

# **BEREC Report on the outcome of the consultation on the evaluation of the application of Regulation (EU) 2015/2120 and the BEREC Net Neutrality Guidelines**

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## Introduction

This report summarises and addresses the responses that BEREC received to a public consultation on an evaluation of the application of the BEREC Net Neutrality Guidelines (“the Guidelines”)<sup>1</sup> in the context of Regulation (EU) 2015/2120 (“the Regulation”)<sup>2</sup>. The consultation was opened on 14 March 2018 and ran until 25 April 2018.

The input received in the consultation was, together with the experiences of the NRAs, used as an input for the BEREC Opinion on the Evaluation of the Regulation. To the extent that stakeholders’ comments raised issues that BEREC will consider in next year’s exercise of clarifying the current Guidelines, this is indicated in the BEREC Opinion on the Evaluation. References are made to sections of the Opinion where appropriate.

It is noted that the subjects identified in the Opinion are not necessarily the only subjects on which the Guidelines may be clarified, although the Opinion reflects the major topics in this respect. The Opinion also draws more general conclusions concerning the application of the Guidelines.

In this report, BEREC does not respond to specific suggestions to change the Guidelines in substance, since this is not a consultation of a revised version of the Guidelines. This will be done in Q3 of 2019, when stakeholders will have the opportunity to respond to suggested clarifications of the Guidelines in a regular public consultation. BEREC seeks to publish the final second version of the Guidelines in Q1 of 2020.

BEREC notes that quite a large number of comments from stakeholders were similar to the comments received in the consultation of the draft Guidelines mid-2016. In this report, these comments are not addressed in detail, although they are referred to the consultation report on the BEREC NN Guidelines in 2016.

BEREC received 54 responses from a wide variety of stakeholders. Stakeholders that did not ask for confidentiality were:

1&1 Telecom, A1 Telekom Austria Group, Agoria Telecom Industries, Bitkom, Bouygues Telecom, BSG, BT, Cable Europe-ETNO-GSMA, Cisco-Nokia-Ericsson, COSMOTE, Deutsche Telekom, Fastweb, FFDN, Free Modem Alliance, Inmarsat, ISPA, Magyar Telekom, OTE, Slovak Telekom, TDC, Telecom Industry Association – Denmark, Telefonica, Telenor, Three Group, T-Mobile Austria, T-Mobile Czech Republic, T-Mobile Netherlands, VATM, VEON Digital, Verizon, Vodafone, VTKE, Wind Hellas, ECTA, Bonnier Broadcasting, Digital Europe, EBU, Facebook, SVT, VAP, BEUC, COADEC, EDRI-Epicenter.works, George Cotea, ITIF, NetCompetition Alliance, Strand Consult, TNO, VZBV.

<sup>1</sup> BoR (16) 127 BEREC Guidelines on the Implementation by National Regulators of European Net Neutrality Rules, 30 August 2016. [https://berec.europa.eu/eng/document\\_register/subject\\_matter/berec/download/0/6160-berec-guidelines-on-the-implementation-b\\_0.pdf](https://berec.europa.eu/eng/document_register/subject_matter/berec/download/0/6160-berec-guidelines-on-the-implementation-b_0.pdf)

<sup>2</sup> This report refers to “the Regulation” as the net neutrality 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. <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32015R2120>

## **A. General experience with the application of the Regulation and BEREC NN Guidelines**

### **1. In your view – have the Guidelines helped NRA's apply the Regulation in a consistent, coherent and correct way? Please explain.**

BEREC notes that statements by certain stakeholders – in particular that the BEREC Guidelines had gone beyond the Regulation by providing certain concepts or definitions – were already raised in BEREC's consultation of the Draft Guidelines in 2016. It considers that BEREC's response to these statements, as set out in its Consultation Report (BoR (16) 128, p. 4/5), is still valid. In particular the terminology used in the BEREC Guidelines is consistent both with the Regulation as well as BEREC's previous publications on these issues (see Q7). It is also noted that the Regulation did not provide BEREC with the legal authority to go beyond the Regulation (see BoR (16) 128, p. 19). BEREC was given the legal task in the Regulation to publish guidelines that contribute to consistent application of the Regulation (article 5(3)). This inherently entails that BEREC has sought to clarify certain terminology used in the Regulation; otherwise the guidelines would be useless.

Certain stakeholders state that there is a fragmented application of the Regulation. BEREC does not recognize this, as concluded in its Implementation Report (BoR (17) 240) that the Regulation has been implemented by NRAs with adequate coherence. While some stakeholders saw blanket prohibitions without harm, others called for stronger enforcement, viewing the case-by-case approach as a risk for divergent application. This variety of arguments was already raised in 2016. BEREC recalls that the Regulation does not foresee ex ante authorisation and that market players are neither precluded from contacting nor forced to contact NRAs prior to product launch, as clarified in para 21 of the current NN Guidelines (see also BoR (16) 128, p. 10). BEREC also considers its case-by-case approach justified, in line with the Regulation, and provides flexibility to cope with commercial or technical practices as well as with national market conditions. However, BEREC does not share the view that NRAs' decisions are not evidence-based. The criteria set out by BEREC, e.g. for zero-rating, enable NRAs to make a comprehensive assessment, also considering whether harm actually occurred.

BEREC notes that the Regulation does not foresee a fixed timeframe for NRA decisions (however, national laws may foresee such a timeframe) and calls upon NRAs to finalize proceedings as fast as possible while fulfilling the national procedural requirements. Furthermore, internet access service providers shall put in place transparent, simple and efficient procedures to address complaints of end-users.

### **2. Did the Guidelines provide additional clarity regarding how to apply the Regulation? Please explain.**

BEREC notes that the responses of stakeholders to this question cover a broad range of diverging views. On the one hand there are those who state that the Guidelines provided clarity on how to apply the Regulation in many key points, while calling for more clarity on other issues. In that respect some stakeholders call for e.g. zero rating to be forbidden or at least be more restricted (see Q8). On the other hand those stakeholders that took a critical view particularly reasoned that BEREC went beyond the Regulation and created uncertainties by

introducing new terms and concepts (see in particular Q1, Q7). BEREC is of the view that a balanced approach is reached with the NN Guidelines, in line with the Regulation.

**3. On which subjects would you expect the Guidelines to be more explicit or elaborated? How should the text of the Guidelines be adapted on these points, in your view? Please explain.**

BEREC observes that stakeholders addressed very specific and different issues in their Q3 answers. BEREC takes note of the answers and examples provided and will address these below when it considers the more detailed questions.

