

Report on the implementation of Regulation (EU) 2015/2120 and BEREC Net Neutrality Guidelines

1 October 2020

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Executive Summary

This report gives an overview of the activities of the NRAs¹ in the course of implementing the Open Internet provisions of Regulation (EU) 2015/2120² and associated BEREC Net Neutrality Guidelines. This report reflects the fourth year of the application of the Regulation, covering the period from 1 May 2019 to 30 April 2020. In this period the 2016 BEREC Net Neutrality Guidelines were still applicable, this is reflected in the title of the report. BEREC has gathered information from 28 NRAs via an internal questionnaire. NRAs also published national reports on the fourth year of application of the Regulation³. To this information, descriptions of publicly known open internet cases or investigations that arose throughout the 12-month reporting period have been added. However, this report does not in any case constitute an exhaustive description of the current actions in the field of open internet.

The information in this report is organised according to the provisions of the Regulation. This report shows that NRAs have actively implemented the Regulation. It is evident that during the fourth year of the application of the Regulation, the adoption of monitoring methods has increased as compared to the previous years. Moreover, quite a few NRAs have dealt with zero-rating and traffic management cases⁴ and a handful of formal decisions were reached.

Concerning Article 3 of the Regulation regarding end-users' rights to open internet access, information requests to ISPs, the analysis of complaints or end-user reports and market surveys without requesting information from ISPs (e.g. checking ISPs' offers on their web pages) were almost equally used by most NRAs. Moreover, the majority of NRAs indicated that they combined all the above three sources of information to monitor the commercial and technical conditions related to the provision of internet access services (IAS). Zero-rating offers were identified by almost all (26) NRAs, with music/video streaming and social networking the most frequently mentioned types of applications being zero-rated. All but three (25) NRAs assessed traffic management practices in one or another way, as more and more NRAs have realised the importance of compliance with the Regulation in this area. According to most NRAs, monitoring activities have become an ongoing activity and the interaction with the ISPs evolves into a more mature phase.

Concerning Article 4 on monitoring ISPs' compliance to transparency and contractual terms, two out of three NRAs applied multiple methods and most commonly more than two. The top three activities used by NRAs to assess the ISPs' compliance with Article 4 were formal and informal requests for information from the ISPs, analysis of end-users' reports and complaints, as well as market surveys without requesting information from ISPs. More than half of the

¹ NRA is used in this report as reference to the National Regulatory Authority in the meaning of Article 5(1) of Regulation (EU) 2015/2120 as they have been designated by the national legislator. These do not fully correspond to the NRAs that are BEREC members and observers. See Question 1 below.

² This report refers as "the Regulation" to the open internet rules contained in Regulation (EU) 2015/2120 of the European Parliament and of the Council of 25 November 2015 laying down measures concerning open internet access and amending Directive 2002/22/EC on universal service and users' rights relating to electronic communications networks and services and Regulation (EU) No 531/2012 on roaming on public mobile communications networks within the Union.

³ The annual country reports on Open Internet are available via the official EU link: <https://ec.europa.eu/digital-single-market/en/news/annual-country-reports-open-internet-national-regulatory-authorities-2020>

⁴ In cases that internet service providers (ISP) names have already been made public, ISP names are also mentioned in this report. In all other cases, ISP names are not disclosed.

NRAs have already set national specifications in relation to the different types of speed-related information required under Article 4 – maximum, normally available and minimum speed. Even though ISPs have included the required speed information in their contracts in two out of three Member States, it is only after the NRA's intervention that this information complies with the Regulation (the definitions in the contracts tend to be vague and unclear). A great majority of NRAs monitor end-user complaints regarding the performance of the IAS. Two thirds of the NRAs (19 out of 28) offer an IAS quality monitoring mechanism to consumers.

Concerning Article 5, the answers to the questionnaire indicated that most NRAs are monitoring the availability of high-speed internet access service, with the most popular approaches being either through information requests from ISPs or through analysis of complaints and end-user reporting. Technical network monitoring follows closely in third place.

As an addition to last years' actions, this year, NRAs had to deal with the effects the Covid-19 crisis had on the management of the networks by ISPs. In a joint statement with the European Commission on 19 March 2020, on how network operators cope with the increased demand on network capacity, BEREC committed to a special monitoring mechanism to ensure regular monitoring of the internet traffic situation in each Member State in order to be able to respond swiftly to capacity issues.

Finally, while the body of the Implementation Report reflects the incremental actions of the last 12 months (thus the most recent reporting period), Annex I serves the purpose of recording the most relevant activities, e.g. those that still have an effect on the way an NRA currently regulates and monitors its markets⁵.

⁵ This part hosts the actions taken by NRAs in the previous three years of implementing the Regulation, to the extent that they are relevant to record in the European overview provided by this report.

1 Covid-19 crisis

This year, one of the major topics for NRAs has been to deal with the effects that the Covid-19 crisis had on the management of the networks by ISPs. In a joint statement⁶ with the European Commission on 19 March 2020, BEREC committed to a special monitoring mechanism to ensure regular monitoring of the internet traffic situation in each Member State in order to be able to respond swiftly to possible capacity issues that could follow from increased use of the internet due to Covid-19 containment measures by the Member States.

In the joint statement BEREC clarified that "*pursuant to the Regulation, operators are authorised to apply exceptional traffic management measures, inter alia, to prevent impending network congestion and to mitigate the effects of exceptional or temporary network congestion, always under the condition that equivalent categories of traffic are treated equally. This could become relevant, following the confinement measures taken to address the Covid-19 crisis. Operators can avail themselves of this exception, if such traffic management measures are necessary to solve or to prevent the congestion and they can only be maintained for as long as necessary*".

The joint statement lists considerations that operators should take into account in case of impending network congestion. It also calls on operators to closely cooperate with NRAs and to inform them in a timely manner on the measures taken in order to ensure the necessary transparency for individuals and businesses and to enable NRAs to efficiently and effectively perform their monitoring tasks.

Data gathered from European operators indicated that internet traffic increased during the lockdown period but that the increase in internet traffic did not lead to general network congestion. After the spring, traffic volumes started to stabilise and more and more NRAs reduced the frequency of gathering data from operators on the status of their networks.

BEREC published the first monitoring report on 8 April 2020 and published an update on a weekly basis during the spring 2020. These reports summarise the status of internet capacity and the actions taken by different NRAs. All of the reports published by BEREC can be found on the BEREC website⁷. 31 NRAs have shared their data by the end of April 2020.

⁶ Joint Statement from the Commission and the Body of European Regulators for Electronic Communications (BEREC) on coping with the increased demand for network connectivity due to the Covid-19 pandemic, https://berec.europa.eu/eng/document_register/subject_matter/berec/others/9236-joint-statement-from-the-commission-and-the-body-of-european-regulators-for-electronic-communications-berec-on-coping-with-the-increased-demand-for-network-connectivity-due-to-the-covid-19-pandemic

⁷ https://berec.europa.eu/eng/news_and_publications/whats_new/

2 General questions

Question 1. Which types of activities has your NRA engaged in during 2019/20 in order to implement the Regulation (EU) 2015/2120? Please provide a brief account of:

- i. internal activities (e.g. preparing new internal procedures, dedicating teams / FTE, etc.)
- ii. external activities (e.g. press-release, meetings with stakeholders or ISPs, drafting national guidelines on enforcement policy, stimulating self-assessment or internal compliance by ISPs, adopting administrative orders/decisions or imposing administrative fines
- iii. any other actions of note:

23 NRAs reported/provided updated information on internal activities. Actions identified by Member States included, amongst others:

- dedicating and training interdisciplinary teams of lawyers, economists, consumer protection experts, technical IT and telecommunications experts; development of internal monitoring capability;
- supervision and monitoring activities of compliance with the provisions of the Regulation and national secondary legislation; investigations on IAS provider compliance related to Article 4 of the Regulation; conduction of technical monitoring of IAS parameters provided through mobile networks; analysis of complaints; analysis of the impact of zero-rating and similar offers regarding end-users' rights; conducting a study on quality of service (QoS) for IAS from the end-user's point of view;
- follow-up of a database to track the contractual parts of the operators' offers; checking the relevant information on the ISP's websites and contracts; establishing an evaluation procedure regarding ISP contracts;
- drafting definitions of QoS parameters for IAS, parameters mutual relations settings and tolerated discrepancy of the service performance for a possible regulatory measure; legislative review process of existing national legislation regarding, e.g. QoS;
- knowledge development and policy advice on 5G;
- construction of a complex measurement infrastructure to check and to test measurement and visualise selected qualitative parameters of the IAS; preparing a hardware environment for the implementation of the BEREC Net Neutrality Measurement Tool; preparation of public consultation regarding the certification of the measurement tool.

Concerning external activities, almost all (25) NRAs reported to have been involved in such activities. Examples of activities were:

- holding meetings and workshops with stakeholders (e.g. ISPs, vendors, consumer organisations);

- monitoring complaints and inquiries from end-users; data collection from ISPs; initiating studies; conducting formal investigations on ISPs' traffic management practices, zero-rating, port blocking, free choice of terminal equipment (in case of FTTH and FWA access services) and transparency measures opening formal assessments; (pro-active/ex-ante) checking of terms and conditions (with possible further proceedings in case of a violation);
- assisting the government in open internet related ECJ cases and in preparing written observations to the ECJ; participating in the BEREC OI WG;
- providing monitoring tools for consumers; helping ISPs to implement speed tests; public consultation regarding the certification of the measurement tool;
- publication of decisions; imposing of administrative fines due to non-compliance with the Regulation; publishing guidelines aimed to provide a common understanding of the implementation of Article 4(1) d) of the Regulation and of national secondary legislation;
- monitoring the possible effects of the Covid-19 crisis to the networks in cooperation with ISPs;
- issuing press releases; giving interviews; website on open internet; social media presence (in connection with open internet).

11 NRAs stated that they also undertook some other actions⁸:

- in connection with Covid-19 crisis: monitoring of the evolving situation of the internet on the national as well as international level during the Covid-19 crisis (encompassing, amongst others, net neutrality issues, network capacities); on-going dialogue/information exchange with the relevant stakeholders; ensuring that any measures taken are in line with the Regulation; publication of press-releases and good-to-know information for the public;
- presentation of recommendations regarding the contents of the contract terms and conditions, information on updated procedures, and results of measurements performed at a number of professional seminars, conferences and workshops in order to raise legal awareness by both IAS providers and end-users;
- enhancements/improvements of the existing open internet (crowdsourcing) monitoring tools (including detection of traffic management) for end-users;
- creation of an IPv6 task force to accelerate the transition to IPv6 by enabling participants (ISPs, hosting companies, businesses, public sector players, etc.) to tackle specific problems and share best practices;
- addressing stakeholders with a net neutrality questionnaire;
- launching of an investigation where ISPs are asked about practices related to net neutrality, in particular about practices that could violate net neutrality rules or have negative impact on end-users;

⁸ Note that these other actions partly overlap with *internal* and *external activities*.

- publication of the annual open internet report;
- drafters in BEREC OI WG.

Approach	Member States	Number
Internal activities (e.g. preparing new internal procedures, dedicating teams / FTE, etc.)	AT, CZ, CY, DK, EL, FI, FR, HR, HU, IE, IT, LT, LU, LV, MT, NL, NO, PL, PT, RO, SE, SI, SK	23
External activities (e.g. press release, meetings with stakeholders or ISPs, drafting national guidelines on enforcement policy, stimulating self-assessment or internal compliance by ISPs, adopting administrative orders/decisions or imposing administrative fines etc.)	AT, BE, BG, CZ, DE, DK, EE, EL, ES, FI, FR, HR, HU, IE, IT, LU, LV, MT, NL, NO, PL, PT, RO, SI, SK	25
Any other actions of note	AT, CZ, EL, ES, FR, IT, LT, PL, PT, RO, SE	11

Table 1. NRA activities during 2019/20 in order to implement the Regulation

3 Article 3(1) and 3(2)

Question 2.a. What approach have you taken to monitor the commercial and technical conditions related to the provision of internet access services:

- i. market survey without requesting information from ISPs (e.g. checking the relevant information on the ISP's web pages, such as the general terms and conditions)
- ii. information request from ISPs
- iii. analysis of complaints and end-user reporting
- iv. technical network monitoring
- v. other, please specify.

Question 2.b. Is there any change compared to the previous period? If yes, please provide details.

Almost all NRAs used one or more of the above-mentioned techniques to monitor the commercial and technical conditions related to the provision of internet access services. A majority of NRAs used a market survey (23), sent information requests to ISPs (24) and undertook an analysis of complaints and end-user reports (25). A smaller number used technical network monitoring tools or said they were in the process of developing technical tools (12).

