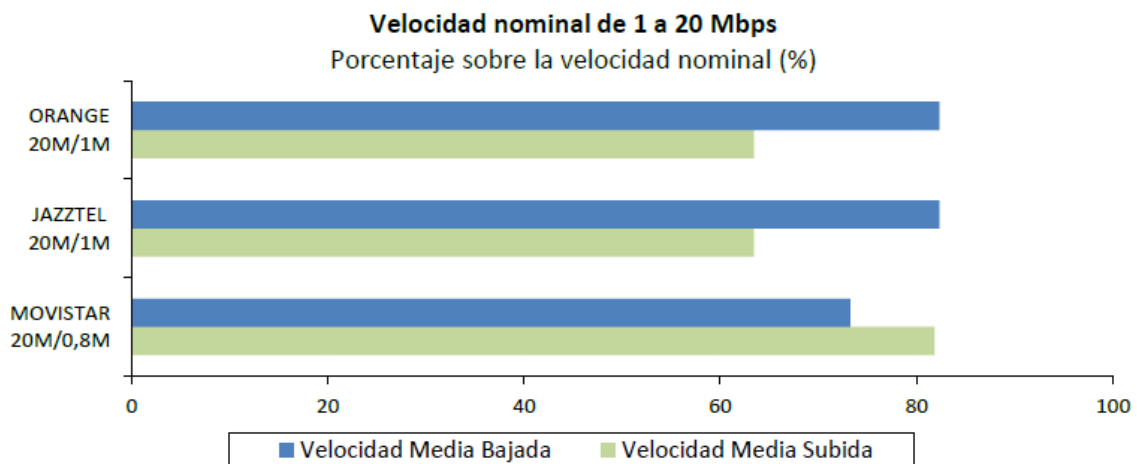




SERVICES PROVIDED ON ADSL TECHNOLOGY.

- **Nominal speed up to 20 Mbps**

OPERATOR and service	Download nominal speed	AVERAGE SPEEDS (Kbps)		
	Upload nominal speed	Minimum	Average	Upload nominal speed
MOVISTAR 20M/0.8M	20 Mbps	11,414	14,655	17,029
	0.8 Mbps	632	655	677
JAZZTEL 20M/1M	20 Mbps	14,942	16,469	17,275
	1 Mbps	591	634	677
ORANGE 20M/1M	20 Mbps	14,942	16,469	17,275
	1 Mbps	591	634	677

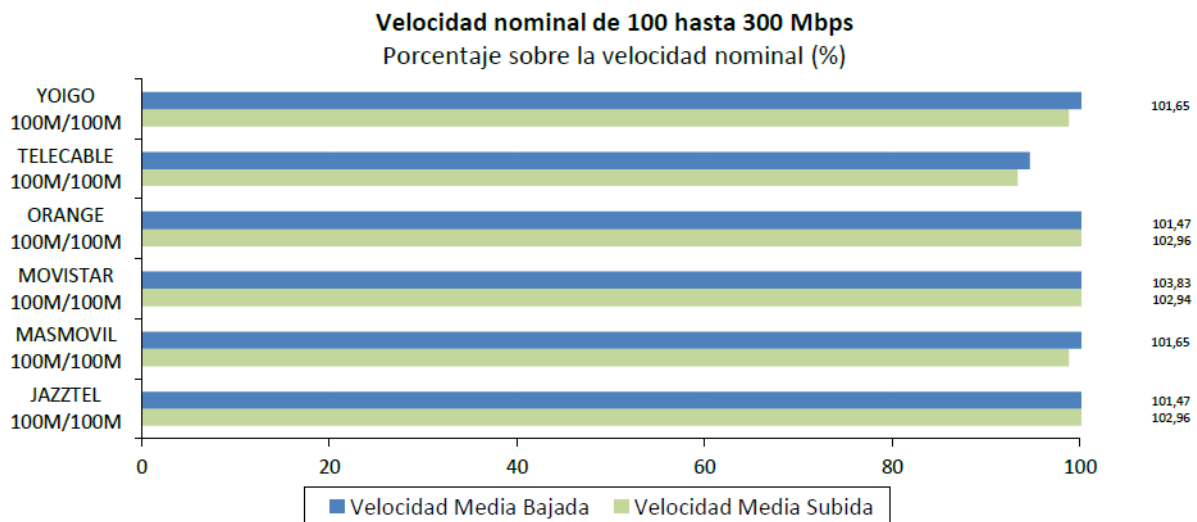




SERVICES PROVIDED ON FTTH TECHNOLOGY.