Some stakeholders suggested that BEREC should not go further than the Regulation, while some other stakeholders suggested that BEREC should allow practices, such as application-specific price differentiation. BEREC considers that it has struck the right balance inter alia regarding zero-rating based on the provisions of the Regulation and has acted within its mandate given in Article 5(3) of the Regulation by including elements for consideration for NRAs analyses on the subject.

As already pointed out in Q1, BEREC emphasises that BEREC's Guidelines are interpreting the Regulation, which provides limits to commercial practices, including zero-rating, in Article 3(2) in combination with Article 3(1), while not prohibiting them per se. However, BEREC is not in a position to establish additional rules going beyond the Regulation (see BoR (16) 128).

**4. For ISPs: Did you discontinue certain products or services following the adoption of the Regulation and/or the Guidelines?**

Some stakeholders stated that they discontinued certain products or services following the adoption of the Regulation and/or the Guidelines.

BEREC takes note of the answers provided and keeps the examples in mind when it considers the more detailed questions below. BEREC notes that many of the examples provided referred to discontinuations of services due to ex post interventions by NRAs (rather than decisions to discontinue services, due to self-evaluation or discussions with the responsible NRA, based on the text of the Regulation, if necessary further explained by the BEREC Guidelines). These examples therefore relate to cases where NRAs accomplished their enforcement tasks according to Article 5 of the Regulation.

As expressed in the Guidelines, BEREC notes that the Regulation does not require an ex ante authorisation in relation to commercial practices (Article 3(2)), traffic management practices (Article 3(3)) or specialised services (Article 3(5))<sup>3</sup>. BEREC notes that ISPs are free to contact NRAs before launching services that might be questionable in the light of the Regulation and/or the Guidelines, but ISPs should keep in mind that NRAs may not be able to give a preliminary ruling.

**5. Did the application of the Regulation, or the implementation of the Regulation by the Guidelines, prevent you from launching certain products or services?**

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<sup>3</sup> Paragraph 21 of the BEREC NN Guidelines.

Some stakeholders stated that they did not launch certain products or services because of the net neutrality rules, inter alia services to block unwanted content in the network. BEREC takes note of the answers provided and addresses these when it considers the more detailed questions below.

BEREC also observes that ISPs can respond to desires from their clients to combat spam, erotic content and other content that specific end-users do not wish to be able to receive with user-consented blocking of specific content, as long this is done outside of the network e.g. on or by the terminal equipment. Indeed, the Regulation does not regulate e.g. when and how the spam protection is done by the ISP's email service. This is further elaborated in BEREC Opinion section 4.

Considering that there is no ex ante authorization (see Q1), BEREC notes that ISPs can contact NRAs before launching services that might be questionable in the light of the Regulation and/or the Guidelines, but ISPs should keep in mind that NRAs may not be able to give a preliminary ruling.

**6. Do you have any additional comments on the application of the Regulation and Guidelines?**

BEREC notes that stakeholders raised a variety of issues under Q6. These include inter alia the claim that BEREC went beyond the Regulation, the importance of end-user choice in relation to port-blocking or parental control, discrimination between classes of applications or application-specific treatment. BEREC takes note of the answers and examples provided and will address these when it considers the more detailed questions on traffic management below.

## B. Definitions (article 2 of the Regulation)

### 7. Do you think that the Guidelines should provide further clarification in relation to the definitions in the Regulation? If yes, please provide concrete suggestions.

BEREC notes that several stakeholders (mainly ISPs) are of the opinion that some of the definitions in the Guidelines are inconsistent with or go beyond the scope prescribed by the Regulation (e.g. specialised services, sub-internet services, CAPs as end-users, zero-rating). In particular, some stakeholders argued that CAPs should not be considered as end-users. Several other stakeholders suggest that the Guidelines should be more explicit with regard to certain concepts (in particular “publicly available” electronic communication service), developments (transition from IPv4 to IPv6) and emergence of new services and products (e.g. IoT devices, e-book readers).

Stakeholders raised many of these issues already during the consultation of the BEREC Guidelines on net Neutrality in 2016. Such issues include, for example, the concept of “private” vs. “publicly available” electronic communication service, the application of the Regulation to VPNs, the transition from IPv4 to IPv6, the concept of sub-internet services, and the fact that there is no third category of services beyond the IAS and specialised services. Hence, reference is made here to BEREC’s Consultation Report BoR(16) 128, p. 7-9. As elaborated in more detail in that Consultation Report, BEREC is of the opinion that it has not established guidelines which contain rules that go beyond, or are inconsistent with, the Regulation.

With regard to the question whether CAPs are encompassed by the notion of end-users, BEREC points out that, for the purposes of the Regulation, the definitions set out in Article 2 of Directive 2002/21/EC apply (cf. Art. 2 subpara. 1 of the Regulation). This includes a definition of end-users (cf. Art. 2 lit. n of Directive 2002/21/EC) which, by its wording and read in connection with the notion of “user” contained in Art. 2 lit. h of Directive 2002/21/EC, also includes content application providers (CAPs). Already in its Consultation Report on the Draft BEREC Guidelines in 2016 BEREC clarified the scope of its Guidelines with regard to the terms end-users or business customers (see BoR (16) 128, p. 6).



## C. Commercial practices such as zero-rating (articles 3(1) and 3(2))

### 8. Does the current assessment of zero-rating as recommended in the Guidelines, offer sufficient protection of end-users' rights as referred to in article 3(1) of the Regulation? Please explain.

Generally, ISPs argued that NRAs should assess zero-rated practices on a case-by-case basis, taking into account competition and end-user choice. ISPs also argued that the Guidelines should not identify non-compliant practices (such as allowing access to zero-rated content after a customer reaches his/her data cap) or, conversely, should provide additional examples of compliant practices; that the Guidelines should distinguish between zero-rating with or without sponsored data; and that the Guidelines should take into account the level of data caps in assessing the impact of a practice.

Some CAPs argued that the Guidelines should take a flexible approach, recognising that zero-rated offers can enhance competition and consumer welfare. Some also suggested that there may be a need to evaluate zero-rating offers of social media companies differently.

Generally, end-user and civil society organisations (and one ISP) argued that the Guidelines should ban or further limit zero-rating. One also suggested that paid prioritisation should be offered to all on similar terms.

BEREC takes note of the contributions of ISPs, CAPs, and end-user and civil society organisations to question 8. Many of the points have been addressed in paragraphs 42-48 of the Guidelines, and pages 13-19 of the consultation report on the BEREC NN Guidelines in 2016.