Examples of individual approaches by NRAs are:

- launching measurement tools;

- enabling certified measurements;
- simulating various network environments;
- providing a platform for end-users to report problematic situations with ISPs;
- addressing stakeholders with a net neutrality questionnaire;
- review of new or adapted terms and conditions of ISPs, which they have to notify to the NRA;
- analysis of reports and complaints by vendors and ISPs;
- meetings with stakeholders;
- opening formal assessments on the free choice of terminal equipment (of FTTH and FWA access services);
- developing a system for monitoring QoS of fixed and/or mobile IAS.

Seven NRAs responded that there are changes compared to the previous reporting period (CZ, ES, FR, IE, IT, LT, SE).

Approach	Member States	Number
market survey without requesting information from ISPs (e.g. checking the relevant information on the ISPs' web pages, such as the general terms and conditions)	AT, BE, CY, CZ, DK, EE, EL, ES, FI, FR, HR, HU, IE, IT, LU, LV, MT, NL, NO, PT, SE, SI, SK	23
Information request from ISPs	AT, BE, BG, CY, CZ, DE, DK, EE, EL, ES, FI, FR, HR, IE, IT, LU, LV, MT, NL, NO, PT, RO, SI, SK	24
Analysis of complaints and end-user reporting	AT, BE, BG, CY, CZ, DE, DK, EE, ES, FI, FR, HR, IE, IT, LT, LU, LV, MT, NL, NO, PL, PT, RO, SI, SK	25
Technical network monitoring	AT, CZ, EE, FR, HR, HU, IE, LT, LU, LV, PT, SI	12

Table 2. Approach to monitor the commercial and technical conditions

Question 3. Pursuant to Article 3(1) have you completed any formal assessment of ISP restrictions on the use of technically compliant terminal equipment? Y/N

If yes, briefly describe the practice and the conclusions of the assessment (and enforcement action taken where applicable)?

The following NRAs stated that they have not completed any formal assessment of ISP restrictions on the use of technically compliant terminal equipment: AT, BE, DE, DK, EE, ES, HR, IE, LT, LU, LV, MT, NL, PL, PT, RO, SE, SI (18). On the other hand, BG, CY, CZ, EL, FI, FR, HU, IT, NO, SK (10) conducted assessments, as shown below:

NRA	Assessment
BG	In a dedicated part of CRC's annual questionnaire to ISPs, there are questions regarding the use/restrictions of technically compliant terminal equipment. CRC has not identified practices, which are contrary to the provisions of the Regulation.
CY	As an on-going measure, ISPs are required to report on restrictions on the use of technically compliant terminal equipment. Most ISPs offer their services accompanied with their own terminal equipment in order to be able to provide support and bundled services (telephony, internet, TV). The provision of obligatory equipment by the ISPs is justified and in line with provisions of the Regulation and Decree 72/2017, a national secondary legislation.
CZ	CTU verified that the contract terms and conditions only include a list of technical parameters, which terminal equipment must meet. End-users are not required to use the terminal equipment supplied by the ISP. Some ISPs state in their terms and conditions, that they cannot ensure QoS in case of using different terminal equipment. CTU does not consider this practice as being contradictory to the Regulation. Nevertheless, CTU exerts pressure on ISPs, in the form of recommendations, to remove this provision from their contract terms and conditions.
EL	In the annual EETT survey, ISPs are required to report on restrictions on the use of technically compliant terminal equipment. In the 2019 survey, it was found that in fixed networks, one ISP restricts the use of 3 rd party modem/routers with VoIP functionality, and one ISP restricts the use of 3 rd party satellite modem/routers. Further investigation is underway. On the other hand, there are no tethering restrictions for mobile subscribers.
FI	Traficom gave an administrative decision regarding a case, where an ISP was accused of favouring its own services and devices on higher security setting on modems provided by them. After conducting an official analysis, the ISP was not found to favour its own services and terminal equipment or be non-compliant to the Regulation.
FR	On the fixed market, some ISPs prevented end-users from using other equipment than the standard set-top box. Arcep has reached no conclusion so far.
HU	<p>Several specific cases were investigated: In the case of certain mobile tariffs, the Authority has found that terms and conditions only foresee the use with devices that contain a SIM card, a display and a keyboard:</p> <p>(1) Telekom <i>Net Korlátlan</i> (Net Unlimited) tariff plan: The <i>Net Korlátlan</i> plan is only available for personal use, and the SIM card associated with the tariff plan may only be inserted into mobile phones. Although in the meantime the ISP discontinued the sale of the aforementioned tariff plan, a new tariff plan named</p>

	<p><i>Korlátlan Net</i> (Unlimited Net) has been launched with unchanged conditions, while continuing to offer the old tariff plan with unchanged conditions to those who previously contracted for it. NMHH has inspected the old and new tariff plan in a joint administrative procedure. In the course of the procedure, NMHH has established that the ISP has failed to comply with Article 3(1) of the Regulation.</p> <p>(2) <i>Telenor XS, Telenor S</i> and <i>Hiper</i> tariff plans: The Authority's assessment revealed that the ISP General Terms & Conditions (GTCs), in the case of the <i>Telenor XS, Telenor S</i> and <i>Hiper</i> tariff plans, specified the types of devices the SIM card can be used with and furthermore, it stipulated that the tariff plans cannot be used for M2M (e.g. remote monitoring), thus placing limitations on the free use of the tariff plans. NMHH launched an official inquiry, whereby it established that the ISP has failed to comply with the provisions of Article 3(1) of the Regulation. Pursuant to the notice, the ISP amended certain provisions of its GTC, by stipulating only the type of device the SIM card can be inserted into for the voice call and messaging services of the tariff plan instead of the whole tariff service. The evaluation of the fulfilment of the notice is currently underway.</p> <p>(3) Vodafone <i>HomeNet+</i> tariff plan: The Authority's assessment revealed that pursuant to the terms and conditions of the <i>HomeNet+</i> tariff plan, the service could only be used with the device supplied by the ISP and the SIM card supplied for the service cannot be inserted into other devices. The device was available for purchase from the ISP. The Authority launched an inquiry about the compliance of the ISP's <i>HomeNet+</i> tariff plan to net neutrality rules. The Authority concluded its assessment with a notice in which it established that the ISP has failed to comply with the provisions of Article 3(1) of the Regulation. The Authority called upon the ISP to amend item 2.3.2.1 of Annex No. 1 of the GTCs and its related practices within 45 days of the receipt of the notice. The service provider complied with the contents of the notice.</p>
IT	<p>In July 2019, AGCOM concluded different assessments on the free choice of terminal equipment in the case of FTTH and FWA access services. In accordance with the Regulation as well as the 2016 BEREC Net Neutrality Guidelines, para. 27, AGCOM considered whether there was an objective technological necessity requiring equipment provided by the ISP. Hence, AGCOM concluded that in said cases – considering the current market and technological scenario – the ISP can provide its own modem in order to supply an IAS based on FTTH and FWA solutions. AGCOM is monitoring the evolution of the offers in the Italian market.</p> <p>On 13 February 2020, according to the Administrative Court ruling (TAR Lazio, sez. III, n. 1200, 23 October 2019) on the appeals against the Resolution n. 348/18/CONS, AGCOM complied with a court-requested modification of the implementing measures concerning the right of end-users to use the terminal equipment of their choice. TAR's sentence established that ISPs may impose additional charges on the end-user failing to return the unused equipment provided free of charge by the ISP (i.e. if the end user chooses not to use the free of charge modem provided by the ISP and included in the bundle offer). According to the Administrative Court, AGCOM approved some amendments to the Resolution n. 348/18/CONS by adopting the Resolution n. 34/20/CONS. Hence,</p>

	<p>AGCOM defined that in case of bundle offers – also including a modem provided by the ISP free of charge – the ISP has to commercialise the same offer without its own modem (although originally provided free of charge) or to offer its own modem as an option, in order to guarantee the right of the end-user to use the terminal equipment of their choice and the economic interest of the ISP in the restitution of the modem.</p> <p>Three sanction proceedings were started in 2019 against three different operators. In two cases (regarding the late implementation of the Resolution n. 348/18/CONS), AGCOM decided to close the proceedings without imposing penalties on the ISPs; in the latter, AGCOM decided to fine the ISP for incorrect implementation of the Resolution n. 348/18/CONS (Resolution n. 135/20/CONS), because in some cases the ISP was preventing the subscription of FTTH offers without the inclusion of the terminal equipment provided in bundle.</p>
NO	Nkom's decision on rectification of an ISP, because restrictions were imposed by the ISP regarding the use of terminal equipment (ban on tethering and impermissible to insert SIM in personal router), has been confirmed by the Ministry.
SK	According to the outcome of an information request to selected ISPs, none of the ISPs restricted use of end-user own terminal equipment. In some cases, ISPs recommended use of ISP's offered terminal equipment due to incompatibility avoidance within their networks.

Table 3. Assessments of ISP restrictions on the use of technically compliant terminal equipment

Question 4.a. What types of zero-rating services exist in your country?

- i. None
- ii. Music streaming services
- iii. Video streaming/IPTV services
- iv. Gaming
- v. Social media services
- vi. Voice and short messages
- vii. Cloud services
- viii. Email services
- ix. Other _____

Question 4.b. Is there any change compared to the previous period? If yes, please provide details.

There were no zero-rating services identified by two NRAs (CY, FI), while one or more zero-rating services were reported by all other NRAs. Zero-rating of music streaming services,

video streaming/IPTV services, social media services and voice and short messages were the most often identified examples.

Examples of other zero-rating services mentioned include:

- in response to the Covid-19 crisis, ISPs introduced a number of temporary zero-rated offers to facilitate education and ensure the flow of information in order to further the public interest;
- Covid-19 initiative: maps and navigation services; cloud storage services; antiviruses, parental control (via device) services;
- zero-rating the ISPs' own apps and services;
- QoS measurement tools;
- network control traffic apps from an ISP;
- ISP has a mobile app that measures data speed collecting anonymised data for improving network;
- access to e-papers.

13 NRAs responded that there are changes compared to the previous reporting period (BG, CY, CZ, DK, EL, HU, IE, IT, LU, LT, PT, SE, SK).

Type of zero-rating service	Member States	Number
Music streaming services	AT, BE, BG, CZ, DE, DK, EE, EL, ES, HR, HU, IT, LU, LT, MT, NL, NO, PT, RO, SE, SI, SK	22
Video streaming / IPTV services	AT, BE, BG, CZ, DE, DK, EE, EL, ES, FR, HR, HU, IT, LU, LT, MT, PL, PT, RO, SE, SI, SK	22
Gaming	AT, DE, EE, IT, PT, SK	6
Social media services	AT, BE, BG, CZ, DE, DK, EE, EL, HR, HU, IT, LT, LU, LV, PL, PT, RO, SI, SE, SK	20
Voice and short messages	AT, BE, CZ, EE, EL, ES, HR, HU, IE, IT, LT, LV, PL, PT, RO, SE, SK	17
Cloud services	AT, CZ, EE, EL, IT, PL, PT, RO, SK	9
E-mail services	EE, EL, PL, PT, RO, SK	6
Other	AT, DK, EL, ES, FR, IE, IT, LV, PL, PT, RO, SK	12

Table 4. Type of zero-rating services

Question 5. Pursuant to Article 3(2) have you performed any formal assessments of agreements on commercial and technical conditions as well as commercial practices such as zero-rating or traffic price discrimination practices? Y/N

If yes, briefly describe the practice and the conclusions of the assessment (and enforcement action taken where applicable).

NRAs from eight Member States (AT, BE, CZ, ES, IT, LU, MT, NO) said they had undertaken one or more formal assessments of zero-rating practices, while 20 NRAs (BG, CY, DE, DK, EE, EL, FI, FR, HR, HU, IE, LT, LV, NL, PL, PT, RO, SE, SI, SK) responded that no formal assessment was performed.

The following case descriptions serve as examples involving these practices as they were analysed and reported by NRAs.

AT: ISPs are regularly asked to provide data regarding their zero-rating products. As of April 2020, one mobile ISP including four brands (A1 with the brands Kurier mobil, Krone mobile, Educom and Yesss!) offered a total of 43 different tariffs with an included zero-rating offer. Furthermore, there are 12 optional tariffs from two ISPs available, i.e. packages that can be added to certain tariffs or all tariffs, from two ISPs (A1, incl. Yesss! and H3A). A1 as well as H3A use the IP address for traffic identification, which seems unproblematic and also complies with the "BEREC Guidelines on the Implementation of the Open Internet Regulation". However, there are doubts regarding other identifying features, such as SNI and URLs as to whether they are compatible with applicable data protection law. RTR has therefore contacted the national data protection authority.

BE: BIPT assessed multiple zero-rating offers, but none of these culminated in a formal publication on the website of BIPT. Two offers needed to be adapted after the assessment (one temporary offer from Orange Belgium and *Epic* from Proximus). Since Orange ended the temporary offer (as foreseen) and Proximus complied, there was no formal publication on the website of BIPT.