- **Nominal speed from 100 Mbps to 300 Mbps**

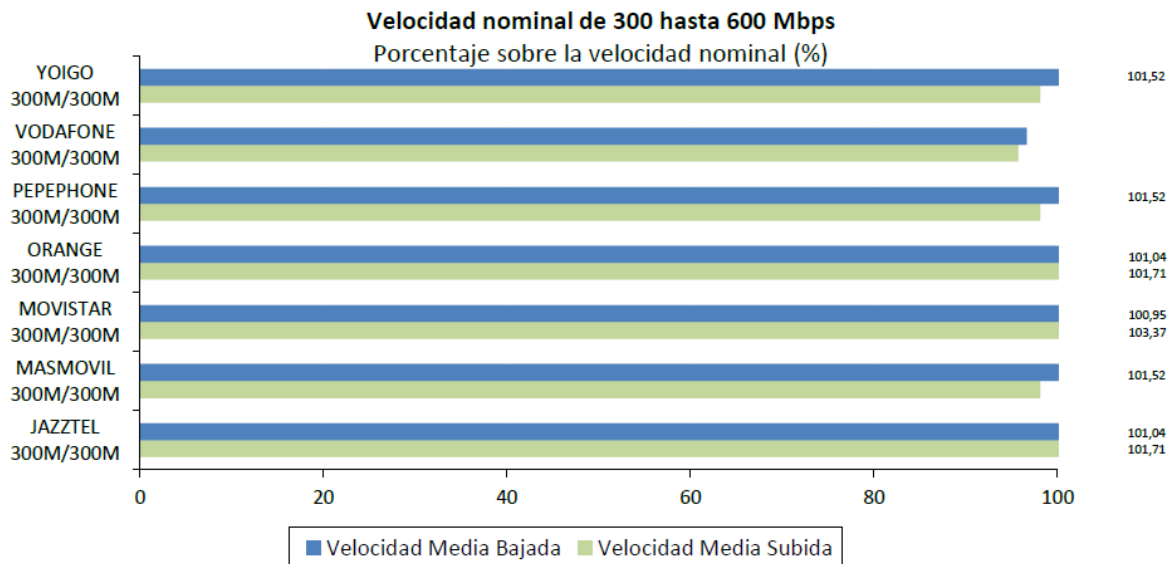
OPERATOR and service	Download nominal speed	AVERAGE SPEEDS (Kbps)		
	Upload nominal speed	Minimum	Average	Upload nominal speed
JAZZTEL 100M/100M	100 Mbps	101,207	101,469	101,606
	100 Mbps	100,771	102,959	103,824
MASMOVIL 100M/100M	100 Mbps	101,052	101,650	101,952
	100 Mbps	90,686	98,846	101,135
MOVISTAR 100M/100M	100 Mbps	103,260	103,827	104,420
	100 Mbps	98,672	102,940	103,270
ORANGE 100M/100M	100 Mbps	101,207	101,469	101,606
	100 Mbps	100,771	102,959	103,824
TELECABLE 100M/100M	100 Mbps	92,928	94,969	96,659
	100 Mbps	93,196	93,368	93,466
YOIGO 100M/100M	100 Mbps	101,052	101,650	101,952
	100 Mbps	90,686	98,846	101,135