The Regulation provides no basis for a per se ban on zero rating. The Guidelines envision that NRAs will undertake a case-by-case assessment of a given zero-rated offer, considering factors such as the market shares of the ISPs and the CAPs involved (in line with competition law principles), effects on end-user rights, and the scale of the offer and presence of alternatives. The level of the data cap for applications other than the zero-rated applications is relevant to the analysis, as the higher the data cap is, the less incentivised consumers are to prefer zero-rated applications over other applications. The Guidelines at paragraph 45 explicitly state that NRAs should not necessarily consider any factor that affects end-user choice as impermissibly affecting end-user rights. NRAs should intervene where an offer materially reduces end-user choice, and in other cases that could qualify as a limitation on end-user rights under Article 3(1). The only red line the Guidelines lay down with zero-rating offers is set out in Paragraph 41, which states that allowing end-users access to zero-rated applications after exhaustion of their general data cap is impermissible. This is not due to rules on commercial practices under article 3(2), but because that behaviour constitutes a violation of the rules for traffic management under Article 3(3): the ISP would be discriminating between the zero-rated content (to which access is allowed at a certain moment in time) and all other content (to which access is blocked at a certain moment in time).

BEREC notes that since the publishing of the Guidelines, new forms of zero-rating have been introduced to the market; these include tariff plans where the ISP creates a number of categories of applications (for example "video", "music" and "messaging") of which in each

category certain applications are zero-rated and others are not. For purposes of clarification, BEREC will consider addressing new variants of zero-rating and similar practices<sup>4</sup>.

**9. How could the assessment methodology for commercial practices in the Guidelines (ref. in particular to paras 46-48) be improved? Is there a need for more simplification, flexibility and/or more specification? Please provide concrete suggestions.**

Some ISP stakeholders suggested that BEREC should clarify that commercial practices need to be assessed on a case-by-case basis and according to competition law, considering costs and benefits to consumers, and that only a practice that results in a material reduction in consumer choice should be considered contrary to the Regulation.

One large CAP considered that there should be greater flexibility with regard to zero-rating. It argued that an assessment of zero-rating offers should not be determined by any single factor, but should take into account the overall effects on consumer welfare.

One stakeholder from end-user and civil society organisations suggested that it is impractical for NRAs to analyse the market positions of different apps and services in a timely manner, and therefore considered that the Guidelines should be clarified with regard to the approach to commercial practices in general and should in particular prohibit zero-rating. Another stakeholder from end-user and civil society organisations stated that an assessment criterion that takes into account price discrepancy between application-specific data volumes and general-purpose data volumes, and prohibitions on tethering, should be added to the Guidelines. One stakeholder stated that zero-rating should be prohibited altogether.

BEREC takes note of the contributions of ISPs, CAPs, and end-user and civil society organisations. In essence these points have been addressed in paragraphs 42-48 of the Guidelines, and pages 10, 16-19 of the consultation report on the BEREC NN Guidelines in 2016. For example, in para 42 of the Guidelines, BEREC notes that applying a zero-rating scheme to a single application is more likely to lead to a material reduction in end-user choice in practice than applying a zero-rating scheme to an entire category of applications. The touchstone of the assessment of the legitimacy of commercial practices under article 3(2) indeed remains the limitation of the exercise of end-users' rights.

One stakeholder argued that the exclusion of service providers and MVNOs, either by technical or commercial obstacles, should be considered incompatible with the Regulation. BEREC notes that it is out of scope of the Regulation and the Guidelines to establish regulated access for ISPs using mobile networks of other ISPs.

**10. In your view, did the assessment methodology for commercial practices in the Guidelines influence the development of new content and applications offered on the internet? Please explain.**

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<sup>4</sup> Similar practices are, for example, practices which entail free access to specific applications or content with an additional traffic limit that is higher than the basic tariff cap.

Some ISPs stated that the assessment methodology for commercial practices had a negative impact on the development of new content and applications offered on the internet and created uncertainty. For example, it was claimed that the ban on restricting tethering prevents tariff plans at a lower cost.

A number of stakeholders from industry groups as well as CAPs argued that the Guidelines have a negative impact on innovation and restrict the range of services available to end-users, especially concerning zero-rating offers. One ISP stakeholder was of the opposite opinion and argued that it was very unlikely that the assessment methodology in the Guidelines influences the development of new content. This ISP argued that zero-rating practices did not influence innovation.

Stakeholders from end-user and civil society organisations argued that the cross-border growth of CAPs may be affected negatively and that language barriers and other restrictions are relatively more difficult to overcome for smaller CAPs compared to larger CAPs and reduce the diversity of application offers, media pluralism and freedom of information.

BEREC takes note of these contributions to question 10. The Regulation and consequently the Guidelines shall ensure the “continued functioning of the internet ecosystem as an engine for innovation”. When drafting the Guidelines BEREC balanced the interests of different stakeholder groups. Arguments dealing with innovation and the range of services available to end-users were addressed on pages 12-19 of the consultation report on the BEREC NN Guidelines in 2016.

**11. Do you think that the current application of the Regulation and the Guidelines concerning commercial practices, such as zero-rating, sufficiently takes account of possible long term effects of such practices? If not, how could BEREC further facilitate this?**

While some stakeholders consider that the Guidelines sufficiently take into account the possible long-term effects of commercial practices, others do not. Some ISPs and one large CAP argued for more clarity and a more flexible application of the Regulation, suggesting that there is no link between Articles 3(2) and 3(3) and that practices such as zero-rated traffic once the data cap is exhausted, or blocking of tethering, should be allowed and should not be tested under Article 3(3). On the other hand, end-user and civil society organisations argued for a stricter application of the Regulation, suggesting banning of zero-rating practices in general. One ISP argued against what it considers an ex ante approach to commercial practices of the Guidelines as being inconsistent with the Regulation, while, on the contrary, stakeholders from CAPs and end-user and civil society organisations argued against an ex post assessment of commercial practices. Some ISPs argued for a need to distinguish between zero-rating offers with or without sponsored data.

BEREC takes note of these contributions. These points have in essence been addressed in 2016 in the consultation report on the BEREC NN Guidelines, pages 10 to 19, and in the NN Guidelines, paras 27 and 30 to 48. More particularly, regarding the long term effects of such practices BEREC notes that – as already addresses in question 10 – the Regulation and the Guidelines ensure the “continued functioning of the internet ecosystem as an engine for innovation”. BEREC notes that the Regulation does not establish a priori authorisation regime

for commercial or technical practices by ISPs (see question 1). This is already clear from para 21 in the current BEREC NN Guidelines.