CZ: Under its supervisory activities, CTU continued monitoring some selected commercial practices used by IAS providers, in particular zero-rating practices and data traffic management measures. In connection with the state of emergency due to the Covid-19 crisis, domains considered as key information channels of the Czech government, which were used to publish information about quarantine measures, were zero-rated.

ES: There was a zero-rating practice of VoIP services in which only one app, belonging to the ISP, was included. The ISP agreed to withdraw it.

IT: AGCOM continued monitoring on commercial and technical conditions as well as commercial practices used by IAS providers in the Italian market, in particular zero-rating practices and data traffic management measures. During the Covid-19 crisis, one operator launched a 12 month zero-rating offer for e-learning platforms.

LU: There is a follow-up of the monitoring of offers with data collection on a monthly basis until October 2020.

MT: In line with MCA's decision concerning the zero-rating offer by GO plc, MCA keeps track of a number key market figures on a quarterly basis and reassesses the offer. There has been an increase in take-up for GO's zero-rated offers since March 2019. However, take-up to date is not deemed to have impact on competition, in terms of the market position of ISPs themselves and the market position of CAPs. The risk of market foreclosure is also low when it comes to GO's zero-rated music streaming offer, given that this ISP extended the offer to all major music streaming CAPs.

NO: Assessments were made in connection with the work on the annual net neutrality national report, resulting in high-level conclusions and no concrete enforcement actions.

4 Article 3(3)

Question 6.a. If you started any monitoring of traffic management practices by ISPs, what approach have you taken?

- i. market survey without requesting information from ISPs
- ii. information request from ISPs
- iii. analysis of complaints and end-user reporting
- iv. technical monitoring
- v. other, please specify.

Question 6.b. Is there any change compared to the previous period? If yes, please provide details.

NRAs often used more than one of these techniques to monitor traffic management practices. 14 NRAs undertook a market survey without requesting information from ISPs. 21 NRAs reported that they had submitted information requests to ISPs, while 19 NRAs had analysed complaints and end-user reports. Technical monitoring is up and running in nine Member States.

Other solutions included, publication of guidance report about traffic management practices by ISPs, providing an "alert platform" for end-users and a traffic management application to help detect any possible traffic management measure.

BE, CY, CZ, LT, MT, NL, SK (7 NRAs) stated that there has been a change compared to the previous reporting period.

Approach	NRAs	Number
Market survey without requesting information from ISPs	AT, CY, CZ, EL, ES, FI, FR, HU, IT, MT, NL, PT, SE, SI	14
Information request from ISPs	AT, BG, CY, CZ, DK, EL, ES, FI, FR, HR, IT, LU, LV, MT, NL, NO, PL, PT, SE, SI, SK	21
Analysis of complaints and end-user reporting	AT, BG, CY, CZ, DE, DK, ES, FI, FR, HR, IE, IT, LV, MT, NL, PL, RO, SI, SK	19
Technical network monitoring	AT, CZ, FR, HR, HU, IE, LV, PT, SI	9
Other	NL, FR, RO	3

Table 5. Approaches of NRAs regarding monitoring of traffic management practices by ISPs

Question 7. Pursuant to Article 3(3) subparagraphs 1 to 3, have you completed any formal assessments of an ISP's traffic management practices? Y/N

If yes, briefly describe the practice and main conclusions of the assessment (and enforcement action taken where applicable).

10 NRAs (AT, BG, CY, CZ, DE, FR, IT, MT, SE, SK) pointed out that they had completed formal assessments of traffic management practices.

AT: Monitoring activities on products, terms and conditions and on technical issues continued. RTR sent out 12 new information requests. All ISPs responded: nine responses could be resolved without launching a formal procedure; one ISP was given a longer implementation period regarding some necessary technical changes in order to be in line with the Regulation; in two cases further supervisory procedures by the Telekom-Control-Kommission (TKK) were initiated. The focus of the detected violations was: non-allocation of public IP addresses, port blocking measures and the forced separation of the IP-connection. The two formal procedures resulted in the acceptance of these two ISPs to undertake the necessary measures to end the violation of the Regulation. It is currently being evaluated if they have really taken the necessary steps.

In addition, there was a major focus on blocking of websites due to copyright claims. In this context, TKK initiated another eight supervisory procedures between spring 2019 and April 2020, 6 of which were again concluded in the reporting period. Furthermore, at the request of some ISPs, TKK conducted a total of seven declaratory procedures in this direction.

BG: The assessment of the traffic management practices is based on the information delivered from ISPs through the annual questionnaires. No practices contradicting the Regulation requirements were found.

CY: During the last 12 months, OCECPR completed an assessment regarding the case that arose the previous year (2018-2019). Following a consultation between the relevant ISP and OCECPR, the ISP stated that it will withdraw the practice.

CZ: CTU traditionally monitors how the traffic management measures are defined in the contractual terms and their impact on QoS. Based on the conducted control measurements, it was revealed that the actual transition speed is influenced in some cases in the form of decreasing the bandwidth, or because of congestion in the network equipment due to insufficient network capacity. In connection with unlimited data offer limited in time, CTU inspected a concrete case of using the traffic management measure by one provider which could be beyond the limits of Article 3(3) (c) of the Regulation. Nevertheless, the inspection did not prove a breach of the Regulation. The EC was informed about this case.

DE: The issue of security and parental control filters provided as an additional offer to an IAS gained relevance. The offer of an IAS provider protects mobile devices from viruses, malicious software, phishing attacks as well as offering parental control filters by blocking websites or downloads. In another case an IAS provider wanted to participate in tenders where parental control functionalities were part of the WLAN provision for schools.

BNetzA considered such offers as permissible under the following conditions: a) the underlying internet access service must be application agnostic without blockings or other traffic management measure; b) the end-user has to be in full control of the filtering functions (i.e. by activating or deactivating these functions); c) activating or deactivating must not affect the price (or other conditions) of the IAS.

In one case, end-users who tried to reach a non-existent URL were redirected by the ISP's DNS servers to another website. This case was not in the realm of the Regulation. The requirement to treat all traffic equally was not infringed and no traffic management in the network was involved. Instead, the IAS provider's DNS service did not provide correct information.

Subject to a court decision, an IAS provider was ordered to apply DNS blocking of certain domains due to copyright violations by third parties. Article 3(3) (a) applied in this case.

A VoIP service provider complained that some of its customers who used the LTE network of a mobile network provider could not receive incoming calls. The IAS provider's network deleted some via headers in the SIP messages sent from the SIP server to the client. BNetzA investigated whether this deletion constitutes a violation of Article 3(3) first subparagraph, as the SIP traffic was treated differently from all other data traffic within a tariff. The mobile provider reported a malfunctioning of the Carrier Grade NAT which was finally solved, so that end-users could receive incoming calls.

In some cases, end-users complained about the low speed when using certain services or that servers could not be reached from an IAS providers' network. These issues related to the underlying IP interconnection which is not regulated.

In a few cases end-users did not receive incoming mails. They assumed that IAS providers blocked mails from certain mail providers. However, the blocking happened on OTT level. Thus, the Regulation did not apply in these cases.

FR: Regarding possible traffic management practices in in-flight internet offers, Arcep's exchanges with the concerned ISP led to an update of internet access offers that Arcep is currently monitoring. Arcep is also assessing possible traffic management practices in internet offers on trains. No conclusion has been reached so far and Arcep is currently monitoring the case. 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.

IT: AGCOM sent a new set of questions to the ISPs. Up to now, AGCOM has concluded a first round of inquiries and is carrying out a deep analysis on the input obtained from ISPs.

MT: All providers are compliant with the provisions of the Regulation.

SE: PTS initiated an investigation in April 2020 regarding the traffic management of Teracom Mobile AB, on account of some terms and conditions indicating not all traffic is treated equally. The investigation is ongoing.

SK: ISPs use practices in accordance with European or national legislation. The provisions of the Act No.171/2005 Coll. on gambling games, the Act No.166/2003 Coll. on the Protection of Privacy against the Unauthorised Use of Technical-Intelligence Measures, child protection platform – for blocking of inappropriate content in compliance with Regulation. The list of prohibited websites is compiled and published by the Financial Administration of the Slovak Republic on its website. The ISPs use network integrity and security-related practices as a standard. Firewall, blocking of incoming traffic on ports through which end devices could be rendered inoperative, protection against DDoS or DoS attacks, malware and spam could be stated as examples. ISPs use practices related to the prevention of extraordinary or temporary network congestion – traffic restriction in order to prevent temporary network congestion, DDoS protection, BGP flowspec (defined in RFC 5575), RTBH (defined in RFC 5635).

Question 8. Did you conduct any research or survey on port blocking practices by ISPs?
Y/N

If yes, please briefly describe significant findings.

15 NRAs (AT, BG, CZ, EL, ES, FI, HR, IE, IT, LV, MT, NL, PL, SI, SK) surveyed port blocking practices by ISPs.

AT: Since 2012, RTR offers the *RTR-NetTest* (<https://www.netztest.at>), a crowd-sourced open data and open source measurement tool, which allows for measuring of different QoS-parameters, including blocking of UDP and TCP ports.

BG: The assessment of the traffic management practices is based on the information delivered by ISPs through the annual questionnaires. The conclusion is that ISPs apply traffic management practices according to the Regulation and the respective BEREC Guidelines.

CZ: CTU did not perform a special measurement. These practices were assessed within complaints settling, nevertheless, the measurements did not prove that IAS providers apply blockings.

EL: EETT's annual survey includes a section on port blocking. Several ISPs perform blocking of ports or protocols as part of the measures for preserving the integrity and security of the network. Blocking well-known TCP ports 25 (SMTP), 465 (SMTPS), 80 (HTTP), 443 (HTTPS) is reported by one ISP.

ES: Most operators block ports in order to avoid malware or spam. Mainly, port 25 is blocked.

FI: Traficom has continued to monitor what ports should be blocked for security reasons and maintains its recommendation 312 A/2018 on this topic via technical monitoring and by discussing the topic with ISPs. Traficom has one open monitoring case that is still under a discussion with an ISP.

HR: HAKOM monitors port blocking practices of major ISPs. *HAKOMetar Plus* measurement results on port blocking practices by ISPs showed that ISPs do not use permanent port blocking measure, just temporarily justifying it with the security exception.

IT: AGCOM sent a new set of questions to the ISPs. No formal assessment has been completed yet. However, AGCOM is currently analysing information provided by ISPs.

MT: Port blocking is used by ISPs, however, ISPs have all justified such actions for network security measures.

NL: ACM has concluded one informal intervention after receiving complaints; it was concluded with a publication: <https://www.acm.nl/nl/publicaties/kpn-herstelt-port-forwarding-bij-thuisabbonementen>.

PL: Most ISPs do not apply TCP/UDP port blocking practices. ISPs who apply this practice block ports for incoming internet traffic. The following ports are blocked: 21(TCP), 22(TCP), 23(TCP), 25(TCP), 80(TCP), 110(TCP), 443(TCP), 445(TCP), 465(TCP), 587(TCP), 8080(TCP), 68(UDP), 123(UDP), 137(UDP), 138(UDP), 139(UDP), 53(TCP, UDP), 135-139. In isolated cases, ISPs block all ports for incoming internet traffic. 25(TCP) port is blocked for outgoing internet traffic. These ports are blocked in order to ensure integrity and security of the network and services provided by means of the network and end-users' terminal devices.

SI: Some providers block outbound traffic towards port 25 (from user to the internet, providers justify the blocking by preventing spam. Users can always use safer port 465 or 587 for e-mail instead.) Some providers also block incoming traffic to port 53 (justification: perceived abuses - DDOS attack prevention). Some providers also block ports of 135-139 and 445 (TCP / UDP or NetBIOS protocols) used on local network and opens them on user's request. One of the providers additionally blocks TCP / UDP ports 19 and 593. AKOS estimates that this is a case of rarely used protocols, which need to be activated manually, so there is no need to limit or block them. The most commonly blocked port on the mobile network is port 5060 (TCP and UDP).

5 Article 3(5)

Question 9.a. What approach have you taken to monitoring services other than internet access services (called specialised services below)?

- i. market survey without requesting information from ISPs (e.g. checking ISP's offers on their web pages)
- ii. information request from ISPs
- iii. analysis of complaints and end-user reporting
- iv. technical network monitoring
- v. other, please specify:

Question 9.b. Is there any change compared to the previous period? Y/N

If yes, please provide details.

As shown in the table below, 19 NRAs continued to use the second method of monitoring specialised services, namely through formal 'information request from ISPs', which proves to be the most prevalent method. As a second choice, more than half of the NRAs chose the 'analysis of complaints and end-user reporting', while the 'market survey without requesting information from ISPs' remains the least popular option as in the previous reporting period. The NRAs that used 'technical network monitoring' are the same three as in the previous period.