- **Nominal speed from 300 Mbps to 600 Mbps**

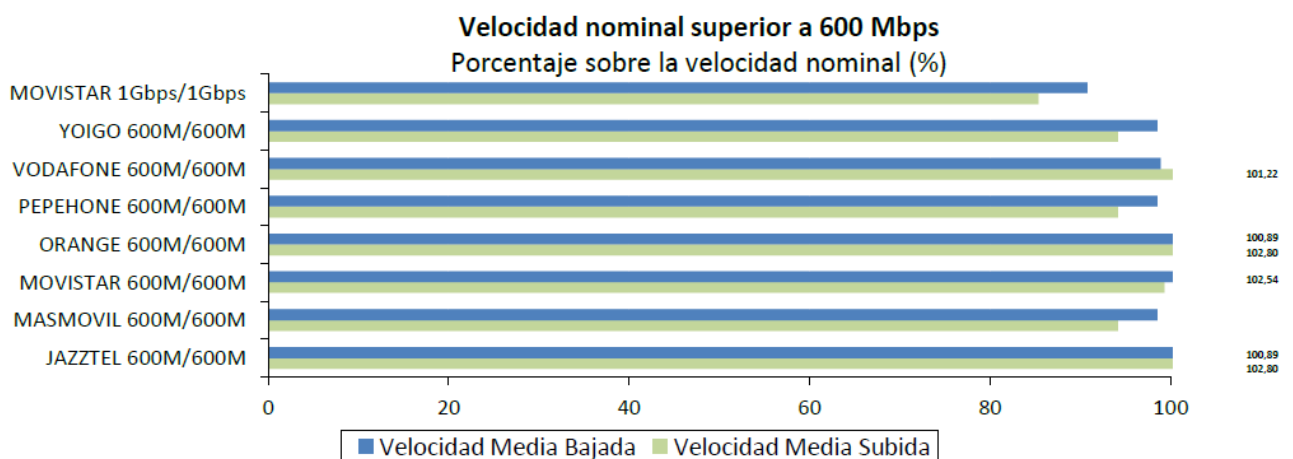
OPERATOR and service	Download nominal speed	AVERAGE SPEEDS (Kbps)		
	Upload nominal speed	Minimum	Average	Upload nominal speed
MASMOVIL 300M/300M	300 Mbps	303.075	304,559	305.856
	300 Mbps	276.076	294.429	303.607
MOVISTAR 300M/300M	300 Mbps	298.297	302.851	305.260
	300 Mbps	309.526	310.114	310.612
ORANGE 300M/300M	300 Mbps	298.623	303.117	304.604
	300 Mbps	291.395	305.140	307.497
PEPEPHONE 300M/300M	300 Mbps	303.075	304.559	305.856
	300 Mbps	276.076	294.429	303.607
VODAFONE 300M/300M	300 Mbps	253.854	290.003	300.347
	300 Mbps	264.984	287.181	294.917
YOIGO 300M/300M	300 Mbps	303.075	304.559	305.856
	300 Mbps	276.076	294.429	303.607
JAZZTEL 300M/300M	300 Mbps	298.623	303.117	304.604
	300 Mbps	291.395	305.140	307.497





- **Nominal speed higher than 600 Mbps**

OPERATOR and service	Download nominal speed	AVERAGE SPEEDS (Kbps)		
	Upload nominal speed	Minimum	Average	Upload nominal speed
JAZZTEL 600M/600M	600 Mbps	593.704	605.318	609.711
	600 Mbps	591.903	616.815	624.563
MASMOVIL 600M/600M	600 Mbps	580.205	591.547	596.815
	600 Mbps	523.272	564.986	593.137
MOVISTAR 600M/600M	600 Mbps	595.264	615.210	623.073
	600 Mbps	539.746	596.219	619.715
ORANGE 600M/600M	600 Mbps	593.704	605.318	609.711
	600 Mbps	591.903	616.815	624.563
PEPEHONE 600M/600M	600 Mbps	580.205	591.547	596.815
	600 Mbps	523.272	564.986	593.137
VODAFONE 600M/600M	600 Mbps	490.701	593.497	624.850
	600 Mbps	530.781	607.324	639.452
YOIGO 600M/600M	600 Mbps	580.205	591.547	596.815
	600 Mbps	523.272	564.986	593.137
MOVISTAR 1Gbps/1Gbps	1Gbps	835.311	907.980	938.611
	1Gbps	644.568	853.765	939.987