## D. Traffic management (article 3(3))

### **12. Is there a need for improvement of the Guidelines concerning reasonable traffic management (ref. in particular to paras 49-75)? If yes, how could this text be improved? Please provide concrete suggestions.**

BEREC welcomes the support from the civil society respondents for the current Guidelines concerning reasonable traffic management and agrees with the importance of application-agnostic traffic management measures. Other stakeholders suggested that BEREC should focus on principles, rather than being prescriptive about various other modifications, in order to provide greater flexibility. BEREC takes note of this contribution. BEREC considers that the Guidelines strike an appropriate balance between providing practical guidance for NRAs in accordance with the Regulation whilst not being unnecessarily prescriptive and providing adequate flexibility.

BEREC welcomes the support from the CAPs and broadcasters/media on current definitions for exceptions to blocking prohibitions but considers that no further clarifications are needed.

Some stakeholders considered that the Guidelines go beyond the Regulation in several aspects concerning traffic management and that this hinders efficient use of network resources and limits end-user choice. BEREC takes note of this contribution. BEREC considers that the Guidelines are consistent with the Regulation and do not go beyond the Regulation.

Some stakeholders suggested adding a reference to end-user choice in paragraph 78 of the Guidelines and emphasising user control. BEREC has addressed this point on page 26 of the consultation report on the BEREC NN Guidelines in 2016; the Regulation does not consider that end-user consent enables ISPs to engage at practices at the network level.

Some stakeholders proposed that the requirement to process the traffic in a way that is “agnostic to sender and receiver” should be deleted from paragraph 53 of the Guidelines as it goes beyond the Regulation. BEREC has addressed this point on page 15 of the consultation report on the BEREC NN Guidelines in 2016; using these words is a clarification of the non-discrimination requirement in Article 3(3).

Some stakeholders suggested the need for various QoS levels and consider traffic associated with business access as a specific category of traffic with specific quality requirements. BEREC takes note of contributions regarding the need for various QoS levels and has addressed these in the BEREC Opinion in section 4.

Some stakeholders also suggested modifications to paragraph 68 and to the definition of “categories of traffic” (paragraph 62) so that traffic could be categorised for example by tariff. BEREC notes that according to the Recital 9 of the Regulation any such differentiation should, in order to optimise overall quality and user experience, be permitted only on the basis of objectively different technical quality of service requirements and not on the basis of commercial considerations. Therefore, a tariff plan as such cannot be used to justify

“categories of traffic” according to Article 3(3), but a differentiation would be possible to implement agreed QoS classes according to Article 3(2).

Some stakeholders suggested that the technical features of the relevant networks (e.g. mobile, fixed or satellite network) should be taken into account when assessing traffic management measures under Article 3(3). BEREC takes note of this contribution and points out that the traffic management rules are technology neutral. Therefore rules for equal and reasonable traffic management apply for all access technologies.

Some stakeholders proposed clarifications to paragraph 73 on whether inherent/permanent traffic measures are reasonable, and some of them proposed that reasonable traffic management measures can be implemented on an ongoing basis given that the QoS requirements of a traffic category are usually stable over time. BEREC takes note of the contribution and has addressed this point in the BEREC Opinion in section 4.

**13. Is there a need for improvement of the Guidelines concerning traffic management measures going beyond reasonable traffic management measures (ref. in particular paras 76-93)? If yes, how could this text be improved? Please provide concrete suggestions.**

Some stakeholders argued that the Guidelines wrongly interpret the intentions of the Regulation with regard to reasonable and exceptional traffic management measures and emphasised that the requirements in Article 3(3) are meant as alternative, not cumulative, requirements. BEREC notes that this point has been addressed in paragraph 78 of the NN Guidelines, which states that the conditions of the exceptions in Article 3(3) third paragraph a, b or c should be met in any specific case.

Some stakeholders considered that paragraphs 76 and 77 incorrectly seek to prohibit certain practices outright and require IAS providers to wait until there is congestion before applying certain traffic management measures. Some also suggested that the concept of “imminent” network congestion is too narrow and considered that the Guidelines (e.g. paragraph 93) go beyond the scope of Regulation by requiring NRAs to monitor whether ISPs properly dimension their network. BEREC has addressed this point on page 28 of the consultation report on the BEREC NN Guidelines in 2016.

Some stakeholders argued that the Guidelines should be amended to describe the traffic management practices that are permitted by the Regulation, which they considered would be more informative than listing prohibitions. BEREC takes note of this contribution. This point has been addressed in para 77 of the BEREC Guidelines, where the list of banned traffic management practices under reasonable traffic management comes directly from the Regulation.

One stakeholder suggested a need to clarify that non-discriminatory data compression and similar measures are allowed. BEREC takes note of this contribution and has addressed this point in the BEREC Opinion in section 4.

Some stakeholders considered that the Guidelines (in particular paragraphs 85 and 86) were not in line with the Regulation. BEREC takes note of this contribution. The point regarding the security exception has been addressed on page 27 of the consultation report on the BEREC NN Guidelines in 2016.

BEREC notes the comment regarding traffic management practices that are based on national legislation. BEREC considers that the Guidelines strike an appropriate balance between providing practical guidance for NRAs in accordance with the Regulation whilst not being unnecessarily prescriptive.

One stakeholder suggested that clarification was needed with regard to the reference in paragraph 86 of the Guidelines to reports/complaints from “recognised security organisations”, as it considered that it is not clear by whom these organisations should be recognised and on what criteria. BEREC takes note of this contribution and considers that it is a matter to be determined on national level. Currently, ENISA is developing guidelines to help NRAs assess possible claims of ISPs to restrict the IAS based on the recognized network security and integrity measures.

Some stakeholders argued that, according to the Regulation, ISPs may use security measures “only for as long as necessary” and that there is lack of guidance on the choice of the least restrictive alternative way of managing traffic. BEREC takes note of this contribution and has addressed this point in the BEREC Opinion in section 4.

**14. Does the text of the Guidelines concerning traffic management influence the development of network technologies offered on the market? Please provide concrete examples.**

Some stakeholders suggested that investment in new management tools is hindered because traffic management that increases the overall network quality, and that is suitable to allocate resources effectively, while maintaining general availability, is not explicitly allowed. BEREC takes note of this contribution and points out that the general rules for equal and reasonable traffic management allow the general management of network resources. NRAs will assess specific cases as required.