Approach	NRAs	Number
Market survey without requesting information from ISPs (e.g. checking ISP's offers on their web pages)	BE, CY, CZ, FR, HR, HU, IT, MT, PT, SI	10
Information request from ISPs	AT, BG, CY, CZ, DK, EE, EL, ES, FI, FR, HR, IT, LV, MT, NL, NO, PL, PT, SK	19
Analysis of complaints and end-user reporting	AT, BE, BG, CY, CZ, DE, ES, FI, FR, HR, IE, IT, LV, MT, PT, RO, SI	17
Technical network monitoring	AT, CZ, HU	3
Other	FR	1

Table 6. Approaches of NRAs regarding monitoring of specialised services

Question 10. Is there an NRA or national interpretation of or guidance on "services other than internet access services", which has not yet been mentioned in the BEREC NN Questionnaire of 2019? Y/N

If yes, please provide any information and examples other than the ones mentioned in BEREC Guidelines (VoLTE, IPTV).

Three NRAs (EL, FI, NL) have applied a national interpretation of, or have given guidance on, “services other than internet access services”.

EL: EETT introduced national measures⁹ that oblige ISPs to provide contractual information about the quality requirements of the specialised services and the potential impact to the subscriber’s IAS. They also stipulate that ISPs should ensure the network has sufficient capacity, so that the provision of specialised services to a subscriber does not impair the quality of other subscribers in the network. A quality impairment exists when there is continuous or repeated performance decrease with respect to a previous level of performance, or when it can be proven that this reduction is statistically significant ($\alpha \leq 0.05$).

FI: After the draft BEREC OI Guidelines were sent to public consultation, Traficom had discussions with the national stakeholders regarding M2M services as specialised services.

NL: ACM published an explanatory document on traffic management¹⁰.

Question 11. Have you completed any formal assessments of the provision of specialised services by ISP? Y/N

If yes, briefly describe the practice and the conclusions of the assessment (and enforcement action where applicable)

Three NRAs completed formal assessments of the provision of specialised services by ISPs.

CY: ISPs report to OCECPR on specialised services

According to the provisions of the Regulation (as interpreted in the Net Neutrality Guidelines), as adopted in national secondary legislation (Decree 72/2017), ISPs in Cyprus reported to OCECPR on specialised services. Following an assessment of ISPs reports, OCECPR found out that the provision of the type of specialised services offered by ISPs does not constitute an infringement of the Regulation.

CZ: CTU checks impact of specialised services on IAS

In relation to complaints on specialised IPTV services, CTU conducted a measurement check of data parameters, inspected the practices of managing data traffic, applied traffic

⁹ EETT has issued a binding decision (EETT Decision 876/7B/17-12-2018) on net neutrality, pursuant to Articles 4(3) and 5(1) of the Regulation. This decision sets out additional transparency requirements for ISPs and provides clarifications for the application of traffic management and commercial practices. It also entails a methodological framework for estimating speeds as well as the conditions under which subscribers can claim compensation in the case of discrepancies between the actual performance of the IAS and the performance indicated in the contract.

¹⁰ The document can be consulted under the following link: <https://www.acm.nl/sites/default/files/documents/2020-01/traffic-management-voorlichtend-document.pdf>

management methods, and slowed down the actual transmission speed by decreasing bandwidth (traffic shaping). The checks on published contract drafts of IAS provision, conducted by 61 providers in total, focused on whether the potential impacts of simultaneous use of specialised services on the IAS are stated in the contractual terms and conditions.

SK: Information request to select ISPs

According to the outcome of the information request to selected ISPs, audio-visual services (i.e. IPTV, VoD, SVoD etc.) were provided by 55% of ISPs, telephone services were provided by 73% of ISPs, VPN services were provided by 55% of ISPs, and other specialised services were provided by 9% of ISPs.

6 Article 4

6.1 Article 4(1) – Approach to monitoring and enforcing compliance

Question 12.a. What approach have you taken to monitoring and enforcing ISPs' compliance with their transparency obligations set out in Article 4?

- i. market survey without requesting information from ISPs (e.g. checking the applicable "terms and conditions"),
- ii. (formal or informal) information request from ISPs,
- iii. analysis of complaints and end-user reporting,
- iv. other

Question 12.b. Is there any change compared to the previous period? If yes, please provide details.

As shown in Table 7 below, almost all NRAs used one or more of these approaches to monitor and enforce compliance with the transparency obligations set out in Article 4.

Approach	NRAs	Number
Market survey without requesting information from ISPs (e.g. checking ISP's offers on their web pages)	BE, CY, CZ, DE, EE, EL, ES, FI, FR, HR, HU, IE, IT, LV, MT, NL, NO, PT, SI	19
Information request from ISPs	AT, BG, CY, CZ, DE, DK, EE, EL, ES, FI, HR, IE, IT, LU, LV, MT, NL, NO, PL, PT, RO, SI, SK	23
Analysis of complaints and end-user reporting	AT, BG, CY, CZ, DE, EE, ES, FI, FR, HR, IE, IT, LV, MT, NL, PL, PT, RO, SI, SK	20
Other	AT, FR, IT, LT, PT	5

Table 7. Approaches of NRAs regarding monitoring and enforcing ISPs' compliance with their transparency obligations set out in Article 4

The majority of NRAs made information requests to ISPs (23), performed an analysis of complaints and end-user reports (20) and undertook market surveys (19). Other approaches were also mentioned by a smaller number of NRAs, which in general represent continuous activities started in previous years: in AT, ISPs are obliged to notify their T&Cs to the NRA and they are then reviewed whether they comply with certain legal provisions, amongst others with the transparency obligations of the Regulation ; IT continued to publish statistical comparative values of ISPs' QoS results reached and to monitor service charters and general conditions contents; LT and PT kept analysing the contractual terms of the ISPs.

In addition:

FR: The transposition of the Directive (EU) 2018/1972, establishing the European Electronic Communications Code¹¹ into national legislation, which is under way, will complete the transparency requirements for ISPs when providing IAS to end-users.

PT: When some transparency issues regarding data transmission speeds information were found, ANACOM sent communications to the main ISPs, to alert them to the need to ensure compliance with the requirements related to transparency. Subsequently, ANACOM monitored the changes gradually implemented by ISPs, as a result of these communications, also interacting with these providers. These changes were mostly concluded at the beginning of 2020.

In 20 Member States (BE, CY, CZ, DE, DK, EE, ES, FI, FR, IT, LT, LV, MT, NL, NO, PL, PT, RO, SE, SI) there was no change in approaches of NRAs regarding monitoring and enforcing ISPs' compliance compared to the previous period.

Question 13. Have you completed any formal assessments of the ISPs' contract conditions and their compliance with requirements set out in Article 4(1) sub a-e? If yes, please describe the main findings. [Note: detail of compliance in relation to speeds' information requested below under Q16, 17]

13 NRAs (AT, CY, CZ, EL, ES, IE, MT, NL, NO, PL, RO, SI, SK) have completed a formal assessment of the ISPs' contract conditions and their compliance with Article 4(1) sub a-e.

Main findings:

AT noted that the deviation between the estimated maximum speed for 3G and 4G connections set out by ISPs and the realistically achievable speeds in their mobile networks was still a problem.

CY found no infringements with regard to Article 4(1) sub a-e in ISPs' contracts, but the NRA detected a misleading advertising practice, which was forwarded to the relevant competent authority for further action.

¹¹ Available at: <http://data.europa.eu/eli/dir/2018/1972/oj>.

CZ concluded, by the examination of the draft contracts on the provision of IAS published by 61 providers, that there were some deficiencies, albeit not serious. The most common deficiencies were related to the information about QoS parameters laid down in the contractual conditions, traffic management measures, specialised services and their impact on IAS and remedies.

EL assessed ISPs' contract conditions and their compliance with requirements set out in Article 4(1) sub a-e (the information on contractual speeds according to Article 4(1) (d) was excluded from this assessment, as this is subject to more detailed specifications (see Questions 16 and 17). Insufficiencies were observed regarding information on QoS parameters for usual web activities, minimum QoS demands of specialised services, traffic management practices (including fair usage limits and the consequences of exceeding these), and constraints in the use of terminal equipment. The NRA also provided a common structure for the presentation of the information in the contract documents and website of the ISPs. Following the letters of notification, all insufficiencies were corrected by the end of December 2019.

In ES, one ISP did not publish the mobile network speeds in its contracts, for that reason a fine procedure is about to be initiated by the NRA.

According to IE, many ISPs were non-compliant with Article 4 obligations at the time that the NRA gained enforcement powers, therefore enforcement procedures commenced.

In MT, monitoring new offers is an ongoing procedure to ensure that no infringements are carried out.

In NL, one ISP modified the contracts for FWA IAS offers to be in line with the transparency requirements for fixed IAS, upon intervention of the NRA.

NO pointed out that ISPs improved their speed information regarding fixed IAS.

As a result of the formal inspection of the 10 largest ISPs, PL recommended the amendment of contractual documents to standardise and increase transparency and comprehensibility of the information provided regarding the speed of the IAS. In April and May 2020, ISPs introduced the required changes.

RO identified some missing information on the contracts of the main six ISPs, namely information on the speeds and on the procedure a consumer has to follow in order to measure the speeds and to solve discrepancies according to the national law. For that reason, the NRA determined the ISPs to include this information in their contracts. As a result, the ISPs improved the level of information provided.

In SI, the NRA concluded that the contract conditions of the major ISPs (covering 90% of the market) are compliant with the Regulation.

In SK, ISPs' contracts are mostly compliant with the transparency requirements set out in the Regulation (resp. 82%/ 82%/ 60%/ [80%-100%]/ [82%-100%] for Articles 4(1) subparagraphs a-e).

Question 14.a. Have any national specifications been set in relation to the different types of speeds laid out in Article 4(1) sub d?

Question 14.b. Were requirements:

- imposed by NRA or other competent Authority?
- agreed upon by market players?

Question 15. Are these requirements or the NRA's opinion/recommendation legally binding?

Although CZ had previously set specifications for data transmission speeds depending on the type of the internet access service, these were not legally binding. For this reason, the NRA proposed, in the period concerning the report, binding definitions of QoS parameters of IAS, their mutual relations settings and tolerated service performance discrepancies. The draft definitions were endorsed by the ISPs. The NRA is currently preparing the publication of a regulatory measure to make these specifications legally binding.

In the following 15 Member States, national specifications of speeds set in previous years, are still in place: AT, BE, BG, CY, DK, EL, FI, HR, IT, LV, MT, NL, RO, SI, SK.

For further details in this regard, please check Annex I.

Question 16. To the extent, your NRA has reviewed the terms and conditions in ISP contracts, did ISPs define in their contracts minimum, maximum, advertised and normally available upload and download speeds of the internet access service in the fixed network?¹²

In the majority of Member States (AT, BE, BG, CY, CZ, DE, DK, ES, FI, HR, IT, LT, LV, MT, NL, NO, PL, PT, RO, SI, SK), ISPs have provided speed definitions in their contracts. Only in seven Member States (EE, EL, FR, HU, IE, LU, SE) were those definitions not provided.

More detailed information:

In five Member States (DK, FI, MT, SI, SK), all major ISPs defined in their contracts minimum, maximum, advertised and normally available speeds. In other Member States (BG, CZ, ES, HR, IT, LT, LV, RO), although the information was provided in a general manner, there was still some missing or inconsistent information.

In DE, providers typically mention in their terms and conditions concrete figures for the respective speeds or mention a percentage of the maximum speed. The advertised speed typically equals the maximum speed.

¹² Note: remarks provided in this section only relate to countries where the NRA has reviewed the terms and conditions in contracts of fixed network ISPs.

In IT, minimum speed requirements have been set and the corresponding value is specified in contracts.

Some NRAs stated that, the speed information improved, in comparison with the previous year (NL, NO, PL, PT). In three of the four Member States, this was a result of NRA's intervention (NL, PL, PT).

Regarding those Member States where speed definitions were not provided:

- In EL, detailed specifications for the inclusion of speeds in ISPs' contracts have been defined in EETT Decision 876/7B/17-12-2018. These specifications have to be implemented by 25 November 2020 for fixed networks.
- In FR, ISPs only defined the theoretical maximum speeds that they provide for the fixed IAS, in accordance with a 2013 ministerial decree.
- In HU, there was no change compared to the previous period.
- In IE, almost all ISPs were not compliant with the obligations foreseen in Article 4. Following the NRA's action, the majority are now compliant.

Question 17. To the extent your NRA has reviewed contracts of mobile ISPs, did they define in their contracts advertised and estimated maximum upload and download speeds of the IAS in the mobile network?¹³

Please briefly explain the main findings.