- **Global average speed**

GLOBAL AVERAGE SPEED ⁽⁶⁶⁾	Download speed	444.020 Kbps
	Upload speed	390.779 Kbps

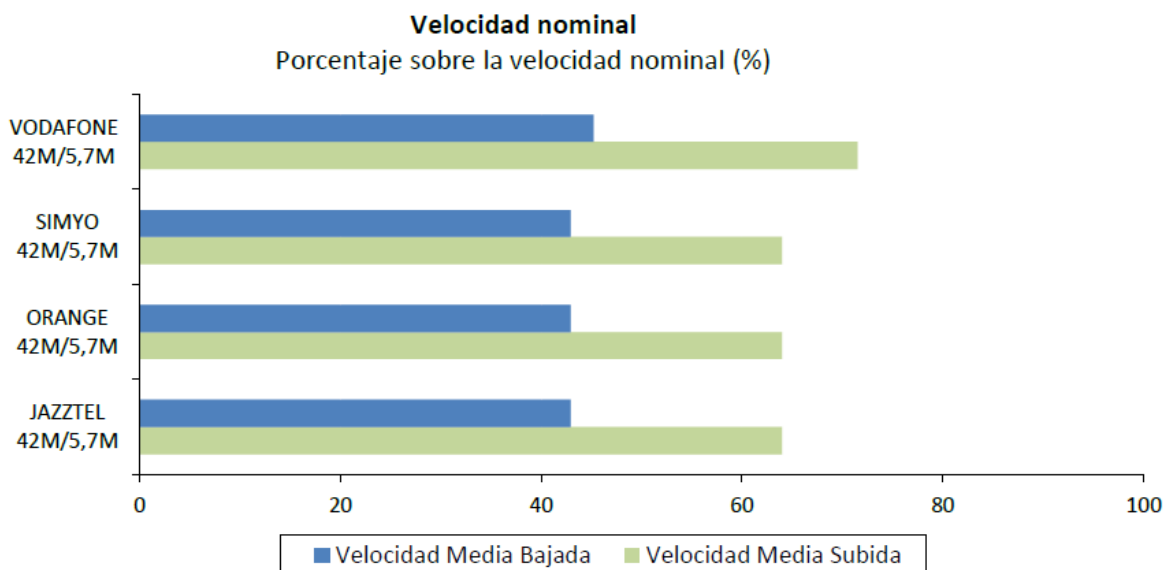
MOBILE INTERNET ACCESS SERVICE

SERVICES PROVIDED ON 3G: HSPA

- **Nominal speed up to 42 Mbps**

OPERATOR and service	Download nominal speed	AVERAGE SPEEDS (Kbps)		
	Upload nominal speed	Minimum	Average	Upload nominal speed
JAZZTEL 42M/5.7M	42 Mbps	8.229	18.037	27.829
	5,7 Mbps	1.993	3.648	4.405
ORANGE 42M/5,7M	42 Mbps	8.229	18.037	27.829
	5,7 Mbps	1.993	3.648	4.405
SIMYO 42M/5,7M	42 Mbps	8.229	18.037	27.829
	5,7 Mbps	1.993	3.648	4.405
VODAFONE 42M/5,7M	42 Mbps	10.686	18.985	30.941
	5,7 Mbps	1.906	4.077	5.136

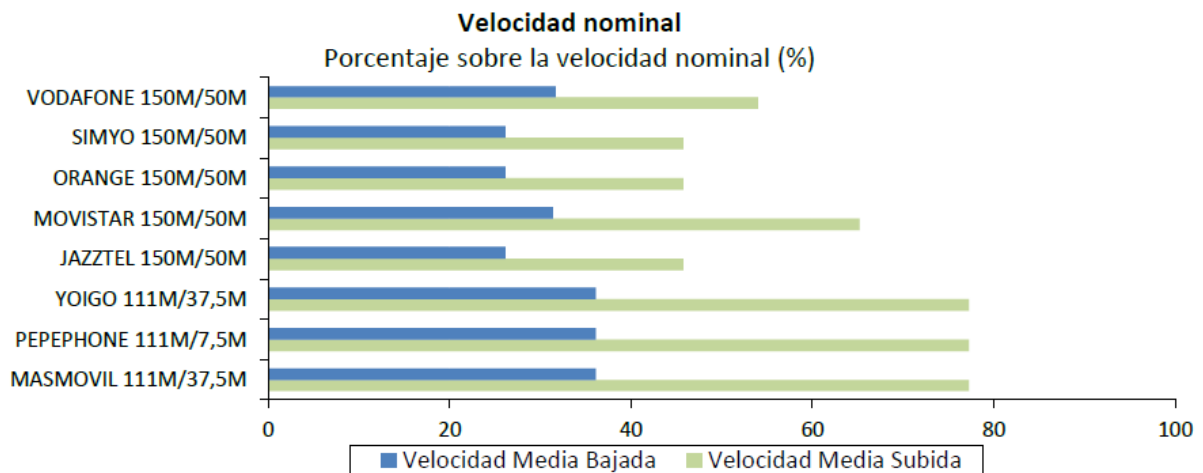
⁶⁶ Obtained balancing the values of average speed published by each operator with the total number of customers for each Internet access service