One stakeholder suggested that video optimisation technologies that provide sufficient quality levels should not be impeded. BEREC takes note of this contribution and has addressed this point in BEREC Opinion in section 4.

Some stakeholders suggested that traffic management measures based on end-user contracts should be allowed in the Regulation as they allow innovative offers. End-user choice is discussed under Q12 in more detail. As mentioned there end-users may independently choose to apply equivalent features, for example via their terminal equipment or more generally on the applications running at the terminal equipment, but BEREC considers that management of such features in the network would not be consistent with the Regulation. One stakeholder suggested that fixed-mobile networks with hybrid routers prioritising some wireless traffic should be allowed. BEREC takes note of this contribution and points out that the traffic management rules are technology neutral. Therefore rules for equal and reasonable traffic management apply for all access technologies.

**15. Do any terms used in article 3(3) concerning traffic management need further explanation in the Guidelines? If yes, please specify.**

One stakeholder asked for further clarification of Article 3(3) (a). BEREC takes note of this contribution. The questions regarding illegal content and network-based parental control have



been addressed on page 26 of the consultation report on the BEREC NN Guidelines in 2016.

One stakeholder asked BEREC to clarify that the terms “reasonable” and “commercial considerations” do not categorically exclude traffic prioritisation and price incentives based on differentiated pricing. BEREC takes note of this contribution. This point has been addressed on page 24 of the consultation report on the BEREC NN Guidelines in 2016. Moreover, para 68 of the Guidelines states that reasonable traffic management measures must be based on objectively different technical QoS requirements. Section 4 of the Opinion also addresses this topic.

One stakeholder suggests that “categories of traffic” should be defined wider to avoid similar applications falling into different categories. BEREC considers that para 66 defines “categories of traffic” in a way that is wide enough to avoid discrimination between similar types of applications. More concretely, the first and second bullet point in para 66 state that “the application layer protocol or generic application types require objectively different technical QoS”, and that “applications with equivalent QoS requirements are handled agnostically in the same traffic category with similar QoS and separating between types of application”. Thus, BEREC considers that the Guidelines have an appropriate definition of “categories of traffic”.

## E. Specialised services (article 3(5))

### 16. Is there a need for improvement of the Guidelines concerning specialized services (ref. in particular paras 99-127)? If yes, how could this text be improved? Please provide concrete suggestions.

Regarding Specialised Services (SpS), ISPs expressed the general view that there should be no regulatory check whether there is no detrimental impact on the general quality of IAS (unless such detriment should be proven to be substantial and persistent), and that there would be no need to assess objective necessity in all cases. BEREC cannot agree with this view and considers that Article 3(5) of the Regulation states that the provision of SpS is permissible only where optimisation is objectively necessary to meet requirements for a specific level of quality, where SpS is not used as a replacement for IAS and where SpS does not have a detrimental impact on the availability and general quality of IAS. With the development of the NN Measurement tool, BEREC seeks to contribute to further developing a methodology for establishing whether there is a detrimental impact on the general quality of IAS (see BEREC Opinion, section 5).

Some stakeholders suggested that services such as VoD services, B2B services, as well as public interest services should be generally accepted as SpS. Other stakeholders suggested that SpS should be allowed to impact the user's own IAS only when it is technologically unavoidable. BEREC considers the Regulation to require a case-by-case analysis of services that could be considered as SpS, as each service may have different QoS requirements.

Stakeholders commented that the definitions of quality levels should be based on the requirements of the content, applications or services and customers' expectations (demand) for specific levels of quality. BEREC notes that quality requirements should be objectively necessary to ensure specific and key features of the content, applications, or services (in line with Recital 16 of the Regulation), and thus should be objectively determined. End-user demand for specific content, applications or services does not necessarily imply that the optimisation of a service is *objectively* necessary in order to meet requirements for a specific level of quality.

In response to stakeholder comments on the assessment of the need for optimisation of services, which should also consider the overall benefits that optimisation brings for a more efficient use of resources, BEREC considers that, in accordance with the Regulation, optimisation of a SpS should be performed primarily in order to achieve a specific level of quality that cannot be guaranteed over the IAS. However, the other conditions given by the Regulation have to be met in order for a service to represent a permissible SpS.

There was a request for clarification of paragraph 103, which refers to Recital 16 of the Regulation, which in turn forbids the provision of a SpS that is used to circumvent the provisions of the Regulation. BEREC considers the text of Recital 16 to be sufficiently clear as it states: "National regulatory authorities should verify whether and to what extent such optimisation is objectively necessary [...], rather than simply granting general priority over comparable content, applications or services available via the internet access service and thereby circumventing the provisions regarding traffic management measures applicable to the internet access services."



Stakeholders argued that paragraphs 108 and 111 restrict the provision of SpS. BEREC considers that, as specified in Article 3(5) of the Regulation, SpS should meet the requirements that content, applications or services need a specific level of quality. In this respect, paragraph 108 states that NRAs can request that ISPs specify, in an objective manner, the level of quality needed and to demonstrate that this specific level of quality cannot be assured over the IAS. Paragraph 111 requires NRAs to assess this level of quality, and whether or not it can be assured over the IAS.

Stakeholders noted that paragraph 110 of the NN Guidelines on the relationship between the IAS and a SpS may need further clarification. BEREC takes note of the contribution and has addressed this point in the BEREC Opinion in section 5.

Some stakeholders expressed the concern that paragraph 112 of the Guidelines, which deals with the evolution of services and the fact that a SpS today may not qualify as a SpS in the future, creates the expectation of ongoing evaluation of SpS, and causes harmful uncertainty. BEREC considers that this paragraph in the Guidelines takes into account the advancement in technologies and the corresponding improvement of IAS over time. In other words, a service that is deemed to be a SpS today may not necessarily qualify as a SpS in the future due to the fact that the quality of the IAS has improved over time and optimisation of the service may not be objectively necessary any longer. However, such changes are expected to be of larger timescales (usually several years) and thus there would not be constant re-evaluations, as suggested by the respondents.

Regarding comments from stakeholders to include an expectation of capacity expansion in paragraph 112, BEREC takes note of this contribution and has addressed this point in the BEREC Opinion in section 5.