If available, please provide information regarding contractual conditions, such as under which the estimated maximum speed can be achieved (NN guidelines examples of "realistic usage conditions"¹⁵³).

Information on activities in the reference period

AT: As an ongoing measure, RTR reviews the terms and conditions and the changes to the terms and conditions that the ISPs are obliged to notify to the NRA.

CZ: CTU found that the information about speeds laid down in contracts is mostly in compliance with Article 4(1) (d) of the Regulation. However, the contract values frequently do not correspond with reality and the values of individual speeds are technically unachievable.

DE: Providers typically mention in their terms and conditions concrete figures for the respective mobile speeds.

¹³ Note: remarks provided in this section only relate to countries where the NRA has reviewed the terms and conditions in contracts of fixed network ISPs.

HR: ISPs are in compliance with the Regulation, as they define in the contracts the estimated maximum download and upload speed in a geographical manner using mobile internet access service coverage maps with estimated speed values of network coverage in all locations for different network technologies.

MT: Mobile providers have started offering data offers with speed brackets. They also include information to the end-user about which applications or activity each package can support.

PT: ISPs have gradually implemented changes and the different speeds of the mobile IAS are defined on their websites. The speeds are also defined in the contracts by most of the mobile ISPs.

RO: The investigation taken by the NRA revealed that ISPs include in the contracts the numerical values of the maximum and advertised speed in the case of mobile networks and also the procedure the consumer has to follow in order to measure these speeds and obtain the remedies available according to the national law, if necessary.

Also, the situation on the market regarding the content of the contracts of the mobile ISPs has not changed compared to the assessment made by nine NRAs (BG, ES, FI, LT, LV, NO, PL, SI, SK) in the previous reporting period. More information on this topic can be found in Annex I.

Definitions provided (completely/widely)

17 Member States – where NRAs have reviewed the mobile ISPs' contracts – these speeds are defined in contracts (AT, BG, CZ, DE, ES, HR, IE, IT, LT, LV, MT, NO, PL, PT, RO, SK, SI).

Lacking provision of definitions

Six NRAs (CY, DK, EE, EL, FR, HU) – less than in the previous reporting period – pointed out that these speeds are not contractually defined.

In EL, detailed specifications for the inclusion of speeds in ISPs' contracts have been defined in EETT Decision 876/7B/17-12-2018. These specifications have to be implemented by 1 March 2021 for mobile networks.

FR: ISPs only define the theoretical maximum speeds for their mobile access offers, i.e. the maximal reachable speed for a given access technology.

HU: The key findings of the Hungarian NRA are as follows:

- Although ISPs include data in the contracts with respect to the QoS target values of their services, they are not fully harmonised with the requirements in Article 4(1) (d) of the Regulation.
- Each operator lists the terms and conditions for the speed target values in their terms and conditions as stipulated in the currently effective national legislation dealing with QoS.

Realistic usage conditions

In some Member States (AT, BG, IE, LT), ISPs mention in their terms and conditions factors impacting the available speed. Reference is made to factors such as the device, network coverage, radio signal quality, network load and number of users in any given location, time of day, geographical factors, weather conditions, type of technology, density of the building (and where the ISP is located), the used materials, distance between receiving terminal and transmitting antenna.

In PT, the information on speeds that is published by the ISPs on their websites and in the adhesion contracts is now clearer with the publication of speed definitions by all ISPs. For example, the estimated maximum speed is defined as “the maximum achievable speed on the tariff subscribed by the user, at different locations and under realistic conditions of use”.

In other Member States (BE, FI, IT), the measures that have been taken in the previous years by the NRAs are still in force, verified by the NRAs and applied by the ISPs.

Overall assessment of answers provided to Questions 16 and 17

In general, the answers to Questions 16 and 17 show that for a given Member State, speeds were contractually defined – respectively not defined – by both fixed and mobile ISPs.

Question 18. Have you completed any formal assessment of the ISPs’ obligation to publish, according to Article 4(1), subparagraph 2, the information referred to in Article 4(1), subparagraphs 1 a-e? Y/N

If yes, please provide details.

14 Member States (AT, BG, CY, CZ, EL, ES, HR, IE, IT, MT, NL, PL, SI, SK) completed formal assessments of the ISPs’ obligation to publish the information referred to in Article 4(1), subparagraphs 1 a-e.

AT, HR: As a measure that the NRA performs on a continuous basis, in Austria and Croatia ISPs are obliged to notify the NRA of their terms and conditions before they launch a communication service and any changes to the terms and conditions.

BG: CRC performed a check of the availability of some useful information in the context of Article 4 on ISPs’ websites. The monitoring showed that not all ISPs have properly published the information according to Article 4(1). The formal assessment has not been completed yet.

EL: Besides the information included in the contract terms and conditions, ISPs in Greece publish detailed information relative to the provisions in Article 4(1) subparagraphs 1 a-e on their webpages. An assessment of this information was performed together with the assessment of the contractual terms, and the insufficiencies discovered have been corrected (excluding the information about contractual speeds, see Question 13).

ES: A fine procedure is about to be initiated against one operator who does not publish and include in the contracts the speeds of the mobile internet access.

MT: In Malta, regular reviews of the terms and conditions of product offers on the market are performed by the NRA. This review also includes checks to ensure inclusion of information referred to in Article 4(1), subparagraphs 1 a-e of the Regulation.

NL: ACM finalised the assessment of the contracts for FWA IAS offers by an ISP. ACM was of the opinion that these offers fall under the transparency rules for fixed IAS. Therefore, upon intervention of the ACM, the ISP modified the contracts to be in line with the transparency requirements for fixed IAS.

PL: The results of the assessment made by UKE indicated that the largest ISP in Poland provides the required information in a uniform manner in accordance with the indicated transparency requirements indicated in the Regulation.

SI: All major ISPs defined in their contracts the minimum, maximum, advertised and normally available upload and download speeds of the fixed IAS.

SK: According to the outcome of the information request sent to the selected ISPs, the majority of ISPs fulfilled the obligation to publish the information referred to in Article 4(1), subparagraphs 1 a-e of the Regulation.

In two Member States (CY, IT) that have completed formal assessments of the ISPs' obligation to publish, according to Article 4(1), subparagraph 2, the information referred to in Article 4(1), subparagraphs 1 a-e of the Regulation, the situation on the market has not changed compared to the assessment made in the previous reporting period by the NRAs. In Italy, for example, AGCOM monitors and publishes data on the minimum contractually agreed speeds on an ongoing basis.

For information on this measure regarding the previous reporting periods, please refer to Annex I.

Question 19. Have you imposed additional transparency requirements regarding the publication of information referred to in Article 4(1), subparagraphs 1 a-e? Y/N

If yes, please provide details of the requirements.

Five Member States (BG, EL, IT, NO, SI) imposed in the reporting period additional transparency requirements regarding the publication of information referred to in Article 4(1), subparagraphs 1 a-e.

On the other hand, 23 Member States (AT, BE, CZ, CY, DK, EE, EL, ES, FI, FR, HR, HU, IE, LT, LU, LV, MT, NL, PL, PT, RO, SE, SK) did not introduce any additional transparency requirements regarding the relevant information from Article 4(1), subparagraphs 1 a-e.

AT: As a measure that the NRA performs on a continuous basis, RTR has informal discussions with the ISPs regarding transparency requirements in the context of the open internet.

EL: EETT Decision 876/7B/17-12-2018 includes more detailed transparency requirements regarding the publication of information referred to in Article 4(1), subparagraphs 1 a-e. Apart from the requirements on contractual speeds, the remaining requirements entered into force on 5 June 2020. The transparency requirements for contractual speeds will enter into force on 25 November 2020, for fixed networks, and 1 March 2021, for mobile networks.

SI: Based on the General act (legally binding since autumn 2019), the NRA imposes on ISPs to communicate to end-users the information regarding speeds on monthly bills, user portals or any other adequate transparent way that allows the user to get acquainted with this information at any time and in each billing period.

More information on the measures taken by the NRAs in the previous reporting periods that are still in force today can be found in Annex I.

6.2 Article 4(2) – Procedures for end-user complaints

Question 20.a. Have ISPs established “transparent, simple and efficient procedures to address end-user complaints...” according to Article 4(2)? Y/N

If yes: What kind of procedures have there been established by ISPs (e.g. hotlines, complaint templates)?

Question 20.b. Is there an industry wide approach in relation to these procedures? Y/N

If yes, was this approach:

- i. imposed or facilitated by the NRA,
- ii. prescribed by national legislation,
- iii. voluntarily agreed upon by the market players,
- iv. other _____

All the 28 Member States that responded to this question have established “*transparent, simple and efficient procedures to address end-user complaints...*” according to Article 4(2) of the Regulation.

Regarding the industry-wide approach, 19 Member States (AT, CY, CZ, DE, DK, EL, FR, HR, HU, IT, LV, MT, NL, NO, PL, RO, SE, SI, SK) replied positively, while 7 (BE, BG, ES, FI, IE, LT, PT) mentioned that this is not the case. More details are outlined in Table 8 below.

Industry-wide approach	Member State	Number
Imposed or facilitated by the NRA	AT, CY, DE, IT, RO	5
Prescribed by national legislation	AT, CY, CZ, EL, HR, HU, LV, SI, SK	9
Voluntarily agreed upon by the market players	CZ, FR, MT, PL, SE	5
Establishment of an independent private complaints board by the telecom industry in cooperation with the Danish Consumer Council	DK	1

Table 8. Industry wide approach regarding procedures for end-user complaints

6.3 Article 4(3) – Additional transparency requirements

Question 21. Did you nationally (e.g. NRA, Ministry) provide guidance or impose additional transparency or information requirements on ISPs following the enforcement of the Regulation? Y/N

If yes, please provide details of the requirements.

According to Article 4(3), Member States could introduce additional monitoring, information and transparency requirements. AT, BG, DE, EL and IT reported providing guidance or imposing additional transparency or information requirements:

These measures have been taken in previous years by the NRAs and are still in force, verified by the NRAs and applied by the ISPs. More information can be found in Annex I.

6.4 Article 4(4) – Monitoring mechanism

Question 22. Is there an NRA or national interpretation of “significant discrepancy, continuous or regularly recurring”? Y/N

If yes, how are these terms interpreted?

If yes, was the definition:

- i. imposed by the NRA (e.g. using Article 5(1)),
- ii. voluntarily agreed upon by the market players
- iii. other _____

Regarding Article 4(4) of the Regulation, a total number of 12 Member States (BG, CY, CZ, DE, EL, ES, HR, IT, MT, PL, RO and SI) reported that competent authorities provided national

interpretation of “*significant discrepancy, continuous or regularly recurring*” regarding the actual performance, out of which only two (PL, RO) in the period between 1 May 2019 and 30 April 2020. The different approaches used are outlined in Table 9.

Approach	Member State
Definition imposed by the NRA	CY, EL, ES, HR, MT, PL, SI
Definition voluntarily agreed upon by the market players	---
Other	BG, CZ, DE, IT, RO

Table 9. Different approaches of interpretation used by the NRAs

While BG, CZ, DE and RO set definitions via non-binding administrative notices issued by the NRAs, IT discussed definitions within a technical committee with operators, consumers’ associations and ISCOM and then approved by AGCOM (decision n. 244/08/CSP and further modifications).

In the reporting period, two NRAs also gave a material interpretation of the terms, as can be seen in Table 10¹⁴. The previous material interpretations of the terms can be seen in the Annex I.

Member State	Interpretation
PL	As part of a certified mechanism to measure regularly recurring significant discrepancies of service quality, there should be at least six certified measurements carried out at intervals of 30 minutes, in two daily cycles with an interval of less than seven days between them.
RO	<p>For the <u>fixed internet access service</u>:</p> <p>In the guidelines issued, ANCOM has established the conditions that must be met and the procedures that a user must follow in order to ascertain on one hand the significant discrepancies and on the other hand the continuous or regularly recurring discrepancies.</p> <p>In order to ascertain significant discrepancies, the user must perform, under certain conditions, at least six measurements during 24 hours, of which at least one measurement must be performed in the 23:00-07:00 time frame. Measurements must be carried out at intervals of at least one hour apart. A discrepancy is considered significant, if at least one of the following cases occurs:</p> <ul style="list-style-type: none"> the minimum speed is not achieved for at least two measurements;

¹⁴ See previous Implementation Reports illustrating those cases where there already was such an interpretations: 2019: Question 22 – https://bereg.europa.eu/eng/document_register/subject_matter/bereg/reports/8840-report-on-the-implementation-of-regulation-eu-20152120-and-bereg-net-neutrality-guidelines; 2018: Question 20 – https://bereg.europa.eu/eng/document_register/subject_matter/bereg/reports/8256-report-on-the-implementation-of-regulation-eu-20152120-and-bereg-net-neutrality-guidelines.