SERVICIOS PRESTADOS SOBRE TECNOLOGÍA 4G: LTE

- Nominal speed up to 150 Mbps

OPERATOR and service	Download nominal speed		AVERAGE SPEEDS (Kbps)	
	Upload nominal speed	Minimum	Average	Upload nominal speed
MASMOVIL 111M/37,5M	111 Mbps	19.466	40.034	76.966
	37,5 Mbps	15.966	28.976	40.181
PEPEPHONE 111M/37,5M	111 Mbps	19.466	40.034	76.966
	37,5 Mbps	15.966	28.976	40.181
YOIGO 111M/37,5M	111 Mbps	19.466	40.034	76.966
	37,5 Mbps	15.966	28.976	40.181
JAZZTEL 150M/50M	150 Mbps	15.831	39.242	71.483
	50 Mbps	8.780	22.880	41.271
MOVISTAR 150M/50M	150 Mbps	19.528	47.065	101.833
	50 Mbps	12.269	32.618	55.208
ORANGE 150M/50M	150 Mbps	15.831	39.242	71.483
	50 Mbps	8.780	22.880	41.271
SIMYO 150M/50M	150 Mbps	15.831	39.242	71.483
	50 Mbps	8.780	22.880	41.271
VODAFONE 150M/50M	150 Mbps	15.463	47.528	125.354
	50 Mbps	7.869	26.985	23.804



- **Global average speed**

GLOBAL AVERAGE SPEED ⁽⁶⁷⁾	Download speed	40.392 Kbps
	Upload speed	24.512 Kbps

LINKS OF INTEREST

This paragraph provides the link to access to the service quality results obtained and published by the Spanish operators, used for the drafting of this report, as well as links to other European regulators with services quality results publications obtained in their relative scopes.

SPAIN







OPERATOR *	Link
	http://www.euskaltel.com/CanalOnline/microsites/calidad_servicio/index.jsp?idio
	https://www.jazztel.com/accesible-calidad.html
	https://www.masmovil.es/static/pdf/calidad-servicio-mm.pdf

⁶⁷ Obtained balancing the average speed values published by each operator with the total number of customers for each internet access service.



	https://www.telefonica.es/es/acerca_de_telefonica/calidad/calidad-servicio
	http://acercadeorange.orange.es/calidad/calidad-servicio/
	https://www.pepephone.com/calidad-del-servicio
	http://legal.mundo-r.com/legal/es/calidad_de_servicio
	http://web.telecable.es/calidad-servicio
	http://www.vodafone.es/conocenos/es/vodafone-espana/quienes-somos/legal-y-regulatorio/calidad-de-servicio/descarga-del-informe/
	http://www.yoigo.com/calidad-de-servicio/index.php

EUROPEAN REGULATORS

REGULATOR	Link
 (FR)	http://www.arcep.fr/index.php?id=4
 (GB)	http://stakeholders.ofcom.org.uk/market-data-research/telecoms-research/broadband-speeds/?a=0
 (GR)	http://www.eett.gr/opencms/opencms/EETT_EN/index.html
 (IR)	http://www.comreg.ie/publications/search_publications.473.searchpub.html
 (IT)	http://www.agcom.it/qualita
 (P)	http://www.anacom.pt/render.jsp?categoryId=2



4.3. Information provided by the operators

Related to the competences of supervision of the compliance with articles 3 and 4 of the Regulation, it is important to underline:

- The possibility that the State Secretary of Telecommunications and Digital Infrastructures requires the operators any information and documents necessary to check the compliance with the obligations related to Network Neutrality, besides the TSM Regulation, also foreseen in the General Law on Telecommunications.
- This Law vests the State Secretary with powers to require the operators any information necessary, with general character, for the compliance with the regulations on telecommunications.

Additionally, the Law categorises as major infraction (with a maximum sanction of 2 million Euros) the lack of answer or supply of information or documents required by the Administration.



5. SANCTIONS

Article 6

Penalties

Member States shall lay down the rules on penalties applicable to infringements of Articles 3, 4 and 5 and shall take all measures necessary to ensure that they are implemented. The penalties provided for must be effective, proportionate and dissuasive. Member States shall notify the Commission of those rules and measures by 30 April 2016 and shall notify the Commission without delay of any subsequent amendment affecting them.

The said articles 3, 4 and 5 of the Regulation refer to:

- Article 3: Safeguarding open internet access
- Article 4: Transparency measures for ensuring open internet access
- Article 5. Supervision and enforcement.