Stakeholders also expressed that the examples of SpS services mentioned in paragraph 113 of the Guidelines (VoLTE and linear IPTV) could be wrongly interpreted by some NRAs as an exhaustive list of permissible cases, and that the provisions of this paragraph favour linear IPTV over VoD. The Guidelines do not preempt decisions of NRAs regarding the classification of IPTV and other services (linear, video-on-demand, time-shifted TV) as SpS. In a given case, an NRA should decide whether the optimisation of a specific IPTV service is objectively necessary to satisfy a specific level of quality in that case. The examples mentioned in paragraph 113 are not an exhaustive list of permissible cases, and linear IPTV is only mentioned as an example of a service that can have specific QoS requirements.

Regarding paragraph 116 of the Guidelines, stakeholders commented that the references to the ways in which IAS could be degraded (e.g. due to increased latency or jitter or lack of bandwidth) should be removed, and more emphasis should be placed on whether degradation is severe. BEREC considers that Article 3(5) second subparagraph of the Regulation prohibits SpS from being provided either when network capacity is insufficient or when they operate to the detriment of the availability or general quality of IAS. The mentioned quality aspects are specific examples indicating ways to establish a degradation of the quality in a certain case. BEREC considers this reference in paragraph 116 of the Guidelines a useful clarification.

Stakeholders commented that there is a need to modify paragraph 117 of the Guidelines, because congestion cannot always be controlled by ISPs and can be provoked by CAPs. BEREC clarifies that the statements in paragraph 117 safeguard that a SpS is not provided to the detriment of the general quality of IAS. Under the Regulation, the ISP has the responsibility

to ensure this, as Article 3(5) second subparagraph addresses “providers of electronic communications to the public [...]” and not end-users.

Stakeholders also claimed that para 123 of the Guidelines was ambiguous, and had related comments about contradictions with respect to para 125. BEREC considers that there are no such contradictions as para 123 is meant to express that, to some extent, there could be more variations to the general quality of IAS when SpS are offered in mobile networks as long as the negative impact of the SpS is “unavoidable, minimal and limited to a short duration” (recital 17). Paragraph 125 expresses in general that NRAs should intervene if the negative impact is a persistent decrease in performance of the IAS.

Some stakeholders proposed to replace “persistent” with “persistent or systematic” in paragraph 125 of the NN Guidelines. BEREC considers that the term “persistent” already means that NRAs should also intervene when “systematic” decreases in performance of the IAS are detected as a result of the provision of SpS.

Finally, there were comments that paragraphs 104, 105, 106, 111 of the Guidelines needed further clarification. However, BEREC considers that these paragraphs are currently sufficiently clear. BEREC does express its commitment to further work on the NN Measurement Tool to further develop the measurement methodology (Opinion section 5).

**17. Does the text of the Guidelines concerning specialized services influence the development of specialised services offered on the market? Please provide concrete examples.**

ISPs expressed the concern that, due to confidentiality reasons, they may not be able to refer to concrete services that are under development, and thus examining whether those services adhere to the Regulation will be more difficult. BEREC considers that NRAs have experience dealing with confidential information and can evaluate and maintain the level of confidentiality needed when examining whether a service complies with the Regulation, in accordance with the national and European legal framework. As such, confidentiality should not be an impediment in communicating with NRAs.

Some stakeholders suggested that NRAs should set conditions that determine whether a SpS would be allowed, for instance depending on whether the provider has SMP and whether measures are taken to ensure interoperability. BEREC emphasizes that NRAs do not have the task to examine these specific conditions in assessing whether a SpS would be allowed under the Regulation. Examining topics like SMP or interoperability could be possible under the regular telecom framework (in due time the EECC), to the extent that the relevant conditions are met.

**18. Do any terms used in article 3(5) concerning specialised services need further explanation in the Guidelines? If yes, please specify.**

Some ISPs commented that the Guidelines could describe how to gather and analyse relevant data to assess whether there is a detriment to IAS. BEREC emphasises that analysing data to evaluate whether there is a detriment to the IAS is a task of the NRAs. In performing this task, NRAs may request relevant information from ISPs under Article 5(2) of the Regulation as

clarified under paragraph 184 and subsequent paragraphs of the Guidelines. In addition, as mentioned in para 108 of the Guidelines, NRAs may also request ISPs to specify, in an objective manner, the level of quality needed and to demonstrate that this specific level of quality cannot be assured over the IAS. With regard to ISPs' own assessment of the SpS that is offered, the ISP has to ensure that the SpS does not lead to a deterioration of the general quality of the IAS offered by the ISP.

With regard to a request from end-user groups to further clarify the nature and relationship of services offered as part of the IAS or as SpS, BEREC considers that the definition of SpS in the Regulation and Guidelines provides sufficient guidance for NRAs to assess whether or not a service qualifies as a SpS. As expressed in the Guidelines, BEREC notes that the Regulation does not require an ex ante authorisation in relation to commercial practices (Article 3(2)), traffic management practices (Article 3(3)) or specialised services (Article 3(5))<sup>5</sup>. BEREC notes that ISPs are free to contact NRAs before launching services that might be questionable under the Regulation and/or the Guidelines, but ISPs should keep in mind that NRAs may not be able to give a preliminary ruling.

Furthermore, stakeholders from broadcasting and media organizations raised the need to consider must-carry rules for content of public service media providers on the internet. However, BEREC considers that this subject is outside the scope of the Regulation.

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<sup>5</sup> Paragraph 21 of the BEREC NN Guidelines.

## F. Transparency (article 4)

### **19. What has been your experience regarding the application of the transparency measures in the Regulation and the Guidelines, particularly in relation to speed of mobile internet access services? Is there a need for improvement? If yes, how could this be improved by BEREC? Please provide concrete suggestions.**

An ISP raised the comment that the recommendations in the Guidelines diverge from the requirements of the Regulation, for instance by specifying that information on broadband should be indicated on a map (paragraph 155 of the BEREC Guidelines). In response to this comment, BEREC clarifies that it is not mandatory for ISPs to publish information related to mobile speeds on a map. However, for the purpose of transparency, the BEREC NN guidelines suggest that coverage maps with estimated/measured speed values of network coverage could be used.

Some ISPs suggested that the Guidelines should clarify that published/advertised information is general, tariff-related, rather than customer-specific. One ISP suggested deleting para 156 of the BEREC NN Guidelines, regarding the advertising of mobile IAS speeds. BEREC takes note of these comments related to BEREC NN Guidelines para 156. BEREC has addressed this point in the BEREC Opinion in section 6.