	<ul style="list-style-type: none"> • at least half of the measurements performed by the user do not exceed 50% of the normally available speed indicated in the contract. <p>In order to ascertain continuous or regularly recurring discrepancies between contractual speeds and the actual performance of the internet access service, the user has to perform measurements, under certain conditions, for at least 5 days (of which at least one weekend day) during a maximum of 30 consecutive days, performing at least 6 measurements per day, of which at least one measurement per day in the 23:00-07:00 time frame. Measurements must be carried out at intervals of at least one hour apart. A discrepancy is considered continuous or regularly recurring, if at least one of the following cases occurs:</p> <ul style="list-style-type: none"> • the minimum speed is not achieved for at least two measurements; • at least half of the measurements do not achieve the normally available speed; • no measurement achieves the maximum speed. <p>For <u>mobile internet access service</u>:</p> <p>ANCOM has established a procedure that a user must follow in order to ascertain significant, continuous or regularly recurring discrepancy between the contractual speeds and the real performance of the internet access service. Thus, the user will have to perform measurements, under certain conditions, for at least five days (of which at least one weekend day) during a maximum of 30 consecutive days, performing at least six measurements per day, of which at least one measurement per day in the 23:00-07:00 time frame. Measurements must be carried out at intervals of at least one hour apart. A discrepancy is considered significant, continuous or regularly recurring, if at least half of the measurements performed are below certain values, assumed by ISPs in their contracts. These values are calculated according to a series of rules established in the guidelines developed by ANCOM.</p>
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Table 10. Interpretation of terms

The rest of the responding NRAs mentioned that they do not provide any new additional guidance or national interpretation (but is still valid the national interpretation adopted in the previous years), or they do not provide them at all.

Question 23. Do you collect or monitor the number of end-user complaints? Y/N

If yes, what was the level of end-users' complaints about the performance of the internet access service, relative to contracted parameters (speeds or other QoS parameters)?

Most of the responding NRAs (AT, BE, BG, CY, CZ, DE, DK, EL, ES, FI, HR, HU, IE, IT, LT, LU, LV, MT, NL, PL, PT, RO, SE, SI) have reported that they are monitoring the number of end-user complaints, whereas four NRAs (EE, FR, NO, SK) indicated not doing so. The numbers are the same as in the previous reporting period.

Based on the data collected, end-user complaints are usually related to discrepancies between actual and contractual speed, as well as other QoS parameters, as set out in Table 11 below.

Member State	Information related to NN complaints
AT	The total number of requests submitted for conciliation were 1,906 of which 100 requests were related to the quality of mobile networks and 32 requests regarded the quality of fixed networks. There was a large number of general inquiries including net neutrality issues (e.g. requests regarding zero-rating, port blocking, public / private IP addresses, freedom to use the router of choice and minimum content according to Article 4 of the Regulation).
BE	Complaints handled by the Ombudsman: 299 complaints regarding internet speed were lodged.
BG	Most complaints were about non-conformity with the agreed speeds, but in case of mobile IAS, it is difficult to distinguish if the non-conformity is due to poor coverage.
CY	Only few complaints relative to QoS parameters, mainly fixed broadband connections. No breaches of the Regulation have been determined.
CZ	CTU receives and regularly assesses complaints and inquiries submitted by end-users. No increase in the amount of complaints, which continue to be relatively low (less than 50).
DE	Around 1,680 complaints in total, out of which about 300 substantiated complaints fulfilling the criteria regarding the scope and type of measurements for the verification process using the NRA's broadband monitoring mechanism. 113 consumers addressed issues in a dispute settlement.
DK	One complaint.
EL	118 complaints (45% decrease compared to last year).
ES	136 complaints (0.53% of the total amount).
FI	Five net neutrality related complaints. Traficom does not process complaints relating to the performance of the IAS in relation to the contracted parameters.
HR	68 complaints regarding internet QoS in fixed networks, 41 complaints regarding internet QoS in mobile networks, 58 complaints (via <i>HAKOMetar</i> certified tool) regarding achieving minimum speed.

HU	Only received a few reports from end-users concerning mobile operators' violations of the net neutrality rules of the Regulation.
IE	38 complaints in relation to the performance of IAS.
IT	Complaints mostly related to minimum speed.
LT	Very few complaints.
LU	No complaints.
LV	Three complaints regarding QoS (7% of total ECS complaints).
MT	12 complaints regarding discrepancies between the contracted speed and the actual speed performance of the service, one complaint regarding traffic management
NL	110 complaints via ACM's website – most of these complaints concerned the rerouting of traffic, other concerned availability of IAS at the consumers address, the speed of the IAS compared to the advertised/maximum speed.
PL	237 complaints (4% of the total) regarding performance of the IAS (QoS), including 76 regarding mobile and 69 regarding fixed networks.
PT	396 complaints (4.7% of total) – service faults/malfunctioning; 247 complaints (3% of total) – internet speeds below what is advertised/subscribed; 11 complaints (0.1% of total) – FUP and traffic shaping.
RO	Approximately 90 complaints regarding the performance of the IAS (fixed and mobile) – 3% of total.
SE	Approximately 300 complaints concerning IAS, out of which approximately 20 concerning speeds.
SI	No complaints.

Table 11. Level of end-user complaints about the performance of internet access services

Question 24. Have specific additional remedies been introduced for consumer redress in relation to non-conformance of IAS with the contract terms (e.g. legal action before courts and/or NRA, right to early termination, compensation)? Y/N

To foster end-user rights, in the reporting period no NRA introduced new additional remedies for end-user complaints in case of non-conformance of the internet access service with the contract terms compared to the seven NRAs that have already done it in the previous years (EL, ES, HR, IT, LV, SE and SI). 21 of the responding NRAs (AT, BE, BG, CY, CZ, DE, DK,

EE, FI, FR, HU, IE, LT, LU, MT, NL, NO, PL, PT, RO and SK) did not introduce any specific remedy, as general national legislation already covers non-conformance with the contract terms.

Question 25. Do you currently provide any IAS quality monitoring tool for consumers to use? Y/N

- If yes, briefly describe this tool, and say whether you consider it as certified according to Article 4(4) and in line with BEREC Guidelines, para. 161.
- If not, please outline any plans you may have for setting up such a tool.
- Is this tool used by the NRA to investigate any potential deviations in speeds or any other contractual parameter or – beyond the scope of Article 4(4) – for detecting infringements of the Regulation (e.g. throttling, blocking)?

For monitoring the performance of their internet access services, end-users could use the measurement tools made available by NRAs in 19 Member States (AT, BE, CY, CZ, DE, DK, EL, HR, HU, IT, LT, LU, LV, NO, PL, PT, RO, SI, SK).

During the current reporting period, CY has made available a free measurement tool that enables consumers to perform measurements in order to evaluate the performance of their broadband services, as follows:

- Via a dedicated website <https://cynetest.ocecpr.org.cy> for measurements for fixed broadband services;
- Via the desktop app for measurements for fixed broadband services;
- Via the apps at Google and Apple Stores supporting mobile measurements and fixed broadband services via wireless network (WLAN).

In HU, the measurement tool got a structured display of measurement results according to the Regulation. As a result, the system has become suitable for users to see the maximum, minimum and normally available values of their internet speed. The new functions of the measurement system can be used after the entry into force of the updated Hungarian QoS regulation.

PT optimised the download/upload speed and latency/jitter tests, available via browser, to cater for the increasing subscription of higher speeds by users. Furthermore the *NET.mede* application and the *My NET.mede* reserved area were fully renovated.

RO launched new features of *Netograf*, which include an improved web application, as well as applications for desktop and mobile terminals. For the moment, these applications are in an ongoing optimization process.

In the rest of the Member States (BG, EE, ES, FI, FR, IE, MT, NL, SE) measurement tools are not available yet.

Out of the 19 measurement tools available during the reporting period, those in AT¹⁵, CY, DE, HR¹⁶, IT, LU, LV, PL, RO were considered as certified tools, according to Article 4(4) and paragraph 161 of the BEREC Guidelines.

During the current reporting period, in SK, steps have been taken to certify the measurement tool. A public consultation was still under way when this report was written.

DK reported they are operating a broadband measurement tool, but it will be assessed whether the results of this tool can be used in connection with Article 4(4) or if the tool can be used in conjunction with BEREC measurement tool currently in development.

Six NRAs (ES, FR, LT, LV, MT, NL) stated their intention to implement the BEREC Net Neutrality tool when it will be available, while two NRAs (EL, IE) are still investigating their options. Two NRAs (BG, FI) are developing their own measurement tool with a deadline for implementation in 2021.

FR adopted an NRA Decision detailing the implementation of an Application Programming Interface (API) by operators to better characterise the user environment in fixed internet services. This solution, resulting from a co-construction approach with the ecosystem, could be accessed by QoS measurement tools that comply with a Code of conduct for QoS measurements tools. The API will be deployed gradually over time according to the deployment timeline, set in the Arcep's Decision. In parallel to the API deployment, Arcep and the concerned parties are working on a new version of the code of conduct for measurement tools published in December 2018. This updated version of the code of conduct will still contain transparency criteria, on which measurement tool companies must commit to communicate.

All the reported monitoring tools measure the speed of end-users' individual internet access service in fixed and/or mobile networks. The monitoring mechanisms may also allow users to measure the QoS parameters (generally: latency, jitter, packet loss). Five NRAs (AT, HR, HU, LU, SI) reported their measurement tool can go beyond the scope of Article 4(4) by detecting infringements e.g. throttling, blocking.

7 Article 5(1)

Question 26. Did you impose any QoS requirements on any ISP under the Regulation (EU) 2015/2120 (other than definition of contractual speeds)?

If yes, which requirements were imposed?

None of the responding Member States introduced any QoS requirements (other than definition of contractual speeds), but HU intends to introduce latency, jitter and packet loss in the modified QoS regulation.

¹⁵ Only technical basis for wired access – officially launched in November 2019.

¹⁶ Only for fixed internet access.

Question 27.a. What approach have you taken to measure the **availability of high-quality internet access services**:

- i. market survey without requesting information from ISPs,
- ii. information request from ISPs,
- iii. analysis of complaints and end-user reporting
- iv. technical network monitoring
- v. other, please specify _____

Question 27.b. Is there any change compared to the previous period? Y/N

The NRA responses suggest that the most popular approaches to measuring the availability of high-quality internet access services are still through information requests from ISPs and through analysis of complaints and end-user reporting. Nine NRAs (AT, EE, HU, IE, MT, NL, PL, PT and SI) reported changes in their approaches, most of them adding new ones, since previous years.

Approach	NRAs	Number
Market survey without requesting information from ISPs (e.g. checking ISP's offers on their web pages)	CY, CZ, EE, HU, IE, IT, LT, MT, PT	9
Information request from ISPs	BE, BG, CY, DK, EE, FI, FR, HR, IE, IT, MT, NL, PL, SI, SK	15
Analysis of complaints and end-user reporting	AT, BG, CY, CZ, DK, EL, ES, FI, FR, HR, IT, MT, NL, PT, RO, SI	16
Technical network monitoring	AT, BE, CZ, EE, EL, HR, HU, IT, LT, LV, MT, NO, PT, SI	14

Table 12. Approach of NRAs regarding the availability of high-quality internet access services

Beside on the above-mentioned approaches, one NRA (DE) indicated that it uses a broadband measurement mechanism, while another NRA (PL) purchases reports from the tests carried out by end-users via the www.speedtest.pl tool.

Question 28. If you performed measurements of internet access service quality, please report the main findings in relation to the provisions of the Regulation.

Of 28 respondents, 14 NRAs (AT, BE, CZ, DE, EL, FR, HR, HU, IT, LT, LV, NO, PT, RO) reported that they perform some form of measurements of internet access service quality, either for the fixed or for the mobile networks, or for both. This includes measurements by

NRAs themselves, as well as measurements obtained from crowdsourced measurement applications and tools.

Nine NRAs (DE, EL, FR, HR, HU, LT, LV, NO, PT) indicated that there has been an overall increase in the network speeds and capacity or at least there has been no degradation compared to the previous reporting period. This increase has been among others attributed to the expansion of next generation networks, as well as the broader use of LTE technology (in mobile networks).

Other notable points raised by NRAs include:

CZ reported that on top of the regular measurements, they performed a study to verify the quality of IAS from the viewpoint of end-user. It was surprising that in a significant portion of the test population, the basic QoS parameters of IAS suffered against the expected performance standards and that the rights of end-users are not objectively ensured.

EL reported that though the overall speed increased, remaining performance parameters (latency, jitter, packet loss) did not show improvement. A relatively small decline in speed was observed during peak hours.