Related to the new obligations the TSM Regulation established on Network Neutrality, the Law in force Law 9/2014, of 9 May, General on Telecommunications includes the necessary elements to sanction its infringements:

5.1. Sanctioning power

With the infringements and penalties already included in the Law 9/2014, of 9 May, General on Telecommunications, the Spanish State (and with it, the Ministry of Economic Affairs and Digital Transformation) is in conditions of imposing penalties for the infringement of the Regulation. Specifically, the following infringements are classed (those of article 77 are major and those of 78, minor)



- Article 77.17: Rejection to comply with the conditions of provision of the services and electronic communications networks' exploitation.
- 78.8: Exploitation of networks or provision of services without complying with the compulsory requirements.
- 77.37: Major damage to the rights of the end-users.
- 78.11: Damage (minor) of the rights of the end-users.

Subsequently, the infringement of the obligations of the Regulation would be sanctioned according to any of these precepts. The penalties could amount a maximum of:

- Major infringement (article 77): 2 million Euros
- Minor infringement (article 78): 50,000 Euros

In 2021, the administrative supervision powers have focused on the adaptation of the operators' contracts to the regulations contained in article 4 of the TSM Regulation. In this sense, a joint analysis with the practices that could infringe (or be justified) in article 3 of the Regulation has been done, so those that are admissible have their corresponding quote in the contracts.

As stated throughout this report, any practice that, because of infringing the established in such Regulation, has given place to penalty actions has been found. The possible discrepancies with the regulation, explained in this report, have been solved by informal paths, so the interpretation adopted by the State Secretary of Telecommunications and Digital Infrastructures has been accepted by the operators who have modified or suppressed the affected offers.

The NN COMMISSION REPORT 2019 includes a reference to the penalty systems of the different State Members:

“Sanctions differ widely between Member States. For example, in some Member States, penalties are linked to a company's turnover, others have a fixed maximum amount and some have a combination of the two. For similar violations of, for instance, Article 3, the fixed maximum amounts range from around EUR 15 000 to EUR 3 million and turnover-related maximum fines range from 0.5 % to 10 %. The type of penalties imposed (fines and/or periodic penalty payments with or without the possibility to impose other sanctions such as suspension of activities) also differ between Member States.”



5.2. Inspection and supervision power

Inspection would be an additional power to the sanctioning one. According to articles 72 and following of the Law 9/2014, of 9 May, General on Telecommunications, the Ministry of Economic Affairs and Digital Transformation holds the necessary competences of inspection of networks and electronic communications services. Thus, it would check the compliance by the operators of the obligations included in the TSM Regulation.

Related to the supervision of the TSM Regulation, the European Commission in the NN COMMISSION REPORT 2019 underlines that it has verified a uniform application of this regulation, highlighting the main aspect related to the subject:

“The supervision and enforcement of the regulation is still comparatively recent and work in progress. A number of investigations by individual national regulatory authorities into certain topics are under way. Yet, the implementation has been consistent throughout the Union. The issues that have arisen were mainly transparency (contract information), zero-rating and traffic management measures. National regulatory authorities are addressing them in a coordinating manner. Indeed, within BEREC they established a working group to exchange practises and strive to maintain consistency in their application of the regulation. This coordination process led the decision-making in the Member States to converge widely.”

Madrid, 30 June 2022



ANNEX I. GLOSSARY

- **NRA.** National Regulation Authority. It is the Authority each Member State of the European Union has attributed the administrative powers foreseen in the European Regulation.
- **BEREC (*Board of European Regulators for Electronic Communications*).** In Spanish, ORECE (*Organismo Europeo regulador de las comunicaciones electrónicas*).
- **CAP (*Content Access Provider*).** A company that creates contents available via Internet or by the specialised services.
- **ENISA (*European Union Agency for Network and Information Security*).** Agency of the European Union for the security of networks and information.
- **IPTV (*Internet Protocol Television*).** Television service provided via an Internet protocol.
- **ISP (*Internet Service Provider*).** Operator that provides internet access service.
- **NN (*Net neutrality*).** Network neutrality
- **TSM REGULATION or RTSM. (*Regulation Telecom Single Market*).** Regulation (EU) 2015/2120, of 25 November 2015, of the European Parliament and of the Council, laying down the 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
- **SETELECO.** Secretaría de Estado de Telecomunicaciones e Infraestructuras Digitales, Ministerio de Asuntos Económicos y Transformación Digital. (State Secretary of Telecommunications and Digital Infrastructures. Ministry of Economic Affairs and Digital Transformation).