An ISP considered that the provisions of the Regulation only make sense if “maximum and advertised” speed is interpreted as a single term. However, it stated that informing end-users of the maximum speed gives them little indication of the speed they are likely to experience. BEREC considers that it is relevant to have two separate definitions of speed (i.e. estimated maximum and advertised), as there is also a distinction between different definitions of speed in the context of fixed networks. BEREC takes note of the contribution received from some ISPs regarding the specifications and the frequency of “normally available speeds” and has addressed this point in the BEREC Opinion in section 6.

Some ISPs as well as an end-user and civil society organisation questioned how often the maximum speed must be achieved (para. 145 of the BEREC NN Guidelines). BEREC notes that there is no clear definition on this issue in the Regulation (EU) 2015/2120 and thus neither is there one in the current Guidelines. However, Member States might already have distinct approaches to the provision of such information.

Some ISPs request further clarifications regarding the factors having an impact on realistically available speeds on mobile networks. BEREC notes that realistic usage conditions in the BEREC NN Guidelines para 153 could differ from case to case. This point has already been addressed in the Consultation Report on the Draft BEREC Guidelines in 2016 (see BoR (16) 128, p.3).

With regard to the suggestion “*that measurements should be performed “within”, rather, than “beyond” the ISP leg*”, it is recommended that the measurement system should be at the nearest possible point to the ISP’s network. This point has been addressed in the Consultation Report on the Draft BEREC Guidelines in 2016 (see BoR (16) 128, p.43). No new facts or rationale are presented in the current consultation. Furthermore, BEREC takes note of the comment referring to the basis of speed calculations (BEREC NN Guidelines para 140). This

point has been addressed in the Consultation Report on the Draft BEREC Guidelines in 2016 (see BoR (16) 128, p.38).

Some ISPs suggest considering a different level of information for consumers and business customers. However, as already mentioned in para. 7 of the NN Guidelines, any distinction between consumers and business customers has not been considered. Indeed, the definition of end-users, considered for this purpose, applies to both, according to Article 2 of Directive 2002/21/EC. Hence, there is no need for a different level of information to be provided.

With regard to the concern that end-users are overloaded with unnecessary information and the degree of transparency measures, BEREC emphasises that the provisions of the Guidelines are meant to provide end-users with relevant information to understand the implications for their use of the IAS, not necessarily to provide the very specific in-depth technical parameters. According to the objective of the Regulation (EU) 2015/2120, end-users need to be aware of the characteristics of their IAS (e.g. technology, speeds). This is to enable end-users to make informed decisions.

Regarding the certification of a monitoring mechanism, BEREC takes note of the contribution raised by some ISPs that NRAs should certify and operate monitoring mechanisms. This point has been addressed in the Consultation Report on the Draft BEREC Guidelines in 2016 (see BoR (16) 128, p.43), as well as in the consultation report on the Draft Net Neutrality Regulatory Assessment Methodology in 2017. BEREC has also addressed this topic in the BEREC Opinion in section 6.

## **20. How could BEREC further assist consumers, ensuring that they get the internet access service that they pay for?**

Several of the comments raised under this question are similar to the comments to or refer to question 19. To avoid repetition these comments will not be addressed here.

Some ISPs consider that more efficient traffic management such as a ban of tethering and ad-filters would allow greater consumer choice. BEREC wishes to highlight that restricting tethering is prohibited by the Regulation (EU) 2015/2120 per se. Regarding advertisements, end-users can choose to block these (e.g. via the browser). The ISP, however, is obliged to deliver content as sent by its creator and give transparent information about any traffic management practice applied.

Some end-user and civil society organisations suggested to amend para 128 of the BEREC NN Guidelines to state that the information provided according to Article 4(1) of the Regulation has to be published on the ISP's website. BEREC notes that publication on the website of the ISP is one possible option according to para 128. According to recital 18 of the Regulation, the provisions of Article 4 of the regulation apply in addition to the applicable provisions of Directive 2002/22/EC.

In response to the comment raised by one CAP that consumers should be allowed to continue to use specific content or services even after reaching the general data cap, BEREC notes that this point has been addressed in para 55 of the BEREC NN Guidelines. Such practices are prohibited according to article 3(3) of the Regulation.

Regarding the suggestion raised by some end-user and civil society organisations, to add a requirement in paragraph 131 of the Guidelines, for ISPs to inform end-users about the definitions used to classify congestion as impending, exceptional or temporary, BEREC notes that sufficient requirements for the levels of detail of information is set out in the Guidelines.

Regarding the suggestion, raised by some end-user and civil society organisations, to replace the wording “could” with “should” in para 147 of the BEREC NN Guidelines on normally available speed, BEREC considers that the current wording of the paragraph ensures that the end-user is given a realistic description of the normally available speed that the end user can possibly receive. See also Q19 in this Consultation Report regarding normally available speed.

## G. New technologies

- 21. Do you think the Regulation and the Guidelines provide sufficient flexibility to adopt new technologies which are likely to be used in 5G? Please explain, preferably with examples.**
- 22. Considering the rules for traffic management and specialized services in the Regulation, are the Guidelines providing sufficient clarity to the adoption of new network technologies such as “network slicing” and “edge computing”? Please explain in detail.**
- 23. If not, which specific points are unclear in the Guidelines and how could BEREC improve this? Please provide concrete suggestions.**

Questions 21, 22 and 23 are discussed in a single section, due to the overlap in the answers stakeholders provided. Some stakeholders expressed concerns about the flexibility to adopt new technologies under the Regulation and the NN Guidelines. BEREC acknowledges the importance of service innovation for the telecom sector in general, and especially within the topic of 5G. According to BEREC's current understanding and analysis the Regulation seems to be leaving considerable room for the implementation of 5G technologies. BEREC takes note of this contribution and has addressed this point in the BEREC Opinion in section 7. Some stakeholders highlighted the importance of effective competition in the 5G environment. BEREC agrees with this statement from stakeholders and notes that it has no indications that the NN Guidelines would harm effective competition between ISPs.

Some stakeholders have argued that the Regulation favours certain technological solutions (e.g. CDNs) over others. BEREC does not agree with this view and restates that the Regulation contains the principle of technological neutrality in recital 2. With respect to CDNs, the NN Guidelines state that some CAPs may also operate their own networks and, as part of that, have interconnection agreements with ISPs. The general European telecommunication framework may apply to interconnection agreements. Concerning the application of the Regulation, as addressed in paragraphs 5 and 6 of the Guidelines, the provision of interconnection is considered a distinct service from the provision of IAS. However, NRAs may take into account the interconnection policies and practices of ISPs insofar as they have the effect of limiting the exercise of end-user rights under Article 3(1).