PT has initiated a set of studies to evaluate mobile service performance and coverage of GSM, UMTS and LTE, including IAS, which will address the whole country. Until April 2020, ANACOM concluded the drive tests and reports regarding two regions (Alentejo and Norte)¹⁷.

RO reported that although they do have a tool available, due to the continuous improvement of the tool's functionalities, they did not have any information available to report.

Question 29. Have you taken any other steps to ensure compliance with **Articles 3 and 4** according to **Article 5(1)** not mentioned elsewhere in this questionnaire? Y/N

If yes, which?

Only one NRA (RO) has taken additional steps to ensure compliance with the above Articles.

RO reported that in order to ensure that the use of the national certified mechanism (*Netograf*) does not bring additional costs to the end-user and that the traffic generated by it is free of charge, as specified in the secondary legislation developed by ANCOM, the Authority carried out a formal investigation. It was found that one ISP charged the traffic to *Netograf*. The situation was remedied as a result of ANCOM's sanctioning decision.

¹⁷ The main findings are available at: <https://www.anacom.pt/render.jsp?contentId=1499819&languageId=1> and <https://www.anacom.pt/render.jsp?contentId=1533325&languageId=1>.

8 Article 6

Question 30. What rules on penalties to infringements of **Articles 3, 4, and 5** pursuing to **Article 6** of Regulation (EU) 2015/2120 do you apply?

26 NRAs may impose fines in cases of infringements of the abovementioned Articles. In AT administrative fines are imposed by the Telecom Office (Fernmeldebüro) and not the NRA. Nothing has changed since the previous reporting period¹⁸.

Question 31. Have there been any court proceedings about any of your NN cases?

Three NRAs (AT, DE, RO) reported that there have been court proceedings on net neutrality in their Member States in the past 12 months (see Table 13 below).

BG also mentioned that though there have been no new court proceedings for net neutrality cases during this reporting period, some of the court proceedings regarding net neutrality cases from previous reporting periods, are still ongoing during the reporting period.

¹⁸ Please note that, although after the reference period, as of 4 August 2020 the NRA in PT may apply fines.

Member State	Court proceedings
AT	<p>In 2016, supervisory proceedings were initiated against A1 for alleged violations of the Regulation and decision R 3/16 (dated 18 December 2017) was taken by TKK. A1 lodged an appeal against this decision with the Federal Administrative Court (BVwG). In April 2020, the BVwG dismissed the A1 complaint as unfounded and authorised the ordinary revision. The decision is not yet effective.</p> <p>For comprehensive information see "RTR Net Neutrality Report 2020" (https://www.rtr.at/en/tk/nn_reports).</p>
DE	<p><i>StreamOn:</i></p> <p>The administrative court of Cologne (12 November 2018) and the higher administrative court of Münster (12 July 2019) had confirmed in interim proceedings that BNetzA's decision has to be executed immediately. Deutsche Telekom deactivated its video throttling on 9 August 2019.</p> <p>The administrative court of Cologne has suspended the main proceedings and addressed the ECJ (preliminary ruling) for a clarification whether the throttling of video streaming is in line with Article 3(3) and the principle of equal treatment, whether the throttling is a permissible traffic management measure and whether there is a limitation of end-users' rights according to Article 3(1).</p> <p><i>Vodafone Pass:</i> civil court proceedings:</p> <p>In the civil proceedings concerning various clauses in the terms and conditions of Vodafone Pass (see BNetzA answer 2019) the district court of Düsseldorf has passed the issue of tethering to the ECJ (preliminary ruling), requesting clarification whether there is a violation of Article 3, because zero-rating of applications in Vodafone Pass applies only when a mobile device is used. Separately, in the case of tethering (other terminal equipment connected to the mobile device), data is counted against the allowance.</p>
RO	<p>On 23 November 2018, the court approved the suspension of the execution of the measures disposed in ANCOM Decision no. 669/2018 (which stated that a certain TM practice constitutes an infringement of Article 3(3) third subparagraph of the Regulation) until the final settlement of the action for annulment of the decision. The sentence remained final on 12 December 2019, following the rejection of the appeal filed by ANCOM. Regarding the trial on the merits (the annulment of ANCOM Decision no. 669/2018) it was suspended on 6 May 2020, as a result of the prolongation of the state of emergency regarding Covid-19. The next term is on 1 July 2020.</p>

Table 13. Court proceedings on net neutrality

Annex I: Summary of the activities performed in the past years

Question 14. Have national specifications been set in relation to the different types of speeds laid out in Article 4(1) sub d?

Were requirements:

- imposed by NRA or other competent Authority?
- agreed upon by market players?

Question 15. Are these requirements or the NRA's opinion/recommendation legally binding?

Specifications set:

National specifications in relation to different types of speeds have been set by 16 NRAs (AT, BE, BG, CY, CZ, DK, EL, FI, HR, IT, LV, MT, NL, RO, SI, SK). There is a variety of institutional settings on how specifications are set. In almost all cases, this involved activities by the NRA, taking the form of recommendations, secondary legislation or decisions. Some Member States (BE, BG, CY, EL, FI, HR, IT, LV, SI, SK) used percentage values by defining minimum and normally available speeds as a percentage of the maximum speeds, as presented in table 14.

Member State	Specification of speeds by the use of percentages	Achievability of speeds
BE	<ul style="list-style-type: none"> • Normally available upload and download speed: speed the end-user can expect during at least 95% of the time. 	<ul style="list-style-type: none"> • Minimum upload and download speed: speed below which the ISP will never go, except in case of interruption of the connection. • Maximum upload and download speed: speed the end-user may expect to receive in principle at least once a day.
BG	The normally available speeds should be 80% of maximum speed.	Normally available speed should be available 80% of the time over 24 hours.
CY	<p>ISPs are obligated to specify in their contracts:</p> <ul style="list-style-type: none"> • as far as fixed network is concerned, minimum, standard and maximum speed, in percentage of advertised speed. 	ISPs are required to set the time periods within the day in which maximum speed is achieved, the periods expected to reach normally available speed, and the periods when speed may be limited to the minimum.

	<ul style="list-style-type: none"> as far as mobile network is concerned, where applicable, the advertised speed, in percentage to the estimated maximum speed. 	
EL	<p>ISPs can perform individual measurements at subscriber connection or aggregate measurements over a geographical area (e.g. municipality, or area defined by local exchange). The measurement sample should not be older than 1 year and estimates should be defined by confidence intervals with confidence level $\geq 95\%$. Based on the measurement sample, the minimum, maximum and normally available speeds are defined as follows:</p> <ul style="list-style-type: none"> Minimum speed 5% of measurements during peak hours Maximum speed 95% of measurements during non-peak hours Normally available speed 50% of measurements during peak hours 	<p>Peak hours from 19:00 to 23 00 for residential users, and from 09:00 to 17:00 for non-residential (business) users.</p> <p>ISPs are free to provide different intervals for peak hours, based on the actual usage of their networks.</p>
FI	<p>Requirements set for subscriptions with the maximum speed ≤ 100 Mbit/s:</p> <ul style="list-style-type: none"> Minimum speed must be at least 70% of maximum speed Normally available must be at least 90% of maximum speed 	<p>Normally available speed should be achieved 90% of the time during each four-hour period.</p>
HR	<p>Minimum speed $\geq 70\%$ of max. speed</p> <p>Normally available speed: not specified because of the high threshold for minimum speed.</p>	

IT	Minimum speed/maximum speed: 95- and 5-quantile (respectively) of the speeds measured in a time interval (6 months for statistical comparative values / 24 hours for single users' lines) Measures are sampled every 15 minutes. Also average and standard deviations are calculated and published.	Maximum speed is defined based on actual measurements, therefore it is achievable.
LV	Minimum speed: $\geq 20\%$ of maximum speed	
SI	<ul style="list-style-type: none"> • Minimum speed must be at least 50% of the maximum and at least 25% of the maximum inlet and outflow speed using FWBA access. • Normally available speed must be at least 80% of the maximum incoming and outgoing connection speed. In the case of FWBA access, the normally available speed must be at least 50% of the maximum speed. 	<ul style="list-style-type: none"> • Normally available speed: at least 90% of the time of the day outside peak hours • Maximum speed: achievable at least once per day • Minimum speed lowest actual data transfer speed from the server or to the server (except for network failures)
SK	<ul style="list-style-type: none"> • Minimum speed: $\geq 40\%$ of maximum speed • Normally available speed: $\geq 90\%$ of maximum speed • Advertised speed: recommended to be applied so that it allows to evaluate advertised speed against real performance of internet access service 	<ul style="list-style-type: none"> • Normally available speed: 90% of any continuous 4-hour measurement period • Maximum speed: at least once between 00:00 and 24:00

Table 14. Specification of speeds by the use of percentages and achievability of speeds

Imposed by:

Such specifications, in relation to the different types of speeds, were imposed by 13 NRAs (BE, BG, CY, CZ, EL, FI, HR, LV, MT, NL, RO, SK, SI). In one case they were agreed upon by market players (DK), but there are also cases where the agreement by market players comes along with legally binding specifications (HU, IT).

Legally binding or informal:

In 10 of the 16 countries that have set national specifications, the requirements or NRAs' opinion/recommendation were legally binding (BE, CY, DK, EL, HR, IT, LV, MT, RO, SI). In the remaining countries (AT, BG, CZ, FI, NL, SK), the specifications or requirements were not legally binding.

Question 17. To the extent your NRA has reviewed contracts of mobile ISPs, did they define in their contracts advertised and estimated maximum upload and download speeds of the IAS in the mobile network?¹⁹

Please briefly explain the main findings.

If available, please provide information regarding contractual conditions, such as under which the estimated maximum speed can be achieved (NN guidelines examples of "realistic usage conditions"¹⁵³).

The situation on the market regarding the content of the contracts of the mobile ISPs has not changed compared to the assessment made by nine NRAs (BG, ES, FI, LT, LV, NO, PL, SI, SK) in the previous reporting periods.

BG: CRC considered that the values of advertised speed and estimated maximum speed should be the same. According to the CRC analysis, mobile ISPs declared the advertised/estimated maximum speed in their contracts. The value of the declared speed is the theoretical maximum speed achievable for each generation of the mobile network (2G/3G/4G) used for delivering of IAS.

ES: The maximum available download speed for LTE is between 110 and 500 Mbit/s, whereas the maximum upload available speed for LTE is between 37 and 75 Mbit/s.

FI: All Mobile ISPs owning their own network have defined minimum and maximum speeds in their mobile contracts separately for 3G, 4G and 5G networks. The defined maximum speed is used also as the advertised speed and it has not been defined separately. The main MVNO has defined the maximum speed as well as estimated minimum and maximum speed for 4G.

LT: ISPs have improved their maps, where the realistically achievable speeds are shown (some of them introduced the maximum speed and quality technology (2G, 3G, 4G)).

LV: Mobile operators publish on their website information on maximum and average connection speed values that can be achievable with different mobile technologies. The mobile ISPs also indicate the conditions that can influence the internet speed.

¹⁹ Note: remarks provided in this section only relate to countries where the NRA has reviewed the terms and conditions in the contracts of fixed network ISPs.

PL: Inspection and monitoring activities indicate that the mobile ISPs indicate the required information in the contractual documents.

SI: All mobile operators define in customer contracts the maximum speed. Additionally, ISPs published detailed coverage maps and the theoretical speeds which could be available in the different parts of the territory of Slovenia.

SK: According to the outcome of information request of selected ISPs, all of them defined in their contracts the estimated maximum upload and download speeds.

Question 18. Have you completed any formal assessment of the ISPs' obligation to publish, according to Article 4(1), subparagraph 2, the information referred to in Article 4(1), subparagraphs 1 a-e? Y/N

If yes, please provide details.

In the previous reporting periods, 11 Member States (CY, CZ, ES, HR, HU, IT, MT, NL, PL, SI, SK) completed formal assessment of the ISPs' obligation to publish the information referred to in Article 4(1), subparagraphs 1 a-e.

AT, HR: ISPs are obliged to notify their terms and conditions to the NRA before they launch a communication service, which in turn check if particular legal standards and compliance with the Regulation are met. Changes of previously approved terms and conditions must be notified as well.

CY: Following assessment of ISPs reports, NRA found out that ISPs comply with the relevant legislation.

CZ: ISPs are obliged to publicly disclose the draft agreement (contract) and also make it accessible via remote access.

DE: The NRA mainly applies a complaint-based approach and carries out regular spot checks of the respective formulations used by providers in their terms and conditions.