ANNEX II.

SETELECO CRITERIA SUMMARY ON THE PRACTICES AFFECTING NETWORK NEUTRALITY

1. ZERO-RATING TARIFFS

**SETELECO criteria related to analysed zero-rating offers
(BEREC guidelines under review after the ECJ judgements)**

2. ROUTER FREE CHOICE

SETELECO criteria related to the offers analysed affecting the free choice of router

Some operators find it essential the installation only of routers provided by them. This practice is not found against the regulation in case the user has the possibility of installing, next, its own router but the operator must provide the setting parameters necessary that are required by the user.

3. LIMITS IN THE SHARING OF DATA WITH OTHER EQUIPMENT (*TETHERING*).

SETELECO criteria related to the offers analysed with limits in the sharing of data with equipment not directly connected to the net (tethering)

The offers including a limit in the sharing of data with equipment not directly connected to the net have been considered as opposed to the regulation on Network Neutrality. They could only be admitted in case of being established as a measure for temporary and exceptional traffic management in case of network congestion.



4. MULTISIM CARDS USE RESTRICTIONS

SETELECO criteria related to offers with multiSIM cards:

In offers with limited mobile data, there is no reason for the restriction of the use of multiSIM cards. Any restriction shall be against the TSM Regulation.

In offers with unlimited data, restrictions tending to avoid the use of the line that may make that a contract could become multi-line shall be accepted, as they associate different cards to each device. However, there shall be an equal treatment between the data use in each of the secondary devices used.

5. RESTRICTIONS ON THE USE OF SIM CARDS IN CERTAIN DEVICES

SETELECO criteria related to the offers analysed with limits on the use of the SIM card in certain devices.

The offers that included a limitation in the use of SIM cards in certain devices has been considered against the regulation on Network Neutrality. These would only be accepted in case of being referred to devices directed to causing an irregular or undue traffic, or to the resell of telephone traffic

6. TRAFFIC COMPRESSION TECHNIQUES

SETELECO criteria related to the offers including traffic compression techniques

The new BEREC guidelines mostly restrict the possibility of using image compression techniques like in ABR. The subject is still under survey for those operators that have declared its use.



7. PORT BLOCKING FOR SAFETY REASONS

SETELECO criteria related to the offers including port blocking for safety reasons

It is considered that these offers, with the practice related to port blocking because of safety reasons, with the aim of avoiding spam or malware are sheltered by the Regulation on Network Neutrality.

8. TRAFFIC PRIORITIZATION IN CASES OF NETWORK CONGESTION

SETELECO criteria related to the offers including traffic prioritization because of network congestion reasons.

The traffic management measures aimed to avoid the network congestion are considered in line with the regulation whenever they comply with the following requirements:

- **That full traffic categories are applied and that they do not discriminate between applications, services or contents between them.**
- **That they are conceived with temporary and exceptional character in the terms of article 3 of the TSM Regulation.**



ANNEX III. DOCUMENTS OF REFERENCE

No	DOCUMENT NAME	ABBREVIATED NAME USED IN THIS REPORT	WEBSITE
1	BEREC <i>Guidelines</i> on the Implementation of the Open Internet Regulation BEREC, June 2020	BEREC NN GUIDELINES 2020	https://berec.europa.eu/eng/document_register/subject_matter/berec/regulatory_best_practices/Guidelines/9277-berec-Guidelines-on-the-implementation-of-the-open-internet-regulation
2	<i>Zero rating</i> practices in broadband markets. European Commission, February 2017	ZERO RATING COMISIÓN 2017	https://ec.europa.eu/competition/publications/reports/kd02176_87enn.pdf
3	BEREC opinion for the evaluation of the application of Regulation and the BEREC Net Neutrality <i>Guidelines</i> BEREC, December 2018	BEREC NN EVALUATION 2018	https://berec.europa.eu/eng/document_register/subject_matter/berec/opinions/8317-berec-opinion-for-the-evaluation-of-the-application-of-regulation-eu-20152120-and-the-berec-net-neutrality-Guidelines
4	<i>Guideline</i> on assessing security measures on the context of article 3(3) of the open Internet Regulation ENISA, December 2018	GUIDELINES ENISA 2018	https://www.enisa.europa.eu/publications/Guideline-on-assessing-security-measures-in-the-context-of-article-3-3-of-the-open-internet-regulation