Some stakeholders argue that within a 5G network one or more slices may be tailored to provide massive IoT. These use cases may generally need a general level of quality that is lower than IAS, but a specific level of quality that is higher than IAS for selected quality parameters. BEREC takes note of this contribution and has addressed this point in the BEREC Opinion in section 5.

Some stakeholders argue that footnote 7 of the NN Guidelines treats identical services differently as providers of M2M devices or M2M services are exempted from the requirements of Article 3(5) of the Regulation while ISPs are not. In this regard, terminal equipment is not covered by the Regulation. Therefore para 18 of the BEREC NN Guidelines, where footnote 7 is placed, states that “*Services where the number of reachable end-points is limited by the nature of the terminal equipment used with such services (e.g. services designed for*



*communication with individual devices, such as e-book readers as well as machine-to-machine devices like smart meters etc.) are considered to be outside the scope of the Regulation unless they are used to circumvent this Regulation.”*

BEREC explicitly mentions in footnote 26 of the NN Guidelines that network slicing may be used to deliver SpS. Some stakeholders argue that BEREC should include this position in the main text of the NN Guidelines, while other stakeholders suggest deleting this footnote as it contradicts the principle of technological neutrality. This is addressed in the BEREC Opinion in section 7.

Some stakeholders argued that 5G networks will contain various IAS offers within a single network and these IAS offers may have different technical characteristics. BEREC acknowledges that in principle the Regulation and the NN Guidelines leave room to provide different IAS offers with different QoS classes. BEREC takes note of this contribution and has addressed this point in the BEREC Opinion in section 4.

Some stakeholders argue that Mobile Edge Computing falls outside the scope of the Regulation. Other stakeholders argue that Mobile Edge Computing may be used to enable the provision of specialised services. BEREC takes note of this contribution and has addressed this point in the BEREC Opinion in section 7.

BEREC shares the opinion of some stakeholders that there is currently no evidence for any impediment concerning concrete 5G services to come. BEREC takes note of this contribution and has addressed this point in the BEREC Opinion in section 7.

BEREC shares the concept of a flexible approach towards new services through the principle of a case-by-case assessment that was already set out in the Regulation and the NN Guidelines. BEREC acknowledges the importance of this approach for enabling innovation.

BEREC welcomes the framework for analysing 5G technologies under the Regulation provided by a stakeholder. BEREC finds the contribution useful for the debate on the relationship between 5G technologies and the Regulation. BEREC takes note of this contribution and has addressed this point in the BEREC Opinion in section 7.

Some stakeholders have expressed the concern that network slicing can lead to practical problems with enforcement of the legal requirement in Article 3(5) that the provision of a specialised service not have “a negative impact on the availability and general quality of the IAS”. The example provided by these stakeholders is that the negative impact on the IAS may be localized in time and space. Other stakeholders, on the other hand, argue that the provision of *any* specialized service will have *some* negative impact on the IAS.

BEREC considers that there is no detriment to the IAS in mobile networks, within the meaning of Article 3(5), where “the aggregate negative impact of specialized services is unavoidable, minimal and limited to a short duration” (see recital 17 and para 123 of the NN Guidelines). In other words, the Regulation and the NN Guidelines take into account that the QoS that is provided through the network may exhibit some limited variation in time and space. However, BEREC acknowledges that it is important to develop further within BEREC the methodology for establishing whether the availability and general quality of the IAS is negatively impacted by the SpS. BEREC has addressed this point in the BEREC Opinion in section 5.

A stakeholder argued that the reference in paragraph 127 of the NN Guidelines to “access to



the internet” should be replaced by “access to the internet or access to services also available on the internet”. BEREC notes that this is addressed in section 5 of the Opinion.

Some stakeholders argue that paragraphs 112-115 of the NN Guidelines should be more innovation-friendly. Without introducing new rules that go beyond the text of the Regulation, paragraph 112 of the NN Guidelines further specifies the condition of Article 3(5) that the provision of specialised services must be “objectively necessary”. The considerations in paragraph 112 are necessary to ensure that the requirements in the Regulation that apply to the IAS are not circumvented by the provision of specialised services. Paragraph 113 – 115 contain various examples of services that may qualify as specialised services under the Regulation. These paragraphs thus provide further clarification to stakeholders by indicating what type of services may be regarded as specialised services under the Regulation.

## H. Other comments

### 24. Do you want to share any additional comments?

BEREC acknowledges that an English translation of national decisions made by NRAs, as suggested by some stakeholders, could facilitate the comprehension of all stakeholders. NRAs work in their national languages, however. That being said, BEREC facilitates the interaction between NRAs in order to provide a harmonized implementation of the Regulation across countries. BEREC considers that its work processes are transparent to the extent that they can be and that information requests are answered as transparently as they can be. BEREC notes that an important part of the work around national cases is of a confidential nature; this is not only to protect the legitimate business interests of companies including ISPs but also to enable NRAs to exchange information in an early stage on (possible) investigations and cases. For this reason, comprehensive minutes of the BEREC net neutrality working group cannot be provided, as suggested by some stakeholders.

BEREC recognizes, as pointed out by a stakeholder, the need to assess impacts on freedom of expression and information, including media pluralism, when assessing commercial practices as set out in paragraph 46 of the NN Guidelines. This is why BEREC has included footnote 12 in the NN Guidelines.

BEREC acknowledges the remark of a stakeholder on bundling IAS with a free subscription to a premium application and considers that this is a commercial practice in the sense of Article 3(2) of the Regulation. However, the current guidance for assessment of commercial practices already covers such service offers.

A stakeholder advocated that NRAs should be obliged to adopt a certified mechanism and that this should be reflected in paragraph 161 of the guidelines. BEREC considers that the Net Neutrality measurement tool currently under development will provide NRAs with a way of helping end-users measure their IAS. However, its adoption is on a voluntary basis and BEREC considers that it is important to take into account the diversity of national situations on measuring speeds. The BEREC report on supervision tools and methodologies from December 2017 clearly states that the online reporting tool is a useful mechanism for monitoring the implementation of the Regulation<sup>6</sup> and BEREC is committed to further developing the NN measurement tool and the measurement methodology - see BEREC Opinion in section 5.

One stakeholder has suggested consideration of the whole internet value chain when assessing internet openness. BEREC takes note of this contribution and has addressed this point in the BEREC Opinion in section 7.

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<sup>6</sup> BEREC, 'BEREC Report on tools and methods used to identify commercial and technical practices for the implementation of article 3 of Regulation 2015/2120', BoR (17) 241, December 2017