HU: The main findings (after a questionnaire based investigation) were that in some cases the key information to subscribers were given in a less user-friendly manner (therefore cannot be considered as a clear, easy-to-understand explanation as required by the Regulation). The traffic management measures applied by service providers influencing the quality of internet access service are not discussed in detail. In order to facilitate the comparability of the various packages and thereby ensuring transparency related to net neutrality, the NRA required the Uniform Service Description table to be published by each operator on its website; its content has not been harmonised with the provisions of the Regulation so far. Although all operators in HU are aware of the Authority's broadband measurement tool szelessav.net, its link cannot be found on any operator website, even though the tool can display the measured up- and download speed of the network, and in the case of mobile networks, results of coverage and availability measurements as well.

IT: AGCOM monitors and publishes data on the minimum contractually agreed speed. The monitoring results are published on a web page (https://www.misurainternet.it/confronto_banda_minima/) ensuring end-users the possibility to verify the contractually guaranteed minimum bandwidth. Moreover, AGCOM verifies ISPs' contractual conditions and terms of service and publishes them on its web site (<https://www.agcom.it/carte-dei-servizi>).

Question 19. Have you imposed additional transparency requirements regarding the publication of information referred to in Article 4(1), subparagraphs 1 a-e? Y/N

If yes, please provide details of the requirements.

In the previous reporting periods, six Member States (AT, BG, DE, FI, IT, SI) imposed additional transparency requirements regarding the publication of information referred to in Article 4(1), subparagraphs 1 a-e.

On the other hand, 23 NRAs (AT, BE, CZ, CY, DK, EE, EL, ES, FR, HR, HU, IE, LT, LU, LV, MT, NL, NO, PL, PT, RO, SE, SK,) did not introduce any additional transparency requirements regarding the relevant information from Article 4(1), subparagraphs 1 a-e.

AT: The NRA is discussing with ISPs additional transparency requirements on an informal level, where ISPs can present their views. Some non-binding templates/recommendations for ISPs are available on the NRA's website.

BG: The NRA elaborated an additional requirement about publishing on the ISP's website the information referred to in Article 4(1)b, regarding the consequences of IAS' speed reduction when the data cap is exceeded. That information should also be presented in the contracts.

DE: The ordinance for framework provisions on the promotion of transparency, publication of information and additional facilities for cost monitoring on the telecommunications market has entered into force on 1 June 2017. From that date on, the ordinance obliges fixed and mobile ISPs to provide more transparency when offering internet access services.

FI: The NRA has obliged operators to inform consumers about their right to a public IPv4 address in its memorandum about the Regulation.

IT: AGCOM adopted a resolution regarding new transparency measures in the broadband and ultra-broadband retail offers, requiring the operators to make clear by which physical architecture the respective fixed access services are offered, as well as the QoS that the end-user could expect. The definitions and technical characteristics of the access network architectures are introduced at the same time.

Question 21. Did you nationally (e.g. NRA, Ministry) provide guidance or impose additional transparency or information requirements on ISPs following the enforcement of the Regulation? Y/N

If yes, please provide details of the requirements.

In the previous reporting periods, DE, EL and IT reported providing guidance or imposing additional transparency or information requirements:

DE: The ordinance for framework provisions on the promotion of transparency, publication of information and additional facilities for cost monitoring on the telecommunications market has entered into force the 1 June 2017. This ordinance obliges fixed and mobile providers to provide more transparency when offering internet access services.

EL: Information on traffic management practices, network QoS parameters and limitations on data volumes or on the use of terminal equipment, specialised services, internet access speeds, remedies available to consumers for speed discrepancies.

IT: Transparency obligations in advertising and in contracts for (ultra)broadband IAS: inter alia to inform end-users of the type of architecture through which the IAS is offered (e.g. copper, fibre or a mix of both).

Question 22. Is there an NRA or national interpretation of “significant discrepancy, continuous or regularly recurring”? Y/N

If yes, how are these terms interpreted?

If yes, was the definition:

- i. imposed by the NRA (e.g. using Article 5(1)),
- ii. voluntarily agreed upon by the market players
- iii. other _____

In the previous reporting period, nine NRAs gave a material interpretation of the terms, as can be seen in Table 15. ²⁰.

²⁰ See previous Implementation Report, Question 20, illustrating those cases where there already was such an interpretation, https://berec.europa.eu/eng/document_register/subject_matter/berec/reports/8256-report-on-the-implementation-of-regulation-eu-20152120-and-berec-net-neutrality-guidelines

Member State	Interpretation
BG	<ul style="list-style-type: none"> • Significant continuous discrepancy – two consecutive weeks in one billing period; • Regularly recurring discrepancy – more than one temporary discrepancy; • A temporary discrepancy – three consequent days in one billing period.
CY	<p>Non-compliance if results of measurements over three consecutive days show that the speed received by the end-user is less than or equal to 80% of the minimum or normally available speed specified by the ISP.</p>
DE	<p>Non-conformity regarding fixed download speeds if one of these cases occurs:</p> <ul style="list-style-type: none"> • 90% of the contractually agreed maximum speed is not achieved at least once at each of at least two measurement days; • the normally available speed is not achieved in 90% of the measurements; • the speed falls below the contractually agreed minimum speed at each of the two measurement days. <p>By measuring with the broadband monitoring mechanism, the following requirements need to be considered:</p> <ul style="list-style-type: none"> • At least 20 measurements must be performed; • The measurements must be taken on at least two separate days; • The number of measurements is to be spread equally over the two days, so that at least 10 measurements are taken on a specific day; • The measurements must be taken using a LAN connection; <p>The measurements are to be carried out using the installable version of the NRA's broadband monitoring mechanism.</p>
EL	<p>A continuous or regularly recurring discrepancy is considered to exist when it occurs in two out of at least three measurement samples, taken by the ISP in consecutive days.</p>
ES	<p>There has to be a breach of either minimum or normally available speed. It has to be “continuous”.</p>
HR	<p>Non-compliance regarding fixed download speed if the results of at least three tests conducted in a period of five consecutive days (at least one test must be carried out every 24 hours) shows that speeds are below 70% of maximum/advertised speed. Tests are carried out by means of a certified tool for broadband speed tests prepared by the NRA.</p>

IT	A continuous or regularly recurring discrepancy is considered to exist when minimum contractual speed is not met twice in 45 days. In such a case, the current Regulation lets users terminate the contract without additional costs. In order to check minimum speed reached by a user, the user has to run a free software (Ne.me.sys), certified by ISCOM, for 24 hours. Ne.me.sys samples measurements every 15 minutes. Minimum speed is calculated as the 95-quantile of measurements in the interval.
MT	<ul style="list-style-type: none"> • "significant discrepancy": this definition is implicit as any connection performing below the stated ISP's information regarding speed is considered as discrepant; • "regularly recurring": no interpretation published.
SI	<ul style="list-style-type: none"> • Minimum speed: at least one of the correctly performed measurements, regardless of the time of the day, falls at the specified minimum speed. • Normally available speed: the average of all correctly performed measurements outside the peak hours is lower than the contractually agreed normally available speed (the measurement with the highest and lowest speed are excluded from the calculation).

Table 15. Interpretation of terms

Question 29. Have you taken any other steps to ensure compliance with **Articles 3 and 4** according to **Article 5(1)** not mentioned elsewhere in this questionnaire? Y/N

If yes, which?

In the previous reporting period only three NRAs (IT, RO, ES) took additional steps to ensure compliance with the above Articles.

IT referred to a tool that allows users to investigate deviations between minimum QoS contractual parameters and complain if the QoS is not met. If the QoS is still not met after 45 days, the end-user can terminate the contract without penalty.

RO reported that it took steps to develop guidelines aimed at providing a common understanding of the implementation of Article 4(1) (d). These guidelines are intended for ISPs and will include instructions on measuring actual data transfer rates, the conditions to be met when performing measurements and the tool used for that purpose. These guidelines were issued at the end of 2019.

ES has developed a new method for measuring different types of internet speed in order to resolve end-user claims.

Question 31. Have there been any court proceedings about any of your NN cases?

In the previous reporting period, six NRAs reported that there had been court proceedings on net neutrality in their Member States.

Member State	Court proceedings
AT	<ul style="list-style-type: none"> • A1 Telekom Austria AG appealed against decision R 3/16 of the regulatory authority: <ul style="list-style-type: none"> ○ Prohibition of prioritising a VoD service for lack of a specialised service, within three years; ○ Free assignment of public IPv4 at customer demand; ○ Increase in period for disconnecting IP connections from 24 hours to 30 days. • A1 Telekom Austria AG appealed against decision R 5/17 of the regulatory authority: <ul style="list-style-type: none"> ○ Prohibition of applying traffic-shaping to an add-on package with zero-rated audio and video streaming services. <p>The decisions of the Austrian NRA are available here: https://www.rtr.at/en/tk/nn_procedures</p>
DE	<p><i>StreamOn:</i></p> <p>In its decision of 11 November 2018, the Administrative Court in Cologne ruled in its interim proceedings that BNetzA is not hindered to enforce its decision of 15 December 2017, forbidding the video throttle contained in the zero-rating offer <i>StreamOn</i>. In this ruling, the Administrative court implicitly also stated that, in a summary assessment, it regarded BNetzA's decision as legally valid, namely that limitation of video traffic to a maximum speed of 1.7 Mbit/s violates the principle to treat all traffic equally according to Article 3(3) of the Regulation.</p> <p>Telekom has appealed the interim ruling. On 6 March 2019, the Higher Administrative Court in Münster has stopped BNetzA in a preliminary order in the interim proceedings from enforcing the decision of December 2017. The final court ruling in the interim proceedings is still outstanding. Moreover, the main proceedings are still pending.</p> <p><i>Vodafone Pass:</i></p> <p>There were no court rulings in administrative court proceedings against BNetzA's decisions. However, there was to BNetzA's knowledge, one court ruling in civil proceedings:</p> <p>A consumer association sued Vodafone for various clauses in the terms and conditions of Vodafone Pass. On 8 May 2019, the district court of</p>

	<p>Düsseldorf ruled inter alia that the clauses used are misleading insofar as it is not obvious for the end-user that (e.g.) voice- or video telephony is not zero-rated. Information on such usage constrictions was considered essential according to the Act Against Unfair Competition (UWG). Regarding tethering, 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.</p>
IT	<p>On 2 August 2018, AGCOM published a decision stating that end-users have the right to freely choose their broadband router (AGCOM Resolution n. 348/18/CONS). According to AGCOM, ISPs cannot require end-users to rely exclusively on the router supplied by the ISP itself. This decision was appealed and the appeal proceeding is pending.</p>
NL	<p>T-Mobile introduced a zero-rating offer, which resulted in legal proceedings. The result was that ACM found the offer to be in line with the Regulation. An NGO attempted to appeal this decision, but the court decided that ACM was correct in its assessment that the offer was allowed.</p>
RO	<p>ANCOM decided that a certain traffic management practice constitutes an infringement of Article 3(3) third subparagraph of the Regulation and ordered that ISP to stop the practice. The ISP challenged ANCOM's decision in front of the Romanian Courts and asked for both the suspension and the annulment of the decision. For the moment, the Courts ruled in favour of the suspension of the decision (the decision is not final and ANCOM has appealed it) until a decision is taken by the Courts on the annulment of ANCOM's decision.</p>
SE	<p>The ruling pertains to two mobile offers from Telia on 18 April 2016, "Free surf on social media" (<i>Sociala</i>) and "Free surf listening" (<i>Lyssna</i>).</p> <p>In summary, PTS has found in its supervision that Telia, in connection with the two offers, is applying traffic management measures in violation of Article 3(3) of the Regulation. Telia was instructed by PTS to discontinue the traffic management in due course, when the end-user is still able to use the specified services and applications included in each of the offers, whilst other data usage is blocked.</p> <p>The decision of PTS was appealed to the Administrative Court of Stockholm, which on 28 September 2018 rejected the appeal. The ruling has taken legal effect.</p> <p>After the ruling of the court, Telia has adjusted the offer, in making all applications treated equally when the data volume included in the subscription is consumed.</p>

Table 16. Court proceedings on net neutrality

Annex II: Abbreviations for countries

Throughout the report we have used Eurostat country codes as abbreviations for the Member States' names²¹. The country codes for the NRAs to the questionnaire are shown in the following table.

Austria	AT	Italy	IT
Belgium	BE	Latvia	LV
Bulgaria	BG	Lithuania	LT
Croatia	HR	Luxembourg	LU
Cyprus	CY	Malta	MT
Czech Republic	CZ	Norway	NO
Denmark	DK	Poland	PL
Estonia	EE	Portugal	PT
Finland	FI	Romania	RO
France	FR	Slovakia	SK
Germany	DE	Slovenia	SI
Greece	EL	Spain	ES
Hungary	HU	Sweden	SE
Ireland	IE	The Netherlands	NL

Table 17. Country codes

²¹ The Eurostat country codes are available via the official link: http://ec.europa.eu/eurostat/statistics-explained/index.php/Glossary:Country_codes