5	Report from the Commission to the European Parliament and the Council on the implementation of the open internet access provisions of Regulation (EU) 2015/2120 European Commission, 30 April 2019	NN COMMISSION REPORT 2019	https://eur-lex.europa.eu/legal-content/ES/TXT/?uri=CELEX:52019DC0203
6	The effects of <i>zero rating</i> OCDE, July 2019	OCDE <i>ZERO RATING</i> 2019	https://www.oecd-ilibrary.org/science-and-technology/the-effects-of-zero-rating_6eefc
7	BEREC Report on the implementation of Regulation (EU) 2015/2120, and BEREC Net neutrality <i>Guidelines</i> BEREC, October 2019	BEREC NN REPORT 2019	https://berec.europa.eu/eng/document_register/subject_matter/berec/reports/8840-report-on-the-implementation-of-regulation-eu-20152120-and-berec-net-neutrality-Guidelines
8	Public consultation on the Draft BEREC <i>Guidelines</i> on the implementation of the open Internet Regulation BEREC, 10 October 2019	BEREC PUBLIC CONSULTATION 2019	https://berec.europa.eu/eng/document_register/subject_matter/berec/public_consultations/8849-public-consultation-on-the-draft-berec-Guidelines-on-the-implementation-of-the-open-internet-regulation
9	Public consultation on draft BEREC <i>Guidelines</i> on the Implementation of the Open Internet Regulation BEREC, APRIL 2022	BEREC PUBLIC CONSULTATION 2022	https://berec.europa.eu/eng/news_consultations/Closed_Public_Consultations/2022/9397-public-consultation-on-draft-berec-Guidelines-on-the-implementation-of-the-open-internet-regulation



10	Draft Update to the BEREC <i>Guidelines</i> on the Implementation of the Open Internet Regulation	DRAFT BEREC GUIDELINES 2021	https://berec.europa.eu/eng/document_register/subject_matter/berec/regulatory_best_practices/Guidelines/10210-draft-update-to-the-berec-Guidelines-on-the-implementation-of-the-open-internet-regulation
11	Draft BEREC <i>Guidelines</i> on the implementation of the open Internet Regulation BEREC, October 2019	DRAFT BEREC GUIDELINES 2019	https://berec.europa.eu/eng/document_register/subject_matter/berec/regulatory_best_practices/Guidelines/8850-draft-berec-Guidelines-on-the-implementation-of-the-open-internet-regulation
12	Report on the implementation of Regulation (EU) 2015/2120 and BEREC Net Neutrality <i>Guidelines</i> , October 2020	BEREC NN REPORT 2020	https://berec.europa.eu/eng/document_register/subject_matter/berec/reports/9440-berec-report-on-the-implementation-of-regulation-eu-20152120-and-berec-net-neutrality-Guidelines
13	Report on the implementation of Regulation (EU) 2015/2120 and BEREC Open Internet <i>Guidelines</i> 2021, September 2021	BEREC NN REPORT 2021	https://berec.europa.eu/eng/document_register/subject_matter/berec/reports/10034-berec-report-on-the-implementation-of-regulation-eu-20152120-and-berec-open-internet-Guidelines-2021
14	BEREC Overview of the Member State experiences related to the regulatory and other measures in light of the COVID-19 crisis. 30 November 2020	BEREC COVID 19 REPORT	https://berec.europa.eu/eng/document_register/subject_matter/berec/reports/9699-overview-of-the-member-states-experiences-related-to-the-regulatory-and-other-measures-in-light-of-the-covid-19-crisis



15	BEREC Summary Report on the status of internet capacity, regulatory and other measures in light of the Covid-19 crisis. 29 November 2021	BEREC COVID 19 REPORT	https://berec.europa.eu/eng/document_register/subject_matter/berec/reports/10120-berec-summary-report-on-the-status-of-internet-capacity-regulatory-and-other-measures-in-light-of-the-covid-19-crisis
16	Judgments on the Open Internet Regulation by the European Court of Justice	ECJ Judgements	Judgment of 15 September 2020 regarding the cases C-807/18 and C-39/19 Judgment of 2 September 2021 regarding the case C-854/19 Judgment of 2 September 2021 regarding the case C-5/20 Judgment of 2 September 2021 regarding the case C-34/20